Analytical Resources, LLC
Analytical Chemists and Consultants

30 April 2023

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

RE: AOC5 MR Phase 1

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

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

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

Associated Work Order(s)	Associated SDG ID(s)
23A0418	N/A

Susan Dunnihoo

Digitally signed by Susan Dunnihoo
Date: 2023.04.30 17:22:04 -07'00'

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

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

Analytical Resources, LLC

Susan Dunnihoo, Director, Client Services

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

ACCREDITED IN ACCORDANCE WITH nelac
Cert# 100006-012

23A0418

1 of 1

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3980

Project/Client Name: AOC5 MR Phase 1
Project Number: 210075.0102
Contact Name: Amara Vandervoet
Sampled By: Windward

Ship to: ARL
Attn: Sue Quinnhoo
Shipper: Carver
Form filled out by: AV

Shipping Date: 11/18/23
Airbill Number: —
Turnaround requested: Std

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) PCBs	SMS SVOCs	TOC / Total Solids	SMS Metals	DIF	Archive	Arsenic	cPAH	Comments / Instructions [Jar tag number(s)]
11/18/23	0828	LDW23-IT1136	4	Sediment	X	—	X	—	X	X	X	X	
	0847	LDW23-IT1142	4		X	—	X	—	X	X	X	X	
	1039	LDW23-SC1122	3		X	—	X	—	—	X	—	—	
	1103	LDW23-IT1141	4		X	—	X	—	NA	X	X	X	
	1113	LDW23-IT1133	4		X	—	X	—	NA	X	X	X	
	1113	LDW23-IT1133-FD	4		X	—	X	—	NA	X	X	X	
	1314	LDW23-IT1180	4		X	—	X	—	NA	X	X	X	
	1342	LDW23-IT1218	4		X	—	X	—	NA	X	X	X	
	1357	LDW23-IT1216	4		X	—	X	—	NA	X	X	X	
	1423	LDW23-IT1135	4		X	—	X	—	X	X	X	X	
	1447	LDW23-IT1140	4		X	—	X	—	NA	X	X	X	
11/18/23	1509	LDW23-IT1275	4	Sediment	X	—	X	—	NA	X	X	X	
		Total Number of Containers	47	Purchase Order / Statement of Work #	APJ-110222-AOC5-ARL								

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Amara Vandervoet		Print name:	
Signature:	Company: ARL	Signature:	Company:
Company: Windward		Company:	
Date/Time: 11/18/23 1436	Date/Time: 11/18/23 1636	Date/Time:	Date/Time:

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

AV

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

To be completed by Laboratory upon sample receipt:

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

Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Winward

Project Name: AGS MR Phase 1

COC No(s): _____ (NA)

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 23A0418

Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 6.9 5.9 ___ ___

Time 1655

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

Temp Gun ID#: K005117

Cooler Accepted by: _____ Date: 1/18/23 Time: 1636

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used? ... Bubble Wrap (Wet Ice) Gel Packs Baggies Foam Block Paper Other: _____			
Was sufficient ice used (if appropriate)?	NA	YES	(NO)
How were bottles sealed in plastic bags?	(Individually)	Grouped	Not
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ...	(NA)	YES	NO
Were all VOC vials free of air bubbles?	(NA)	YES	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	(NA)		

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

Samples Logged by: [illegible] Date: 01/20/23 Time: 9:24 Labels checked by: TO

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

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

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Temperature Compliance Form

ARI Work Order: 23A0418

Cooler#: _____ **Temperature(°C):** 6.9°C

Sample ID	Bottle Count	Bottle Type
samples received above 6°C		

Cooler#: _____ **Temperature(°C):** _____

Sample ID	Bottle Count	Bottle Type

Cooler#: _____ **Temperature(°C):** _____

Sample ID	Bottle Count	Bottle Type

Cooler#: _____ **Temperature(°C):** _____

Sample ID	Bottle Count	Bottle Type

Completed by: _____ Date: 11/18/23 Time: 1655

Anchor QEA, LLC	Project: AOC5 MR Phase 1	
1201 3rd Ave, Suite 2600	Project Number: 210075-01.02	**Reported:**
Seattle, WA 98101	Project Manager: Ali Judkins	04/30/2023 16:57

ANALYTICAL REPORT FOR SAMPLES

Laboratory ID	Sample ID	Matrix	Date Sampled	Date Received
23A0418-01	LDW23-IT1136	Solid	01/18/23 08:28	01/18/23 16:36
23A0418-02	LDW23-IT1142	Solid	01/18/23 08:47	01/18/23 16:36
23A0418-03	LDW23-SC1122	Solid	01/18/23 10:39	01/18/23 16:36
23A0418-04	LDW23-IT1141	Solid	01/18/23 11:03	01/18/23 16:36
23A0418-05	LDW23-IT1133	Solid	01/18/23 11:13	01/18/23 16:36
23A0418-06	LDW23-IT1133-FD	Solid	01/18/23 11:13	01/18/23 16:36
23A0418-07	LDW23-IT1180	Solid	01/18/23 13:14	01/18/23 16:36
23A0418-08	LDW23-IT1218	Solid	01/18/23 13:42	01/18/23 16:36
23A0418-09	LDW23-IT1216	Solid	01/18/23 13:57	01/18/23 16:36
23A0418-10	LDW23-IT1135	Solid	01/18/23 14:23	01/18/23 16:36
23A0418-11	LDW23-IT1140	Solid	01/18/23 14:47	01/18/23 16:36
23A0418-12	LDW23-IT1275	Solid	01/18/23 15:09	01/18/23 16:36

Anchor QEA, LLC	Project: AOC5 MR Phase 1	
1201 3rd Ave, Suite 2600	Project Number: 210075-01.02	**Reported:**
Seattle WA, 98101	Project Manager: Ali Judkins	30-Apr-2023 16:57

Case Narrative

Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Work Order: 23A0418

Sample receipt

Samples as listed on the preceding page were received 18-Jan-2023 16:36 under ARI work order 23A0418. For details regarding sample receipt, please refer to the Cooler Receipt Form. Samples were frozen on receipt to preserve holding times.

Polynuclear Aromatic Hydrocarbons (cPAH) - EPA Method SW8270E-SIM

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

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries outside control limits are flagged on the summary sheets.

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

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

The matrix spike duplicate (MSD) percent recovery for dibenzo(a,h)anthracene was low of advisory control limits and flagged on the summary sheet. The relative percent difference (RPD) were within advisory control limits.

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

PCB Aroclors - EPA Method SW8082A

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

SLC0019-ICV2, SLC0019-CCV8, SLC0019-CCVA, SLC0019-CCVC and SLC0019-CCVE all failed high for aroclor 1260 on the zb5 column. Hexabromobiphenyl failed low for several standards and samples. All associated data is reported from the ZB35 column as primary.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

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

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

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

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

Anchor QEA, LLC	Project: AOC5 MR Phase 1	
1201 3rd Ave, Suite 2600	Project Number: 210075-01.02	**Reported:**
Seattle WA, 98101	Project Manager: Ali Judkins	30-Apr-2023 16:57

Case Narrative

The analyst noted identification of the aroclors were based on the best possible fit, as there were miscellaneous interfering peaks throughout the chromatograms.

Total Metals - EPA Method 6020B (Arsenic only)

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

SLD0418-CCV1 showed germanium as noisy and high response for associated analytes. Associated analytes were not reported.

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

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

The matrix spike (MS) percent recoveries and the duplicate (DUP) relative percent difference (RPD) were within advisory control limits.

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

Wet Chemistry (Total Organic Carbon and Total Solids)

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

Initial and continuing calibrations were within method requirements.

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

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

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

The batch BLA0526 matrix spike (MS) percent recovery was high of advisory control limits and the duplicate (DUP) relative percent difference (RPD) was high advisory control limits, attributed to sample homogeneity, reported under work order 23A0417.

The batch BLA0527 matrix spike (MS) percent recoveries and the duplicate (DUP) relative percent difference (RPD) were within advisory control limits.

Dioxin/Furans - EPA Method 1613

The sample(s) were extracted and analyzed within the recommended holding times for samples stored frozen. Analysis was performed using an application specific column developed by Restek. The RTX-Dioxin2 column has unique isomer separation for the 2378-TCDF, eliminating the need for confirmation analysis.

Initial and continuing calibrations were within method requirements.

Labeled internal standard areas were within limits.

The cleanup surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits, with response or EMPC response below the reporting limit. Associated positive results have been "B"-flagged.

The OPR (Ongoing Precision and Recovery) standard percent recoveries were within control limits.

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Case Narrative

The batch BLD0228 duplicate (DUP) relative percent difference (RPD) were outside advisory control limits for 2,3,7,8-TCDD, 1,2,3,7,8-PeCDD and 2,3,4,6,7,8-HxCDF, reported under work order 23A0417.

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

QUALIFIERS AND NOTES

Qualifier	Definition
X	Indicates possible CDPE interference.
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
J	Estimated concentration value detected below the reporting limit.
EMPC	Estimated Maximum Possible Concentration qualifier for HRGCMS Dioxin
D	The reported value is from a dilution
B	This analyte was detected in the method blank.
*	Flagged value is not within established control limits.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Analytical Resources, LLC
Analytical Chemists and Consultants

LDW23-IT1136

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270E-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-01 A	SDG:	23A0418
Sampled:	01/18/23 08:28	Prepared:	02/16/23 14:32	File ID:	N823022307.D
% Solids:	81.17	Preparation:	EPA 3546 (Microwave)	Analyzed:	02/23/23 14:15
Batch:	BLB0386	Sequence:	SLB0310	Initial/Final:	12.88 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	GA00050
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	1.76	J	0.79	4.78
218-01-9	Chrysene	1	2.56	J	1.01	4.78
205-99-2	Benzo(b)fluoranthene	1	2.66	J	1.31	4.78
207-08-9	Benzo(k)fluoranthene	1	1.46	J	0.73	4.78
50-32-8	Benzo(a)pyrene	1	1.56	J	0.59	4.78
193-39-5	Indeno(1,2,3-cd)pyrene	1	1.13	J	1.00	4.78
53-70-3	Dibenzo(a,h)anthracene	1	4.78	U	0.85	4.78

SURROGATES	ADDED: (ug/kg dry)	FOUND: (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	143.48	143	99.8	32 - 120	
Dibenzo[a,h]anthracene-d14	143.48	199	139	21 - 133	*
Fluoranthene-d10	143.48	168	117	36 - 134	

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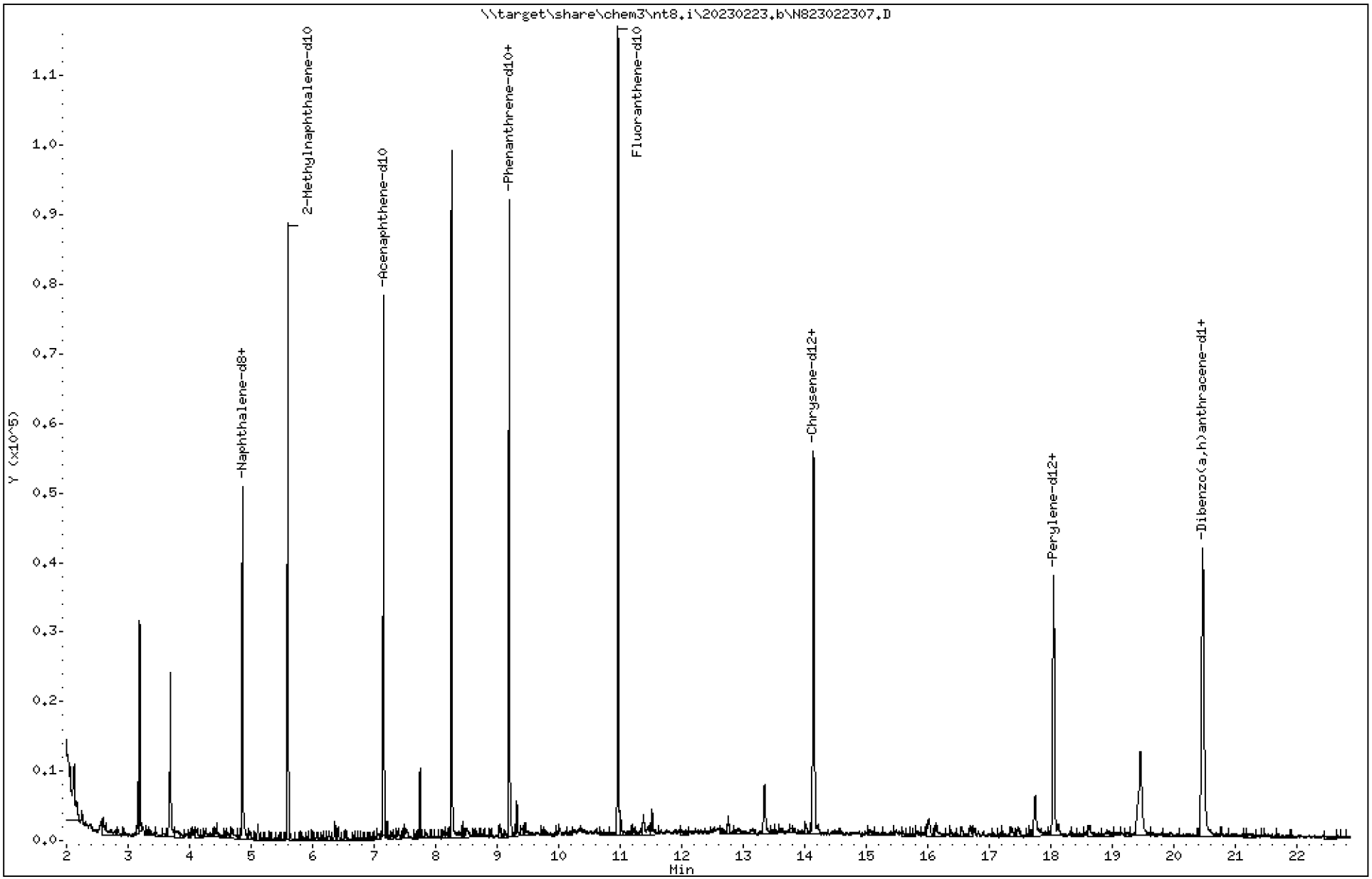
Date : 23-FEB-2023 14:15
Client ID:
Sample Info: 23A0418-01

Instrument: nt8.i
Operator: JZ
Column diameter: 0.25

Column phase: Rxi-17sil



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Date : 23-FEB-2023 14:15

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-01

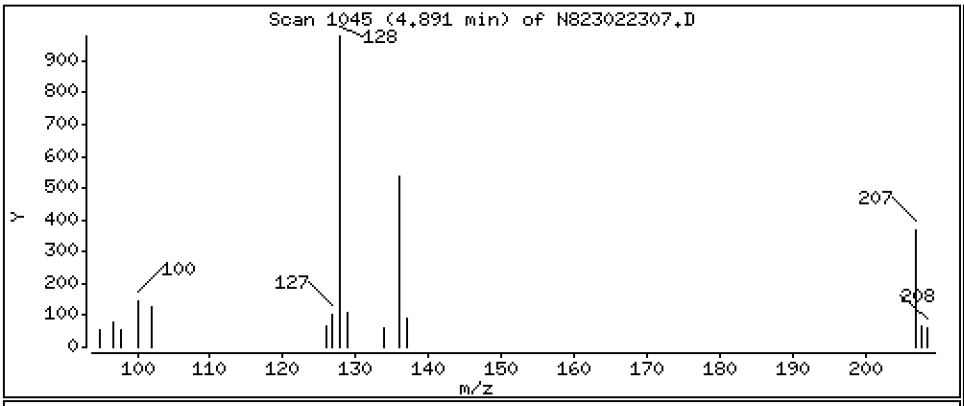
Operator: JZ

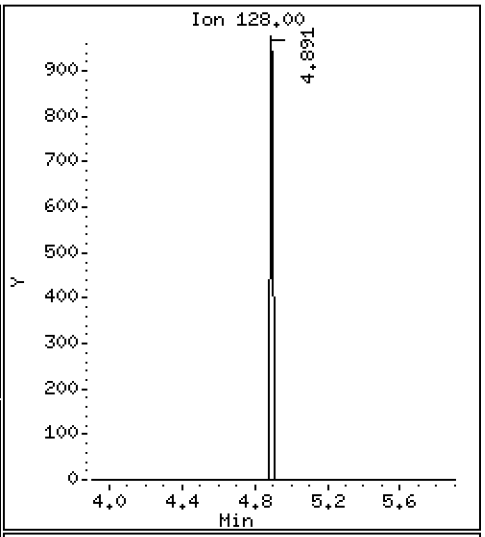
Column phase: Rxi-17sil

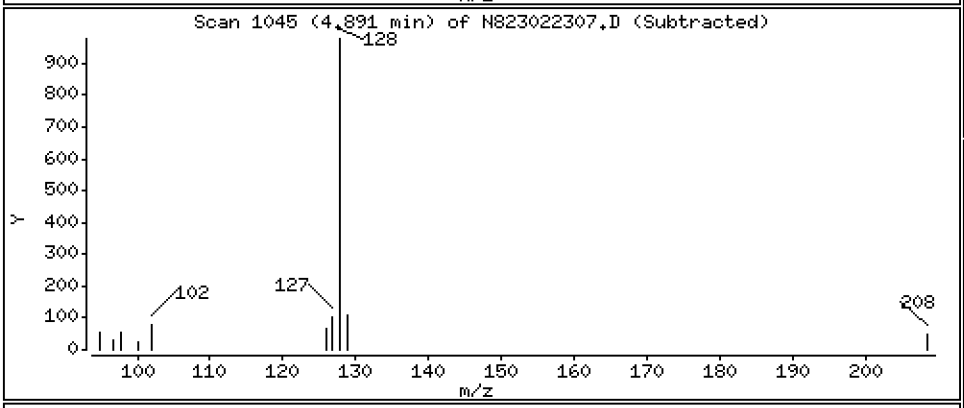
Column diameter: 0.25

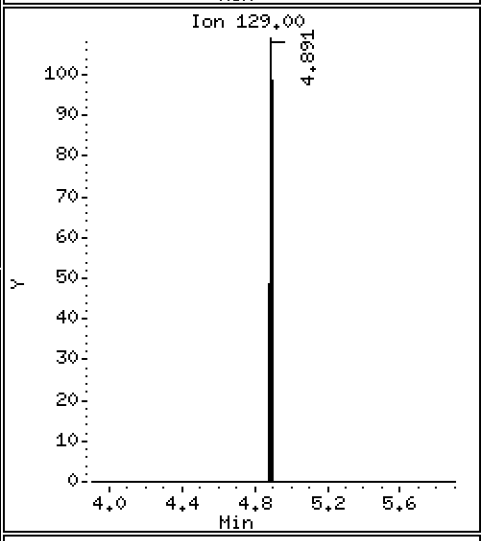
2 Naphthalene

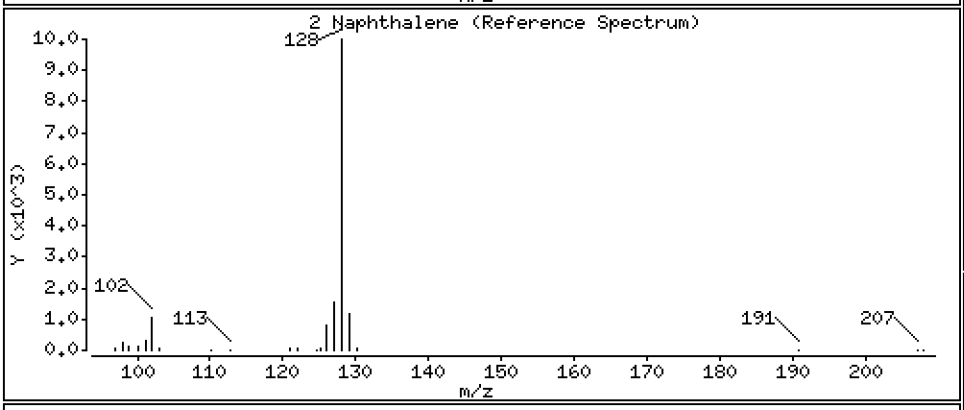
Concentration: 0.06611 ug/mL

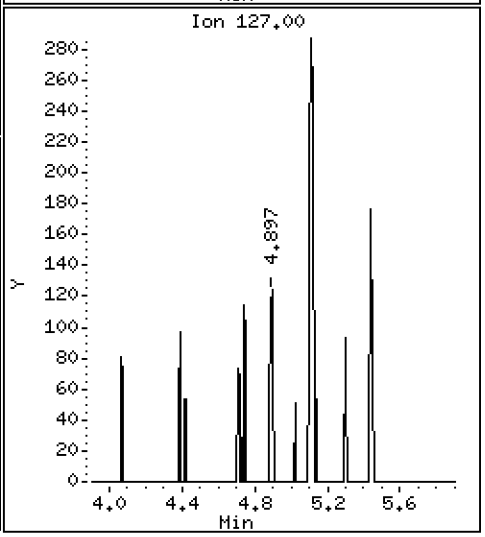


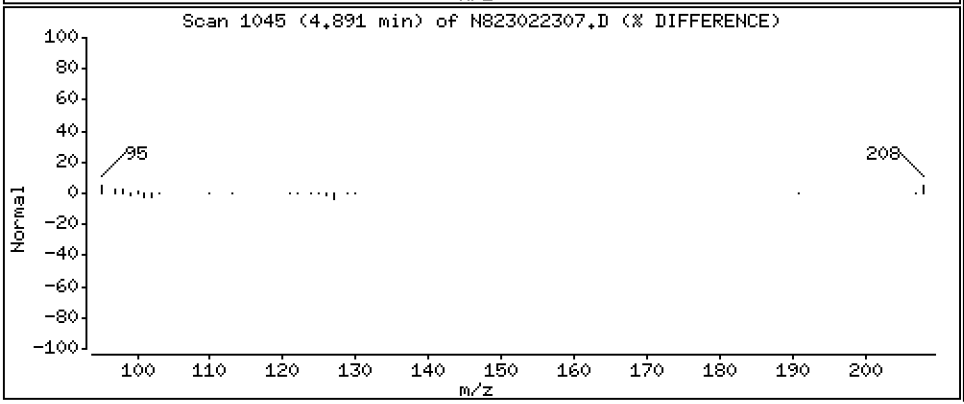












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Date : 23-FEB-2023 14:15

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-01

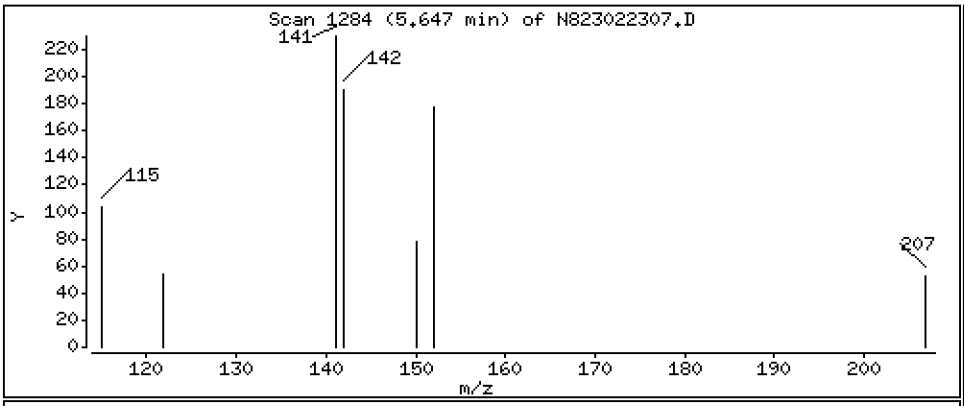
Operator: JZ

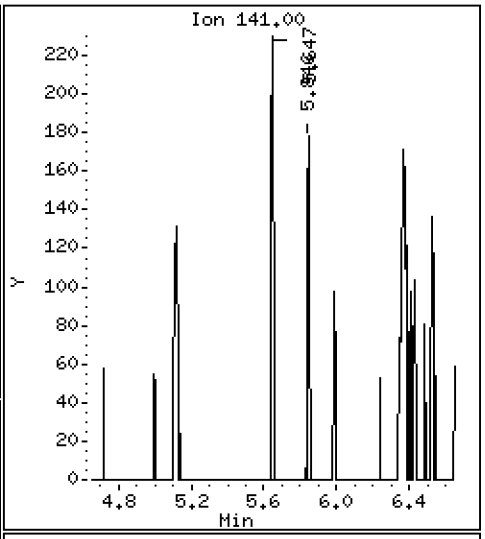
Column phase: Rxi-17sil

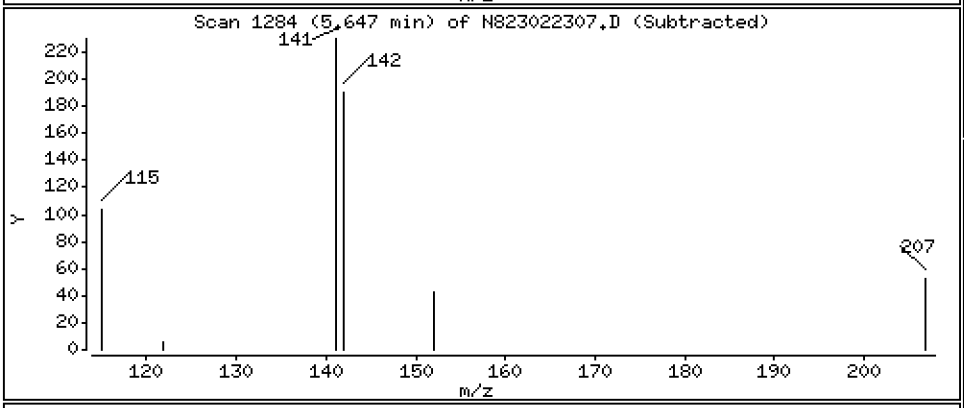
Column diameter: 0.25

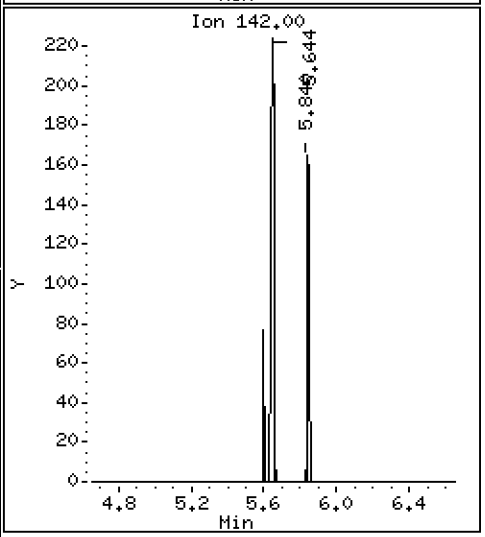
4 2-Methylnaphthalene

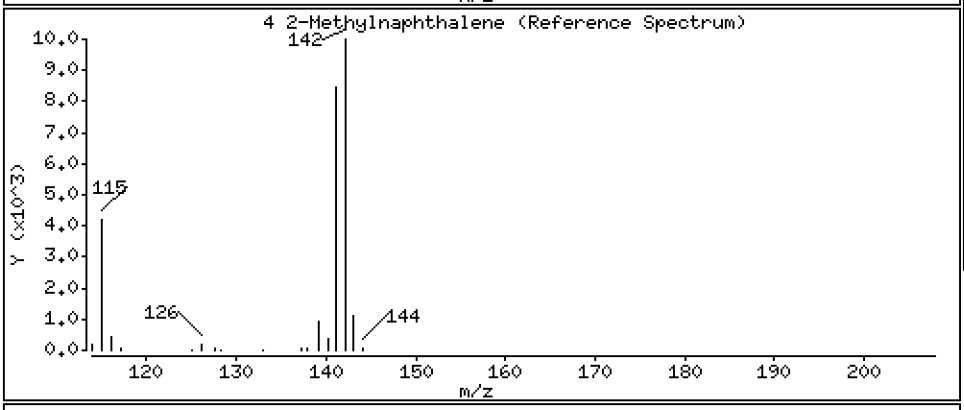
Concentration: 0.02195 ug/mL

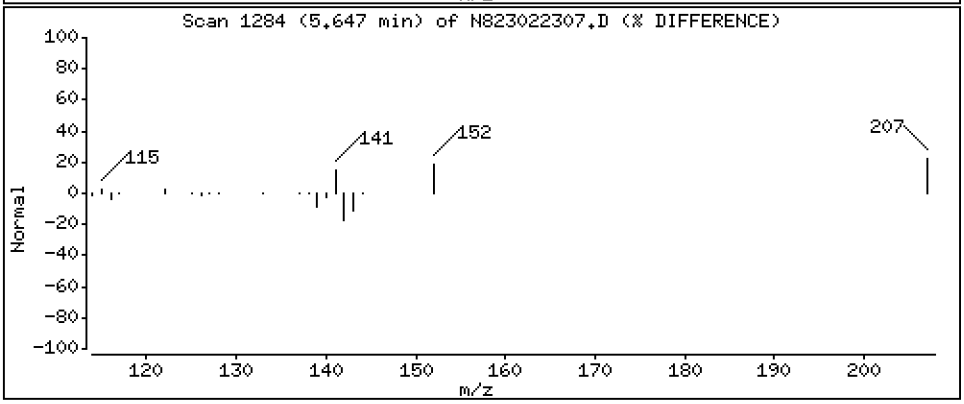












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Date : 23-FEB-2023 14:15

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-01

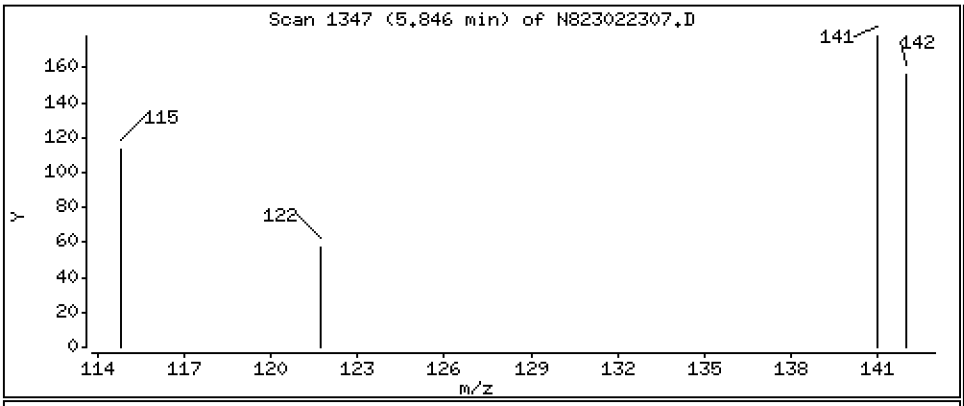
Operator: JZ

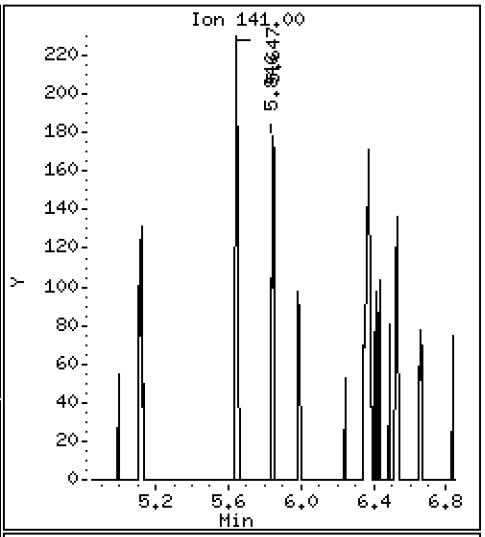
Column phase: Rxi-17sil

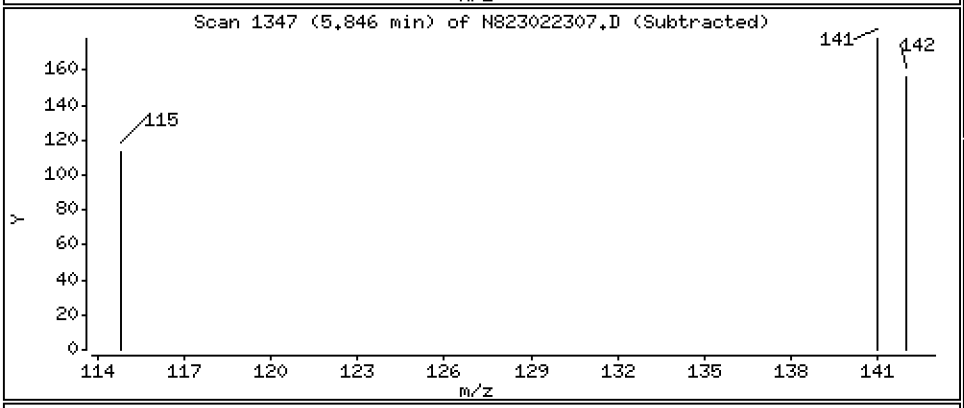
Column diameter: 0.25

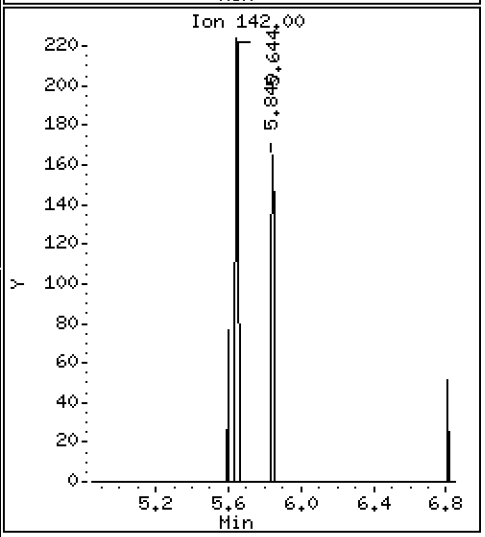
5 1-methylnaphthalene

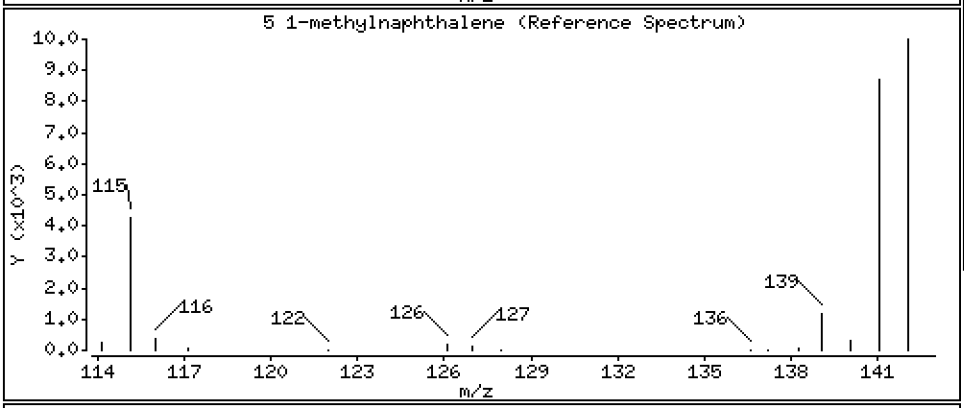
Concentration: 0.01644 ug/mL

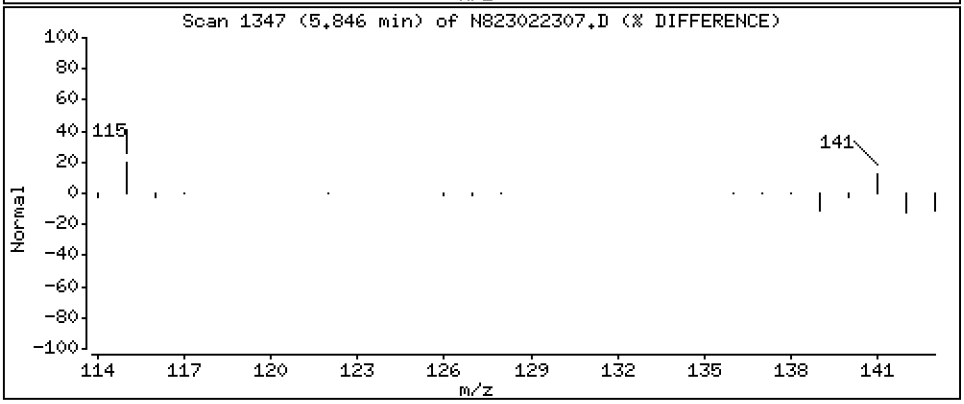












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Date : 23-FEB-2023 14:15

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-01

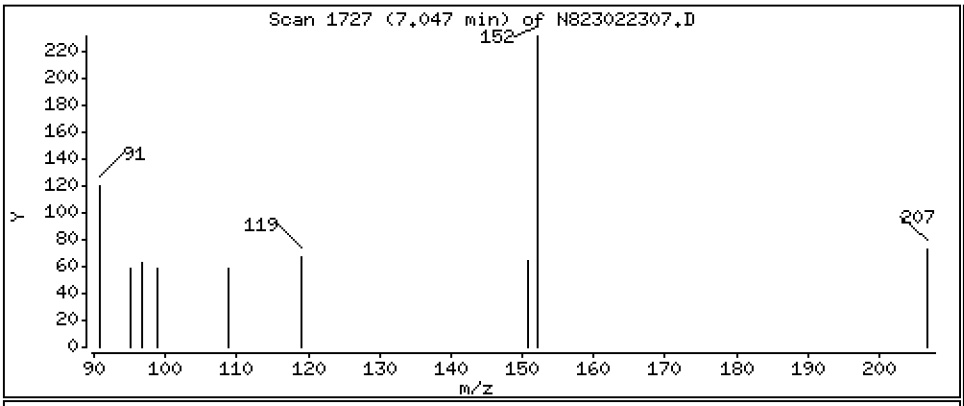
Operator: JZ

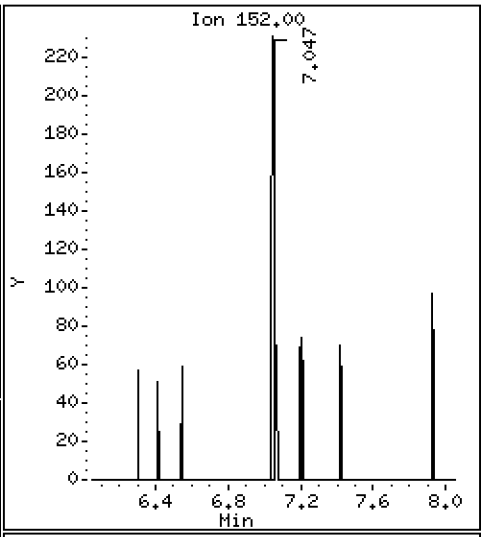
Column phase: Rxi-17sil

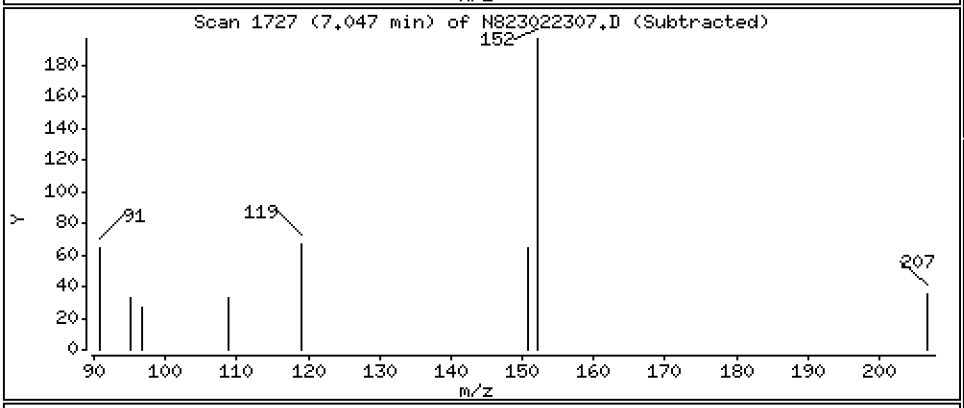
Column diameter: 0.25

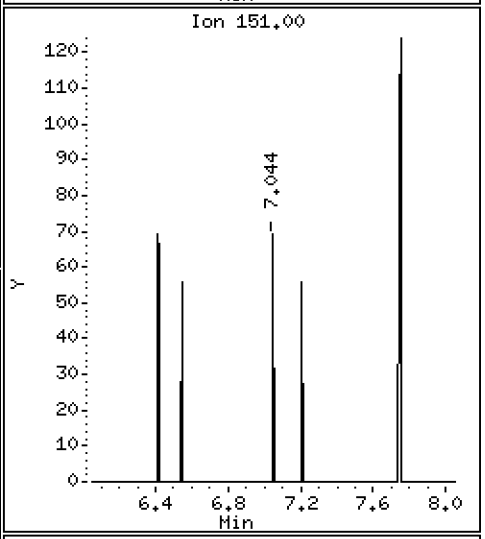
9 Acenaphthylene

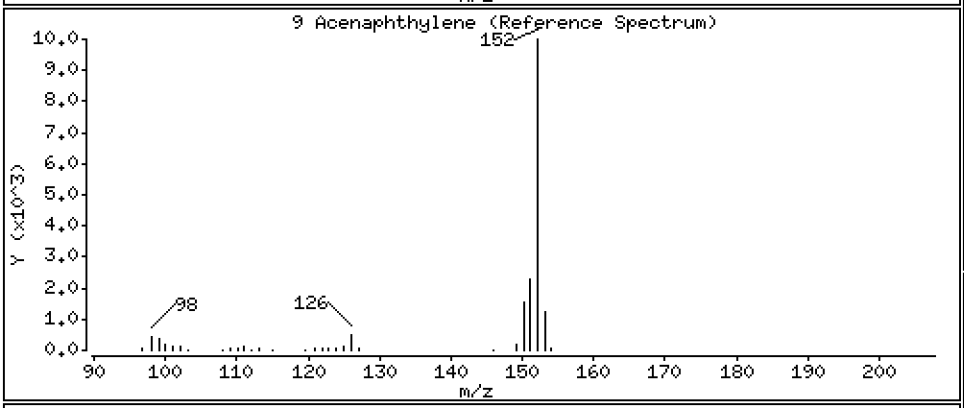
Concentration: 0.01414 ug/mL

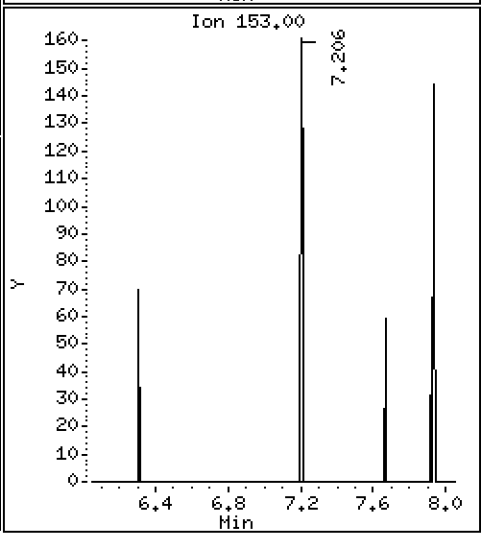


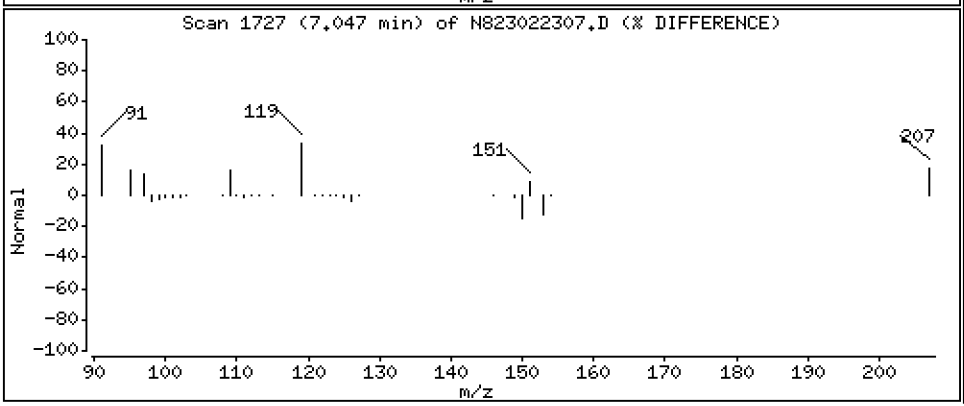












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Date : 23-FEB-2023 14:15

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-01

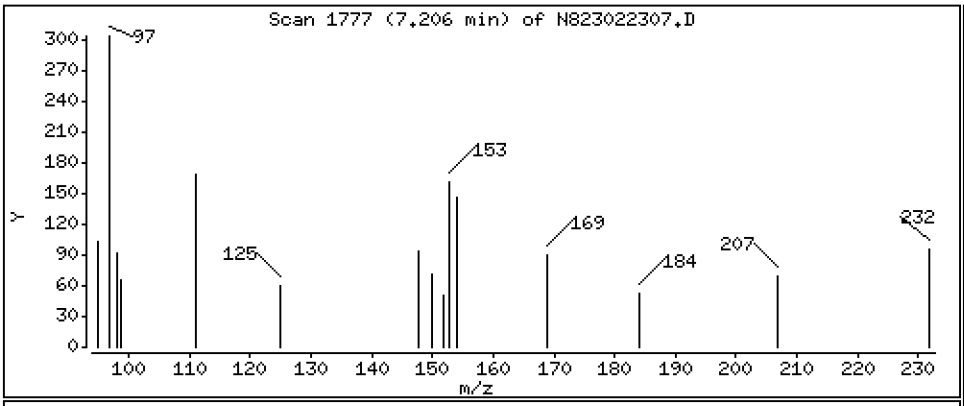
Operator: JZ

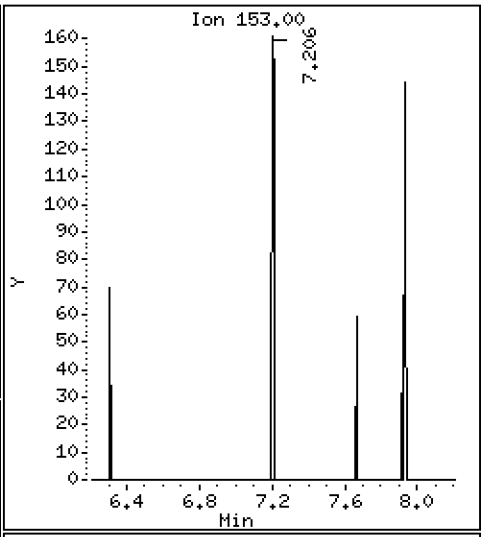
Column phase: Rxi-17sil

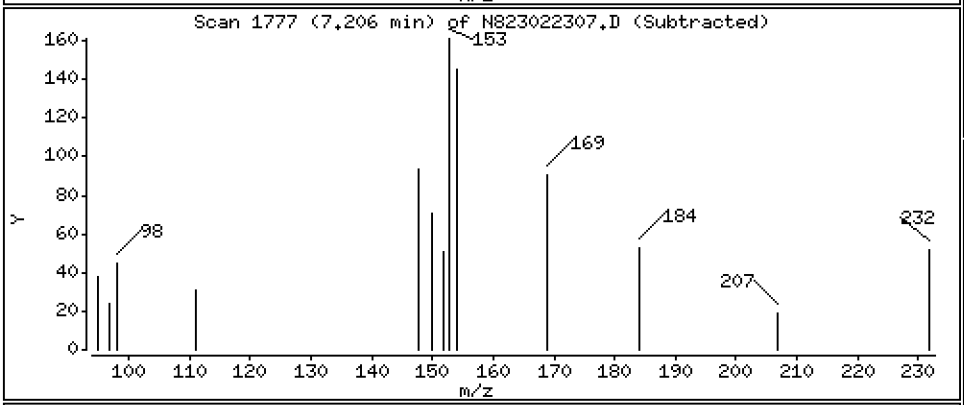
Column diameter: 0.25

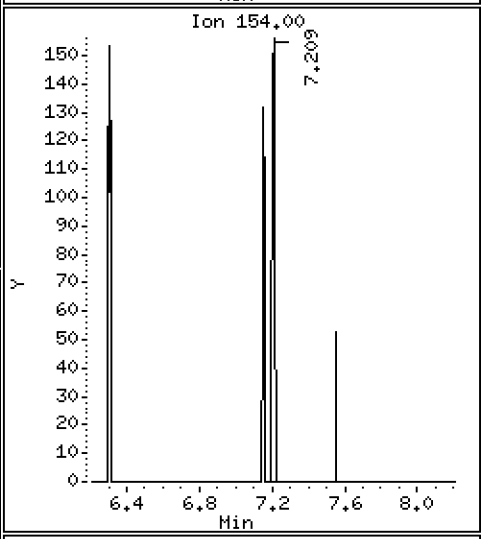
11 Acenaphthene

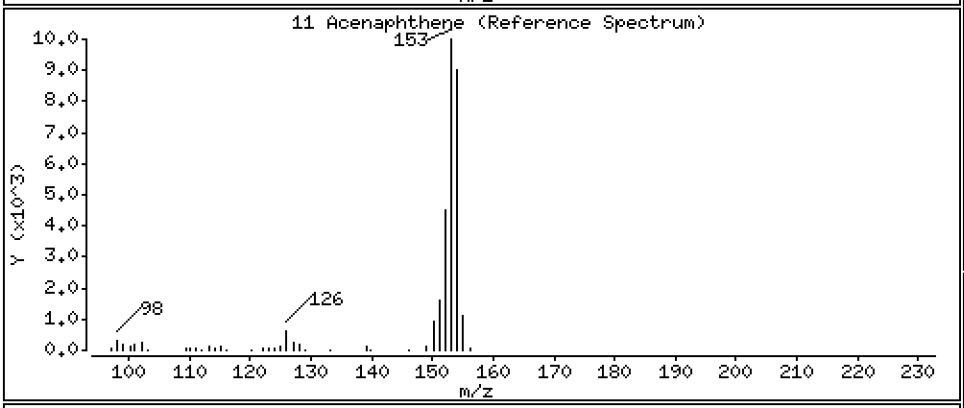
Concentration: 0.01374 ug/mL

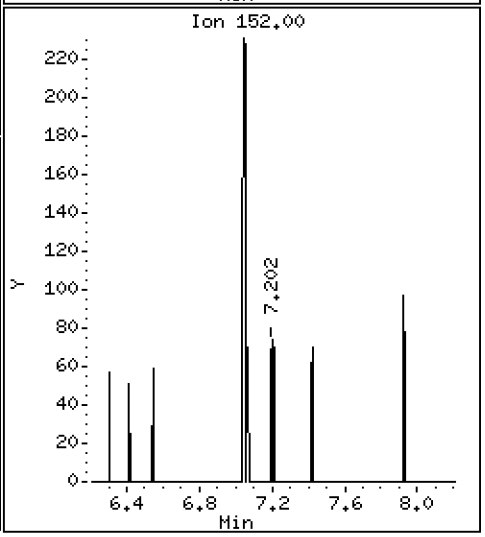


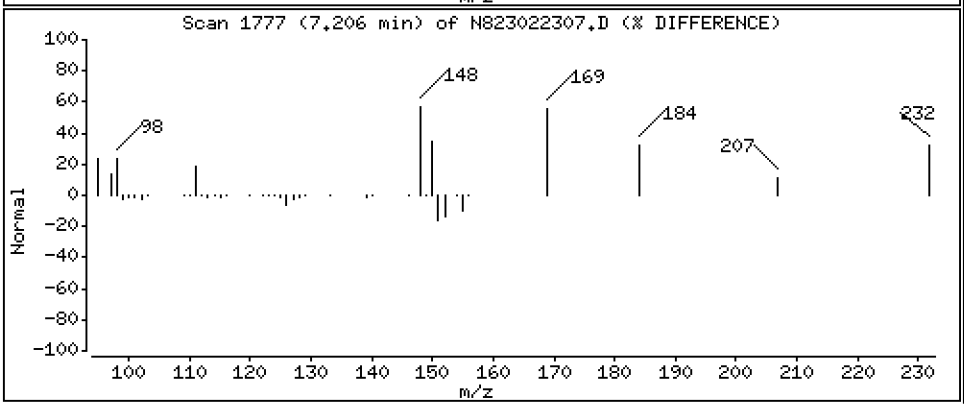












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Date : 23-FEB-2023 14:15

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-01

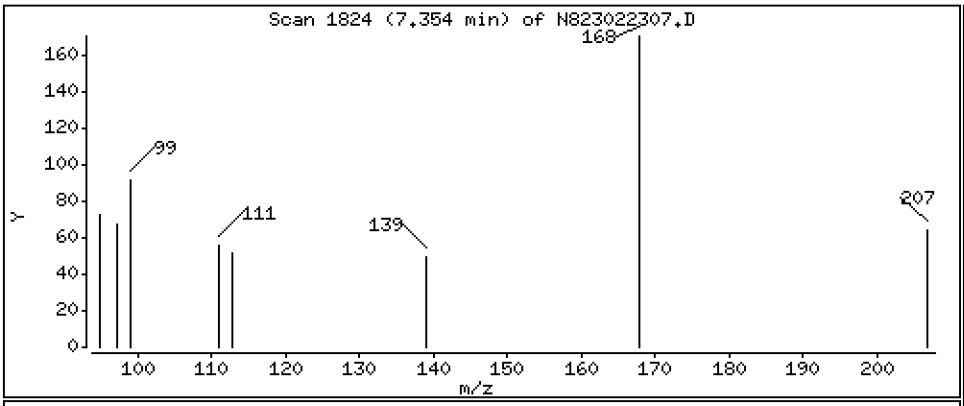
Operator: JZ

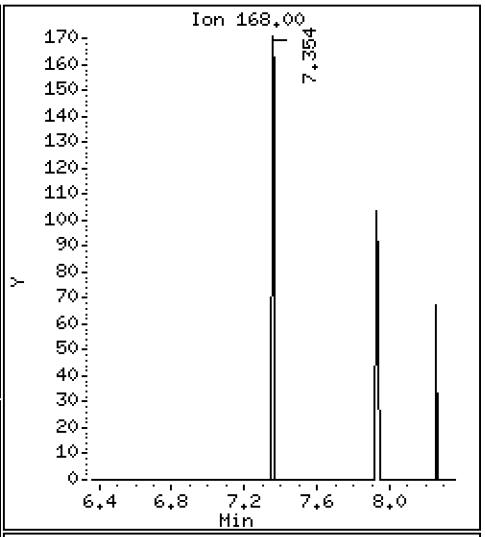
Column phase: Rxi-17sil

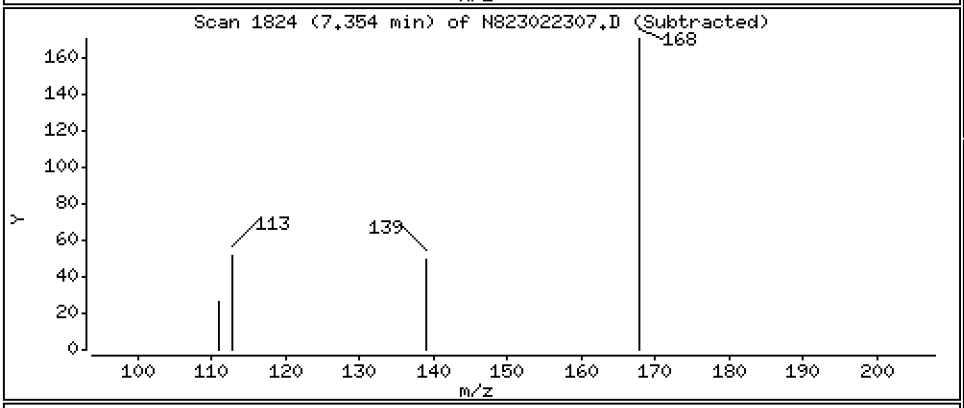
Column diameter: 0.25

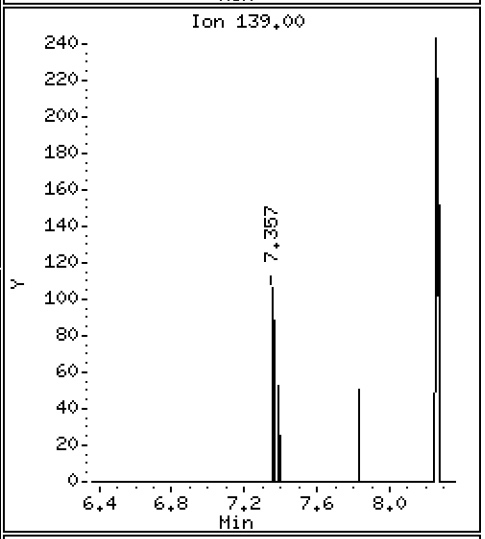
12 Dibenzofuran

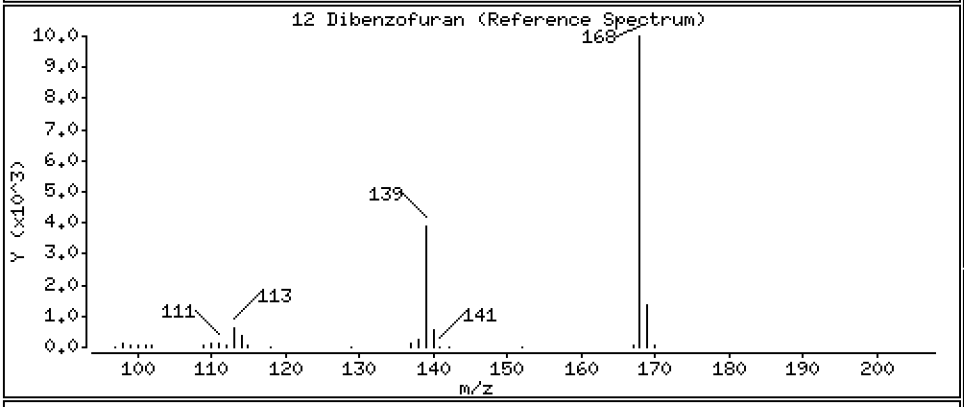
Concentration: 0.009225 ug/mL

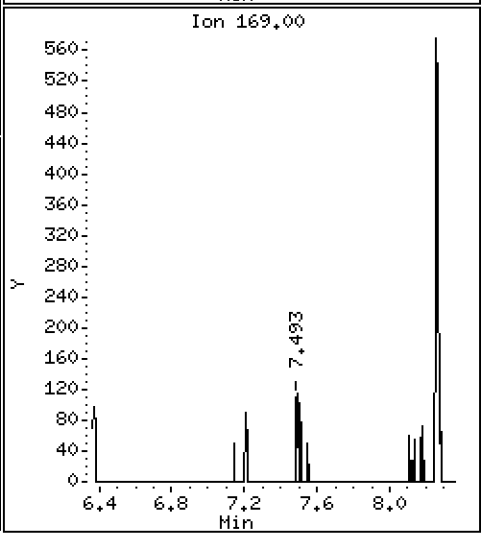


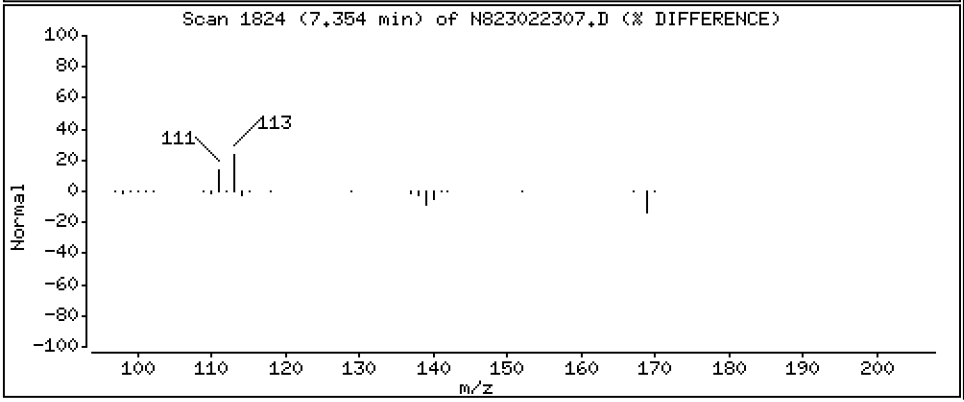












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Date : 23-FEB-2023 14:15

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-01

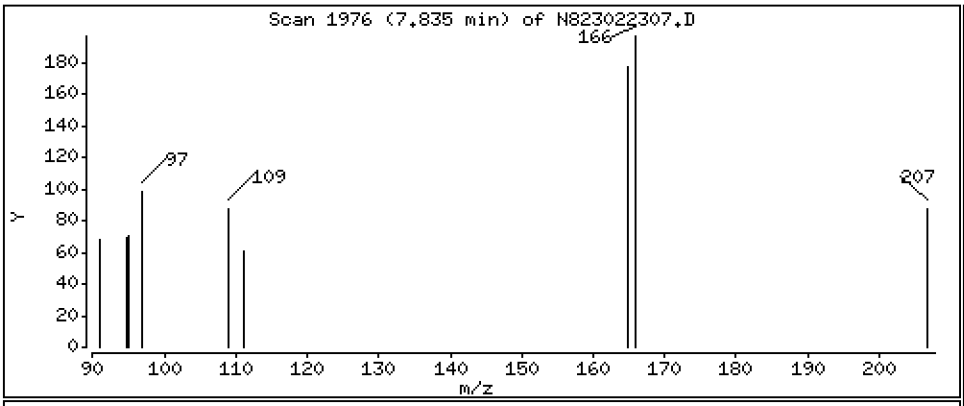
Operator: JZ

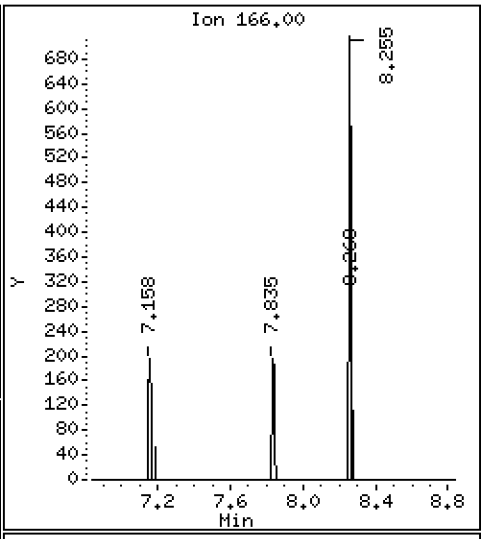
Column phase: Rxi-17sil

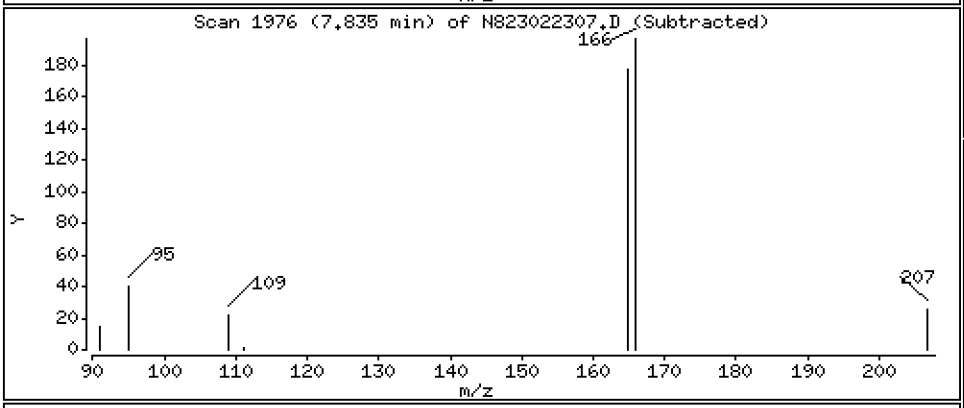
Column diameter: 0.25

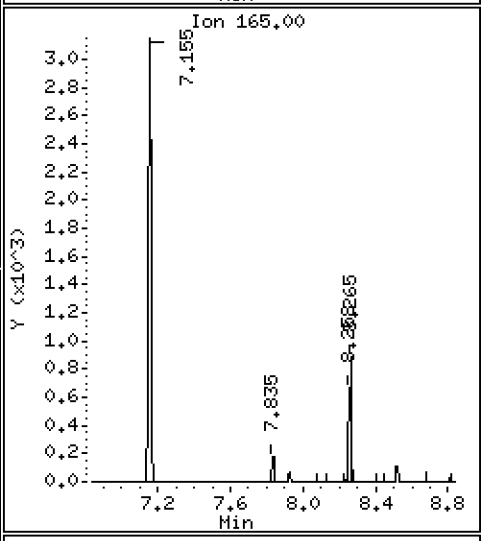
14 Fluorene

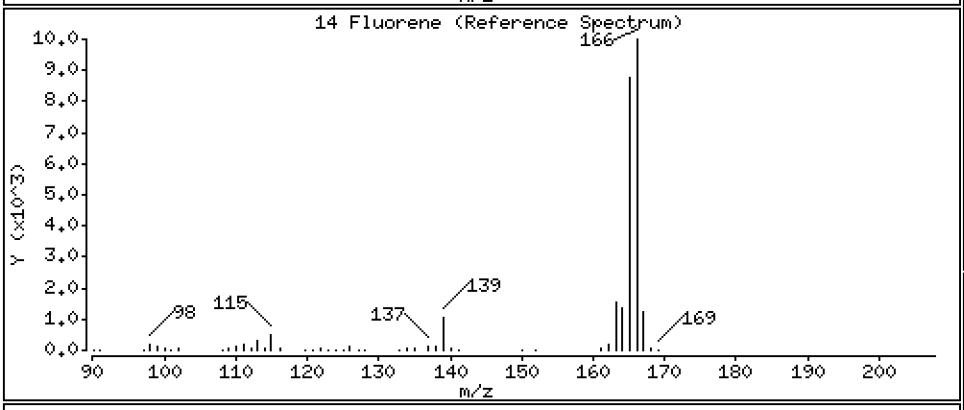
Concentration: 0.01350 ug/mL

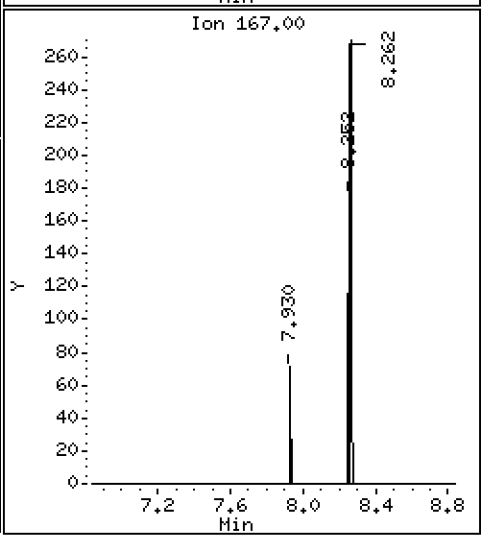


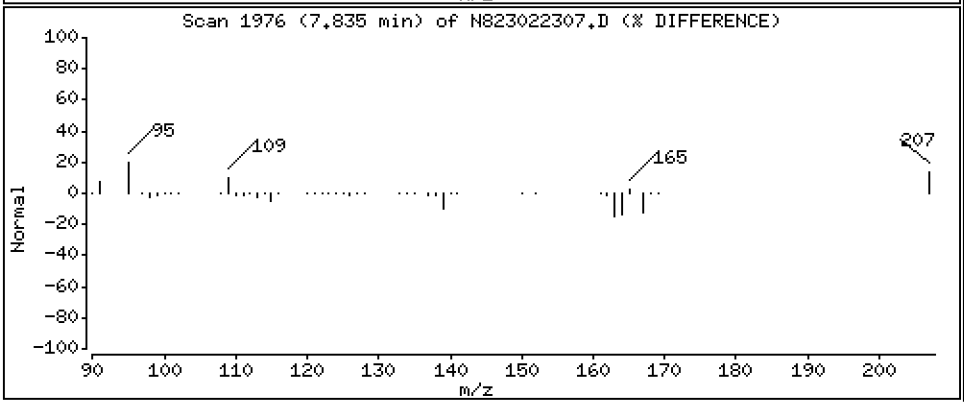












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022307.D

Date : 23-FEB-2023 14:15

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-01

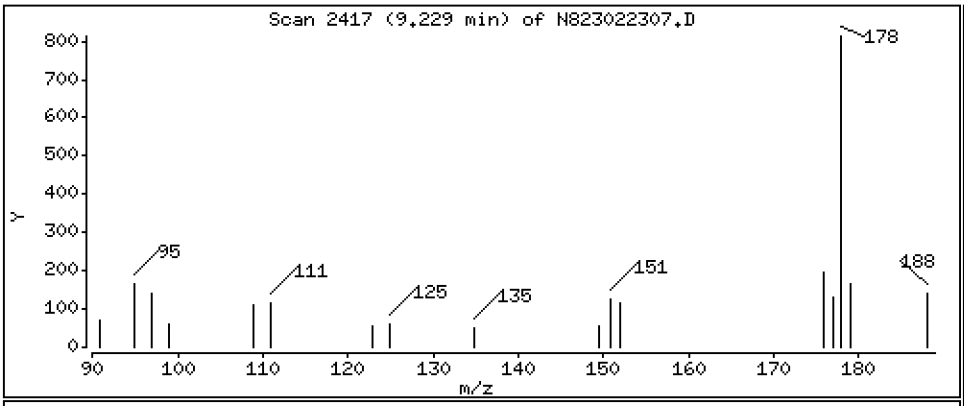
Operator: JZ

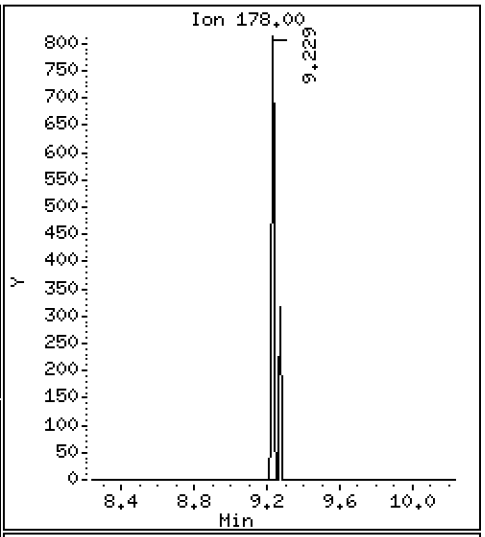
Column phase: Rxi-17sil

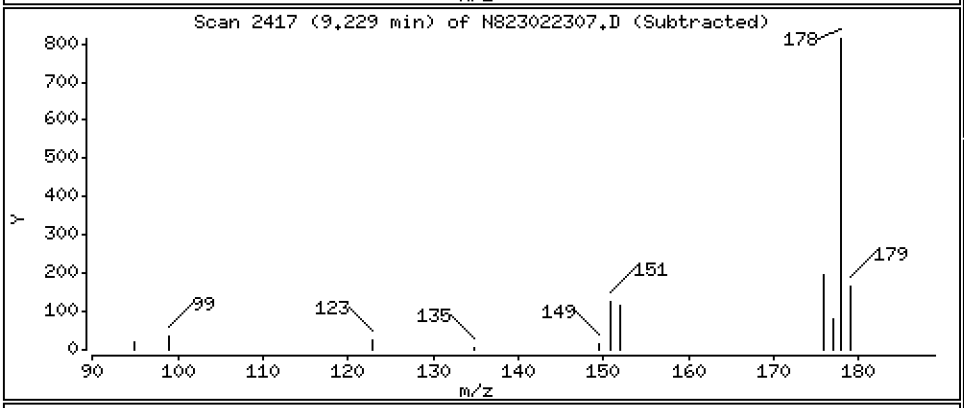
Column diameter: 0.25

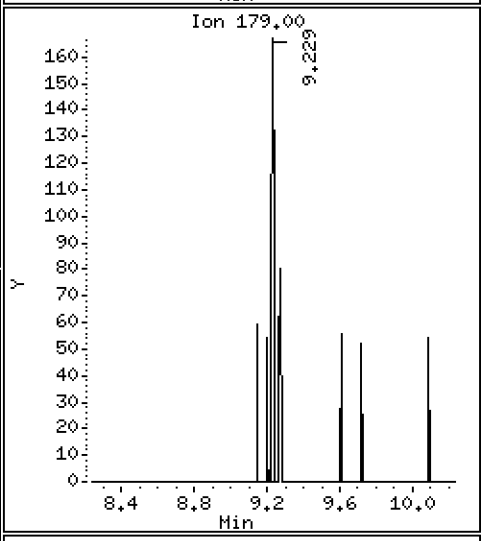
16 Phenanthrene

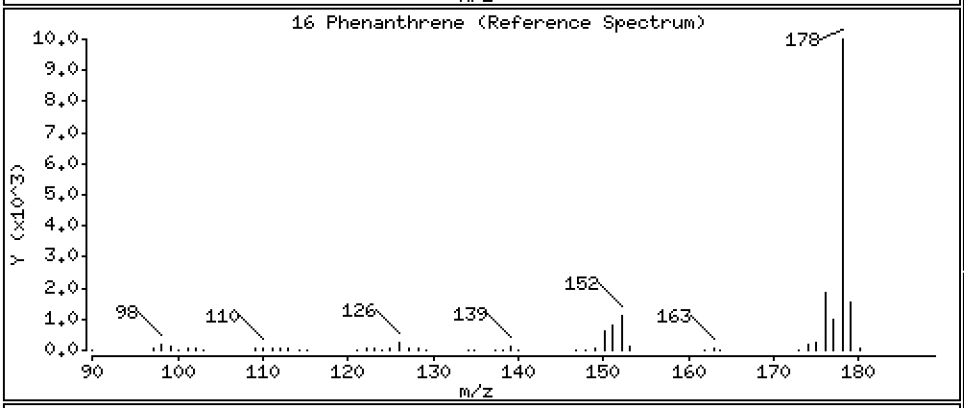
Concentration: 0.03776 ug/mL

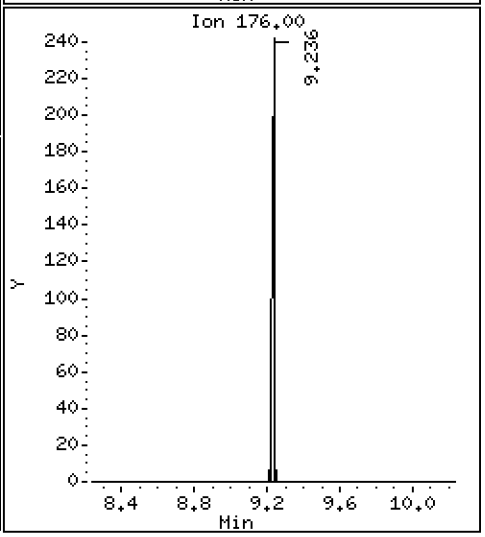


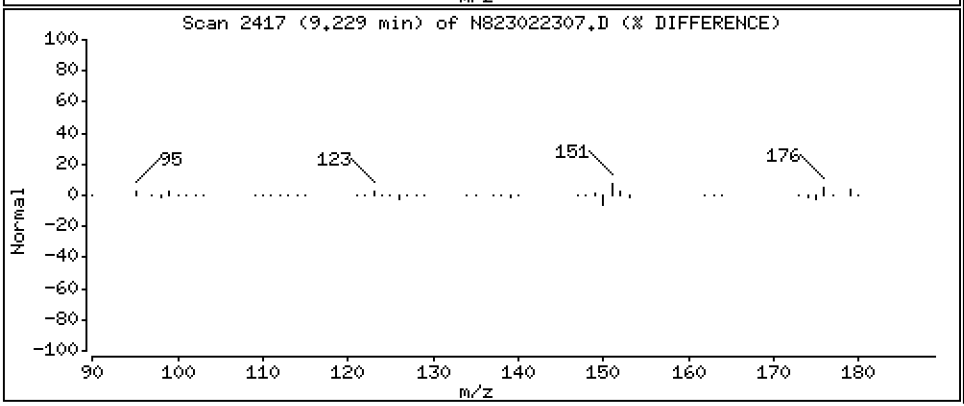












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Date : 23-FEB-2023 14:15

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-01

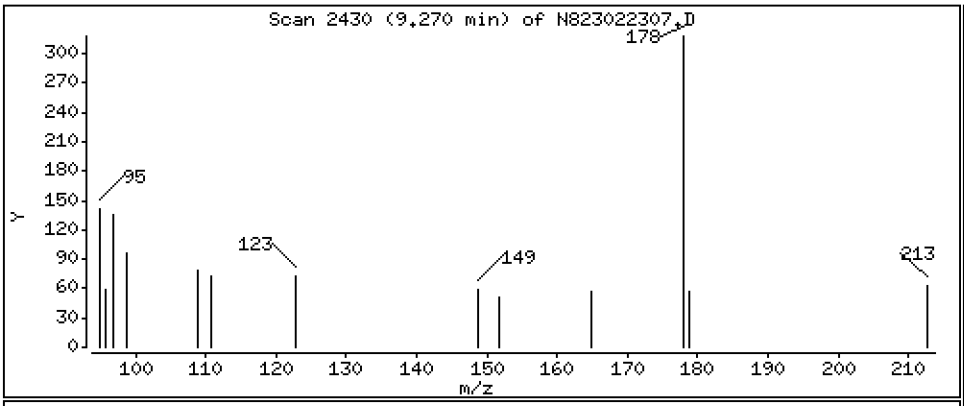
Operator: JZ

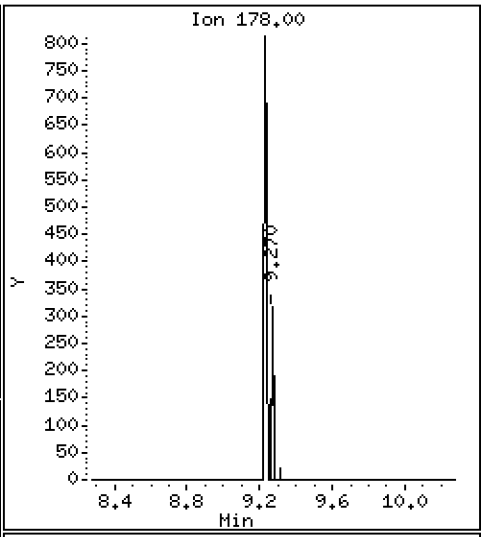
Column phase: Rxi-17sil

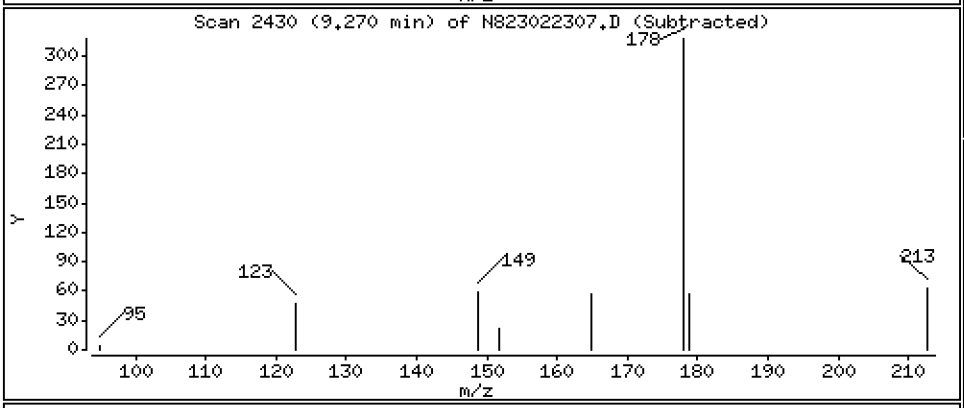
Column diameter: 0.25

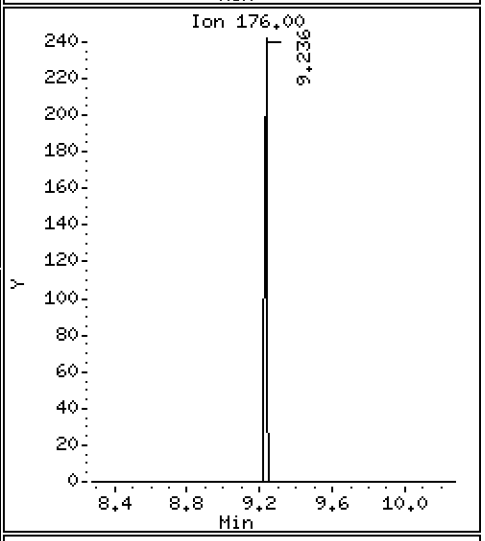
17 Anthracene

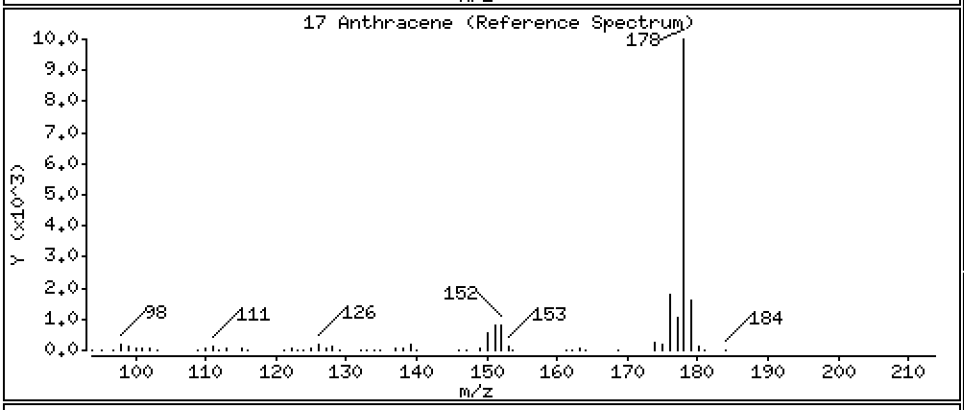
Concentration: 0.01427 ug/mL

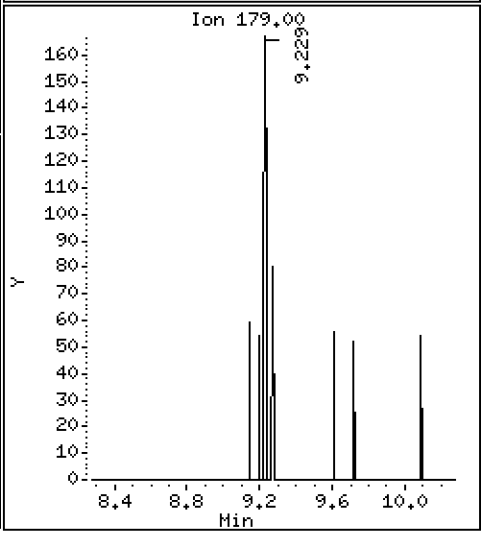


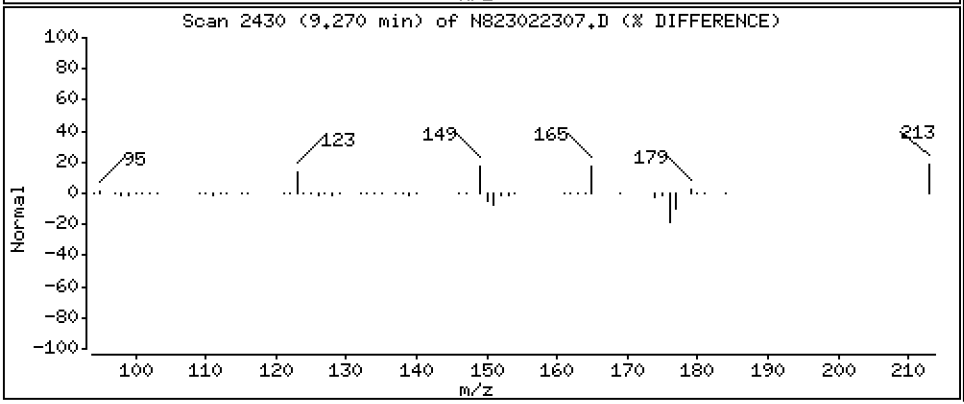












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Date : 23-FEB-2023 14:15

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-01

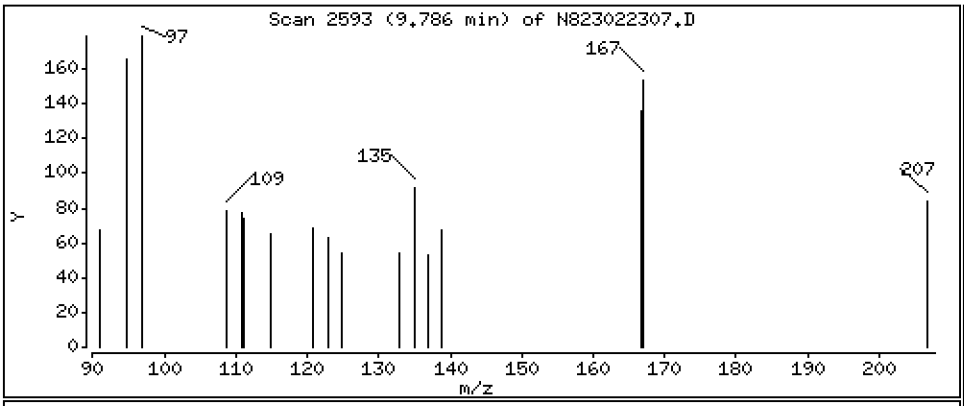
Operator: JZ

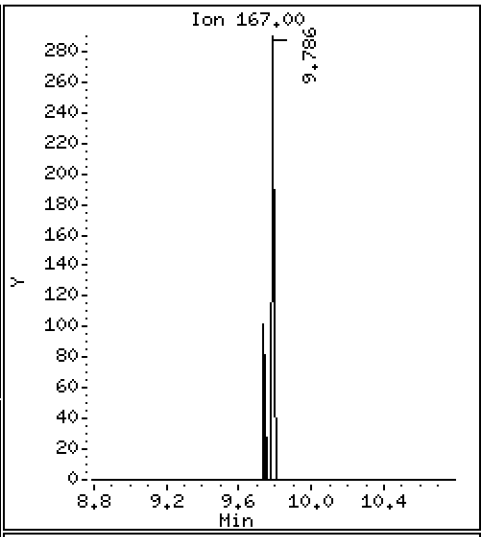
Column phase: Rxi-17sil

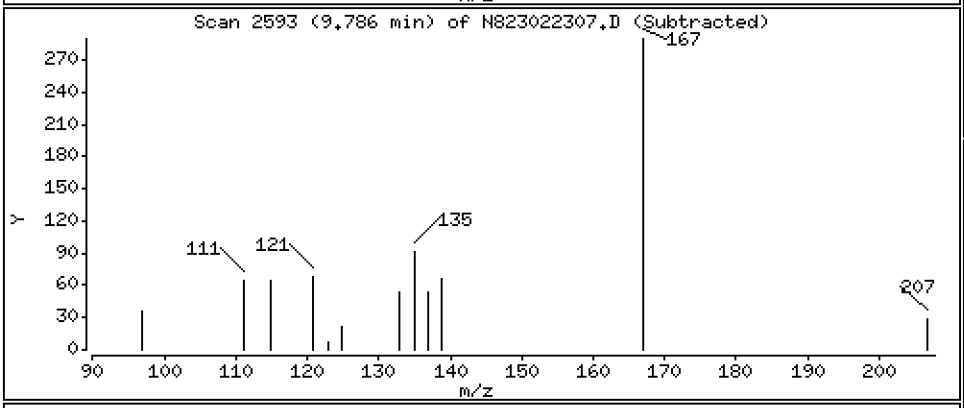
Column diameter: 0.25

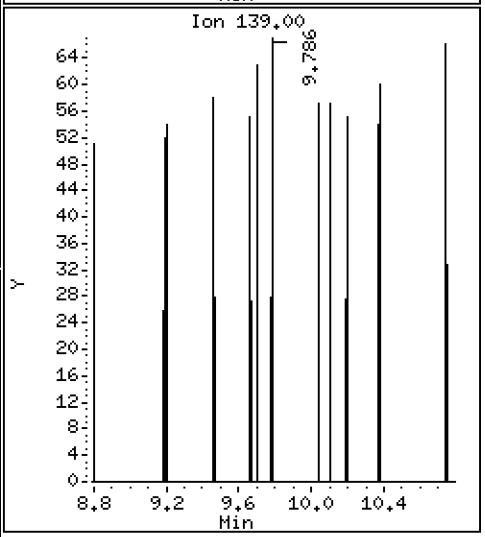
19 Carbazole

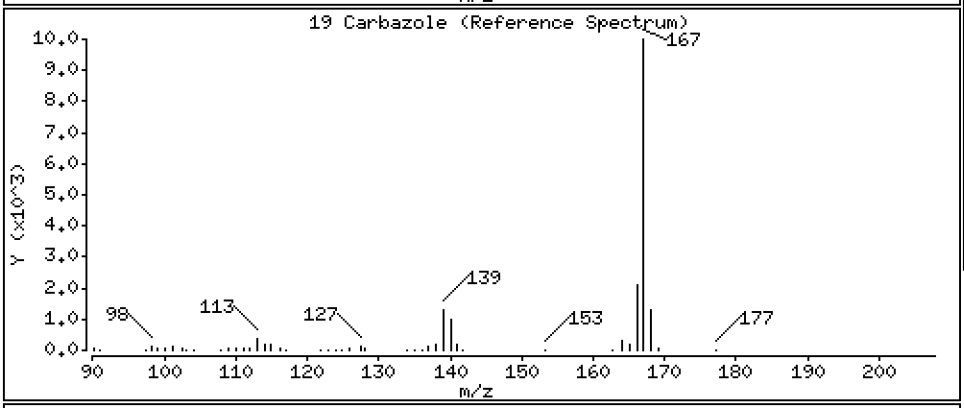
Concentration: 0.01504 ug/mL

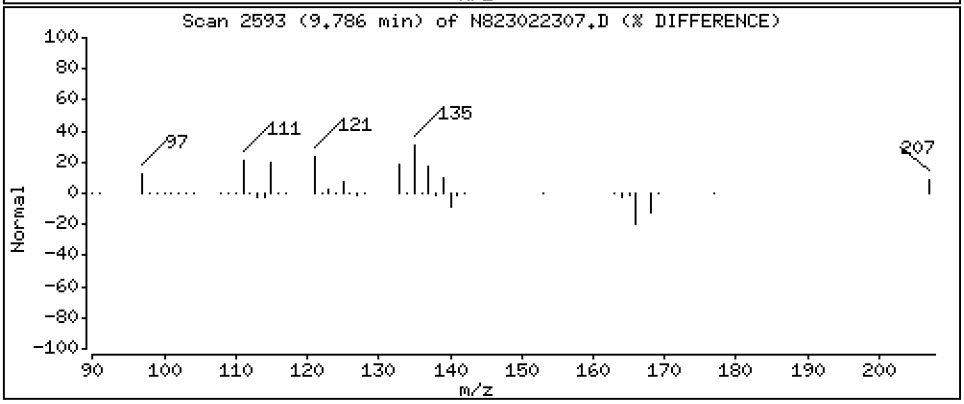












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Date : 23-FEB-2023 14:15

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-01

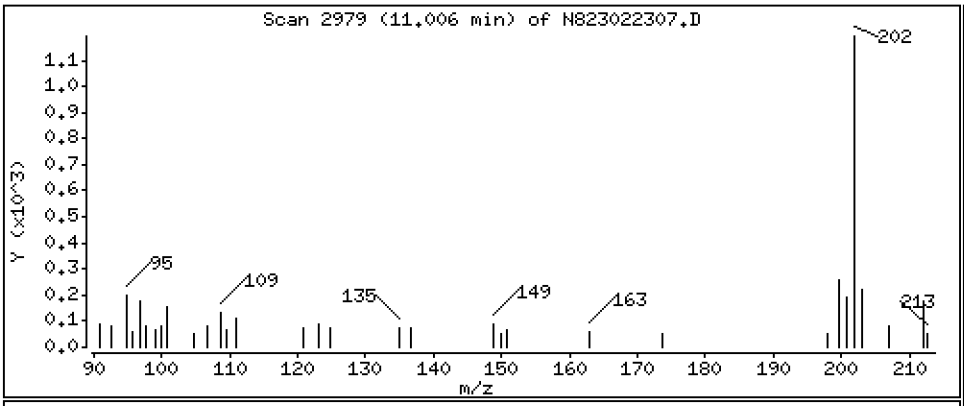
Operator: JZ

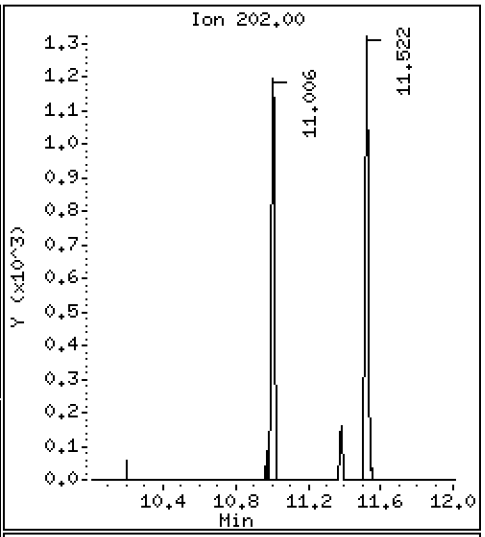
Column phase: Rxi-17sil

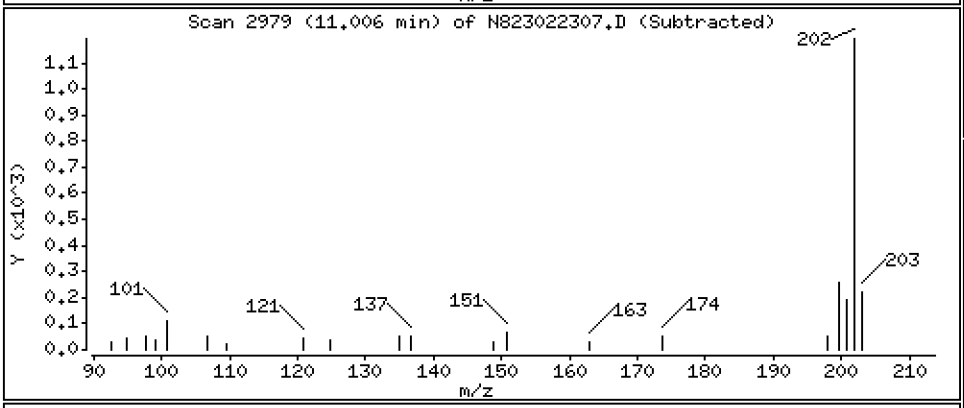
Column diameter: 0.25

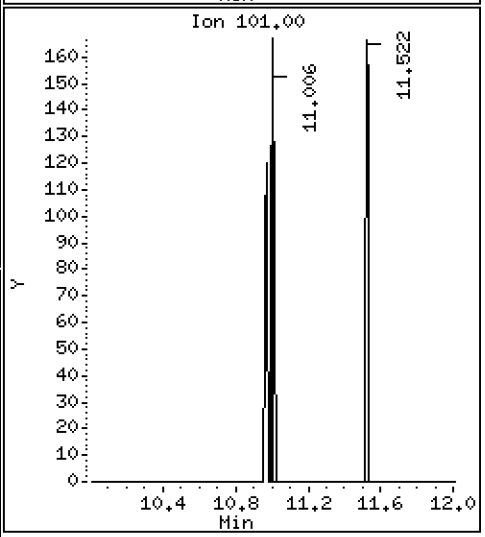
22 Fluoranthene

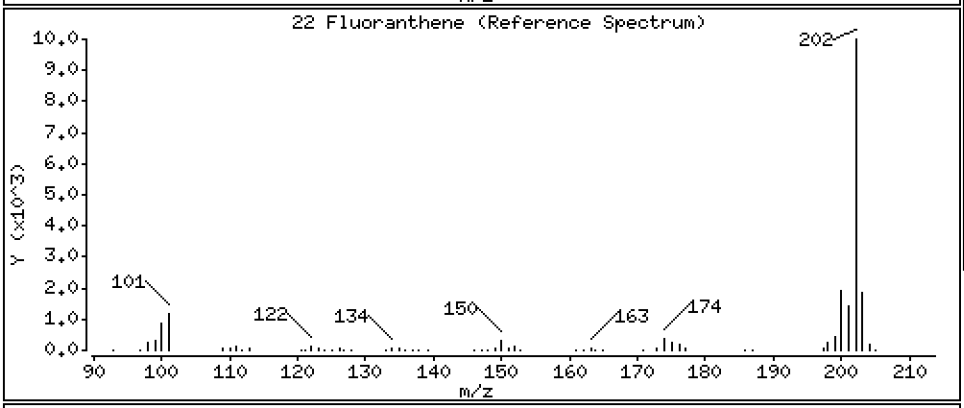
Concentration: 0.06893 ug/mL

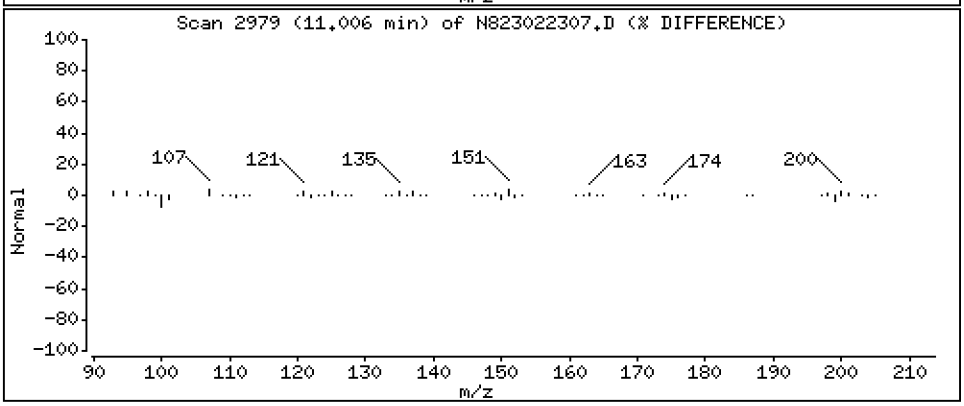












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Date : 23-FEB-2023 14:15

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-01

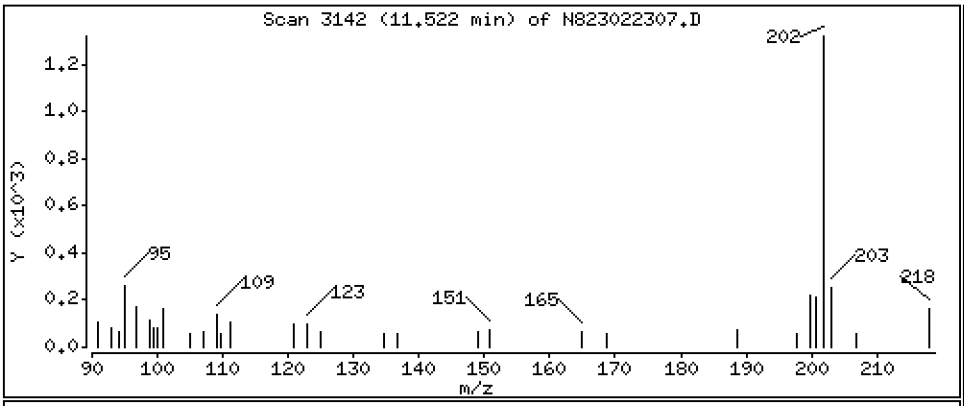
Operator: JZ

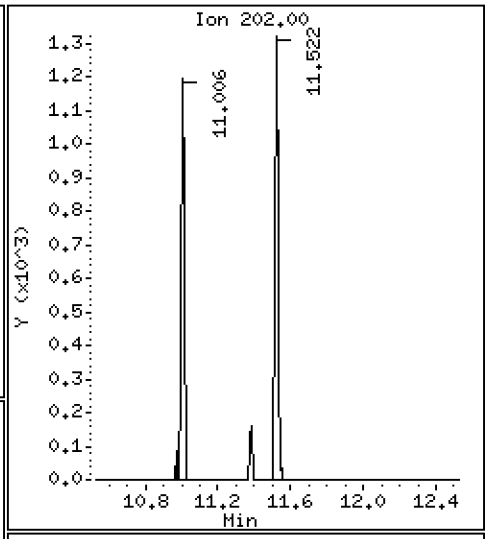
Column phase: Rxi-17sil

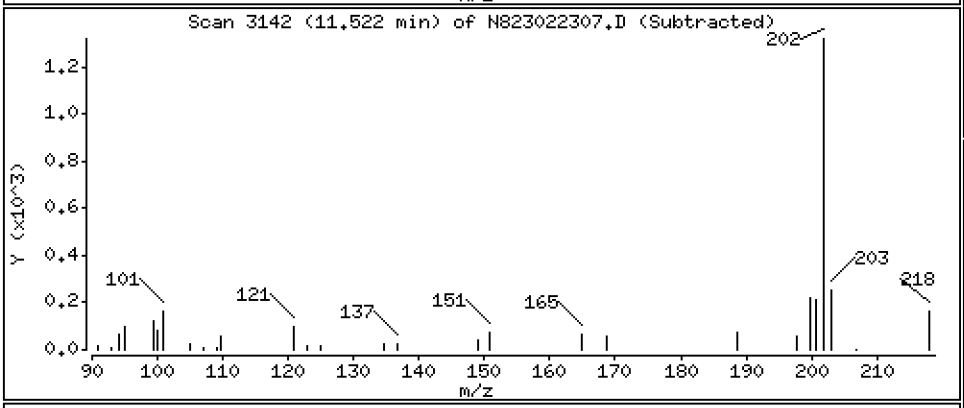
Column diameter: 0.25

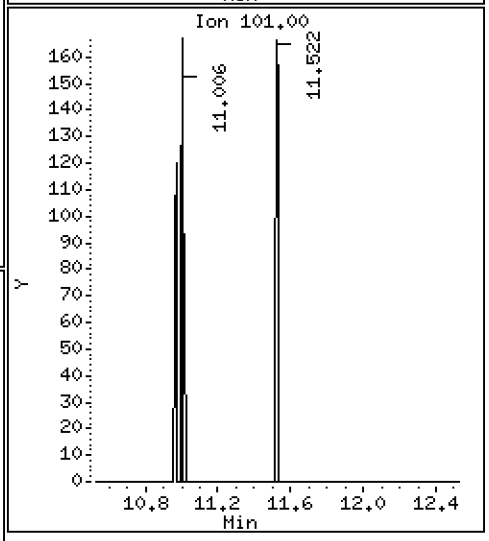
23 Pyrene

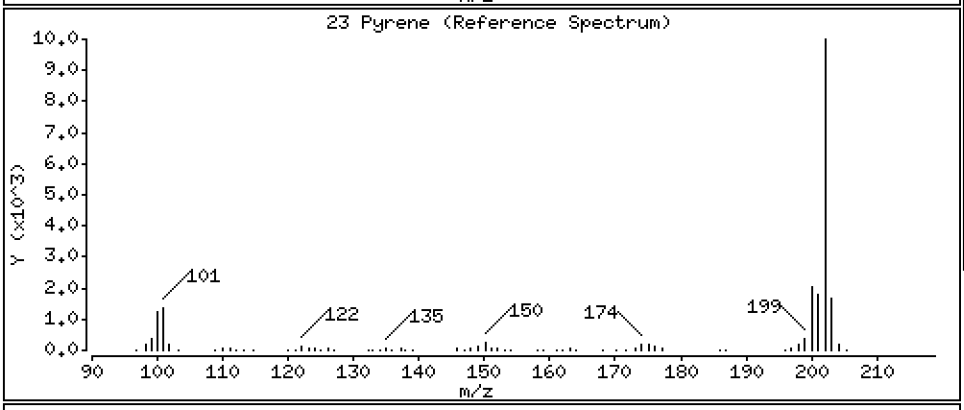
Concentration: 0.06993 ug/mL

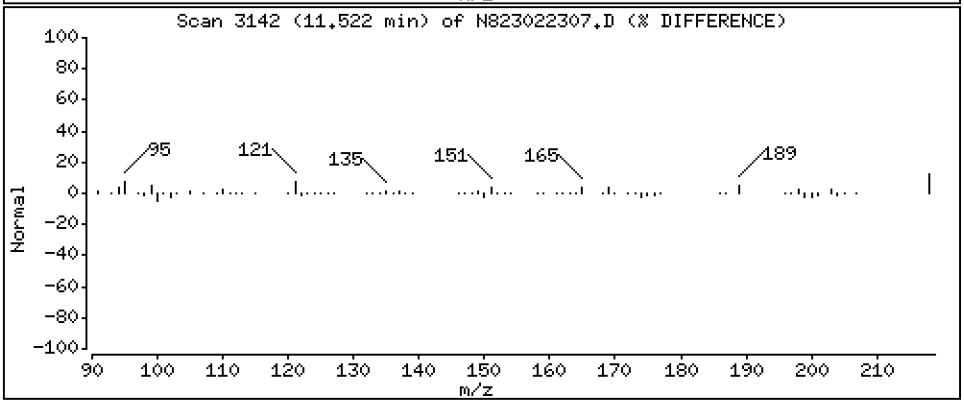












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022307.D

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Client ID:

Instrument: nt8.i

Sample Info: 23A0418-01

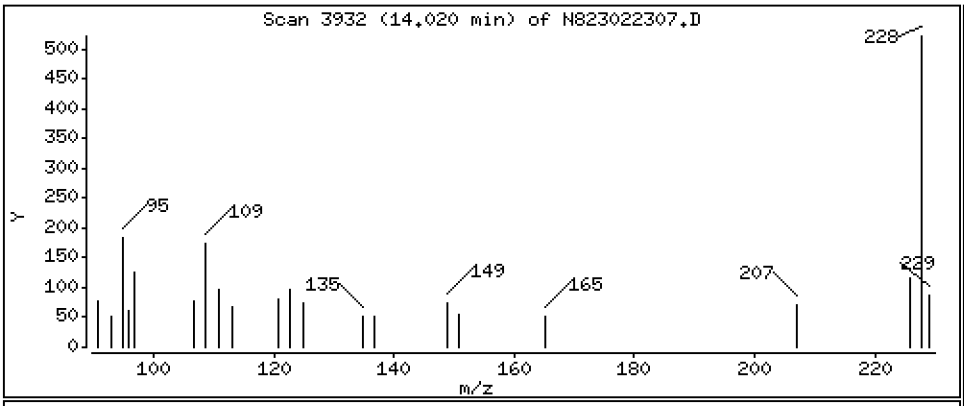
Operator: JZ

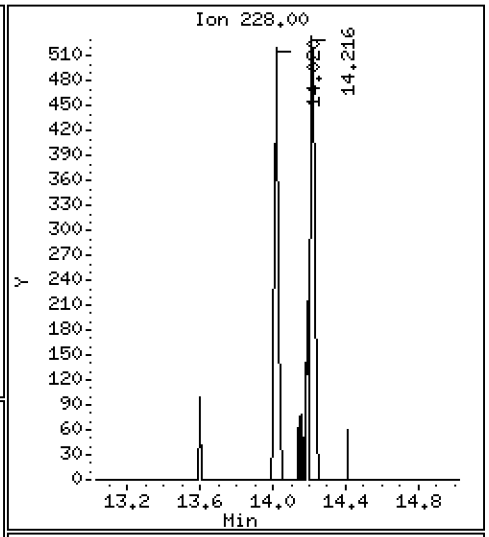
Column phase: Rxi-17sil

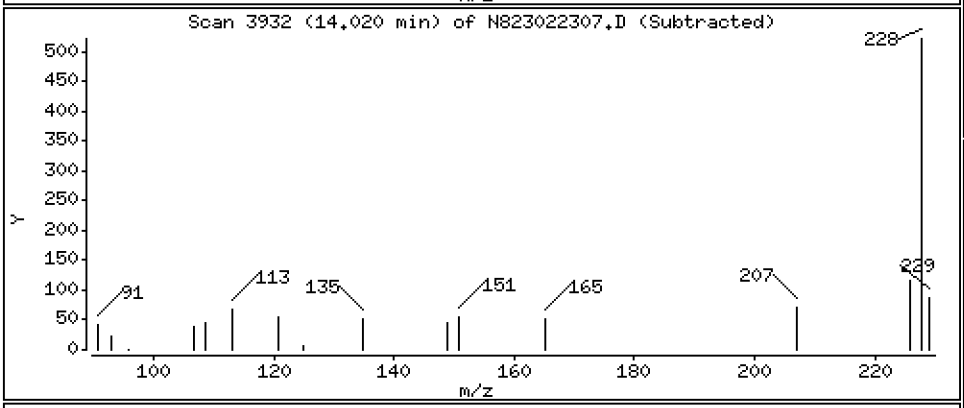
Column diameter: 0.25

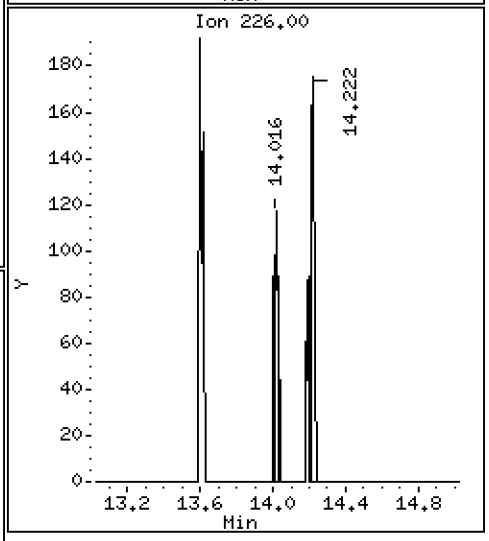
24 Benzo(a)anthracene

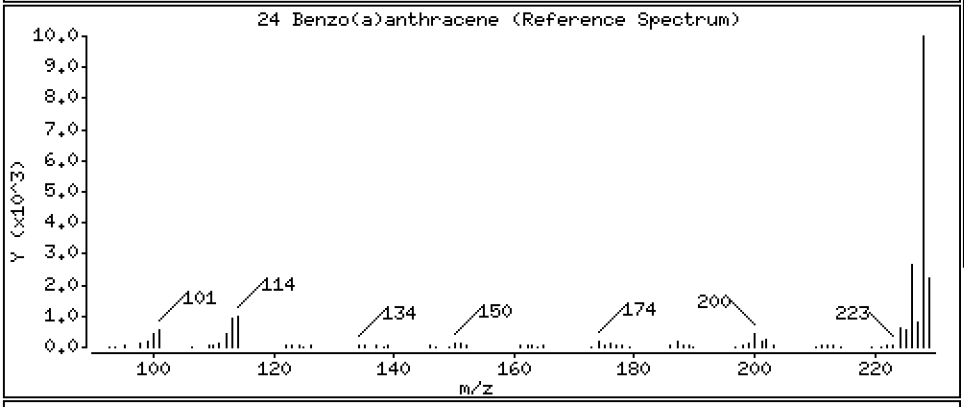
Concentration: 0.03679 ug/mL

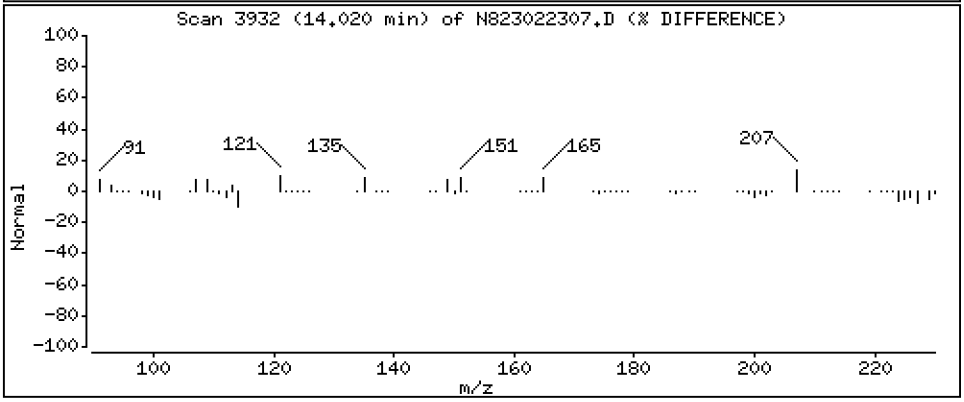












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Date : 23-FEB-2023 14:15

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-01

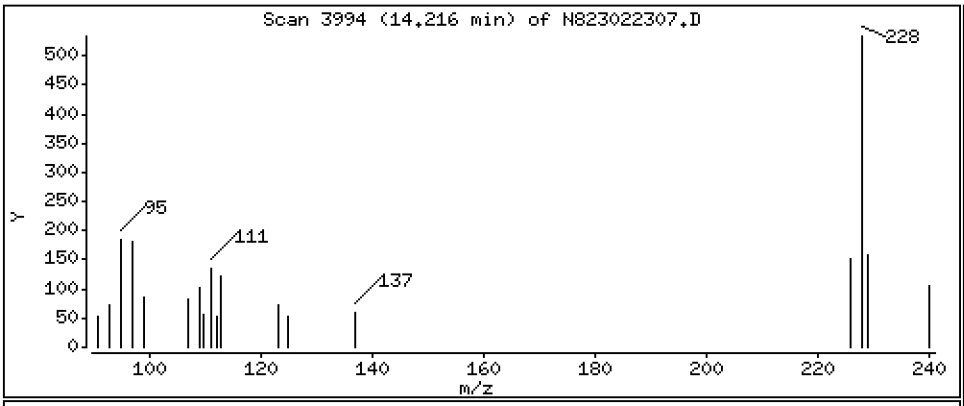
Operator: JZ

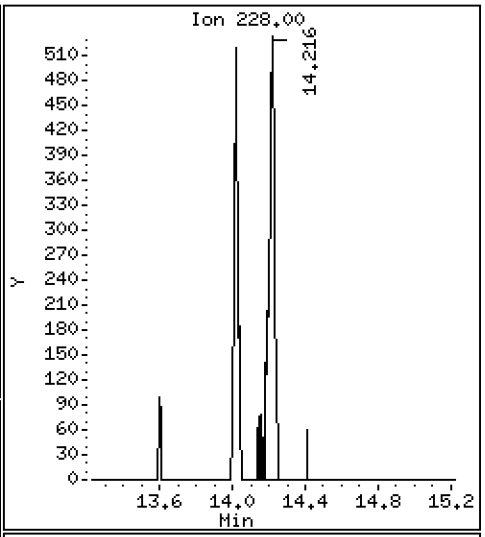
Column phase: Rxi-17sil

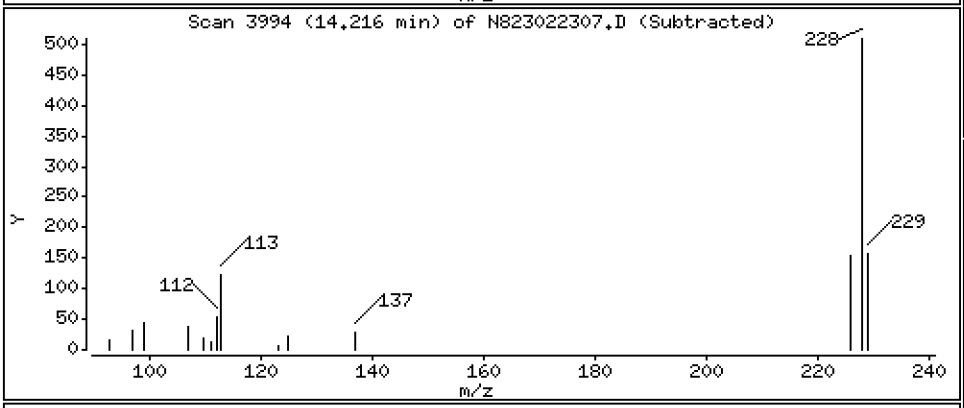
Column diameter: 0.25

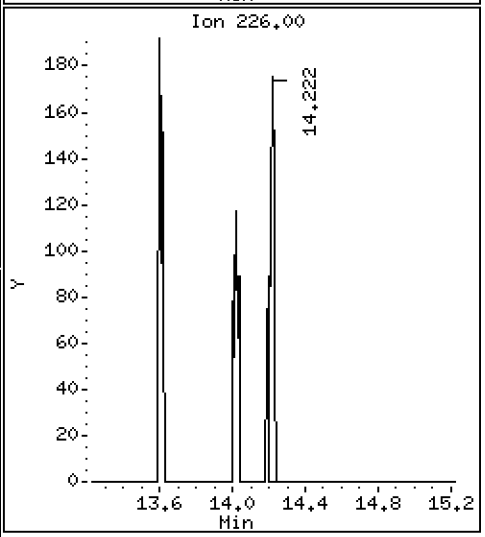
27 Chrysene

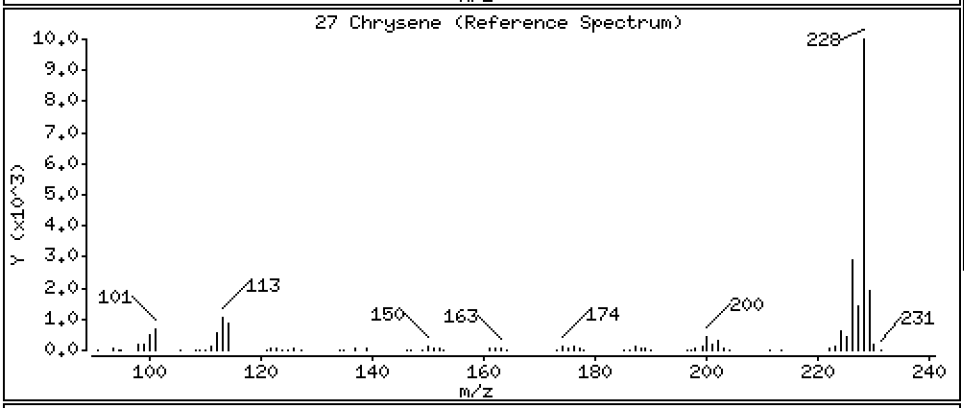
Concentration: 0.05352 ug/mL

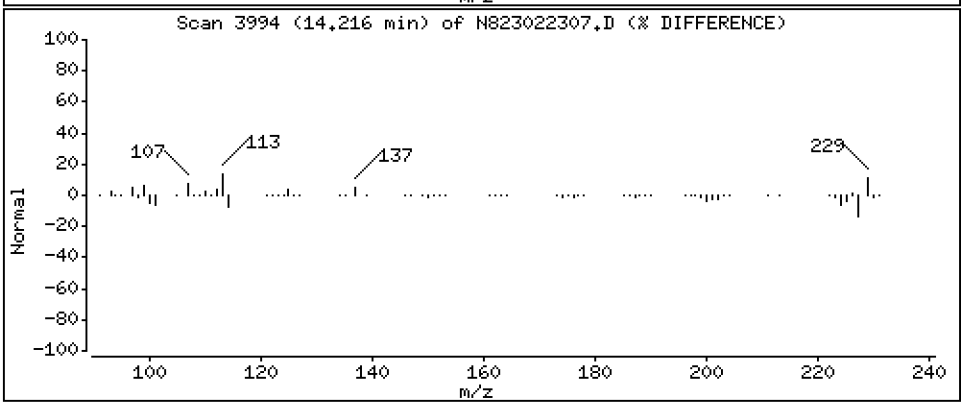












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Client ID:

Instrument: nt8.i

Sample Info: 23A0418-01

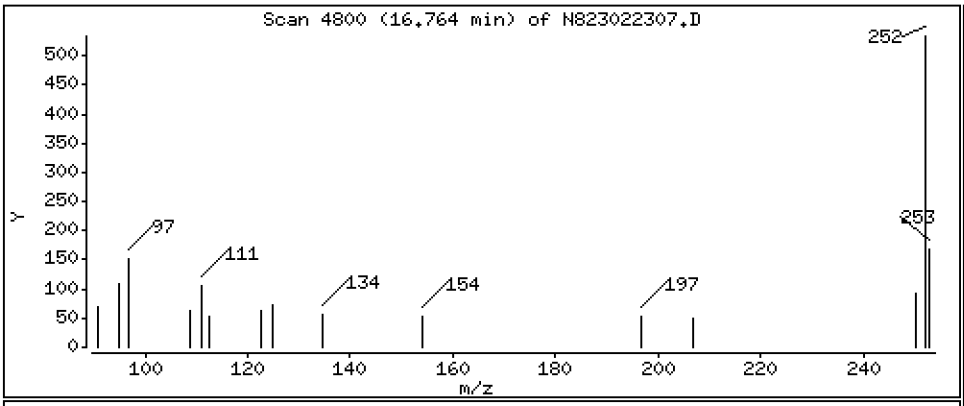
Operator: JZ

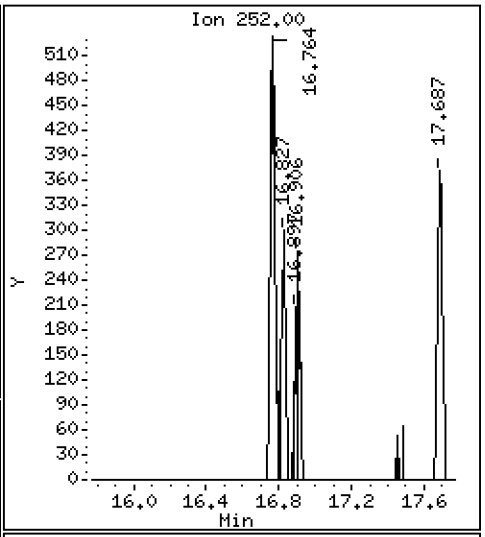
Column phase: Rxi-17sil

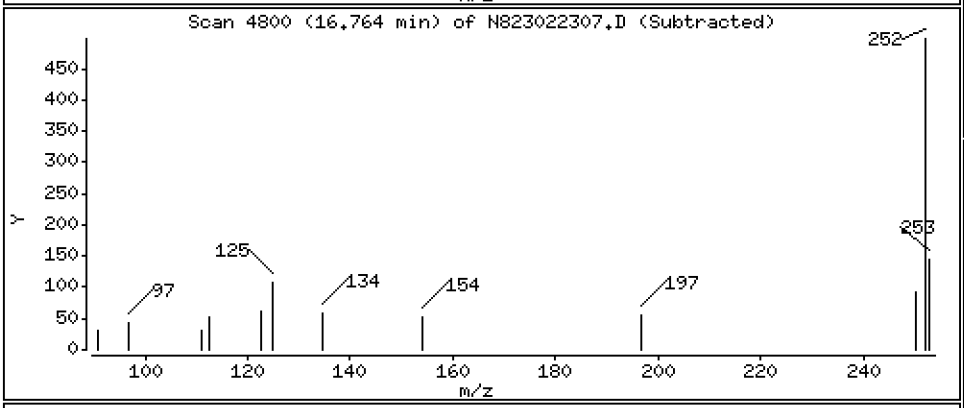
Column diameter: 0.25

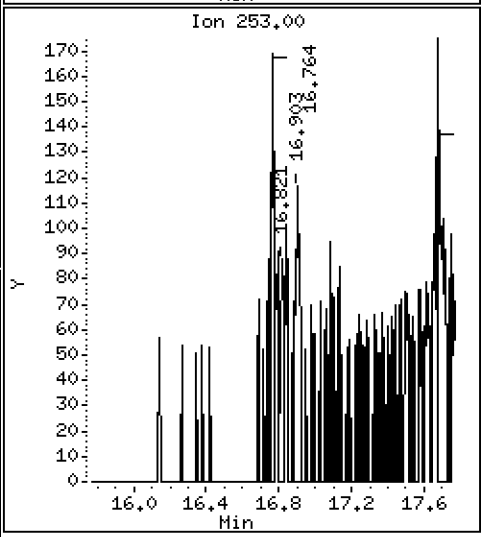
28 Benzo(b)fluoranthene

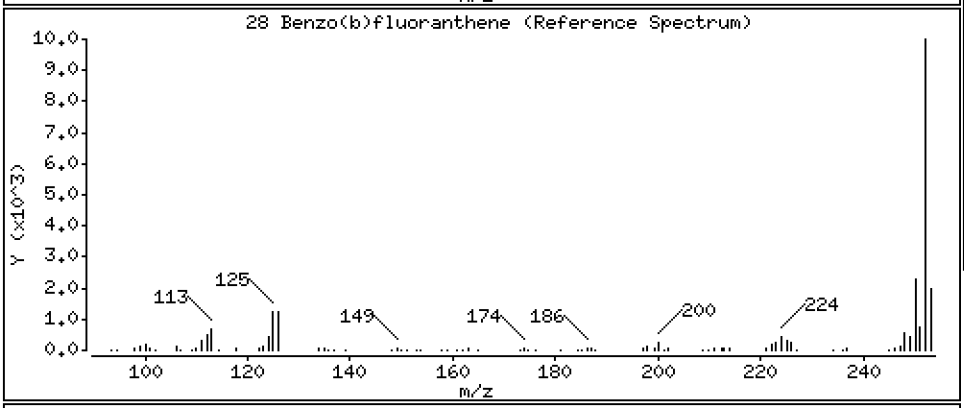
Concentration: 0.05556 ug/mL

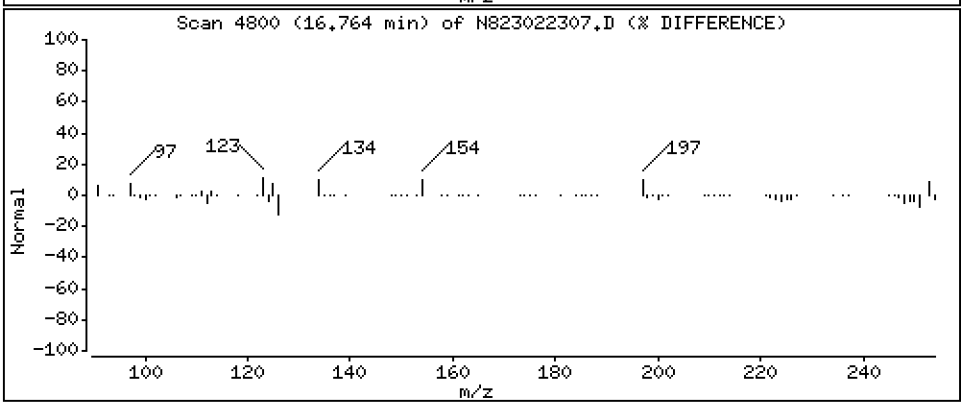












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Client ID:

Instrument: nt8.i

Sample Info: 23A0418-01

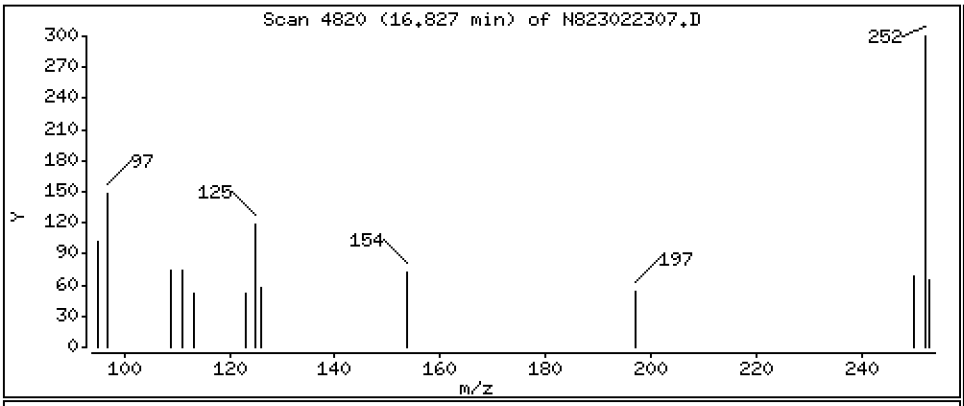
Operator: JZ

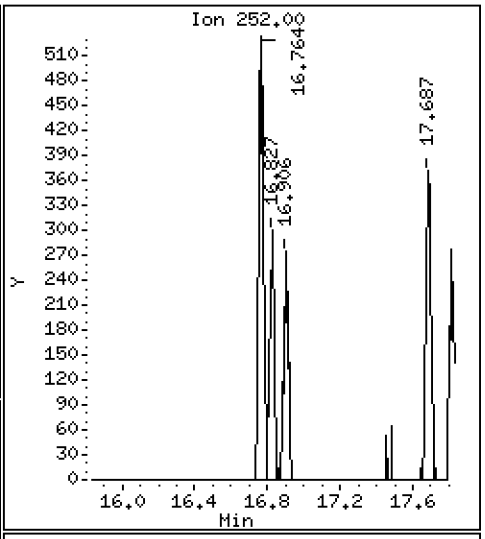
Column phase: Rxi-17sil

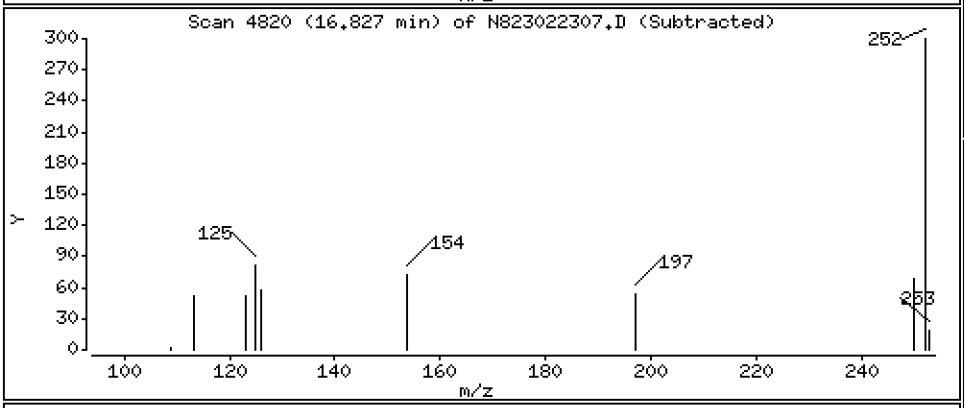
Column diameter: 0.25

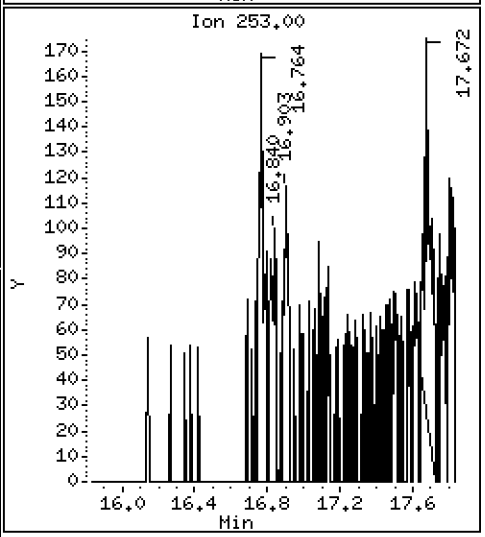
29 Benzo(k)fluoranthene

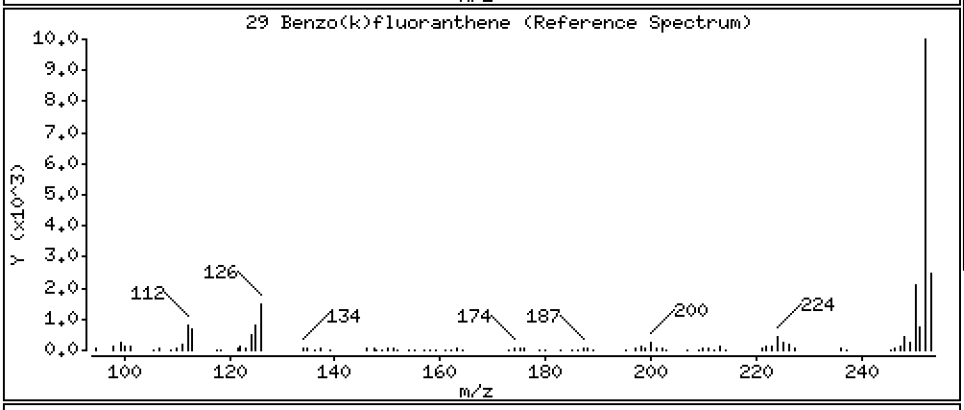
Concentration: 0.03045 ug/mL

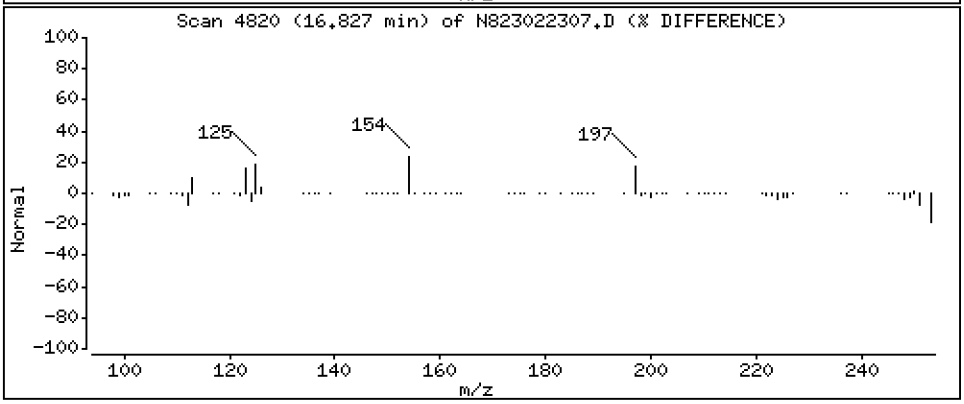












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Client ID:

Instrument: nt8.i

Sample Info: 23A0418-01

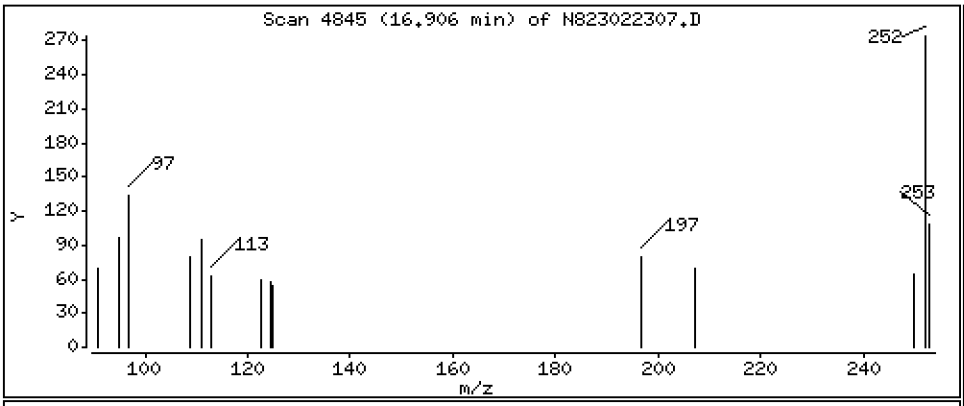
Operator: JZ

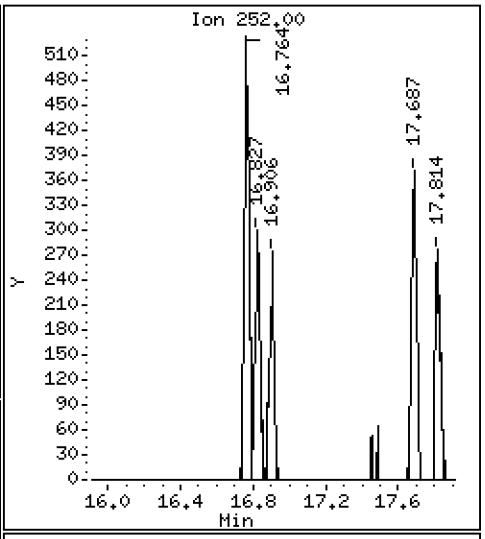
Column phase: Rxi-17sil

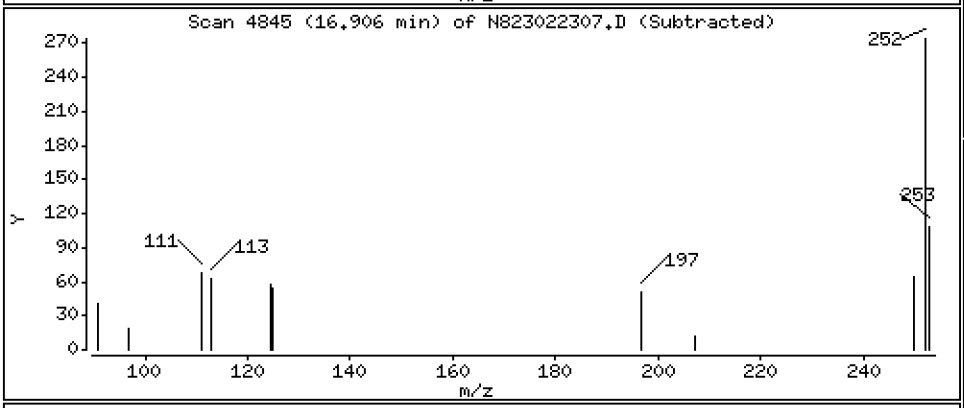
Column diameter: 0.25

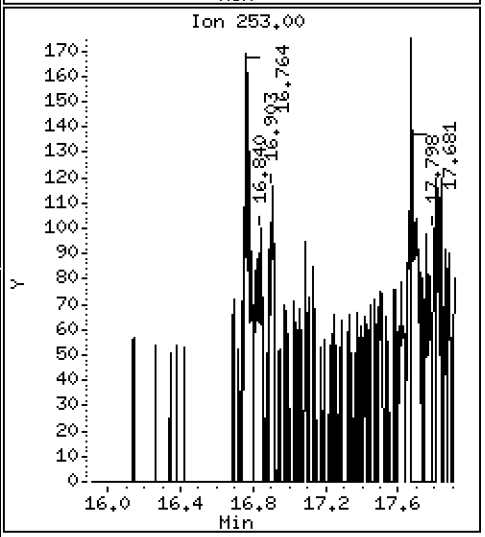
30 Benzo(j)fluoranthene

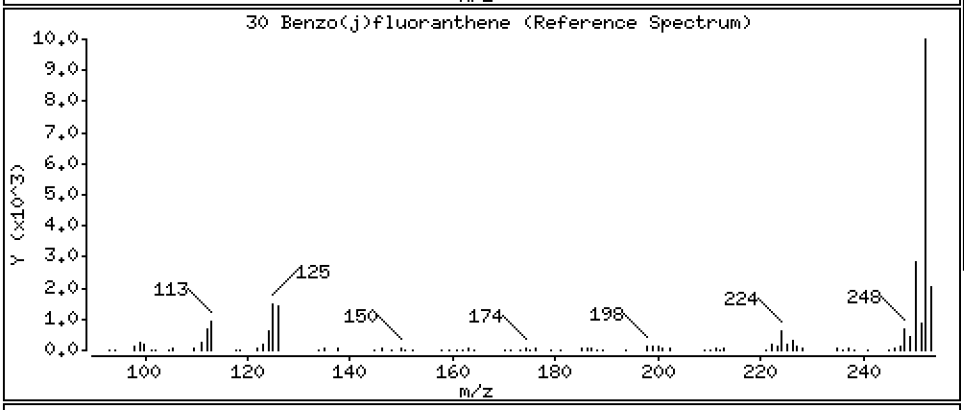
Concentration: 0.02836 ug/mL

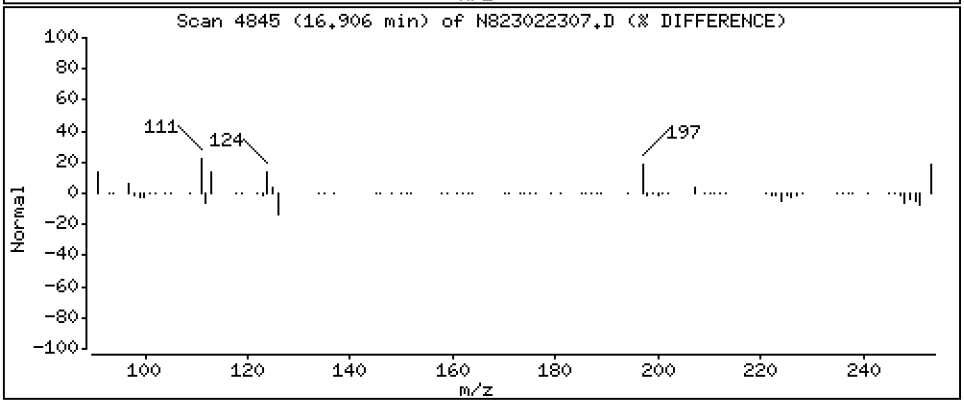












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Date : 23-FEB-2023 14:15

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-01

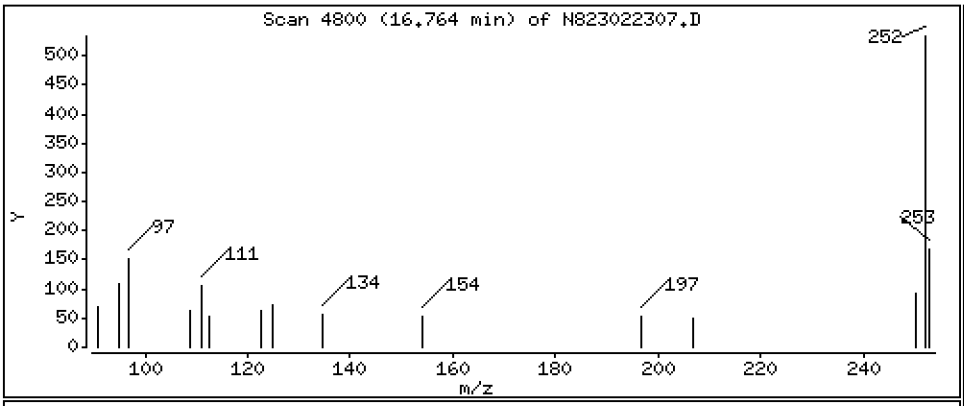
Operator: JZ

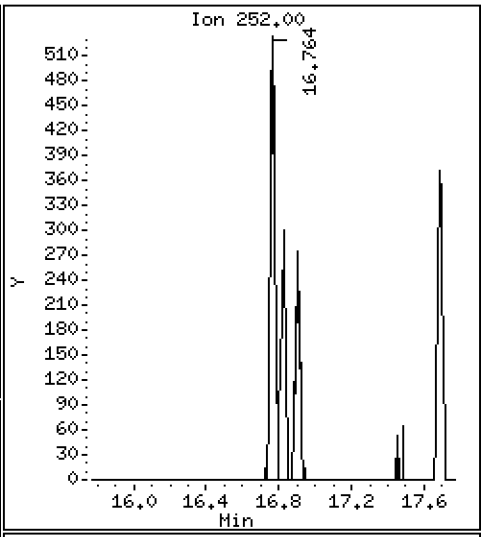
Column phase: Rxi-17sil

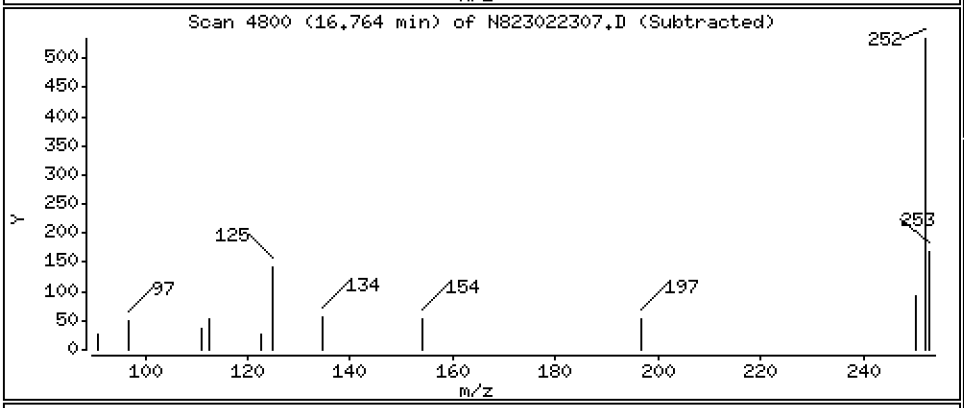
Column diameter: 0.25

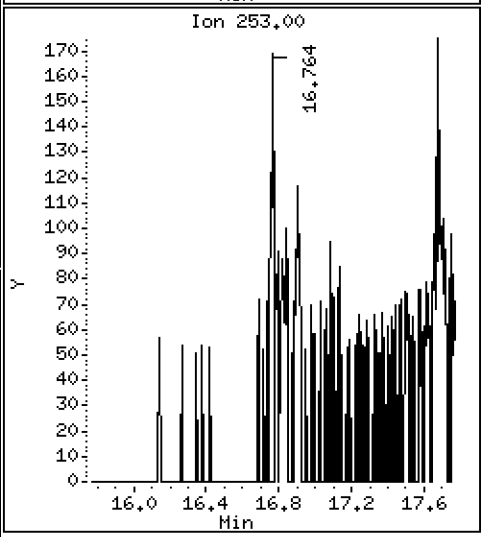
31 Total Benzofluoranthenes

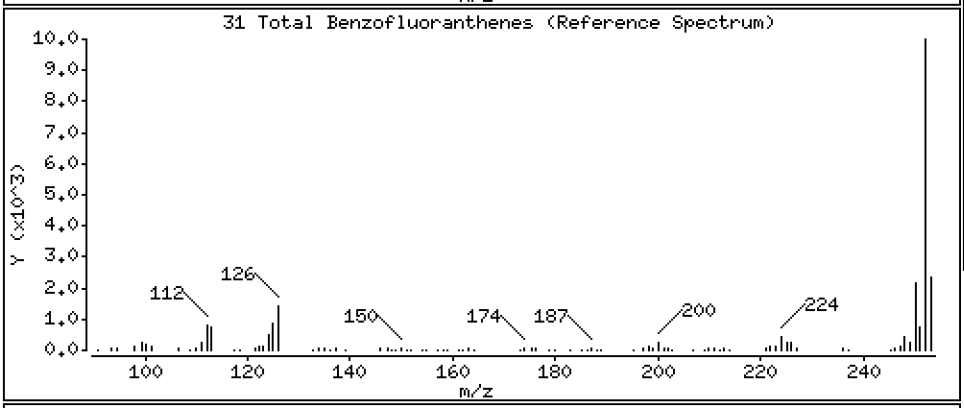
Concentration: 0.1166 ug/mL

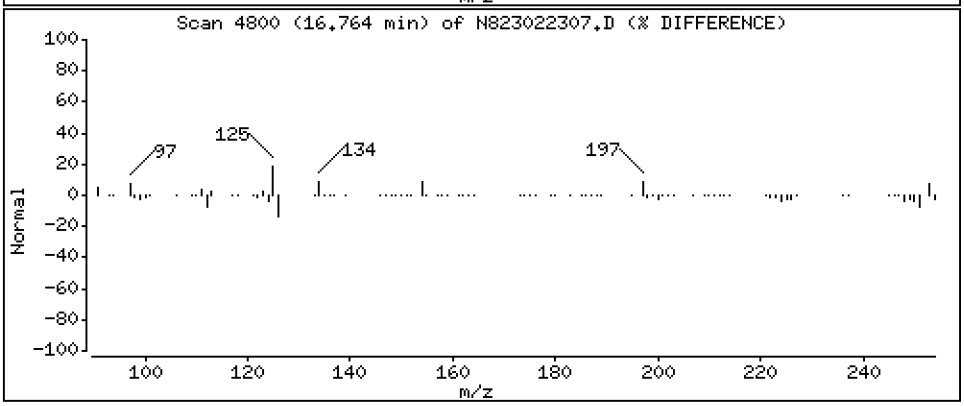












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Date : 23-FEB-2023 14:15

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-01

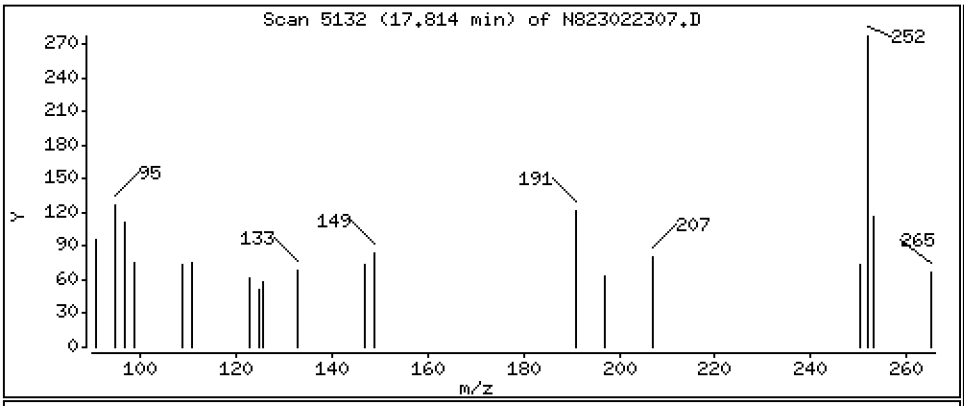
Operator: JZ

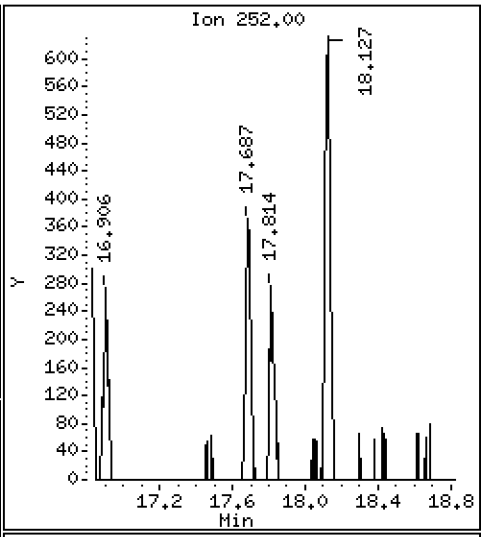
Column phase: Rxi-17sil

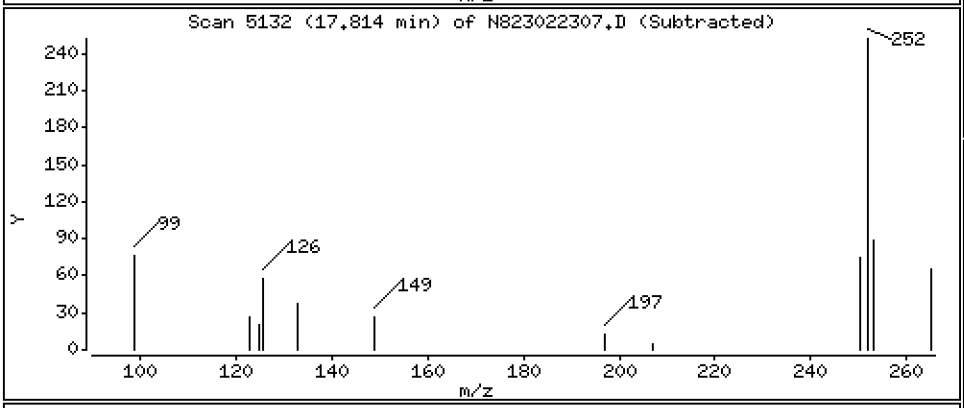
Column diameter: 0.25

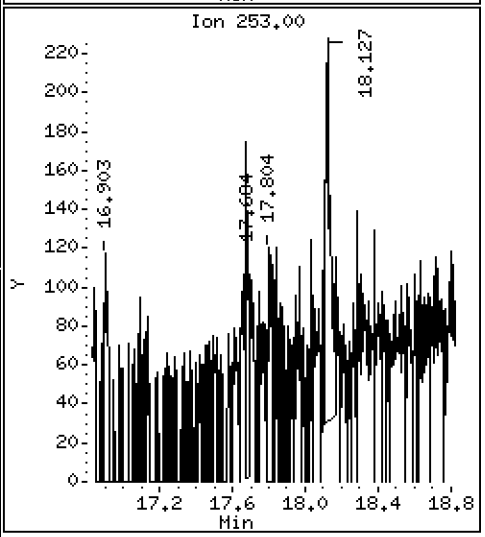
32 Benzo(a)pyrene

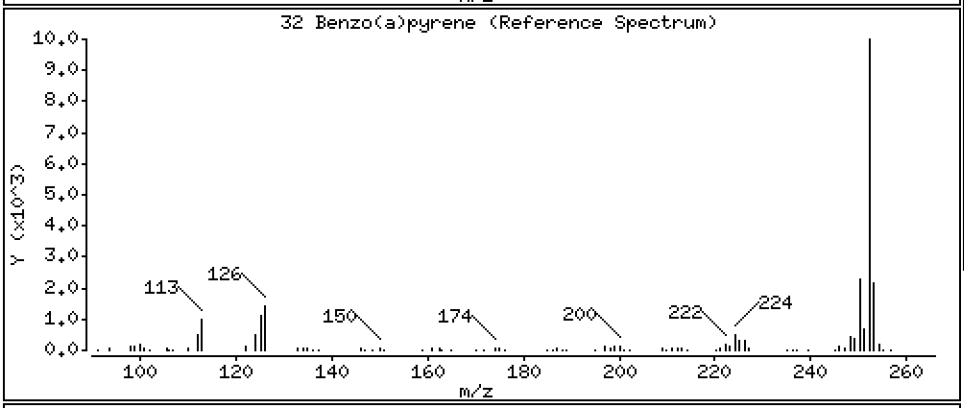
Concentration: 0.03268 ug/mL

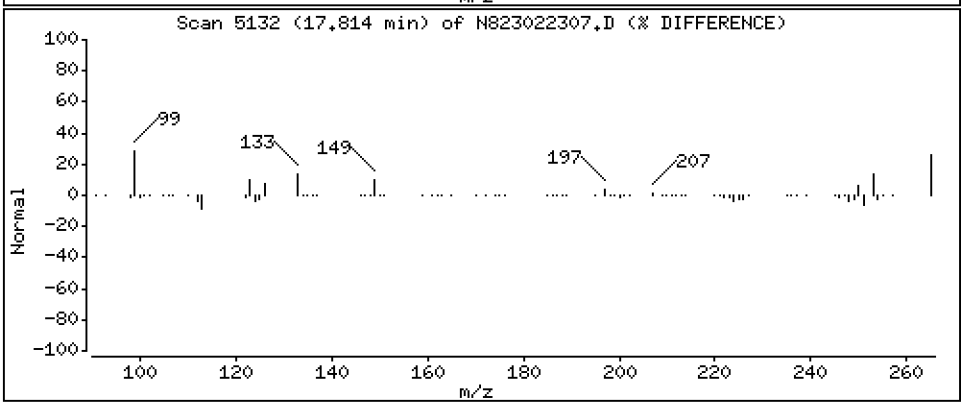












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Date : 23-FEB-2023 14:15

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-01

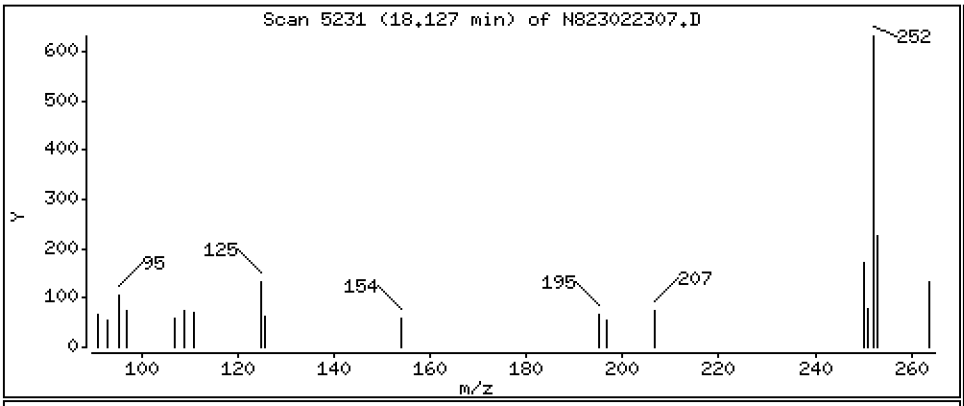
Operator: JZ

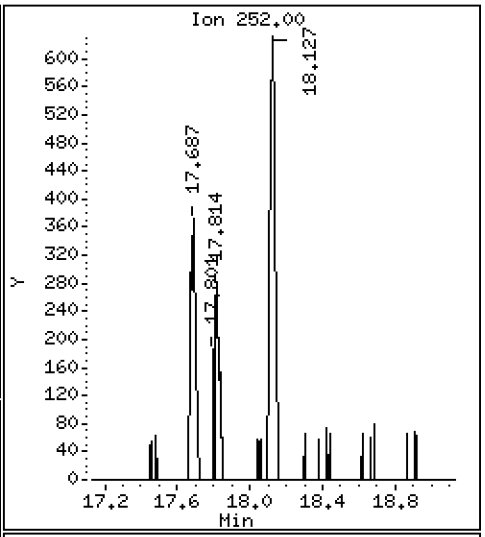
Column phase: Rxi-17sil

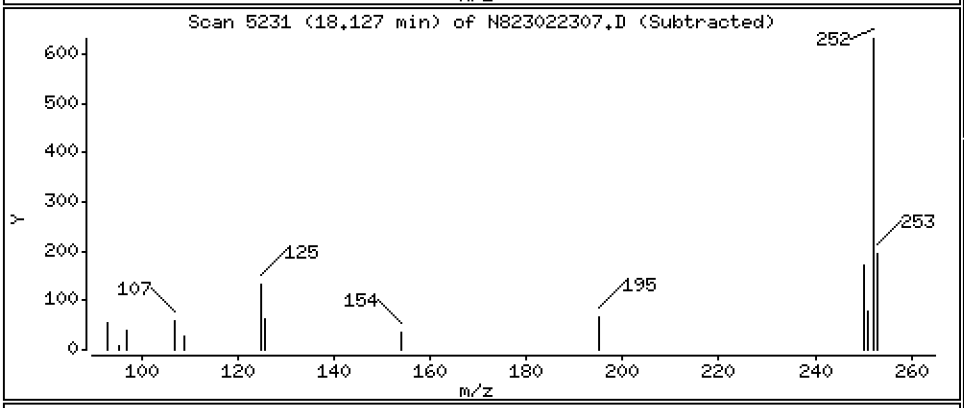
Column diameter: 0.25

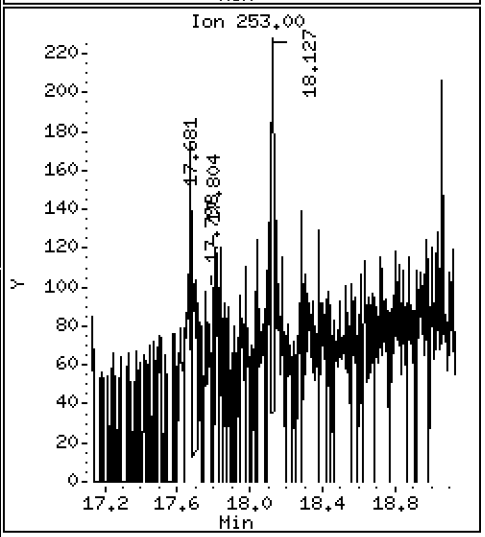
35 Perylene

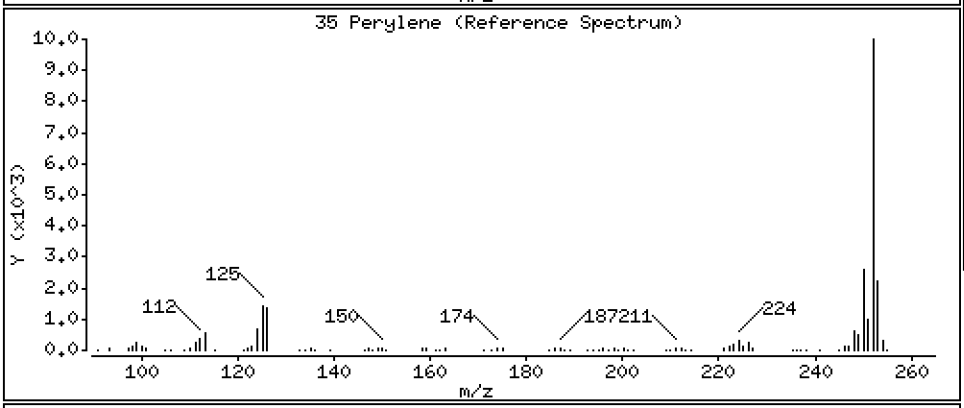
Concentration: 0.07611 ug/mL

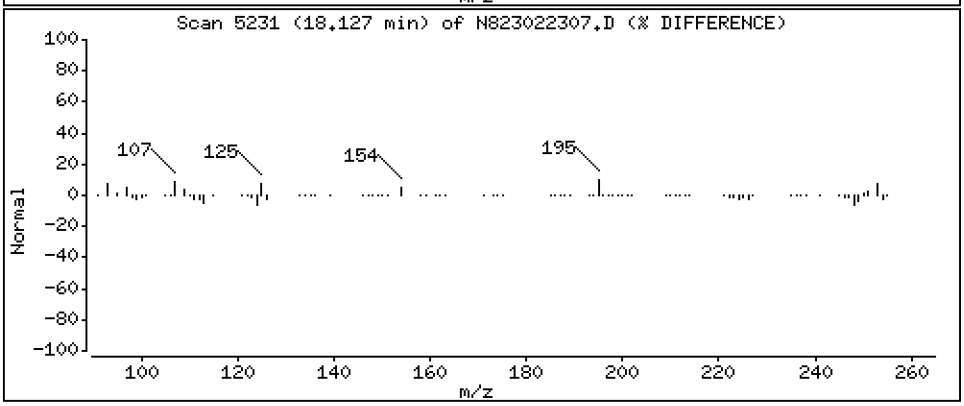












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Date : 23-FEB-2023 14:15

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-01

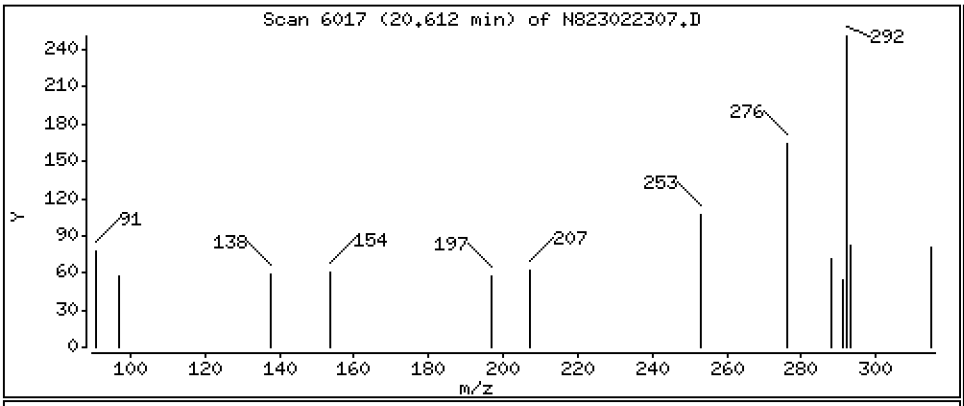
Operator: JZ

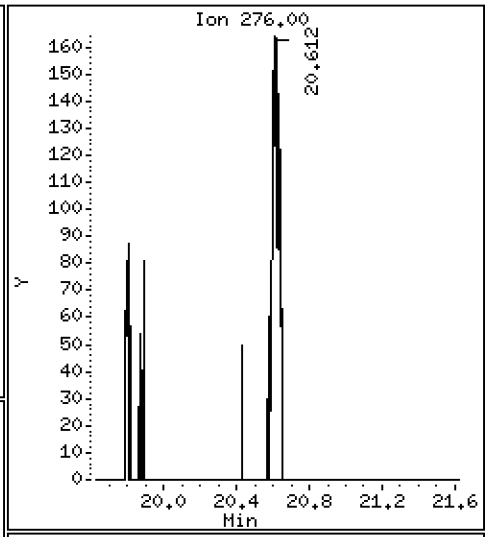
Column phase: Rxi-17sil

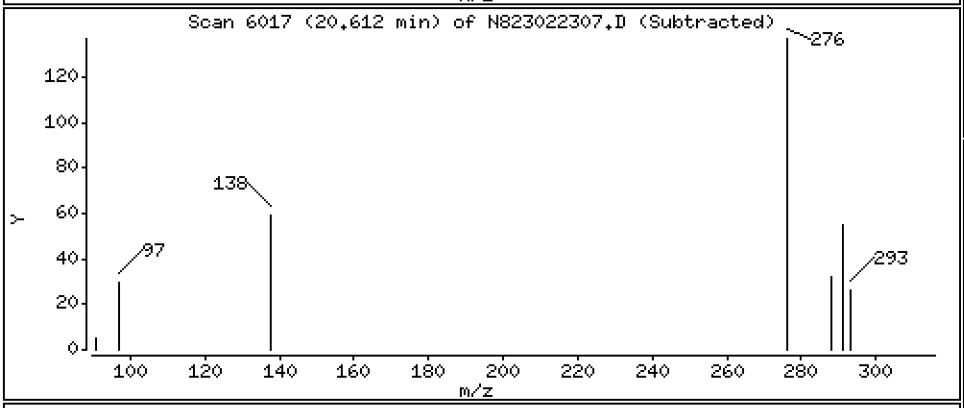
Column diameter: 0.25

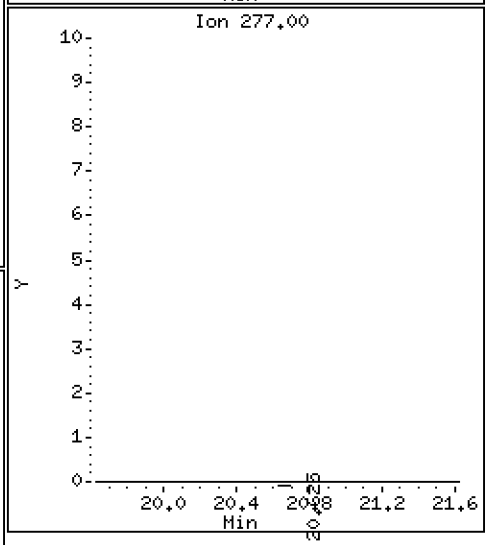
37 Indeno(1,2,3-cd)pyrene

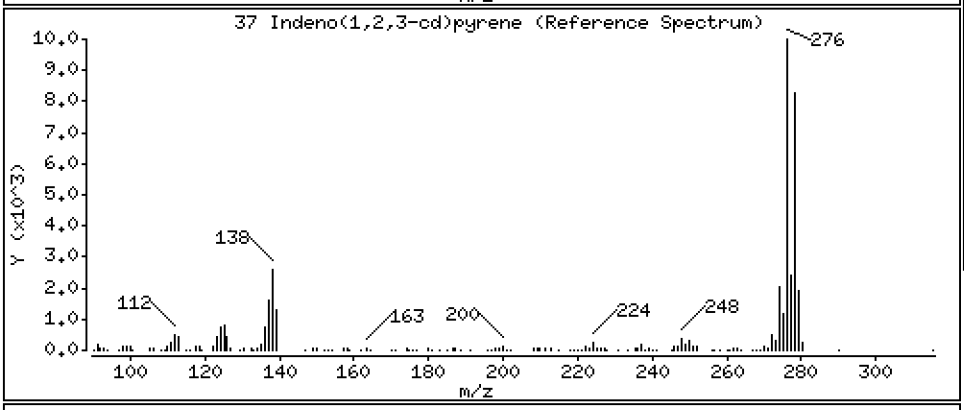
Concentration: 0.02354 ug/mL

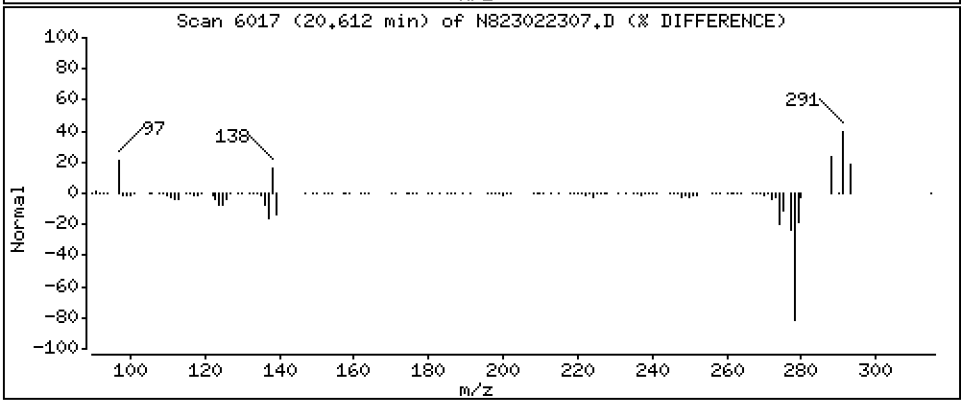












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022307.D

Date : 23-FEB-2023 14:15

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-01

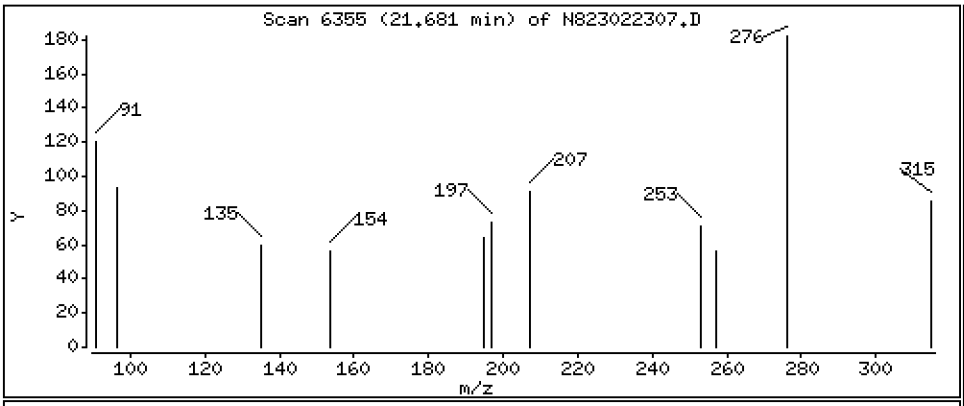
Operator: JZ

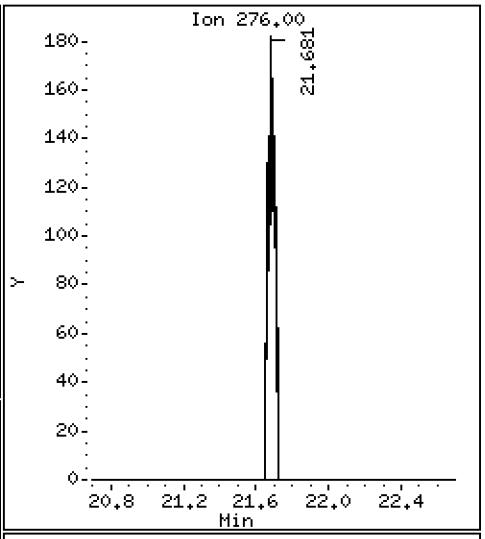
Column phase: Rxi-17sil

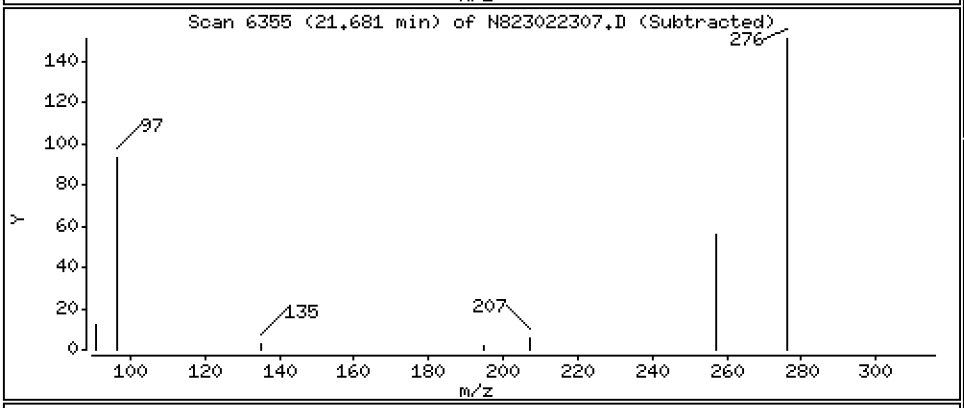
Column diameter: 0.25

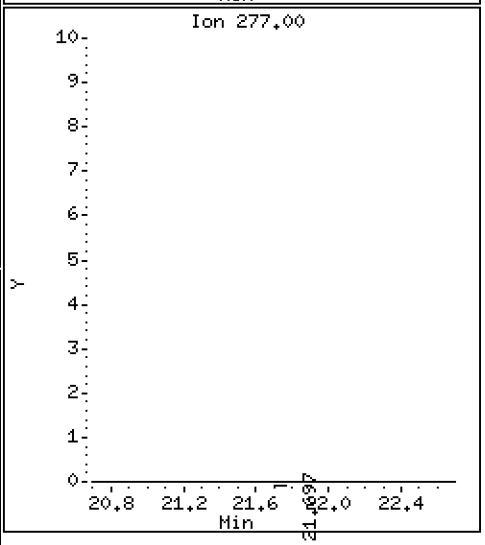
39 Benzo(g,h,i)perylene

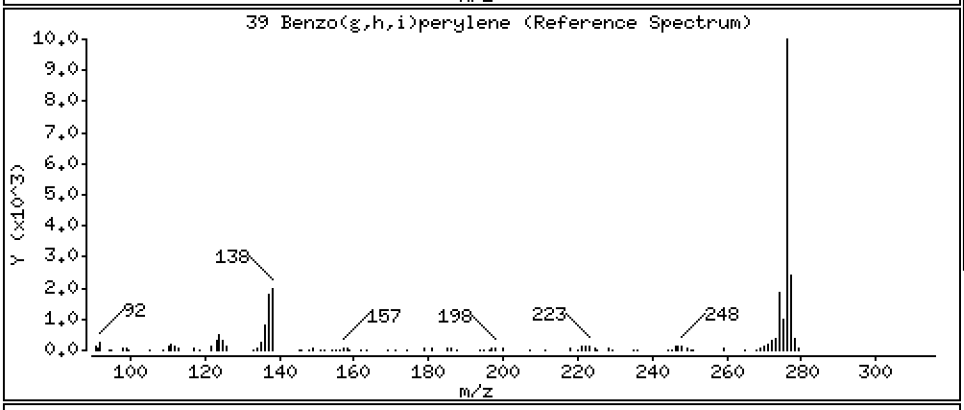
Concentration: 0.02765 ug/mL

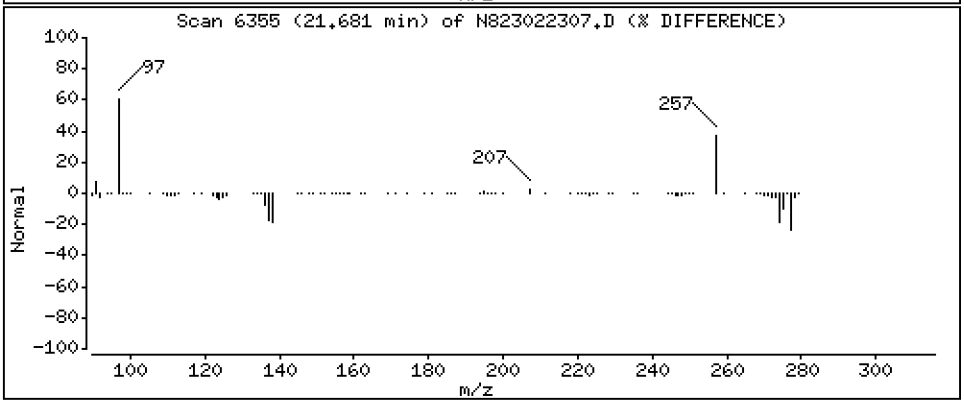












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230223.b\N823022307.D
Lab Smp Id: 23A0418-01
Inj Date : 23-FEB-2023 14:15
Operator : JZ Inst ID: nt8.i
Smp Info : 23A0418-01
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Meth Date : 26-Feb-2023 11:43 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PNAXEMDL.sub
Target Version: 4.14
Processing Host: JIANQING-202105

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.862	4.871	(1.000)	34909	2.00000	
	2 Naphthalene	128	4.890	4.903	(1.006)	1073	0.06611	0.06611
$	3 2-Methylnaphthalene-d10	152	5.599	5.605	(1.152)	28502	2.99373	2.994
	4 2-Methylnaphthalene	141	5.646	5.652	(1.161)	196	0.02195	0.02195
	5 1-methylnaphthalene	141	5.845	5.849	(1.202)	149	0.01644	0.01644
	9 Acenaphthylene	152	7.047	7.050	(0.985)	232	0.01414	0.01414
*	10 Acenaphthene-d10	164	7.154	7.158	(1.000)	21723	2.00000	
	11 Acenaphthene	153	7.205	7.208	(1.007)	151	0.01374	0.01374
	12 Dibenzofuran	168	7.354	7.360	(1.028)	154	0.00922	0.009225
	14 Fluorene	166	7.834	7.837	(1.095)	175	0.01350	0.01350
*	15 Phenanthrene-d10	188	9.197	9.197	(1.000)	42015	2.00000	
	16 Phenanthrene	178	9.229	9.235	(1.003)	775	0.03776	0.03776
	17 Anthracene	178	9.270	9.276	(1.008)	266	0.01427	0.01427(M)
	19 Carbazole	167	9.785	9.791	(1.064)	257	0.01504	0.01504
	22 Fluoranthene	202	11.006	11.009	(1.197)	1540	0.06893	0.06893
$	21 Fluoranthene-d10	212	10.968	10.971	(1.193)	65196	3.51710	3.517
	23 Pyrene	202	11.521	11.527	(0.814)	1579	0.06993	0.06993
	24 Benzo(a)anthracene	228	14.019	14.025	(0.991)	753	0.03679	0.03679
*	25 Chrysene-d12	240	14.149	14.152	(1.000)	36420	2.00000	
	27 Chrysene	228	14.215	14.225	(1.005)	1166	0.05352	0.05352(M)
	28 Benzo(b)fluoranthene	252	16.764	16.770	(0.929)	991	0.05556	0.05556
	29 Benzo(k)fluoranthene	252	16.827	16.833	(0.932)	532	0.03045	0.03045
	30 Benzo(j)fluoranthene	252	16.906	16.912	(0.937)	446	0.02836	0.02836
	31 Total Benzofluoranthenes	252	16.764	16.770	(0.929)	1970	0.11662	0.1166(M)
	34 Benzo(e)pyrene	252	Compound Not Detected.					
	32 Benzo(a)pyrene	252	17.813	17.826	(0.987)	513	0.03268	0.03268
*	33 Perylene-d12	264	18.047	18.057	(1.000)	30625	2.00000	
	35 Perylene	252	18.127	18.130	(1.004)	1282	0.07611	0.07611
$	36 Dibenzo(a,h)anthracene-d14	292	20.479	20.485	(1.135)	49865	4.15558	4.156
	37 Indeno(1,2,3-cd)pyrene	276	20.612	20.624	(1.142)	421	0.02354	0.02354(M)
	38 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	39 Benzo(g,h,i)perylene	276	21.681	21.696	(1.201)	448	0.02765	0.02765(M)

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823022307.D
Lab Smp Id: 23A0418-01
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 23-FEB-2023
Calibration Time: 11:46
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	37022	18511	74044	34909	-5.71
10 Acenaphthene-d10	22454	11227	44908	21723	-3.26
15 Phenanthrene-d10	43277	21639	86554	42015	-2.92
25 Chrysene-d12	38907	19454	77814	36420	-6.39
33 Perylene-d12	39582	19791	79164	30625	-22.63

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.87	4.37	5.37	4.86	-0.19
10 Acenaphthene-d10	7.16	6.66	7.66	7.15	-0.04
15 Phenanthrene-d10	9.20	8.70	9.70	9.20	0.00
25 Chrysene-d12	14.15	13.65	14.65	14.15	-0.02
33 Perylene-d12	18.06	17.56	18.56	18.05	-0.05

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

REVIEW SUMMARY FOR FILE - N823022307.D

Lab ID: 23A0418-01
nt8.i, 20230223.b\FSIMPNA230119.m,   23-FEB-2023 14:15

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

No RRT check performed

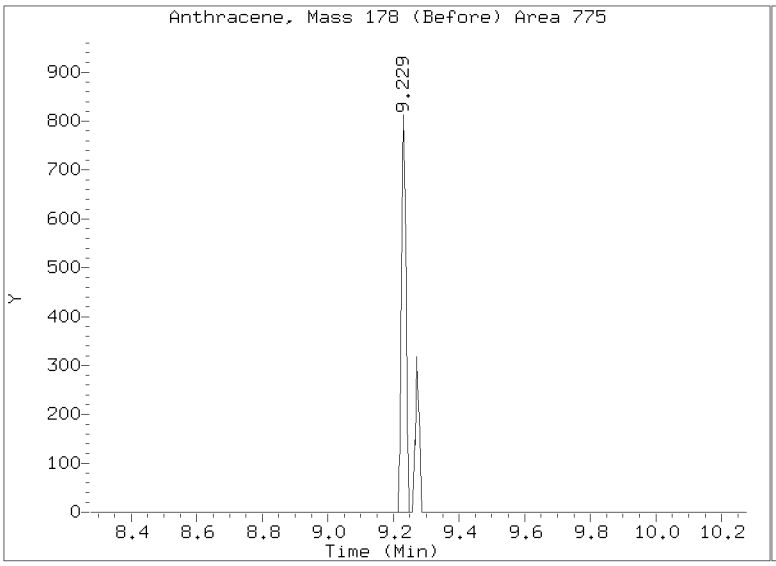
On Column LOD for nt8.i, 20230223.b\FSIMPNA230119.m, PNAXEMDL.sub = 0.0080

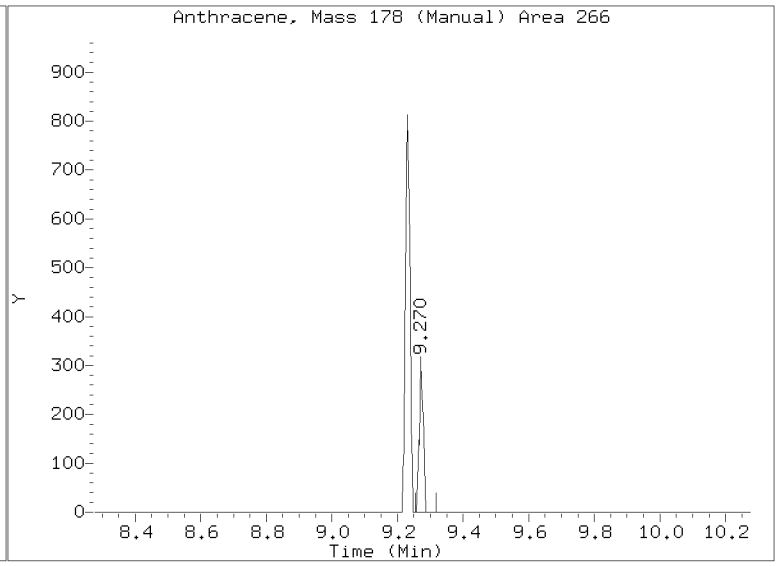
Exception: Benzo(e)pyrene 0.0800

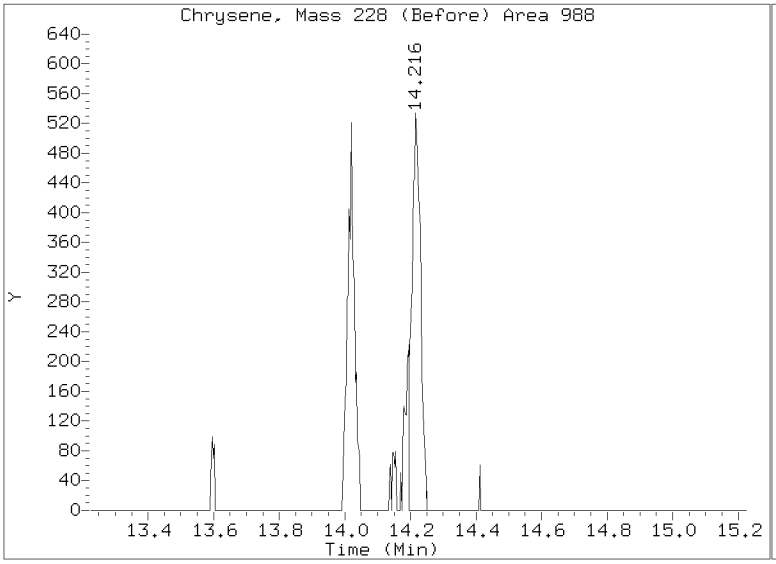
* Only compounds listed in the work order have been verified by the analyst *

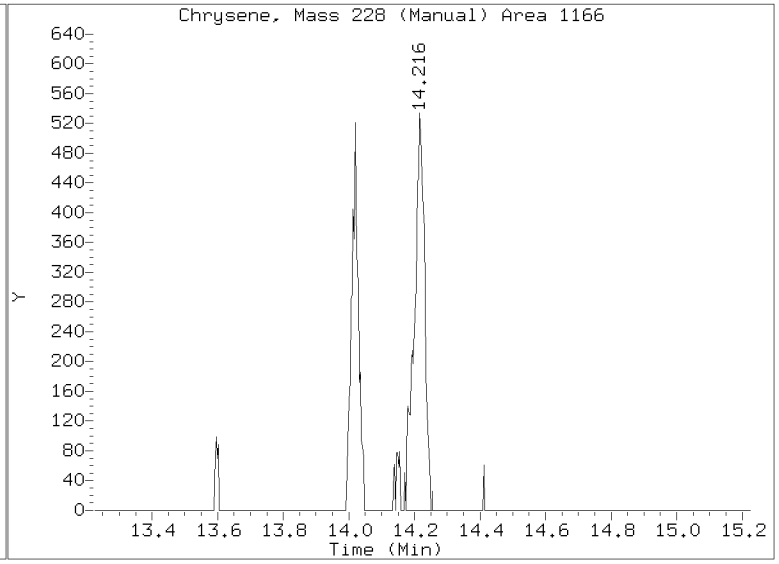
Quant Ion Manual Peak Adjustment Report

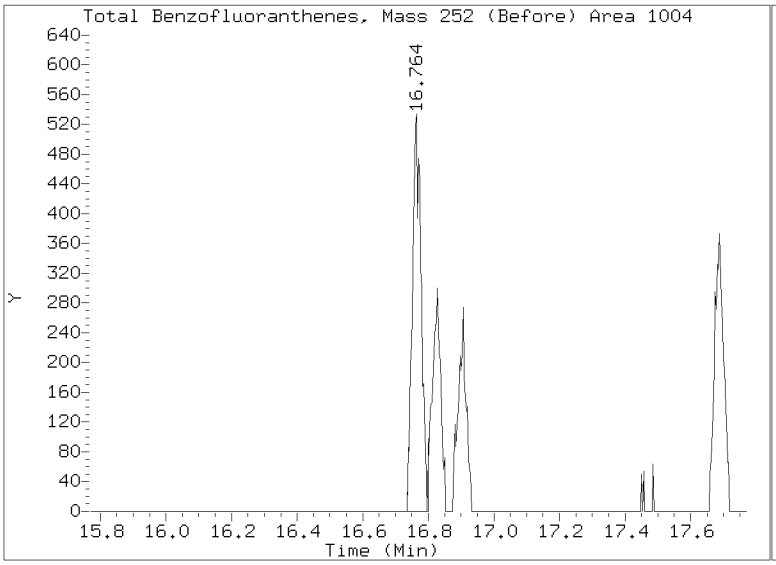
Datafile: //target/share/chem3/nt8.i/20230223.b/N823022307.D
Injection Date: 23-FEB-2023 14:15
Lab ID:23A0418-01 Client ID:
Report Date: 02/26/2023 12:32

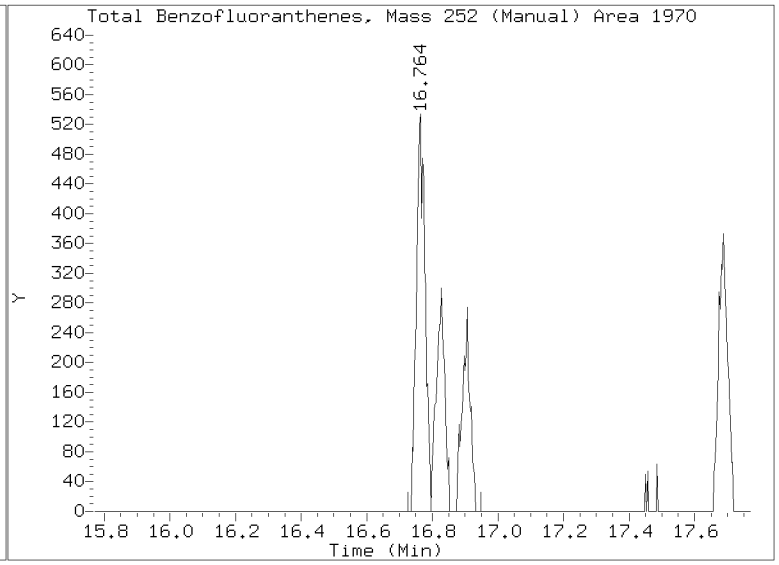






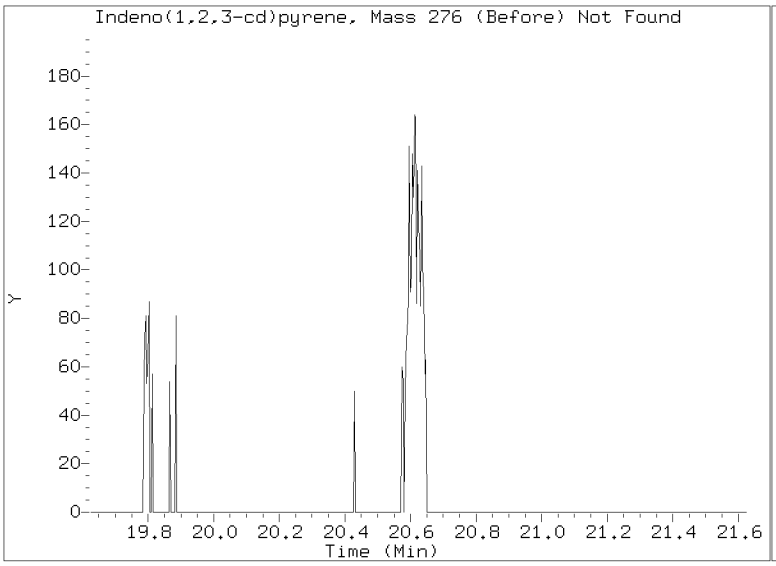


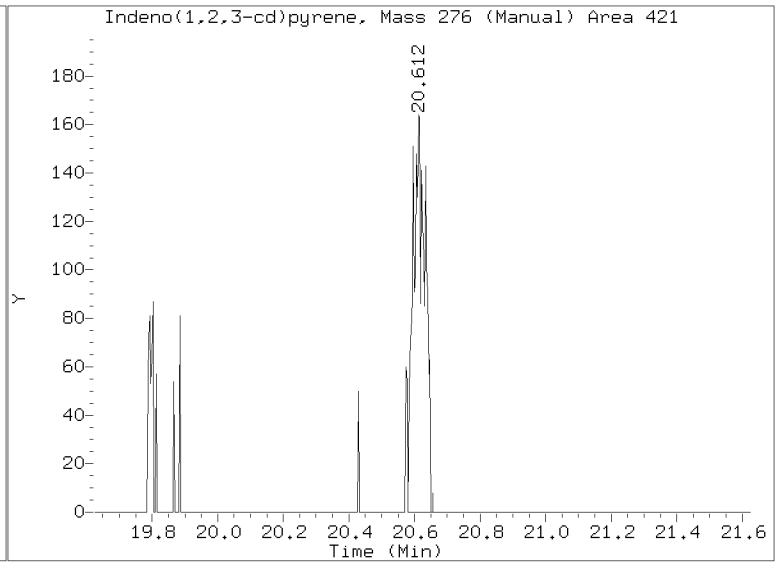


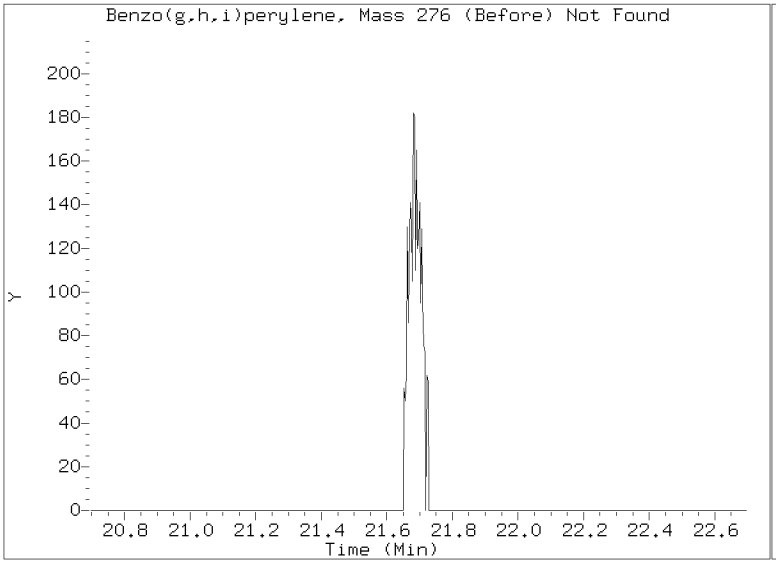


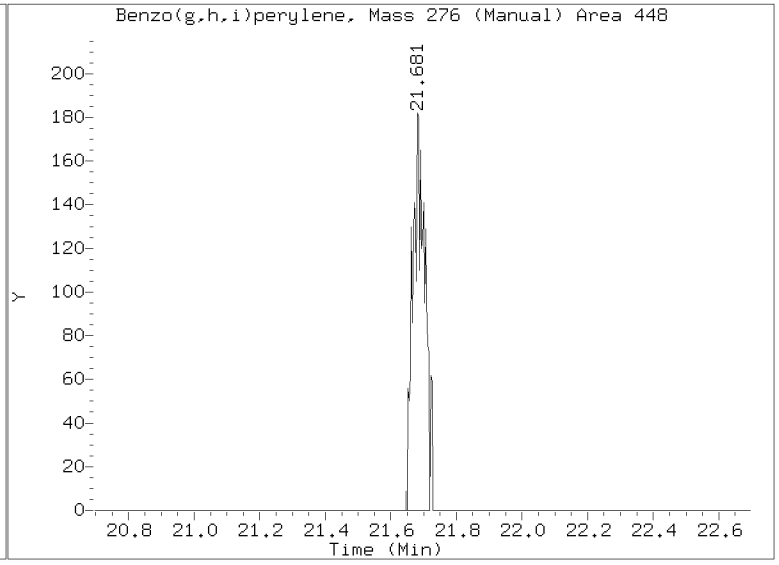
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20230223.b/N823022307.D
Injection Date: 23-FEB-2023 14:15
Lab ID:23A0418-01 Client ID:
Report Date: 02/26/2023 12:32









LDW23-IT1142

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270E-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-02 A	SDG:	23A0418
Sampled:	01/18/23 08:47	Prepared:	02/16/23 14:32	File ID:	N823022308.D
% Solids:	75.44	Preparation:	EPA 3546 (Microwave)	Analyzed:	02/23/23 14:42
Batch:	BLB0386	Sequence:	SLB0310	Initial/Final:	13.54 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	GA00050
Cleanups:	GPC, Silica Gel				

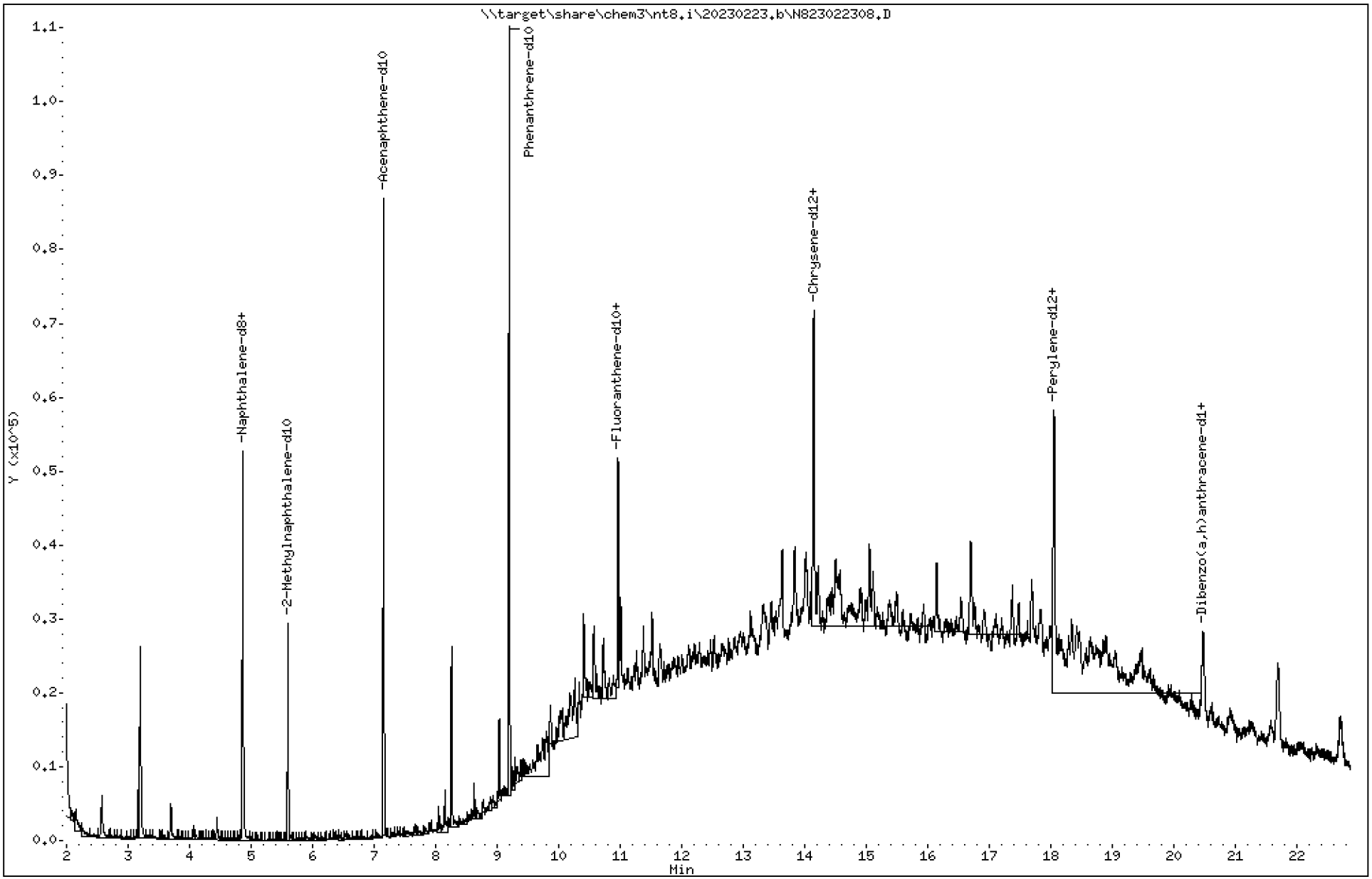
CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	3	17.7	D	2.42	14.7
218-01-9	Chrysene	3	30.0	D	3.09	14.7
205-99-2	Benzo(b)fluoranthene	3	25.1	D	4.03	14.7
207-08-9	Benzo(k)fluoranthene	3	10.6	J, D	2.23	14.7
50-32-8	Benzo(a)pyrene	3	29.1	D	1.80	14.7
193-39-5	Indeno(1,2,3-cd)pyrene	3	22.4	D	3.08	14.7
53-70-3	Dibenzo(a,h)anthracene	3	6.04	J, D	2.62	14.7

SURROGATES	ADDED: (ug/kg dry)	FOUND: (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	146.85	134	91.3	32 - 120	
Dibenzo[a,h]anthracene-d14	146.85	168	115	21 - 133	
Fluoranthene-d10	146.85	125	85.2	36 - 134	

Data File: \\target\share\chem3\nt8.i\20230223.b\N823022308.D
Date : 23-FEB-2023 14:42
Client ID:
Sample Info: 23A0418-02,3

Instrument: nt8.i
Operator: JZ
Column diameter: 0.25

Column phase: Rxi-17sil



Data File: \\target\share\chem3\nt8.i\20230223.b\N823022308.D

Date : 23-FEB-2023 14:42

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-02,3

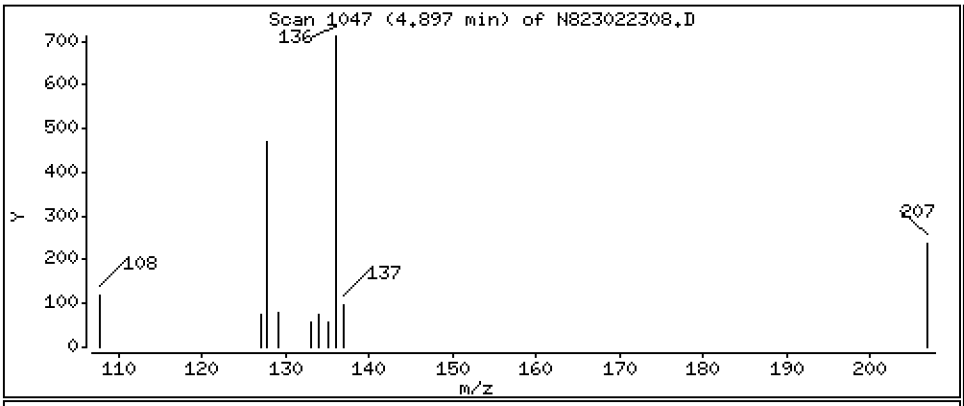
Operator: JZ

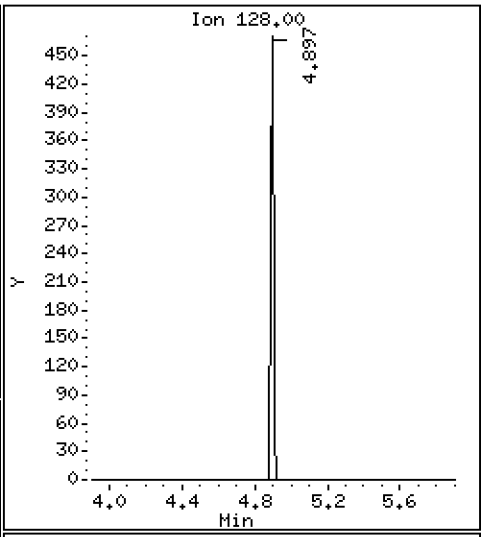
Column phase: Rxi-17sil

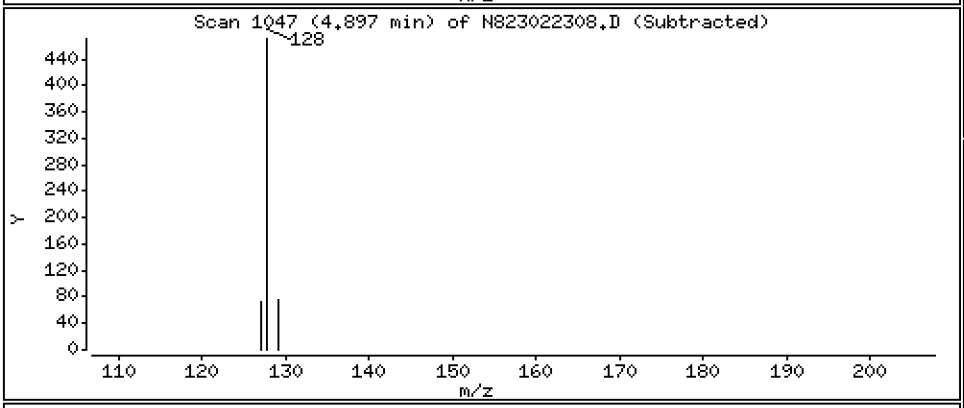
Column diameter: 0.25

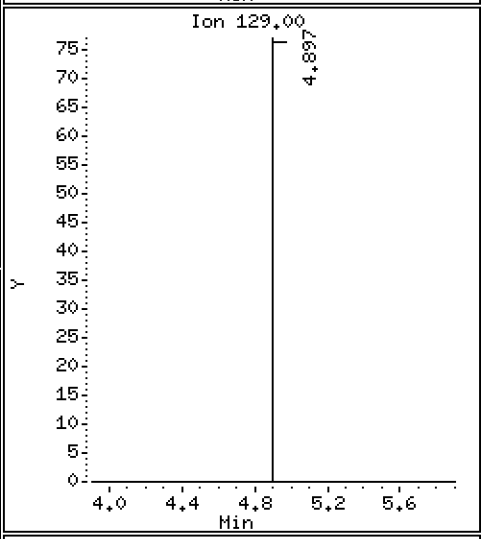
2 Naphthalene

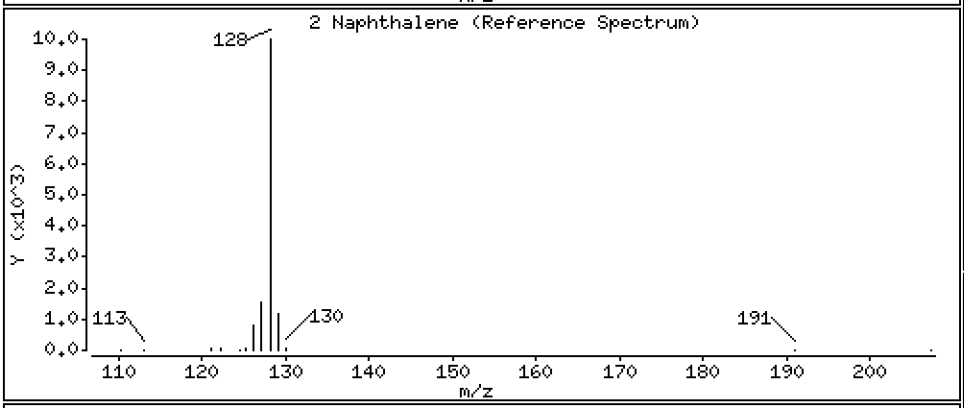
Concentration: 0.09021 ug/mL

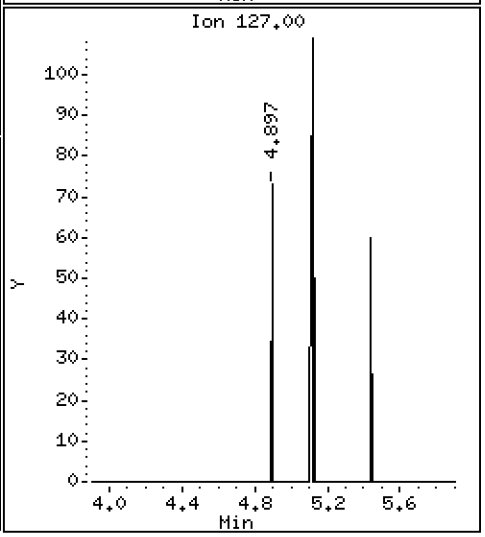


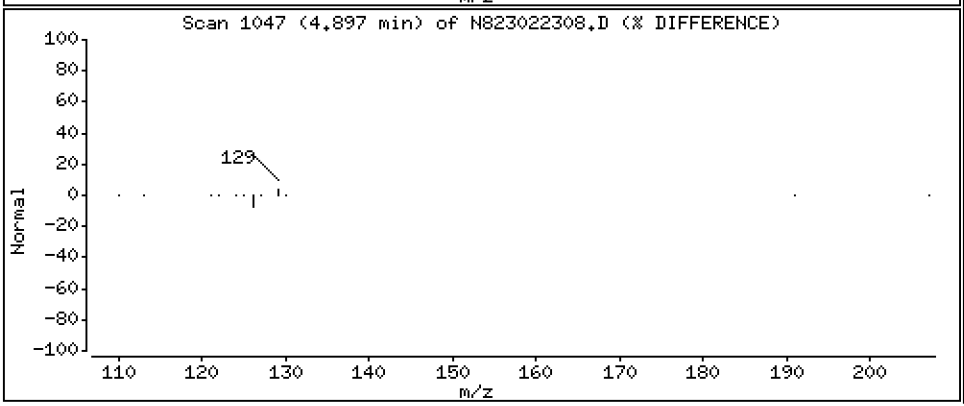












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022308.D

Date : 23-FEB-2023 14:42

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-02,3

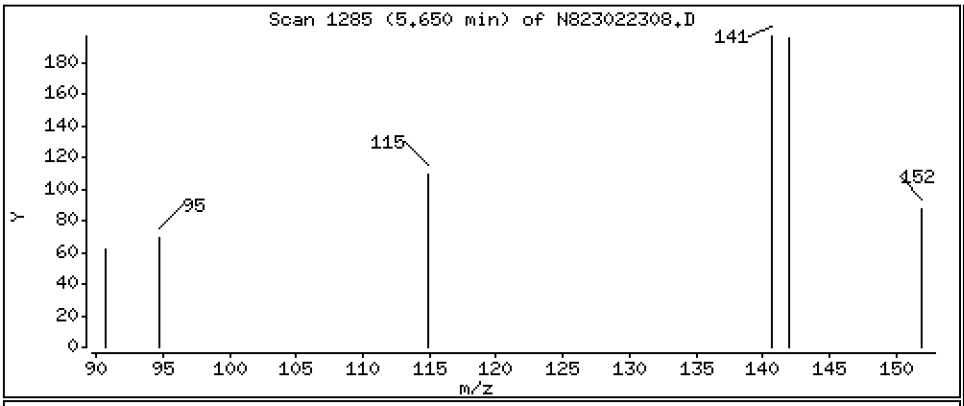
Operator: JZ

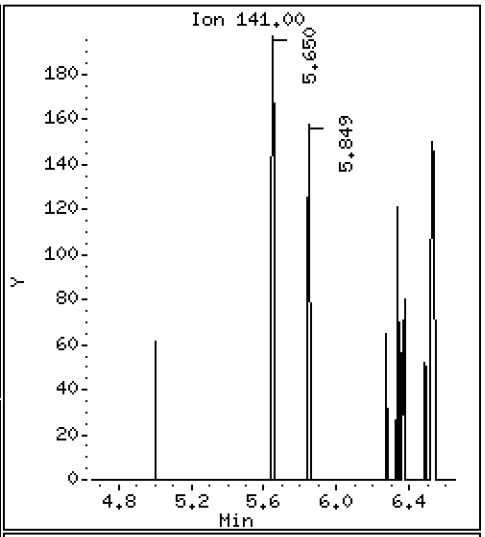
Column phase: Rxi-17sil

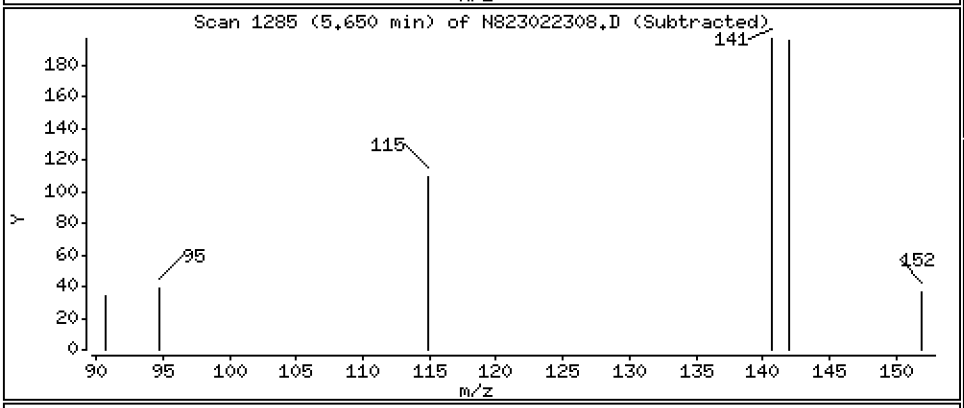
Column diameter: 0.25

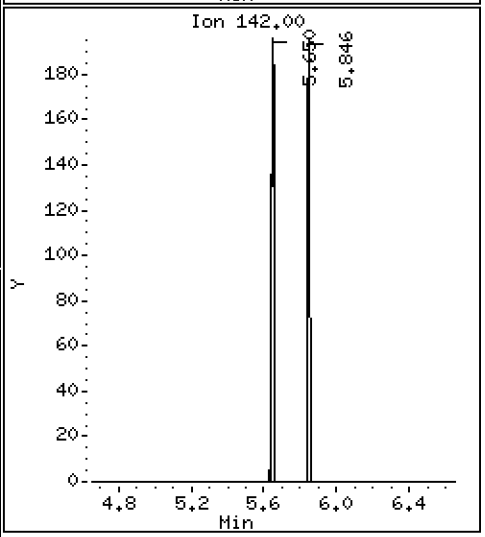
4 2-Methylnaphthalene

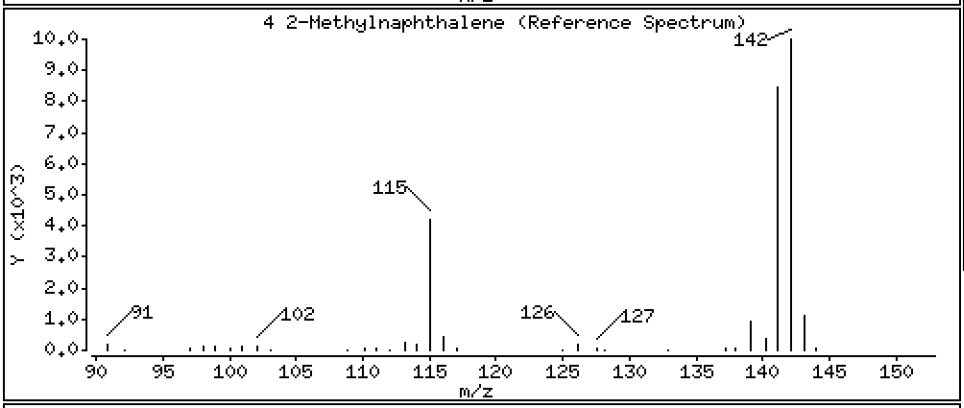
Concentration: 0.05437 ug/mL

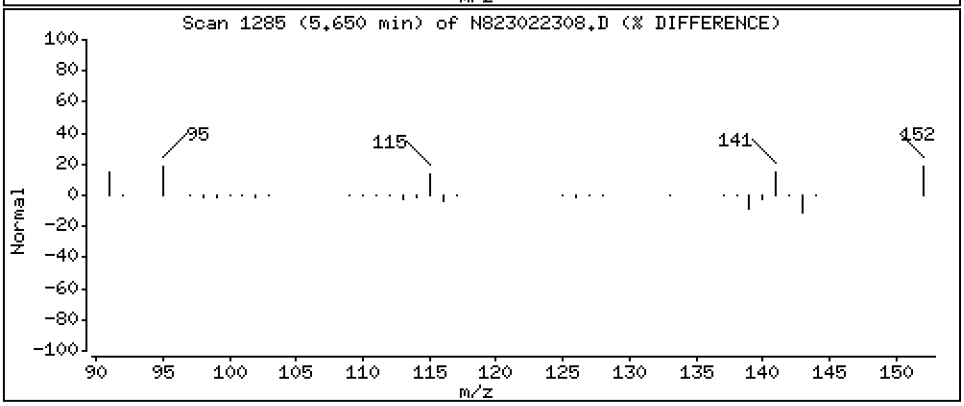












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022308.D

Date : 23-FEB-2023 14:42

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-02,3

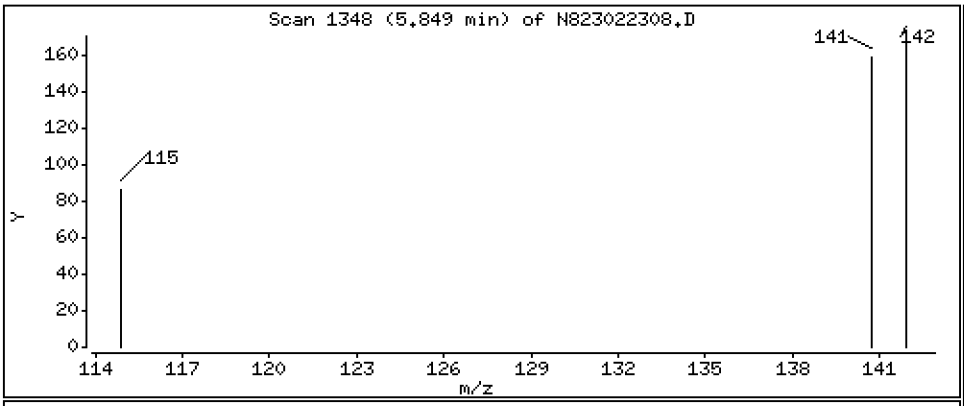
Operator: JZ

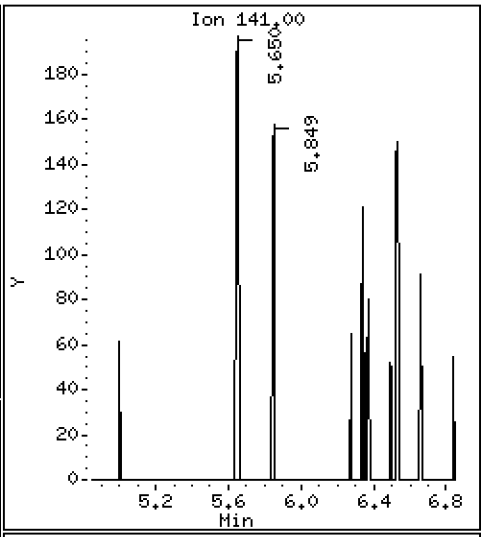
Column phase: Rxi-17sil

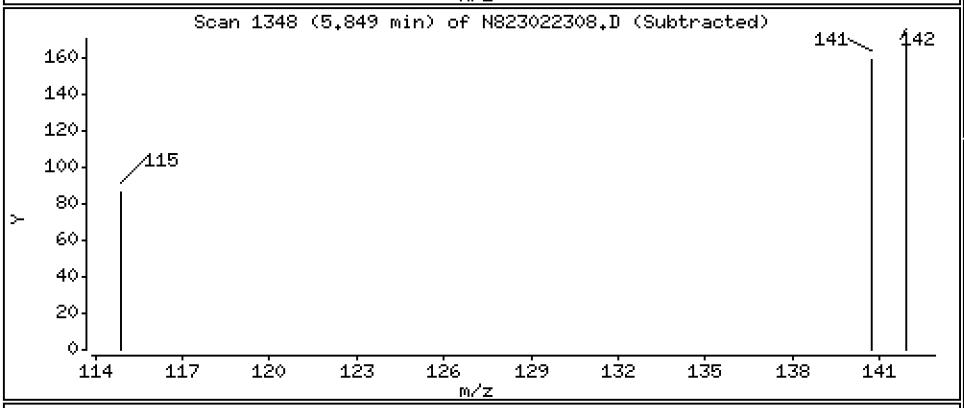
Column diameter: 0.25

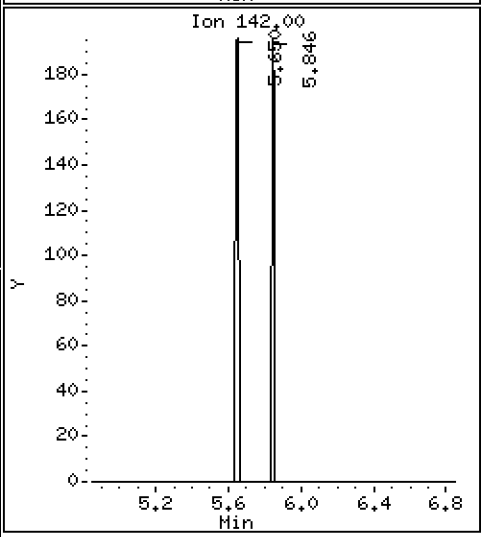
5 1-methylnaphthalene

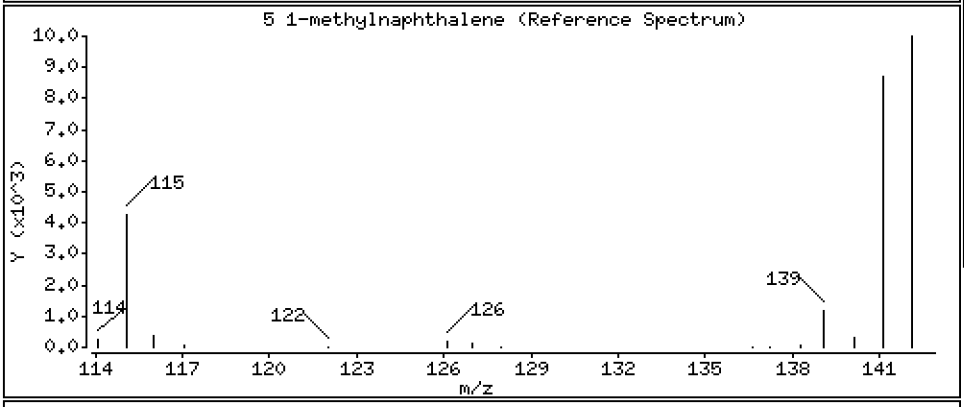
Concentration: 0.03504 ug/mL

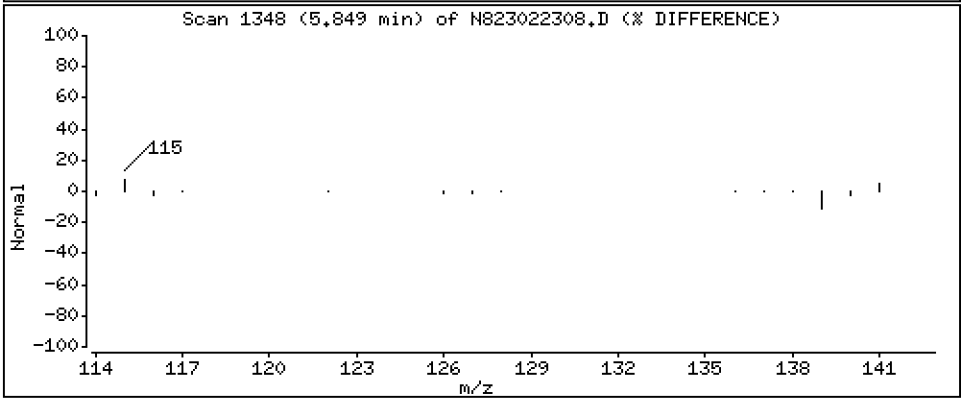












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022308.D

Date : 23-FEB-2023 14:42

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-02,3

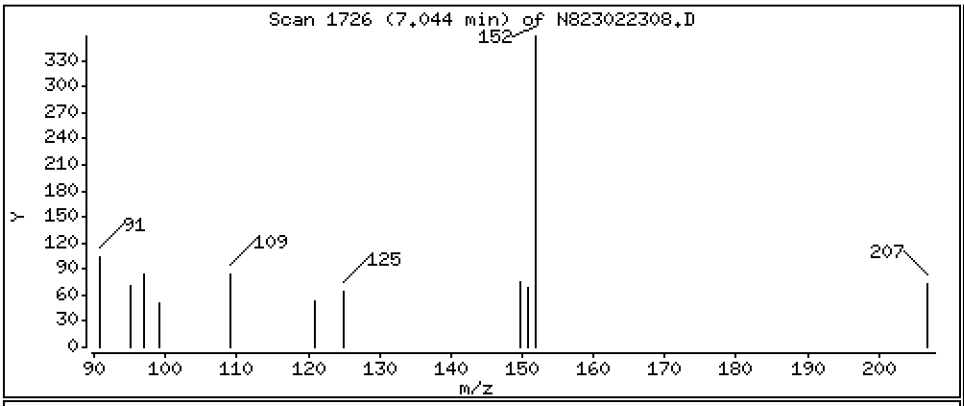
Operator: JZ

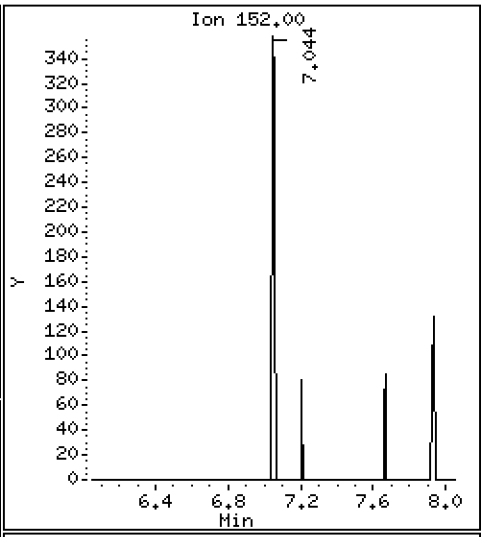
Column phase: Rxi-17sil

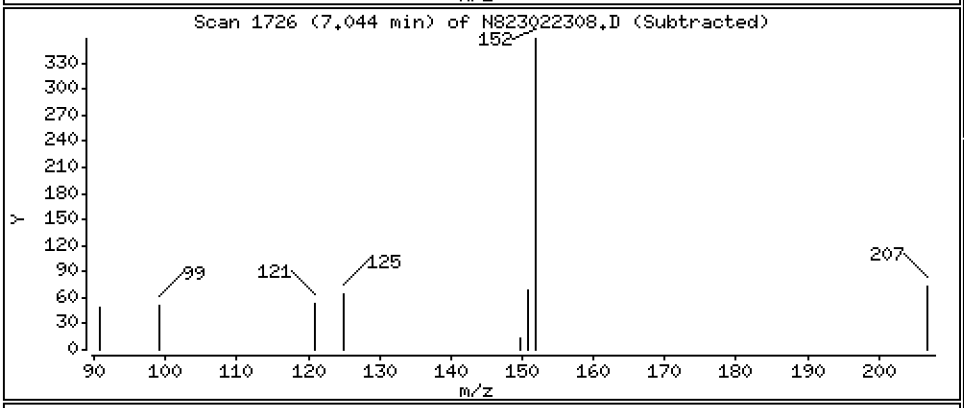
Column diameter: 0.25

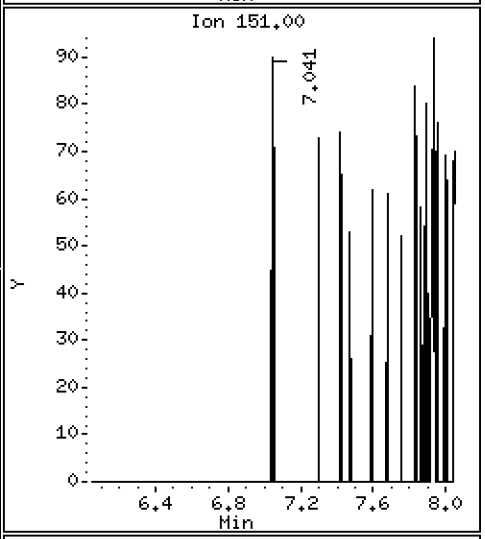
9 Acenaphthylene

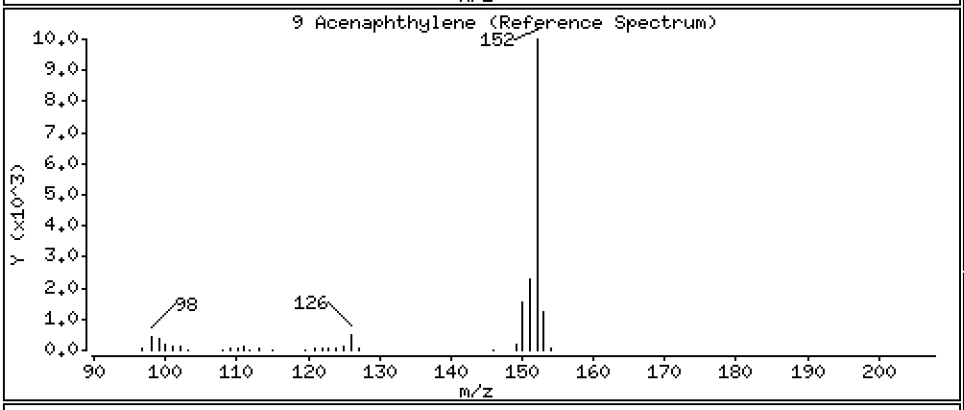
Concentration: 0.06192 ug/mL

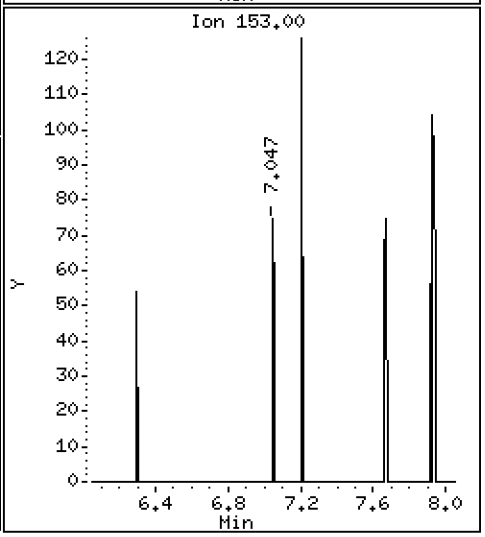


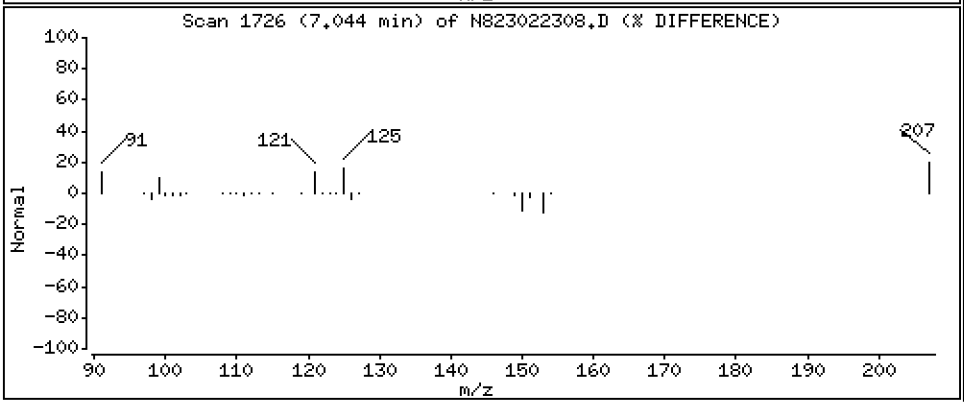












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022308.D

Date : 23-FEB-2023 14:42

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-02,3

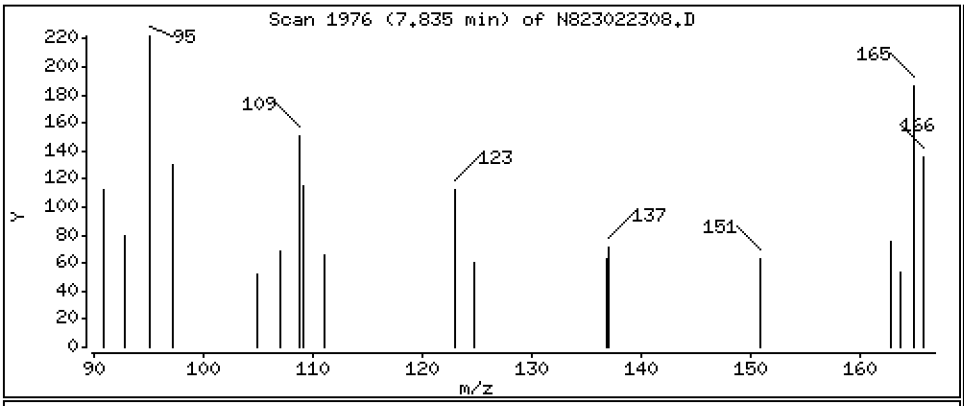
Operator: JZ

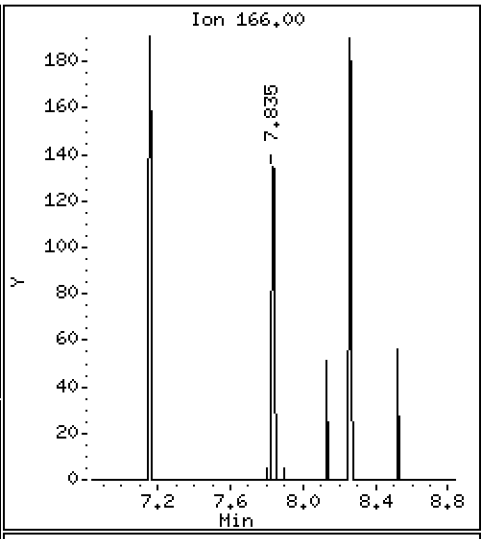
Column phase: Rxi-17sil

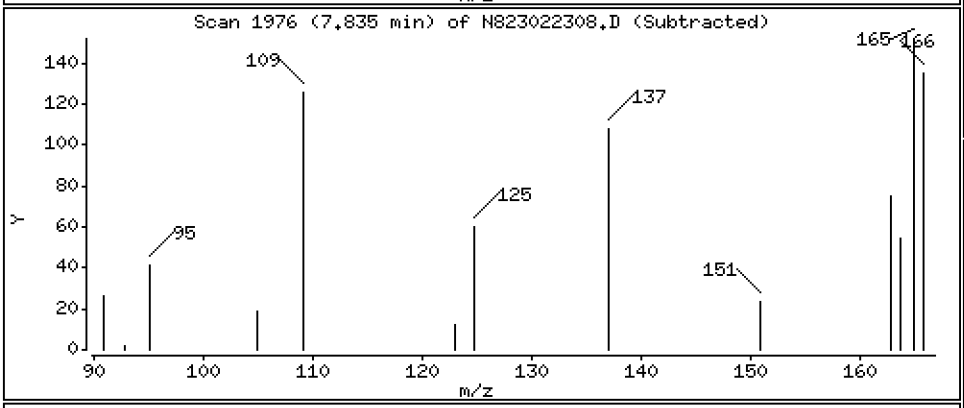
Column diameter: 0.25

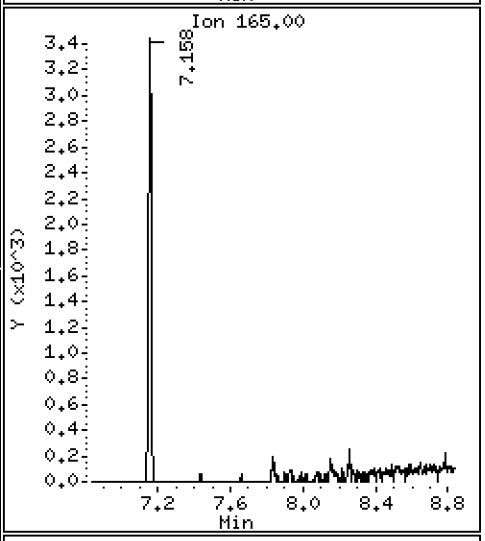
14 Fluorene

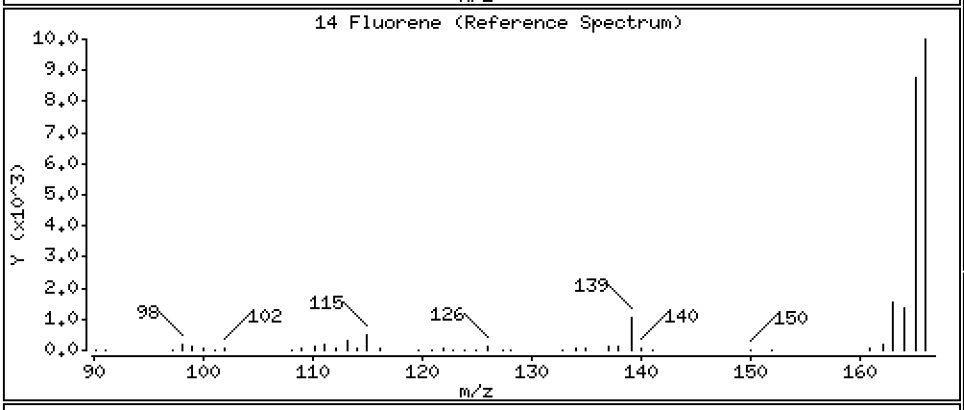
Concentration: 0.02935 ug/mL

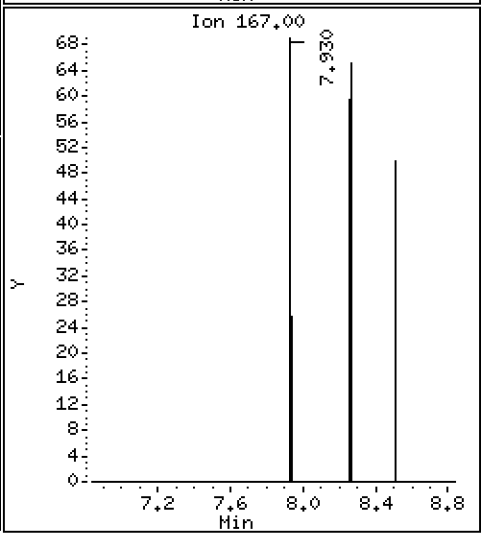


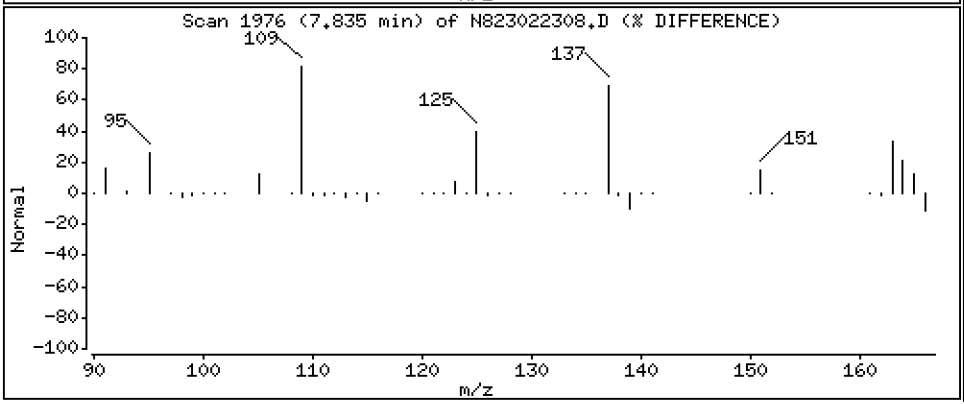












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022308.D

Date : 23-FEB-2023 14:42

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-02,3

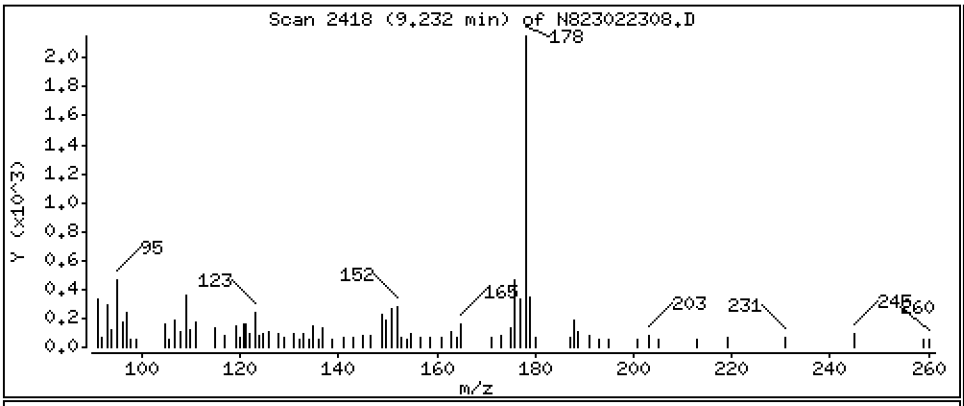
Operator: JZ

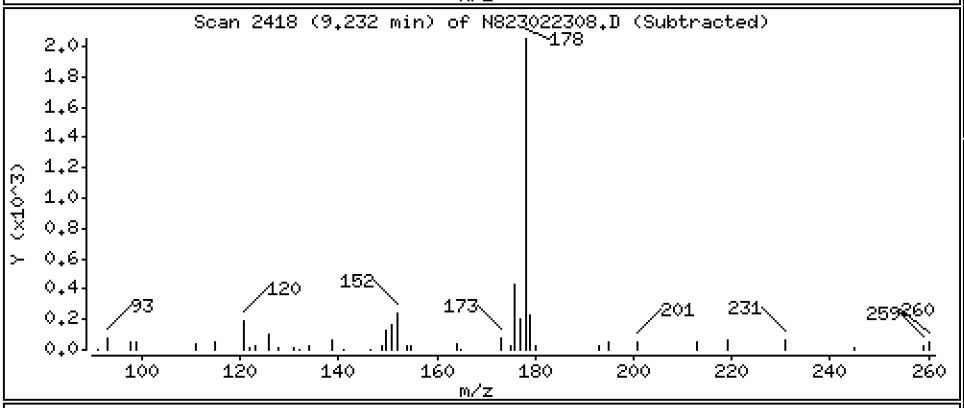
Column phase: Rxi-17sil

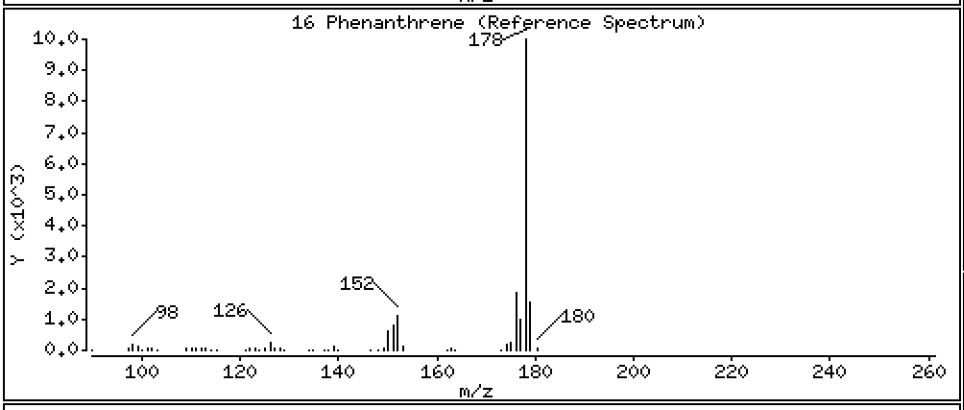
Column diameter: 0.25

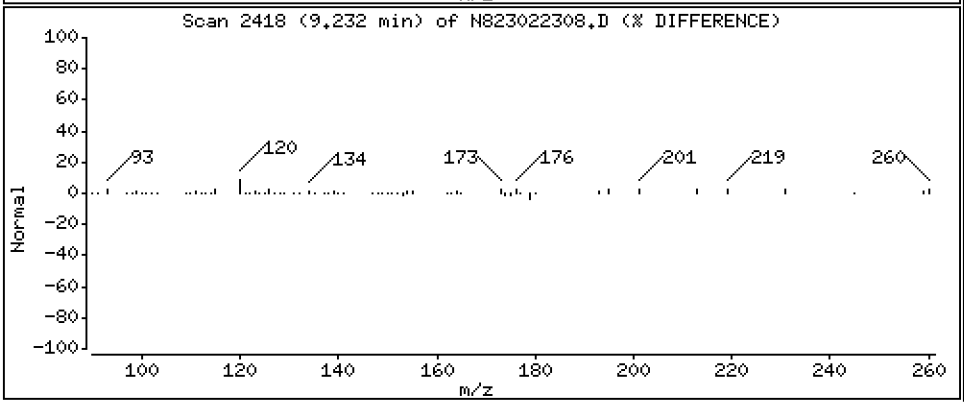
16 Phenanthrene

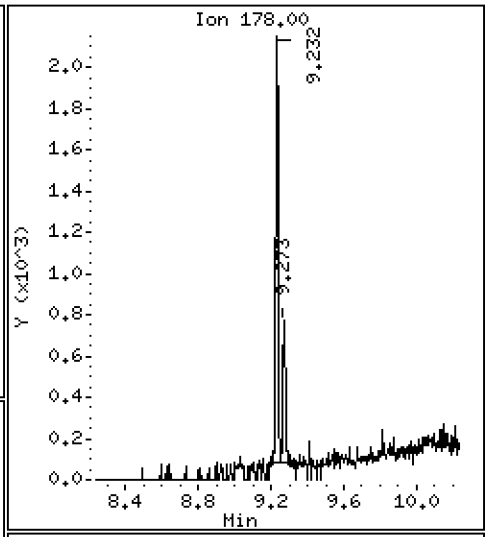
Concentration: 0.2462 ug/mL

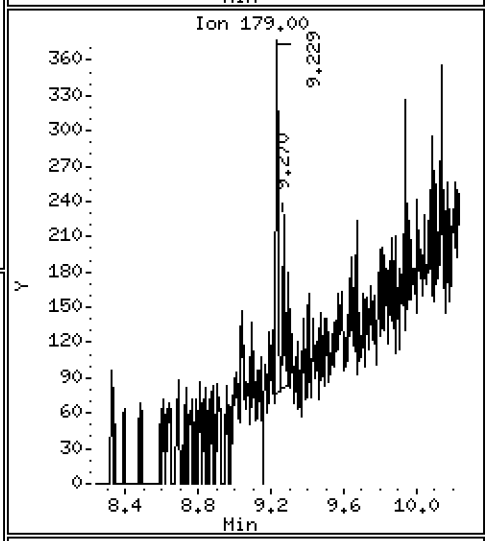


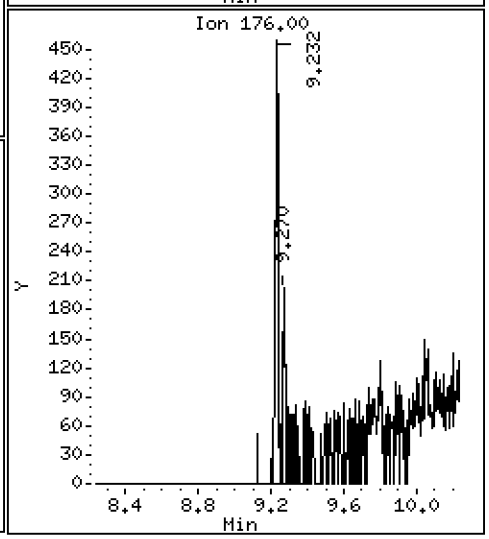












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022308.D

Date : 23-FEB-2023 14:42

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-02,3

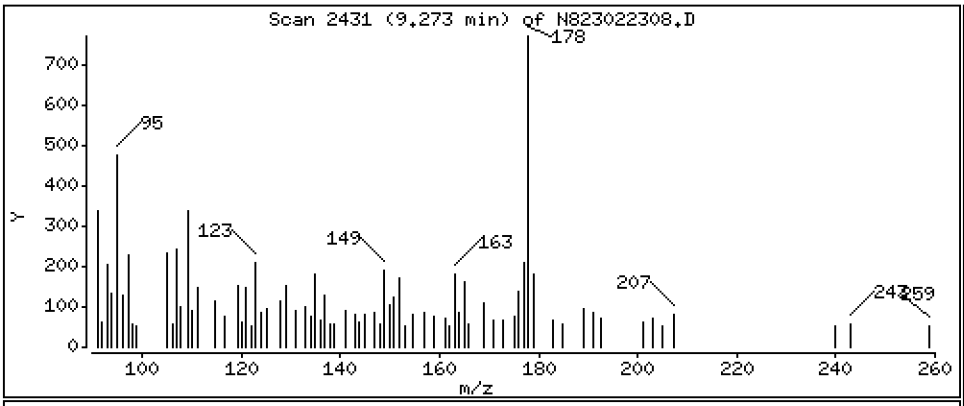
Operator: JZ

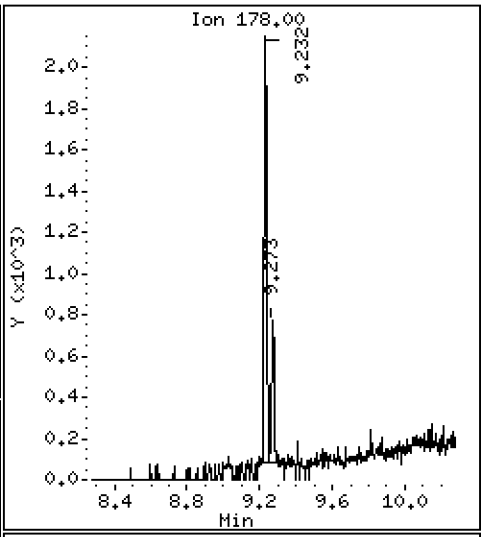
Column phase: Rxi-17sil

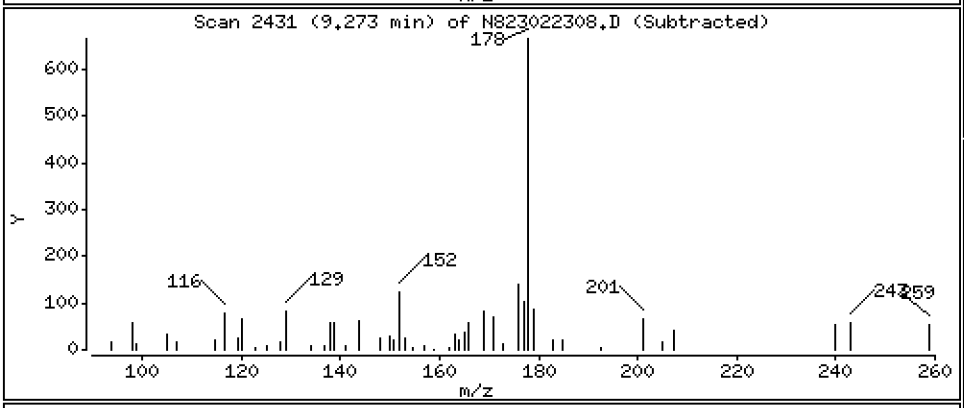
Column diameter: 0.25

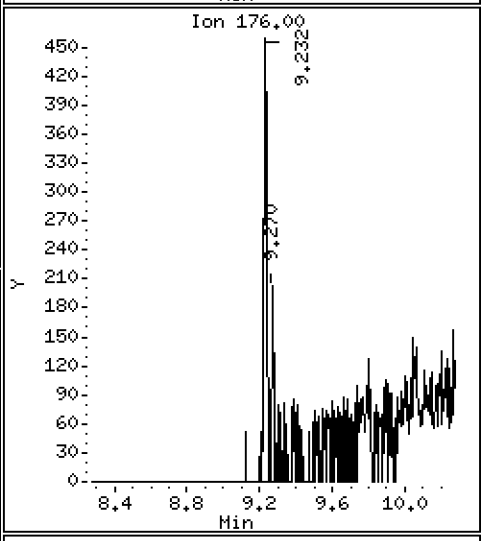
17 Anthracene

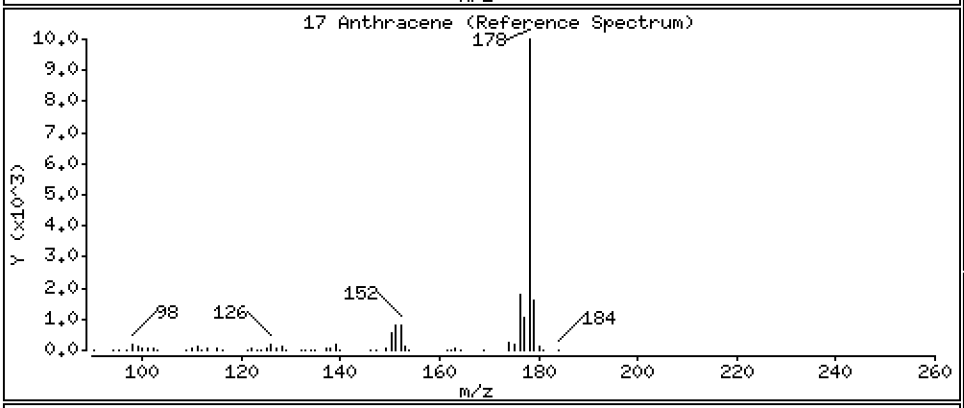
Concentration: 0.09329 ug/mL

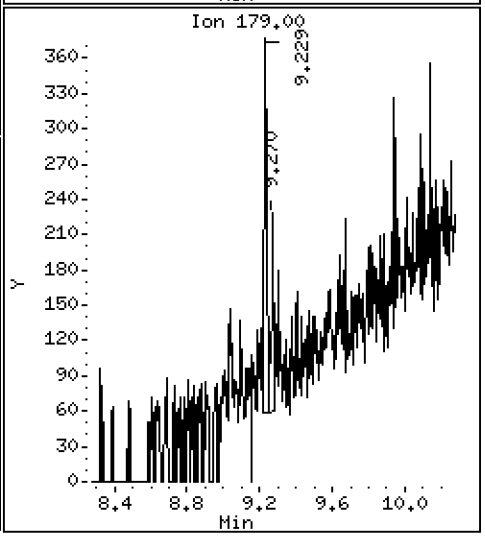


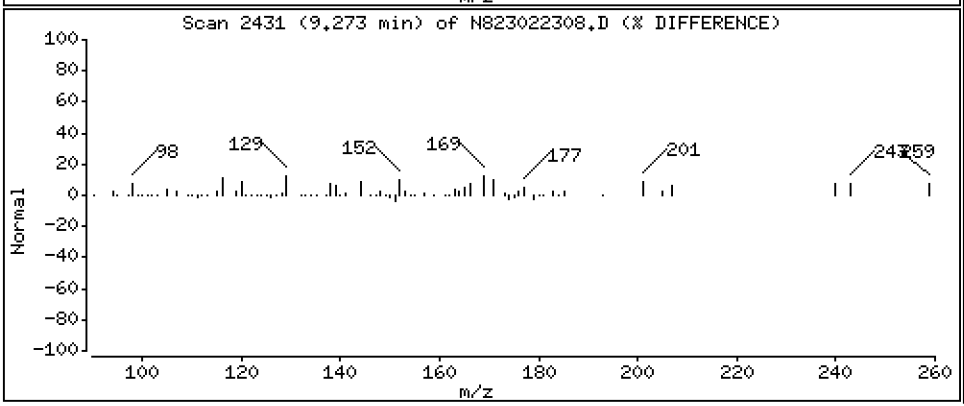












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Date : 23-FEB-2023 14:42

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-02,3

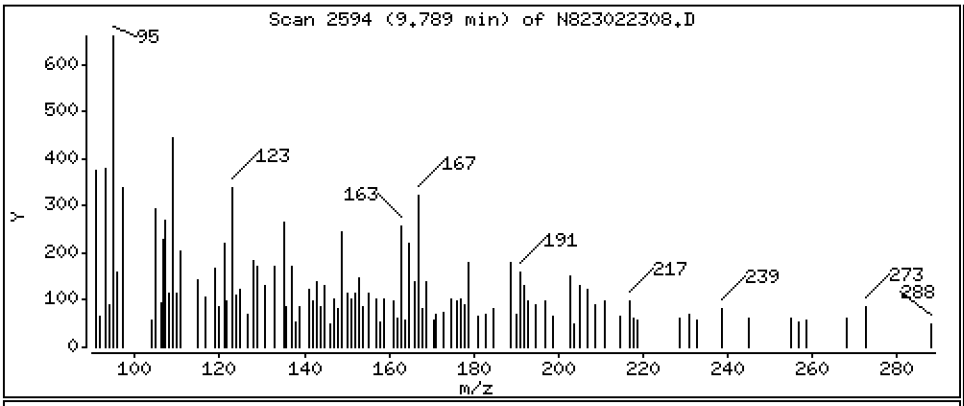
Operator: JZ

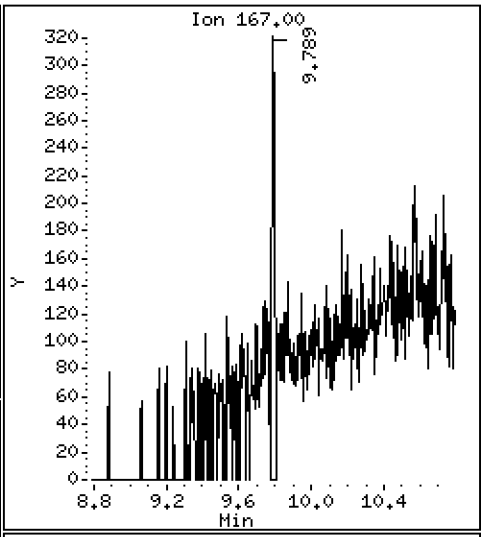
Column phase: Rxi-17sil

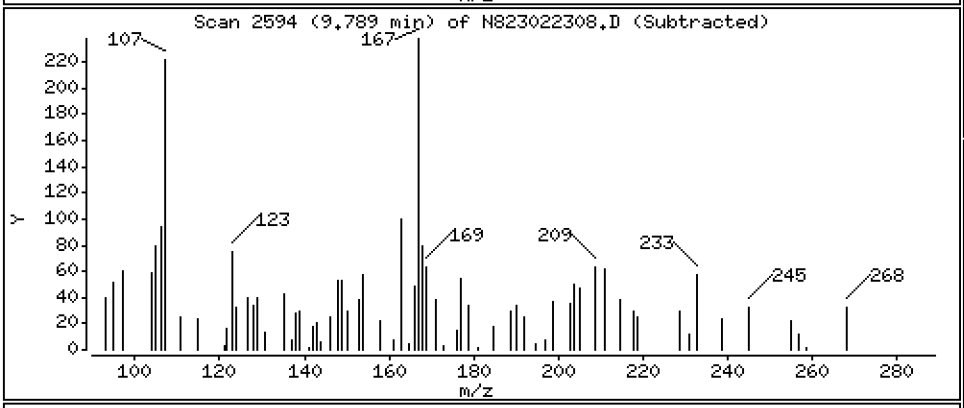
Column diameter: 0.25

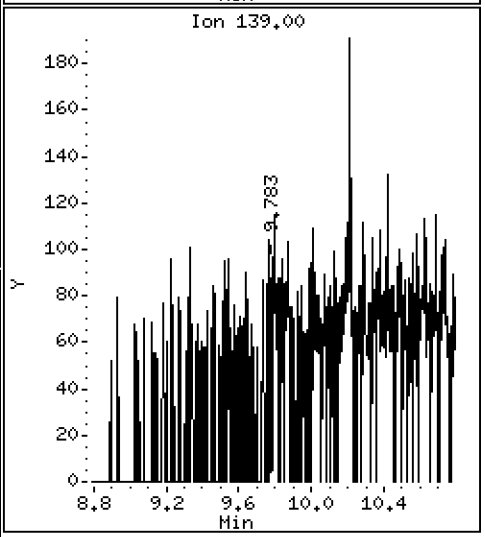
19 Carbazole

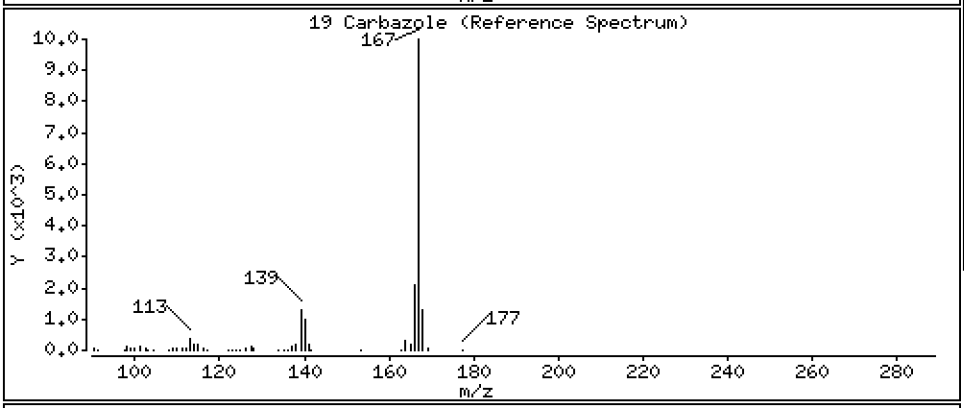
Concentration: 0.06582 ug/mL

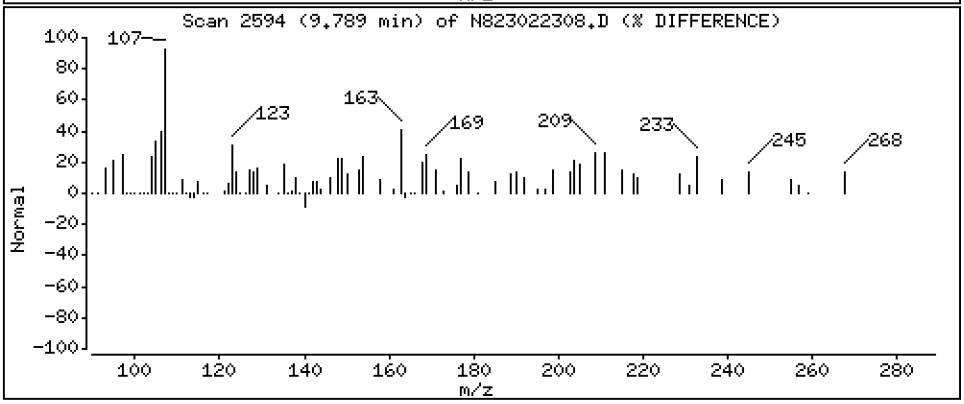












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Date : 23-FEB-2023 14:42

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-02,3

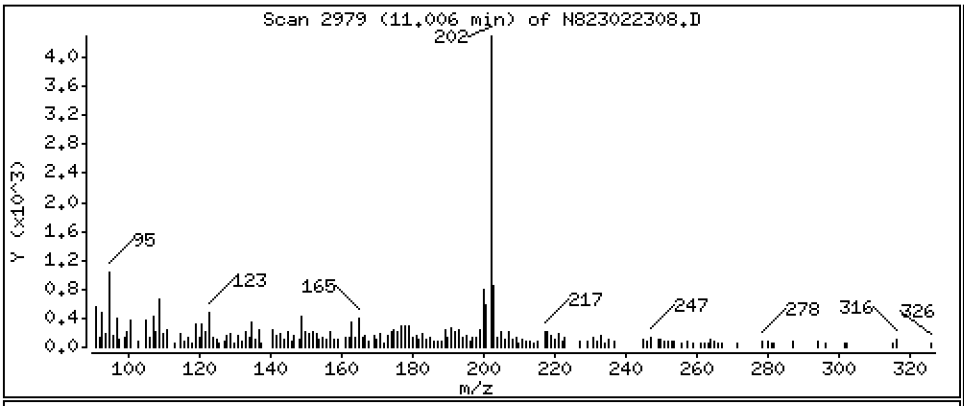
Operator: JZ

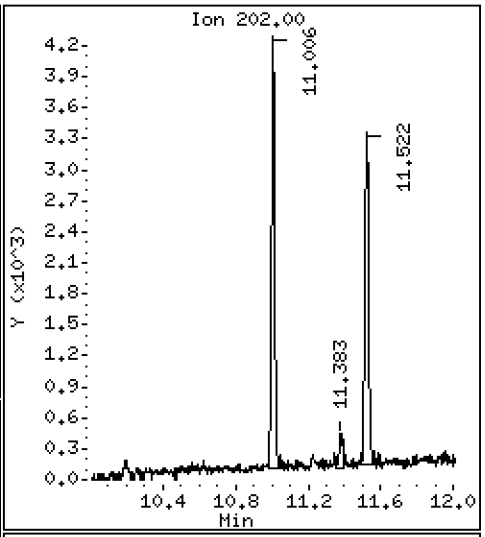
Column phase: Rxi-17sil

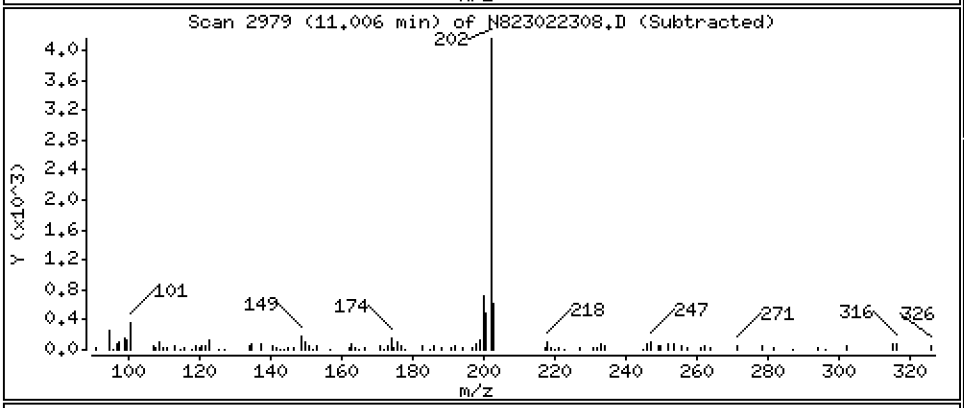
Column diameter: 0.25

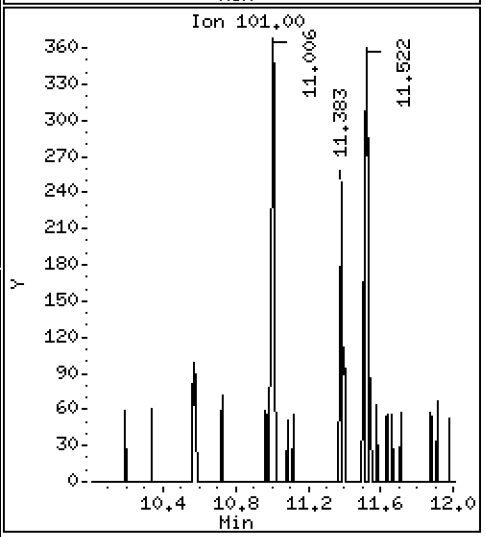
22 Fluoranthene

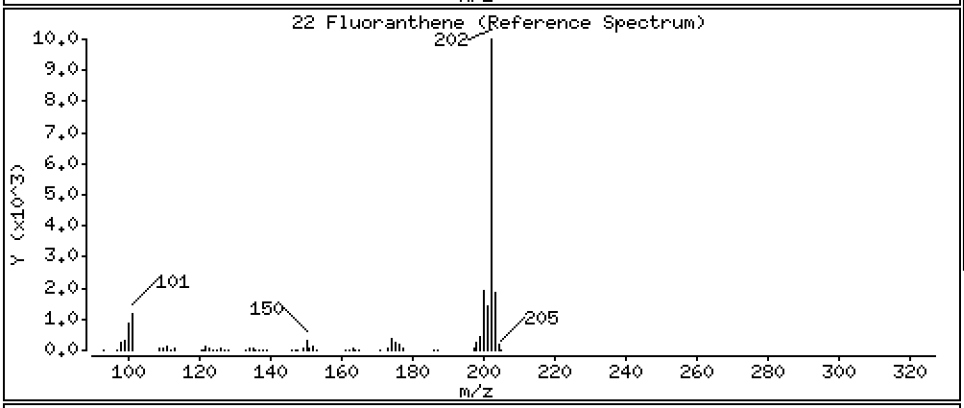
Concentration: 0.5851 ug/mL

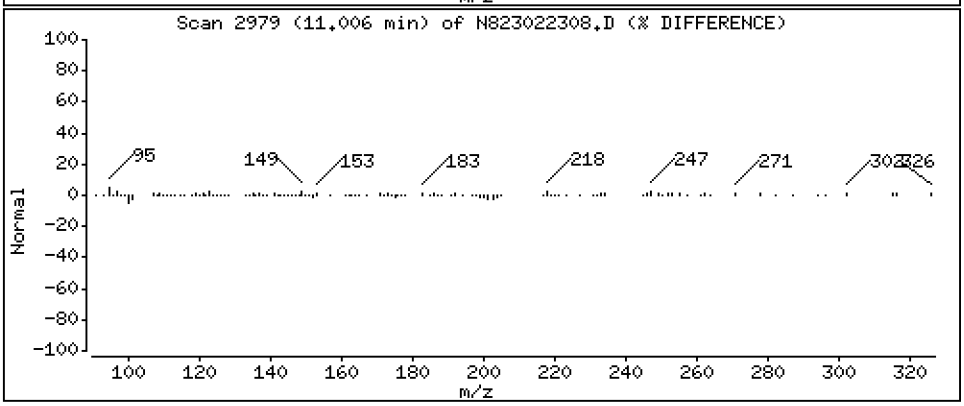












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Date : 23-FEB-2023 14:42

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-02,3

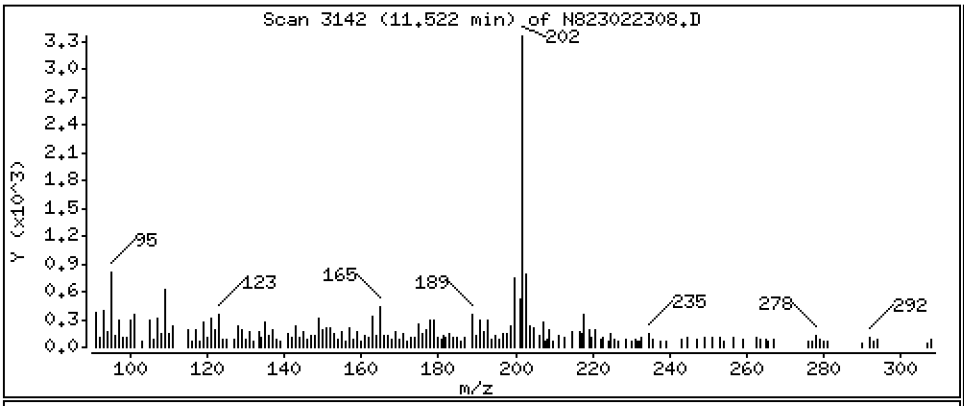
Operator: JZ

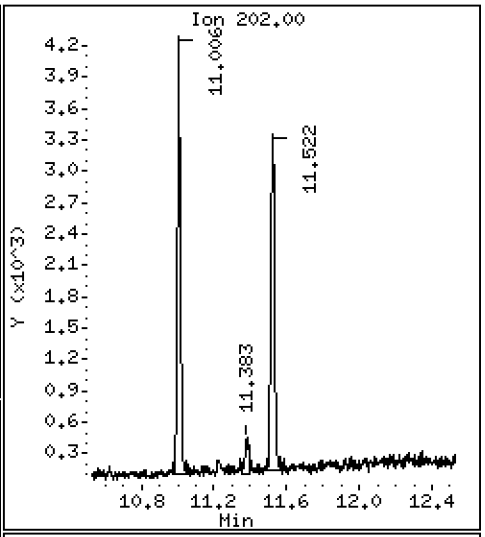
Column phase: Rxi-17sil

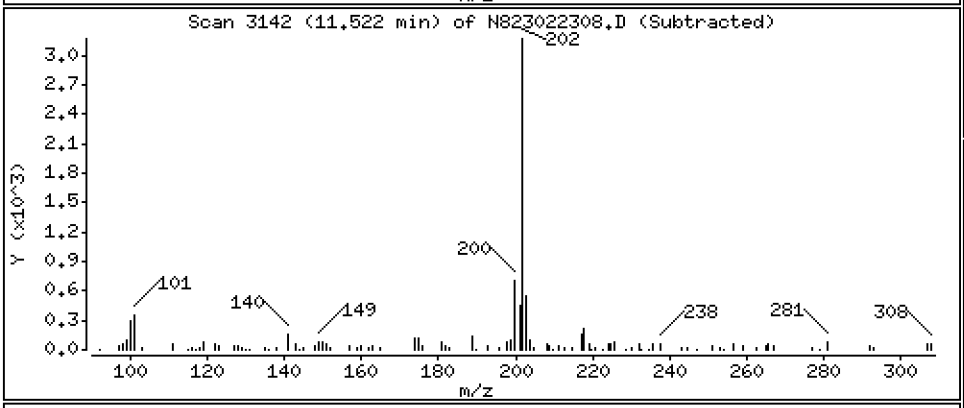
Column diameter: 0.25

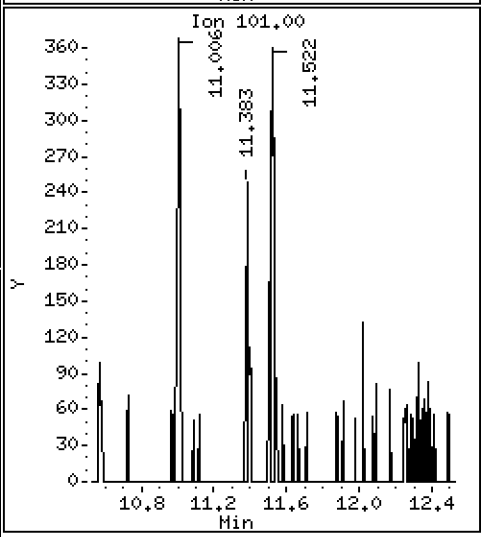
23 Pyrene

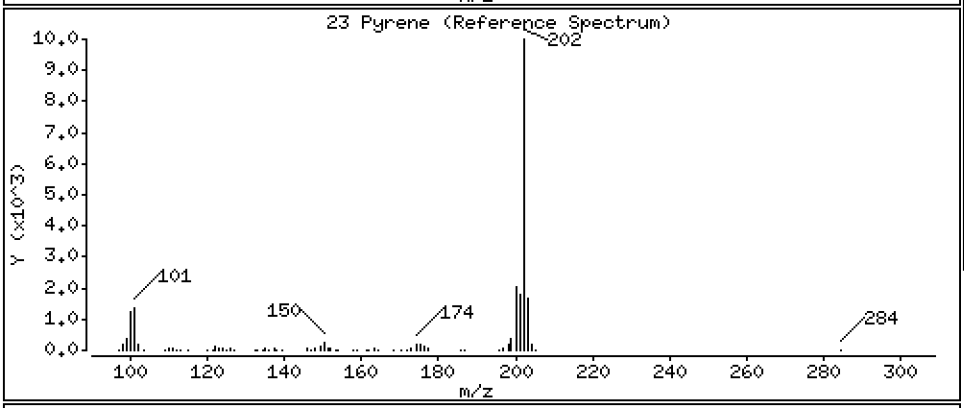
Concentration: 0.7889 ug/mL

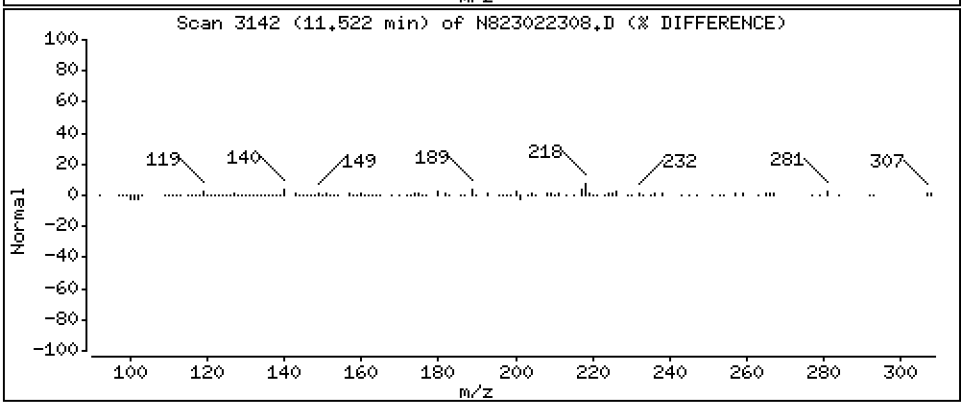












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Date : 23-FEB-2023 14:42

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-02,3

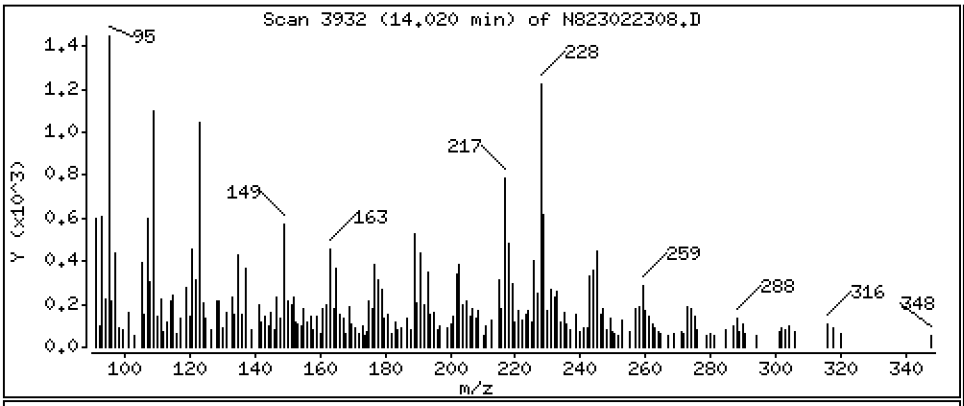
Operator: JZ

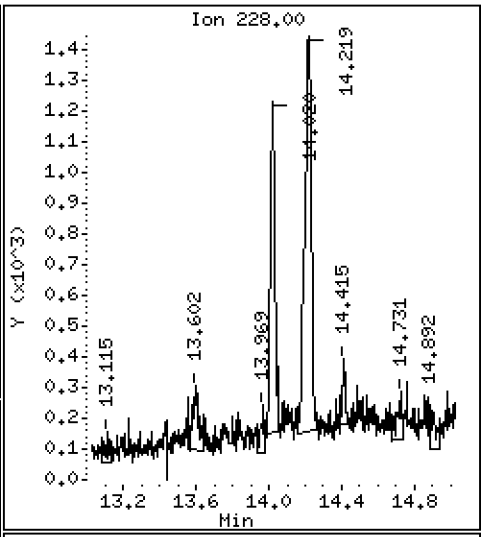
Column phase: Rxi-17sil

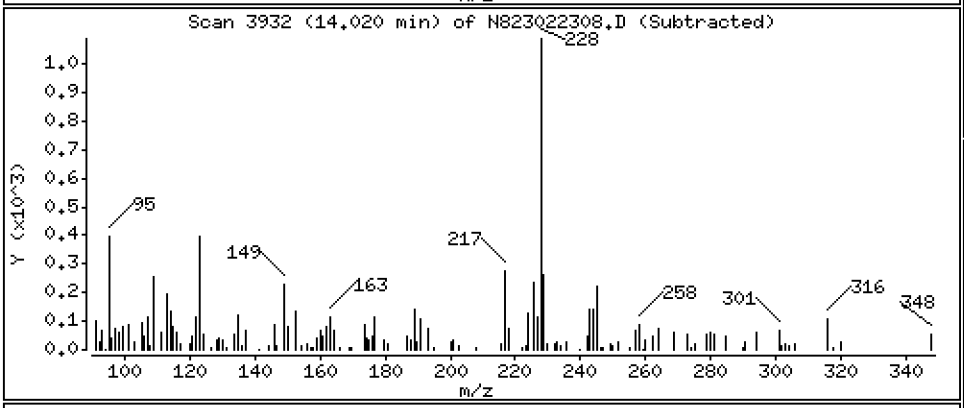
Column diameter: 0.25

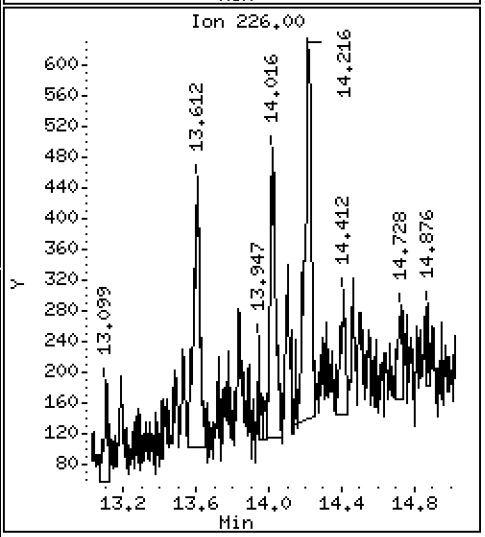
24 Benzo(a)anthracene

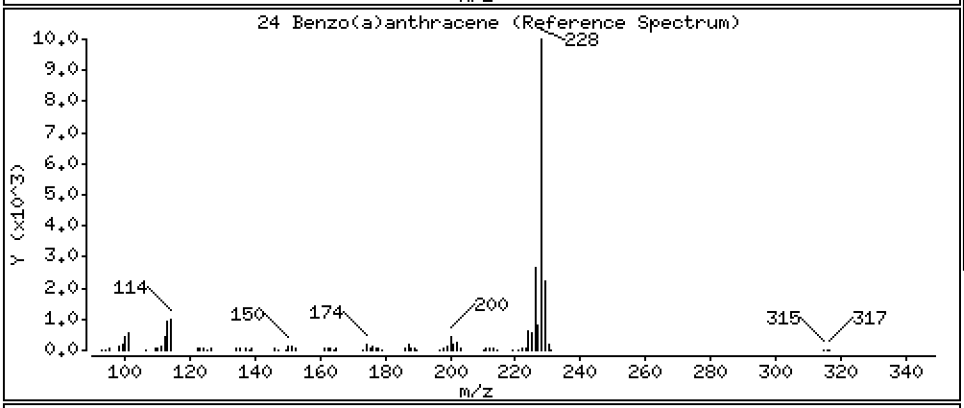
Concentration: 0.3622 ug/mL

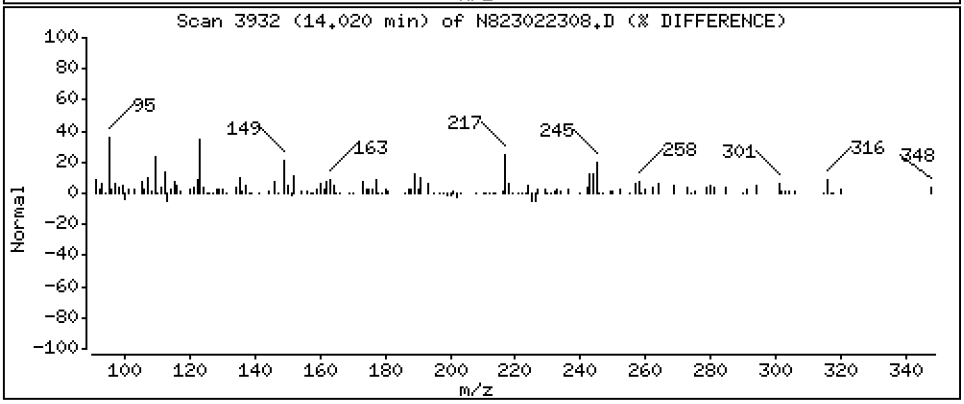












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022308.D

Date : 23-FEB-2023 14:42

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-02,3

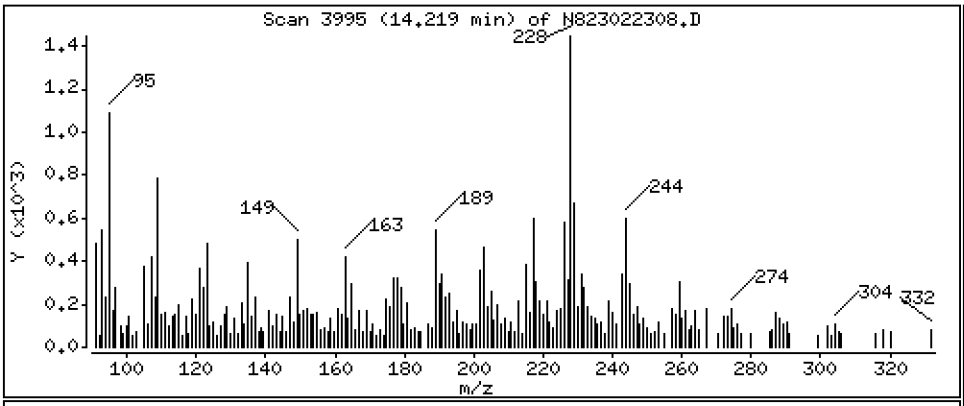
Operator: JZ

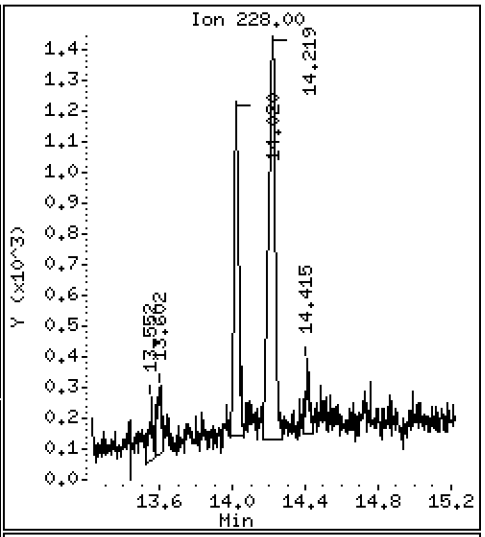
Column phase: Rxi-17sil

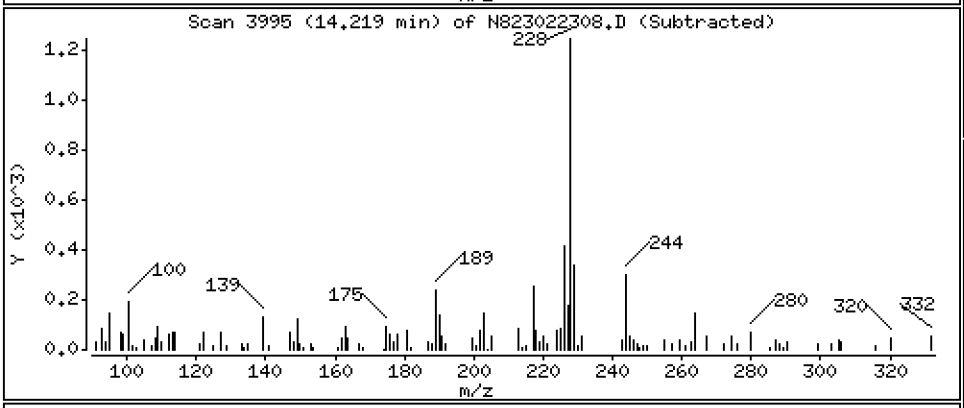
Column diameter: 0.25

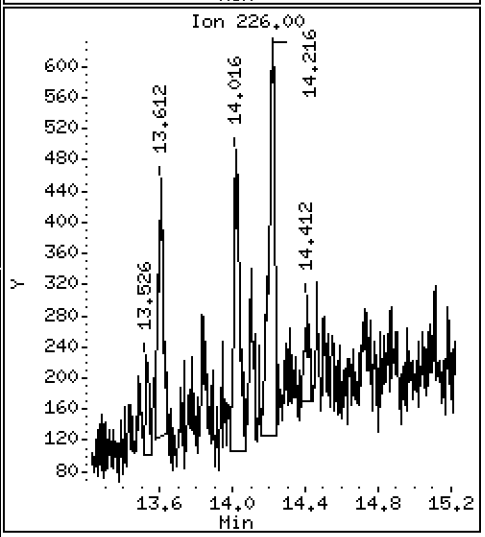
27 Chrysene

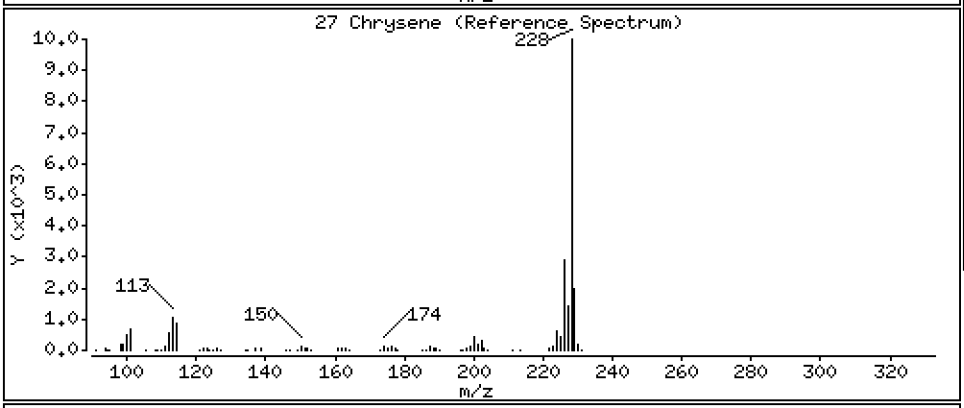
Concentration: 0.6133 ug/mL

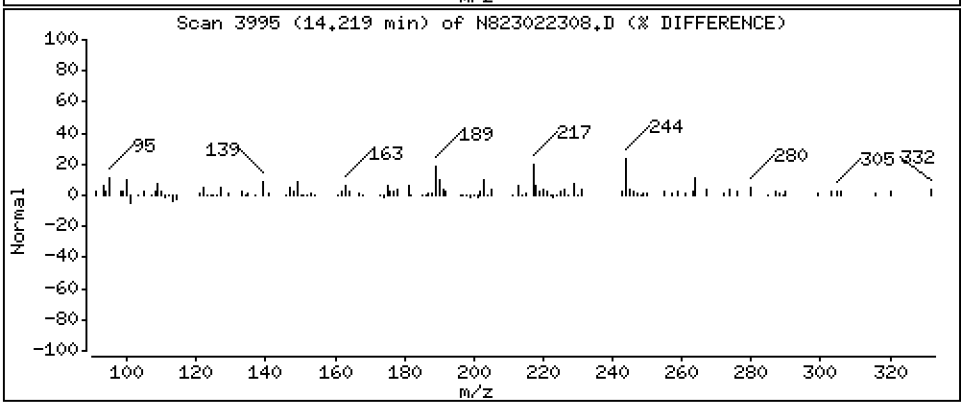












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022308.D

Date : 23-FEB-2023 14:42

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-02,3

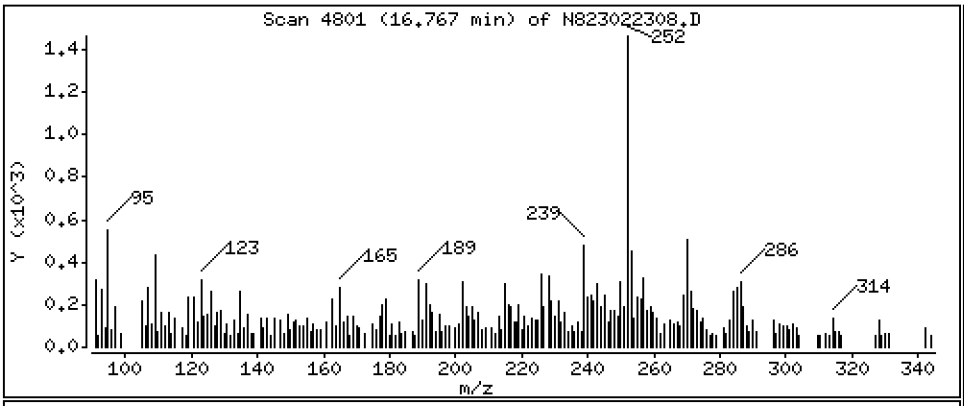
Operator: JZ

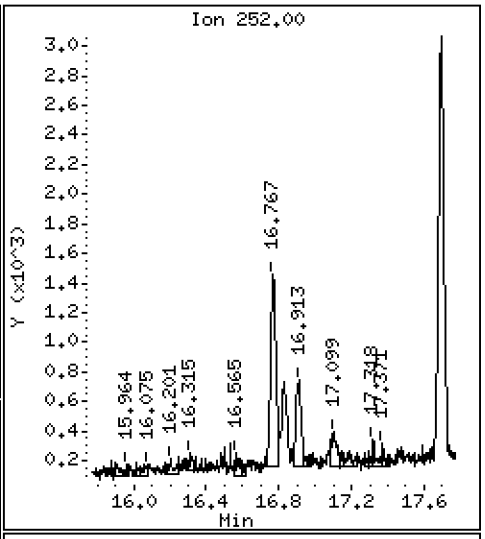
Column phase: Rxi-17sil

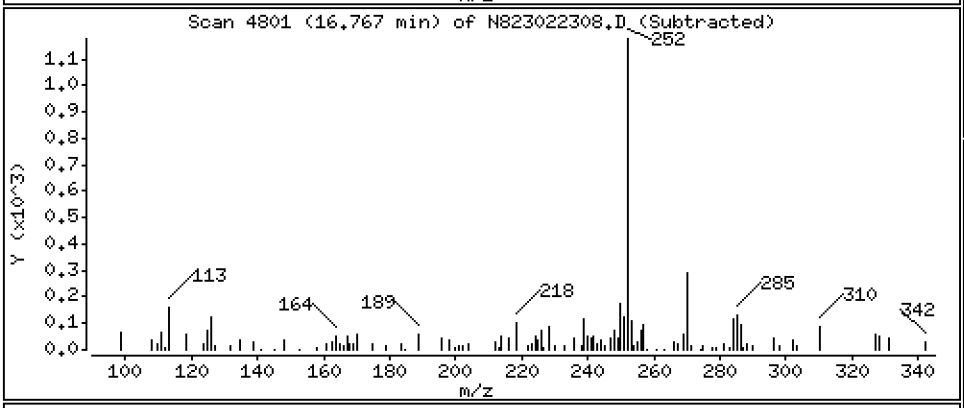
Column diameter: 0.25

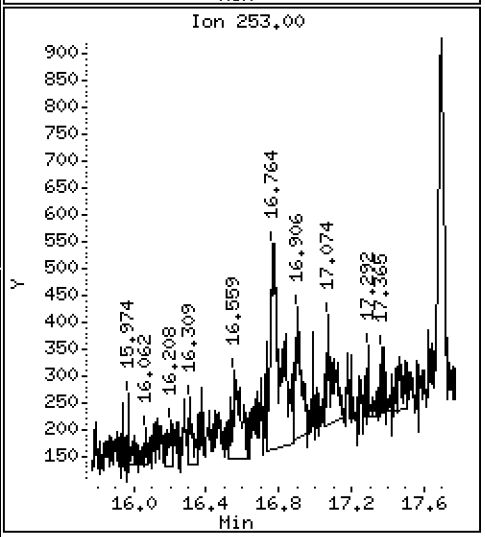
28 Benzo(b)fluoranthene

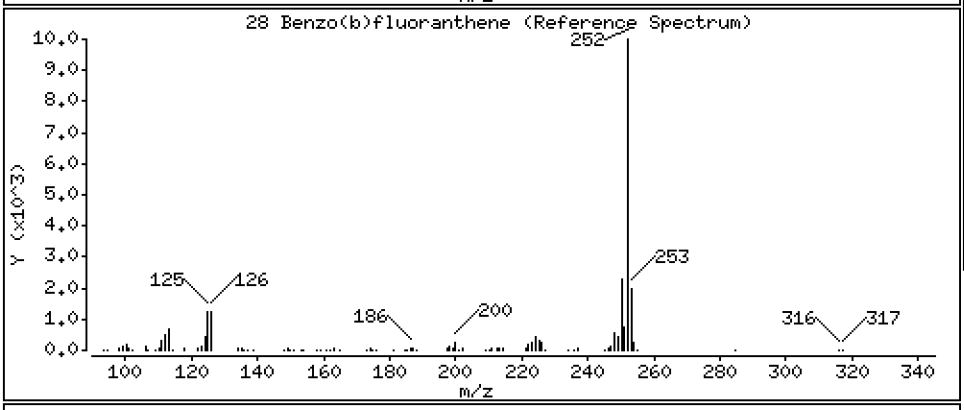
Concentration: 0.5119 ug/mL

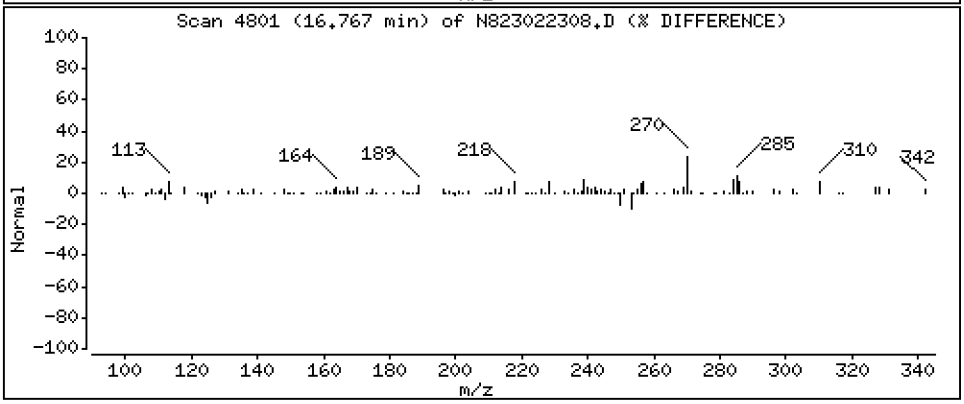












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022308.D

Date : 23-FEB-2023 14:42

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-02,3

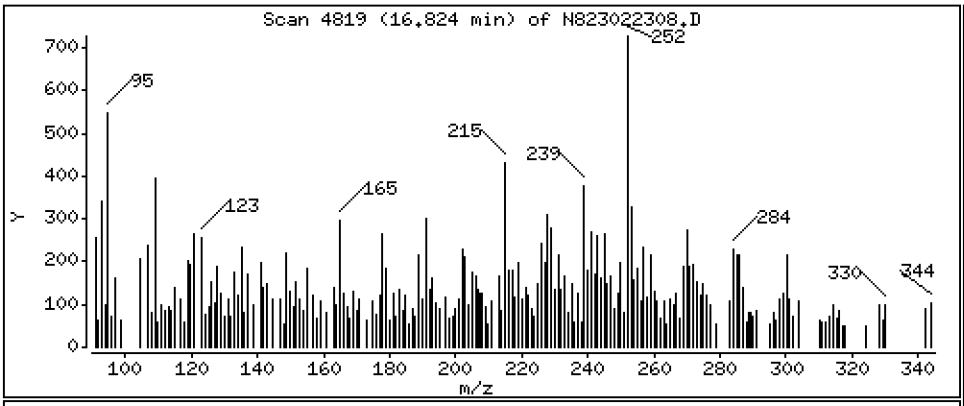
Operator: JZ

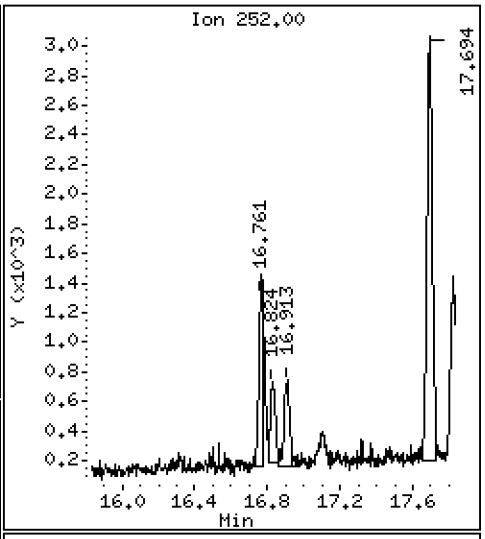
Column phase: Rxi-17sil

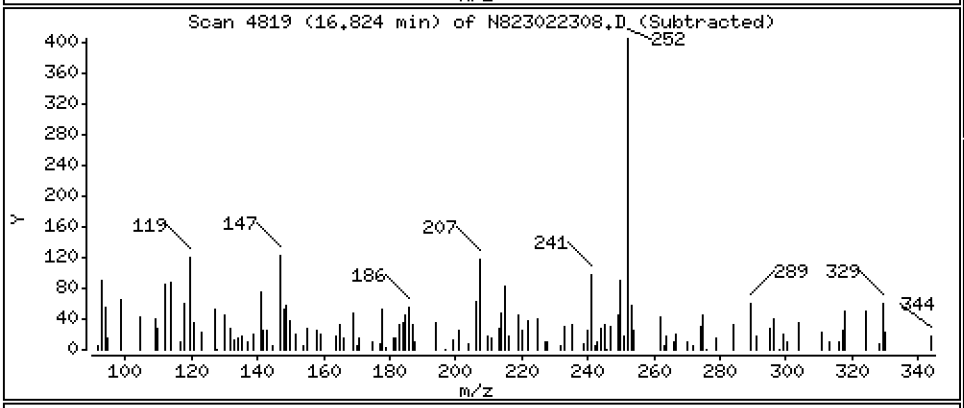
Column diameter: 0.25

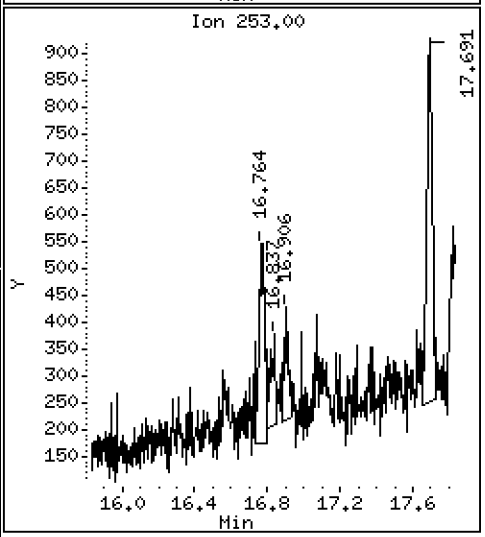
29 Benzo(k)fluoranthene

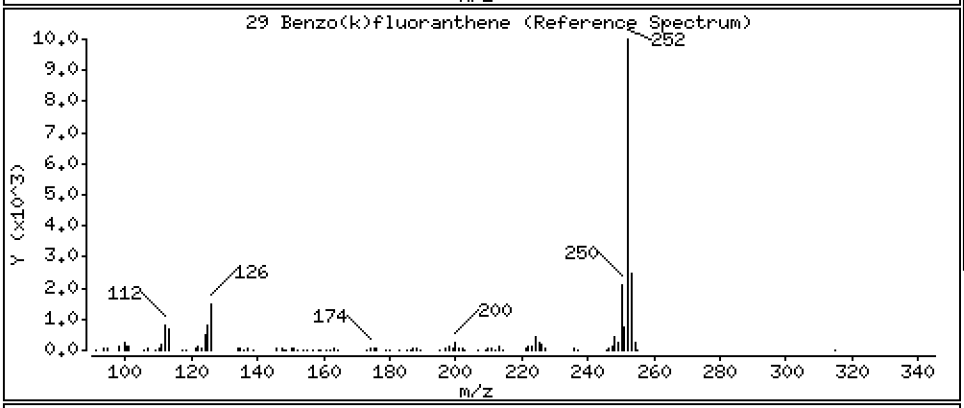
Concentration: 0.2162 ug/mL

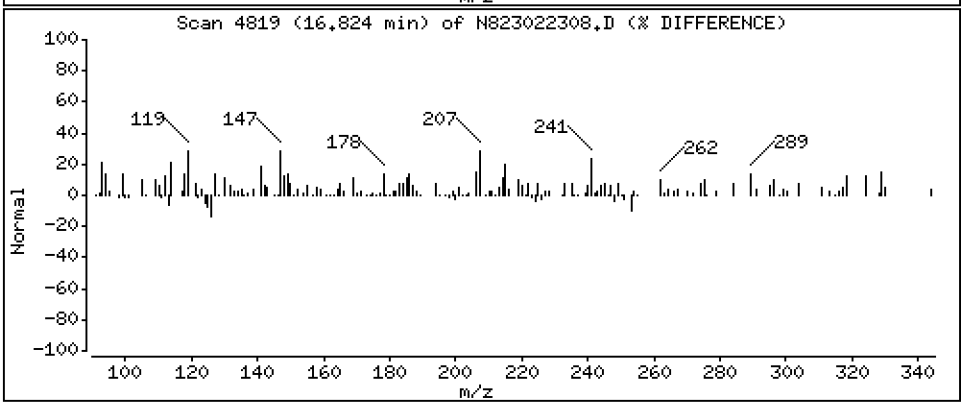












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Date : 23-FEB-2023 14:42

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-02,3

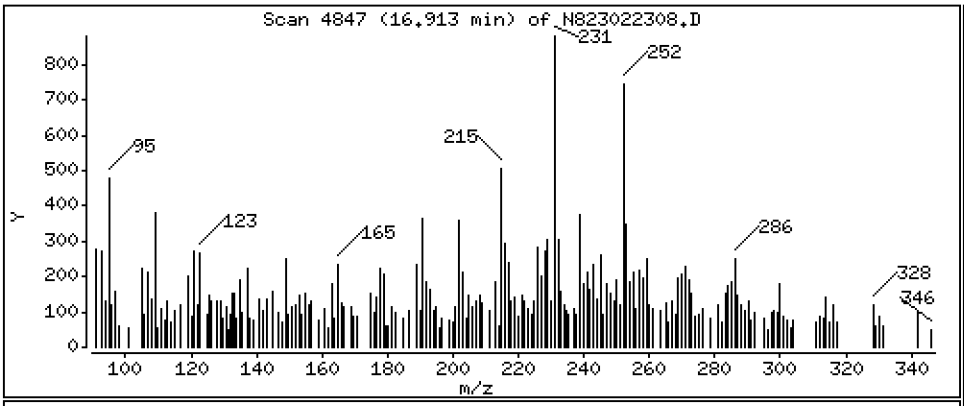
Operator: JZ

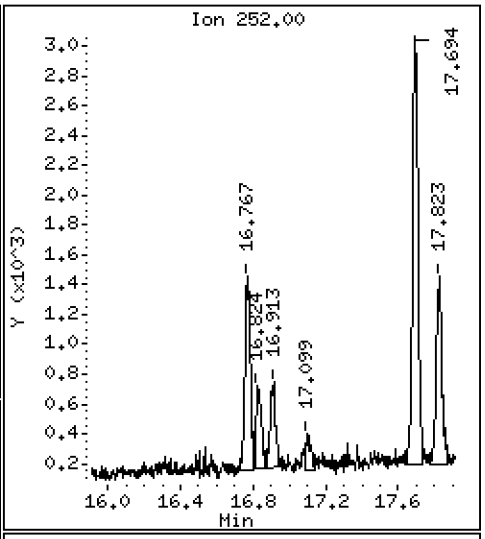
Column phase: Rxi-17sil

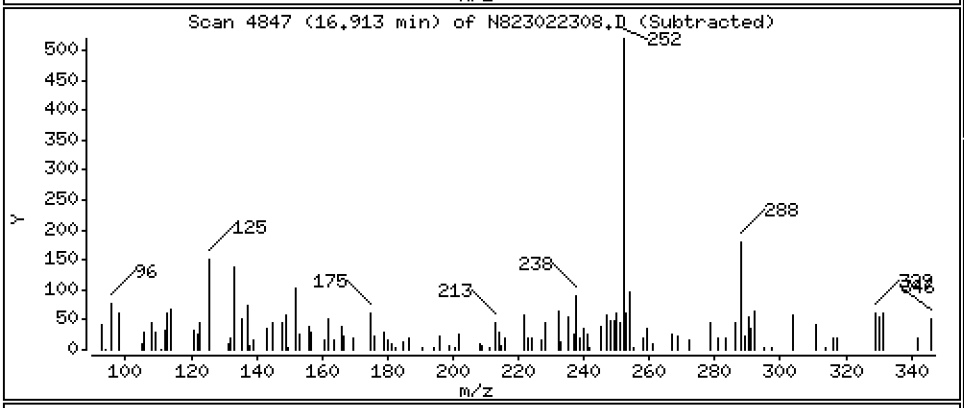
Column diameter: 0.25

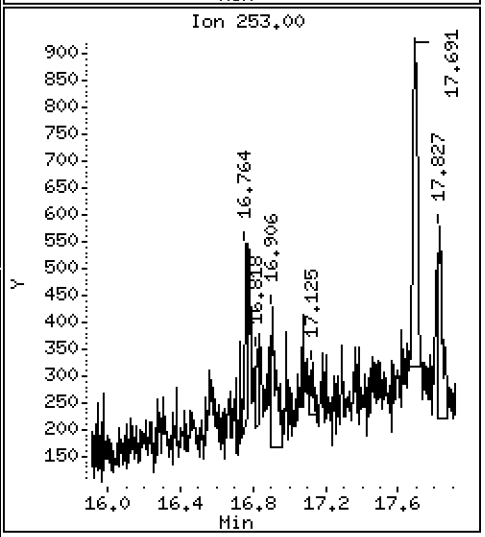
30 Benzo(j)fluoranthene

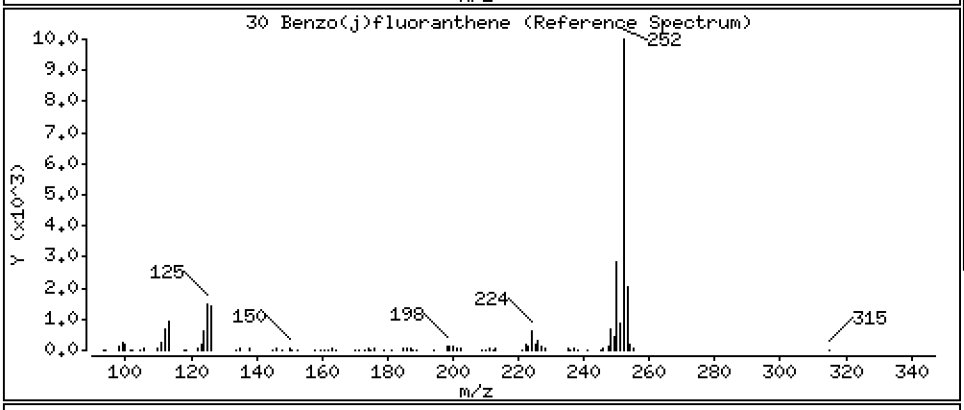
Concentration: 0.2372 ug/mL

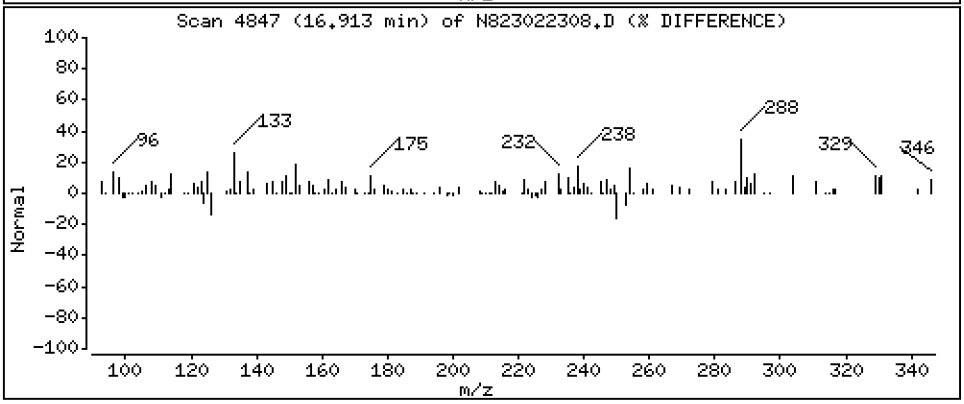












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Date : 23-FEB-2023 14:42

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-02,3

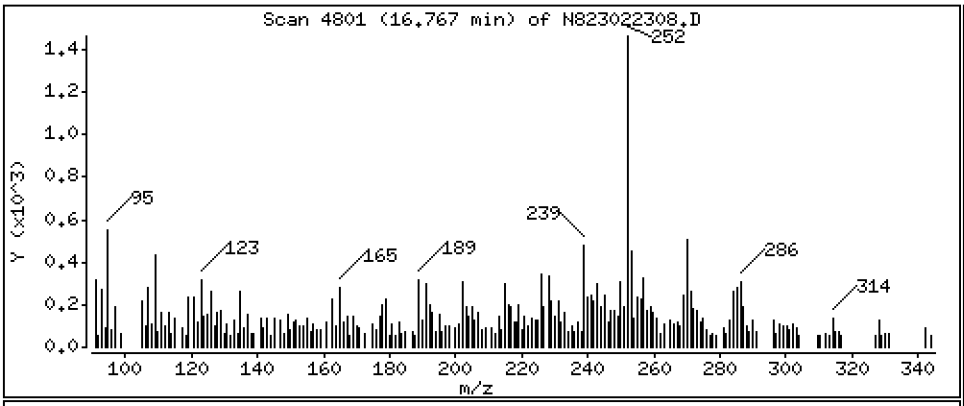
Operator: JZ

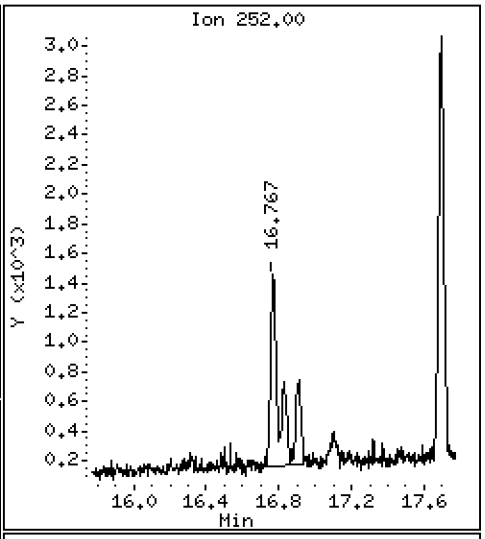
Column phase: Rxi-17sil

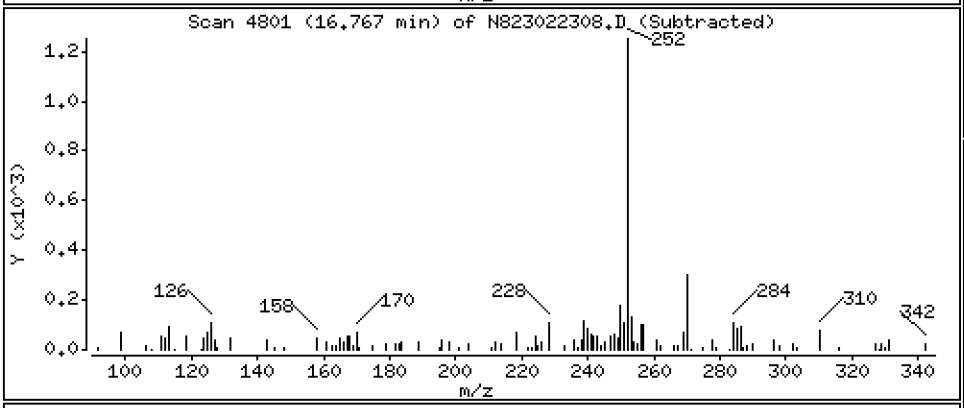
Column diameter: 0.25

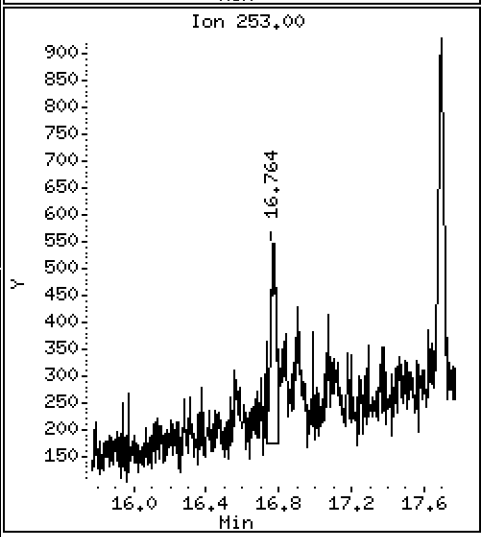
31 Total Benzofluoranthenes

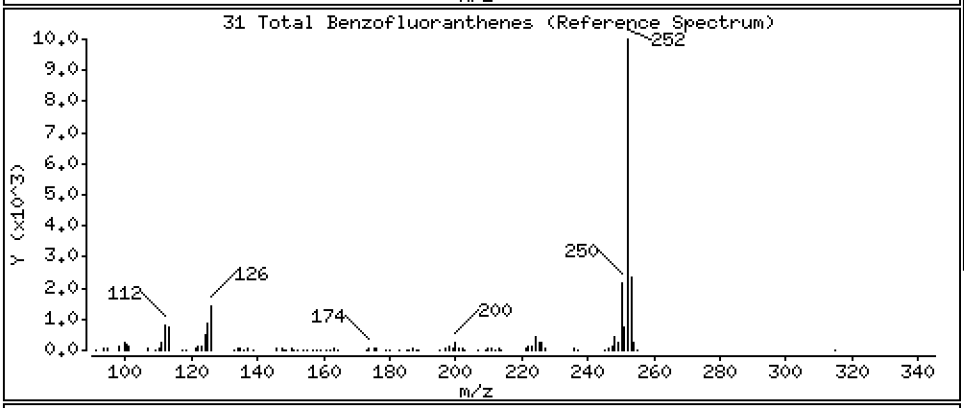
Concentration: 1.001 ug/mL

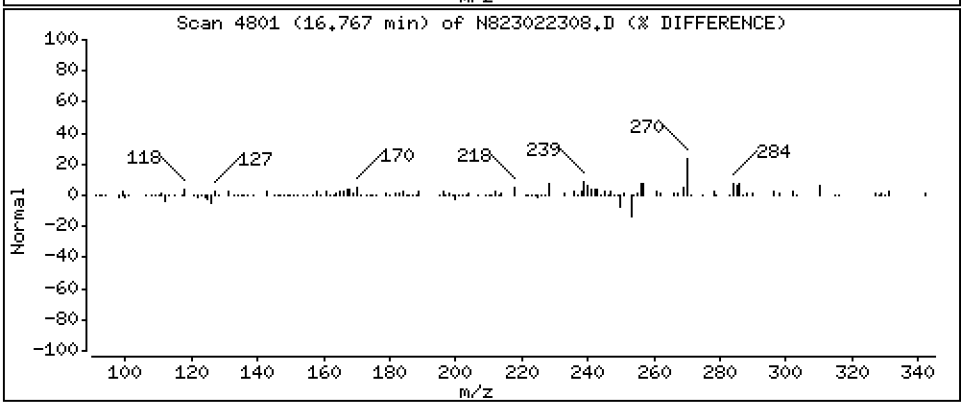












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Date : 23-FEB-2023 14:42

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-02,3

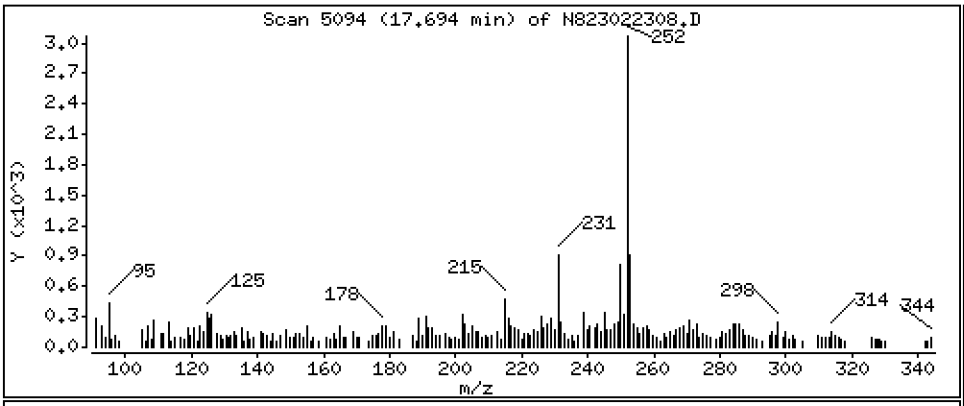
Operator: JZ

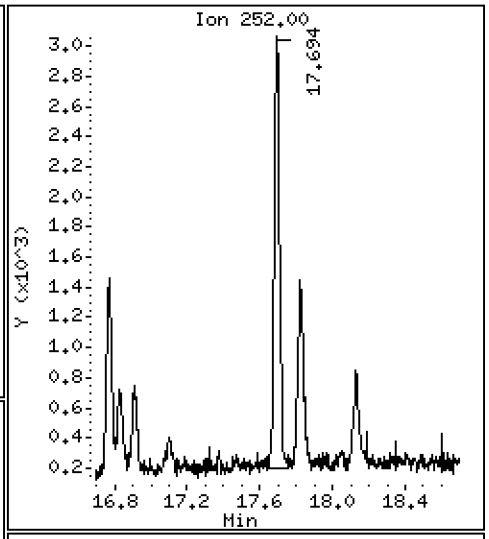
Column phase: Rxi-17sil

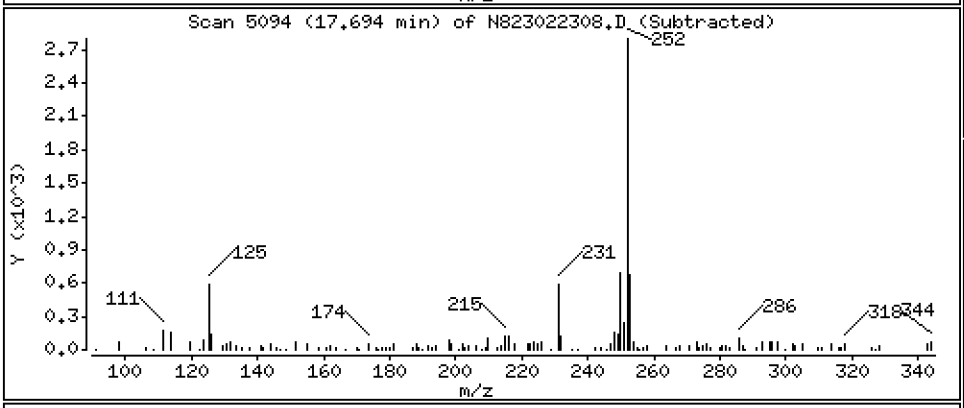
Column diameter: 0.25

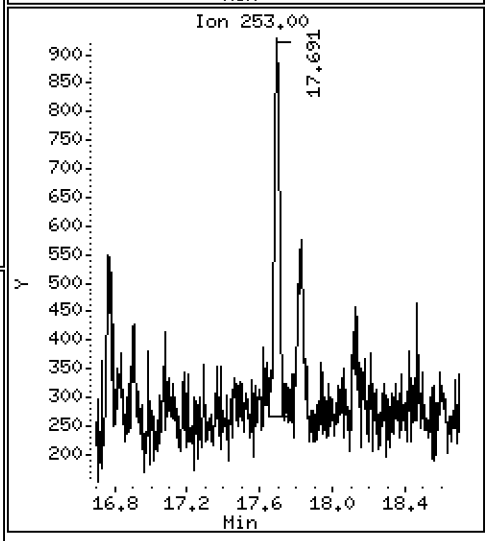
34 Benzo(e)pyrene

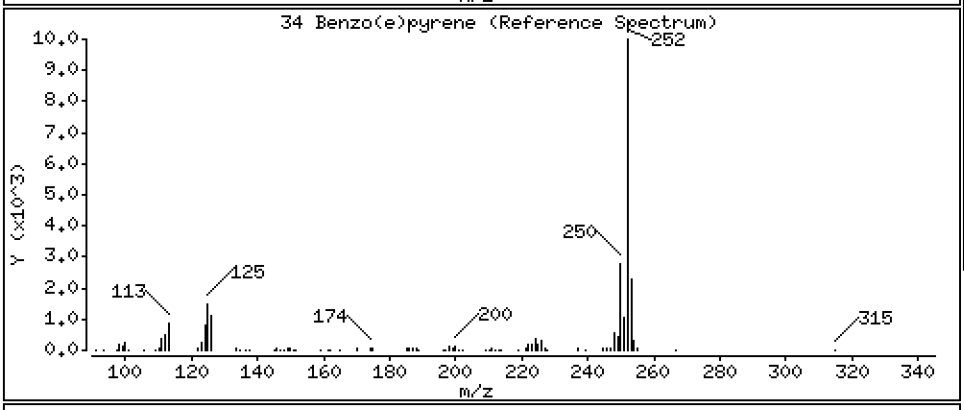
Concentration: 1.141 ug/mL

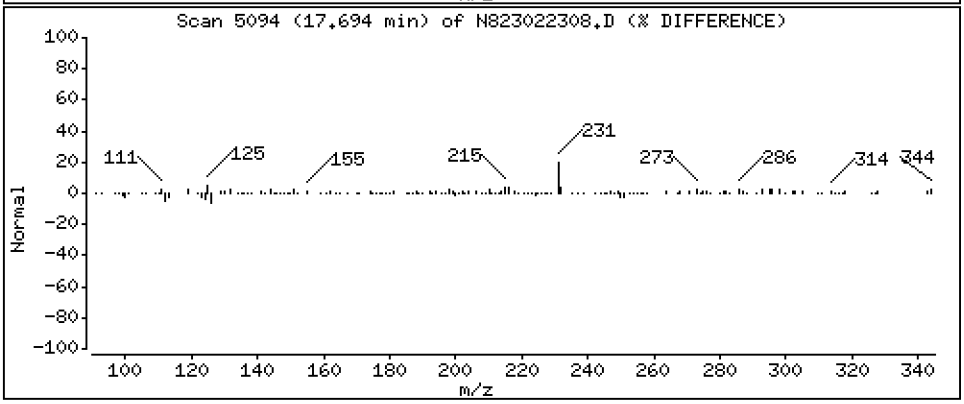












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Date : 23-FEB-2023 14:42

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-02,3

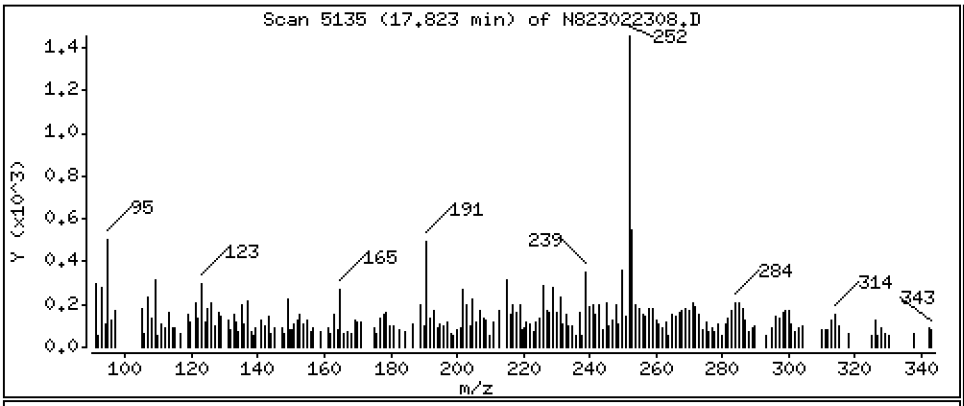
Operator: JZ

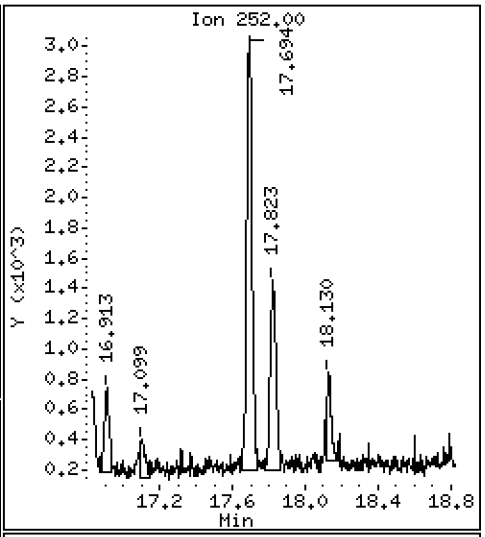
Column phase: Rxi-17sil

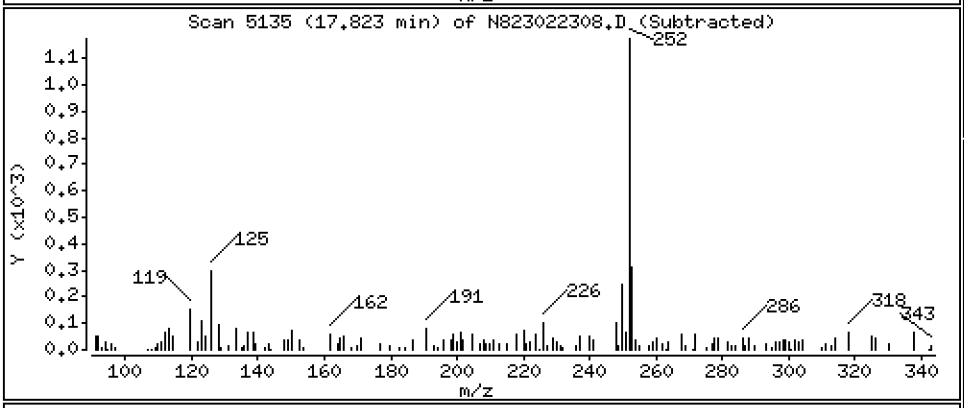
Column diameter: 0.25

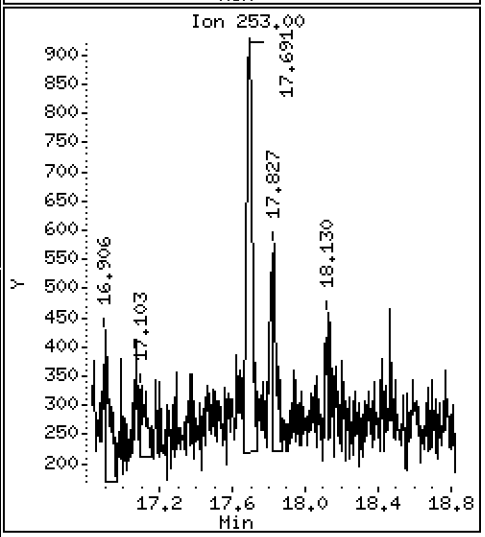
32 Benzo(a)pyrene

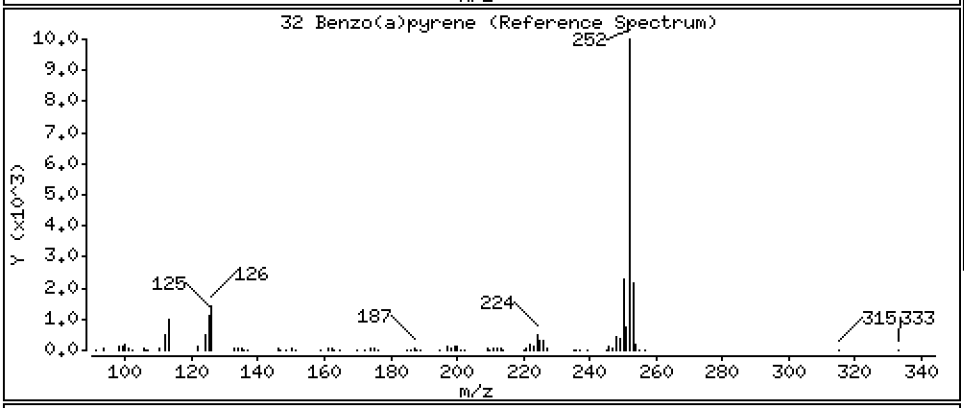
Concentration: 0.5943 ug/mL

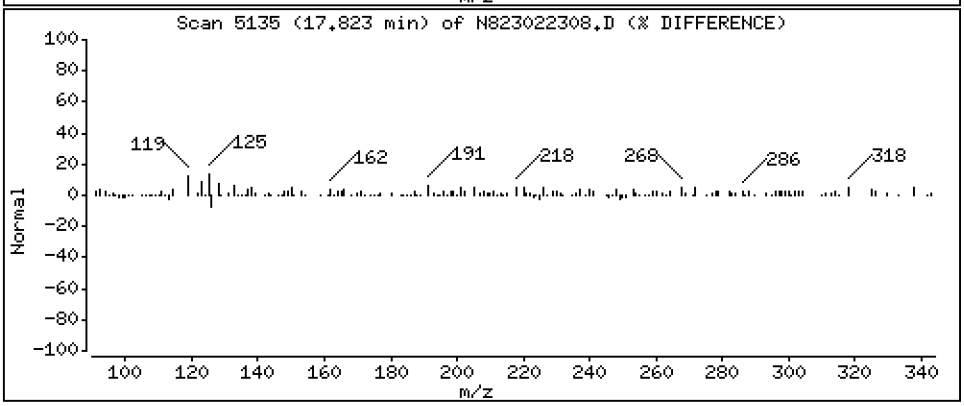












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022308.D

Date : 23-FEB-2023 14:42

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-02,3

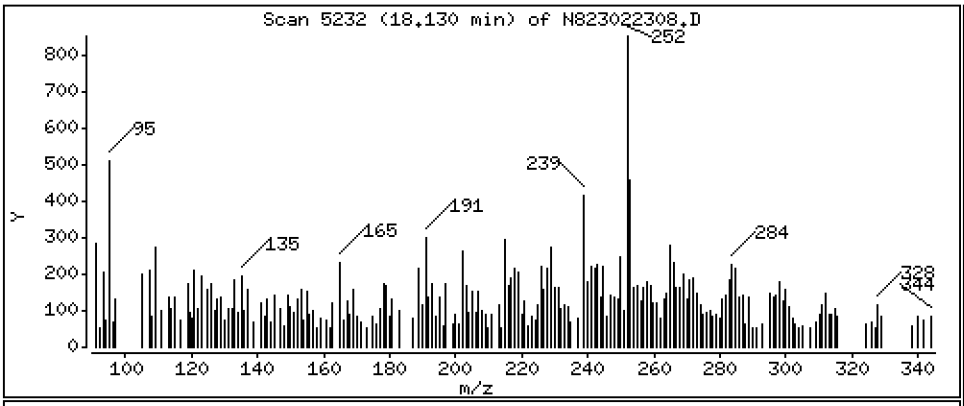
Operator: JZ

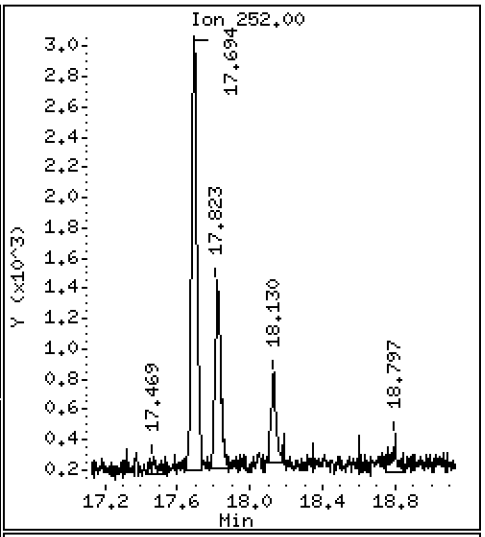
Column phase: Rxi-17sil

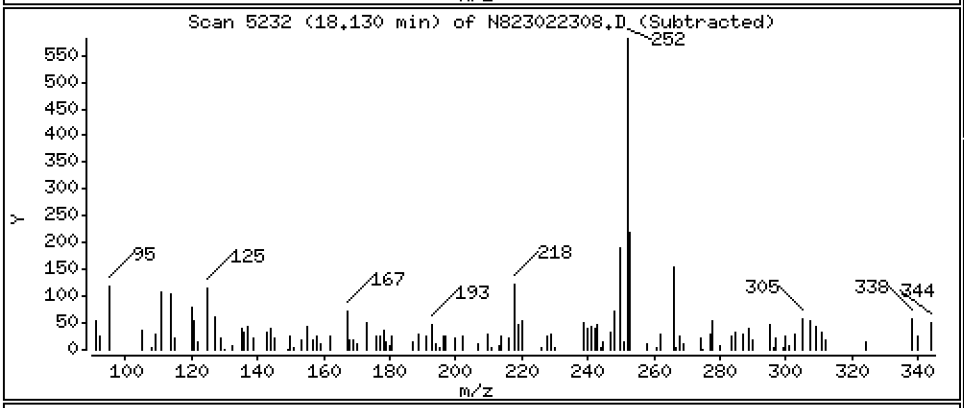
Column diameter: 0.25

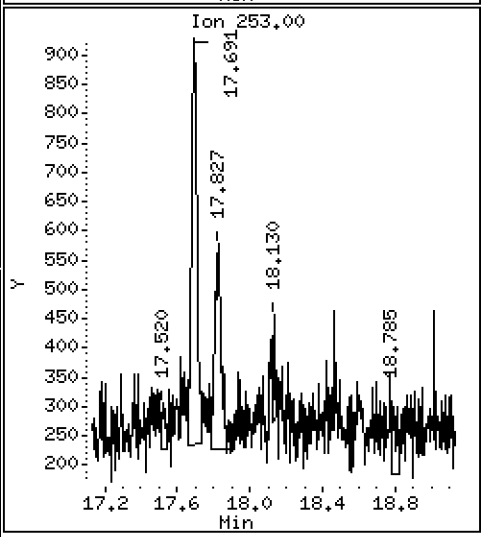
35 Perylene

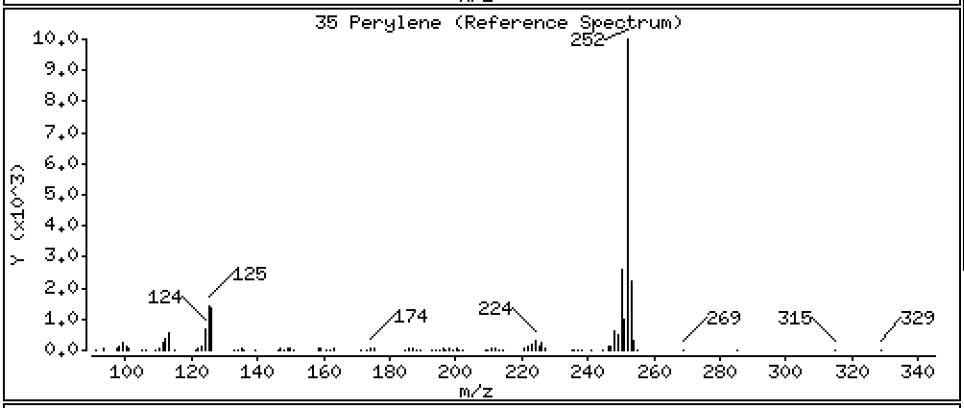
Concentration: 0.2296 ug/mL

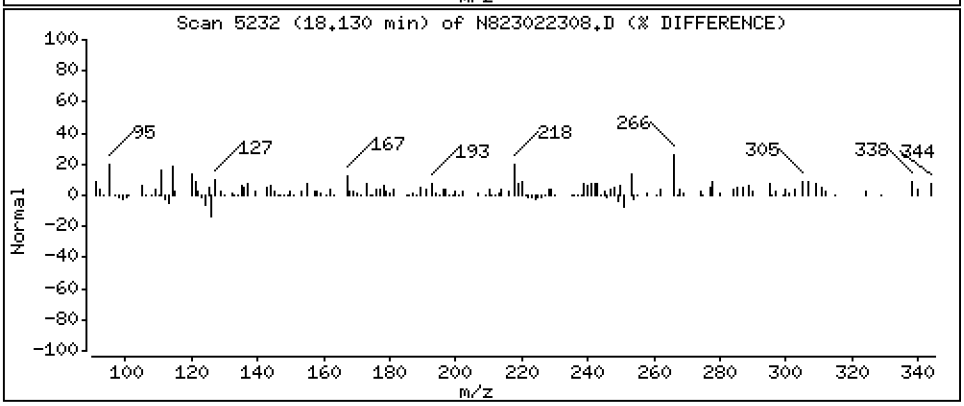












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Date : 23-FEB-2023 14:42

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-02,3

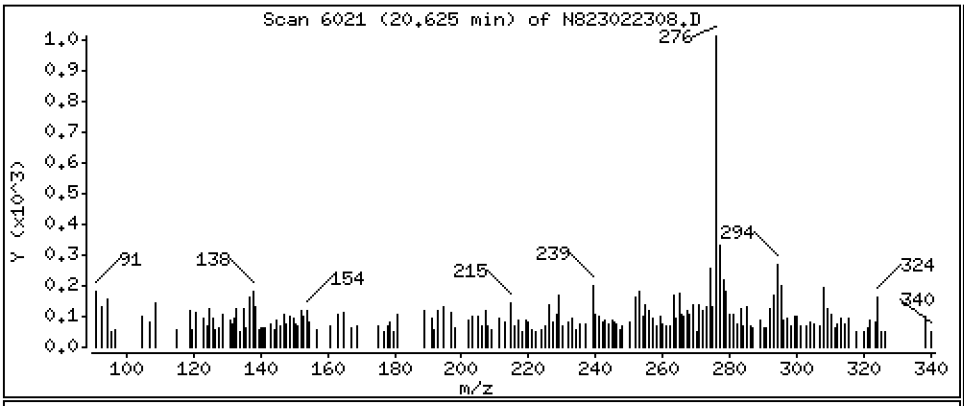
Operator: JZ

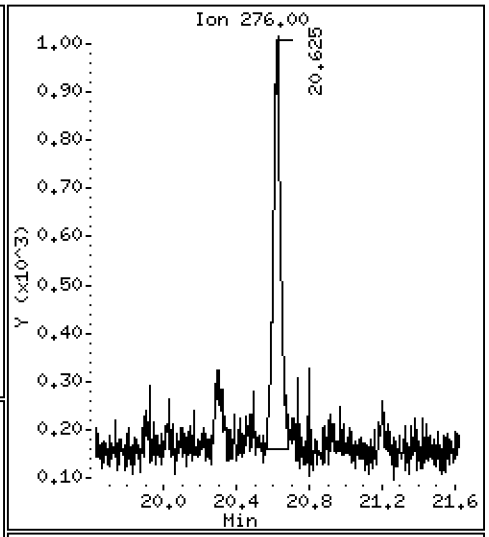
Column phase: Rxi-17sil

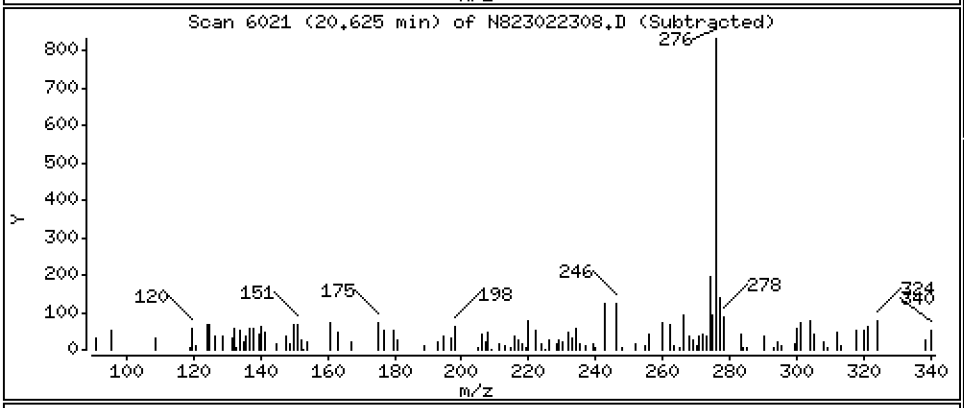
Column diameter: 0.25

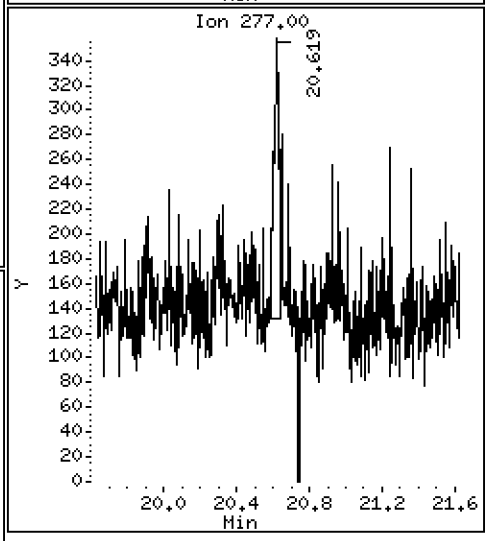
37 Indeno(1,2,3-cd)pyrene

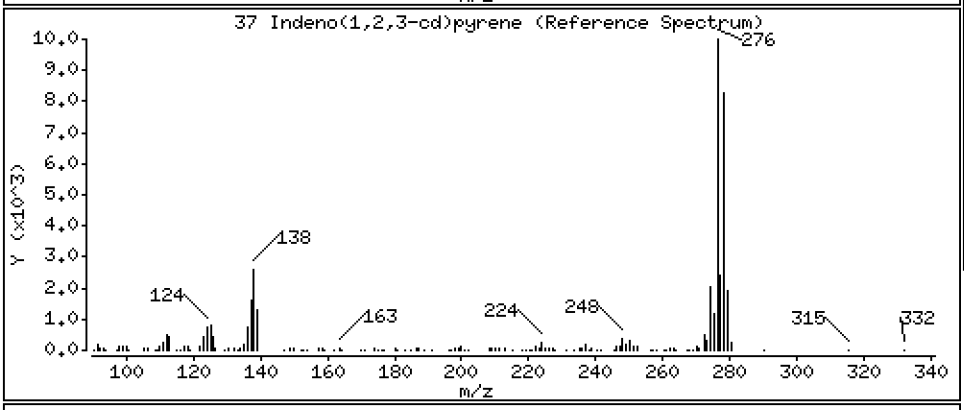
Concentration: 0.4579 ug/mL

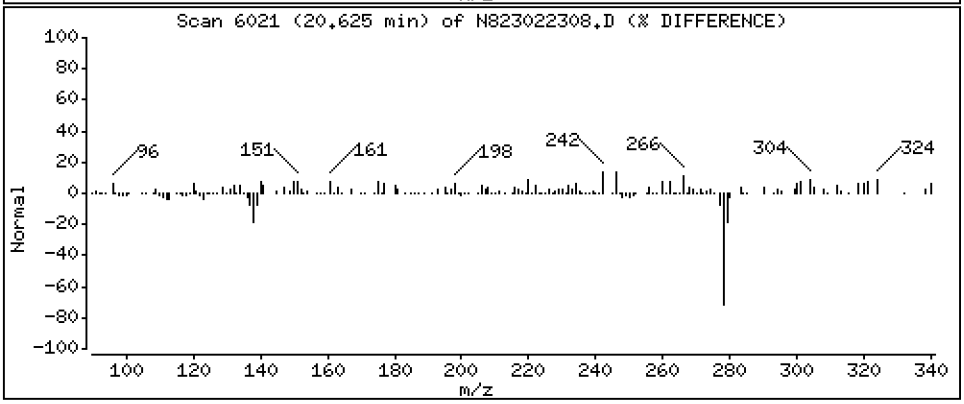












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022308.D

Date : 23-FEB-2023 14:42

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-02,3

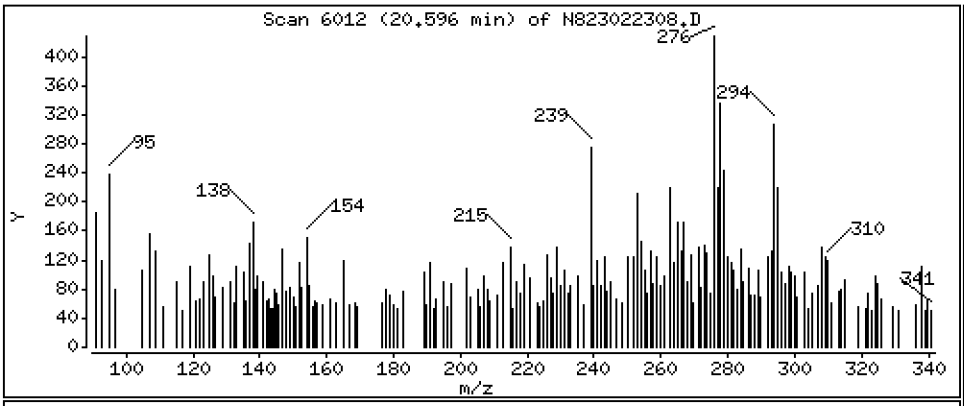
Operator: JZ

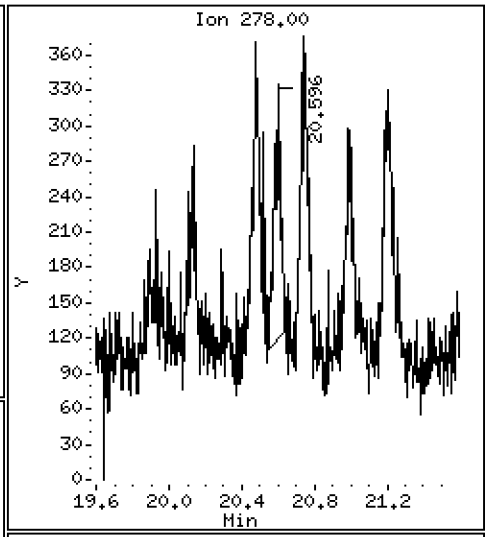
Column phase: Rxi-17sil

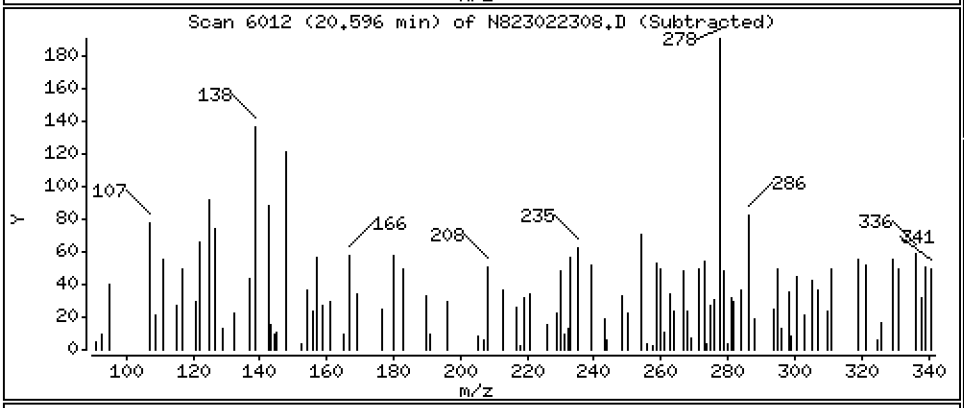
Column diameter: 0.25

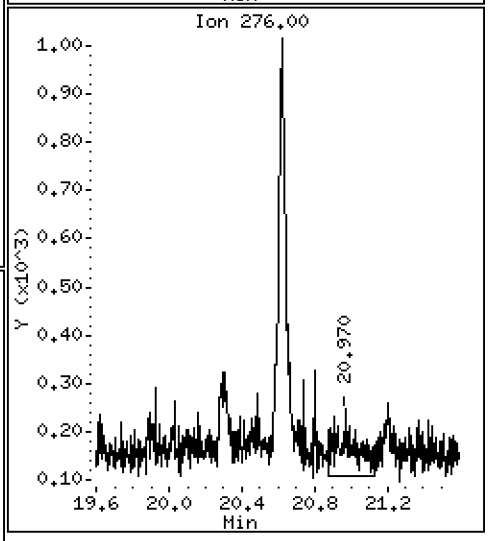
38 Dibenzo(a,h)anthracene

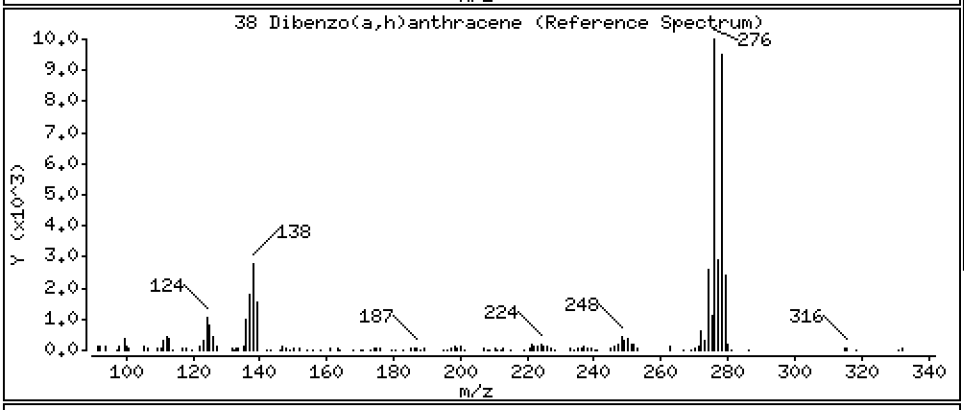
Concentration: 0.1234 ug/mL

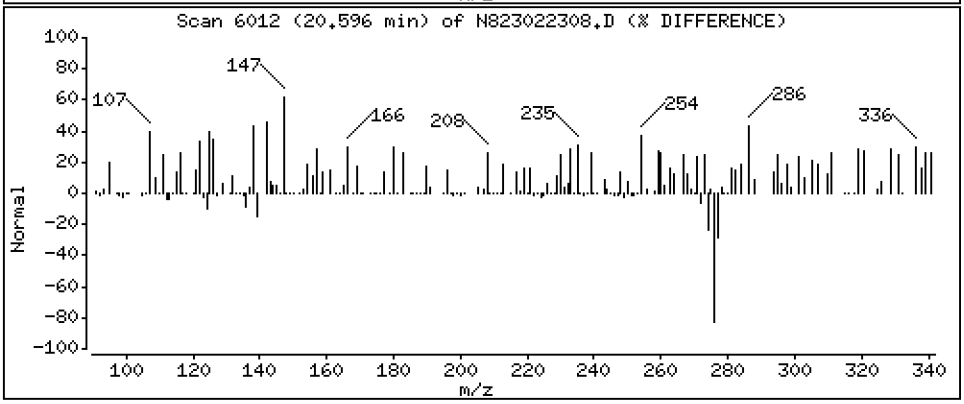












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022308.D

Date : 23-FEB-2023 14:42

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-02,3

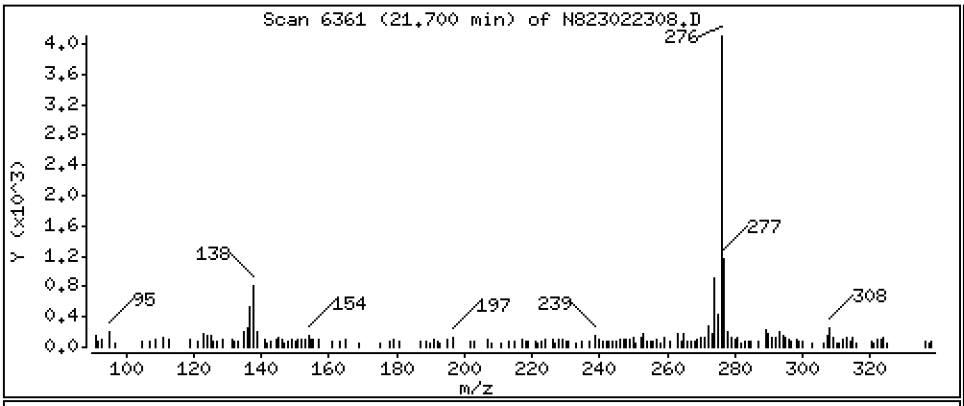
Operator: JZ

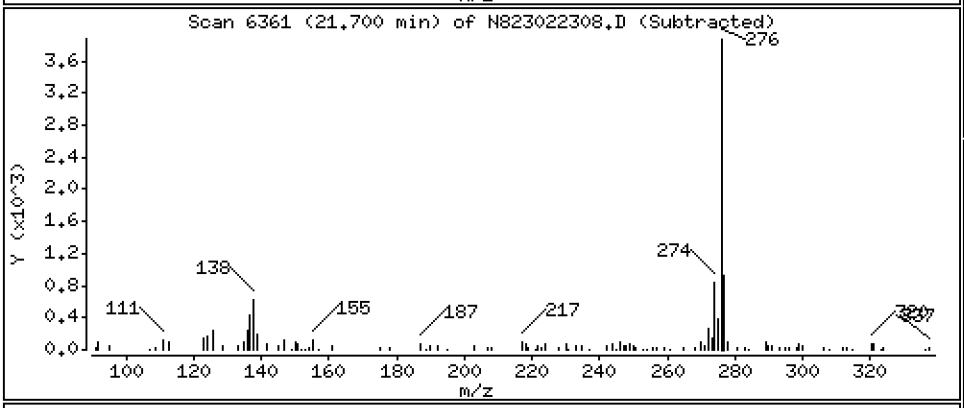
Column phase: Rxi-17sil

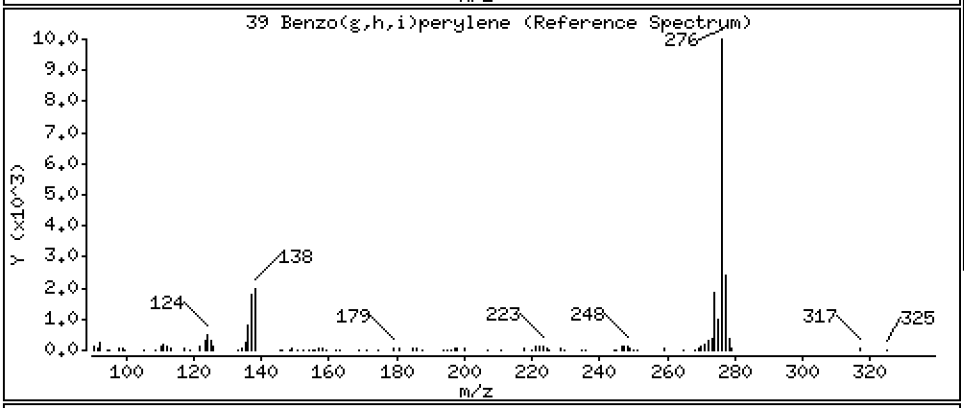
Column diameter: 0.25

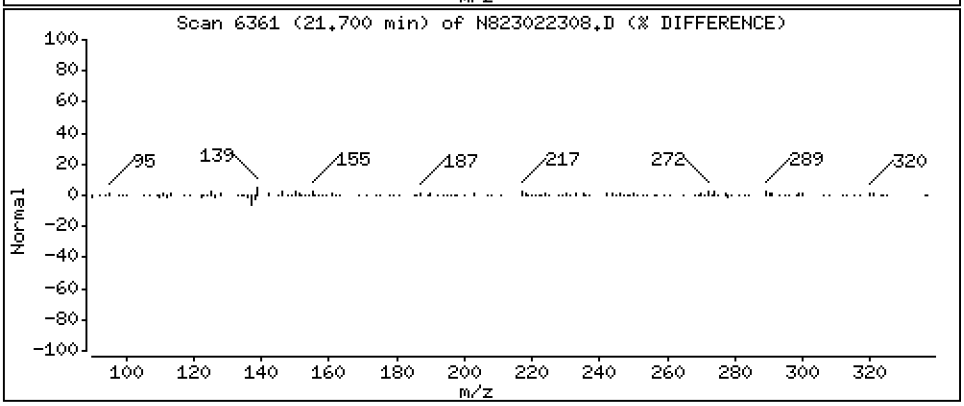
39 Benzo(g,h,i)perylene

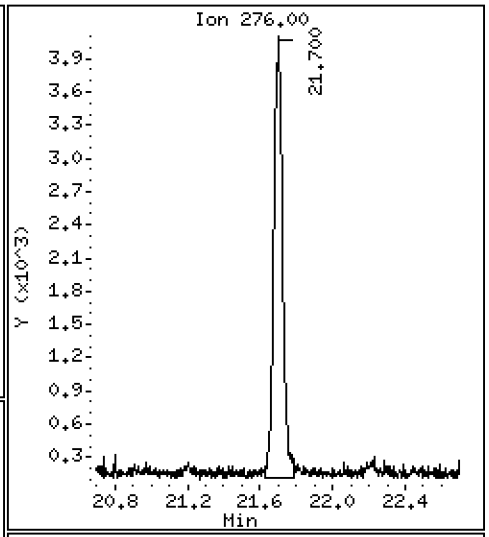
Concentration: 2.856 ug/mL

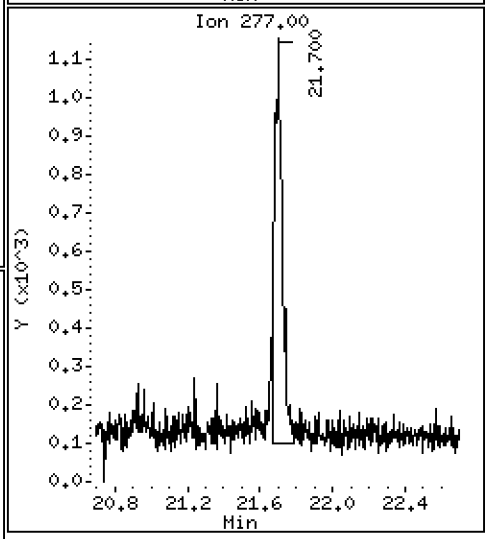












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230223.b\N823022308.D
Lab Smp Id: 23A0418-02
Inj Date : 23-FEB-2023 14:42
Operator : JZ Inst ID: nt8.i
Smp Info : 23A0418-02,3
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Meth Date : 26-Feb-2023 11:43 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 8
Dil Factor: 3.00000
Integrator: HP RTE Compound Sublist: PNAXEMDL.sub
Target Version: 4.14
Processing Host: JIANQING-202105

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.865	4.871	(1.000)	39912	2.00000	
	2 Naphthalene	128	4.897	4.903	(1.006)	558	0.03007	0.09021
$	3 2-Methylnaphthalene-d10	152	5.602	5.605	(1.151)	9939	0.91309	2.739
	4 2-Methylnaphthalene	141	5.649	5.652	(1.161)	185	0.01812	0.05437
	5 1-methylnaphthalene	141	5.849	5.849	(1.202)	121	0.01168	0.03504
	9 Acenaphthylene	152	7.044	7.050	(0.985)	387	0.02064	0.06192
*	10 Acenaphthene-d10	164	7.154	7.158	(1.000)	24830	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	7.834	7.837	(1.095)	145	0.00978	0.02935(M)
*	15 Phenanthrene-d10	188	9.197	9.197	(1.000)	47393	2.00000	
	16 Phenanthrene	178	9.232	9.235	(1.004)	1900	0.08207	0.2462
	17 Anthracene	178	9.273	9.276	(1.008)	654	0.03110	0.09329
	19 Carbazole	167	9.788	9.791	(1.064)	423	0.02194	0.06582
	22 Fluoranthene	202	11.006	11.009	(1.197)	4915	0.19504	0.5851
$	21 Fluoranthene-d10	212	10.968	10.971	(1.193)	17811	0.85181	2.555
	23 Pyrene	202	11.521	11.527	(0.814)	4486	0.26297	0.7889
	24 Benzo(a)anthracene	228	14.019	14.025	(0.991)	1867	0.12075	0.3622
*	25 Chrysene-d12	240	14.149	14.152	(1.000)	27515	2.00000	
	27 Chrysene	228	14.218	14.225	(1.005)	3365	0.20444	0.6133
	28 Benzo(b)fluoranthene	252	16.767	16.770	(0.929)	2673	0.17063	0.5119
	29 Benzo(k)fluoranthene	252	16.824	16.833	(0.932)	1106	0.07208	0.2162
	30 Benzo(j)fluoranthene	252	16.912	16.912	(0.937)	1092	0.07905	0.2372
	31 Total Benzofluoranthenes	252	16.767	16.770	(0.929)	4952	0.33378	1.001(M)
	34 Benzo(e)pyrene	252	17.693	17.696	(0.980)	5939	0.38018	1.141(M)
	32 Benzo(a)pyrene	252	17.823	17.826	(0.987)	2731	0.19811	0.5943
*	33 Perylene-d12	264	18.051	18.057	(1.000)	26898	2.00000	
	35 Perylene	252	18.130	18.130	(1.004)	1132	0.07652	0.2296
$	36 Dibenzo(a,h)anthracene-d14	292	20.482	20.485	(1.135)	12078	1.14601	3.438
	37 Indeno(1,2,3-cd)pyrene	276	20.624	20.624	(1.143)	2397	0.15263	0.4579(M)
	38 Dibenzo(a,h)anthracene	278	20.596	20.596	(1.141)	556	0.04114	0.1234(M)
	39 Benzo(g,h,i)perylene	276	21.700	21.696	(1.202)	13547	0.95206	2.856

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823022308.D
Lab Smp Id: 23A0418-02
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 23-FEB-2023
Calibration Time: 11:46
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	37022	18511	74044	39912	7.81
10 Acenaphthene-d10	22454	11227	44908	24830	10.58
15 Phenanthrene-d10	43277	21639	86554	47393	9.51
25 Chrysene-d12	38907	19454	77814	27515	-29.28
33 Perylene-d12	39582	19791	79164	26898	-32.04

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.87	4.37	5.37	4.87	-0.13
10 Acenaphthene-d10	7.16	6.66	7.66	7.15	-0.04
15 Phenanthrene-d10	9.20	8.70	9.70	9.20	0.00
25 Chrysene-d12	14.15	13.65	14.65	14.15	-0.02
33 Perylene-d12	18.06	17.56	18.56	18.05	-0.03

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

REVIEW SUMMARY FOR FILE - N823022308.D

Lab ID: 23A0418-02
nt8.i, 20230223.b\FSIMPNA230119.m,   23-FEB-2023 14:42

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

No RRT check performed

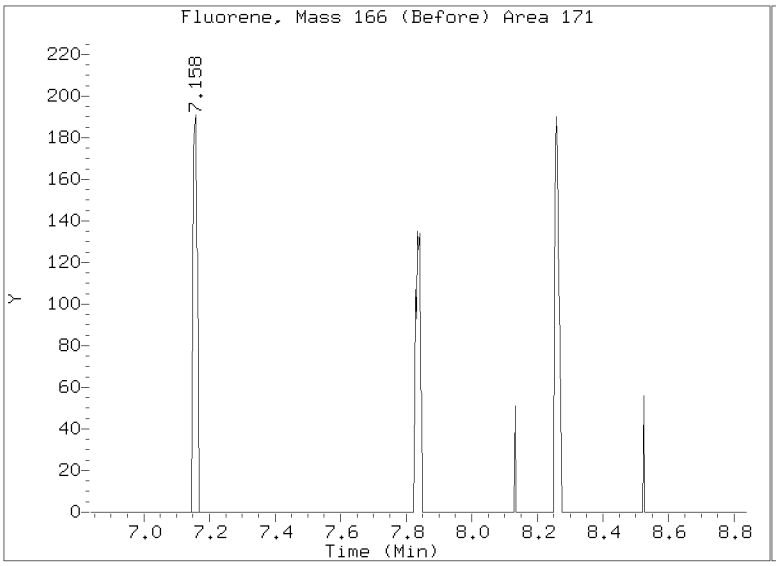
On Column LOD for nt8.i, 20230223.b\FSIMPNA230119.m, PNAXEMDL.sub = 0.0080

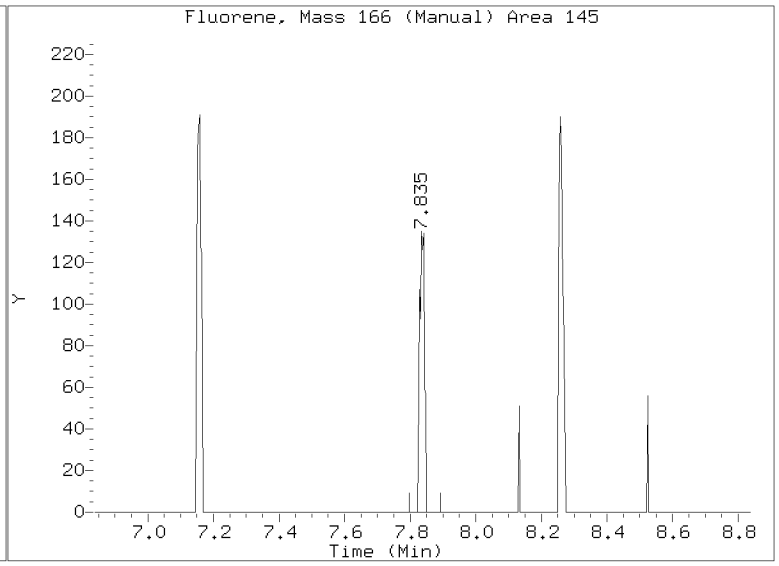
Exception: Benzo(e)pyrene 0.0800

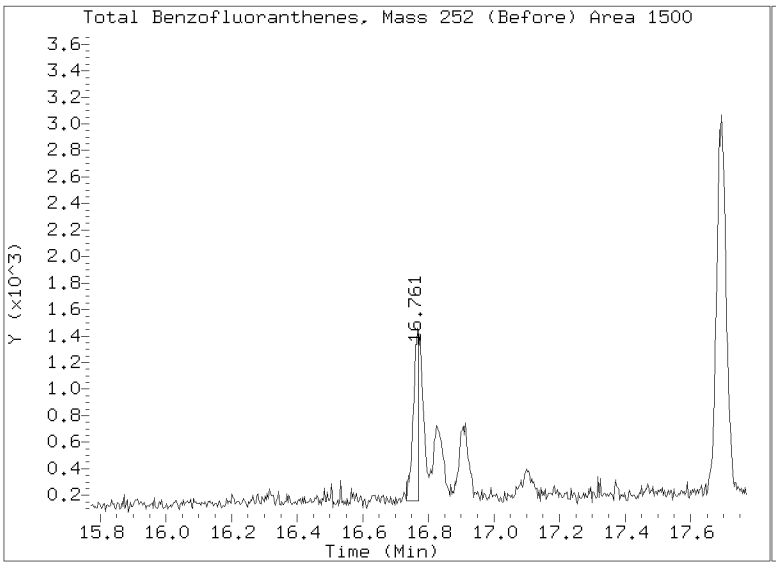
* Only compounds listed in the work order have been verified by the analyst *

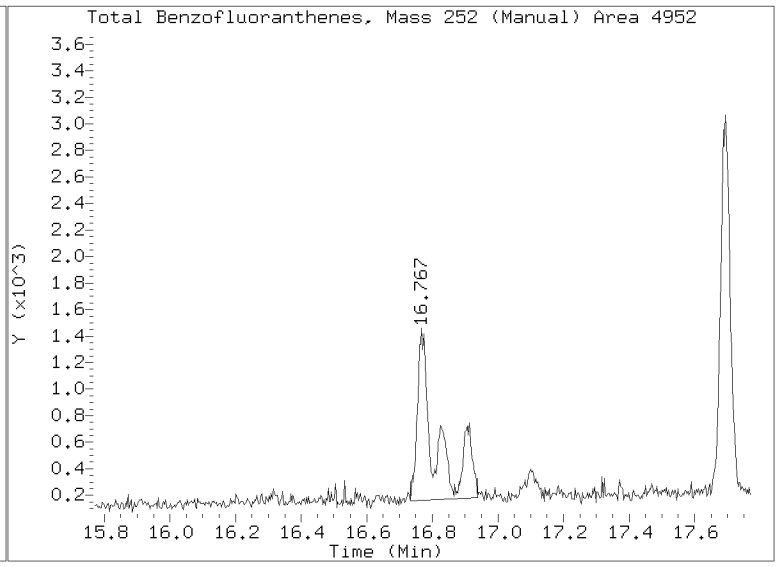
Quant Ion Manual Peak Adjustment Report

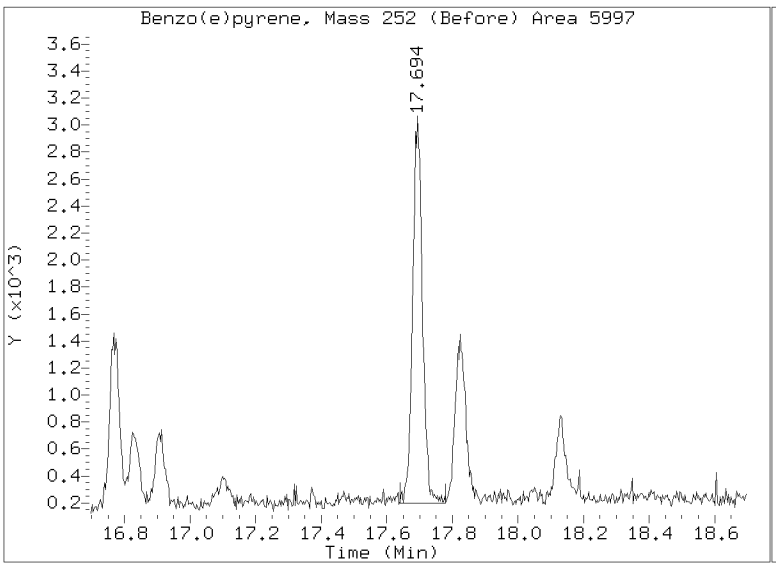
Datafile: //target/share/chem3/nt8.i/20230223.b/N823022308.D
Injection Date: 23-FEB-2023 14:42
Lab ID:23A0418-02 Client ID:
Report Date: 02/26/2023 12:32

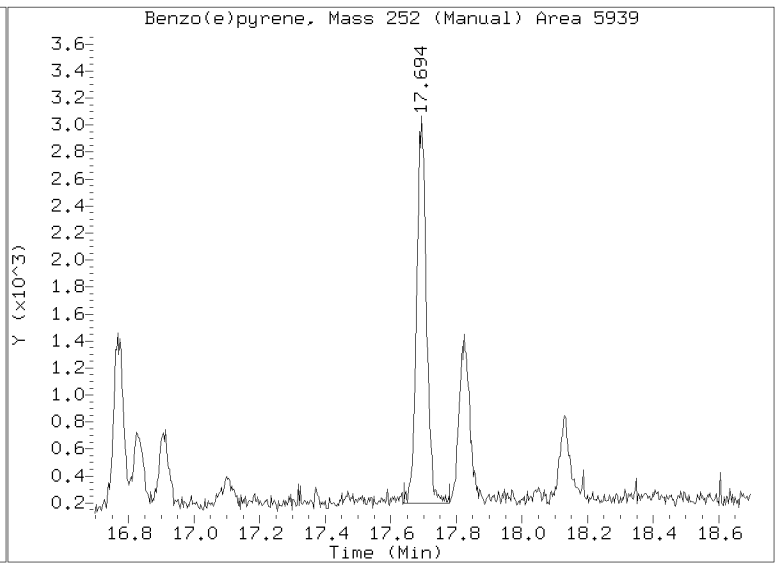






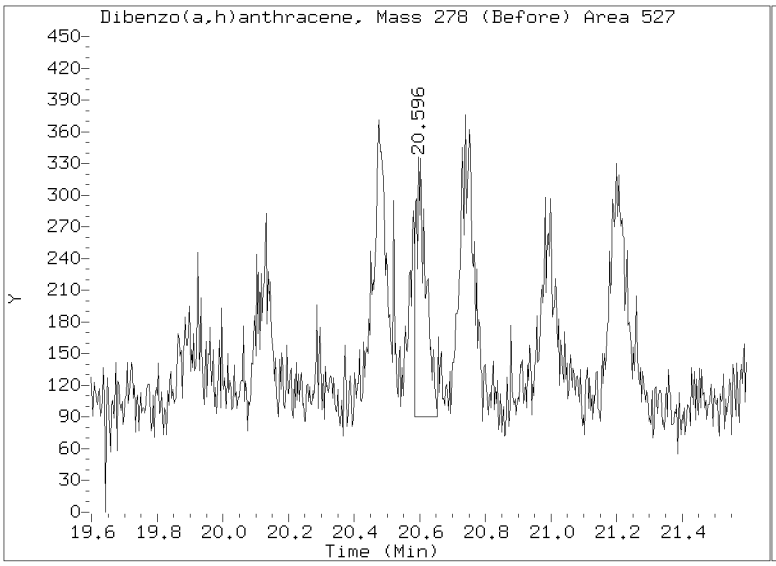


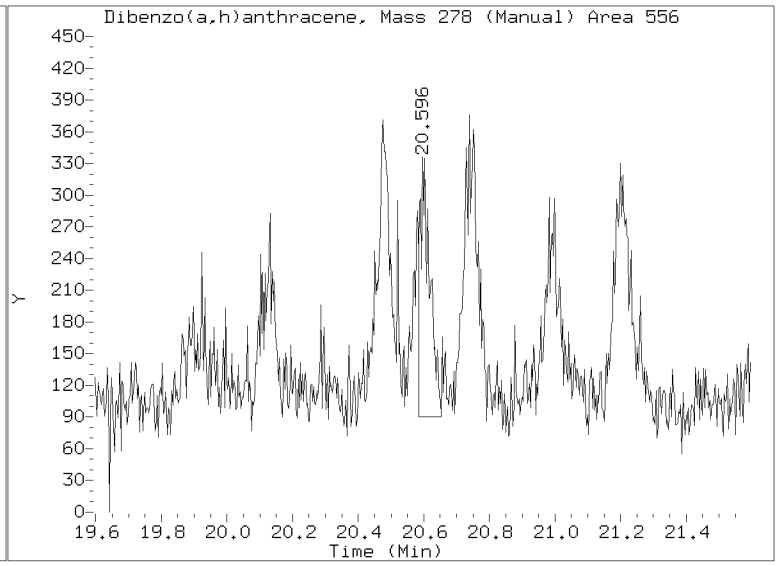


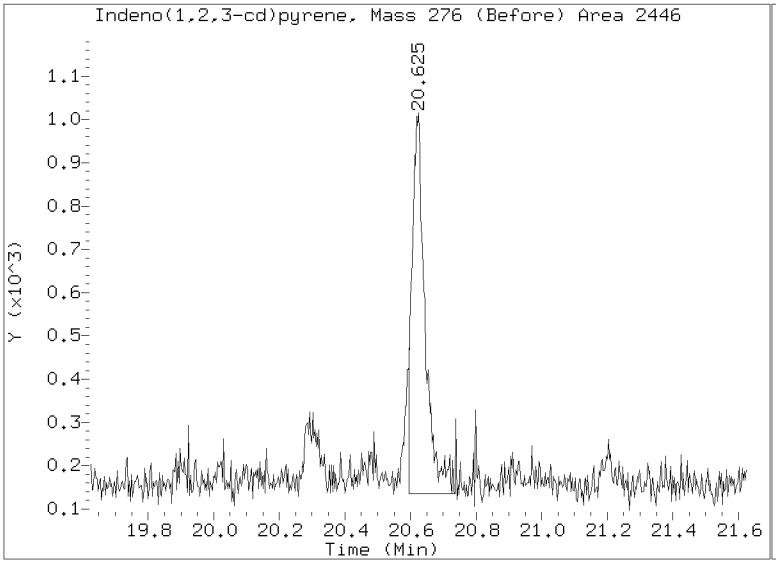


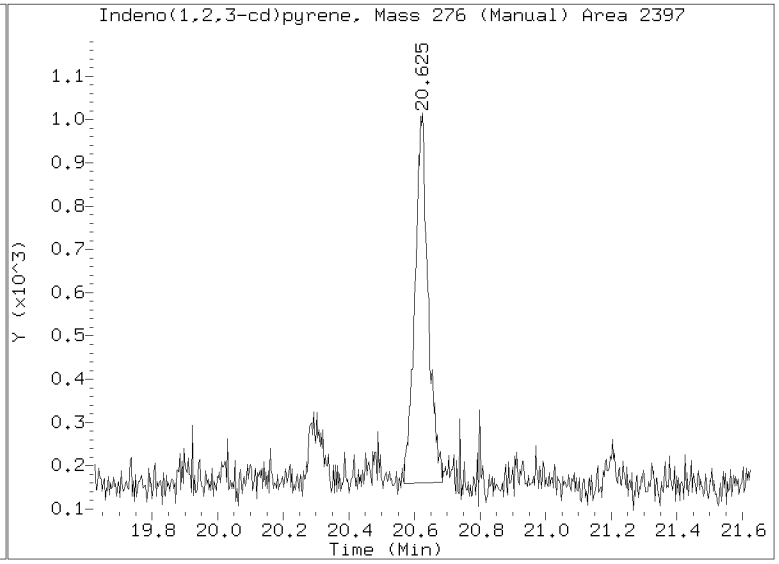
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20230223.b/N823022308.D
Injection Date: 23-FEB-2023 14:42
Lab ID:23A0418-02 Client ID:
Report Date: 02/26/2023 12:32









Analytical Resources, LLC
Analytical Chemists and Consultants

LDW23-IT1141

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270E-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-04 A	SDG:	23A0418
Sampled:	01/18/23 11:03	Prepared:	02/16/23 14:32	File ID:	N823022309.D
% Solids:	58.59	Preparation:	EPA 3546 (Microwave)	Analyzed:	02/23/23 15:09
Batch:	BLB0386	Sequence:	SLB0310	Initial/Final:	17.89 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	GA00050
Cleanups:	GPC, Silica Gel				

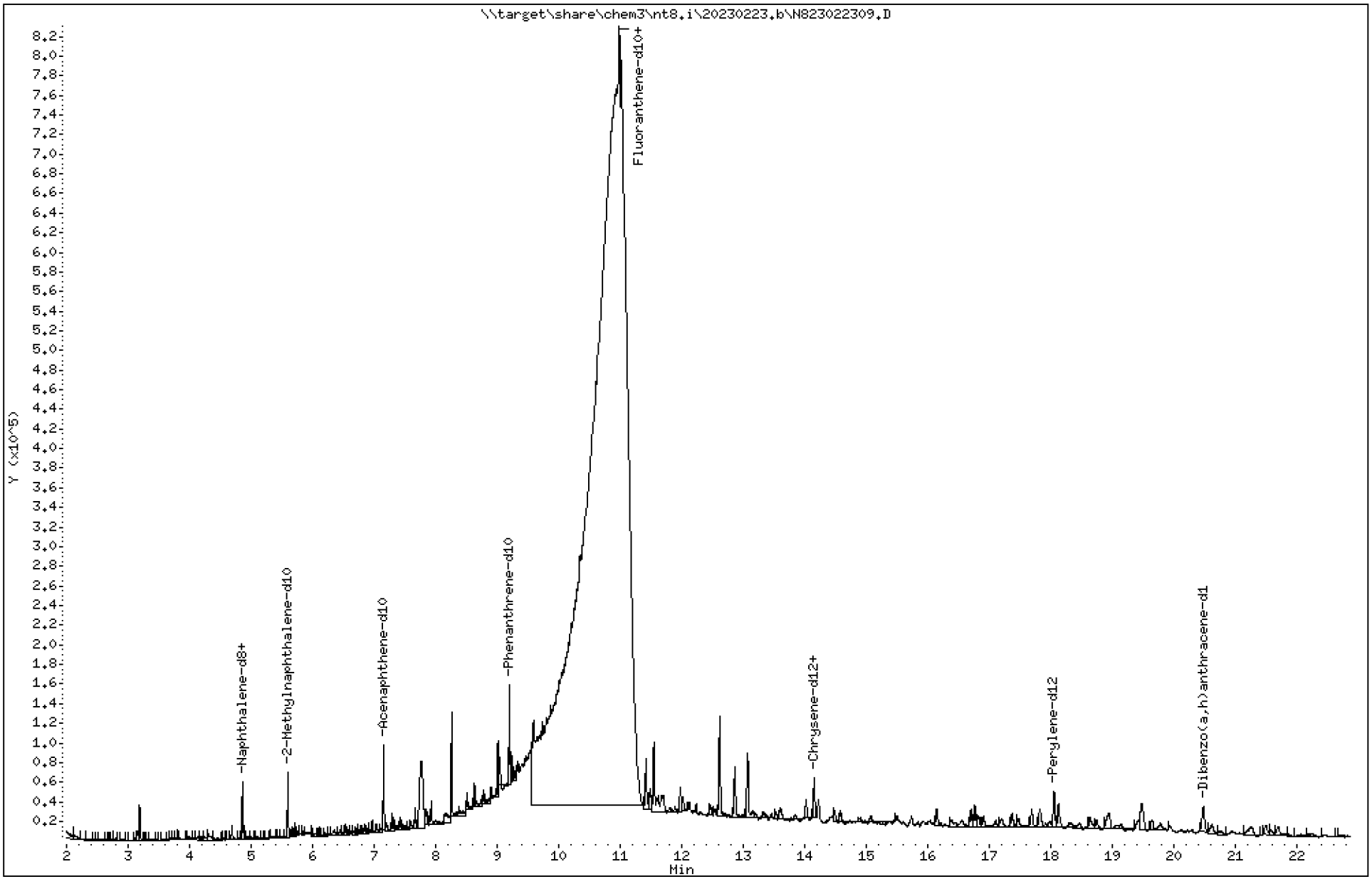
CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	38.7		0.79	4.77
218-01-9	Chrysene	1	52.0		1.00	4.77
205-99-2	Benzo(b)fluoranthene	1	47.0		1.31	4.77
207-08-9	Benzo(k)fluoranthene	1	24.5		0.73	4.77
50-32-8	Benzo(a)pyrene	1	42.1		0.59	4.77
193-39-5	Indeno(1,2,3-cd)pyrene	1	27.7		1.00	4.77
53-70-3	Dibenzo(a,h)anthracene	1	6.91		0.85	4.77

SURROGATES	ADDED: (ug/kg dry)	FOUND: (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	143.11	92.8	64.8	32 - 120	
Dibenzo[a,h]anthracene-d14	143.11	117	82.1	21 - 133	
Fluoranthene-d10	143.11	110	77.1	36 - 134	

Data File: \\target\share\chem3\nt8.i\20230223.b\N823022309.D
Date : 23-FEB-2023 15:09
Client ID:
Sample Info: 23A0418-04

Instrument: nt8.i
Operator: JZ
Column diameter: 0.25

Column phase: Rxi-17sil



Data File: \\target\share\chem3\nt8.i\20230223.b\N823022309.D

Date : 23-FEB-2023 15:09

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-04

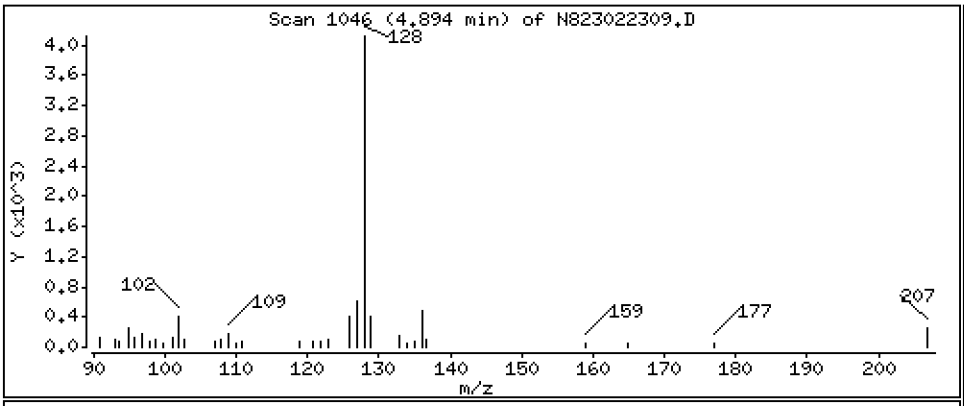
Operator: JZ

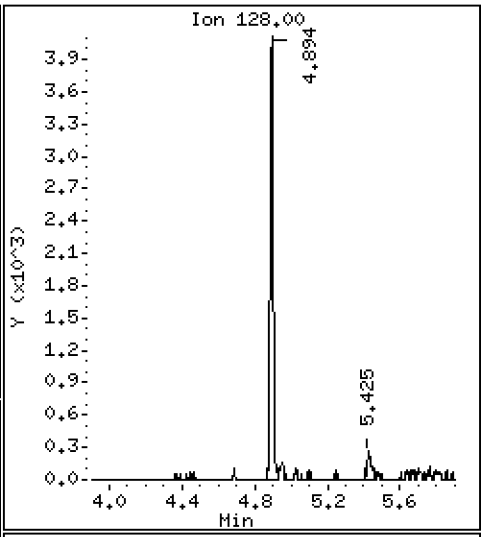
Column phase: Rxi-17sil

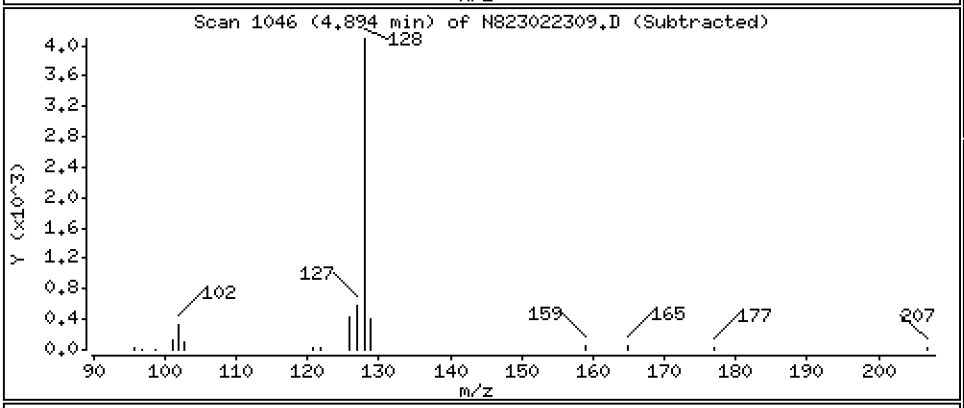
Column diameter: 0.25

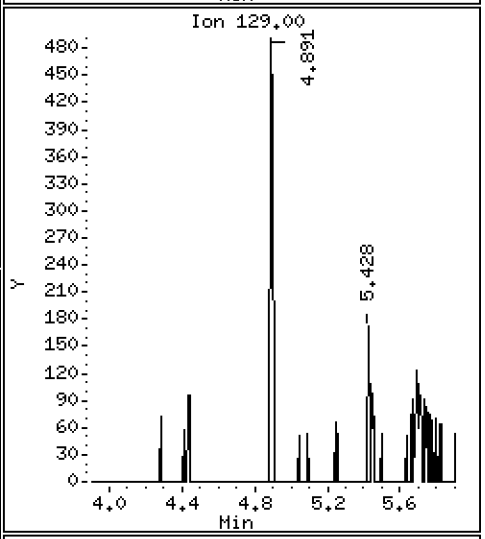
2 Naphthalene

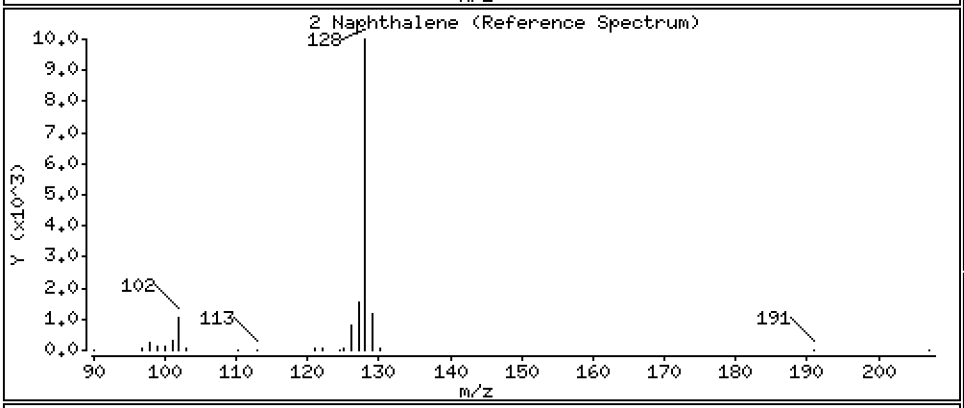
Concentration: 0.2347 ug/mL

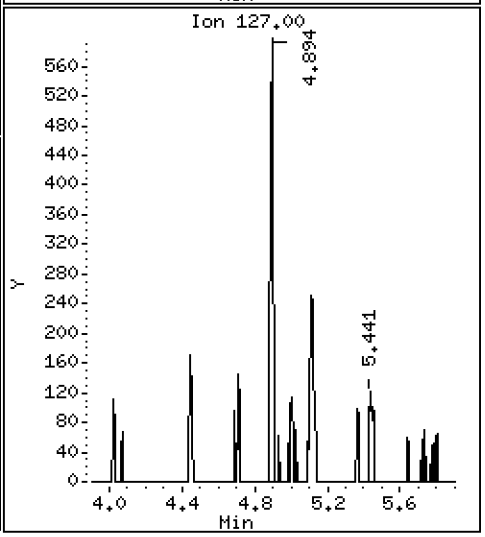


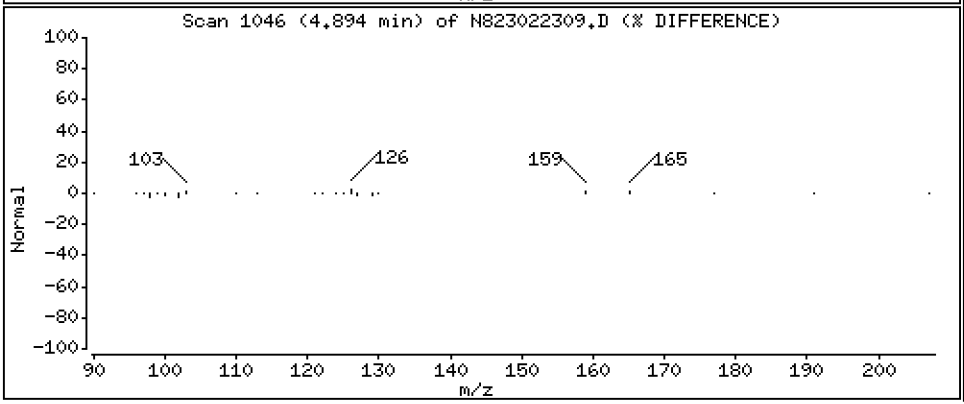












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022309.D

Date : 23-FEB-2023 15:09

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-04

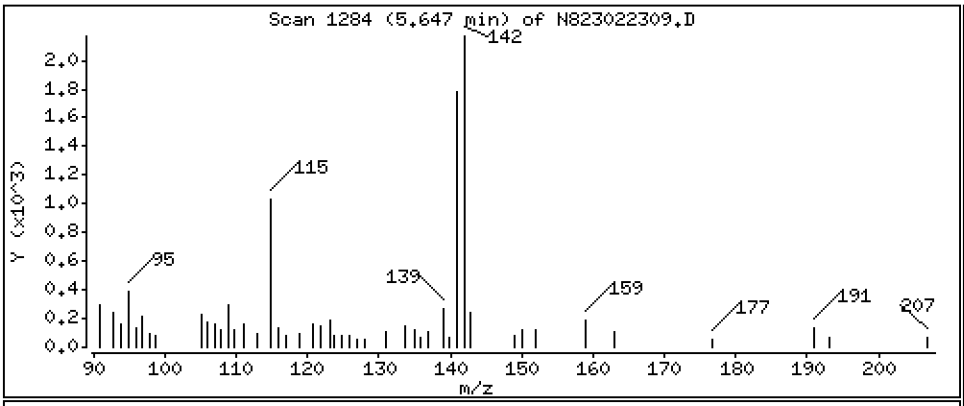
Operator: JZ

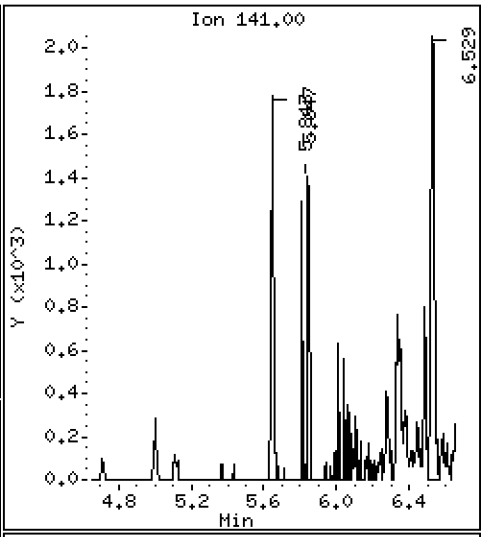
Column phase: Rxi-17sil

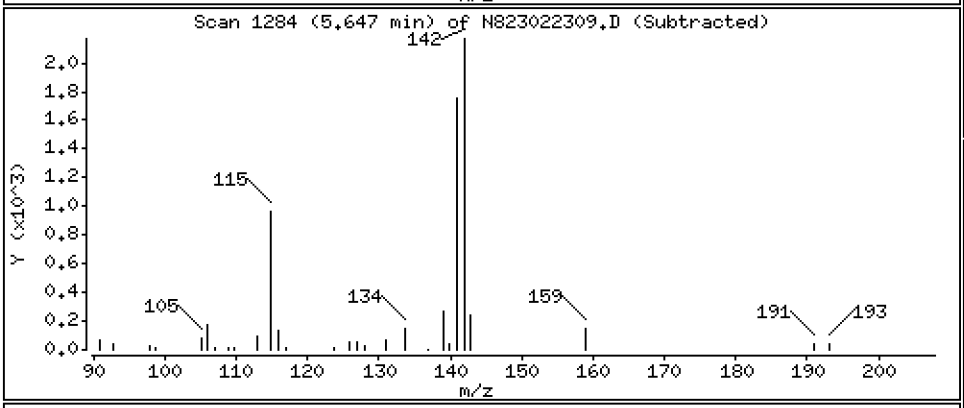
Column diameter: 0.25

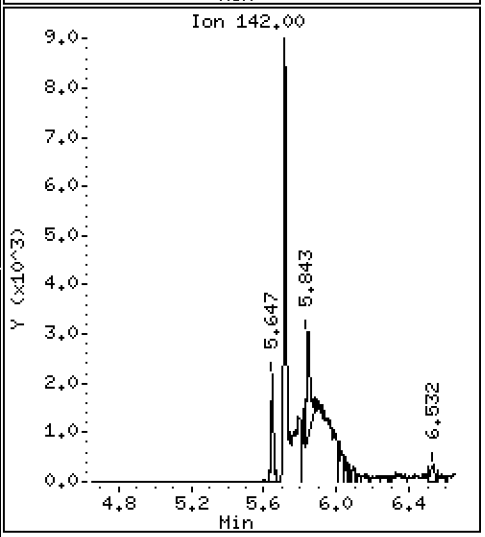
4 2-Methylnaphthalene

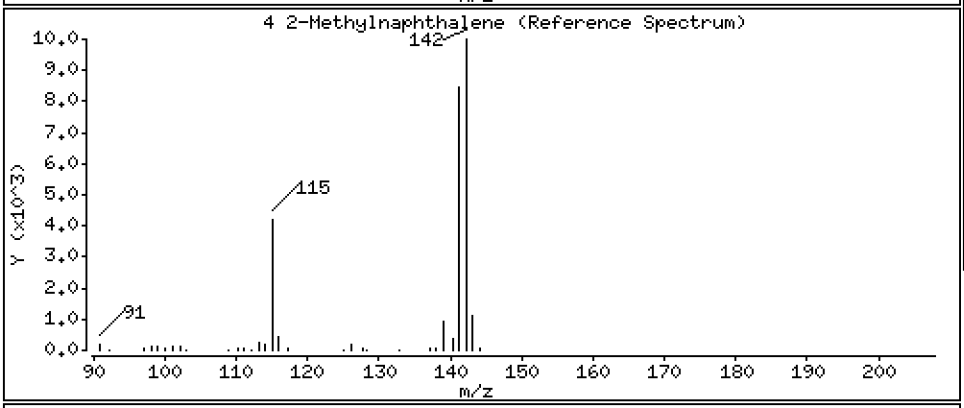
Concentration: 0.1759 ug/mL

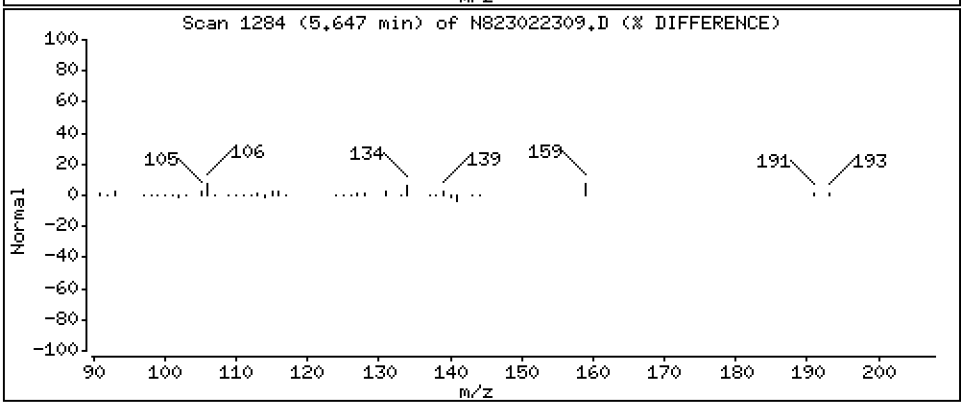












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Date : 23-FEB-2023 15:09

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-04

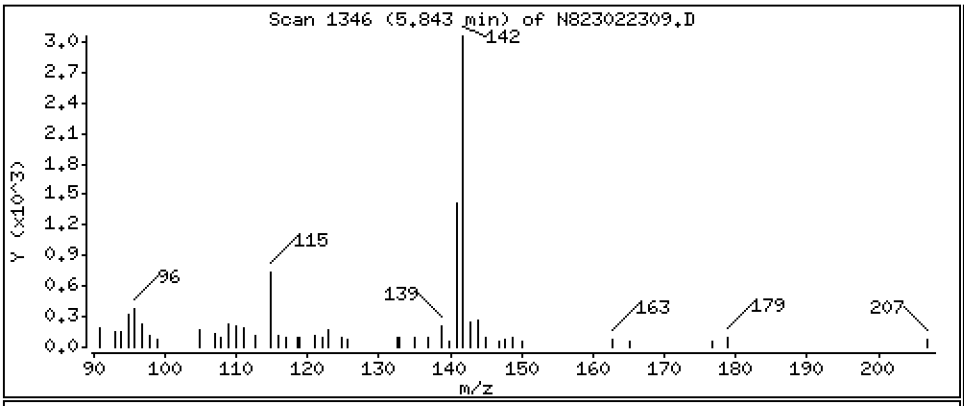
Operator: JZ

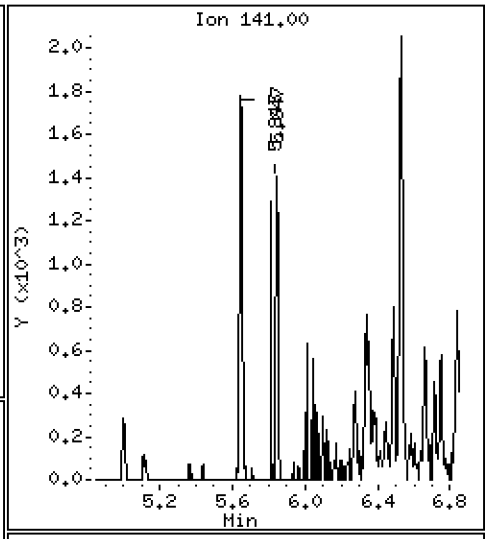
Column phase: Rxi-17sil

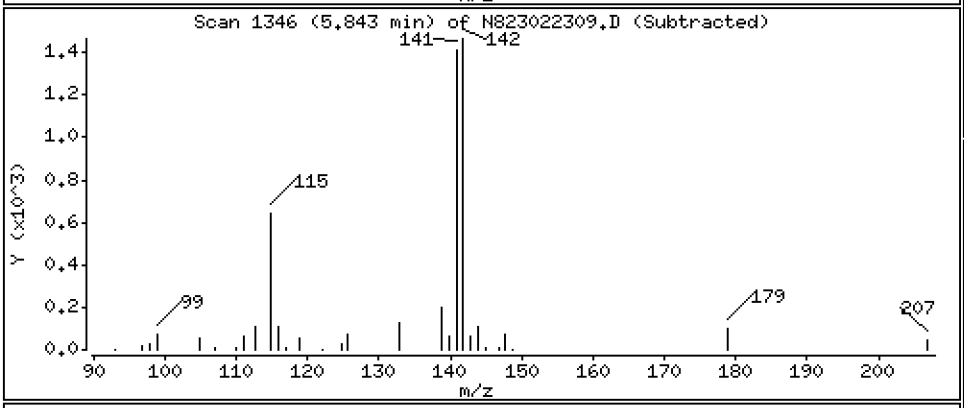
Column diameter: 0.25

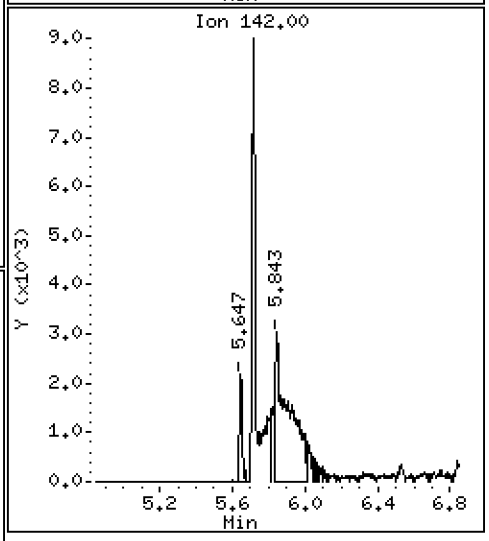
5 1-methylnaphthalene

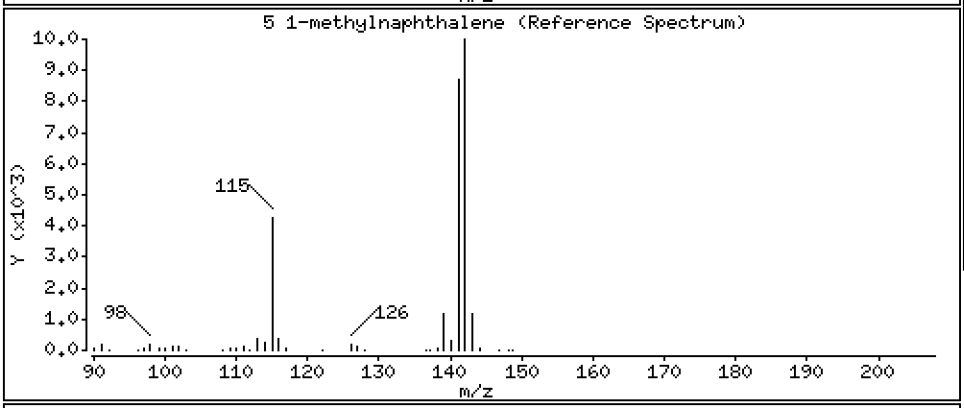
Concentration: 0.1262 ug/mL

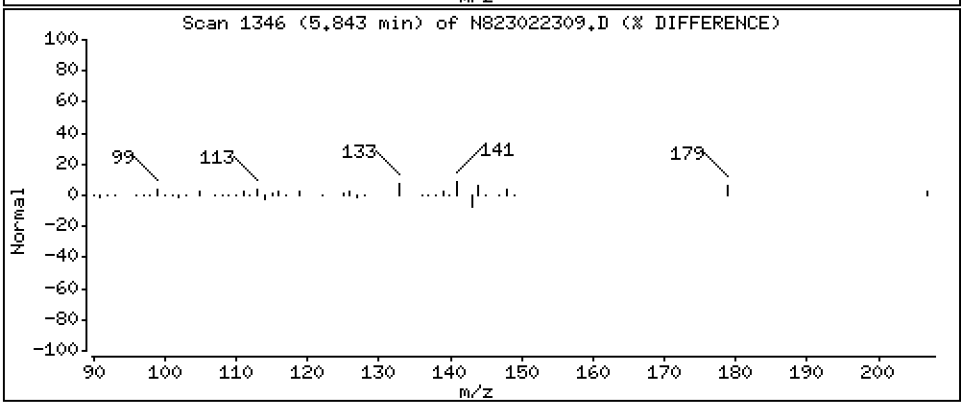












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Date : 23-FEB-2023 15:09

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-04

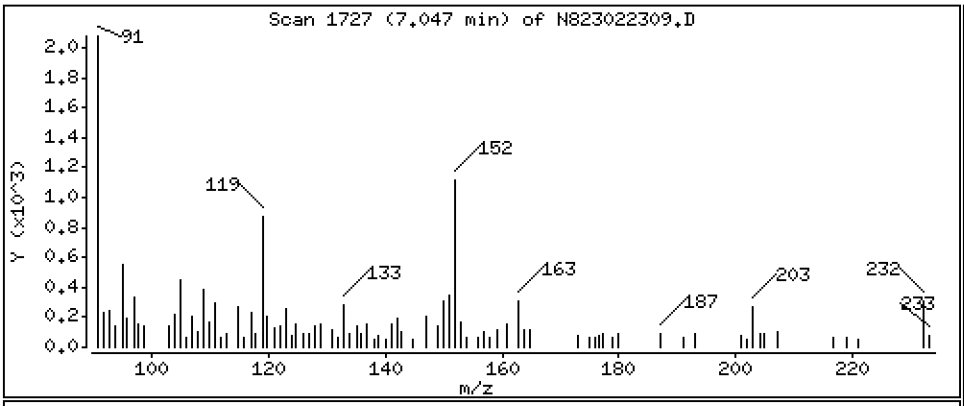
Operator: JZ

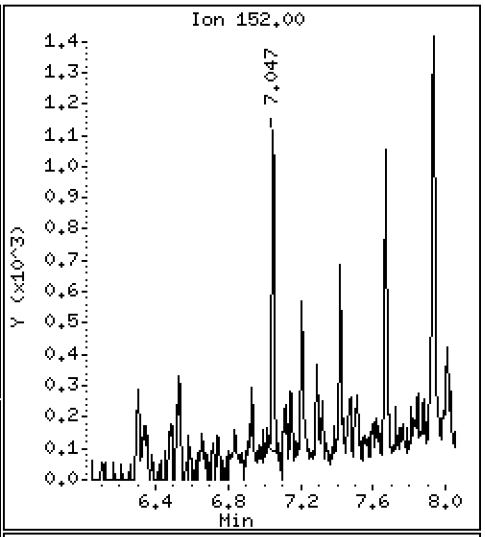
Column phase: Rxi-17sil

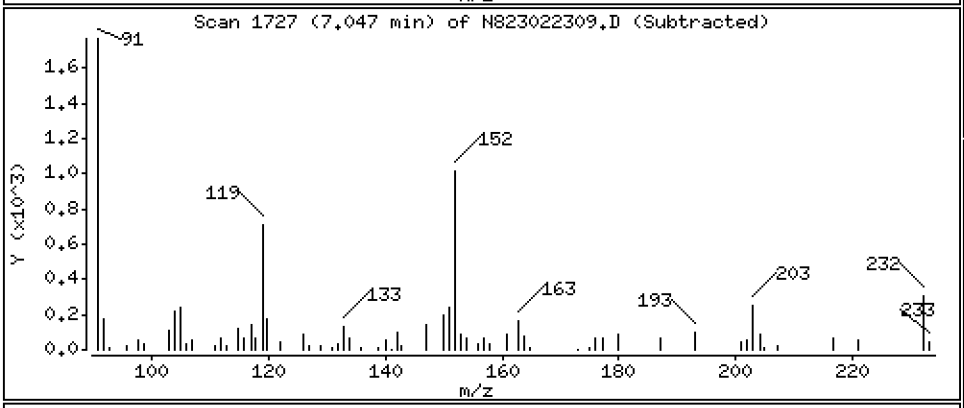
Column diameter: 0.25

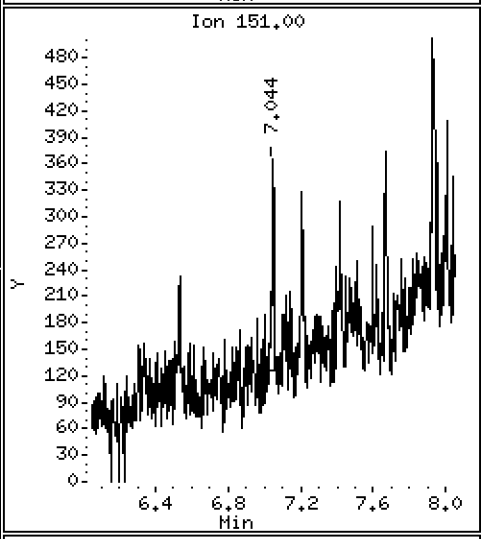
9 Acenaphthylene

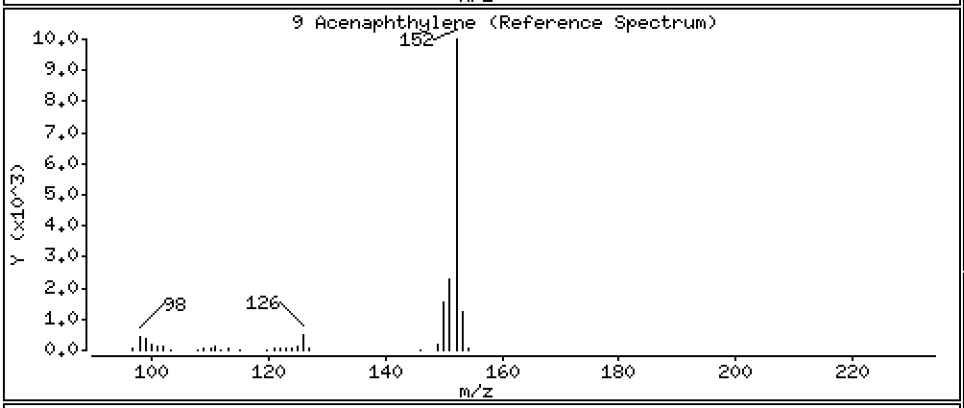
Concentration: 0.05314 ug/mL

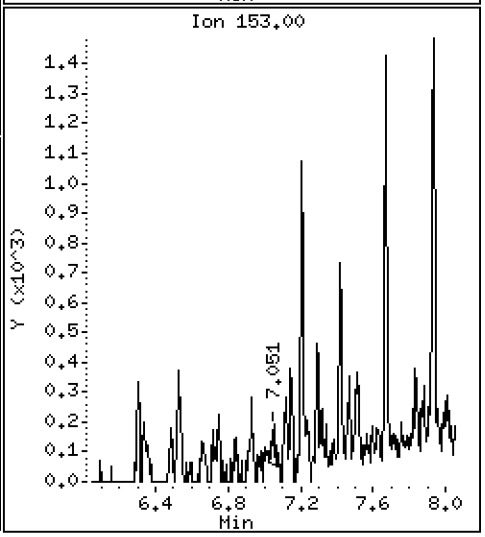


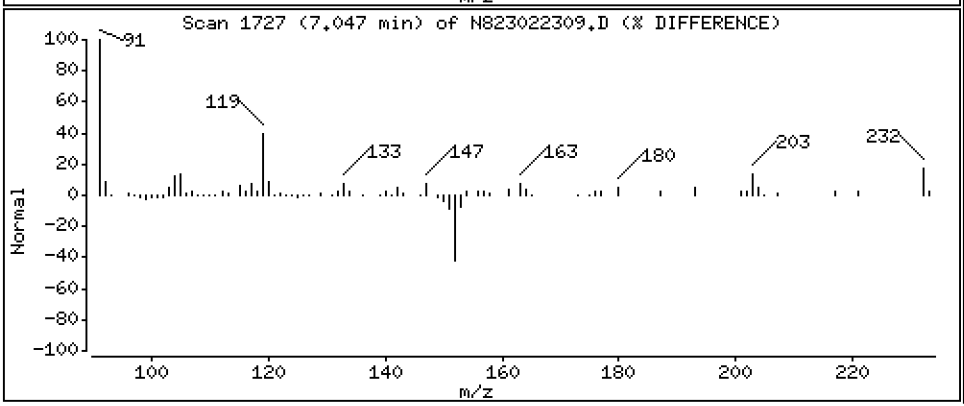












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Date : 23-FEB-2023 15:09

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-04

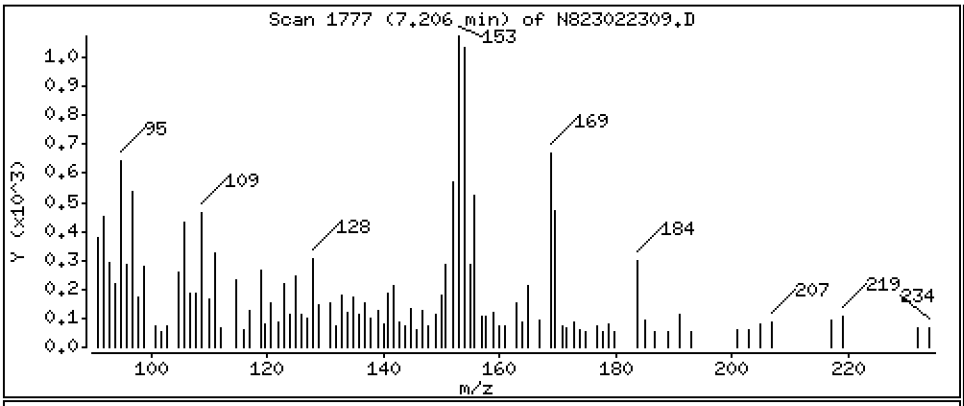
Operator: JZ

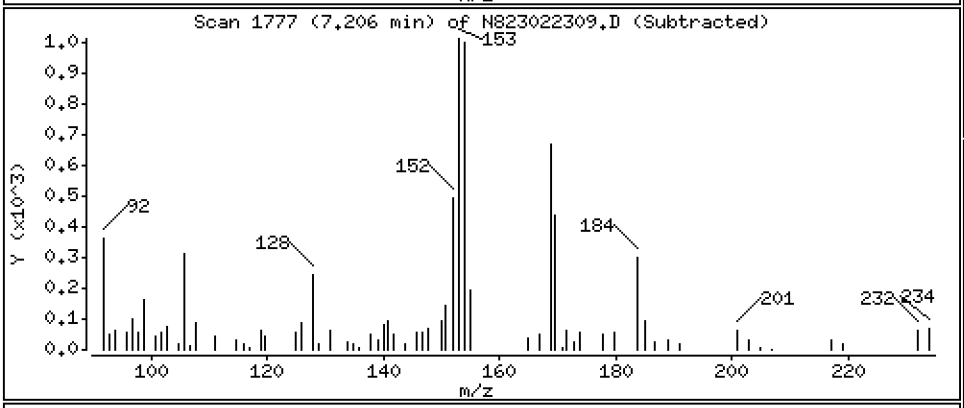
Column phase: Rxi-17sil

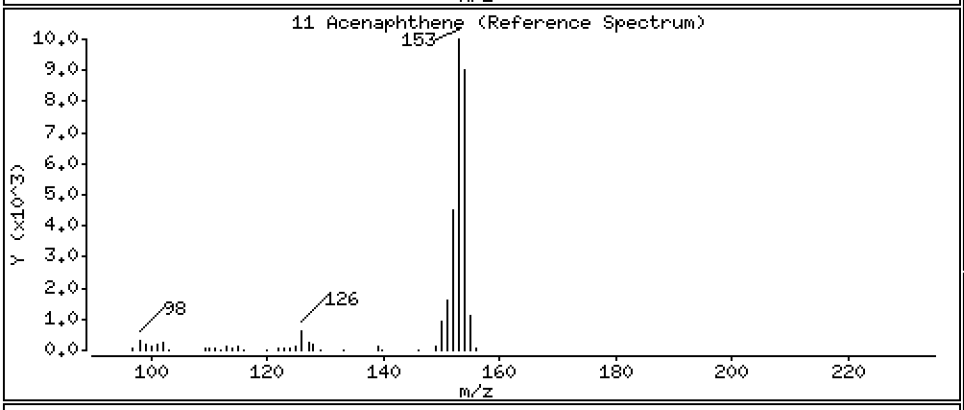
Column diameter: 0.25

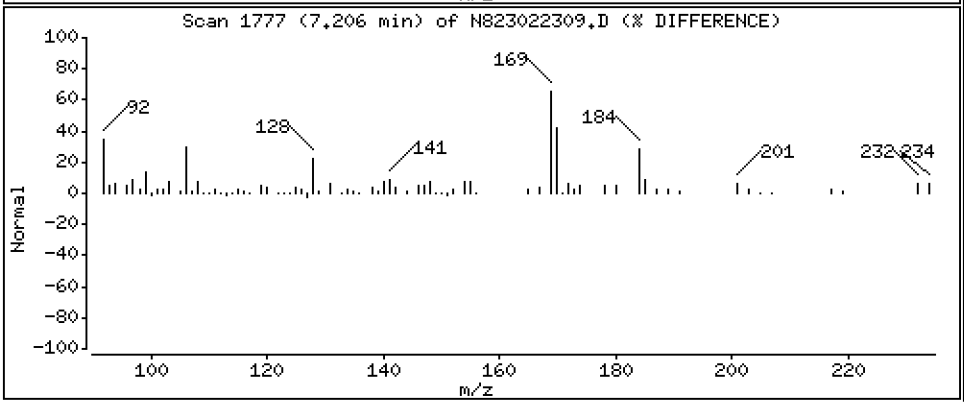
11 Acenaphthene

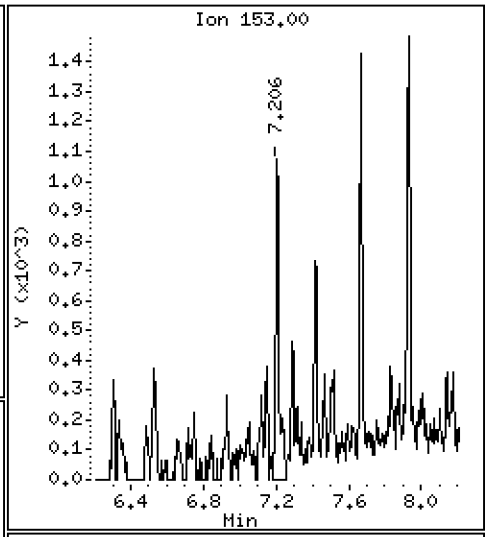
Concentration: 0.1161 ug/mL

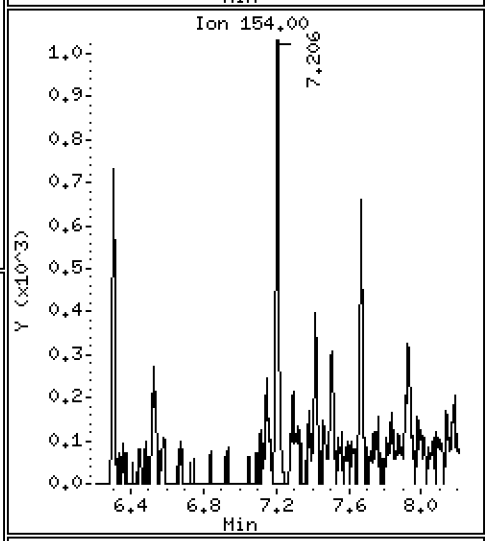


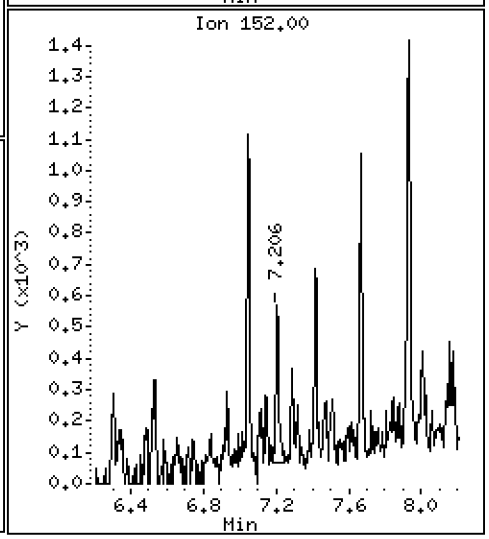












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Date : 23-FEB-2023 15:09

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-04

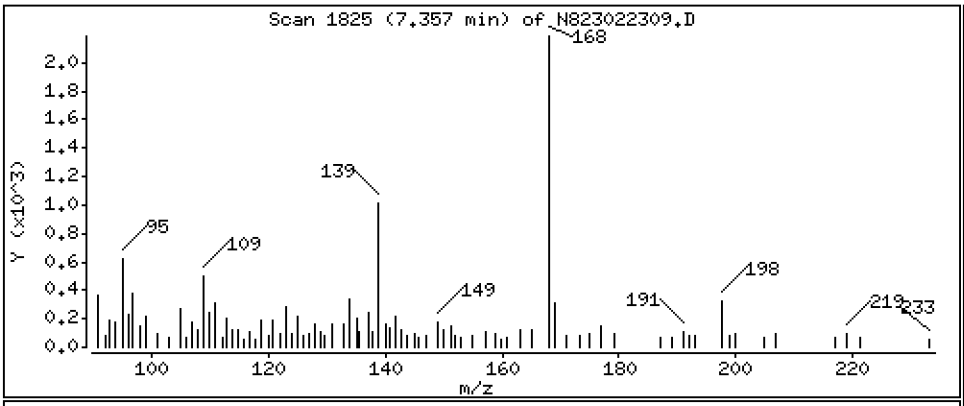
Operator: JZ

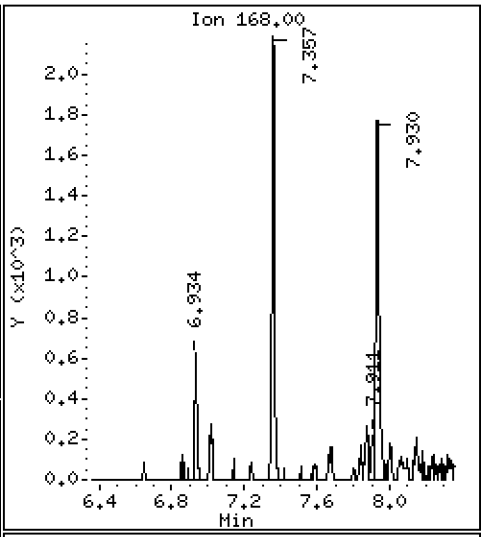
Column phase: Rxi-17sil

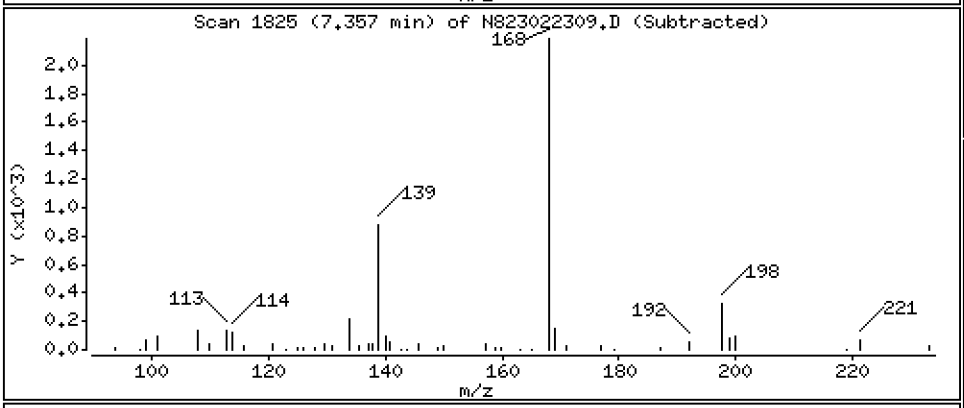
Column diameter: 0.25

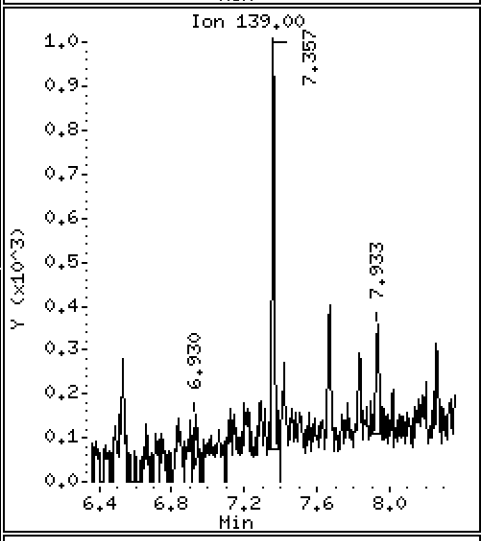
12 Dibenzofuran

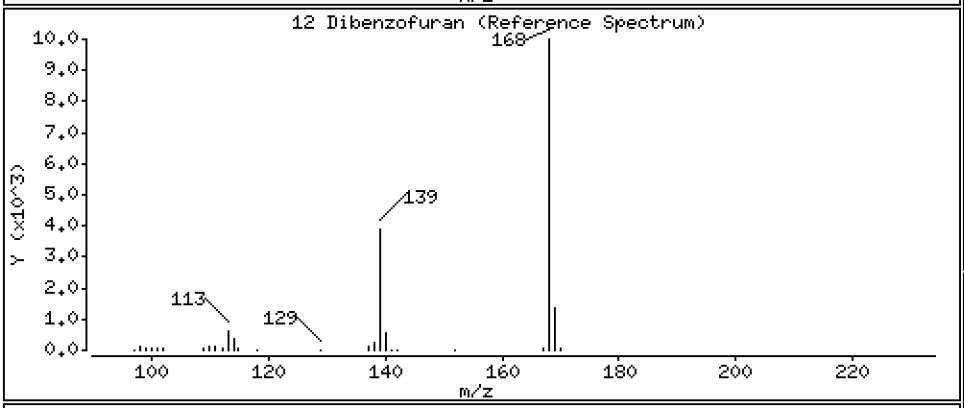
Concentration: 0.1124 ug/mL

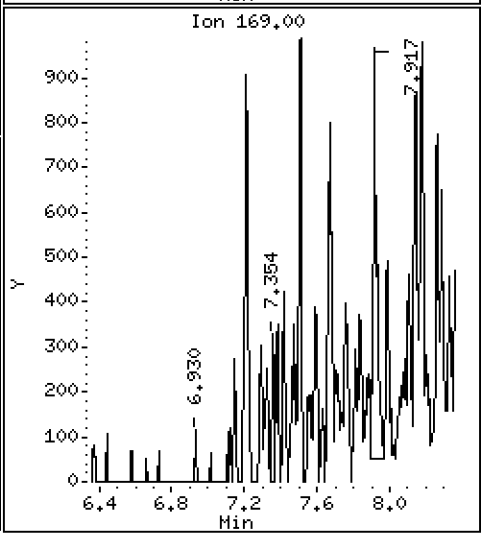


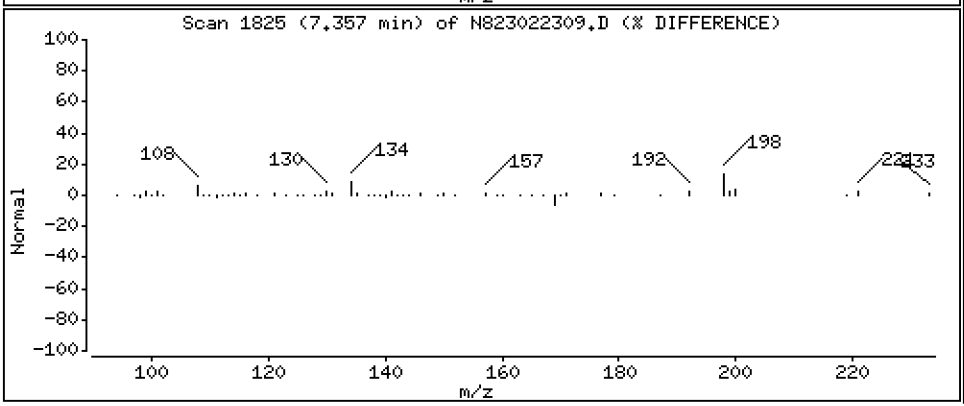












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Date : 23-FEB-2023 15:09

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-04

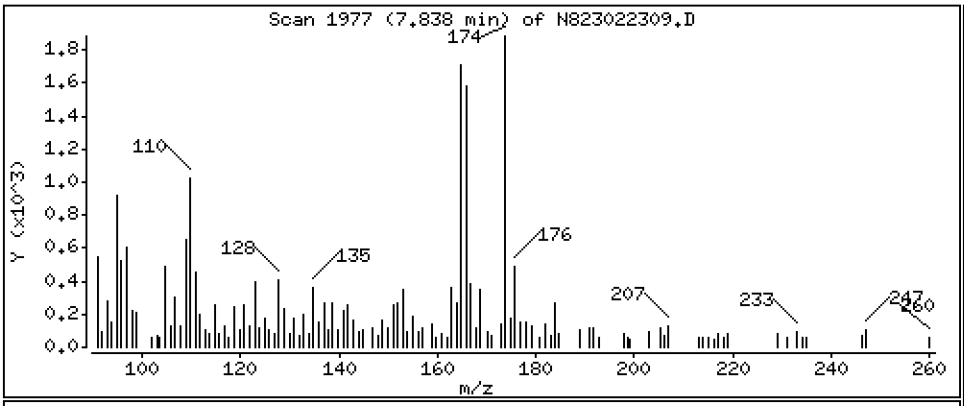
Operator: JZ

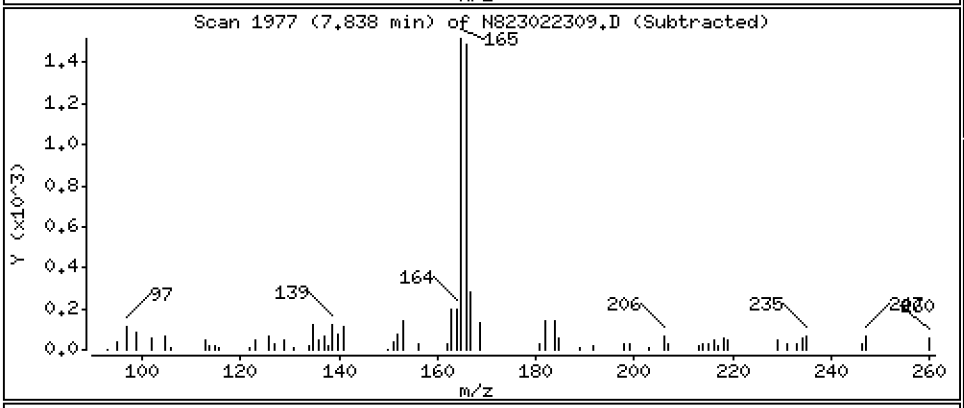
Column phase: Rxi-17sil

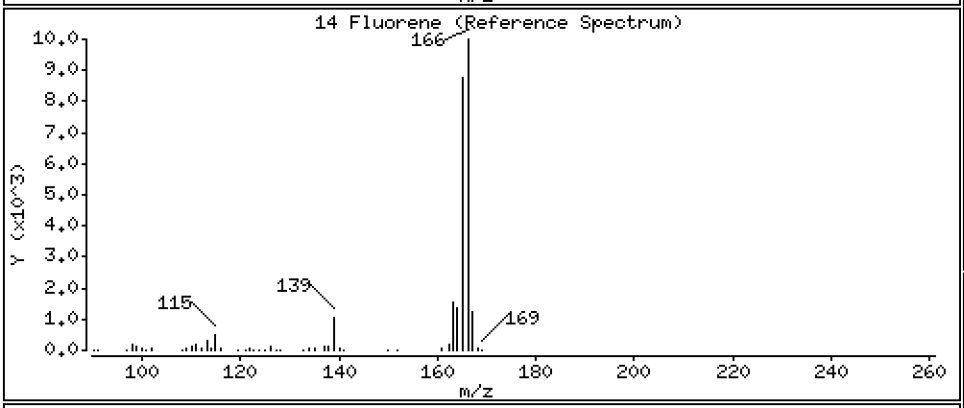
Column diameter: 0.25

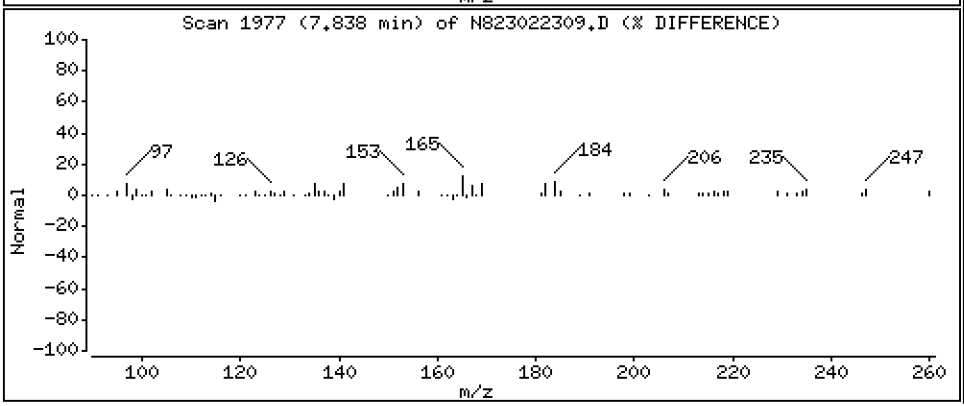
14 Fluorene

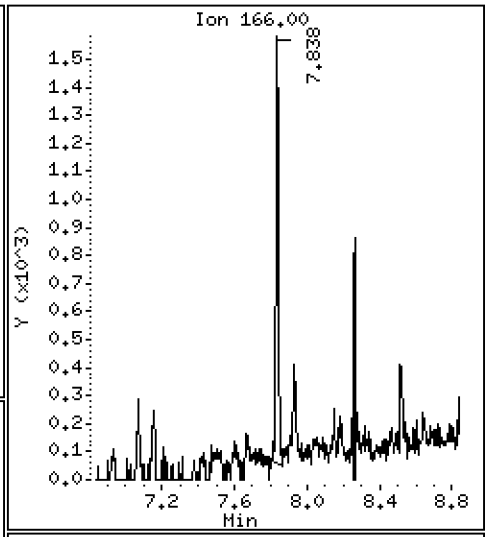
Concentration: 0.1052 ug/mL

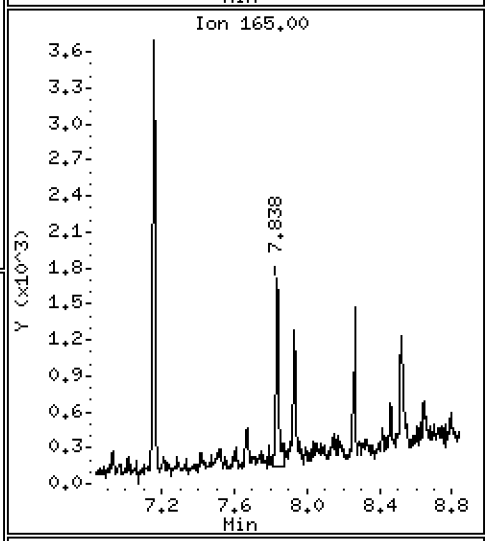


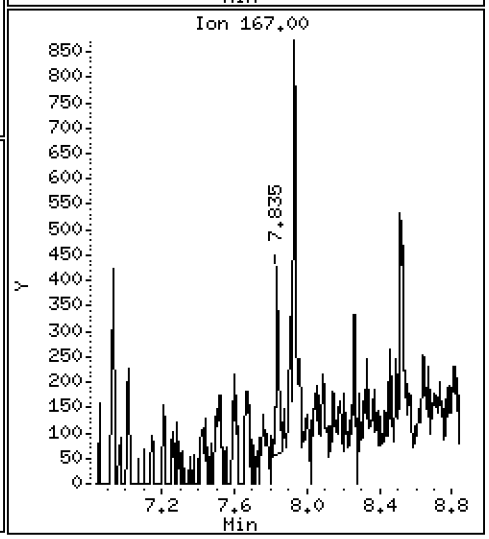












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Date : 23-FEB-2023 15:09

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-04

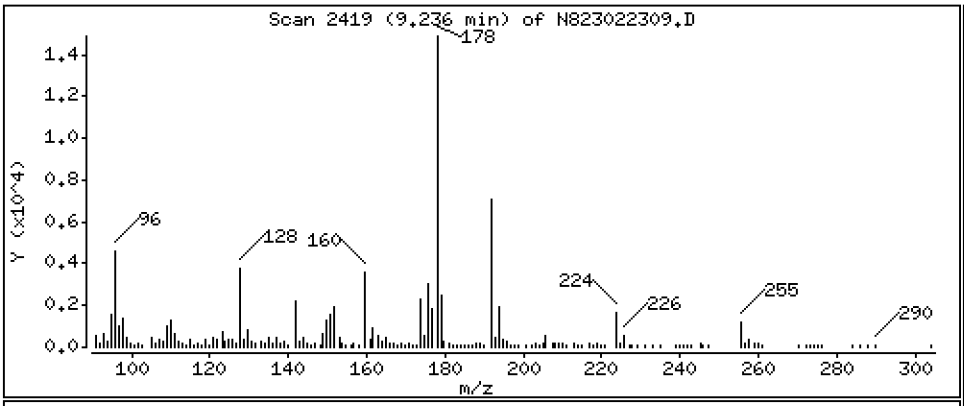
Operator: JZ

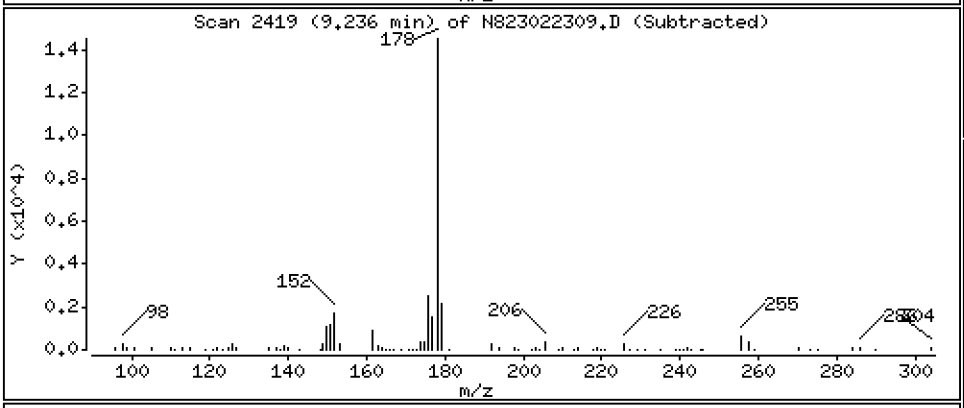
Column phase: Rxi-17sil

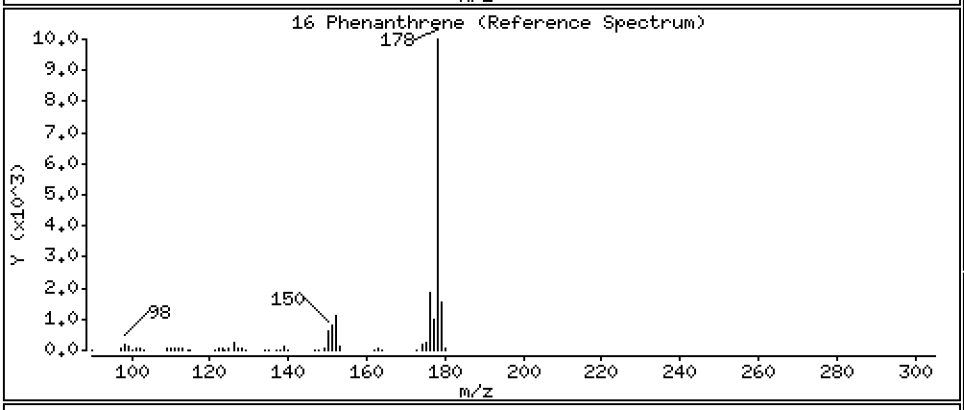
Column diameter: 0.25

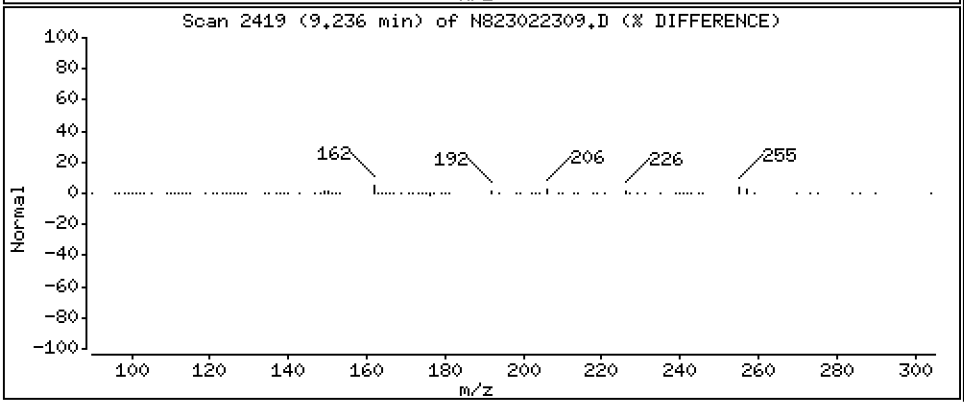
16 Phenanthrene

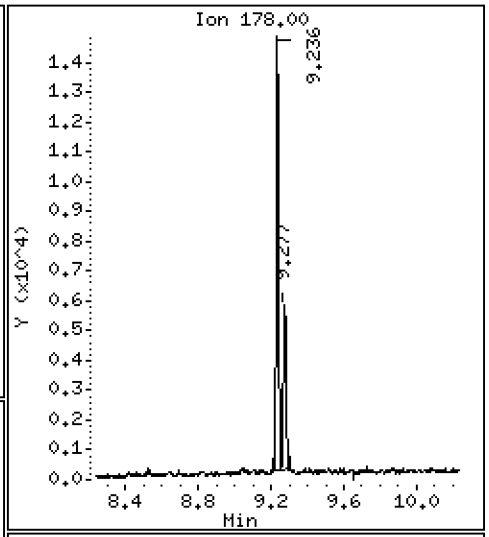
Concentration: 0.5982 ug/mL

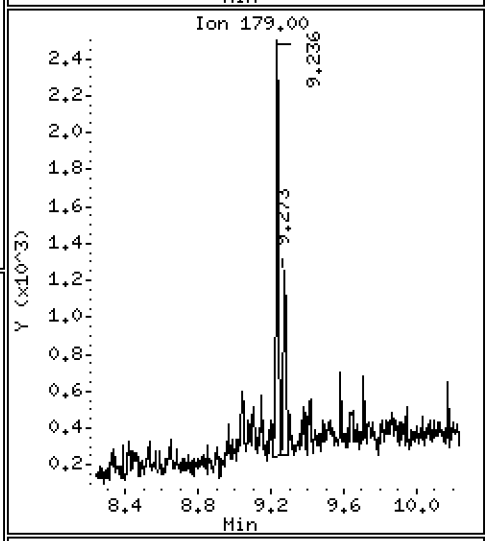


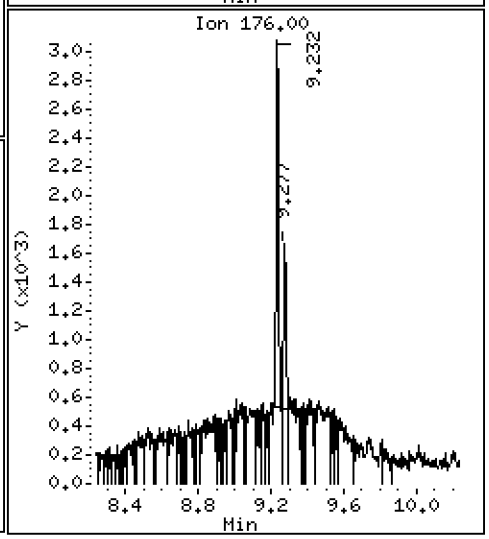












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Date : 23-FEB-2023 15:09

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-04

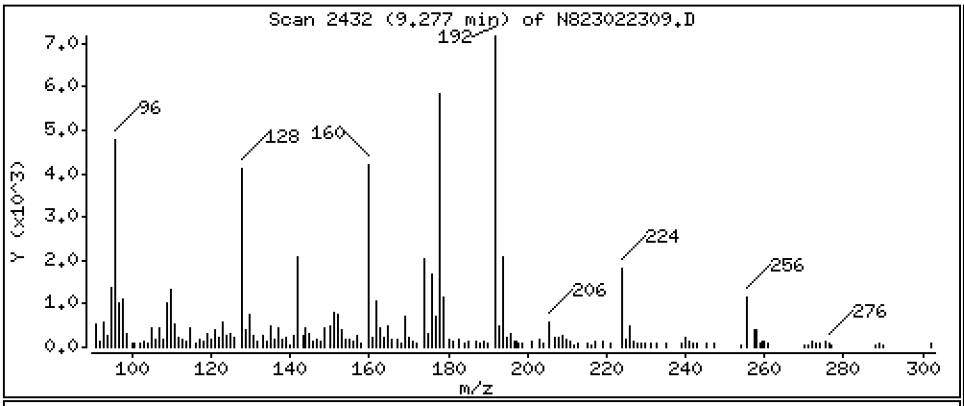
Operator: JZ

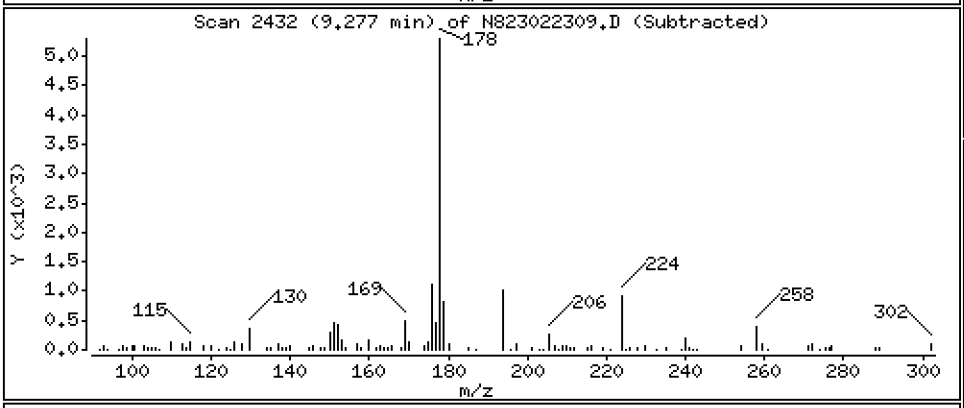
Column phase: Rxi-17sil

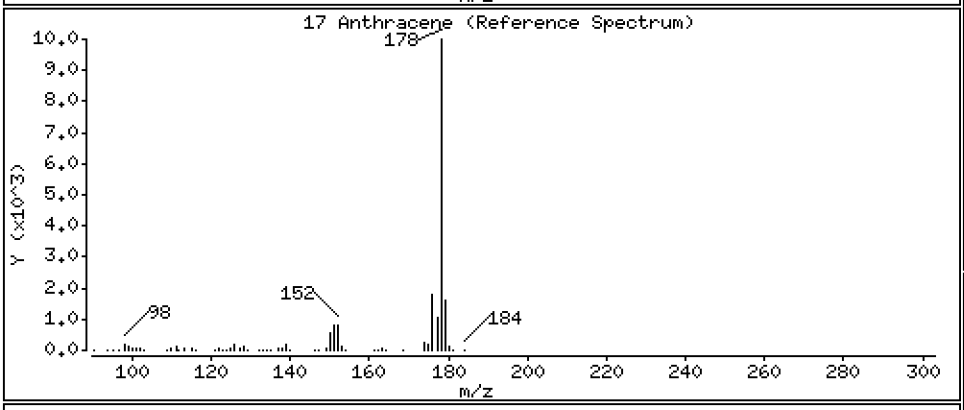
Column diameter: 0.25

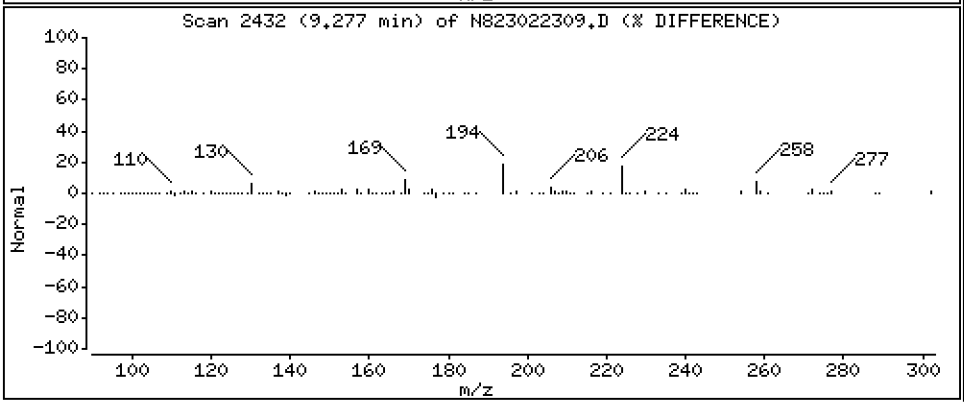
17 Anthracene

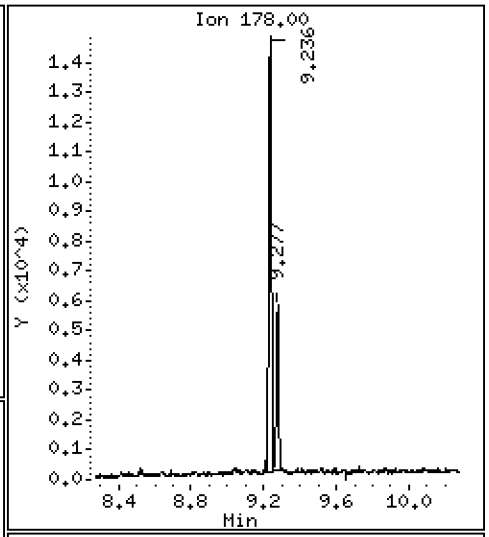
Concentration: 0.2608 ug/mL

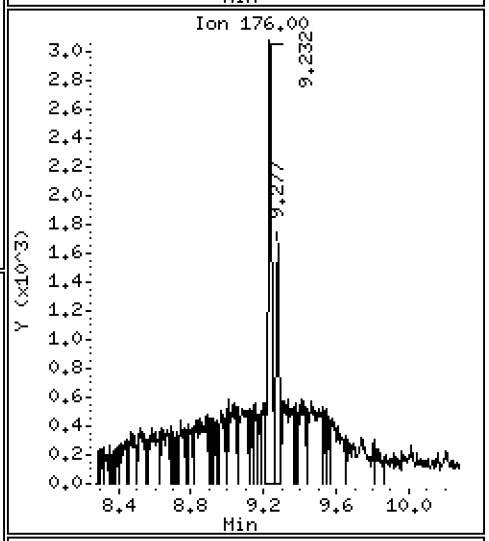


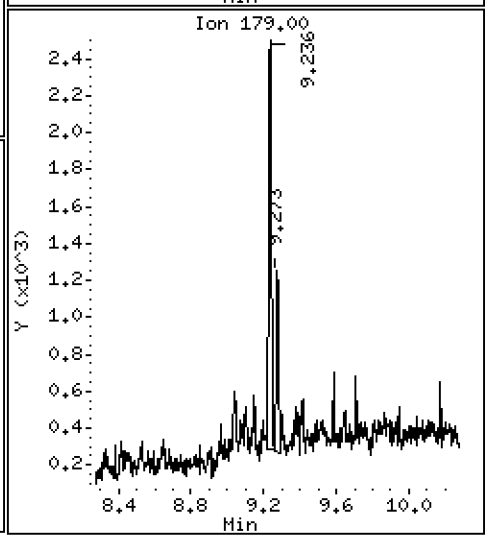












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Date : 23-FEB-2023 15:09

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-04

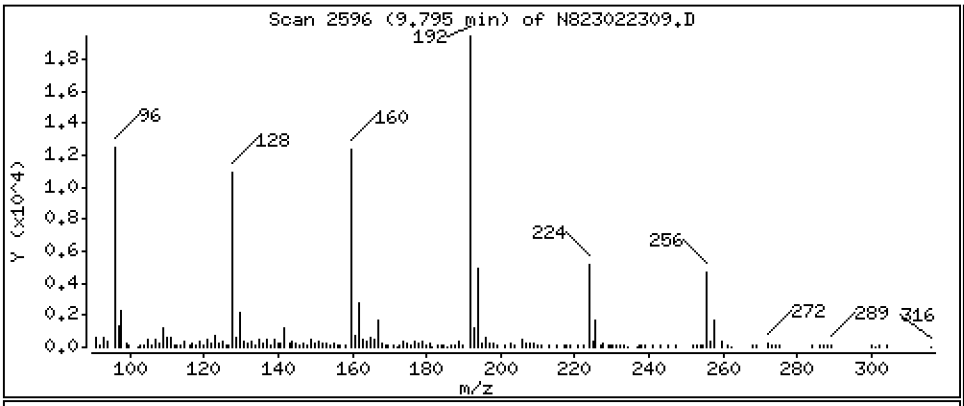
Operator: JZ

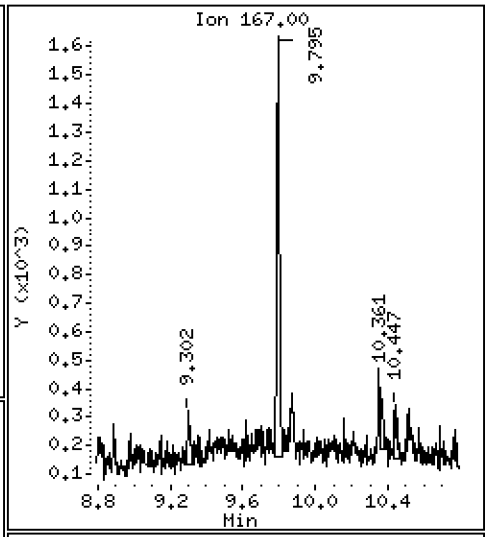
Column phase: Rxi-17sil

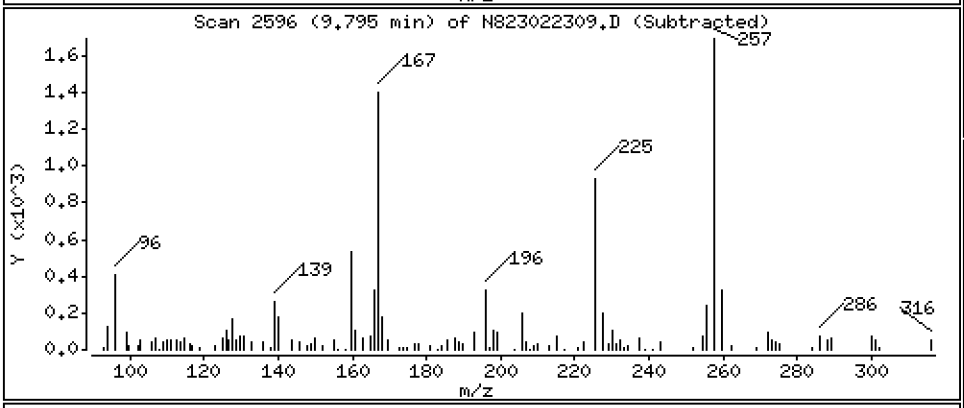
Column diameter: 0.25

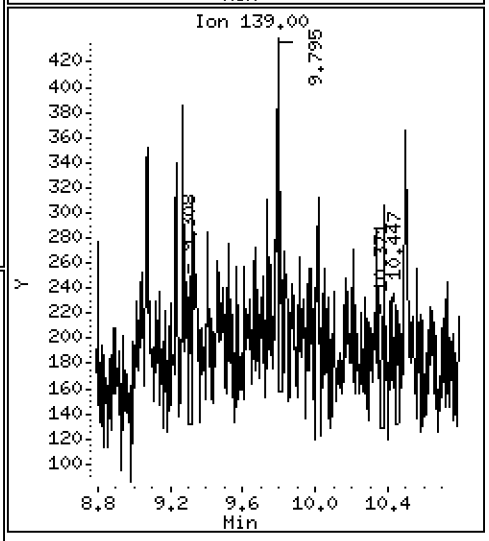
19 Carbazole

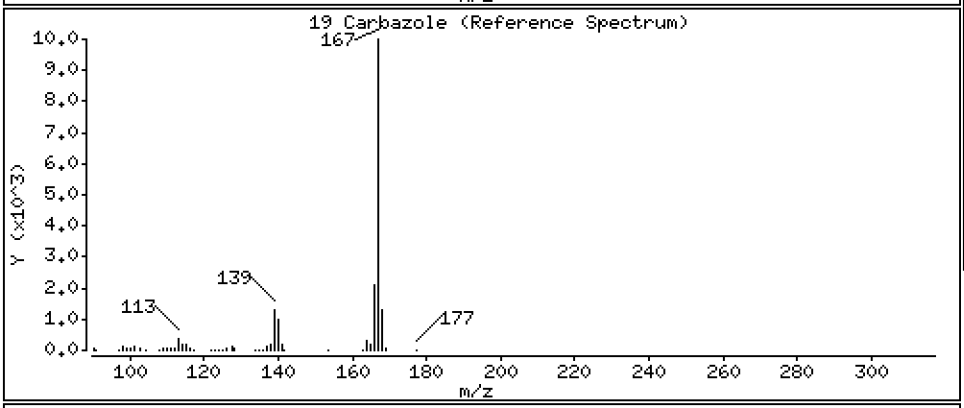
Concentration: 0.08402 ug/mL

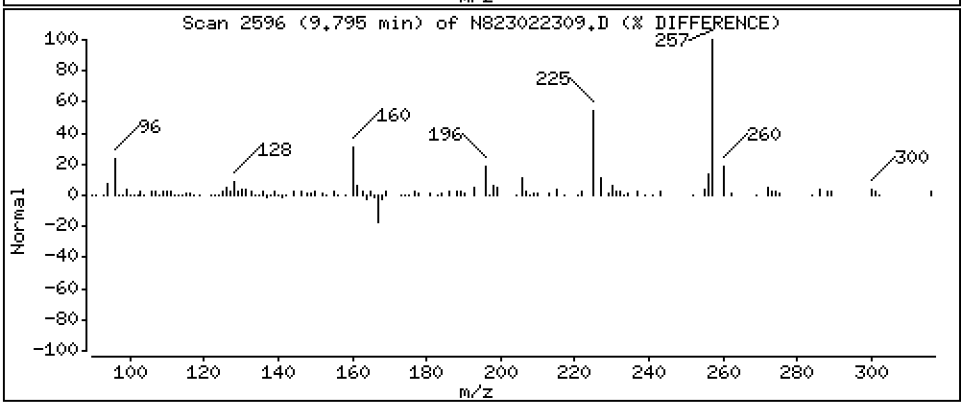












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Date : 23-FEB-2023 15:09

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-04

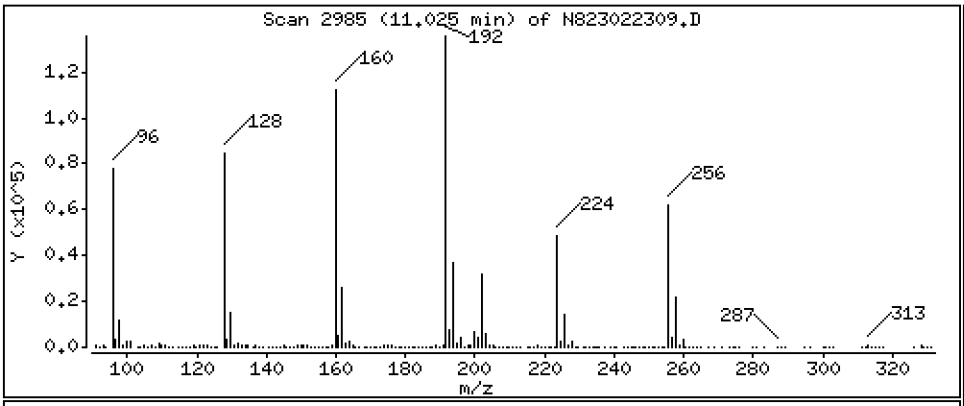
Operator: JZ

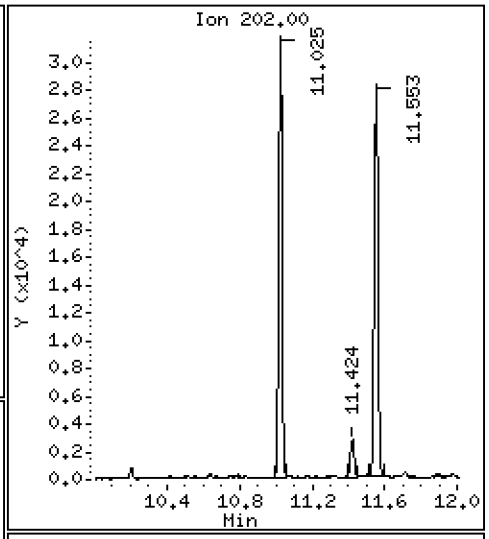
Column phase: Rxi-17sil

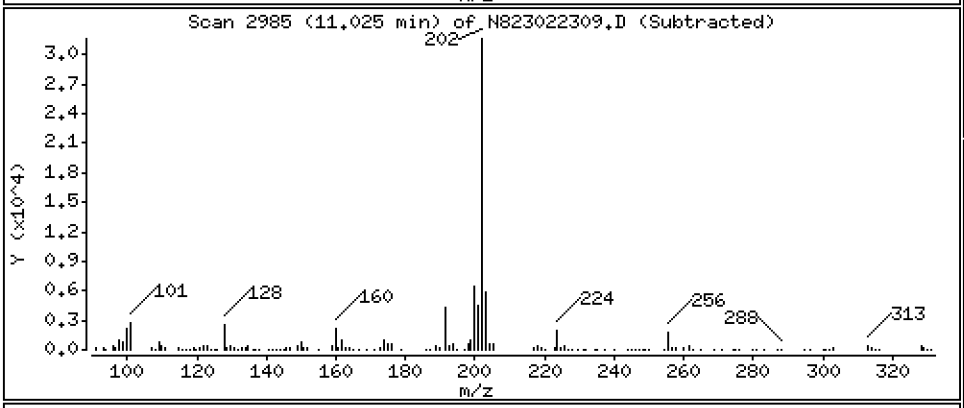
Column diameter: 0.25

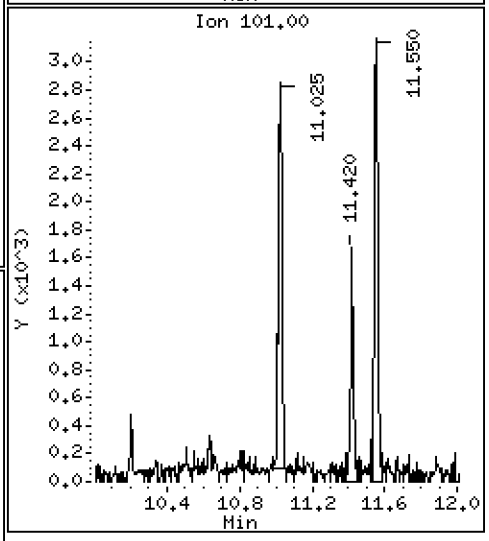
22 Fluoranthene

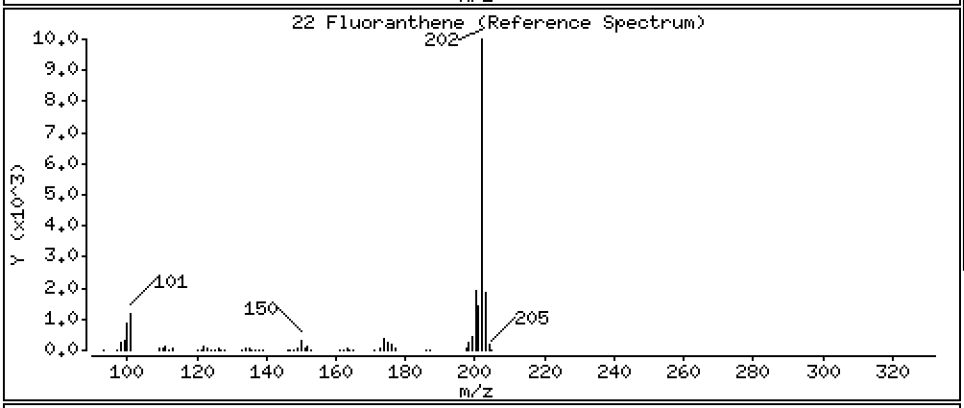
Concentration: 1.580 ug/mL

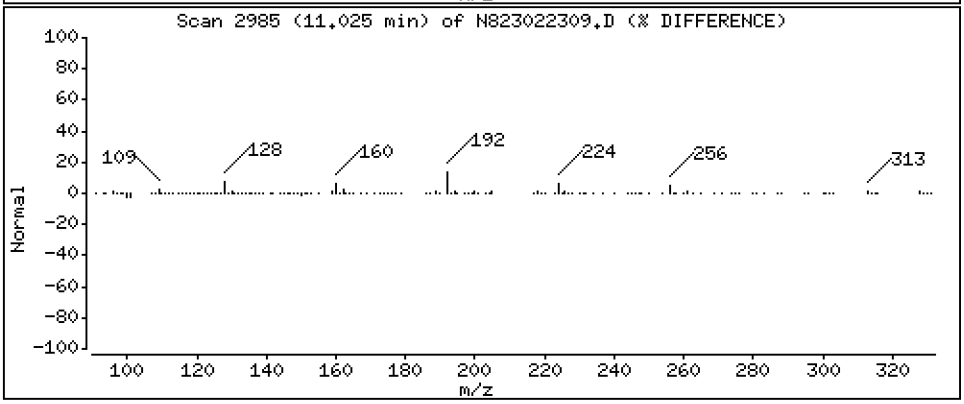












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Date : 23-FEB-2023 15:09

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-04

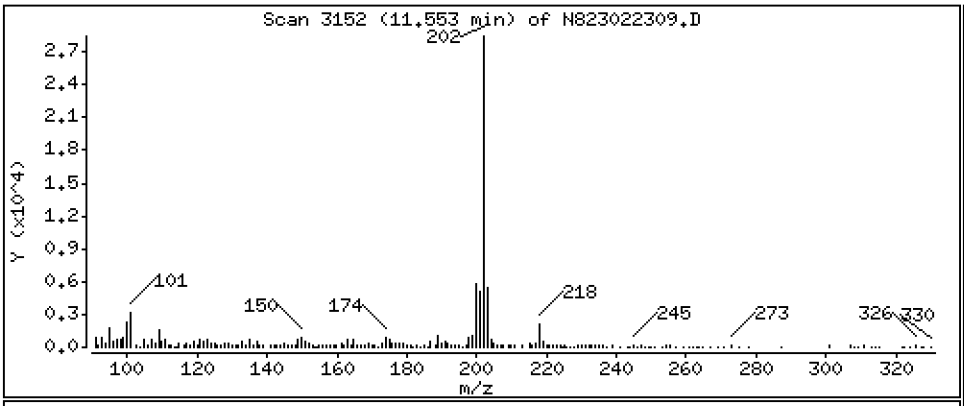
Operator: JZ

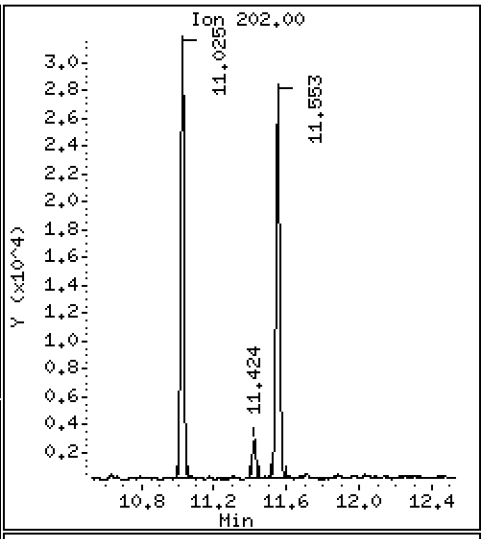
Column phase: Rxi-17sil

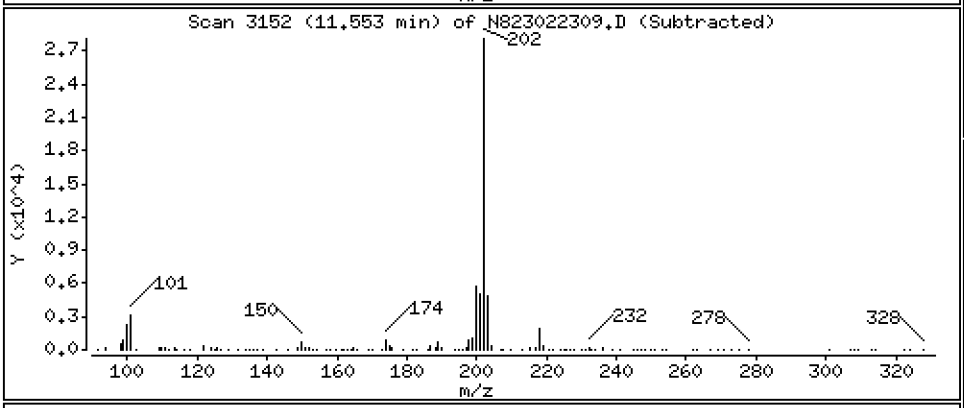
Column diameter: 0.25

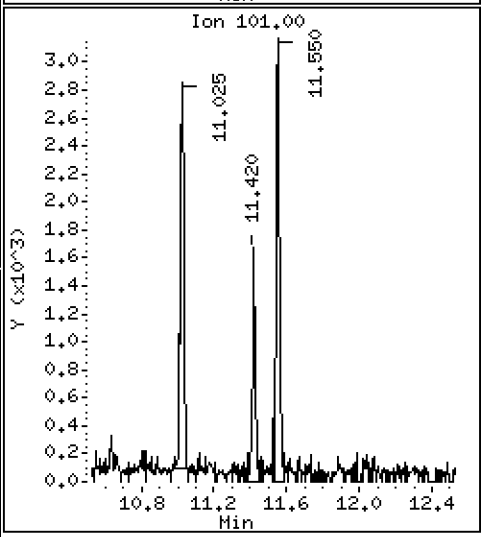
23 Pyrene

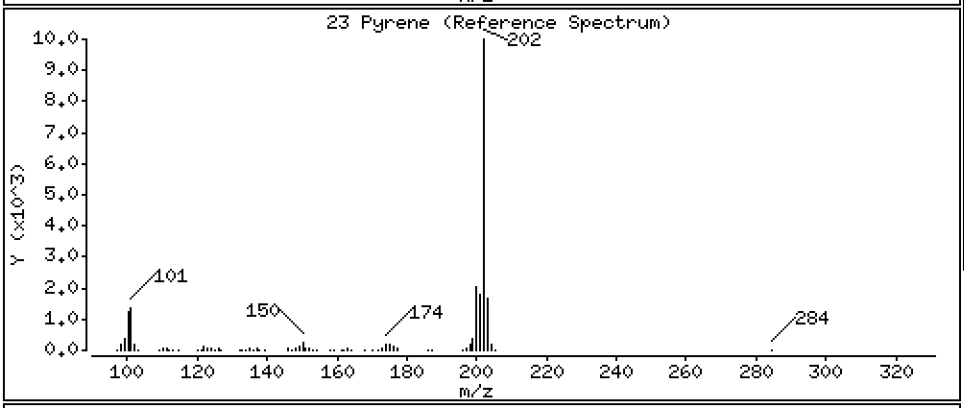
Concentration: 2.393 ug/mL

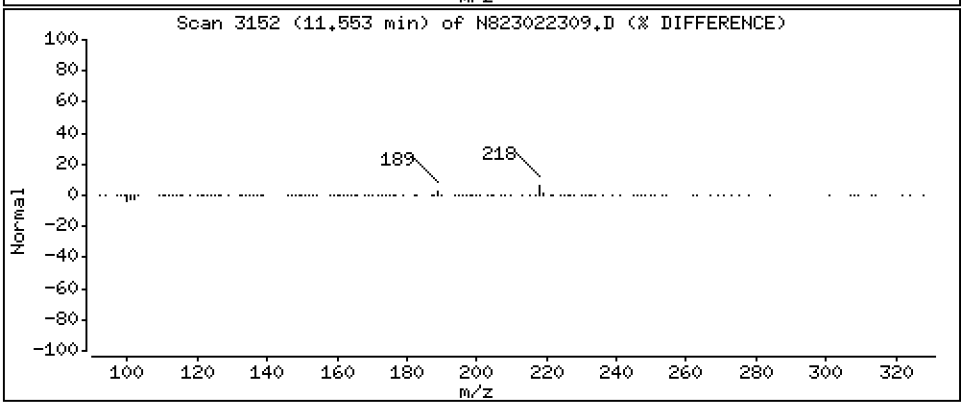












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Date : 23-FEB-2023 15:09

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-04

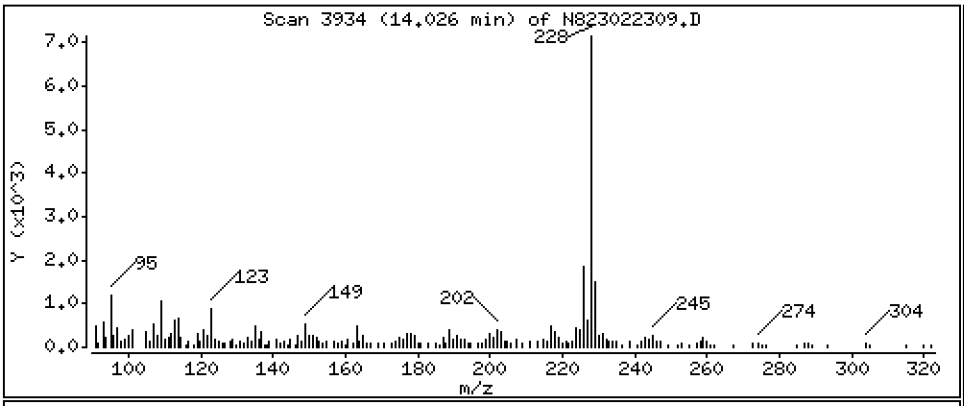
Operator: JZ

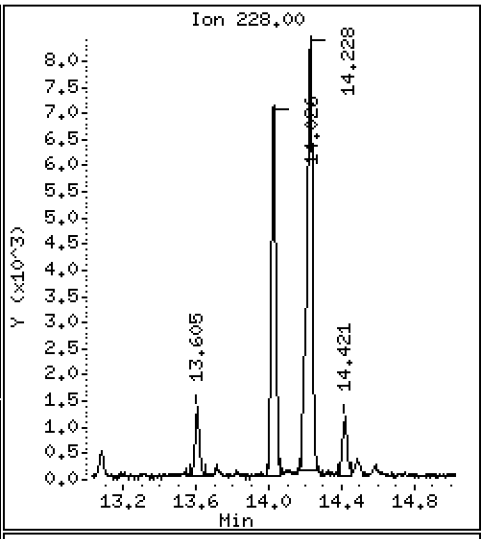
Column phase: Rxi-17sil

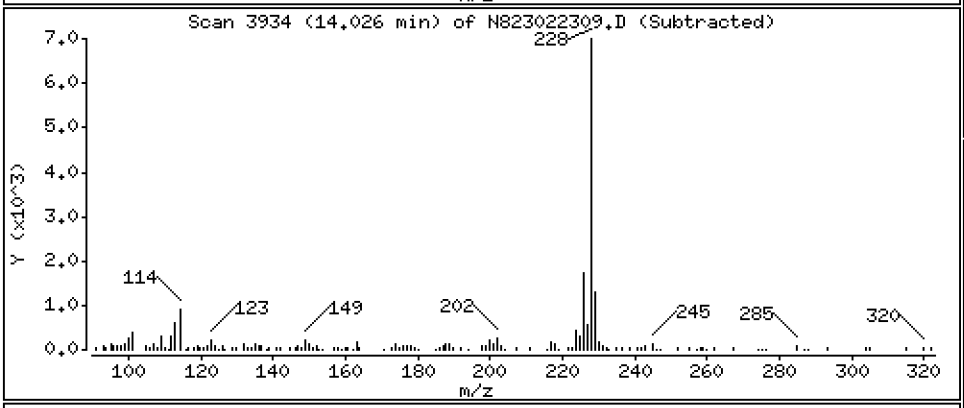
Column diameter: 0.25

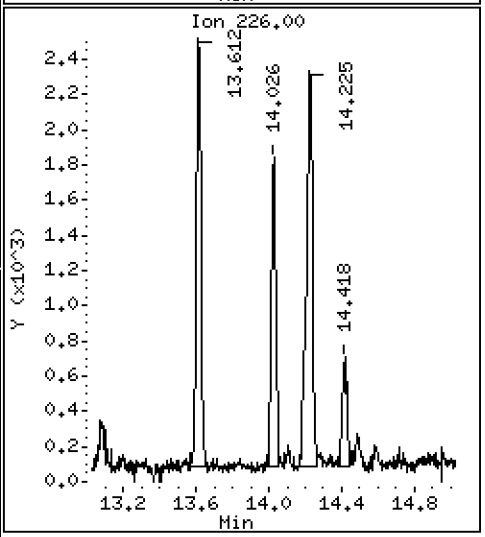
24 Benzo(a)anthracene

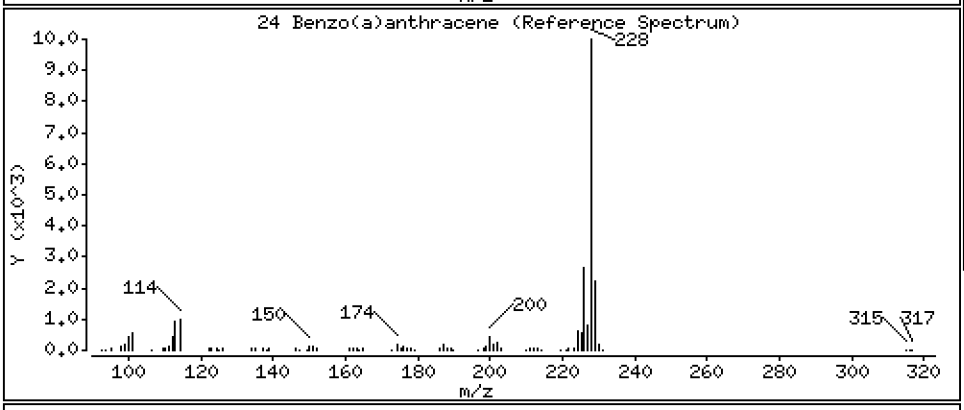
Concentration: 0.8115 ug/mL

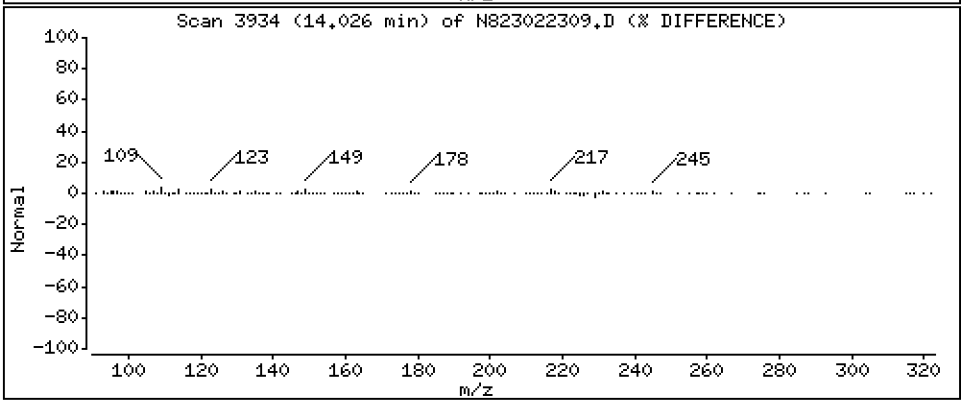












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Date : 23-FEB-2023 15:09

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-04

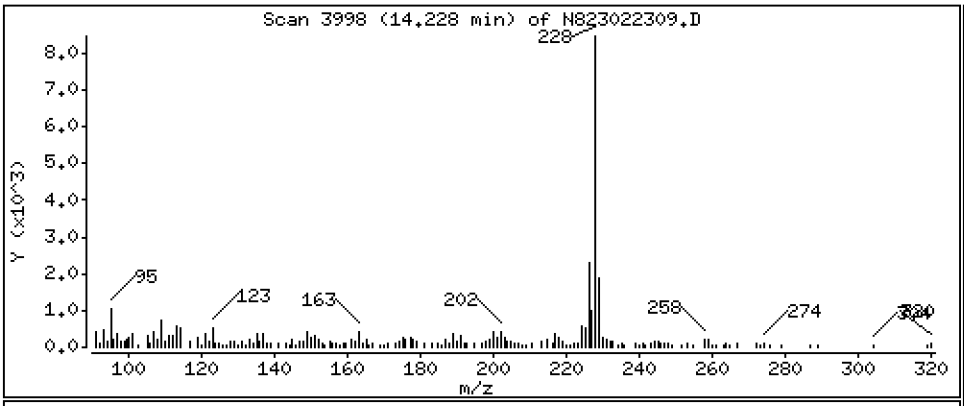
Operator: JZ

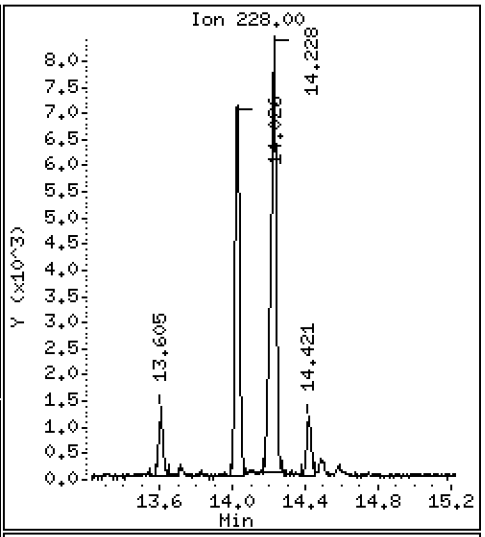
Column phase: Rxi-17sil

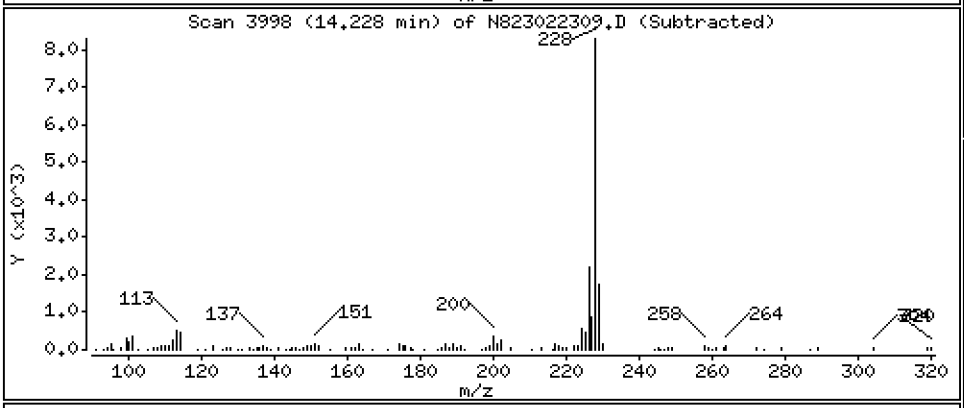
Column diameter: 0.25

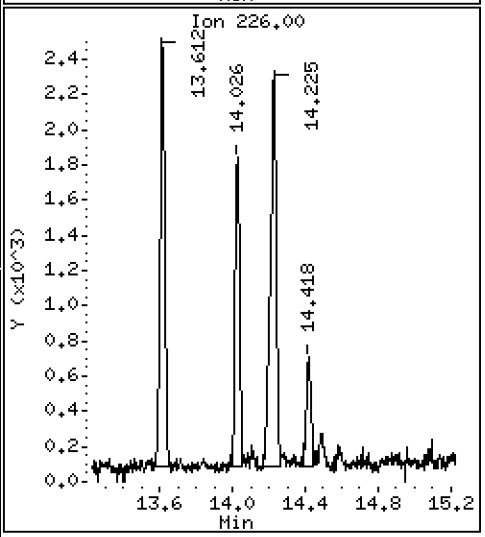
27 Chrysene

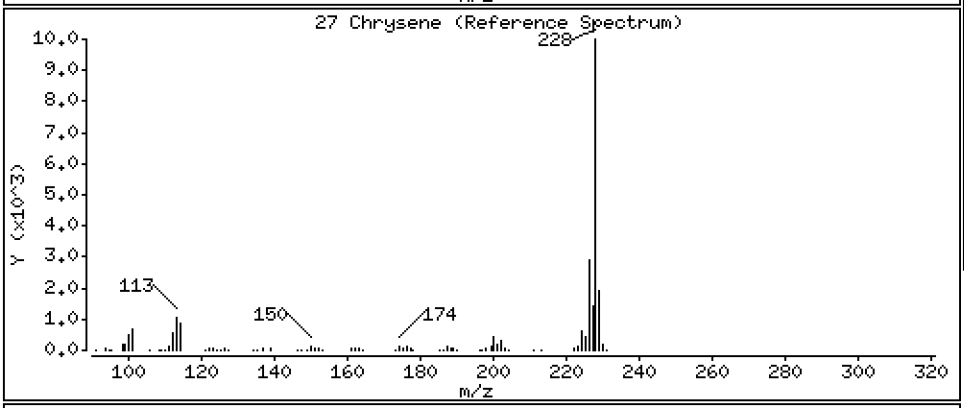
Concentration: 1.090 ug/mL

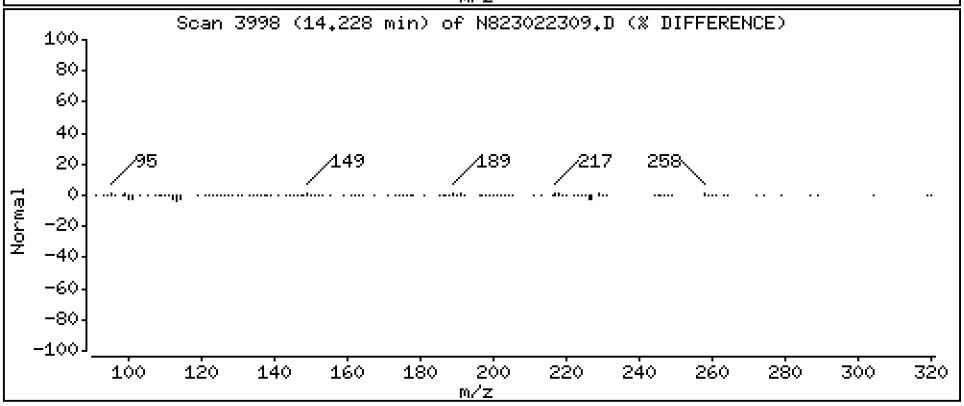












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Date : 23-FEB-2023 15:09

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-04

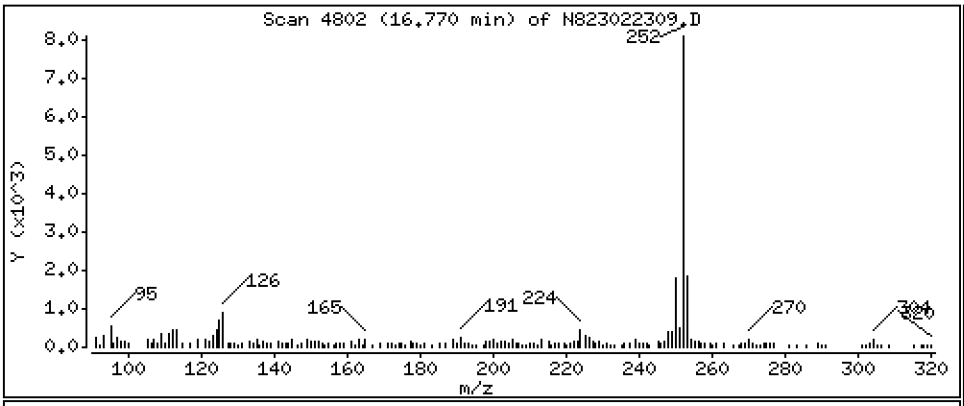
Operator: JZ

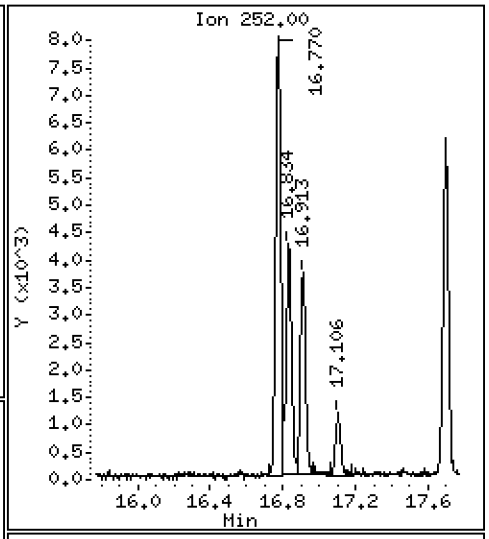
Column phase: Rxi-17sil

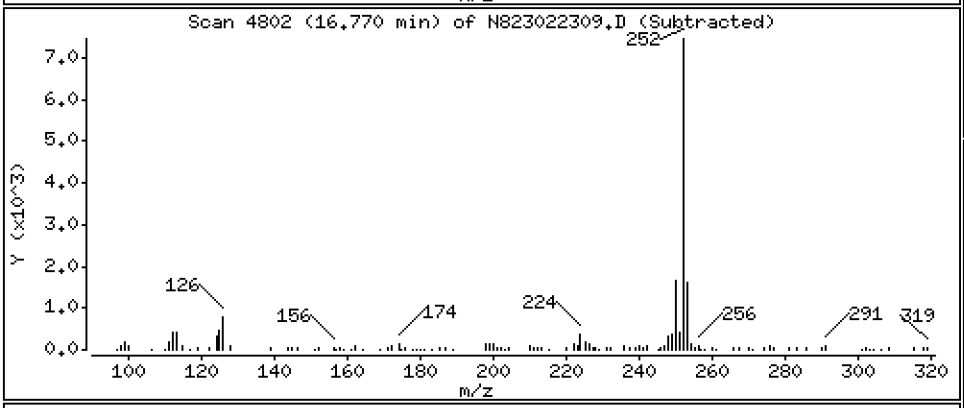
Column diameter: 0.25

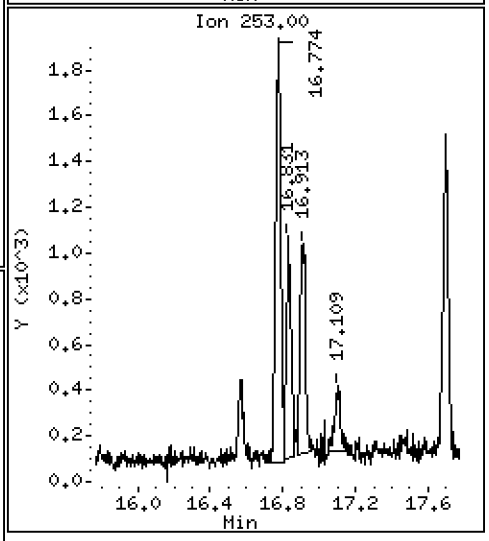
28 Benzo(b)fluoranthene

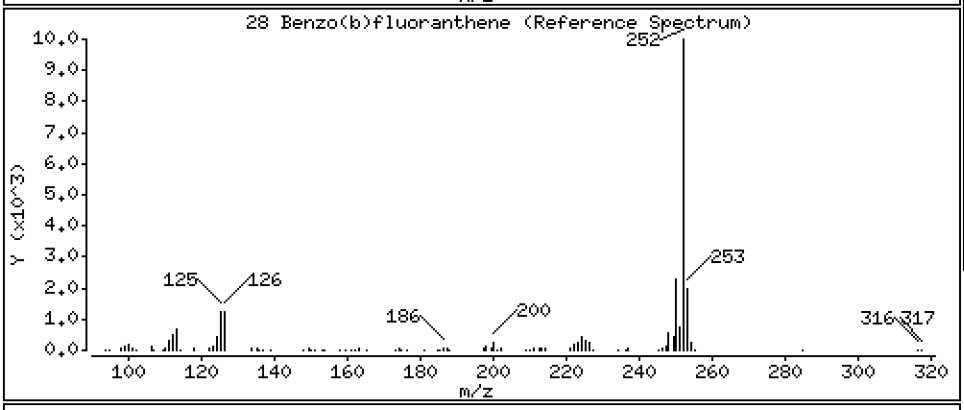
Concentration: 0.9849 ug/mL

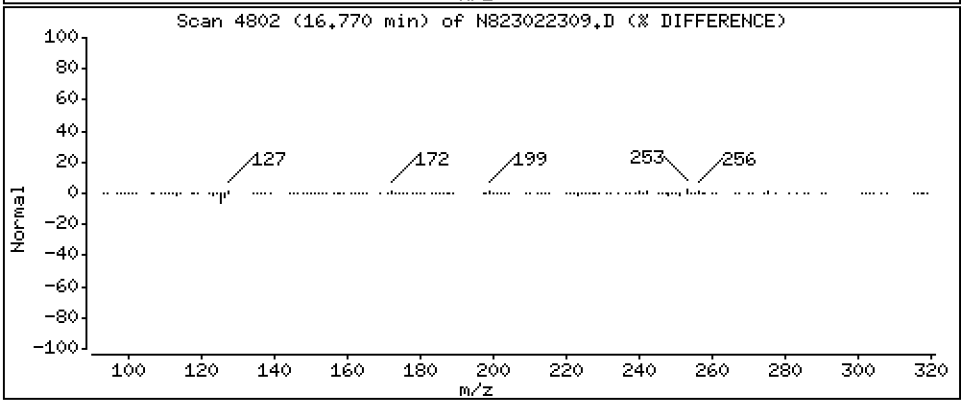












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Date : 23-FEB-2023 15:09

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-04

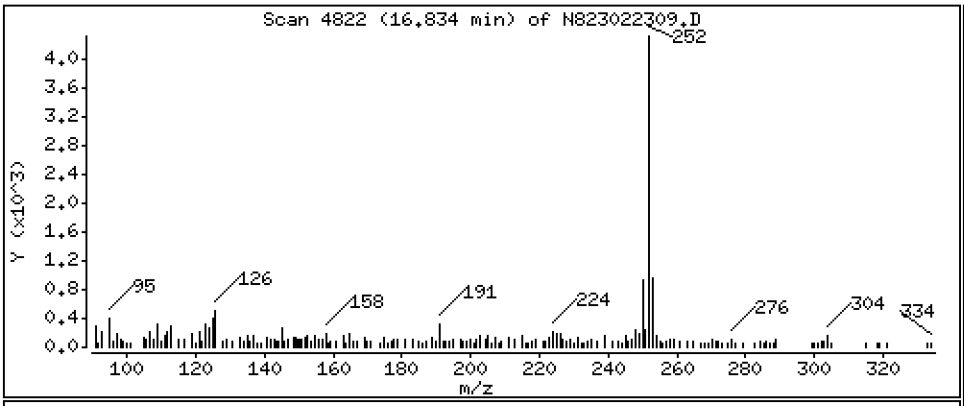
Operator: JZ

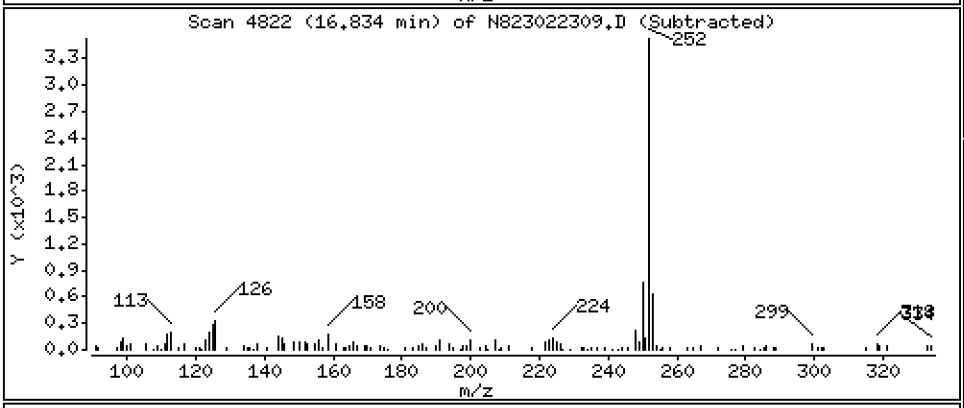
Column phase: Rxi-17sil

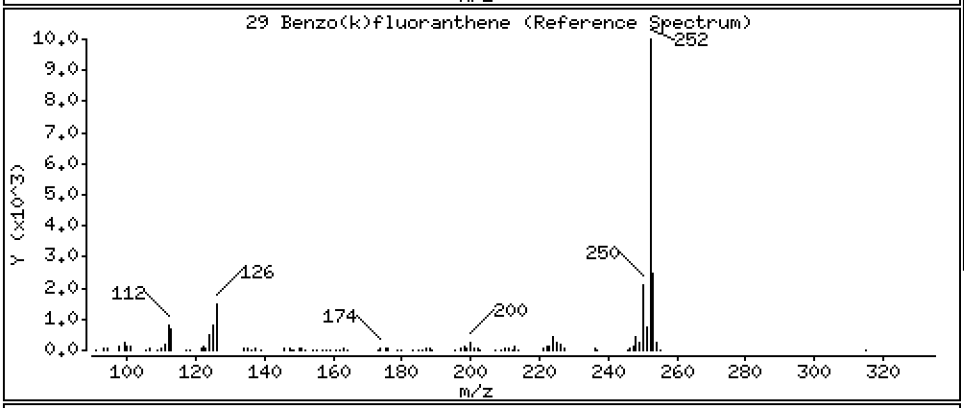
Column diameter: 0.25

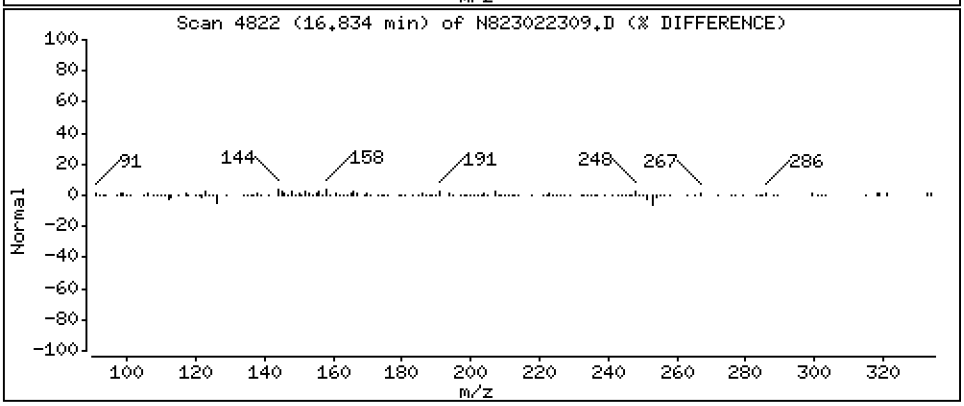
29 Benzo(k)fluoranthene

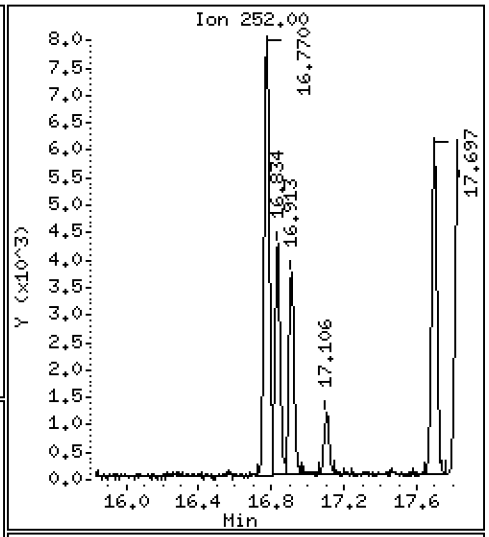
Concentration: 0.5134 ug/mL

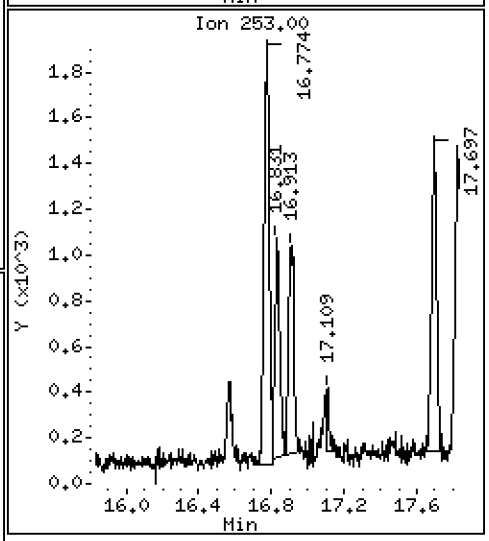












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Date : 23-FEB-2023 15:09

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-04

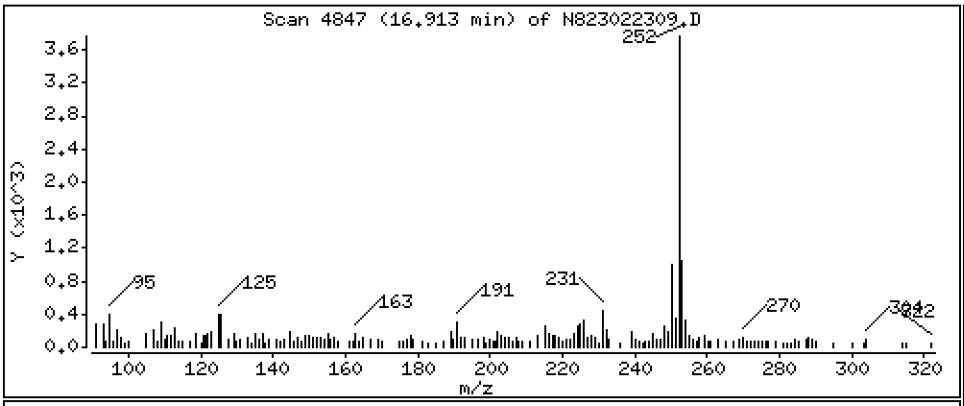
Operator: JZ

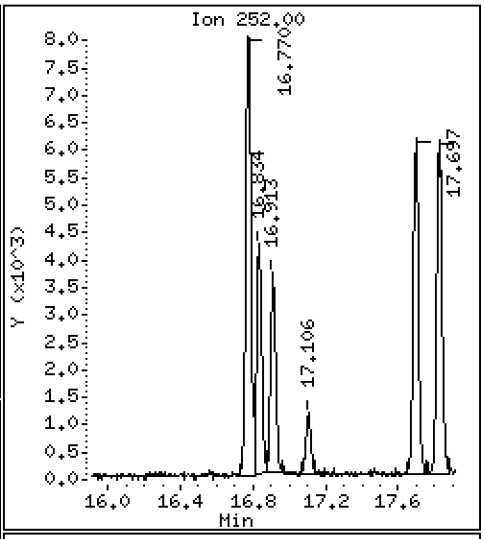
Column phase: Rxi-17sil

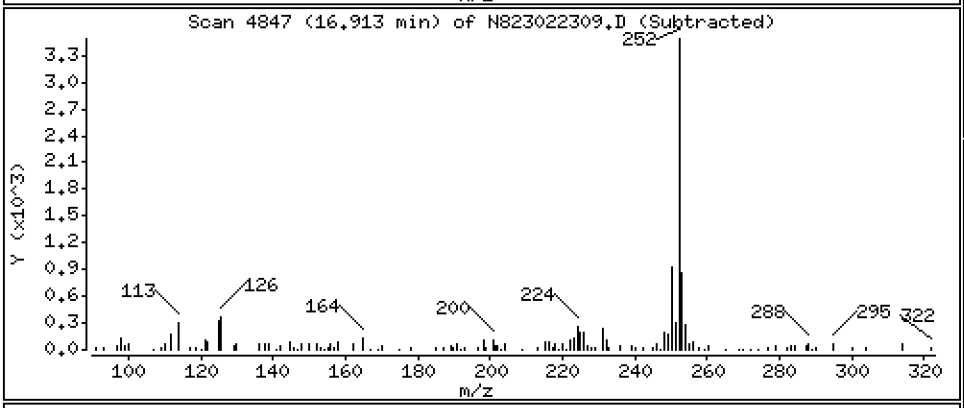
Column diameter: 0.25

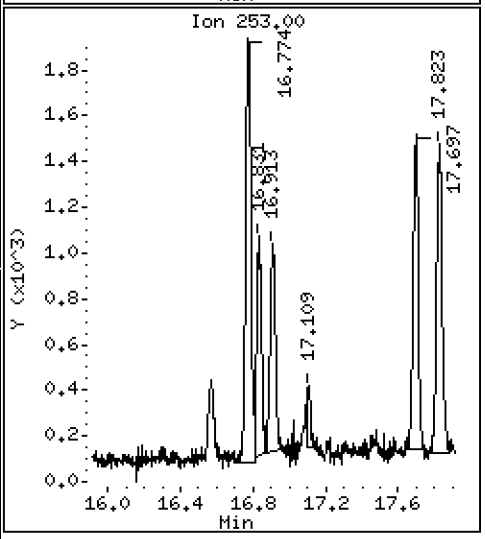
30 Benzo(j)fluoranthene

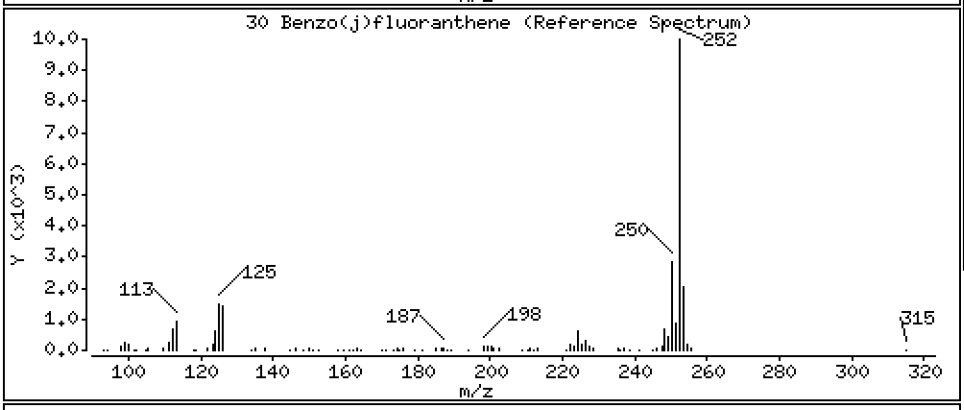
Concentration: 0.5047 ug/mL

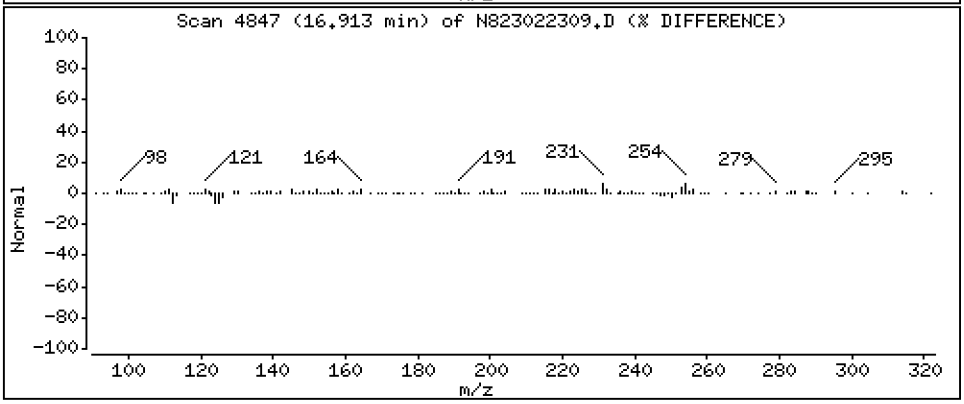












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Date : 23-FEB-2023 15:09

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-04

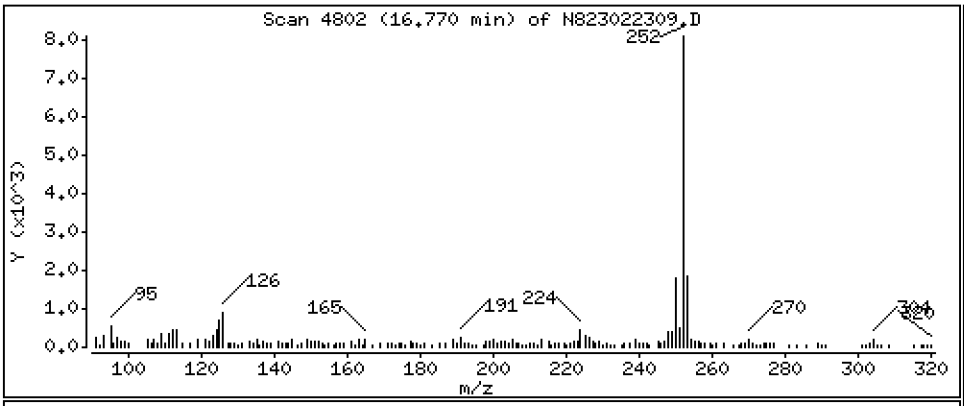
Operator: JZ

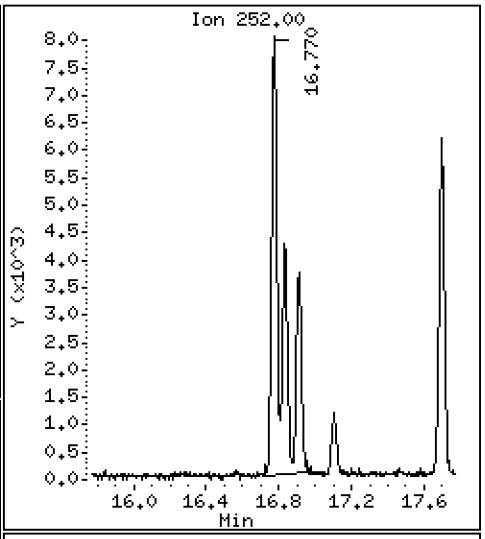
Column phase: Rxi-17sil

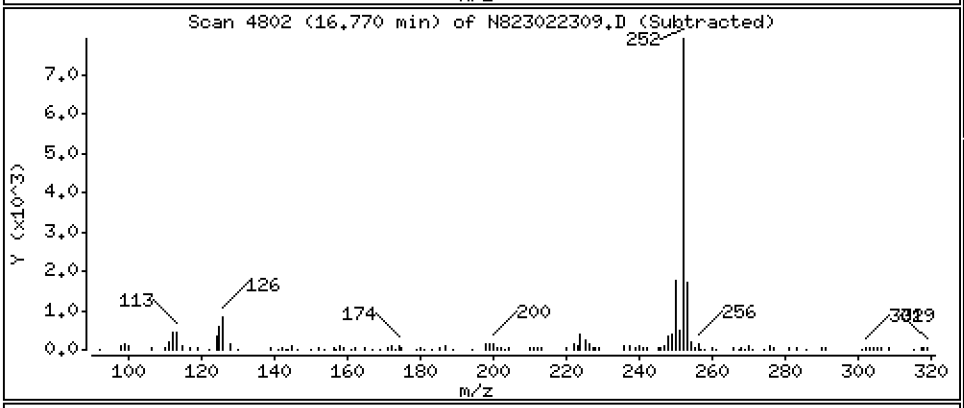
Column diameter: 0.25

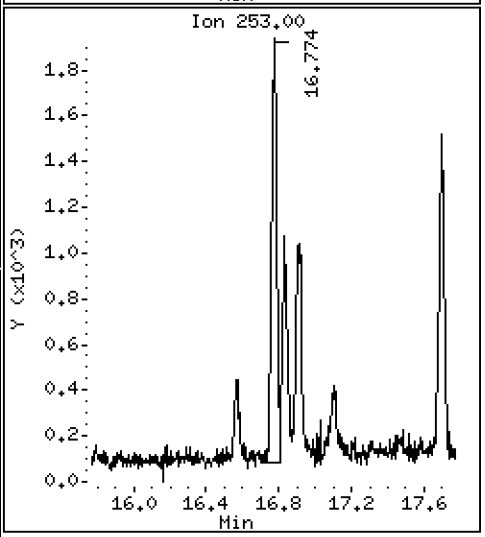
31 Total Benzofluoranthenes

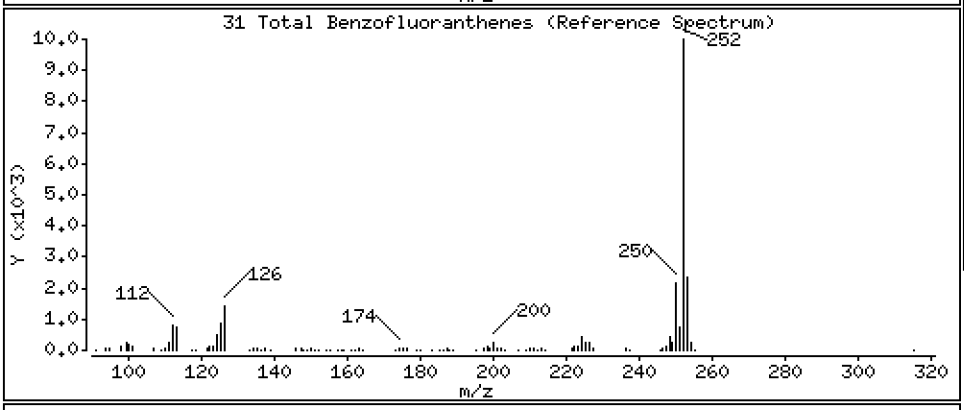
Concentration: 2.055 ug/mL

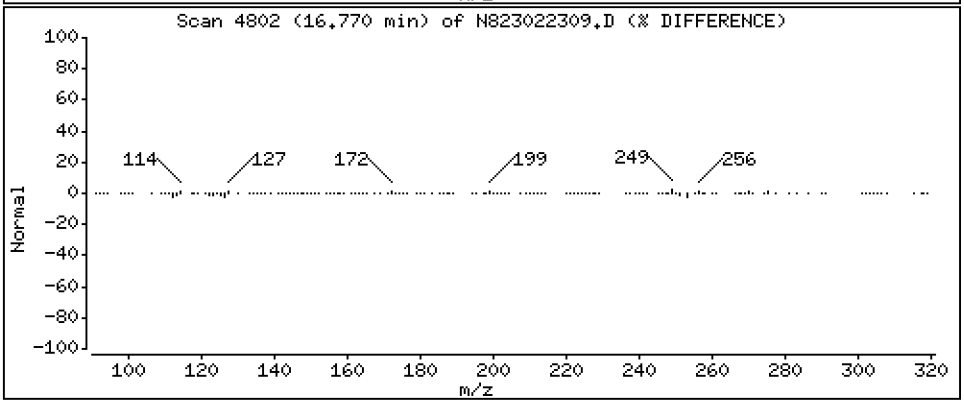












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022309.D

Date : 23-FEB-2023 15:09

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-04

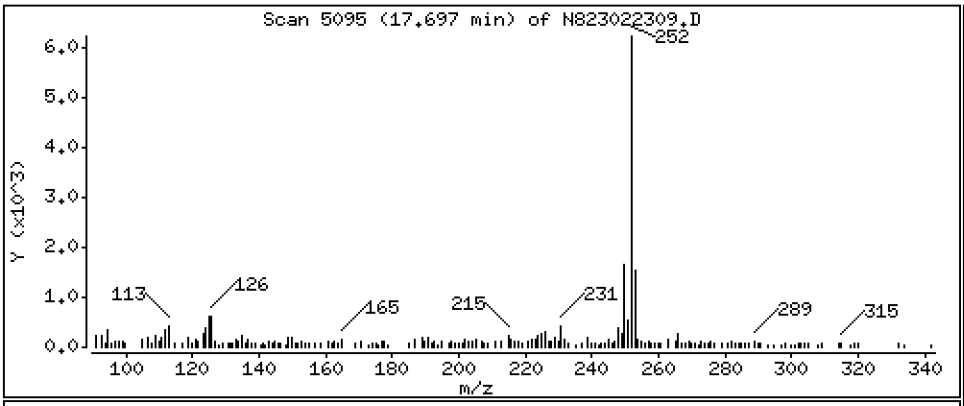
Operator: JZ

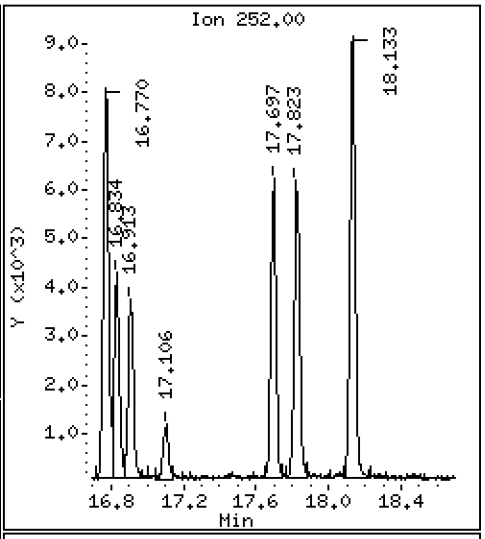
Column phase: Rxi-17sil

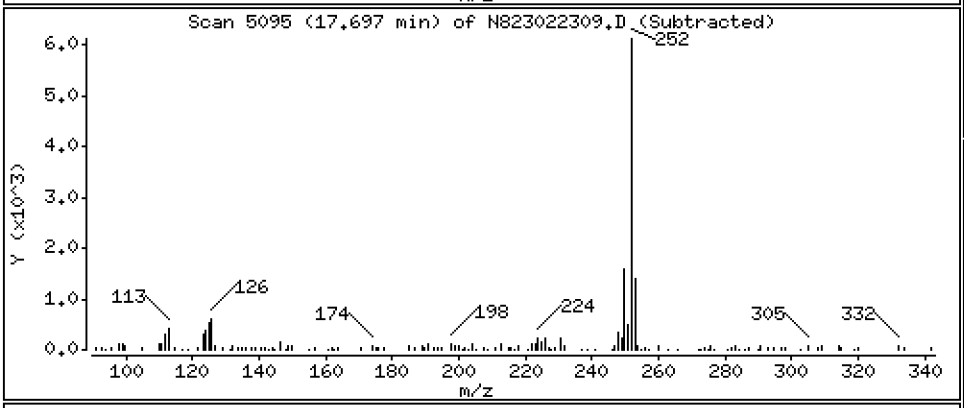
Column diameter: 0.25

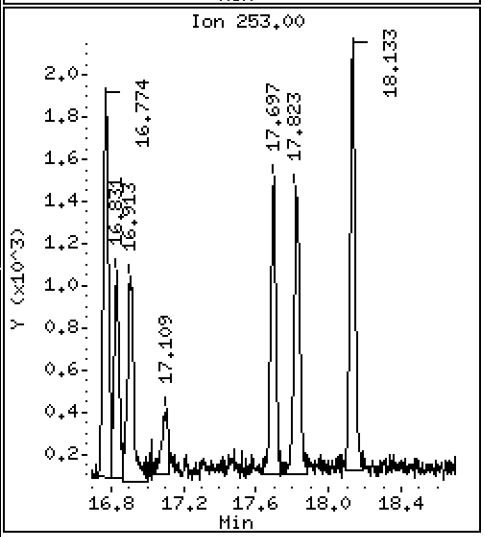
34 Benzo(e)pyrene

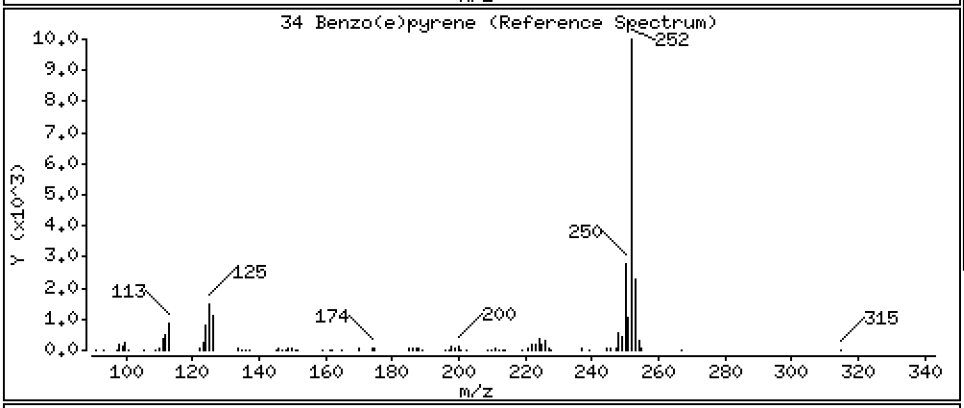
Concentration: 0.7594 ug/mL

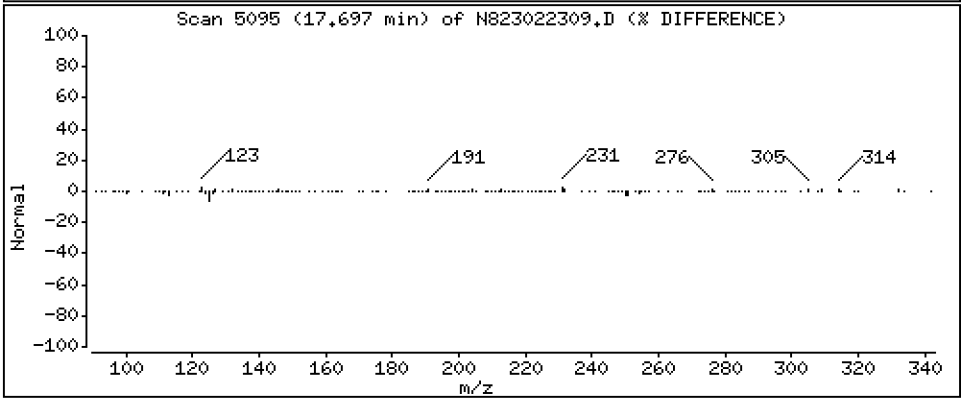












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022309.D

Date : 23-FEB-2023 15:09

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-04

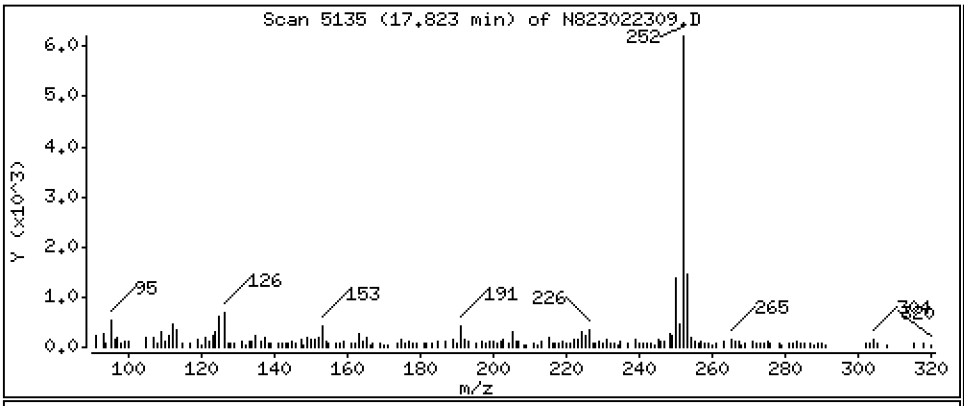
Operator: JZ

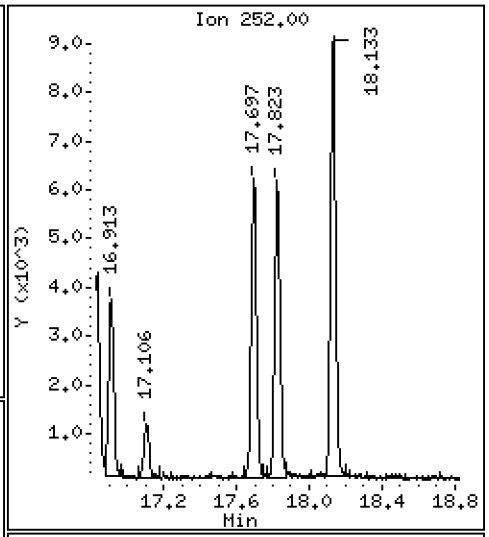
Column phase: Rxi-17sil

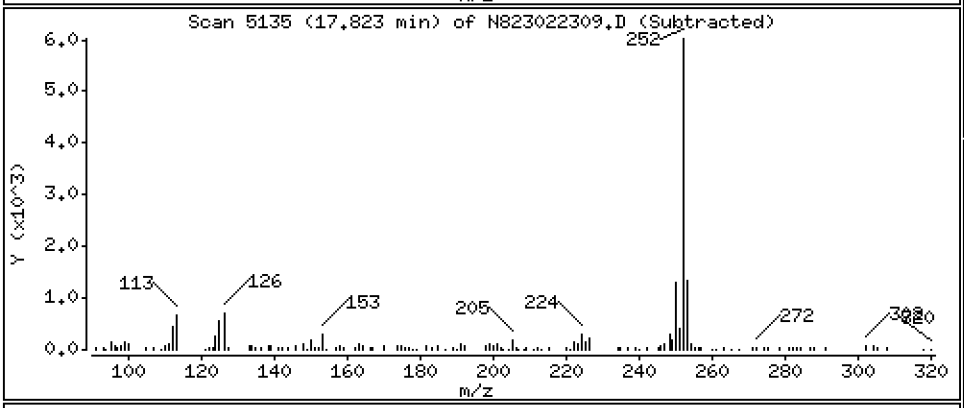
Column diameter: 0.25

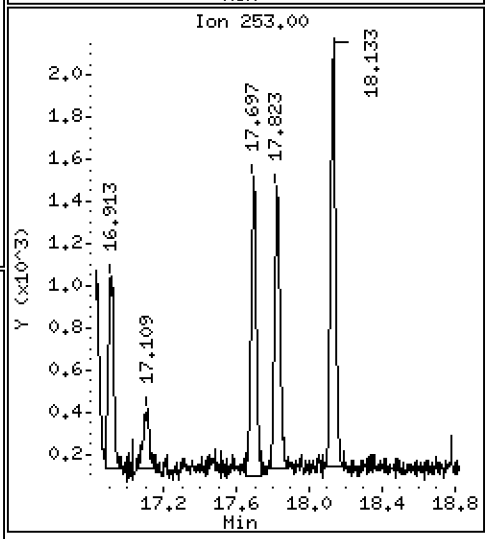
32 Benzo(a)pyrene

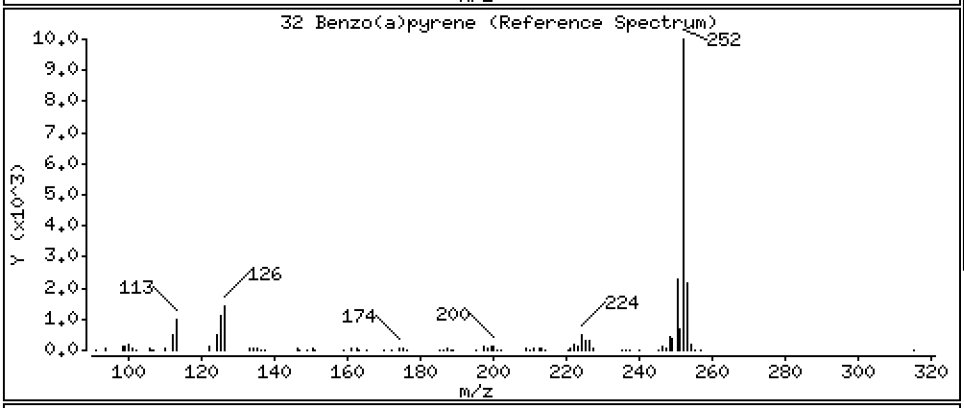
Concentration: 0.8822 ug/mL

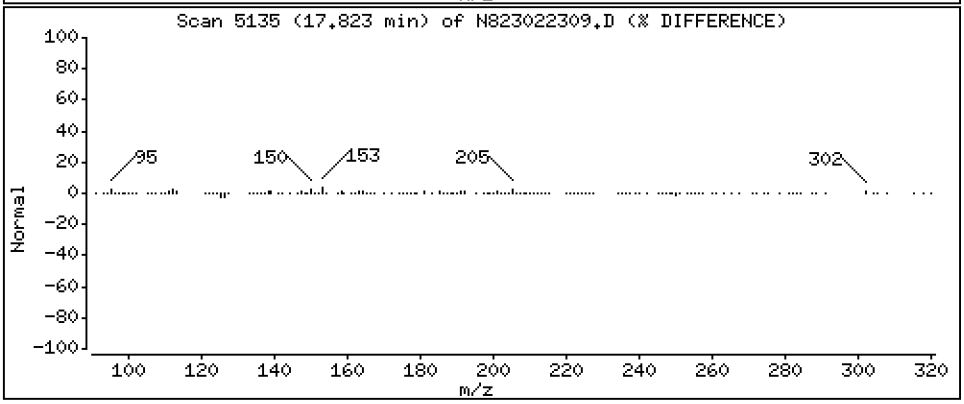












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022309.D

Date : 23-FEB-2023 15:09

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-04

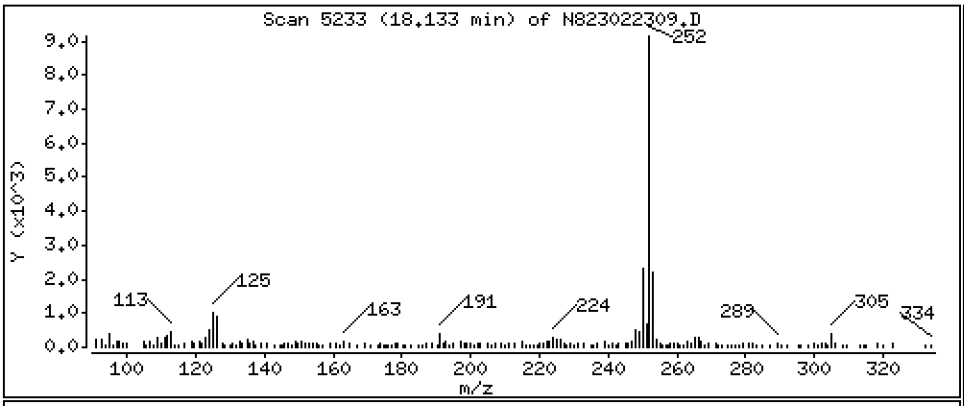
Operator: JZ

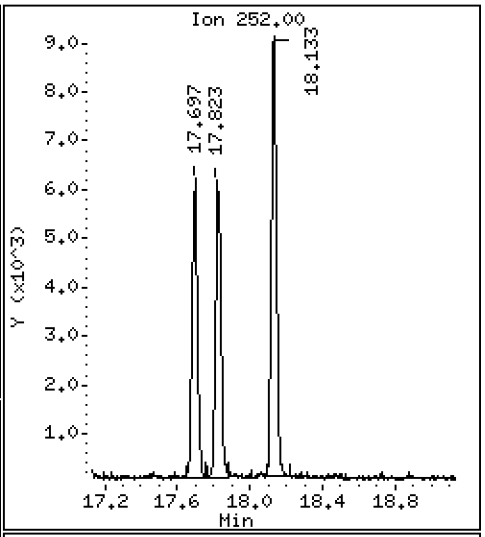
Column phase: Rxi-17sil

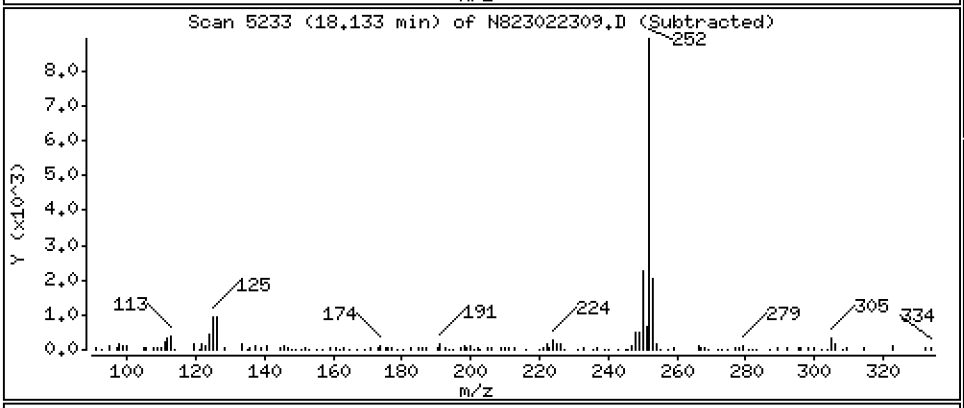
Column diameter: 0.25

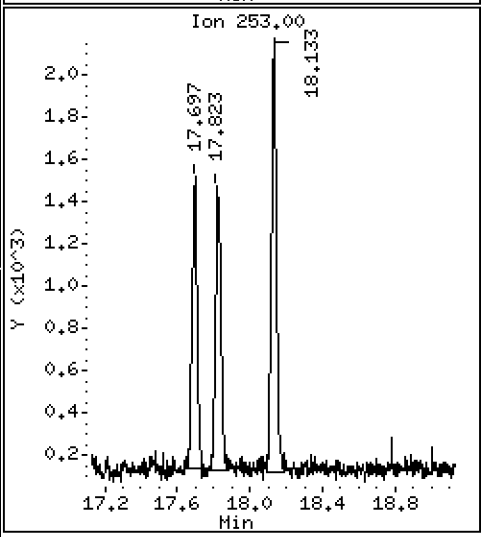
35 Perylene

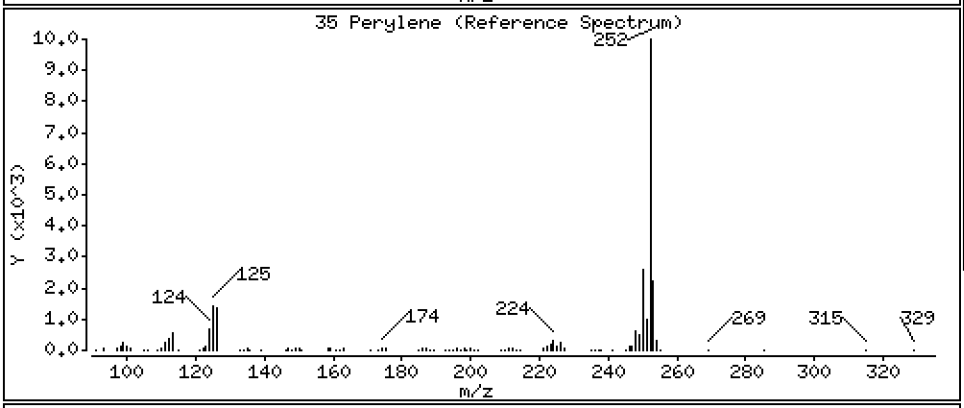
Concentration: 1.164 ug/mL

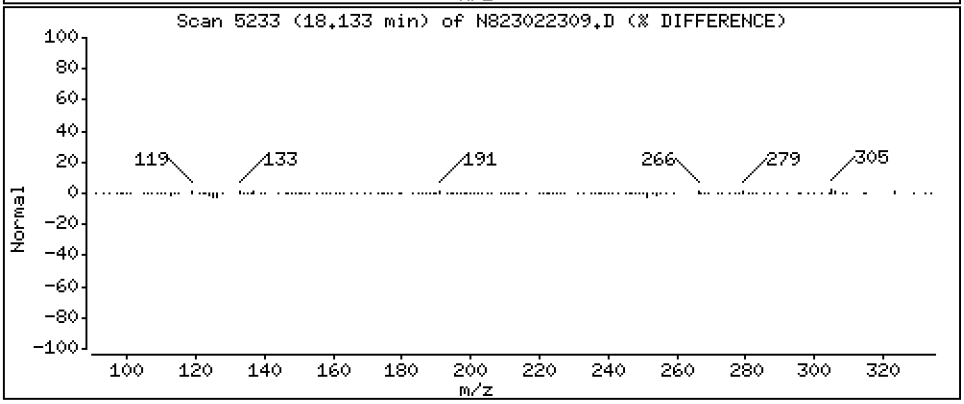












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Date : 23-FEB-2023 15:09

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-04

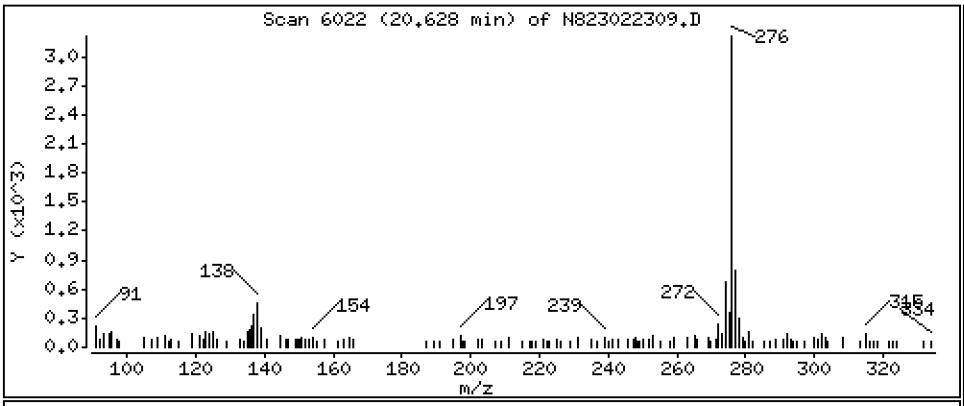
Operator: JZ

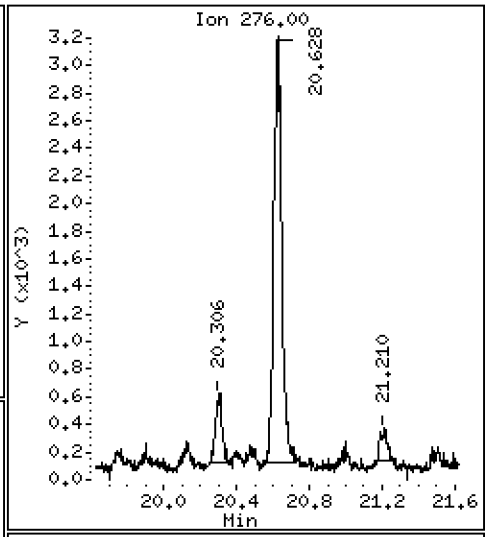
Column phase: Rxi-17sil

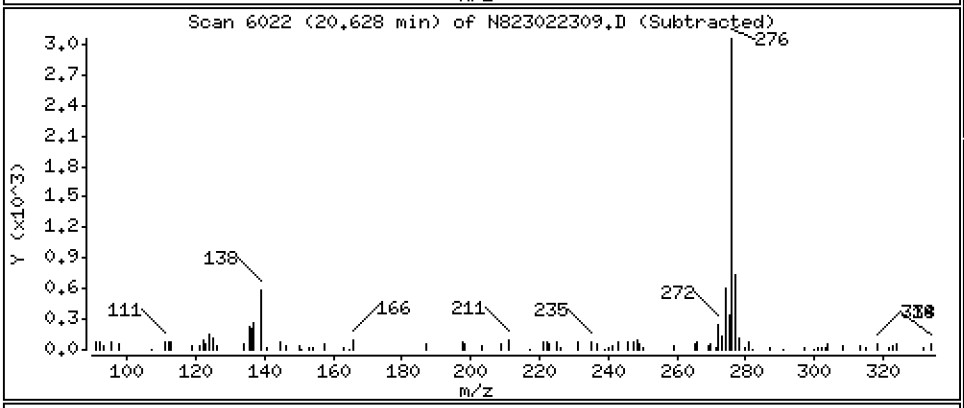
Column diameter: 0.25

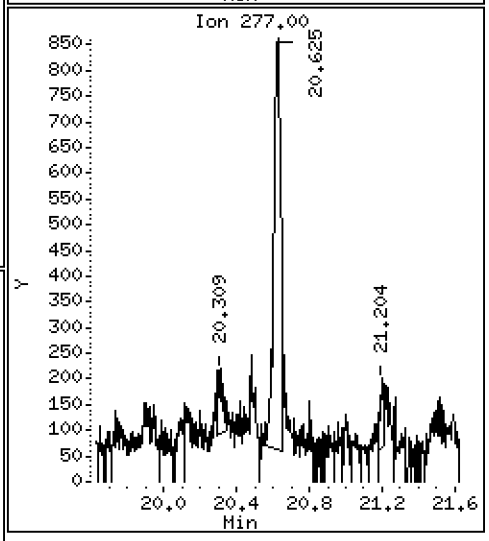
37 Indeno(1,2,3-cd)pyrene

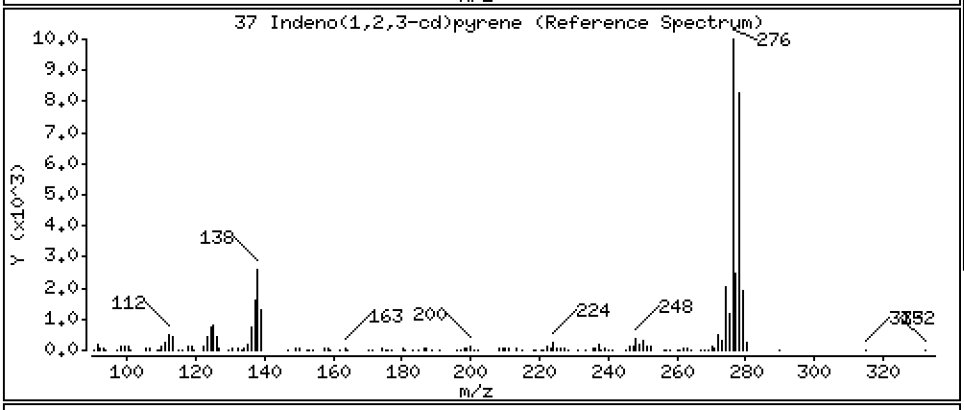
Concentration: 0.5808 ug/mL

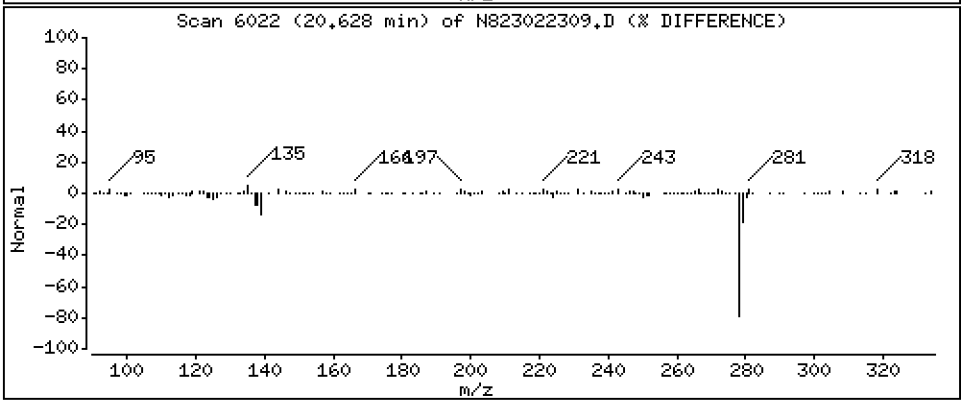












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Date : 23-FEB-2023 15:09

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-04

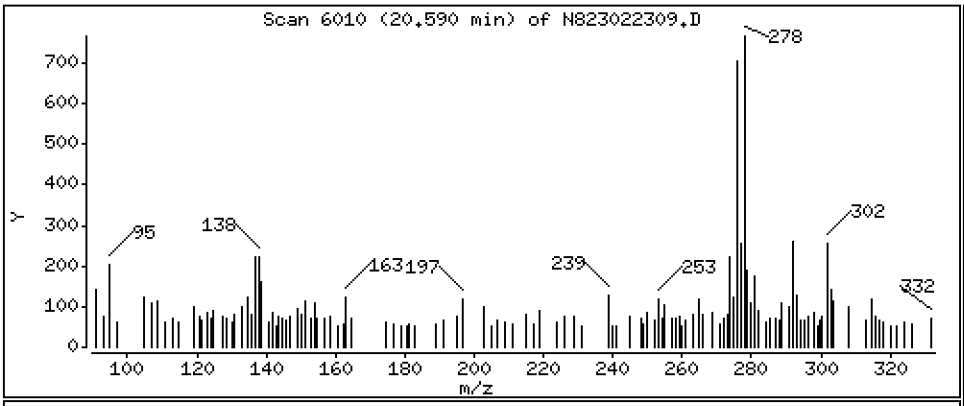
Operator: JZ

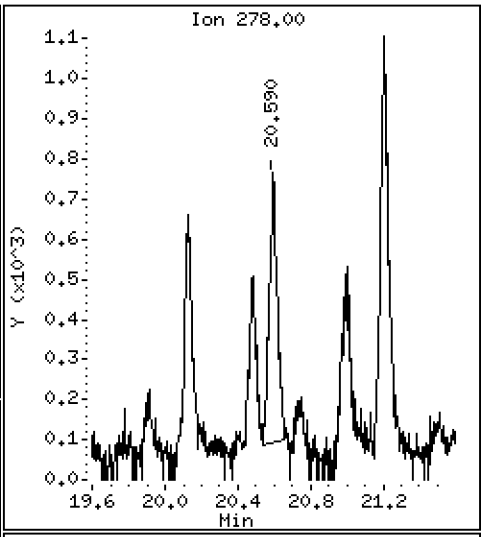
Column phase: Rxi-17sil

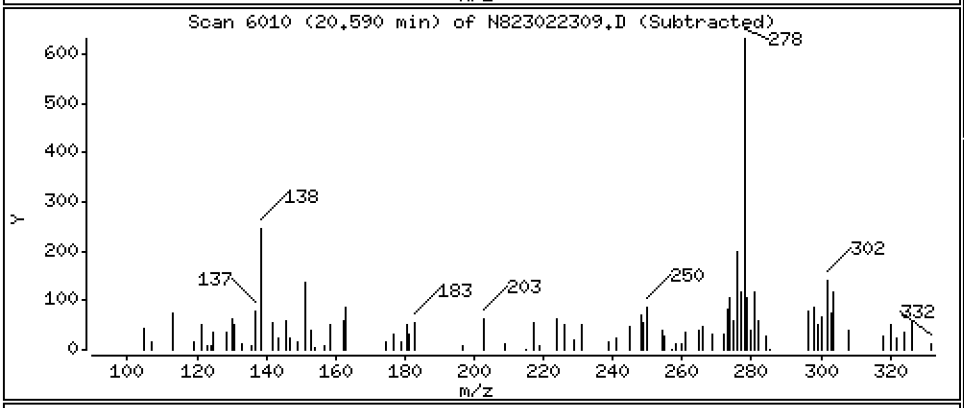
Column diameter: 0.25

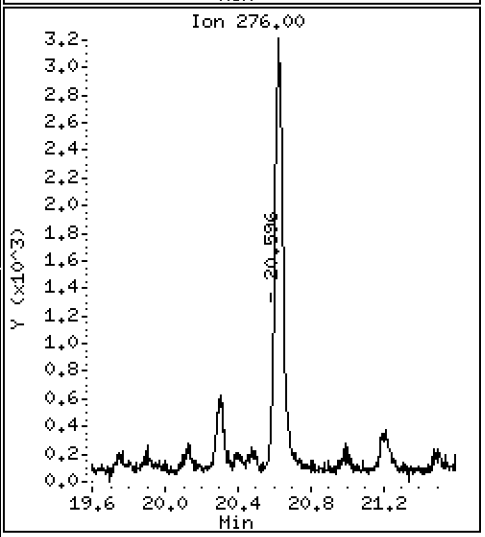
38 Dibenzo(a,h)anthracene

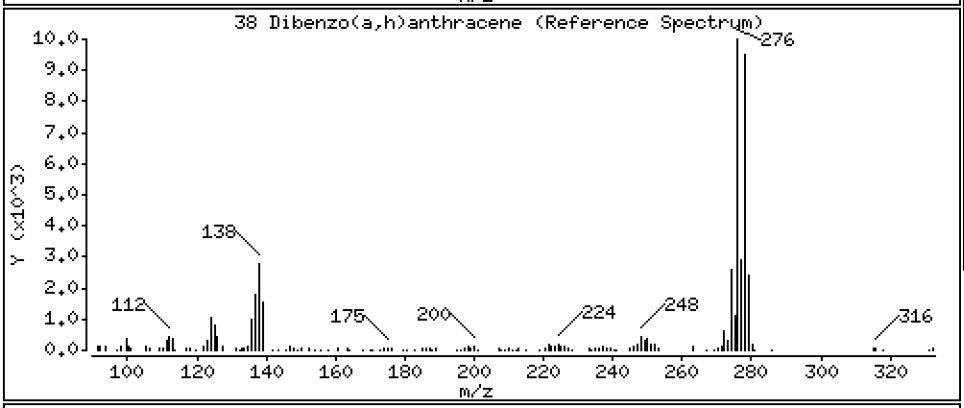
Concentration: 0.1448 ug/mL

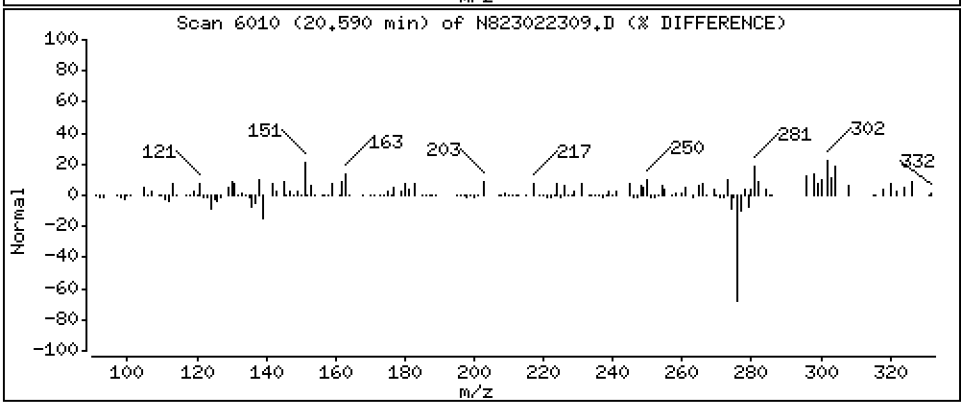












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Date : 23-FEB-2023 15:09

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-04

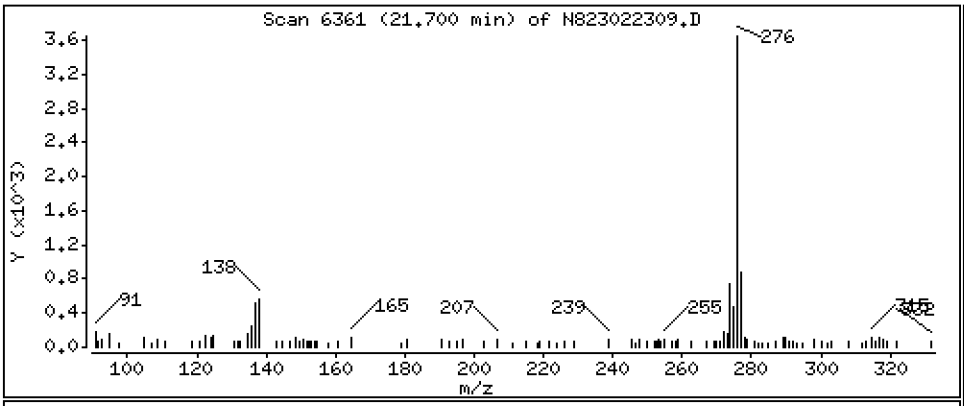
Operator: JZ

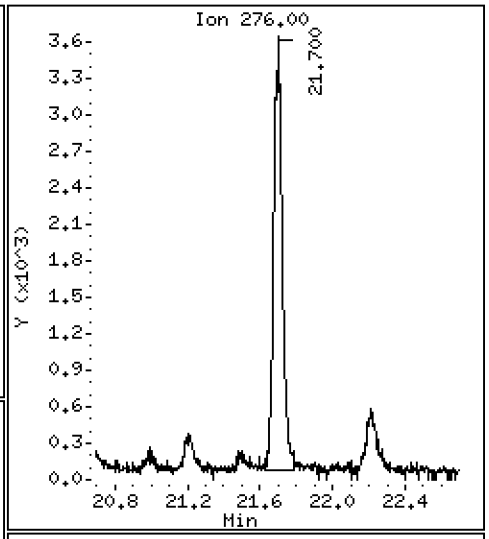
Column phase: Rxi-17sil

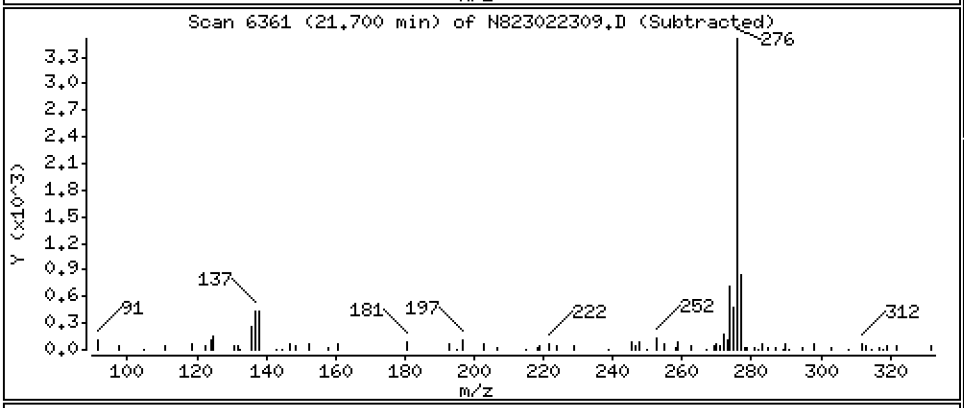
Column diameter: 0.25

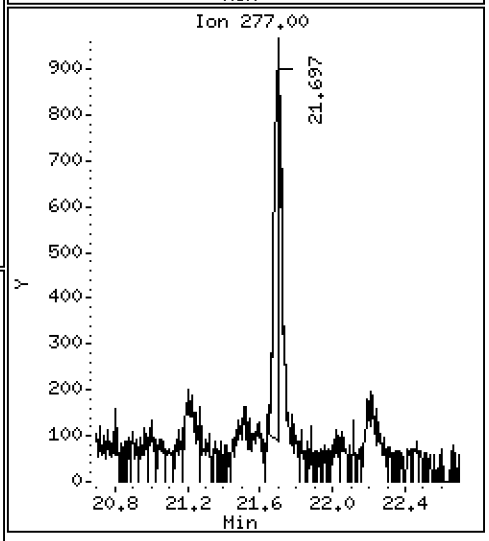
39 Benzo(g,h,i)perylene

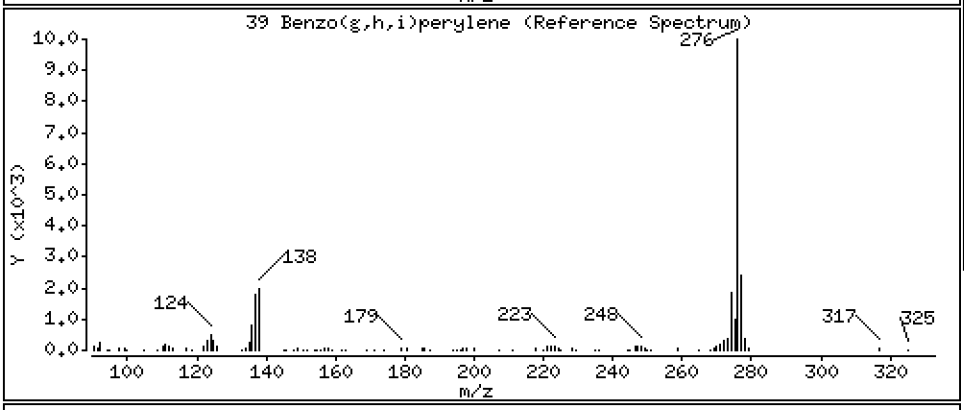
Concentration: 0.7980 ug/mL

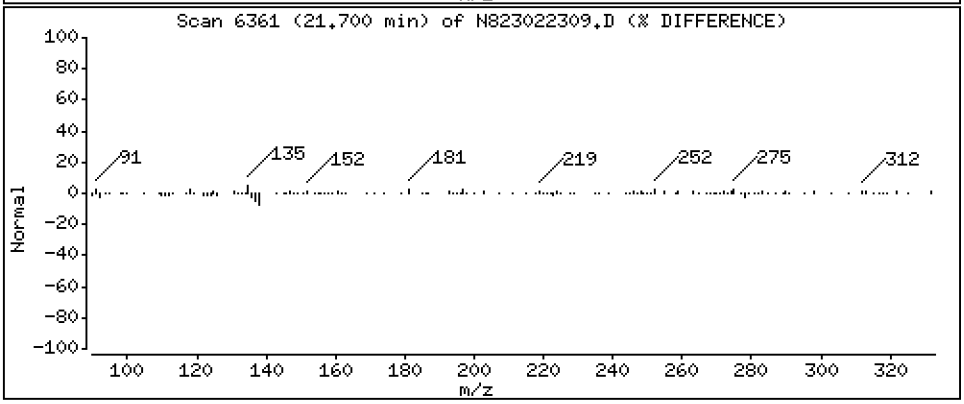












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230223.b\N823022309.D
Lab Smp Id: 23A0418-04
Inj Date : 23-FEB-2023 15:09
Operator : JZ Inst ID: nt8.i
Smp Info : 23A0418-04
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Meth Date : 26-Feb-2023 11:43 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PNAXEMDL.sub
Target Version: 4.14
Processing Host: JIANQING-202105

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.862	4.871	(1.000)	40283	2.00000	
	2 Naphthalene	128	4.894	4.903	(1.007)	4395	0.23465	0.2347
$	3 2-Methylnaphthalene-d10	152	5.599	5.605	(1.152)	21362	1.94444	1.944
	4 2-Methylnaphthalene	141	5.646	5.652	(1.161)	1812	0.17588	0.1759
	5 1-methylnaphthalene	141	5.842	5.849	(1.202)	1320	0.12624	0.1262
	9 Acenaphthylene	152	7.047	7.050	(0.985)	995	0.05314	0.05314(M)
*	10 Acenaphthene-d10	164	7.154	7.158	(1.000)	24794	2.00000	
	11 Acenaphthene	153	7.205	7.208	(1.007)	1457	0.11614	0.1161(M)
	12 Dibenzofuran	168	7.357	7.360	(1.028)	2142	0.11242	0.1124
	14 Fluorene	166	7.837	7.837	(1.095)	1557	0.10521	0.1052(M)
*	15 Phenanthrene-d10	188	9.200	9.197	(1.000)	46052	2.00000	
	16 Phenanthrene	178	9.235	9.235	(1.004)	13457	0.59821	0.5982
	17 Anthracene	178	9.276	9.276	(1.008)	5330	0.26082	0.2608
	19 Carbazole	167	9.795	9.791	(1.065)	1574	0.08402	0.08402
	22 Fluoranthene	202	11.025	11.009	(1.198)	38697	1.58034	1.580
$	21 Fluoranthene-d10	212	10.987	10.971	(1.194)	46983	2.31239	2.312
	23 Pyrene	202	11.553	11.527	(0.816)	40341	2.39255	2.393
	24 Benzo(a)anthracene	228	14.025	14.025	(0.991)	12402	0.81151	0.8115
*	25 Chrysene-d12	240	14.155	14.152	(1.000)	27196	2.00000	
	27 Chrysene	228	14.228	14.225	(1.005)	17730	1.08979	1.090
	28 Benzo(b)fluoranthene	252	16.770	16.770	(0.929)	15929	0.98485	0.9849
	29 Benzo(k)fluoranthene	252	16.833	16.833	(0.932)	8133	0.51337	0.5134
	30 Benzo(j)fluoranthene	252	16.912	16.912	(0.937)	7198	0.50470	0.5047
	31 Total Benzofluoranthenes	252	16.770	16.770	(0.929)	31483	2.05535	2.055(M)
	34 Benzo(e)pyrene	252	17.696	17.696	(0.980)	12248	0.75940	0.7594
	32 Benzo(a)pyrene	252	17.823	17.826	(0.987)	12556	0.88217	0.8822
*	33 Perylene-d12	264	18.057	18.057	(1.000)	27771	2.00000	
	35 Perylene	252	18.133	18.130	(1.004)	17777	1.16391	1.164
$	36 Dibenzo(a,h)anthracene-d14	292	20.485	20.485	(1.134)	26793	2.46230	2.462
	37 Indeno(1,2,3-cd)pyrene	276	20.628	20.624	(1.142)	9417	0.58077	0.5808
	38 Dibenzo(a,h)anthracene	278	20.590	20.596	(1.140)	2020	0.14476	0.1448(M)
	39 Benzo(g,h,i)perylene	276	21.700	21.696	(1.202)	11724	0.79804	0.7980

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823022309.D
Lab Smp Id: 23A0418-04
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 23-FEB-2023
Calibration Time: 11:46
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	37022	18511	74044	40283	8.81
10 Acenaphthene-d10	22454	11227	44908	24794	10.42
15 Phenanthrene-d10	43277	21639	86554	46052	6.41
25 Chrysene-d12	38907	19454	77814	27196	-30.10
33 Perylene-d12	39582	19791	79164	27771	-29.84

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.87	4.37	5.37	4.86	-0.19
10 Acenaphthene-d10	7.16	6.66	7.66	7.15	-0.04
15 Phenanthrene-d10	9.20	8.70	9.70	9.20	0.03
25 Chrysene-d12	14.15	13.65	14.65	14.16	0.02
33 Perylene-d12	18.06	17.56	18.56	18.06	0.00

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

REVIEW SUMMARY FOR FILE - N823022309.D

Lab ID: 23A0418-04
nt8.i, 20230223.b\FSIMPNA230119.m,   23-FEB-2023 15:09

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

No RRT check performed

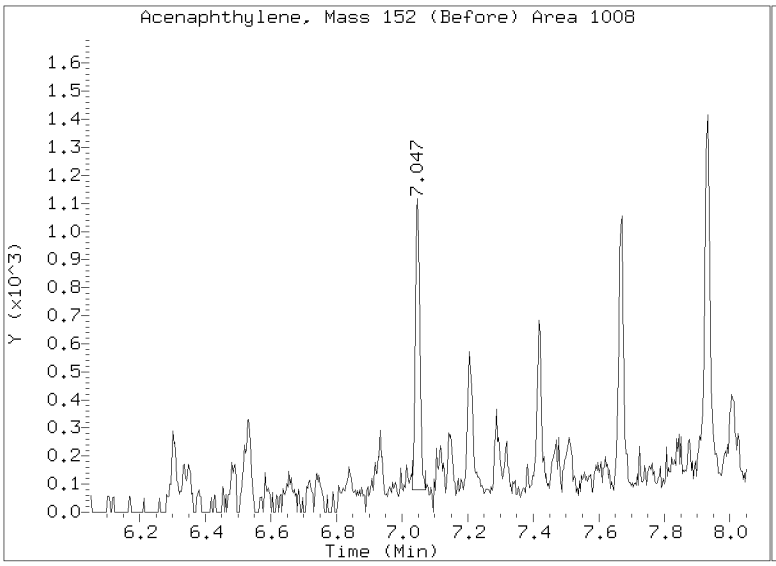
On Column LOD for nt8.i, 20230223.b\FSIMPNA230119.m, PNAXEMDL.sub = 0.0080

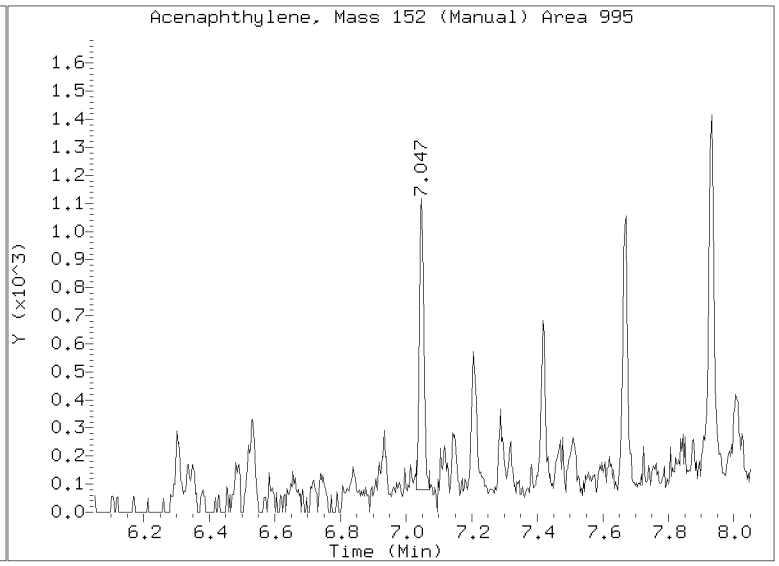
Exception: Benzo(e)pyrene 0.0800

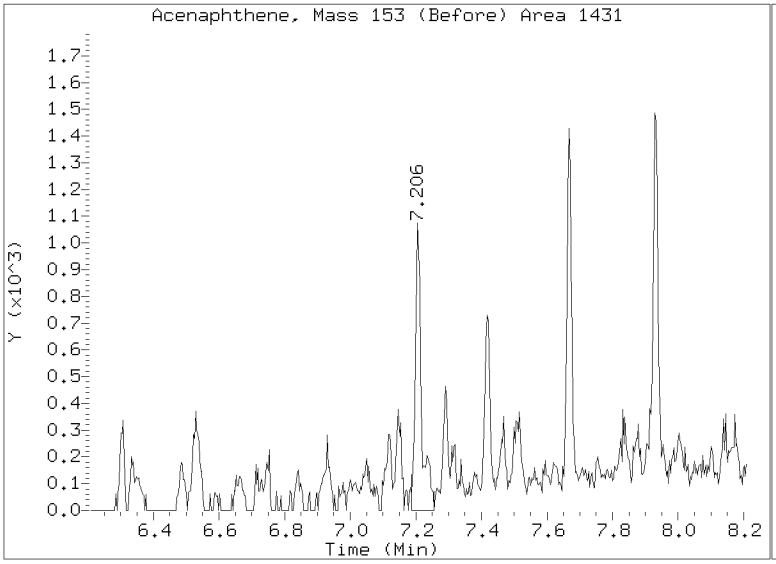
* Only compounds listed in the work order have been verified by the analyst *

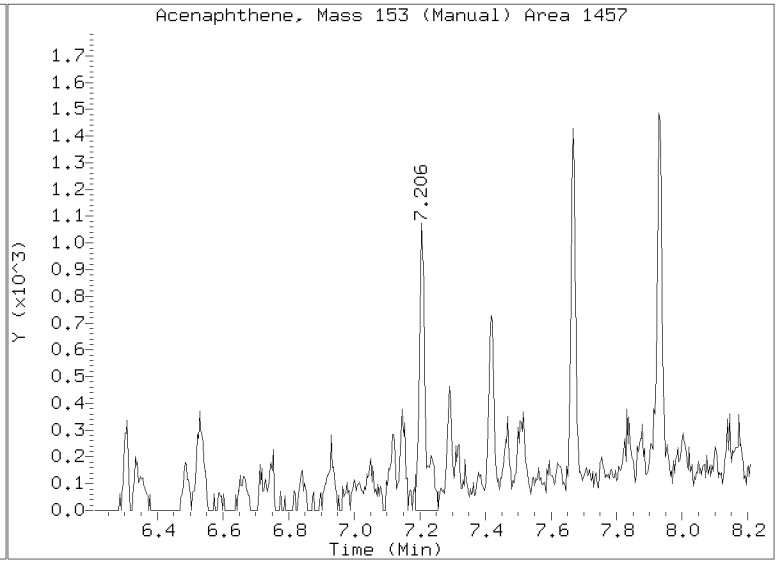
Quant Ion Manual Peak Adjustment Report

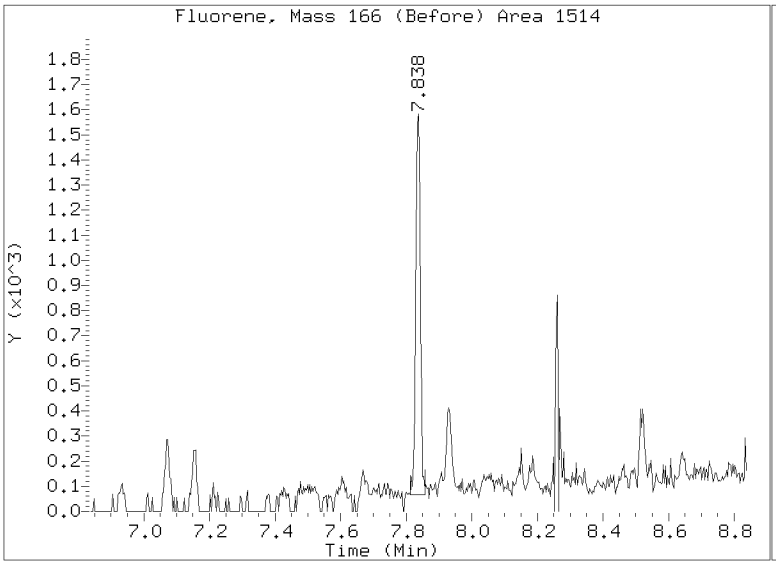
Datafile: //target/share/chem3/nt8.i/20230223.b/N823022309.D
Injection Date: 23-FEB-2023 15:09
Lab ID:23A0418-04 Client ID:
Report Date: 02/26/2023 12:32

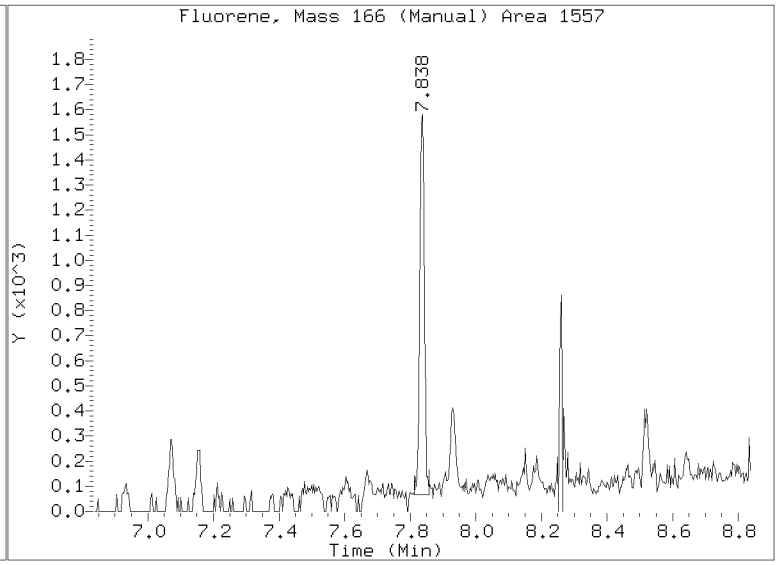






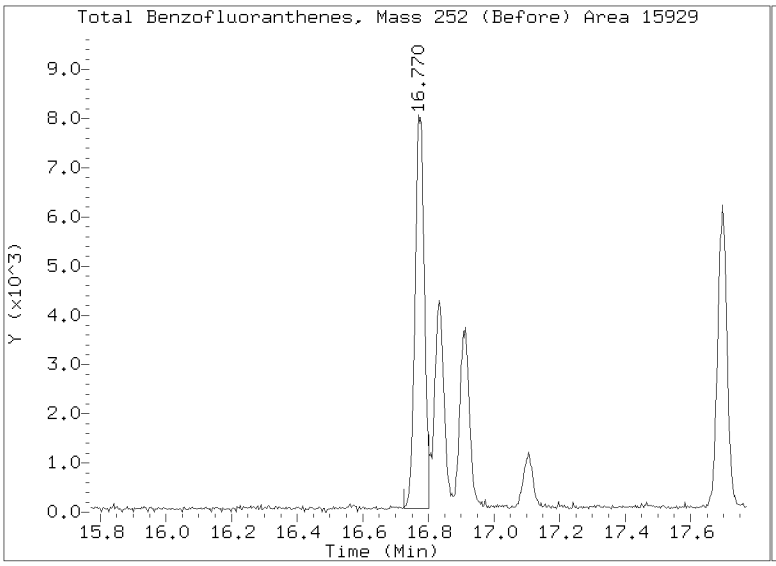


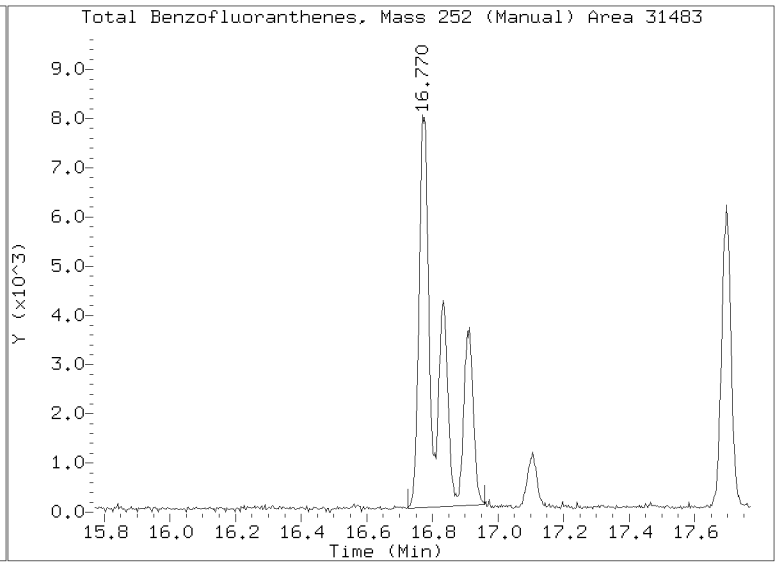


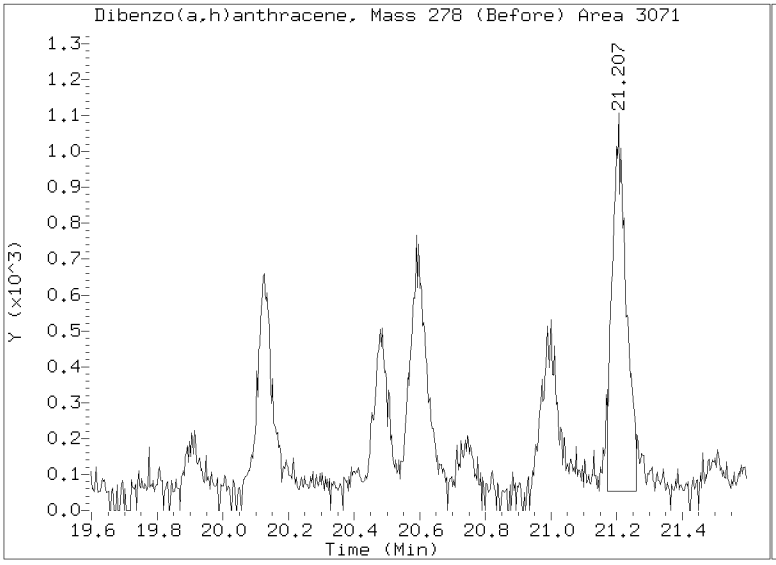


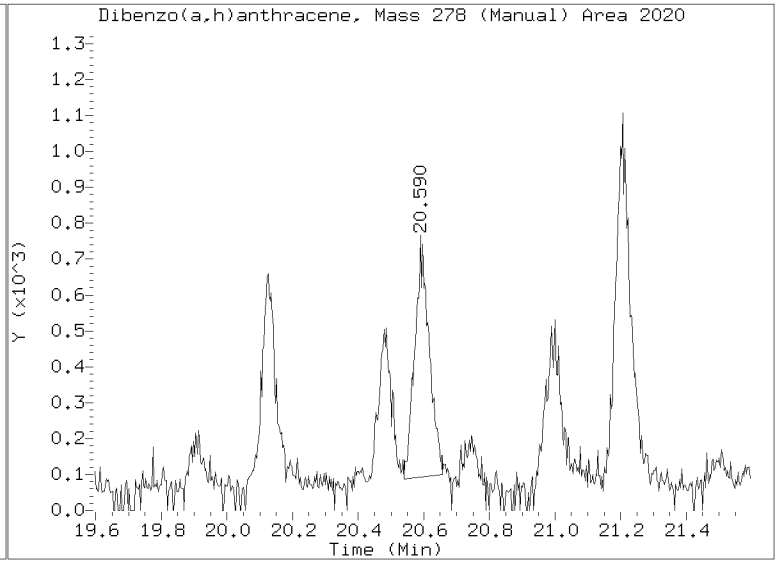
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20230223.b/N823022309.D
Injection Date: 23-FEB-2023 15:09
Lab ID:23A0418-04 Client ID:
Report Date: 02/26/2023 12:32









Analytical Resources, LLC
Analytical Chemists and Consultants

LDW23-IT1133

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270E-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-05 A	SDG:	23A0418
Sampled:	01/18/23 11:13	Prepared:	02/16/23 14:32	File ID:	N823022310.D
% Solids:	71.61	Preparation:	EPA 3546 (Microwave)	Analyzed:	02/23/23 15:36
Batch:	BLB0386	Sequence:	SLB0310	Initial/Final:	13.98 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	GA00050
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	138		0.82	4.99
218-01-9	Chrysene	1	170		1.05	4.99
205-99-2	Benzo(b)fluoranthene	1	152		1.37	4.99
207-08-9	Benzo(k)fluoranthene	1	78.5		0.76	4.99
50-32-8	Benzo(a)pyrene	1	124		0.61	4.99
193-39-5	Indeno(1,2,3-cd)pyrene	1	73.4		1.05	4.99
53-70-3	Dibenzo(a,h)anthracene	1	18.4		0.89	4.99

SURROGATES	ADDED: (ug/kg dry)	FOUND: (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	149.83	95.7	63.9	32 - 120	
Dibenzo[a,h]anthracene-d14	149.83	126	83.9	21 - 133	
Fluoranthene-d10	149.83	118	78.5	36 - 134	

Data File: \\target\share\chem3\nt8.i\20230223.b\N823022310.D

Date : 23-FEB-2023 15:36

Client ID:

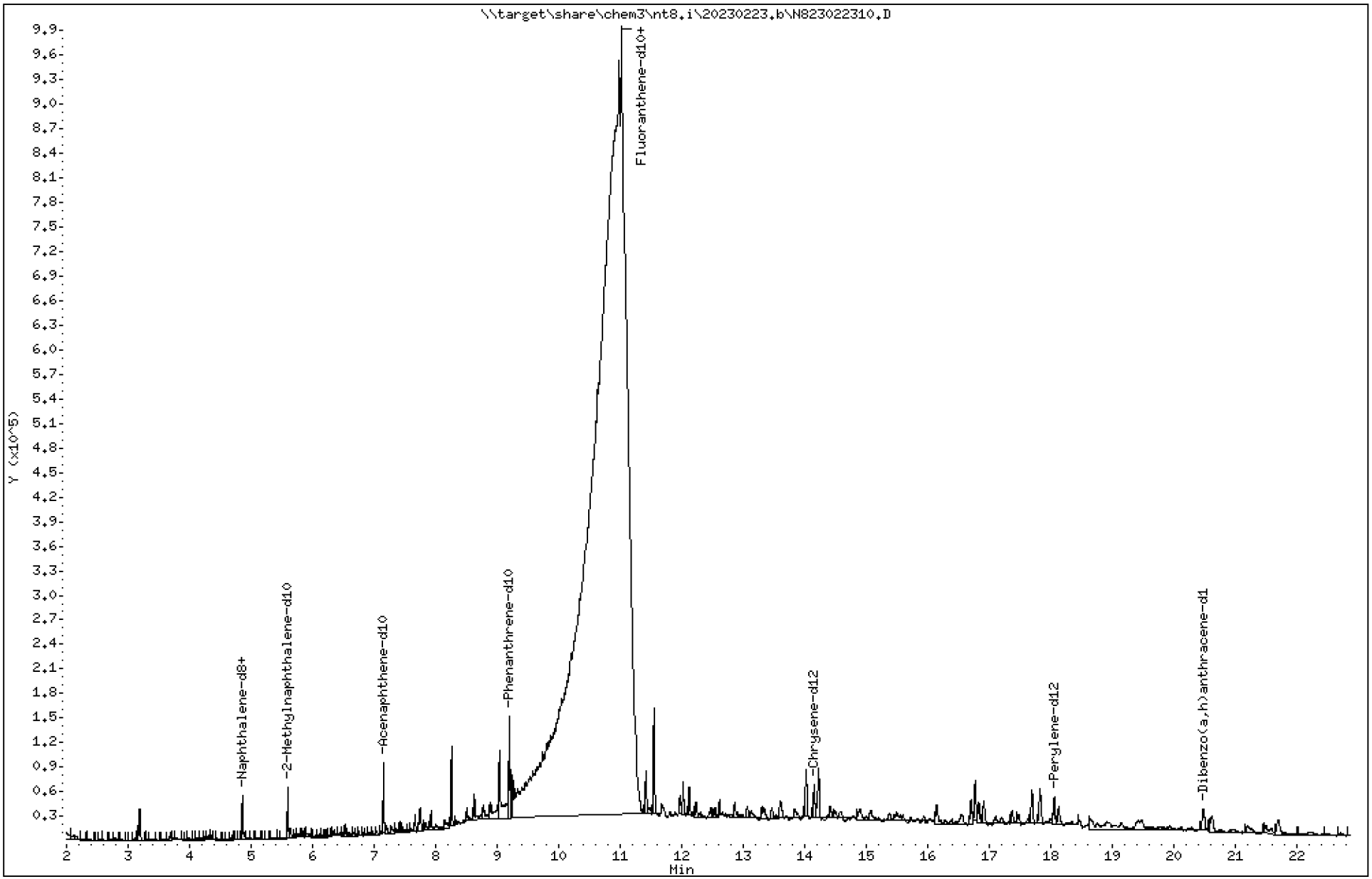
Instrument: nt8.i

Sample Info: 23A0418-05

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



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Date : 23-FEB-2023 15:36

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-05

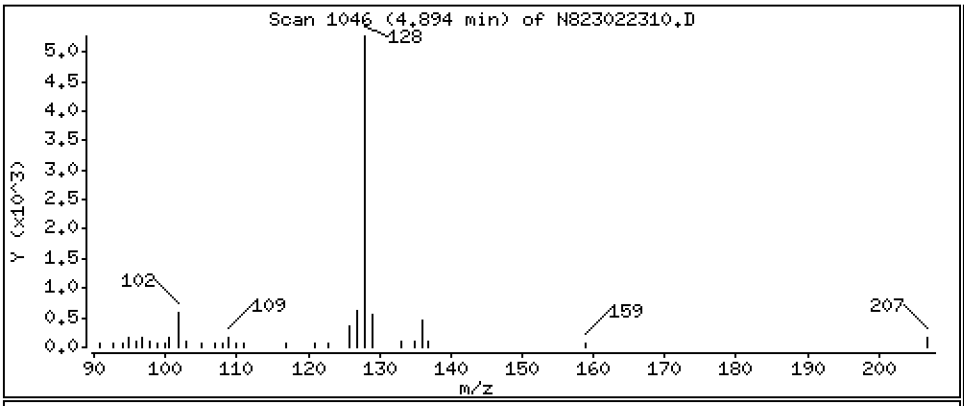
Operator: JZ

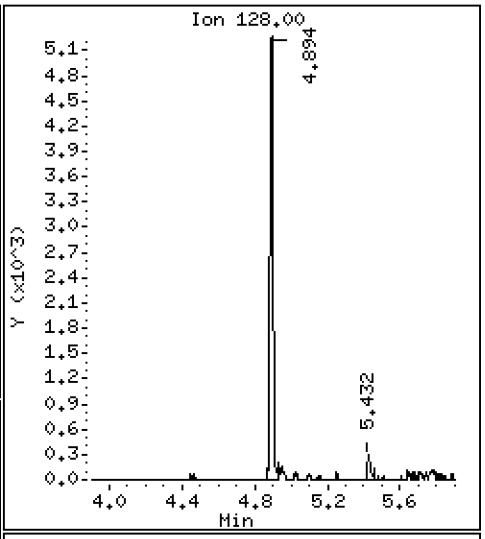
Column phase: Rxi-17sil

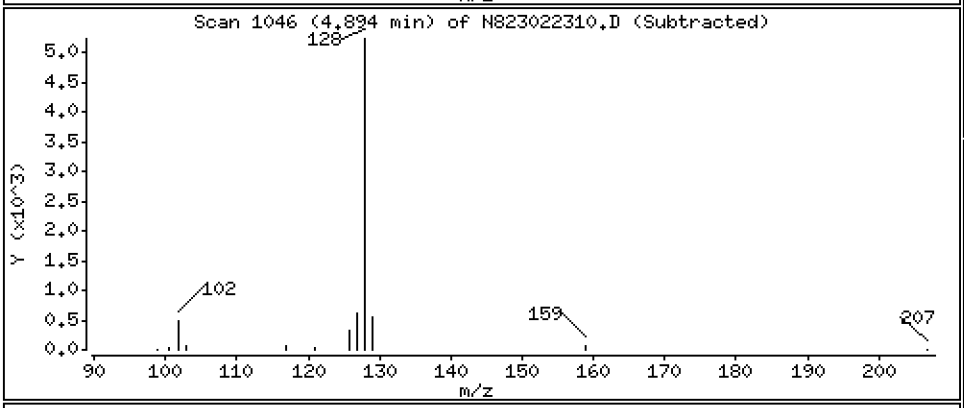
Column diameter: 0.25

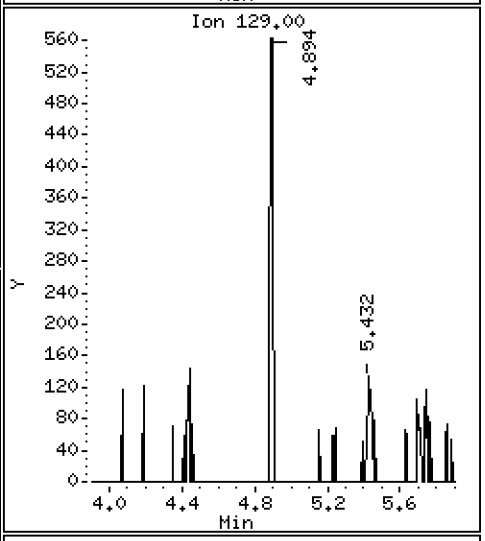
2 Naphthalene

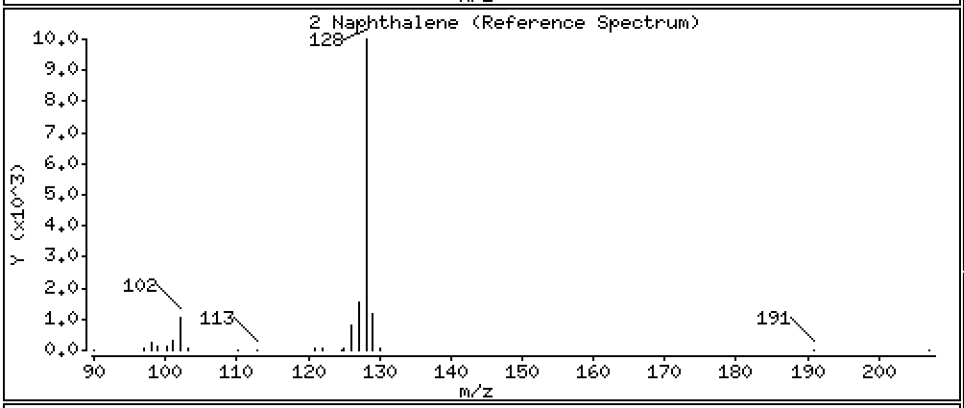
Concentration: 0.3295 ug/mL

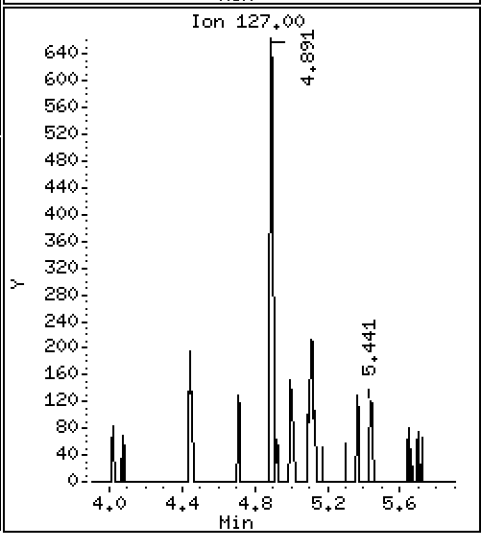


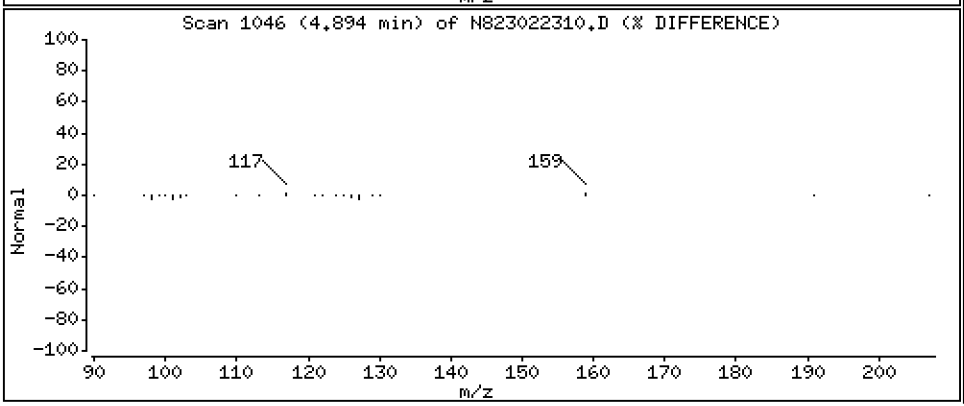












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Date : 23-FEB-2023 15:36

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-05

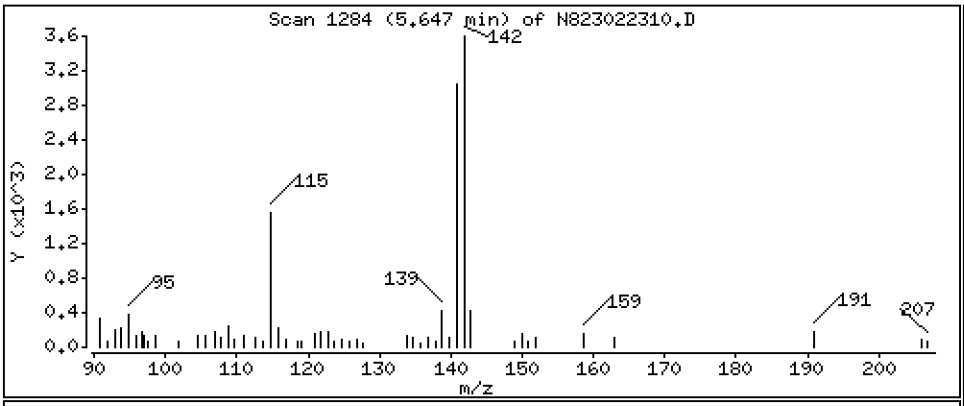
Operator: JZ

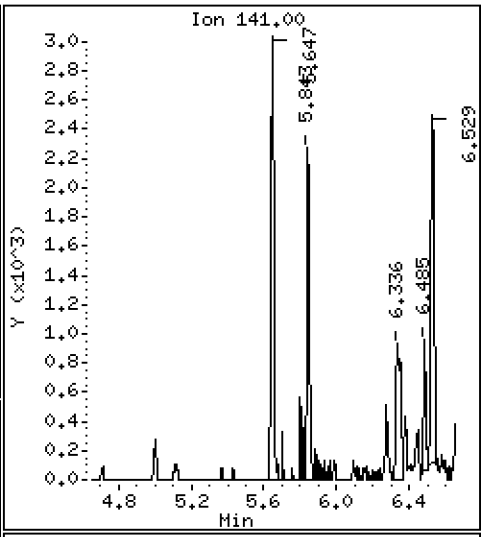
Column phase: Rxi-17sil

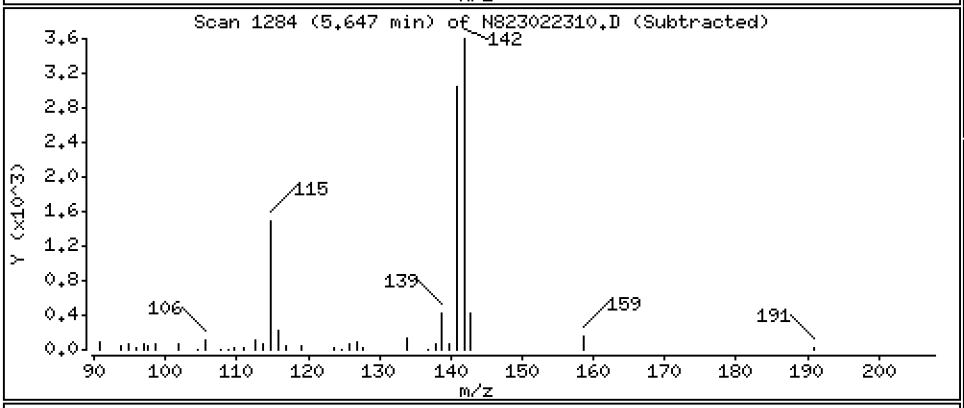
Column diameter: 0.25

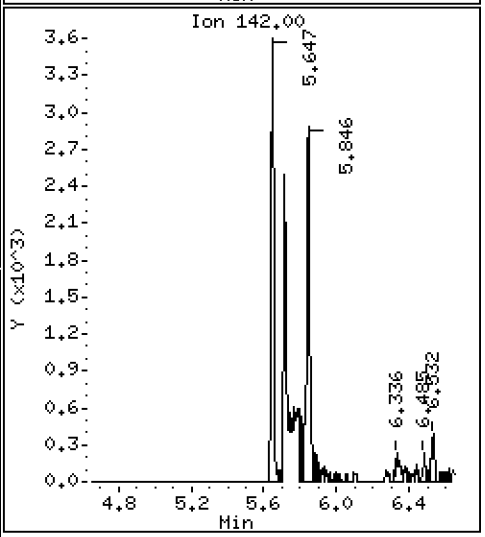
4 2-Methylnaphthalene

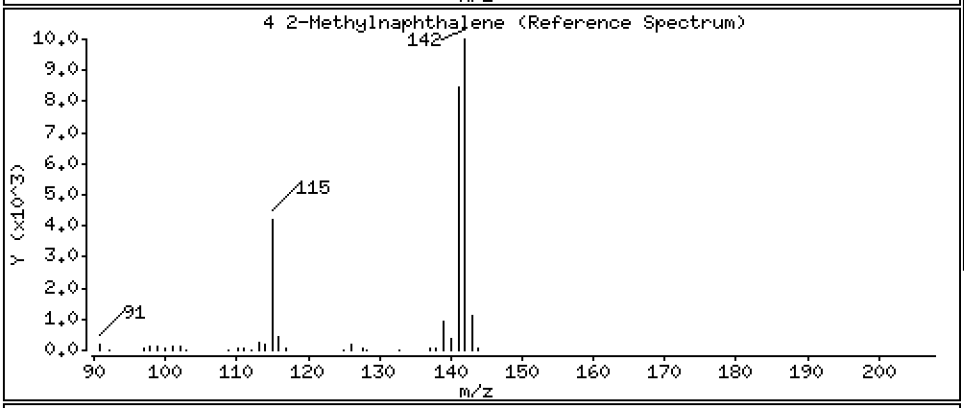
Concentration: 0.3147 ug/mL

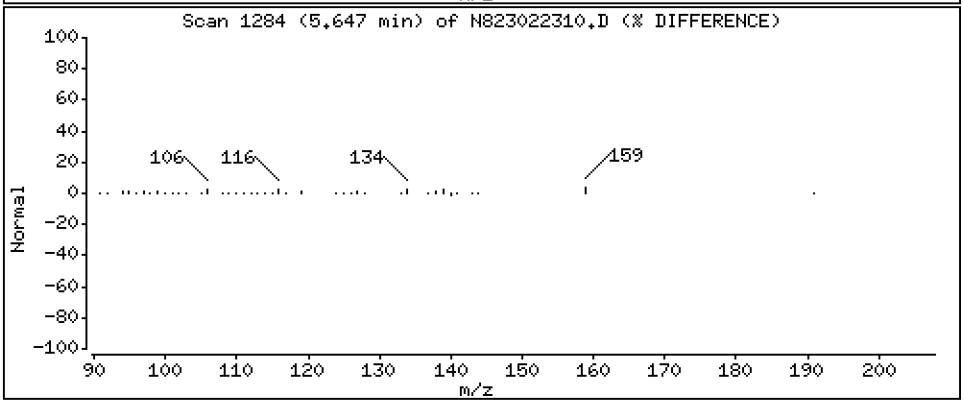












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Date : 23-FEB-2023 15:36

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-05

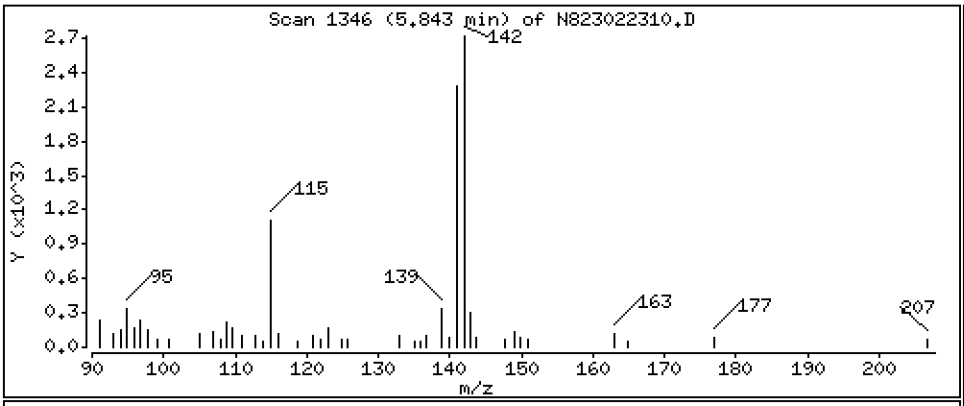
Operator: JZ

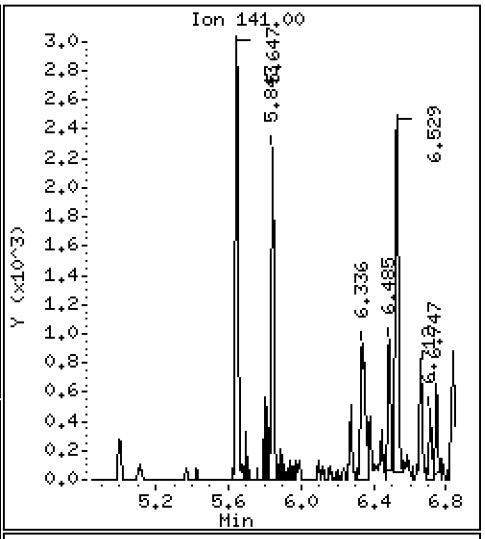
Column phase: Rxi-17sil

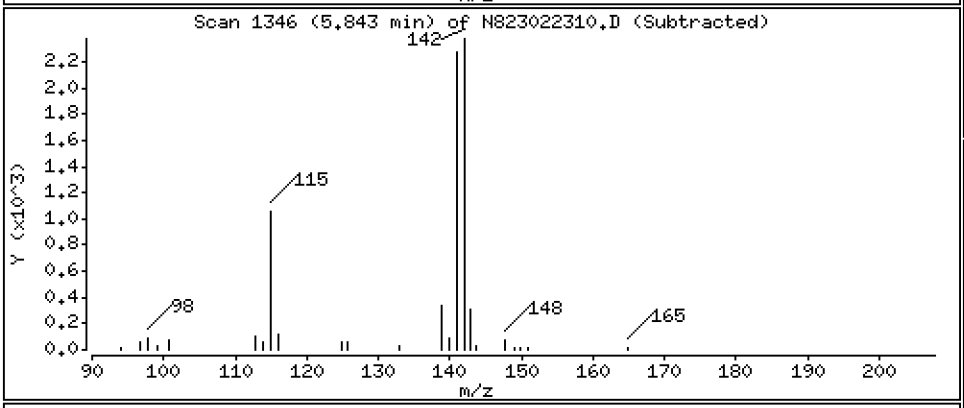
Column diameter: 0.25

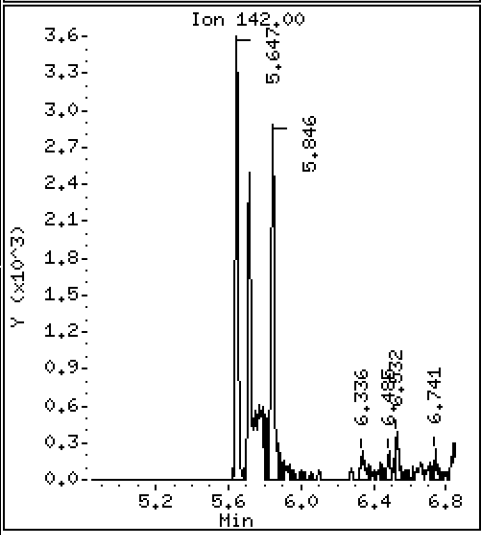
5 1-methylnaphthalene

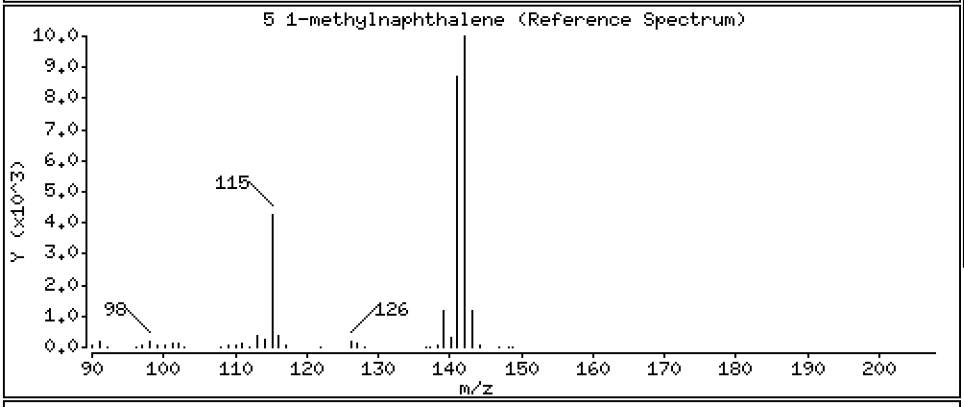
Concentration: 0.2210 ug/mL

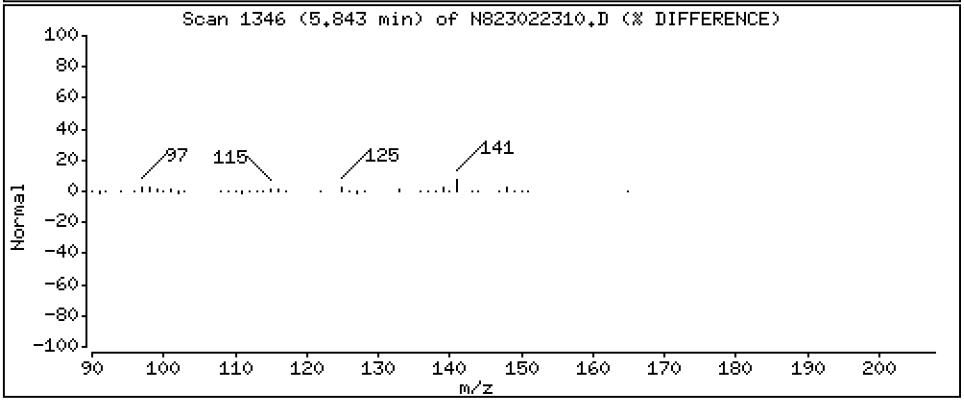












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Date : 23-FEB-2023 15:36

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-05

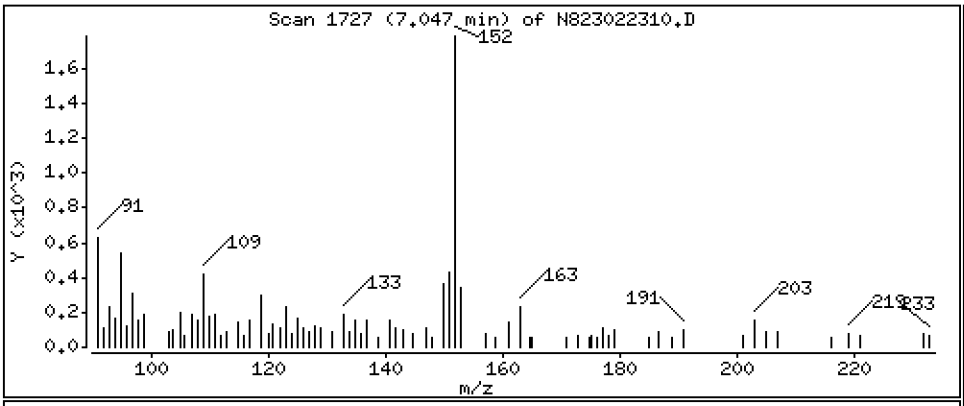
Operator: JZ

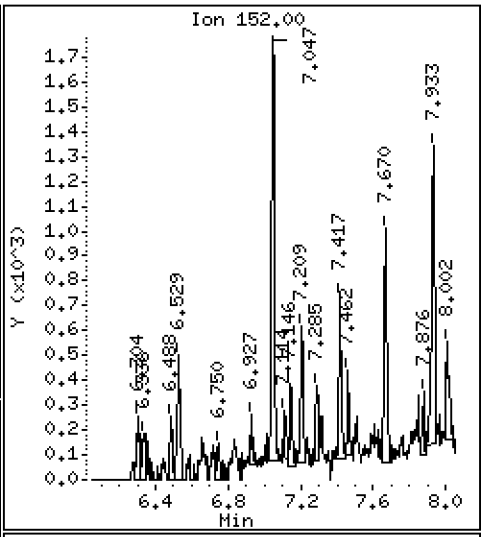
Column phase: Rxi-17sil

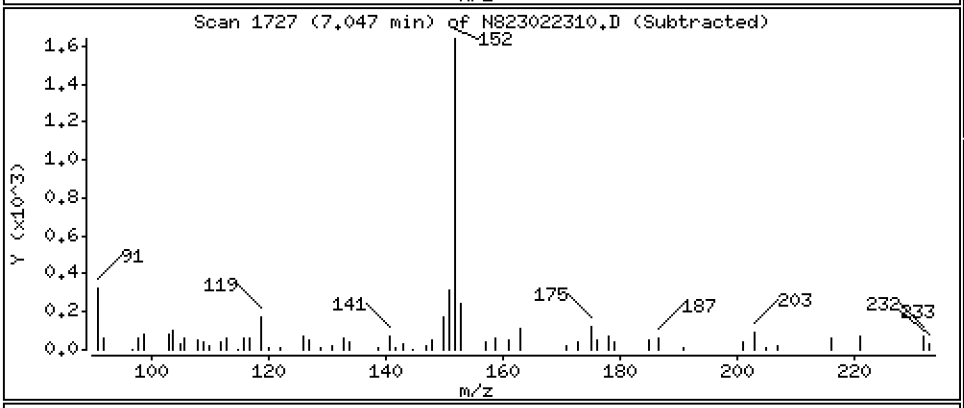
Column diameter: 0.25

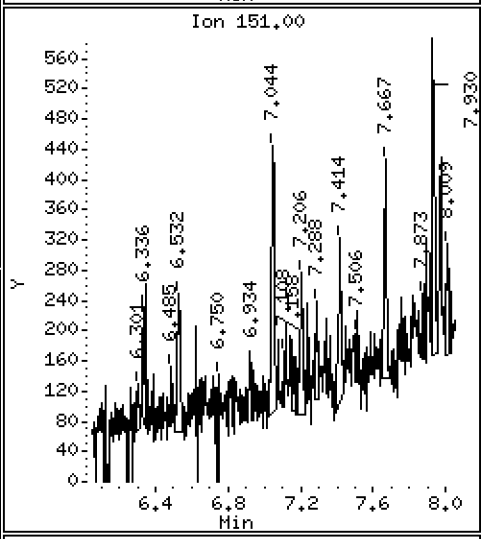
9 Acenaphthylene

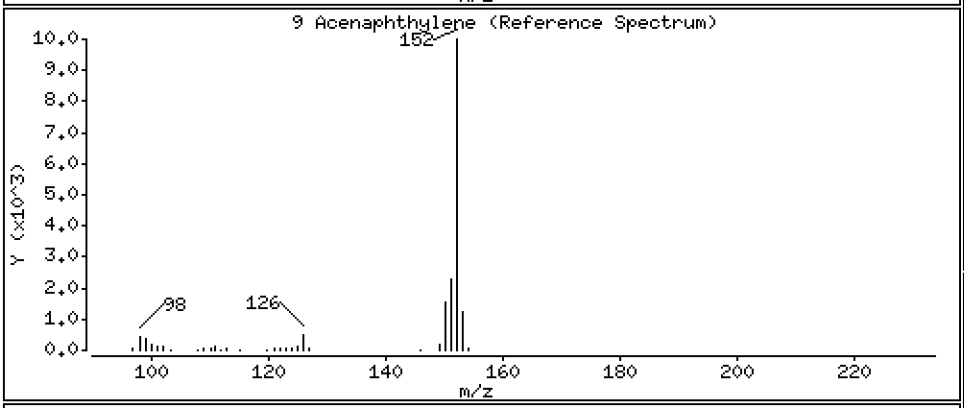
Concentration: 0.1050 ug/mL

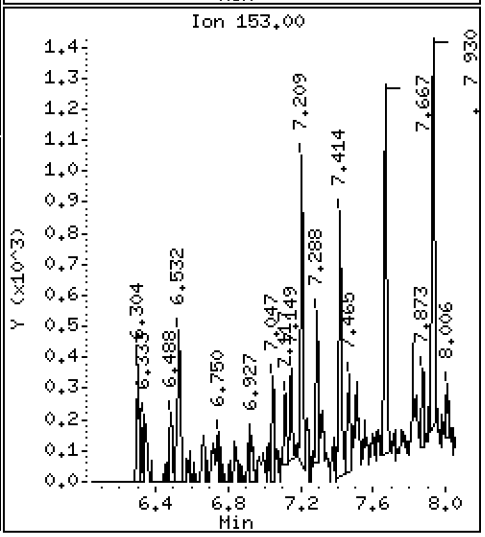


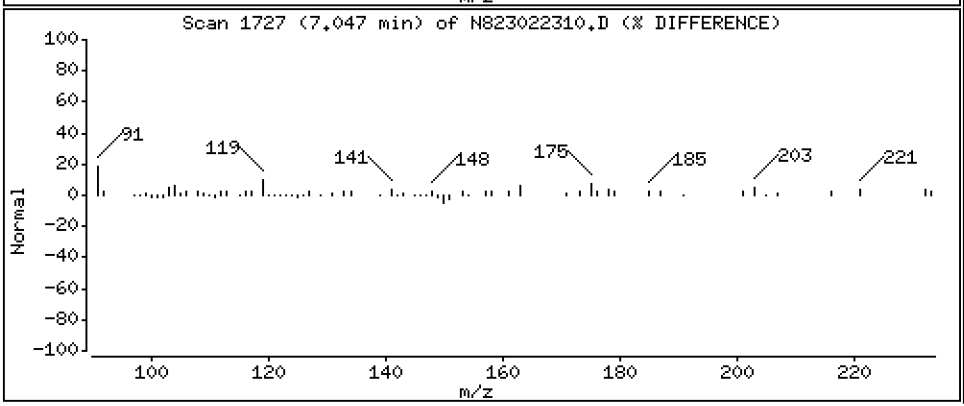












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022310.D

Date : 23-FEB-2023 15:36

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-05

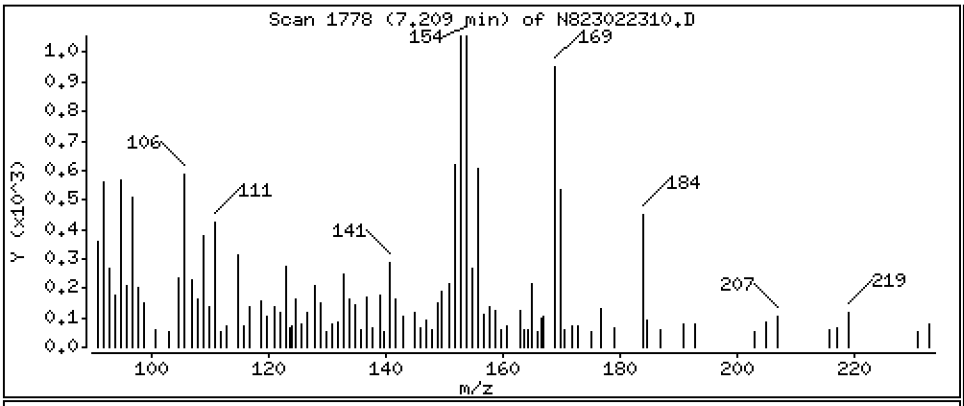
Operator: JZ

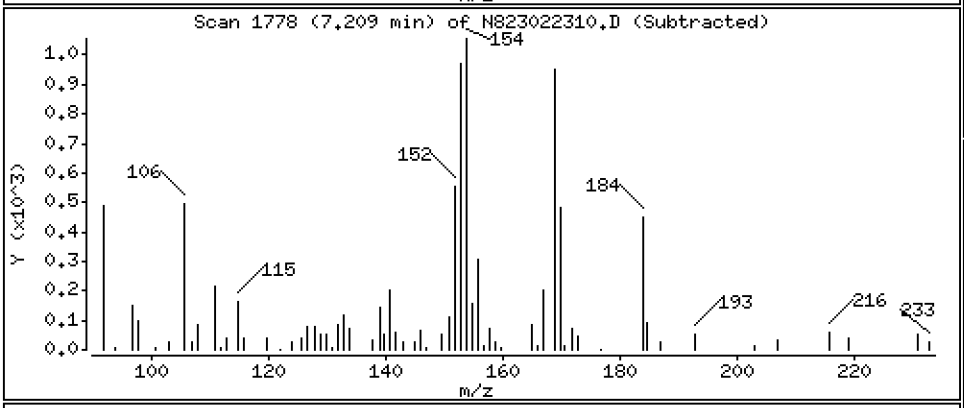
Column phase: Rxi-17sil

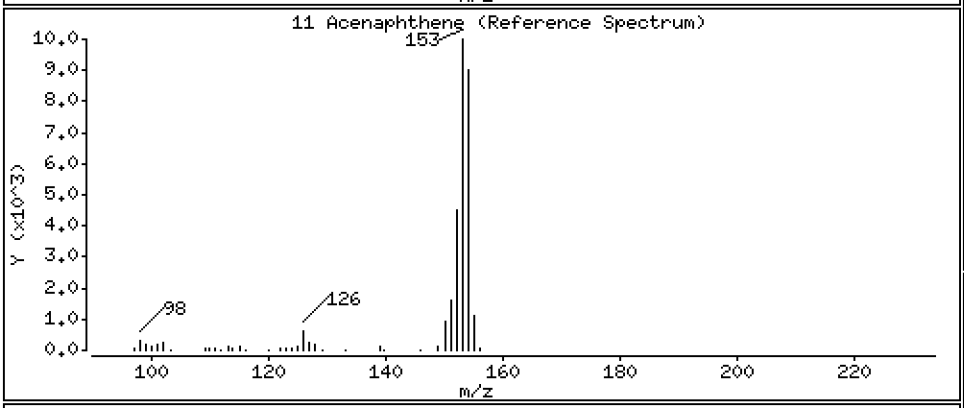
Column diameter: 0.25

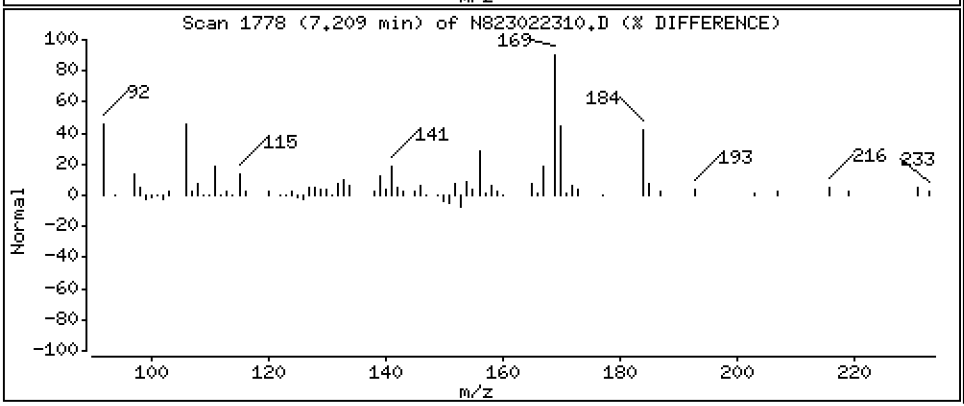
11 Acenaphthene

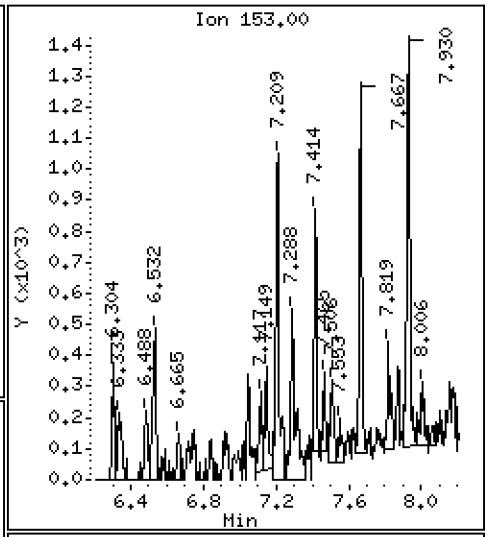
Concentration: 0.1160 ug/mL

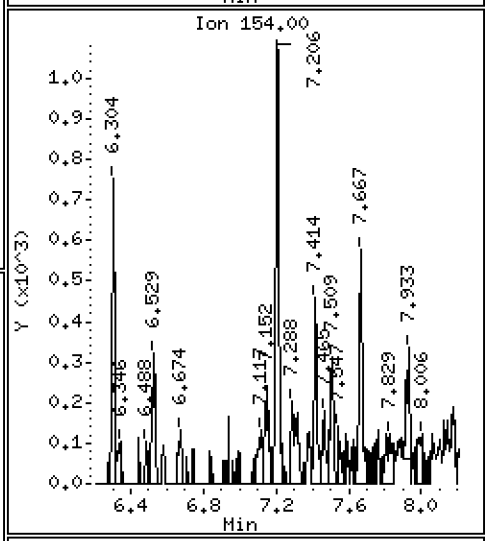


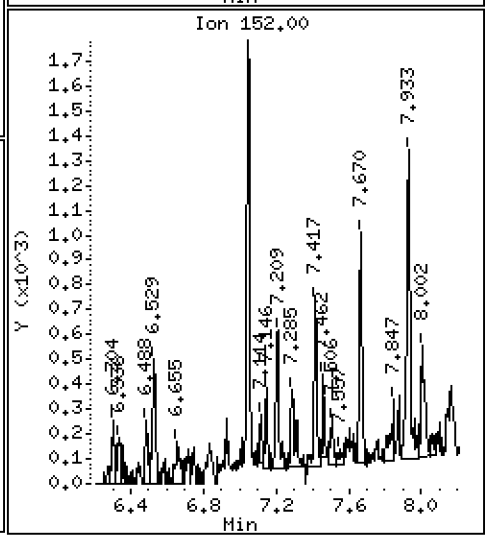












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022310.D

Date : 23-FEB-2023 15:36

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-05

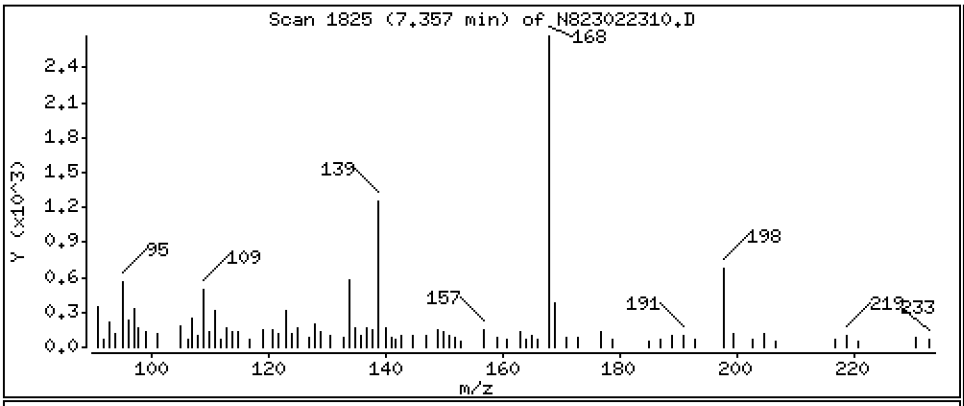
Operator: JZ

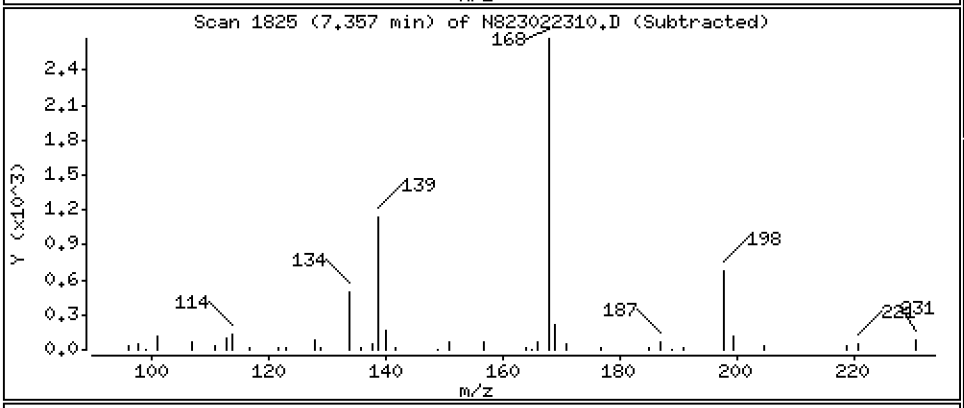
Column phase: Rxi-17sil

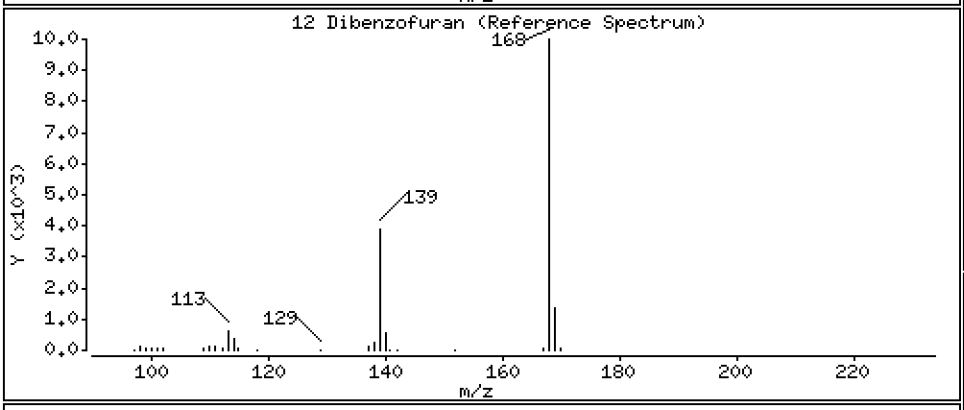
Column diameter: 0.25

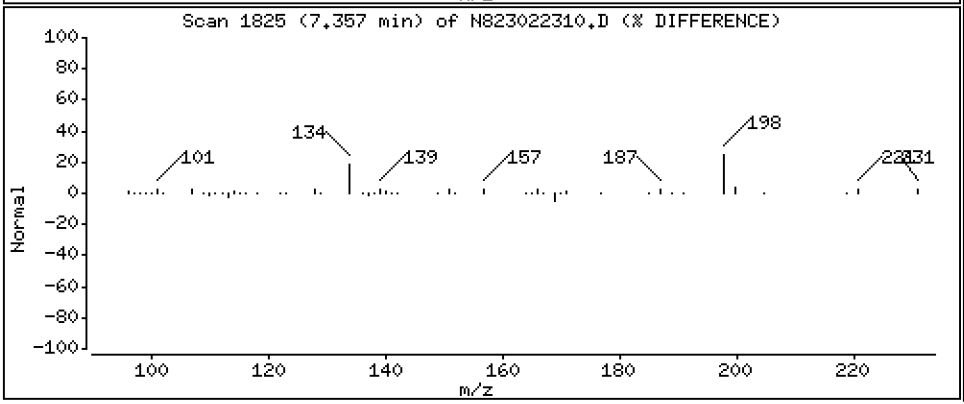
12 Dibenzofuran

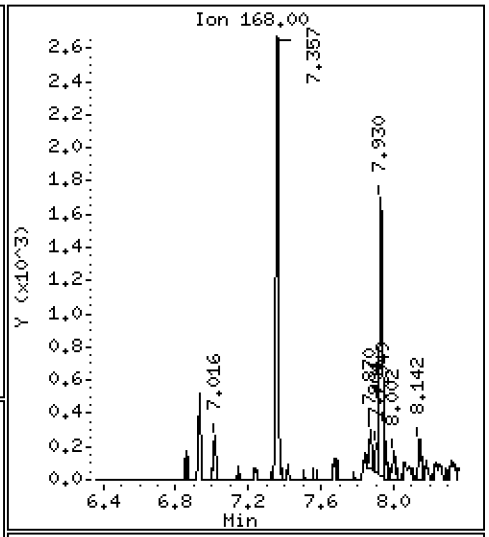
Concentration: 0.1463 ug/mL

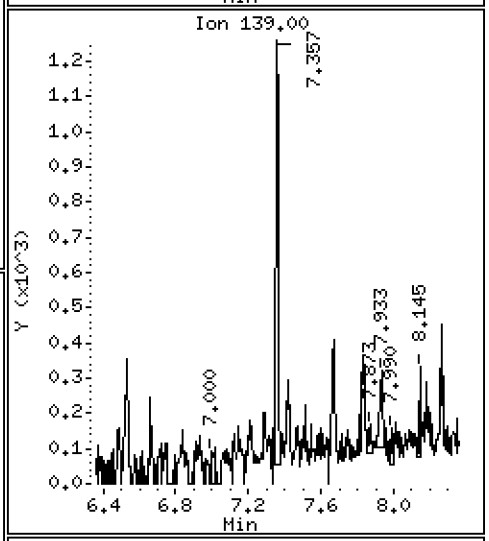


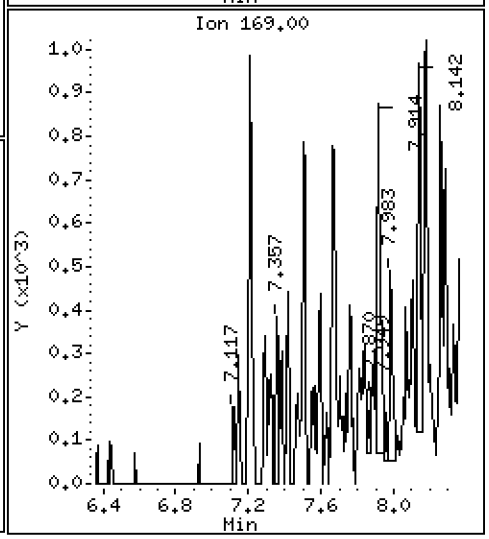












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Date : 23-FEB-2023 15:36

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-05

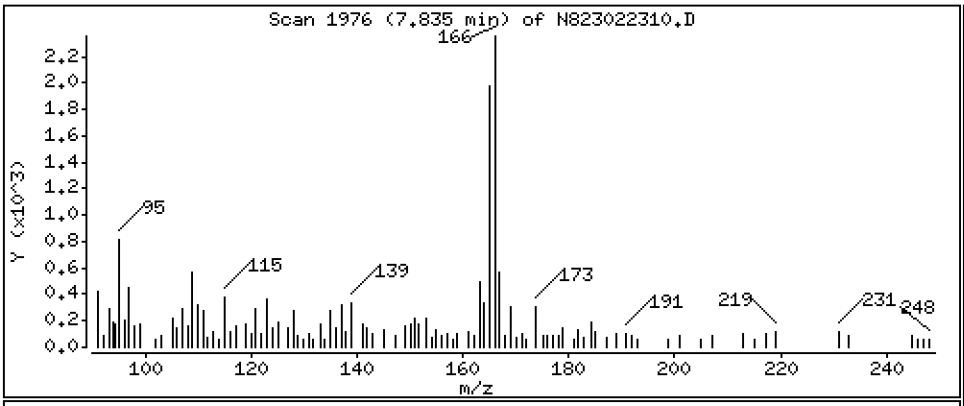
Operator: JZ

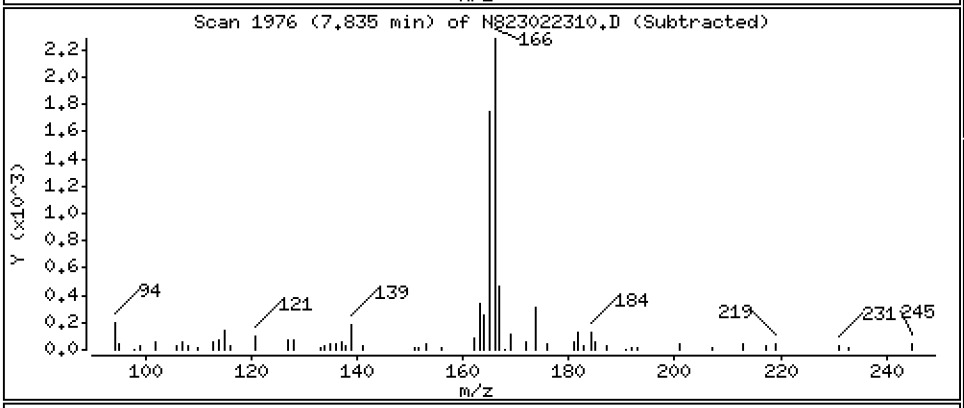
Column phase: Rxi-17sil

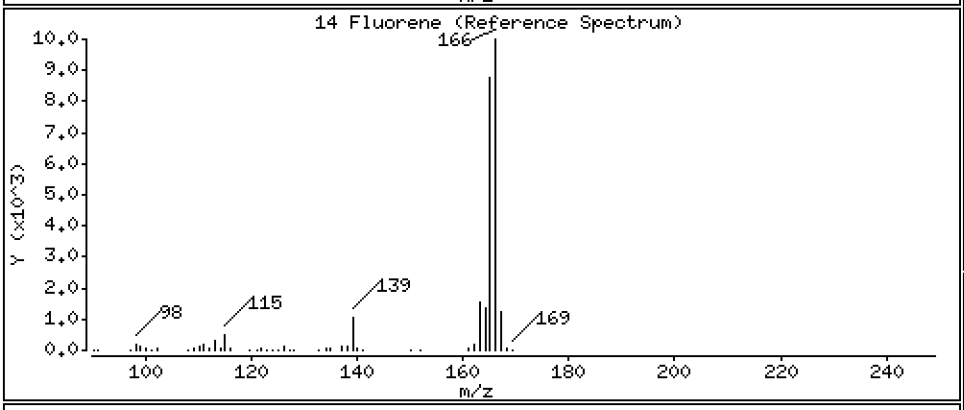
Column diameter: 0.25

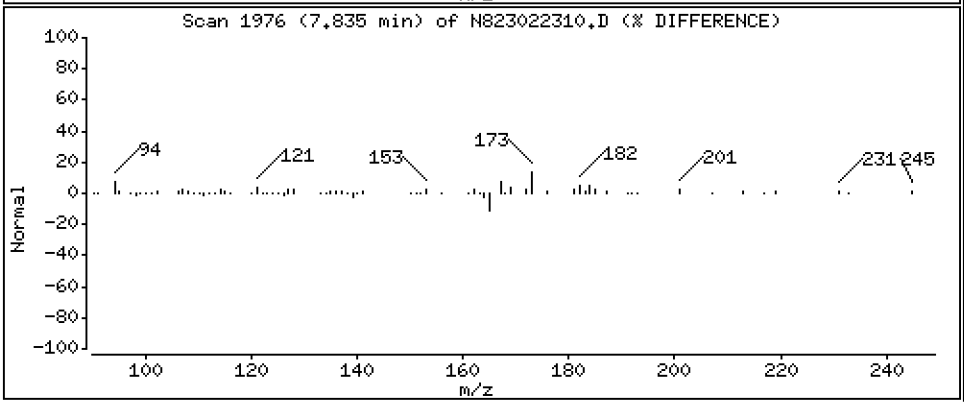
14 Fluorene

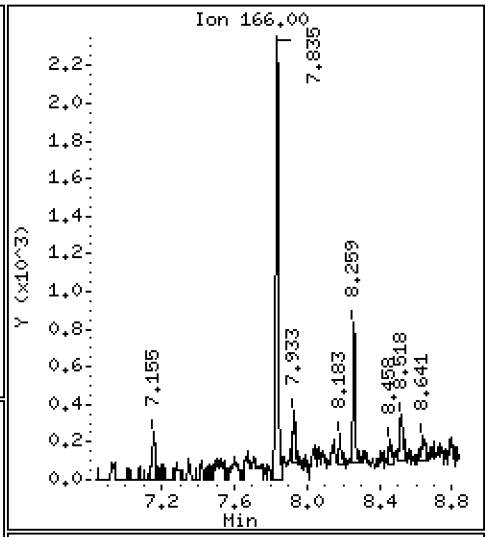
Concentration: 0.1609 ug/mL

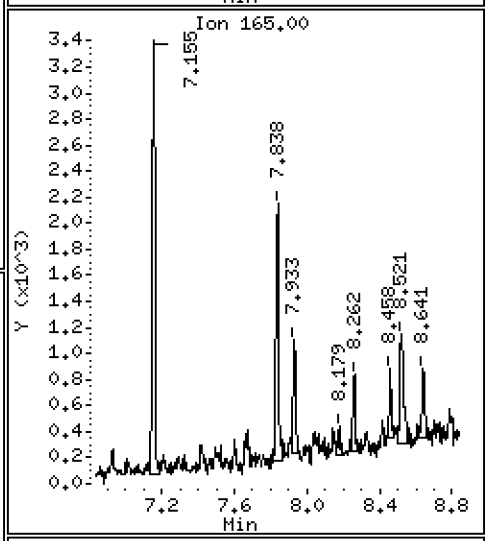


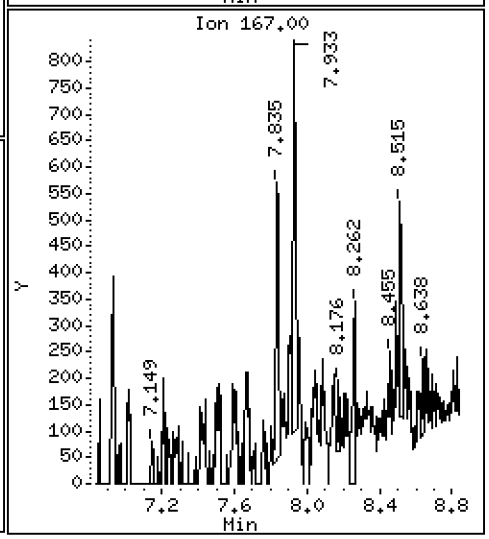












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022310.D

Date : 23-FEB-2023 15:36

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-05

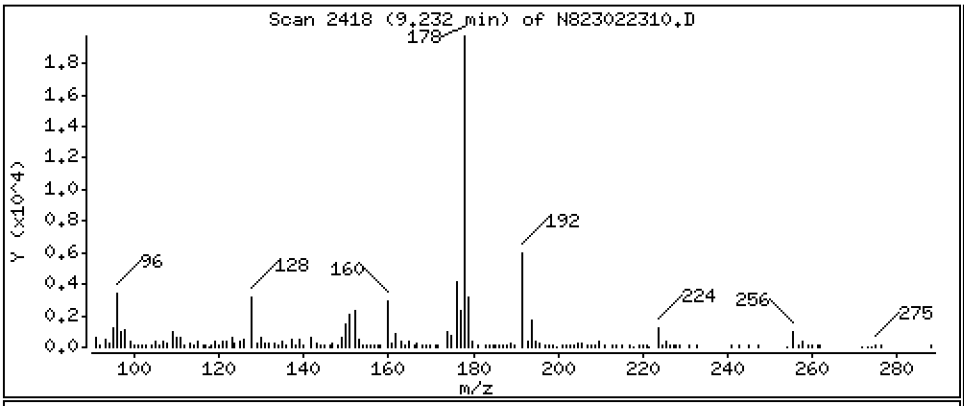
Operator: JZ

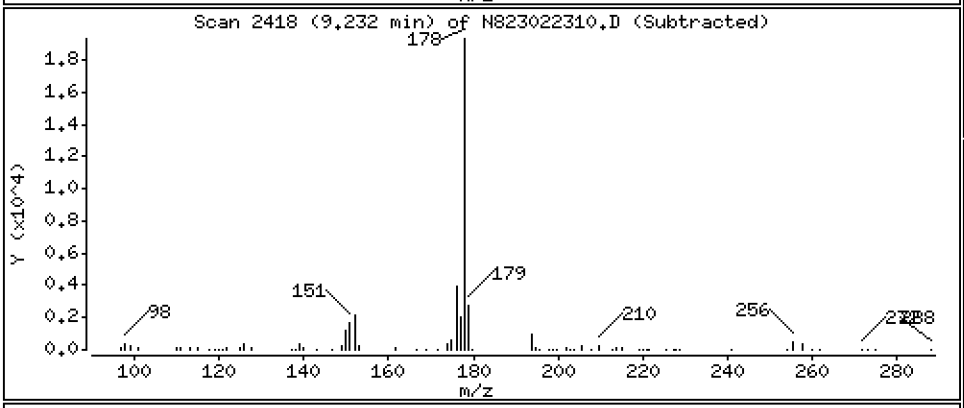
Column phase: Rxi-17sil

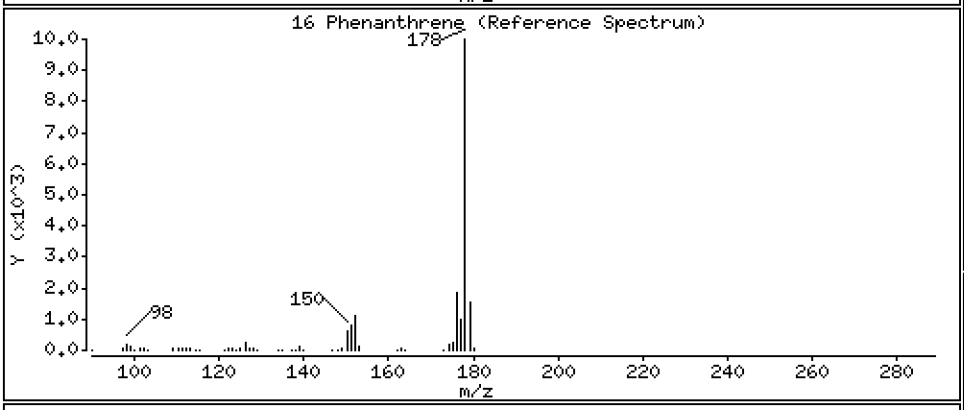
Column diameter: 0.25

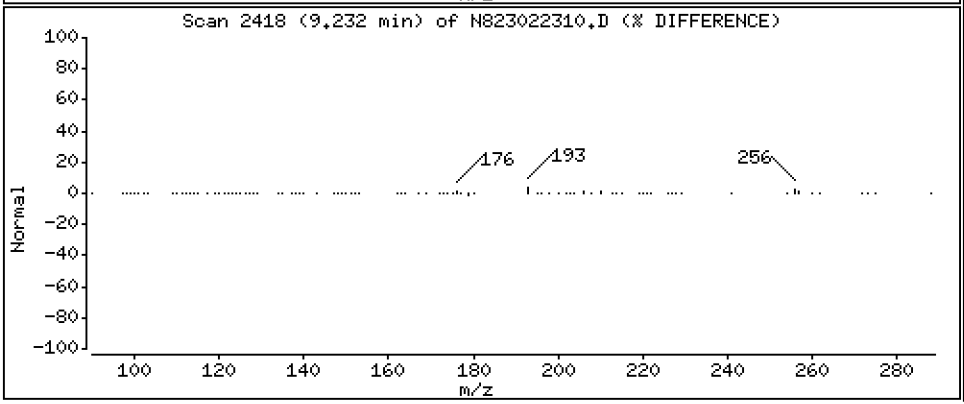
16 Phenanthrene

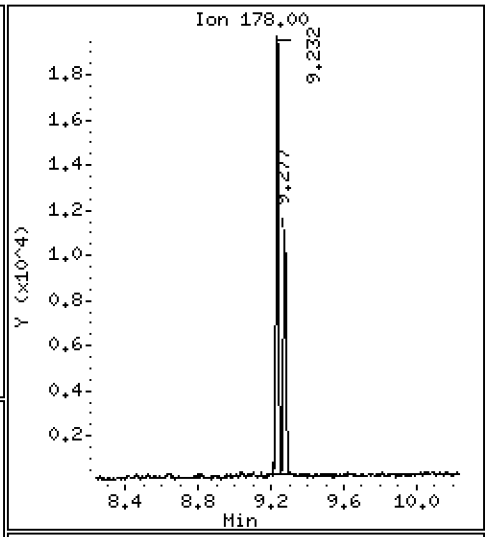
Concentration: 0.8503 ug/mL

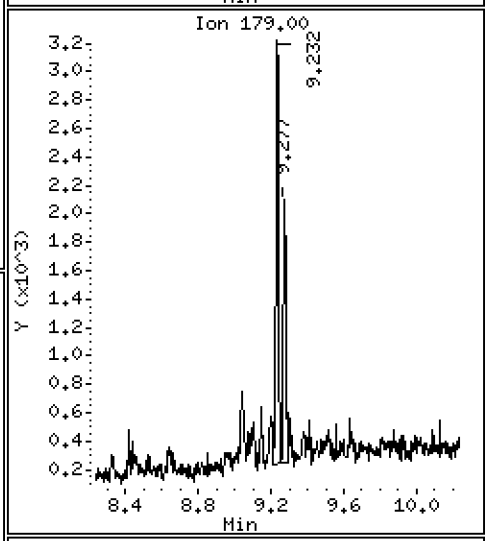


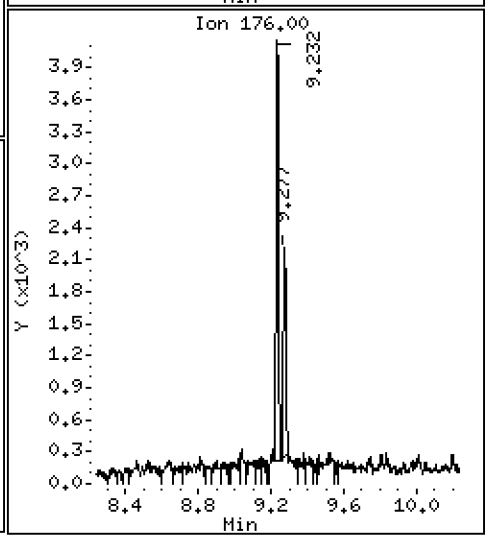












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Date : 23-FEB-2023 15:36

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-05

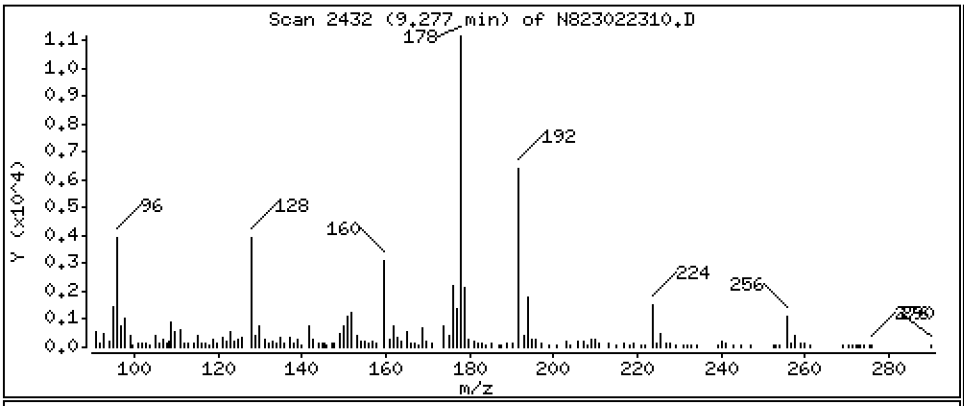
Operator: JZ

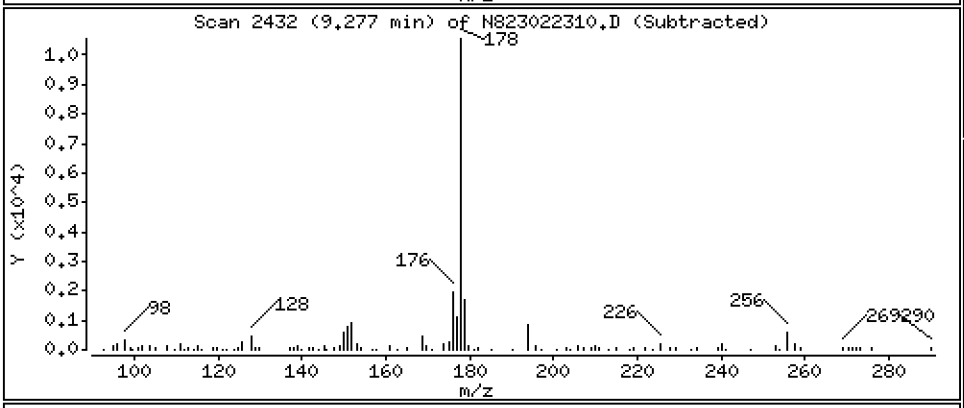
Column phase: Rxi-17sil

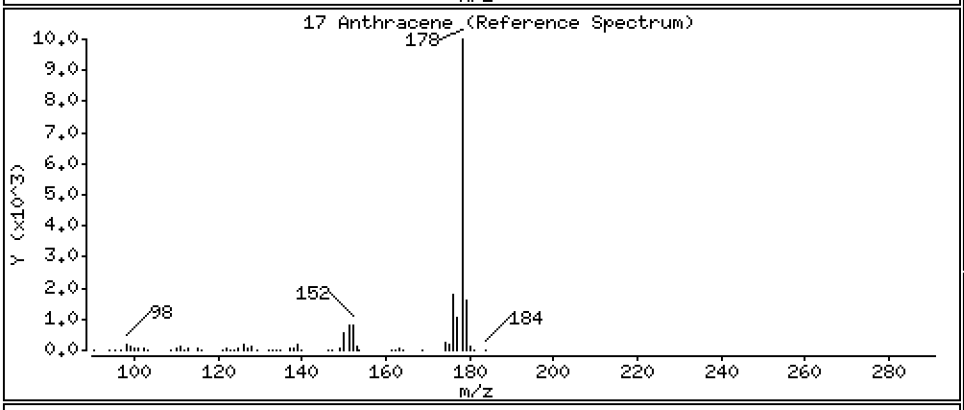
Column diameter: 0.25

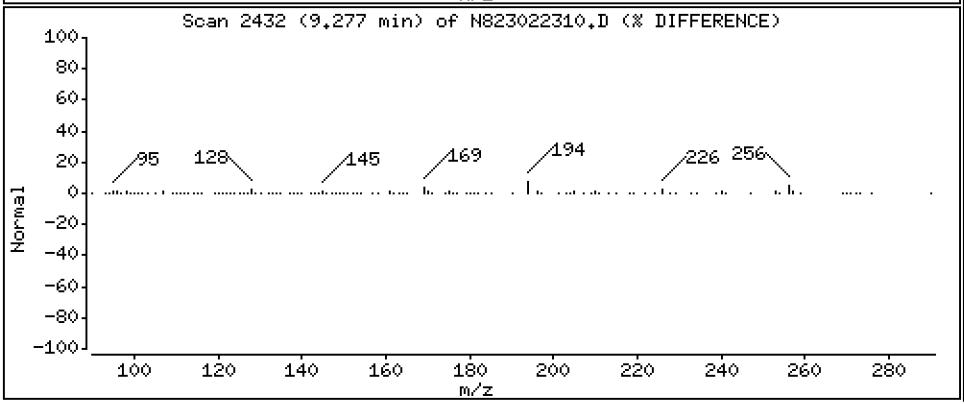
17 Anthracene

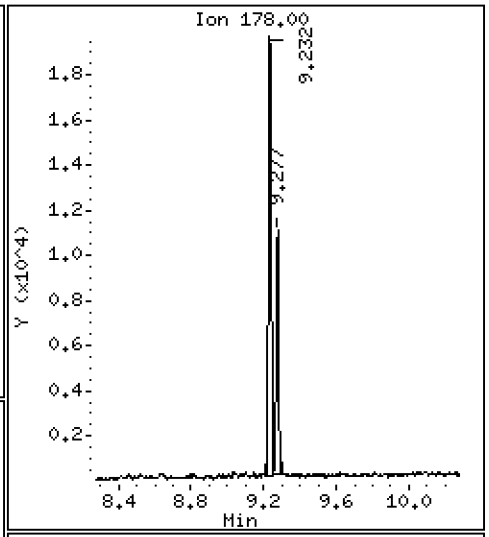
Concentration: 0.5181 ug/mL

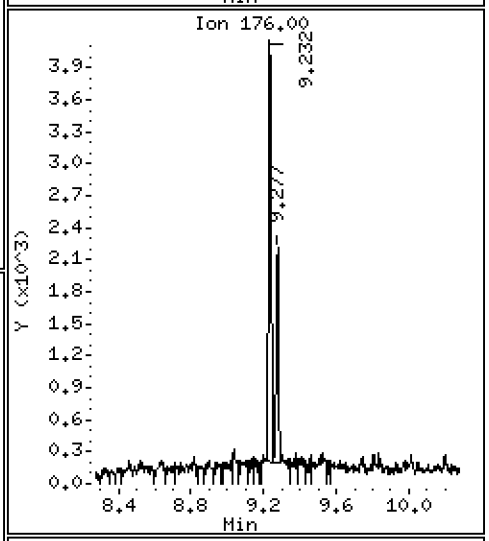


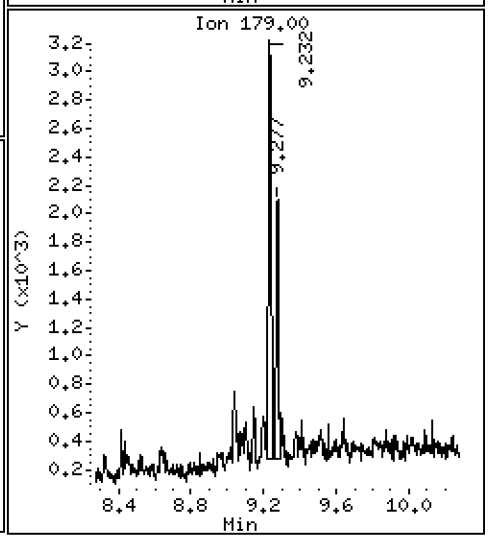












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Date : 23-FEB-2023 15:36

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-05

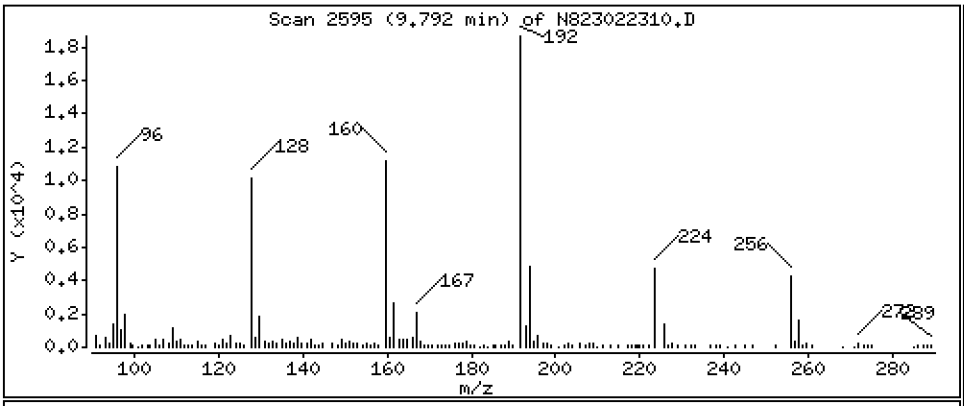
Operator: JZ

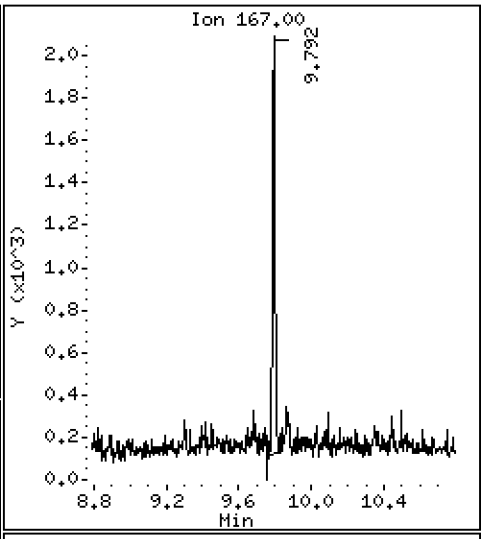
Column phase: Rxi-17sil

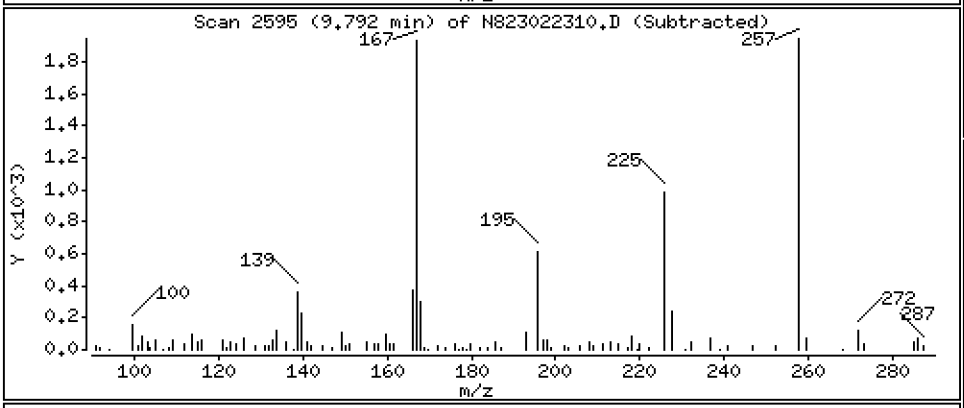
Column diameter: 0.25

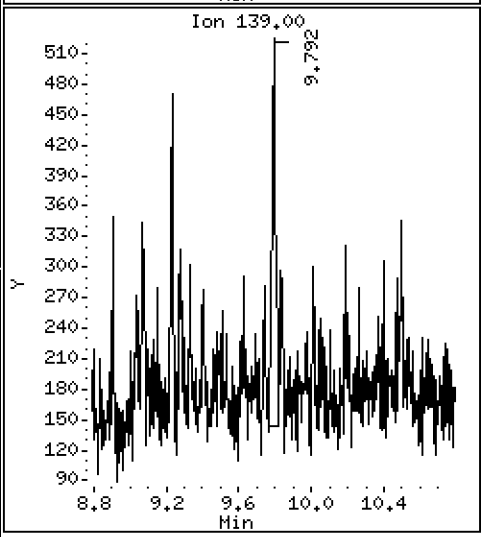
19 Carbazole

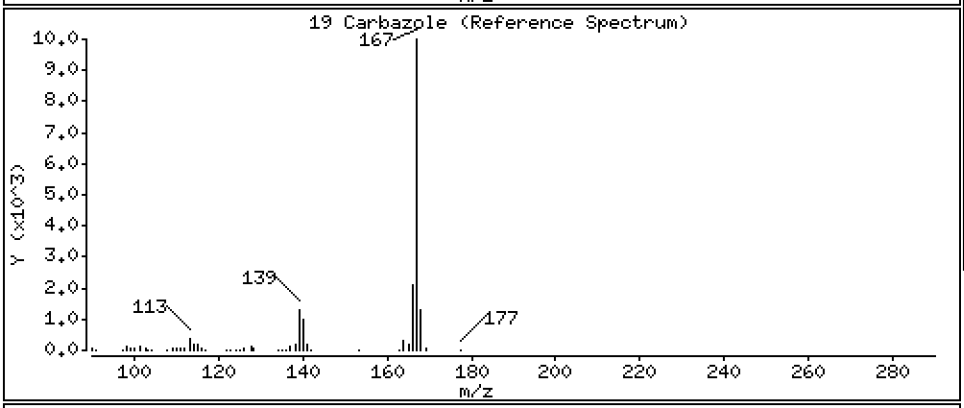
Concentration: 0.1144 ug/mL

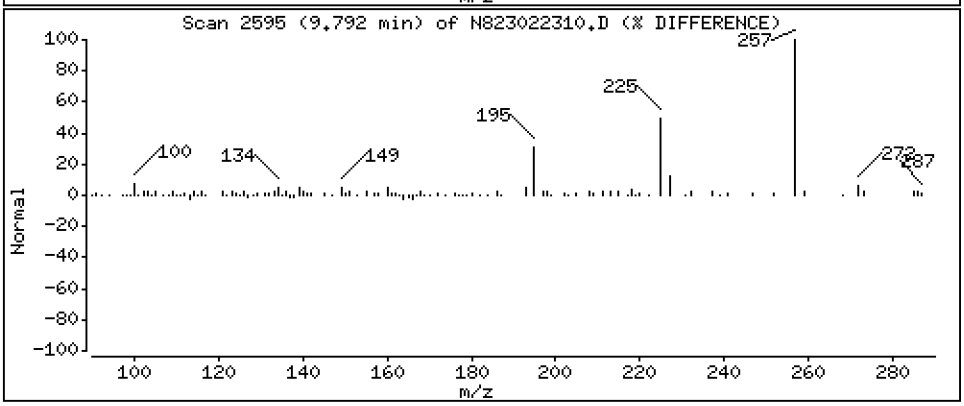












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Date : 23-FEB-2023 15:36

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-05

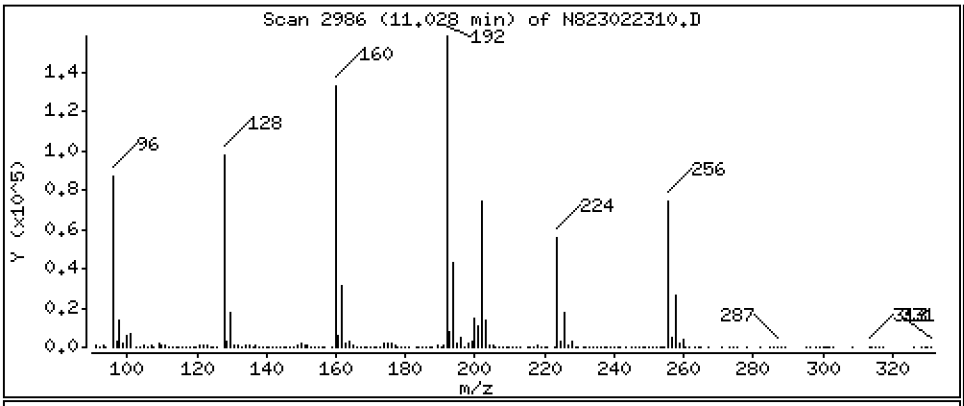
Operator: JZ

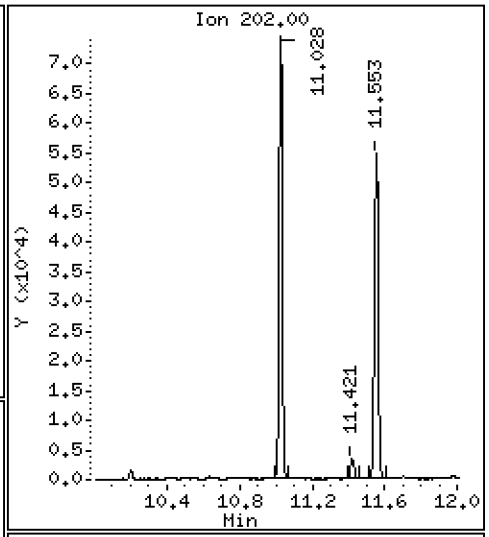
Column phase: Rxi-17sil

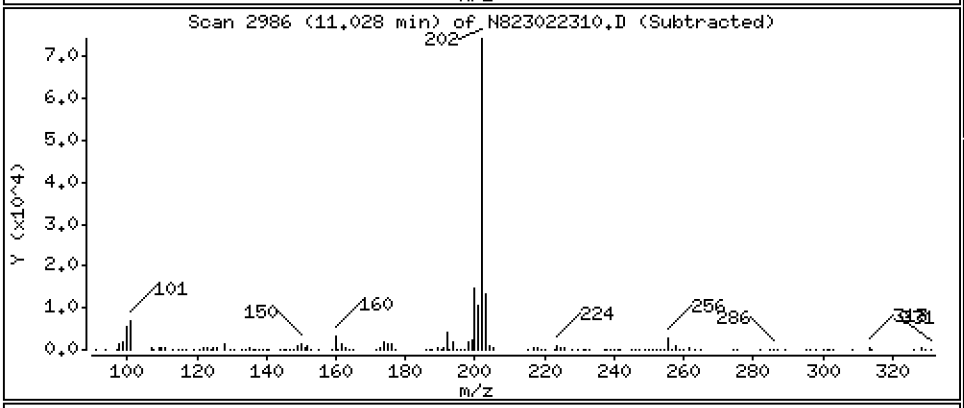
Column diameter: 0.25

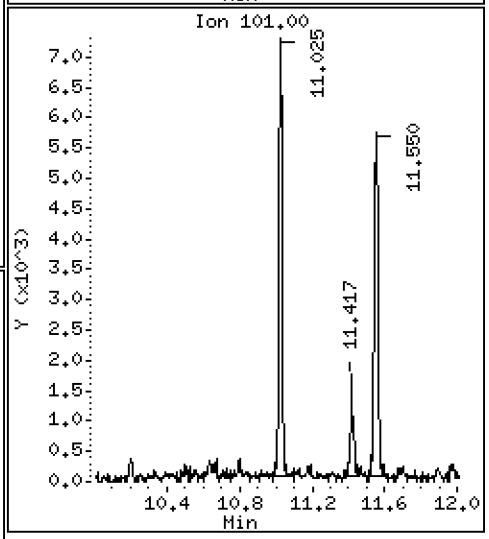
22 Fluoranthene

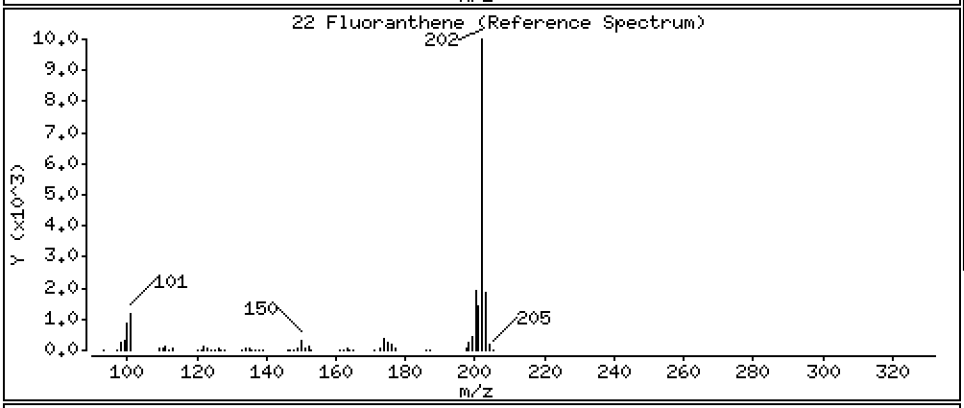
Concentration: 3.932 ug/mL

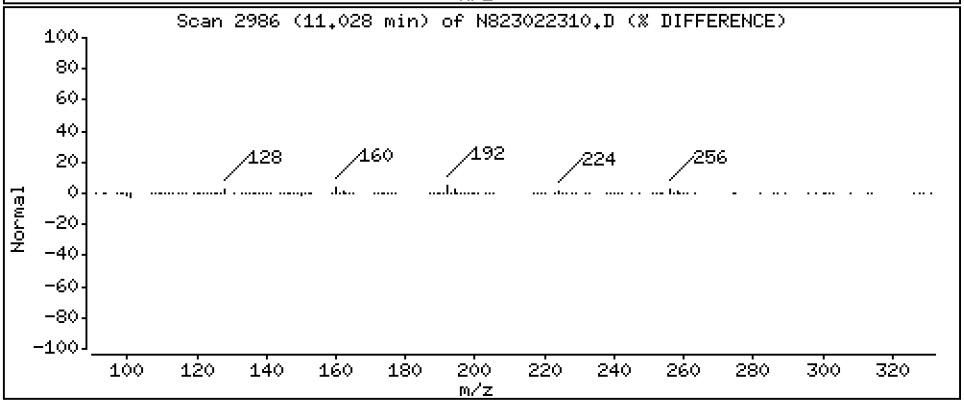












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Date : 23-FEB-2023 15:36

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-05

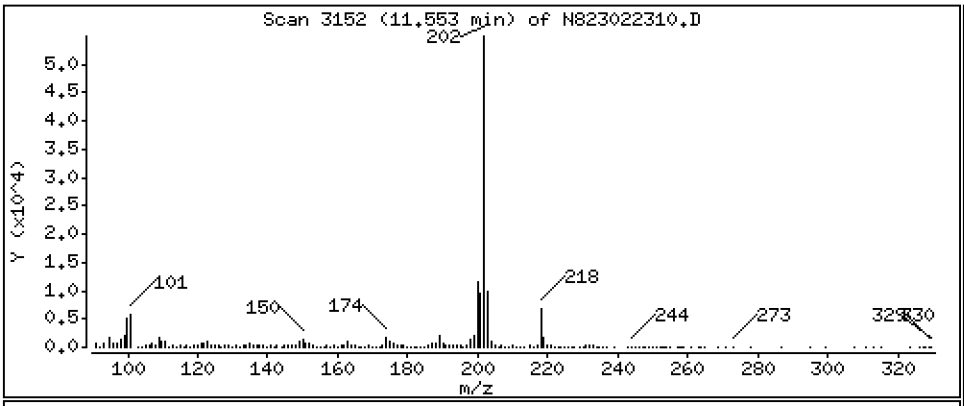
Operator: JZ

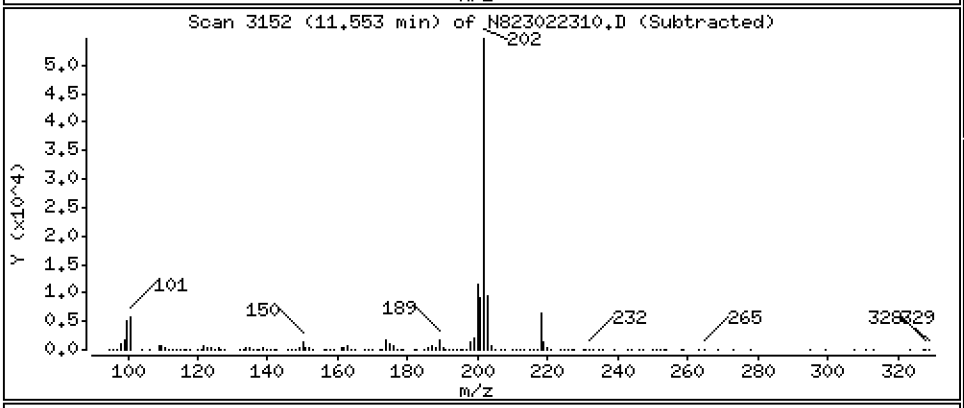
Column phase: Rxi-17sil

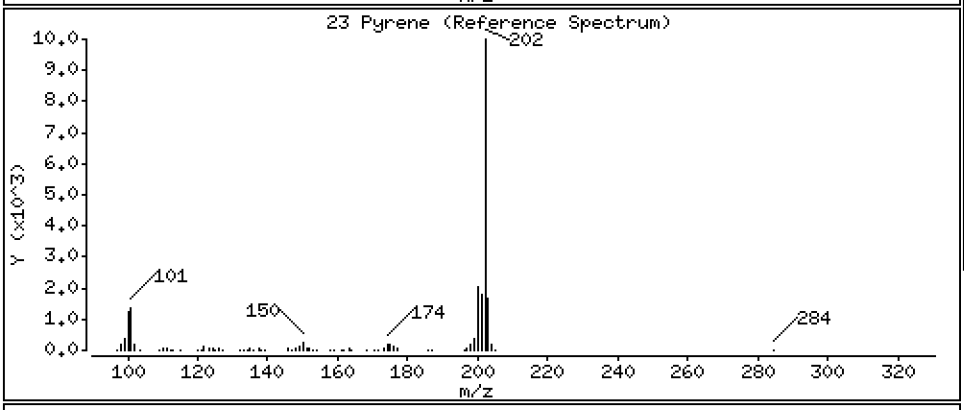
Column diameter: 0.25

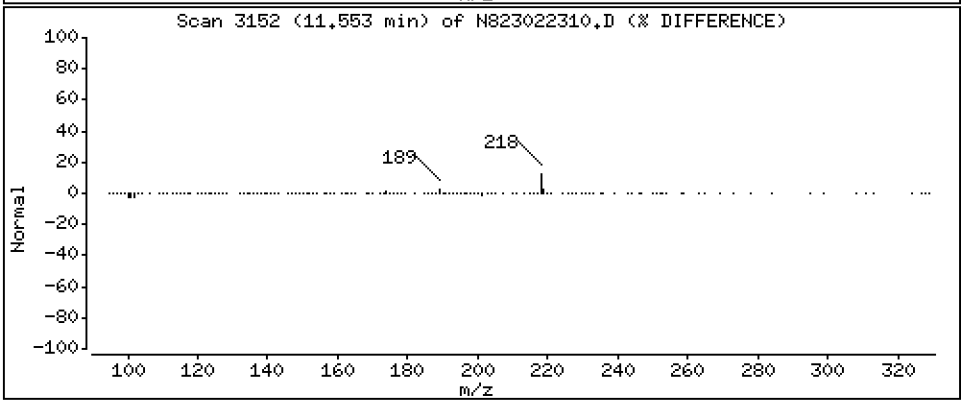
23 Pyrene

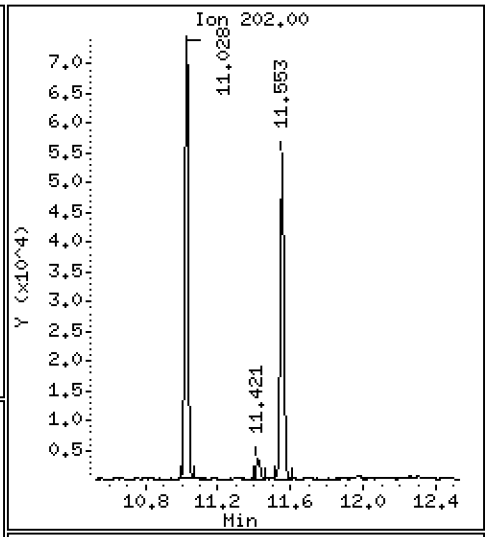
Concentration: 5.071 ug/mL

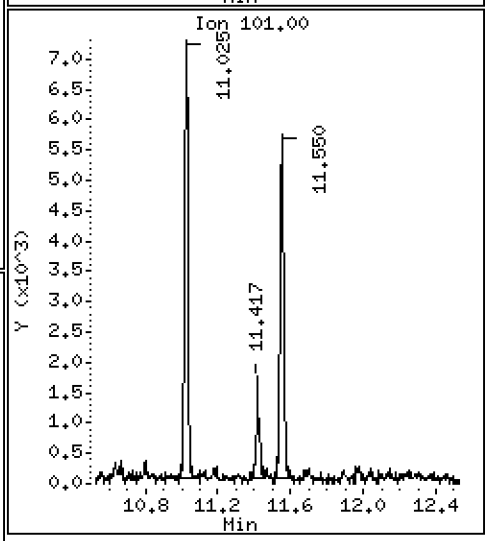












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Date : 23-FEB-2023 15:36

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-05

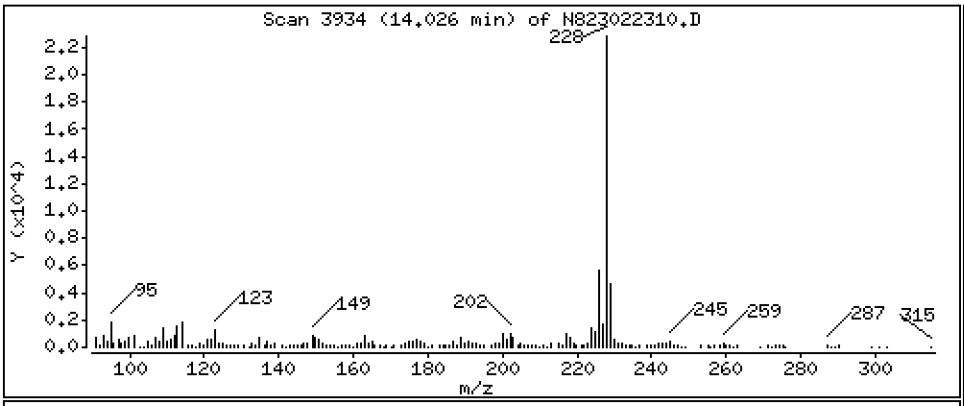
Operator: JZ

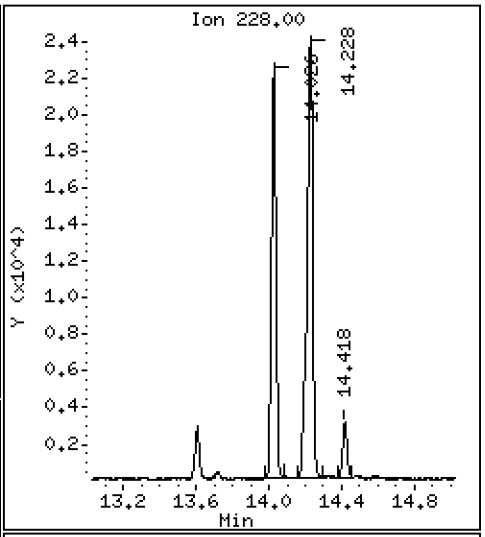
Column phase: Rxi-17sil

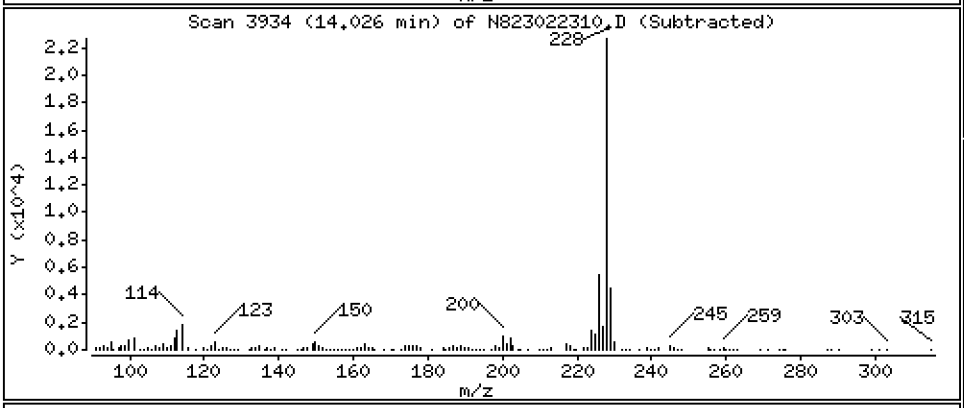
Column diameter: 0.25

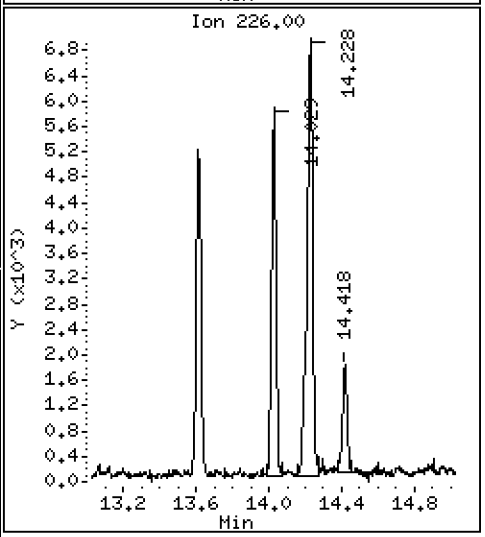
24 Benzo(a)anthracene

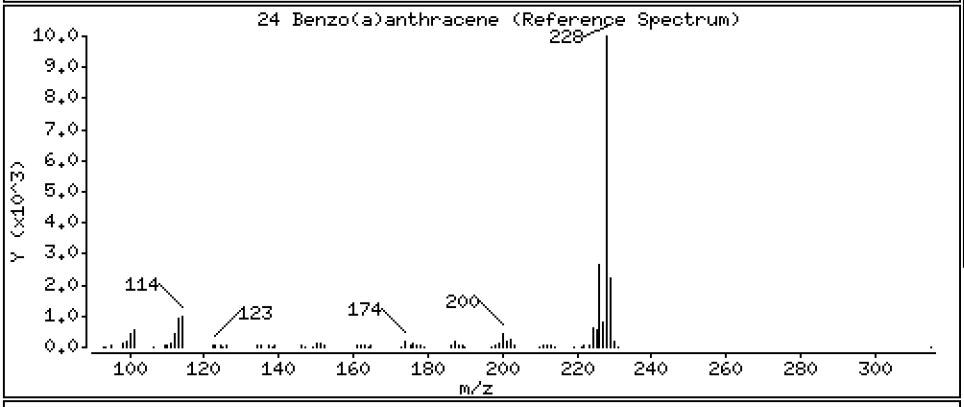
Concentration: 2.767 ug/mL

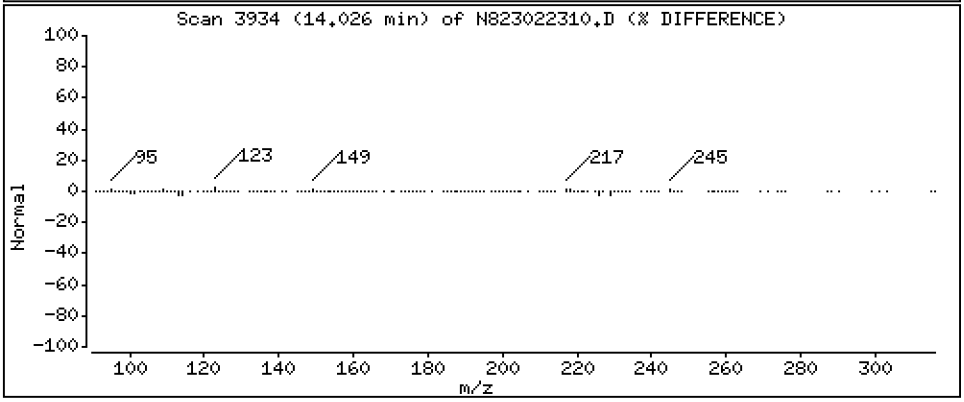












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Date : 23-FEB-2023 15:36

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-05

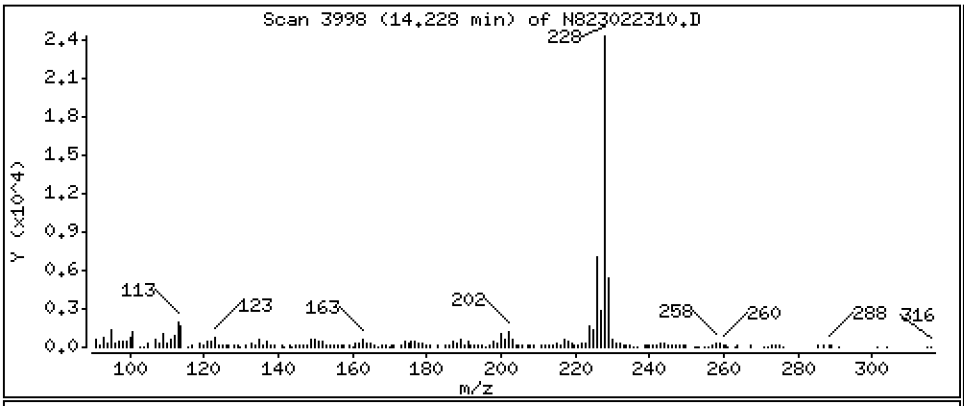
Operator: JZ

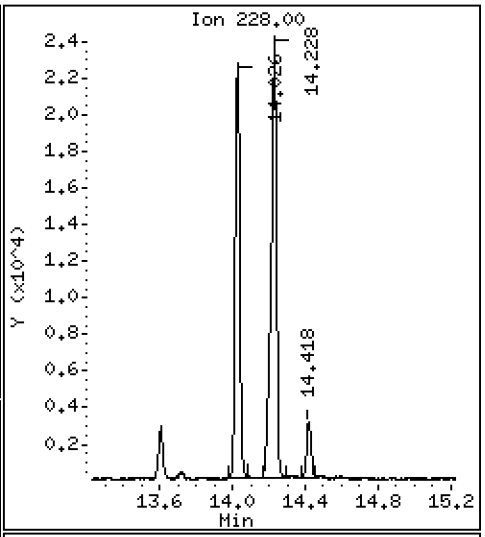
Column phase: Rxi-17sil

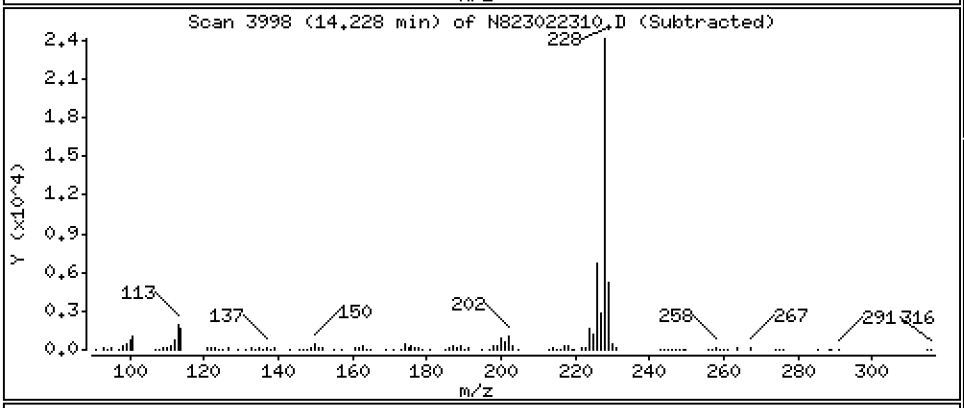
Column diameter: 0.25

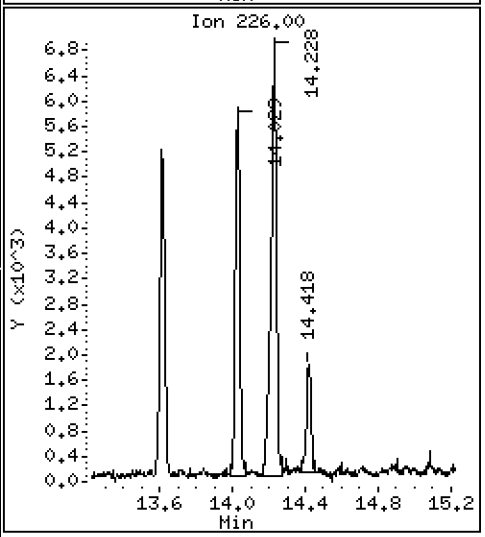
27 Chrysene

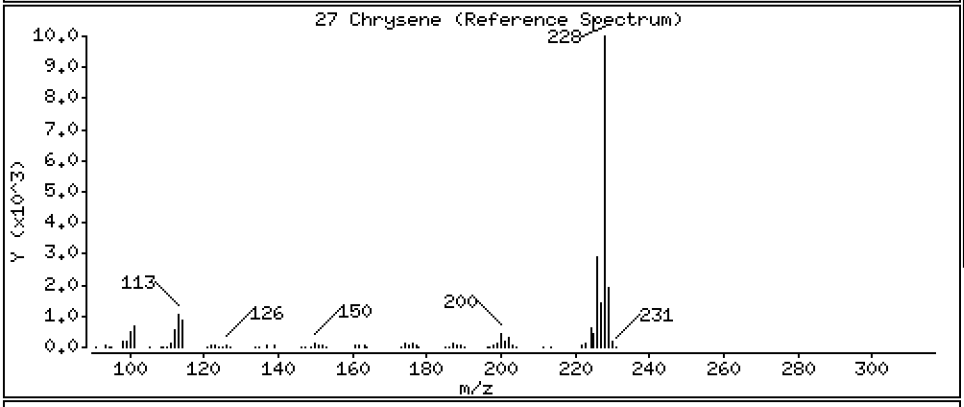
Concentration: 3.396 ug/mL

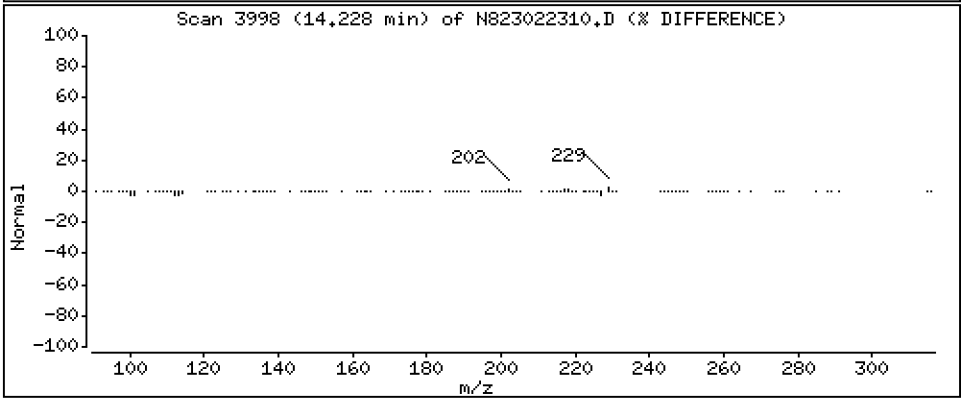












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022310.D

Date : 23-FEB-2023 15:36

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-05

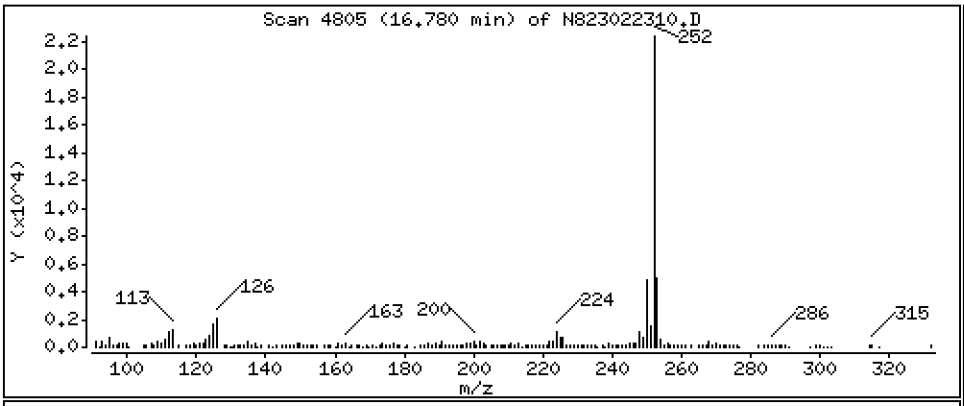
Operator: JZ

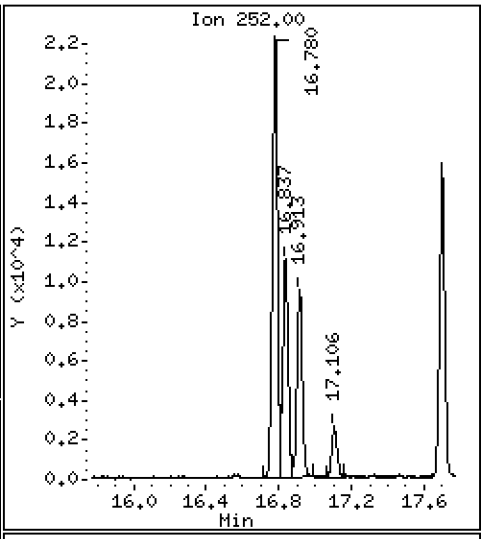
Column phase: Rxi-17sil

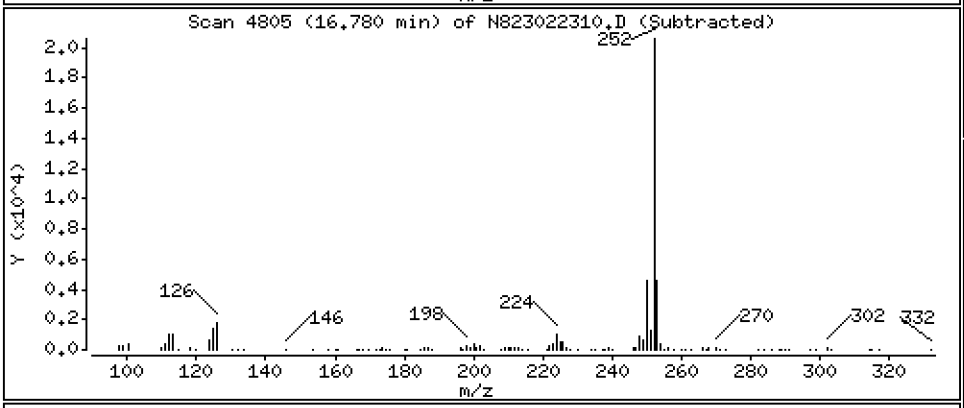
Column diameter: 0.25

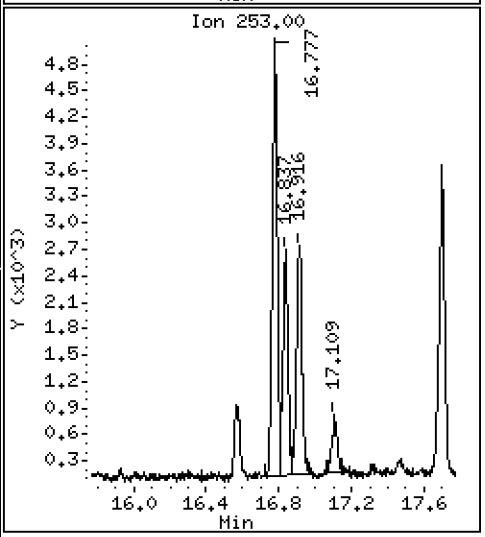
28 Benzo(b)fluoranthene

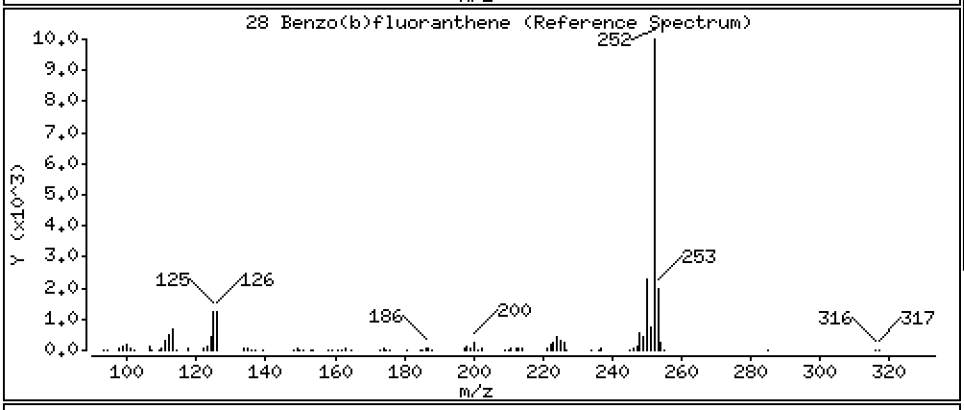
Concentration: 3.034 ug/mL

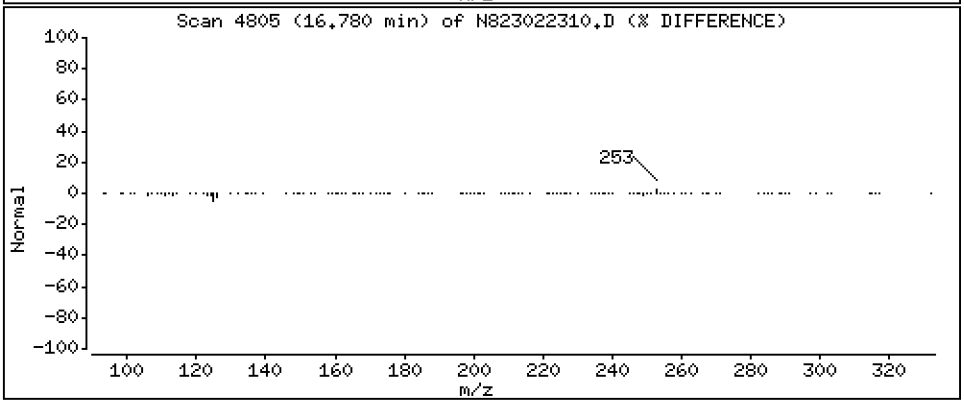












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Date : 23-FEB-2023 15:36

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-05

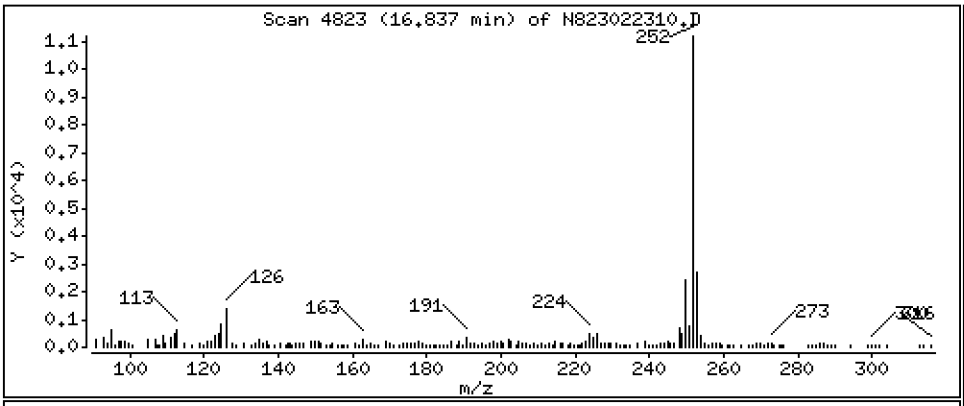
Operator: JZ

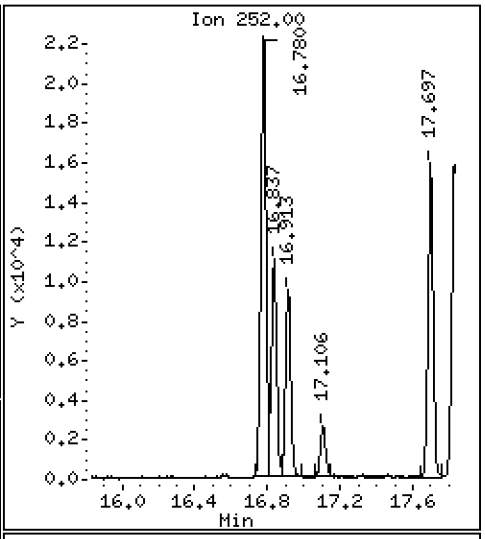
Column phase: Rxi-17sil

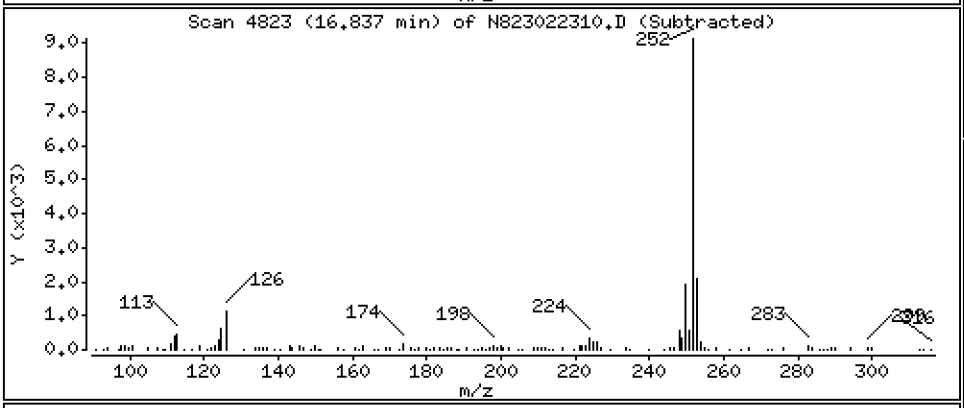
Column diameter: 0.25

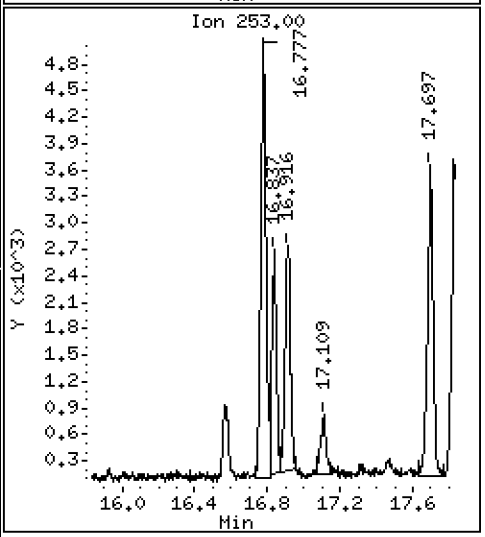
29 Benzo(k)fluoranthene

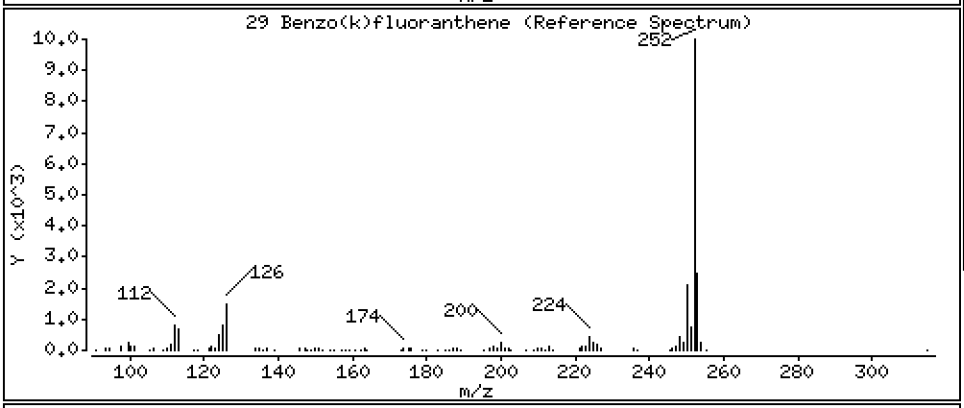
Concentration: 1.572 ug/mL

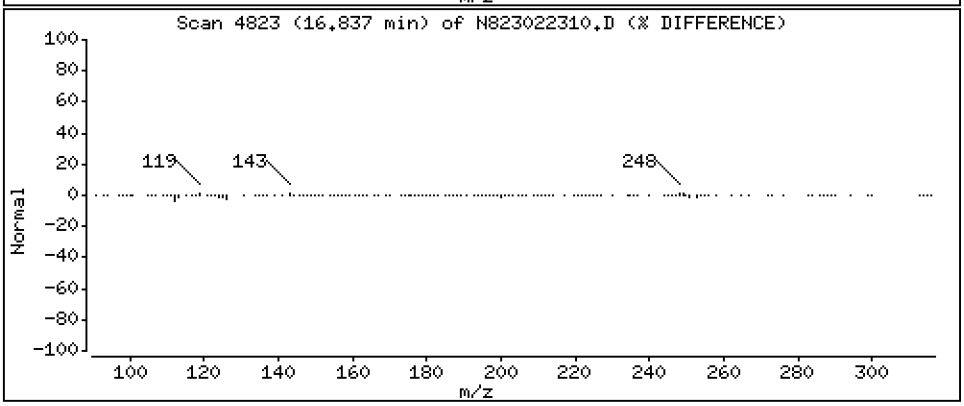












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Date : 23-FEB-2023 15:36

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-05

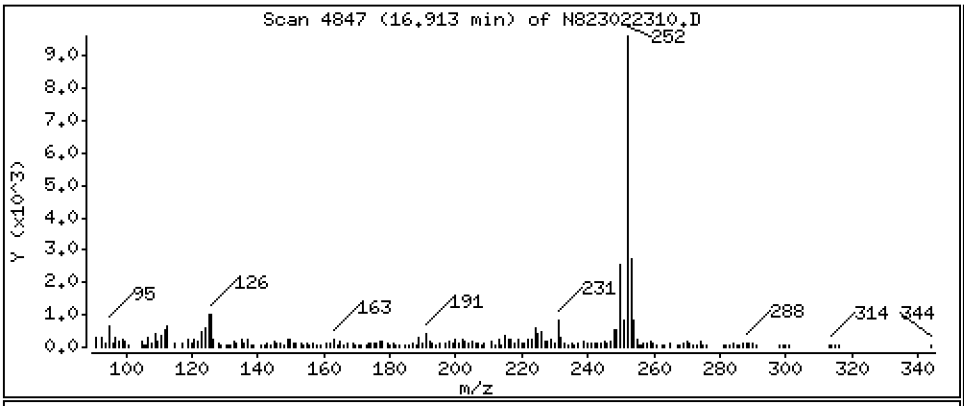
Operator: JZ

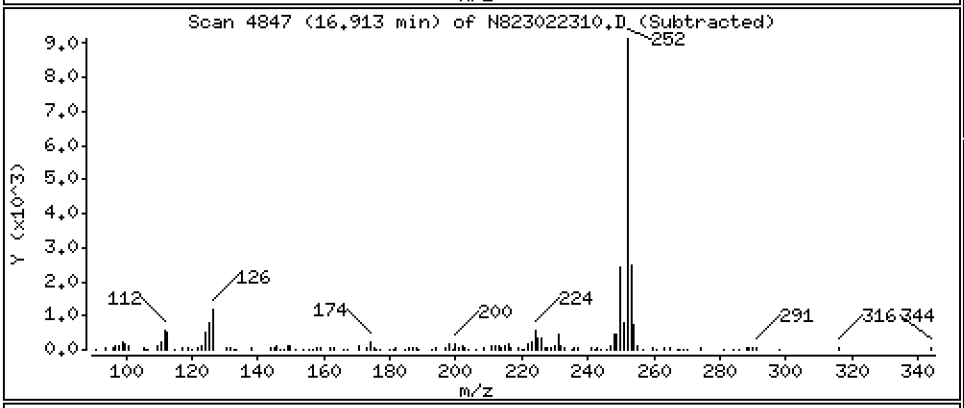
Column phase: Rxi-17sil

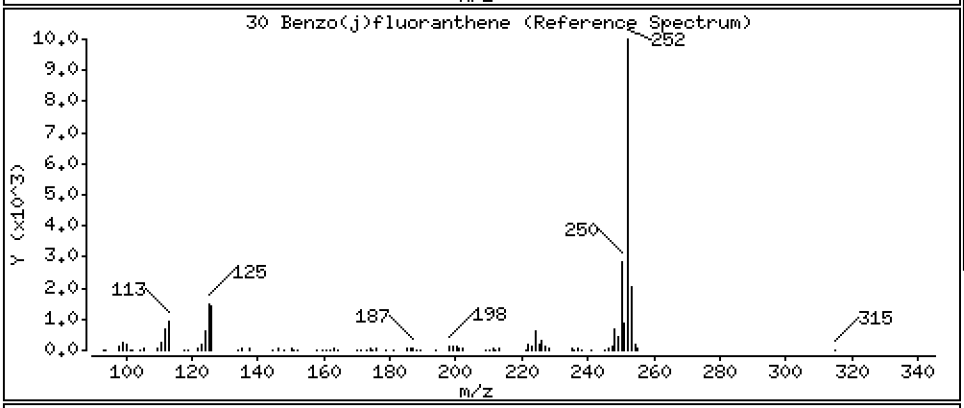
Column diameter: 0.25

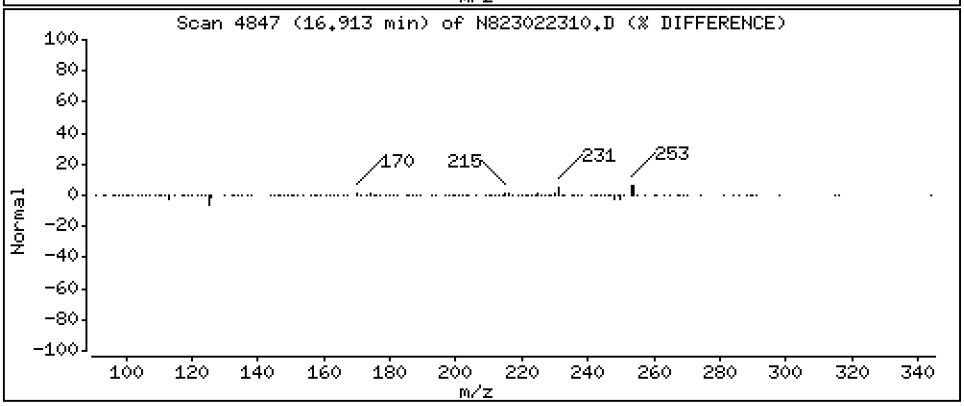
30 Benzo(j)fluoranthene

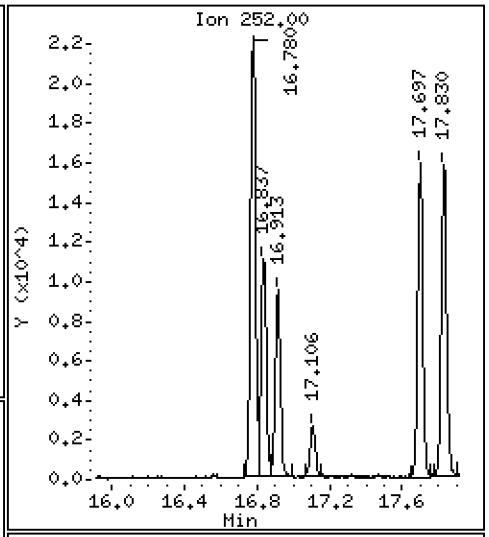
Concentration: 1.466 ug/mL

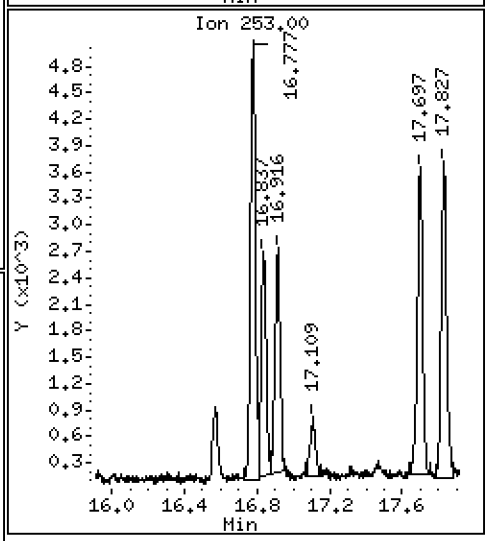












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Date : 23-FEB-2023 15:36

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-05

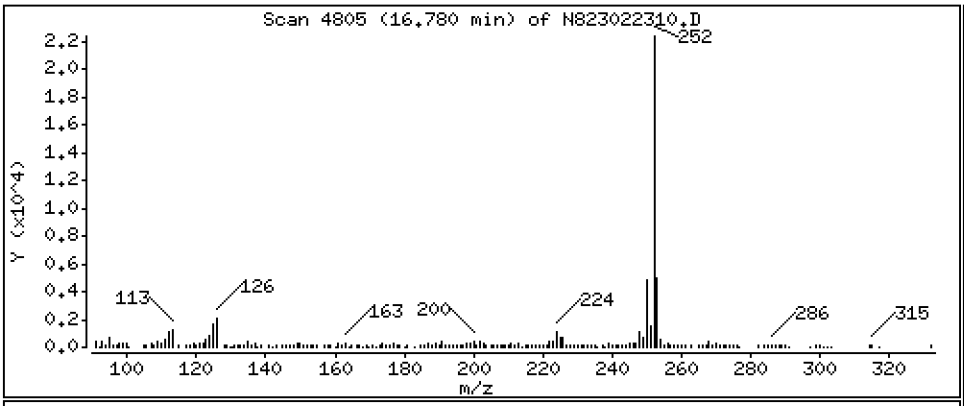
Operator: JZ

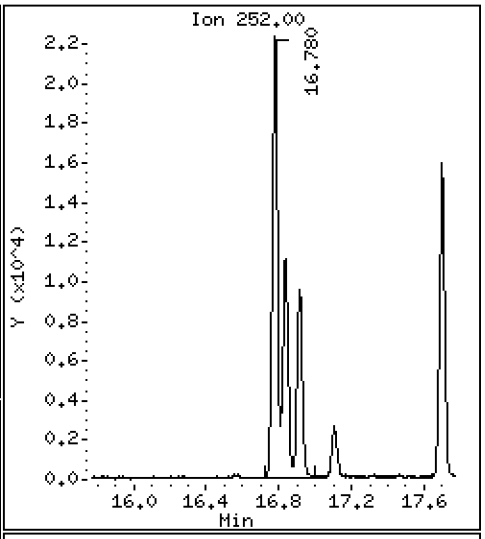
Column phase: Rxi-17sil

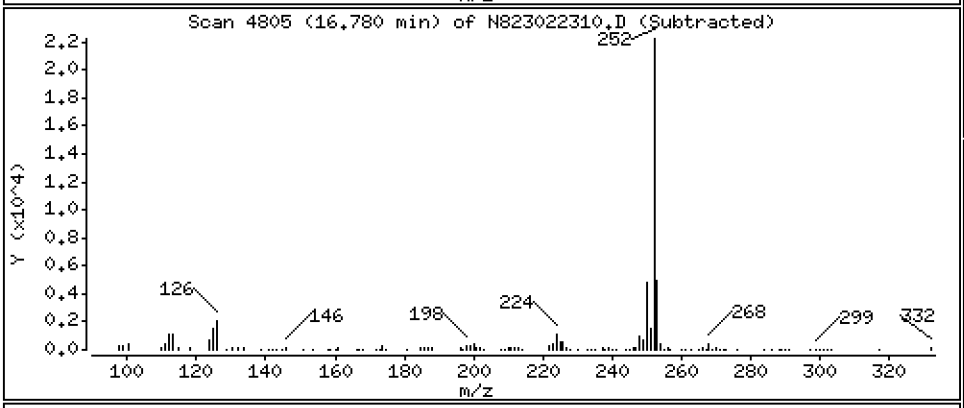
Column diameter: 0.25

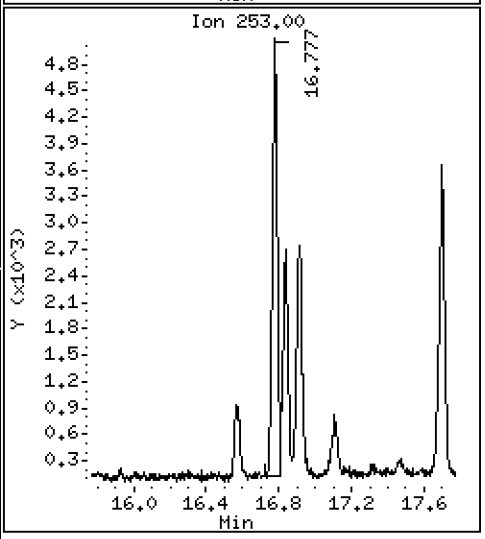
31 Total Benzofluoranthenes

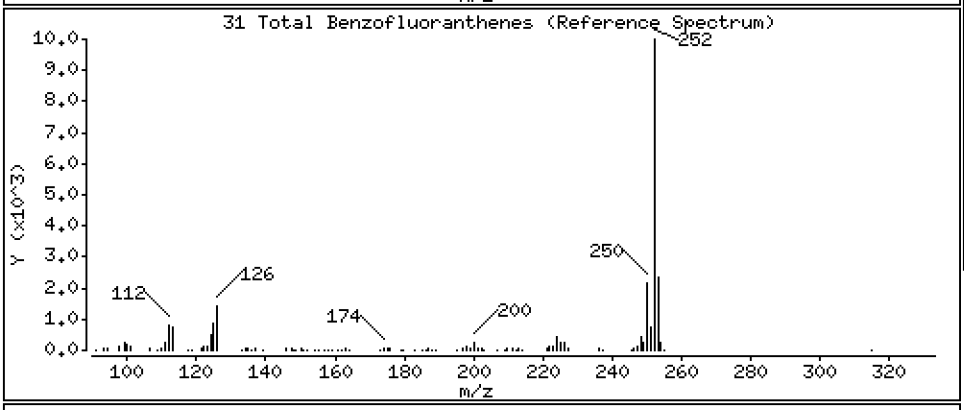
Concentration: 6.125 ug/mL

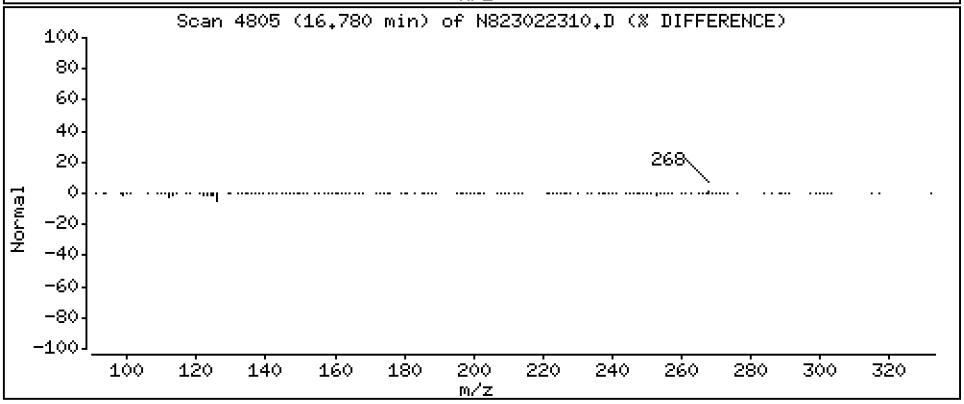












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Date : 23-FEB-2023 15:36

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-05

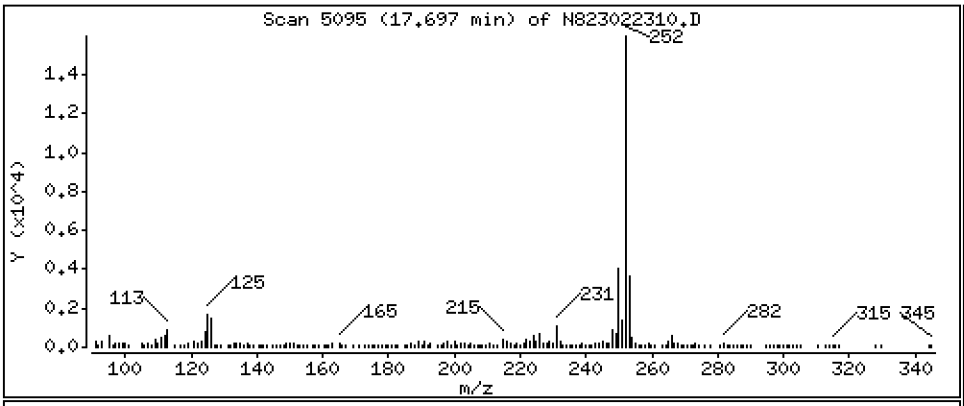
Operator: JZ

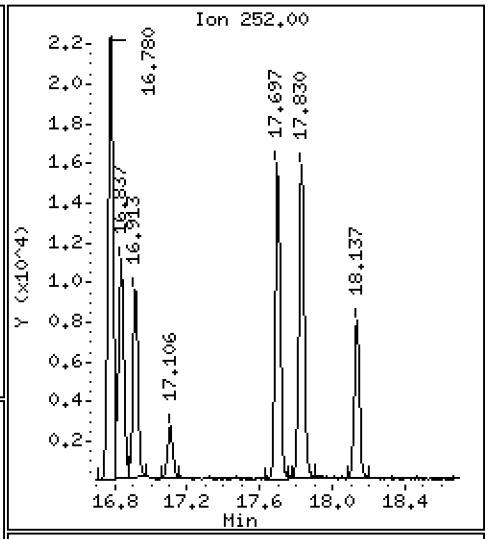
Column phase: Rxi-17sil

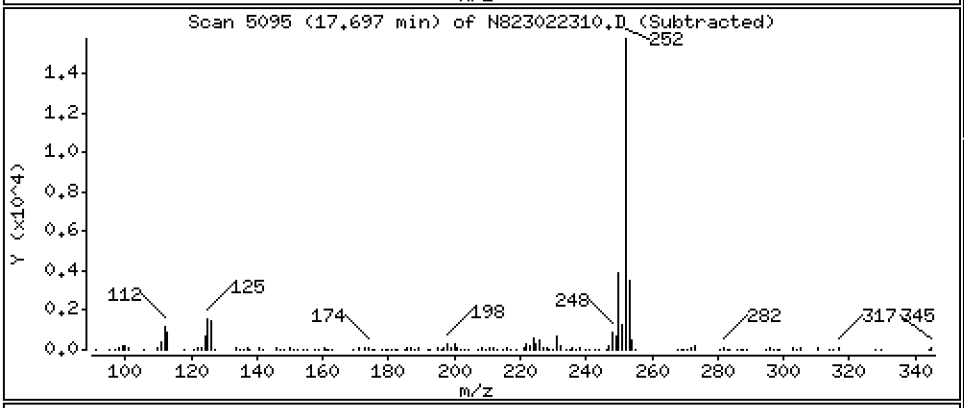
Column diameter: 0.25

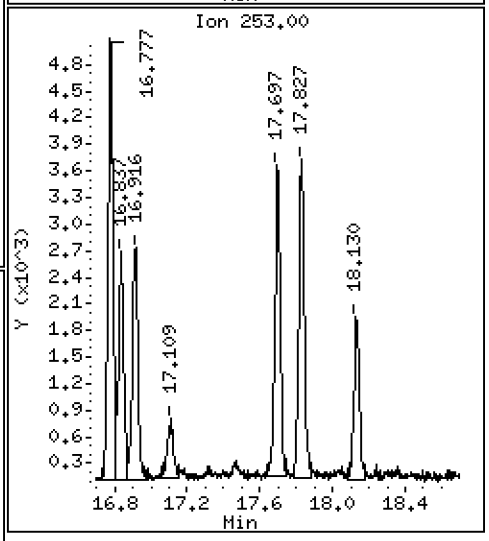
34 Benzo(e)pyrene

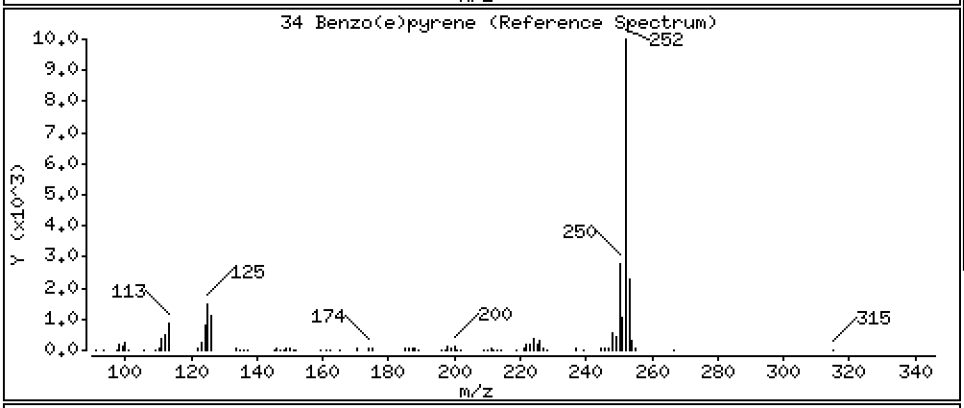
Concentration: 2.084 ug/mL

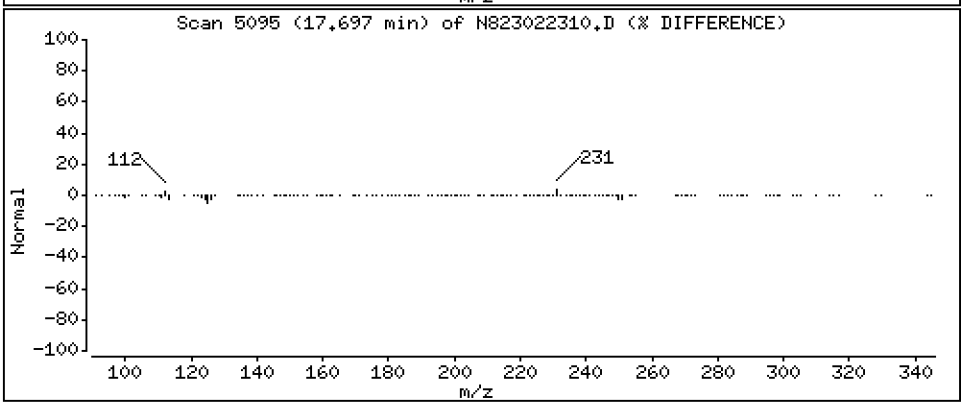












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Date : 23-FEB-2023 15:36

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-05

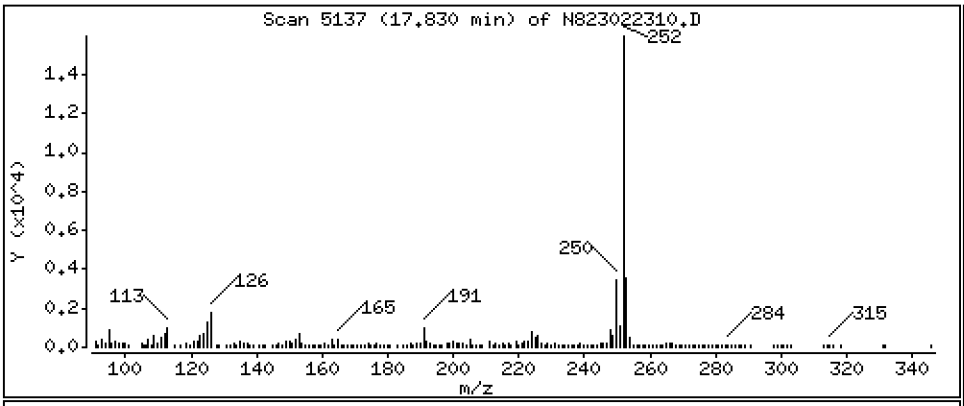
Operator: JZ

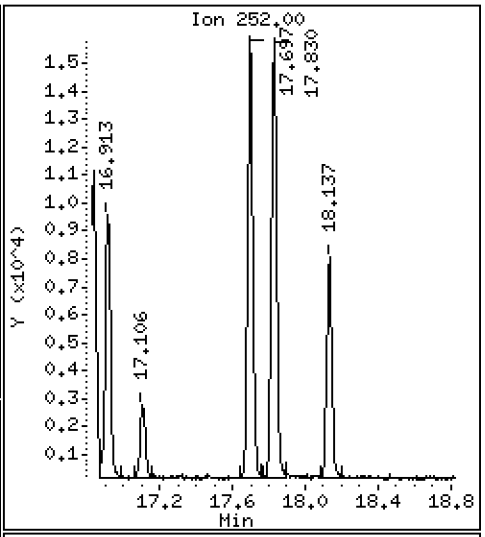
Column phase: Rxi-17sil

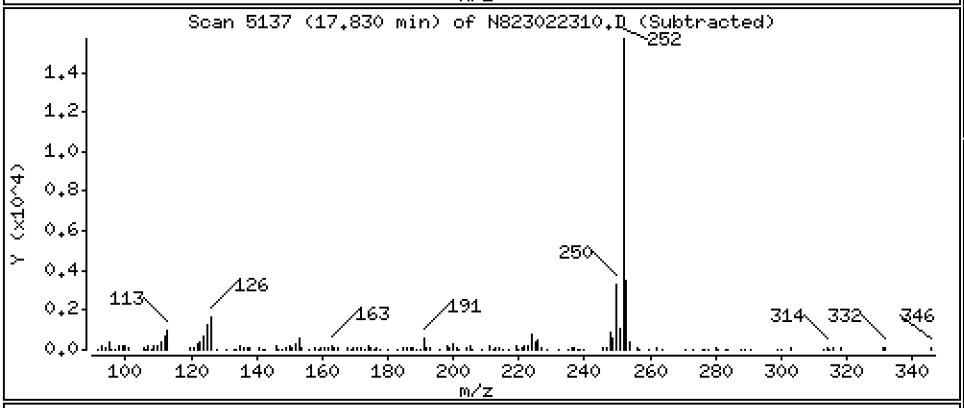
Column diameter: 0.25

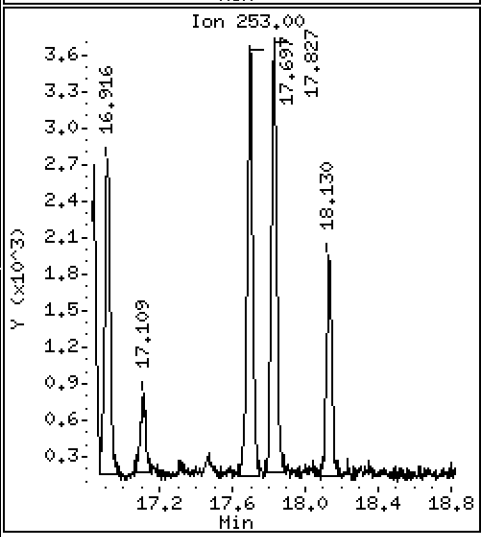
32 Benzo(a)pyrene

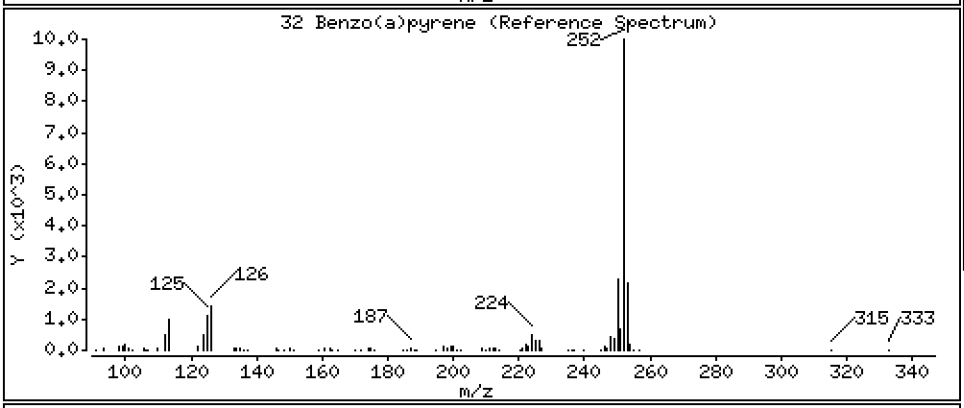
Concentration: 2.476 ug/mL

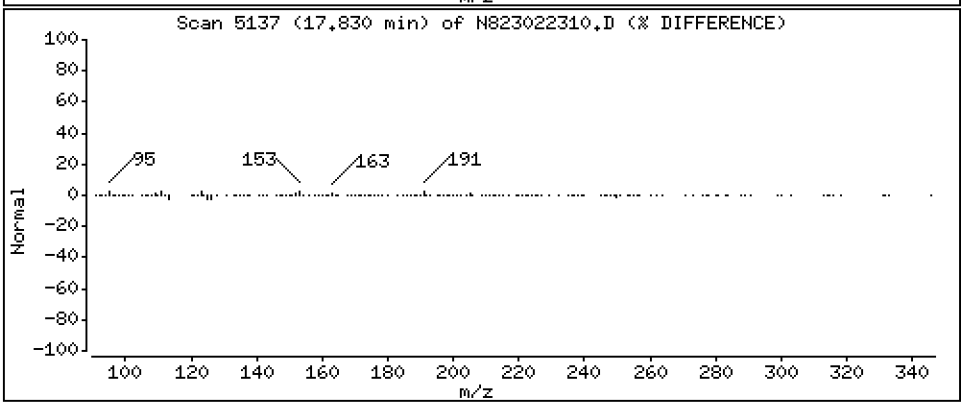












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Date : 23-FEB-2023 15:36

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-05

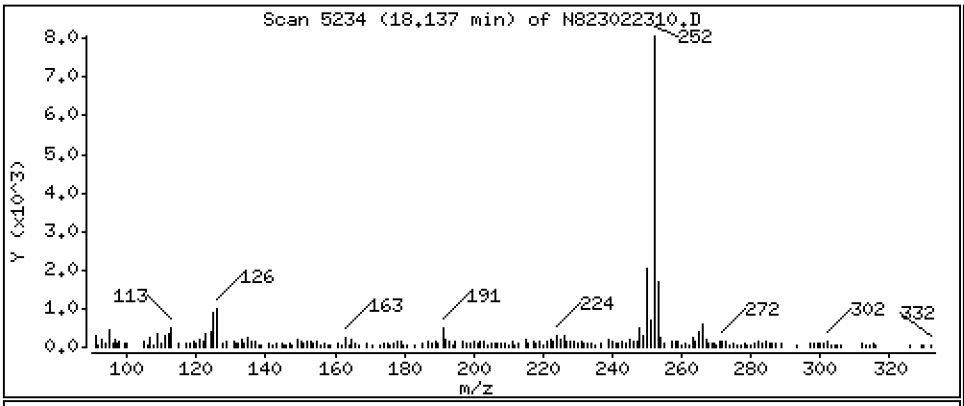
Operator: JZ

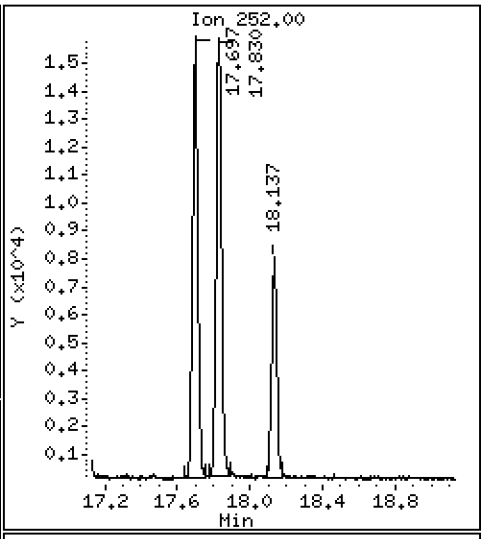
Column phase: Rxi-17sil

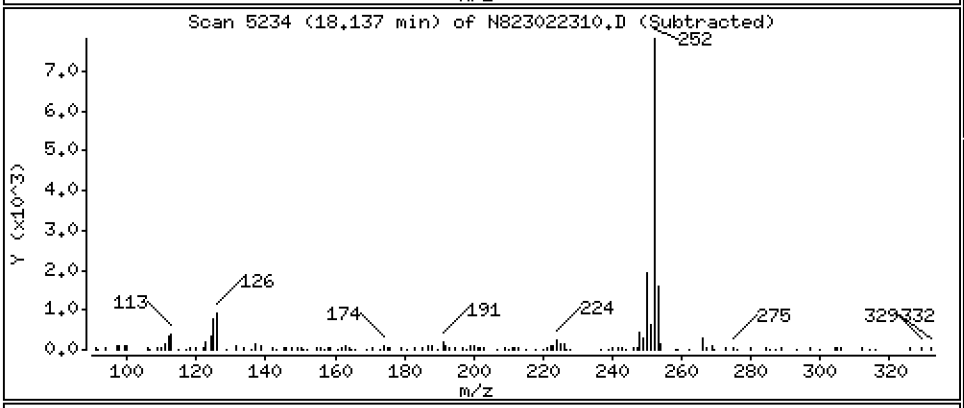
Column diameter: 0.25

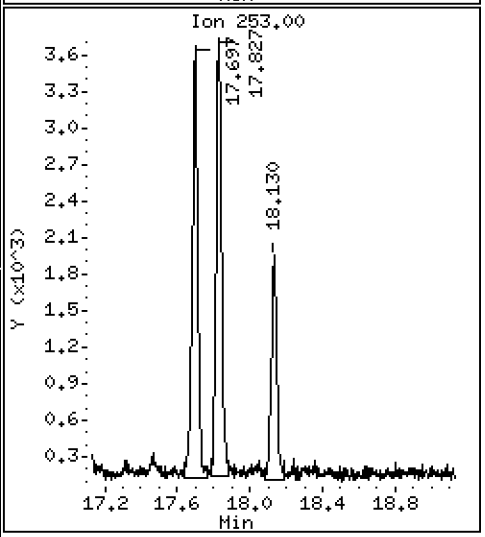
35 Perylene

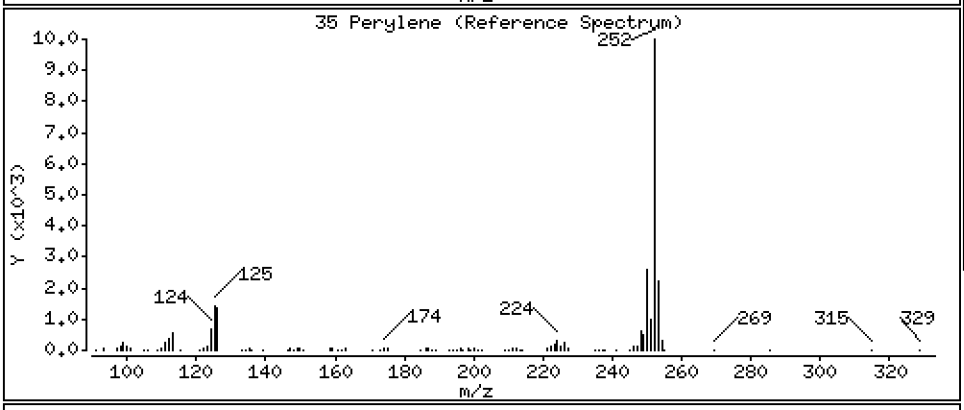
Concentration: 1.147 ug/mL

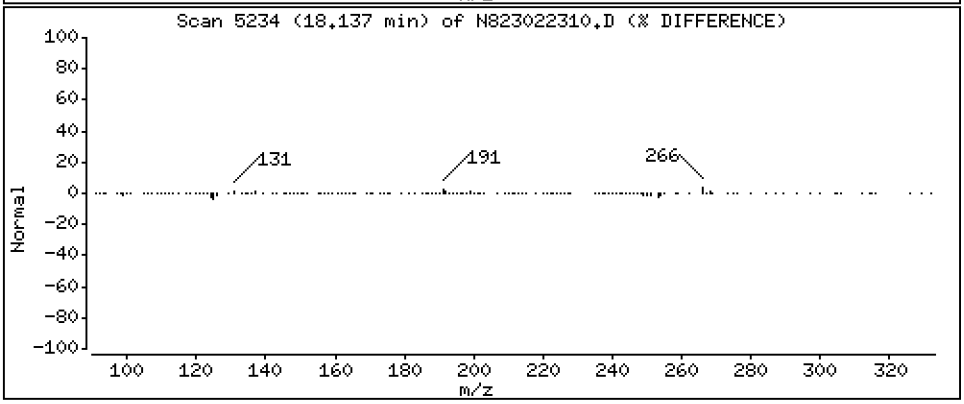












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Date : 23-FEB-2023 15:36

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-05

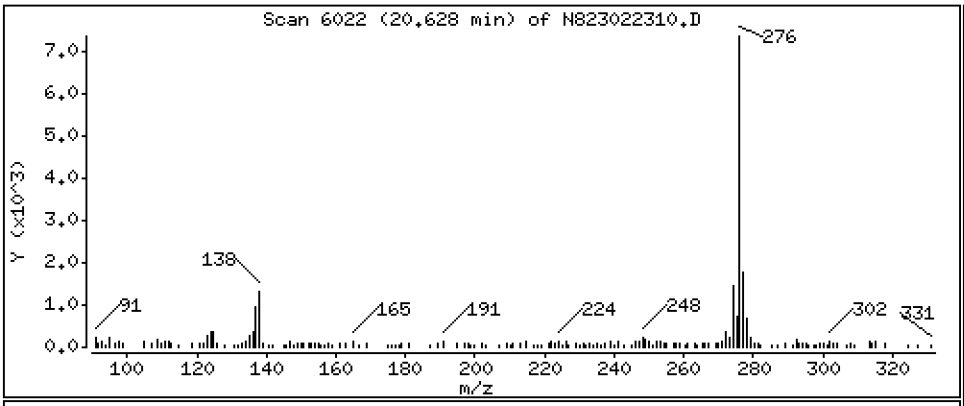
Operator: JZ

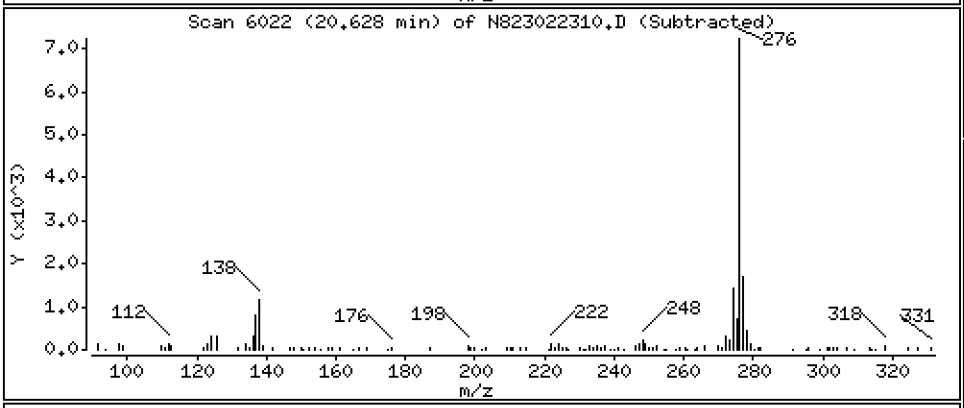
Column phase: Rxi-17sil

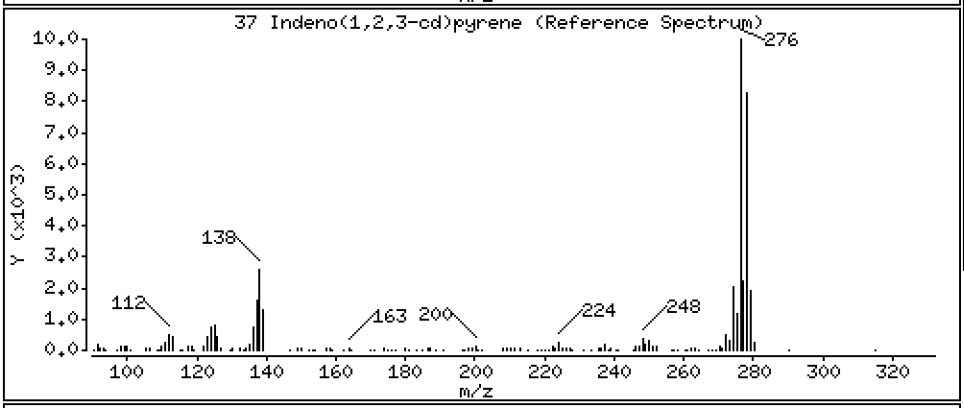
Column diameter: 0.25

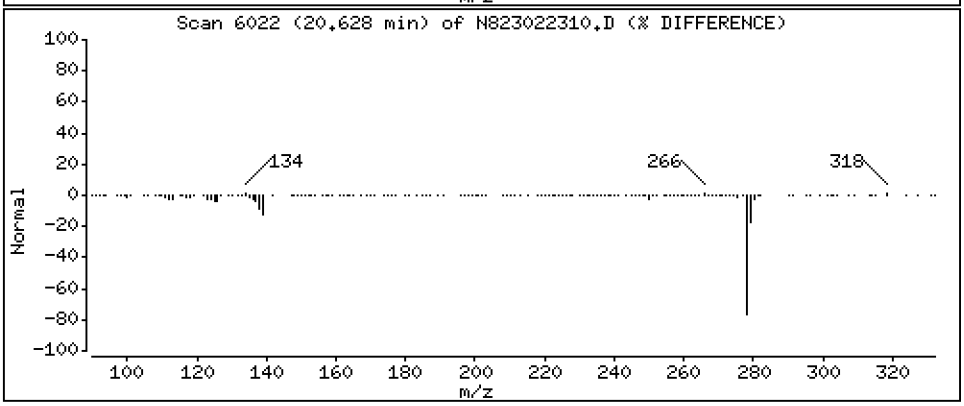
37 Indeno(1,2,3-cd)pyrene

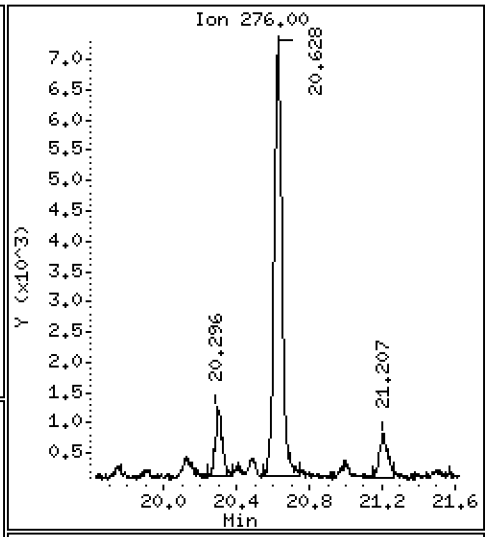
Concentration: 1.469 ug/mL

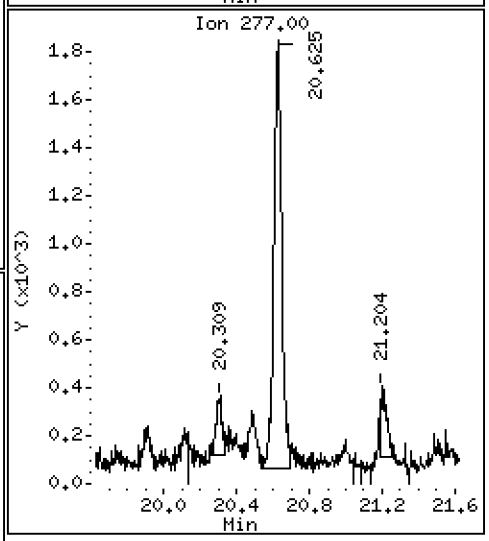












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Date : 23-FEB-2023 15:36

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-05

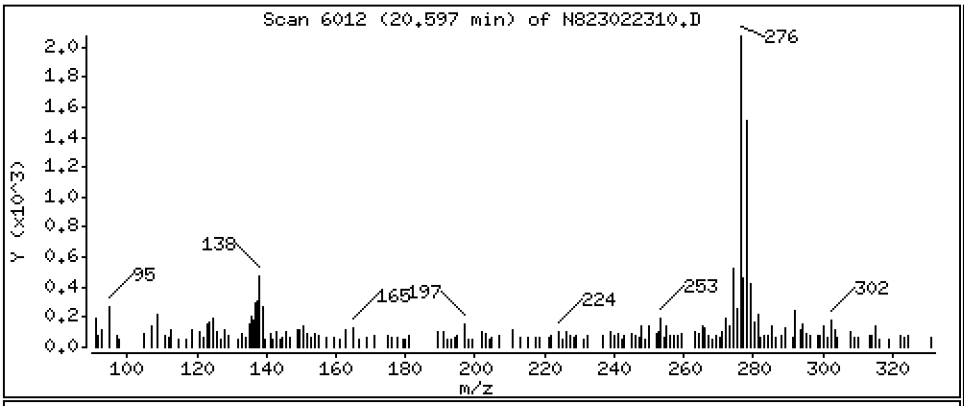
Operator: JZ

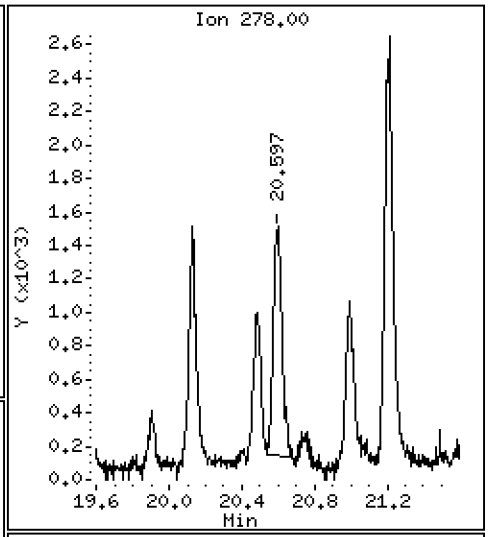
Column phase: Rxi-17sil

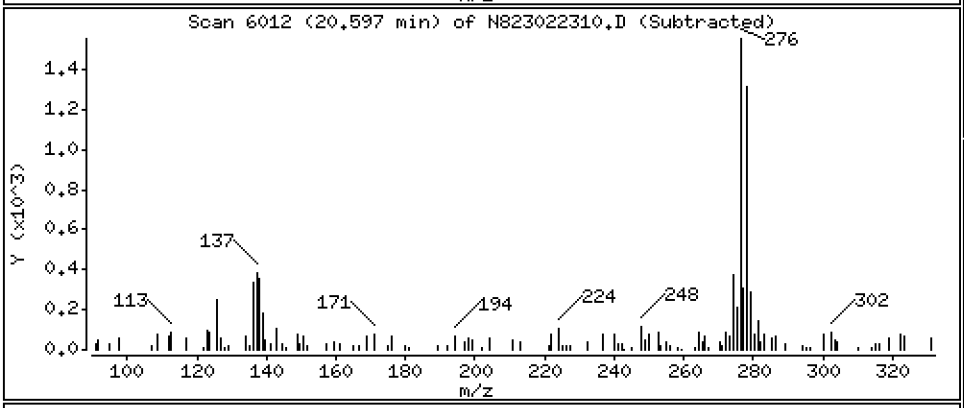
Column diameter: 0.25

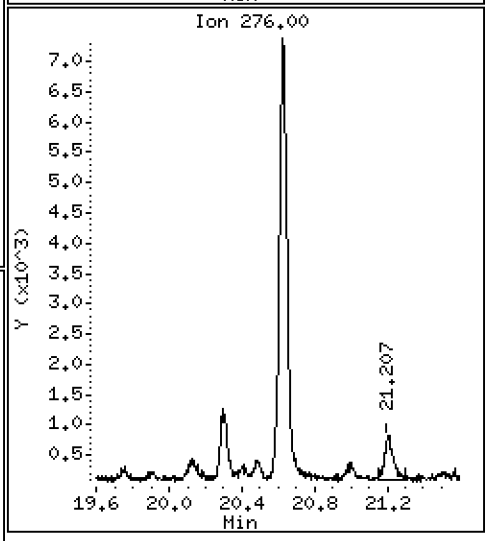
38 Dibenzo(a,h)anthracene

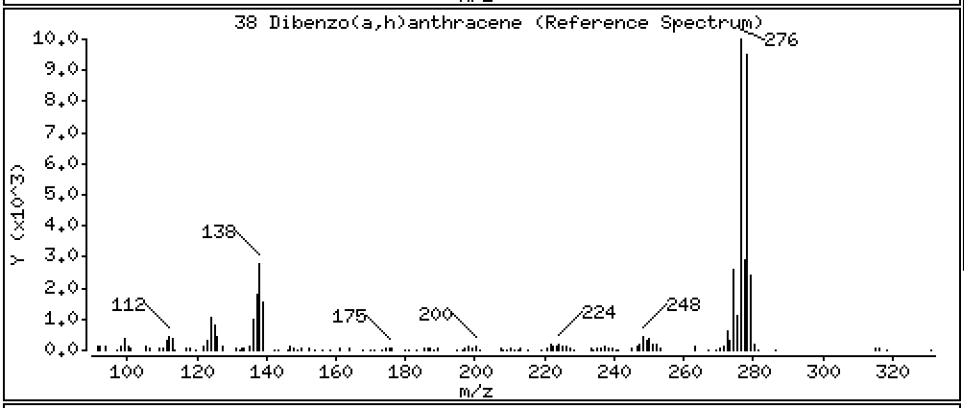
Concentration: 0.3686 ug/mL

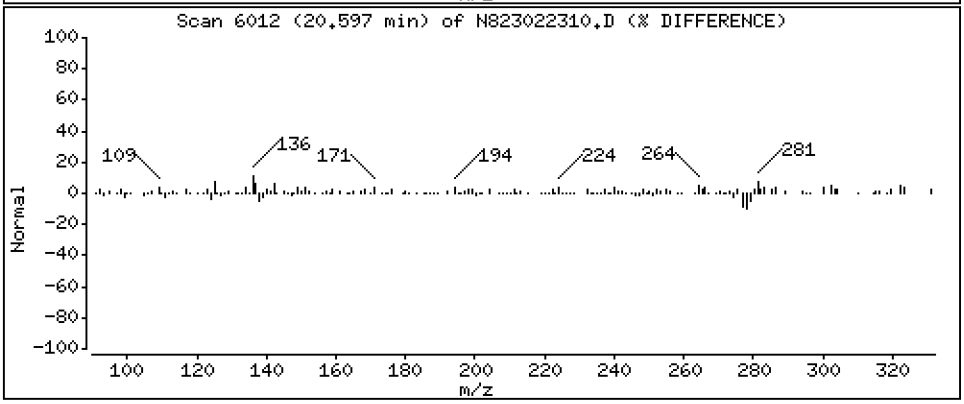












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022310.D

Date : 23-FEB-2023 15:36

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-05

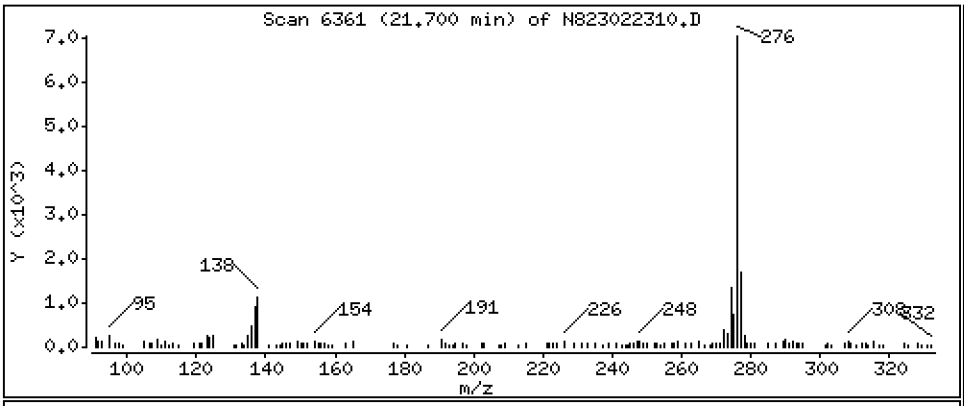
Operator: JZ

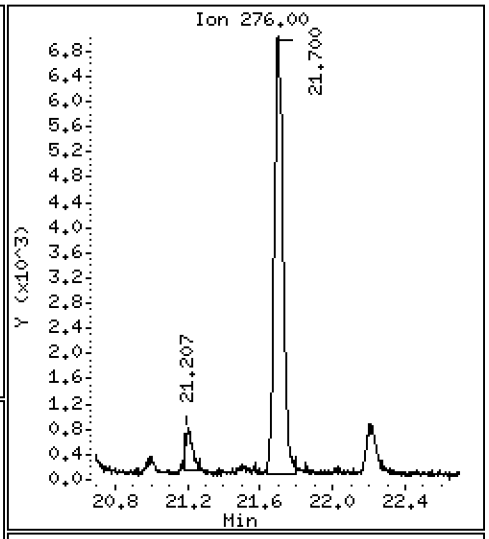
Column phase: Rxi-17sil

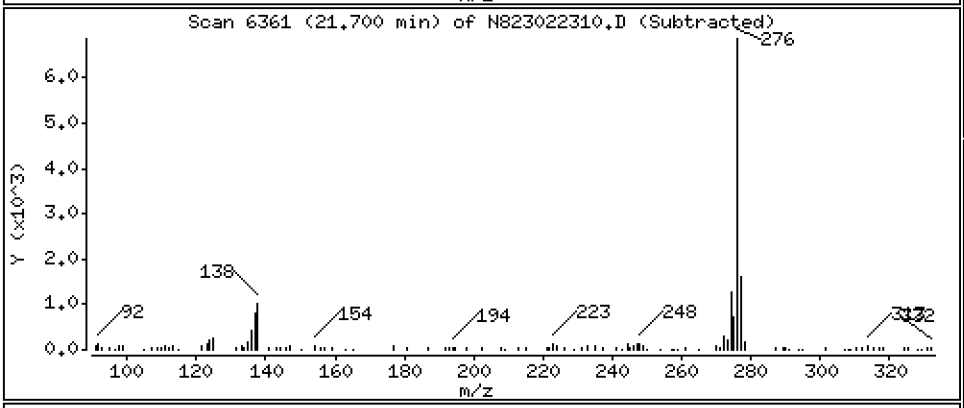
Column diameter: 0.25

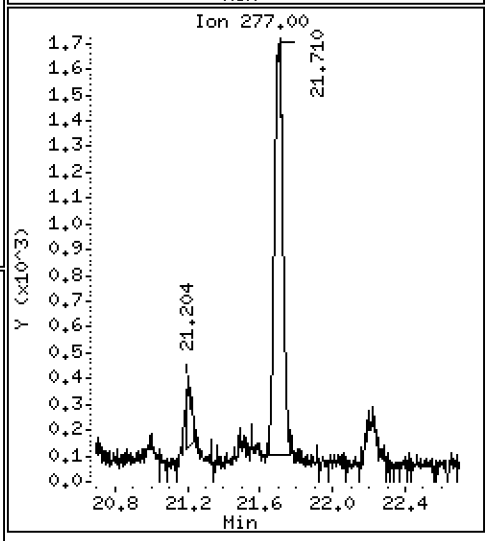
39 Benzo(g,h,i)perylene

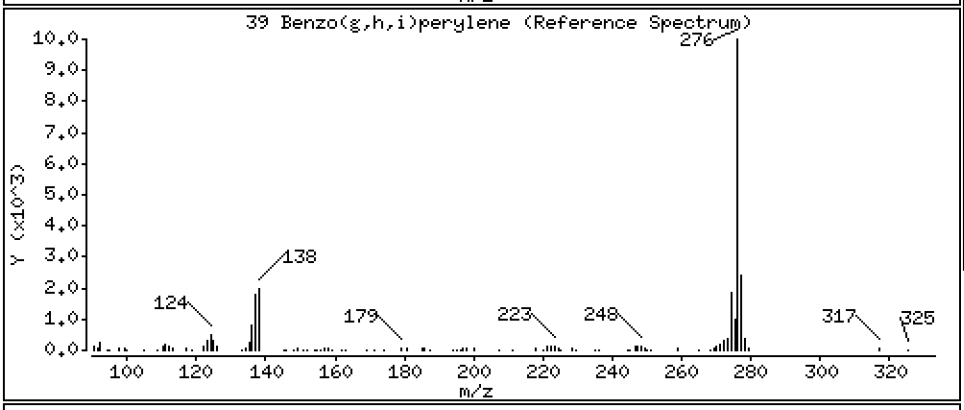
Concentration: 1.741 ug/mL

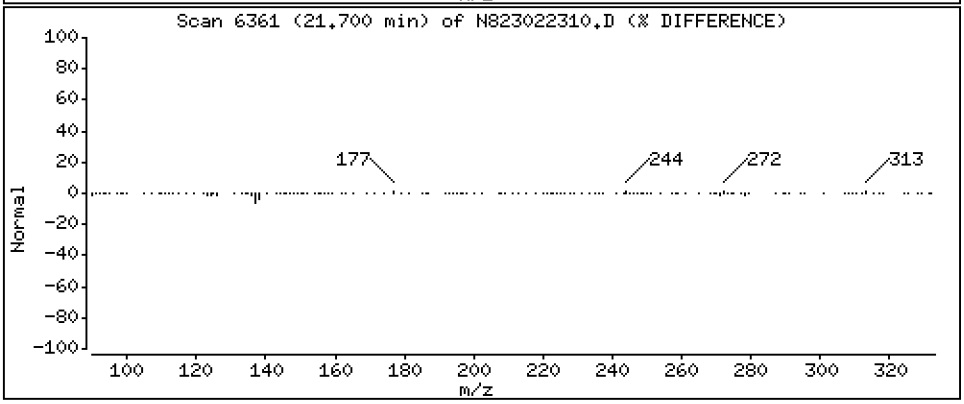












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230223.b\N823022310.D
Lab Smp Id: 23A0418-05
Inj Date : 23-FEB-2023 15:36
Operator : JZ Inst ID: nt8.i
Smp Info : 23A0418-05
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Meth Date : 26-Feb-2023 11:43 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PNAXEMDL.sub
Target Version: 4.14
Processing Host: JIANQING-202105

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.862	4.871	(1.000)	38607	2.00000	
	2 Naphthalene	128	4.894	4.903	(1.007)	5915	0.32951	0.3295
$	3 2-Methylnaphthalene-d10	152	5.599	5.605	(1.152)	20180	1.91659	1.917
	4 2-Methylnaphthalene	141	5.646	5.652	(1.161)	3107	0.31467	0.3147
	5 1-methylnaphthalene	141	5.842	5.849	(1.202)	2215	0.22103	0.2210
	9 Acenaphthylene	152	7.047	7.050	(0.985)	1877	0.10498	0.1050
*	10 Acenaphthene-d10	164	7.155	7.158	(1.000)	23678	2.00000	
	11 Acenaphthene	153	7.208	7.208	(1.008)	1390	0.11603	0.1160
	12 Dibenzofuran	168	7.357	7.360	(1.028)	2662	0.14629	0.1463
	14 Fluorene	166	7.834	7.837	(1.095)	2274	0.16091	0.1609
*	15 Phenanthrene-d10	188	9.197	9.197	(1.000)	45069	2.00000	
	16 Phenanthrene	178	9.232	9.235	(1.004)	18720	0.85032	0.8503
	17 Anthracene	178	9.276	9.276	(1.009)	10362	0.51812	0.5181
	19 Carbazole	167	9.792	9.791	(1.065)	2098	0.11443	0.1144(M)
	22 Fluoranthene	202	11.028	11.009	(1.199)	94232	3.93227	3.932
$	21 Fluoranthene-d10	212	10.987	10.971	(1.195)	46818	2.35452	2.355
	23 Pyrene	202	11.553	11.527	(0.816)	79691	5.07129	5.071
	24 Benzo(a)anthracene	228	14.025	14.025	(0.991)	39408	2.76683	2.767
*	25 Chrysene-d12	240	14.155	14.152	(1.000)	25346	2.00000	
	27 Chrysene	228	14.228	14.225	(1.005)	51487	3.39570	3.396
	28 Benzo(b)fluoranthene	252	16.780	16.770	(0.929)	44891	3.03411	3.034
	29 Benzo(k)fluoranthene	252	16.836	16.833	(0.932)	22785	1.57223	1.572
	30 Benzo(j)fluoranthene	252	16.912	16.912	(0.936)	19125	1.46592	1.466
	31 Total Benzofluoranthenes	252	16.780	16.770	(0.929)	85825	6.12509	6.125(M)
	34 Benzo(e)pyrene	252	17.697	17.696	(0.980)	30740	2.08352	2.084
	32 Benzo(a)pyrene	252	17.829	17.826	(0.987)	32241	2.47629	2.476
*	33 Perylene-d12	264	18.060	18.057	(1.000)	25404	2.00000	
	35 Perylene	252	18.136	18.130	(1.004)	16030	1.14732	1.147
$	36 Dibenzo(a,h)anthracene-d14	292	20.485	20.485	(1.134)	25062	2.51782	2.518
	37 Indeno(1,2,3-cd)pyrene	276	20.628	20.624	(1.142)	21795	1.46938	1.469
	38 Dibenzo(a,h)anthracene	278	20.596	20.596	(1.140)	4705	0.36859	0.3686(M)
	39 Benzo(g,h,i)perylene	276	21.700	21.696	(1.202)	23399	1.74114	1.741

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823022310.D
Lab Smp Id: 23A0418-05
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 23-FEB-2023
Calibration Time: 11:46
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	37022	18511	74044	38607	4.28
10 Acenaphthene-d10	22454	11227	44908	23678	5.45
15 Phenanthrene-d10	43277	21639	86554	45069	4.14
25 Chrysene-d12	38907	19454	77814	25346	-34.85
33 Perylene-d12	39582	19791	79164	25404	-35.82

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.87	4.37	5.37	4.86	-0.19
10 Acenaphthene-d10	7.16	6.66	7.66	7.16	-0.04
15 Phenanthrene-d10	9.20	8.70	9.70	9.20	0.00
25 Chrysene-d12	14.15	13.65	14.65	14.16	0.02
33 Perylene-d12	18.06	17.56	18.56	18.06	0.02

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

REVIEW SUMMARY FOR FILE - N823022310.D

Lab ID: 23A0418-05
nt8.i, 20230223.b\FSIMPNA230119.m,   23-FEB-2023 15:36

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

No RRT check performed

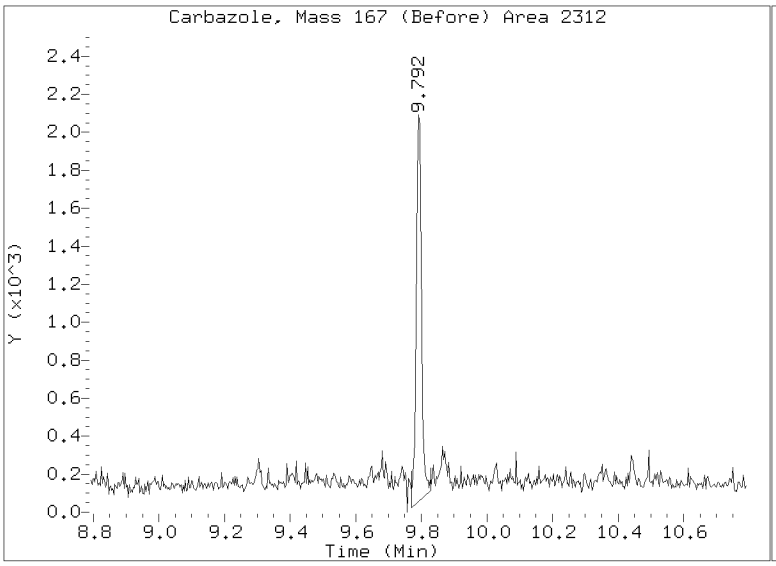
On Column LOD for nt8.i, 20230223.b\FSIMPNA230119.m, PNAXEMDL.sub = 0.0080

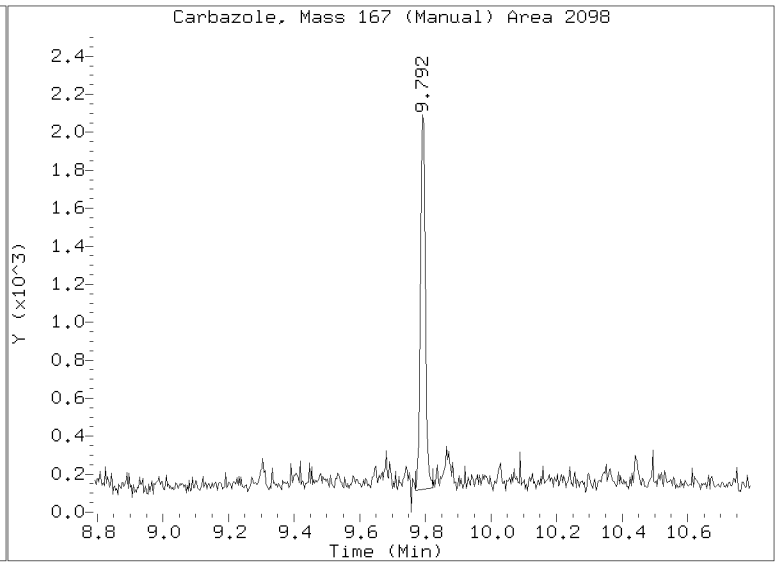
Exception: Benzo(e)pyrene 0.0800

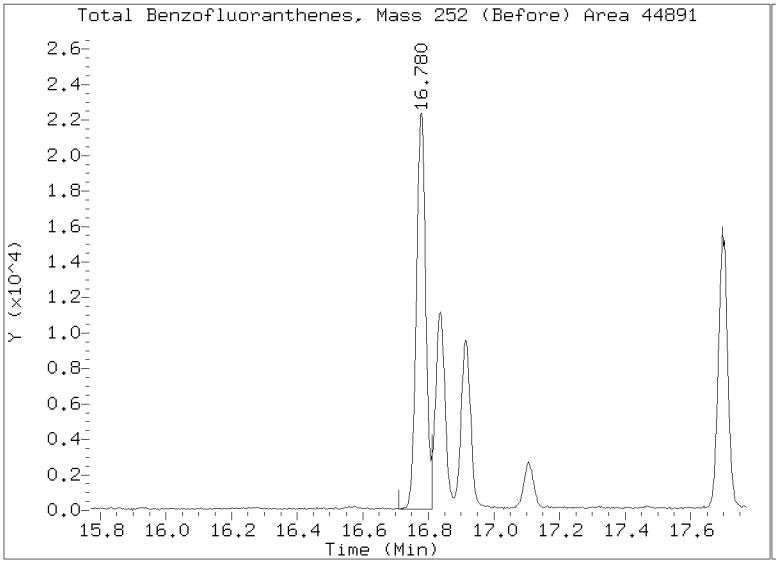
* Only compounds listed in the work order have been verified by the analyst *

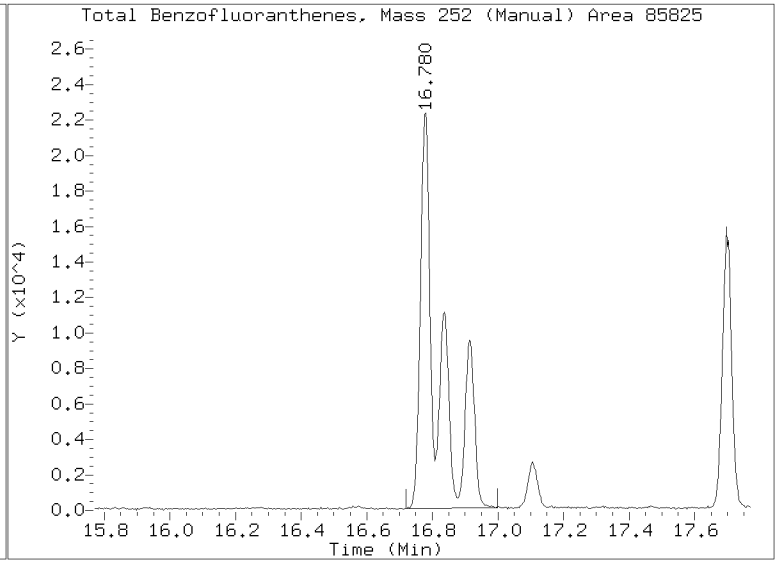
Quant Ion Manual Peak Adjustment Report

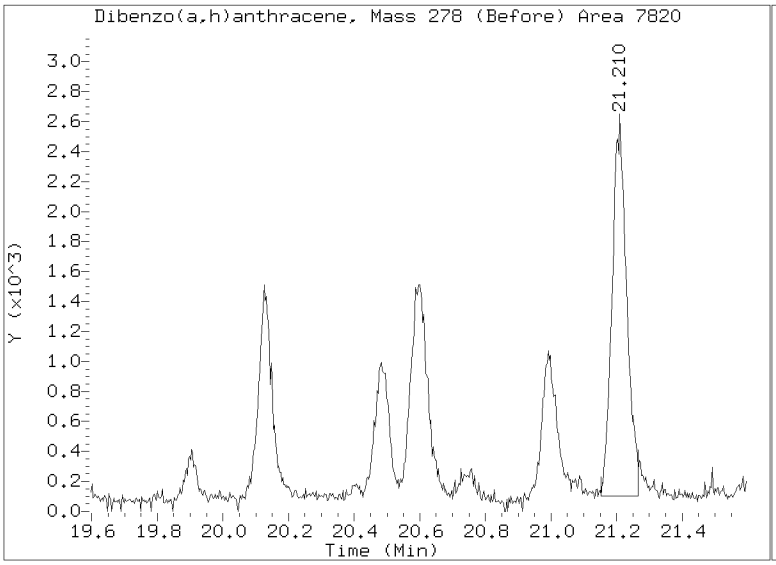
Datafile: //target/share/chem3/nt8.i/20230223.b/N823022310.D
Injection Date: 23-FEB-2023 15:36
Lab ID:23A0418-05 Client ID:
Report Date: 02/26/2023 12:32

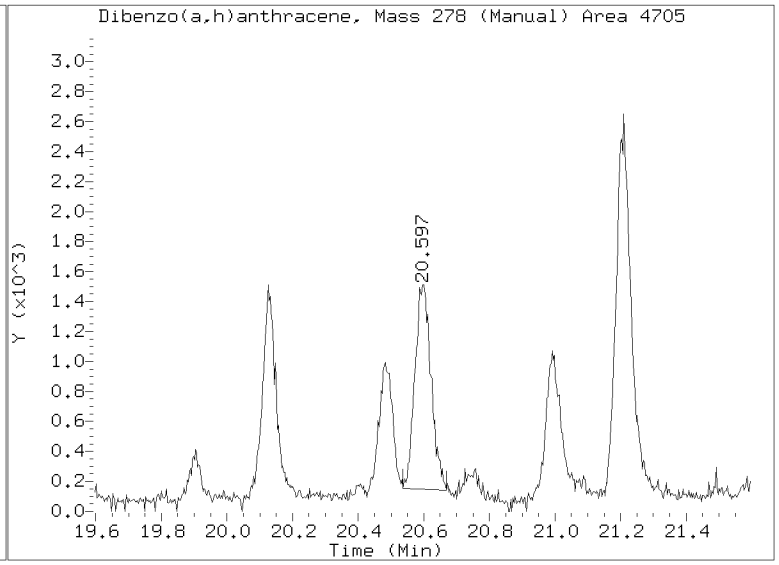












Analytical Resources, LLC
Analytical Chemists and Consultants

LDW23-IT1133-FD

Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270E-SIM
Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-06 A	SDG:	23A0418
Sampled:	01/18/23 11:13	Prepared:	02/16/23 14:32	File ID:	N823022311.D
% Solids:	74.81	Preparation:	EPA 3546 (Microwave)	Analyzed:	02/23/23 16:03
Batch:	BLB0386	Sequence:	SLB0310	Initial/Final:	13.57 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	GA00050
Cleanups:	GPC, Silica Gel				

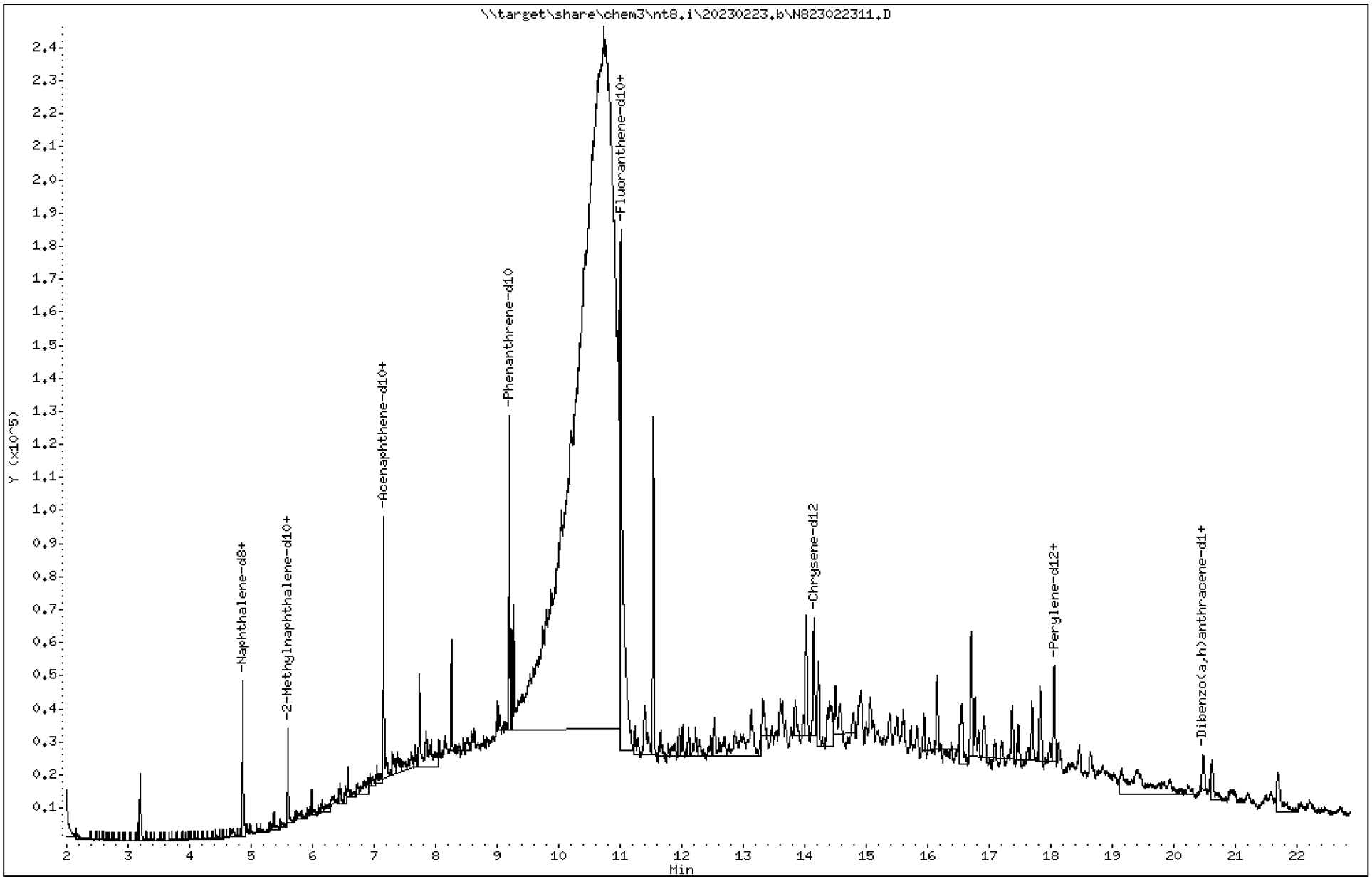
CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	3	175	D	2.44	14.8
218-01-9	Chrysene	3	175	D	3.11	14.8
205-99-2	Benzo(b)fluoranthene	3	170	D	4.05	14.8
207-08-9	Benzo(k)fluoranthene	3	97.0	D	2.25	14.8
50-32-8	Benzo(a)pyrene	3	193	D	1.81	14.8
193-39-5	Indeno(1,2,3-cd)pyrene	3	119	D	3.10	14.8
53-70-3	Dibenzo(a,h)anthracene	3	29.0	D	2.63	14.8

SURROGATES	ADDED: (ug/kg dry)	FOUND: (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	147.76	138	93.6	32 - 120	
Dibenzo[a,h]anthracene-d14	147.76	168	113	21 - 133	
Fluoranthene-d10	147.76	151	102	36 - 134	

Data File: \\target\share\chem3\nt8.i\20230223.b\N823022311.D
Date : 23-FEB-2023 16:03
Client ID:
Sample Info: 23A0418-06,3

Instrument: nt8.i
Operator: JZ
Column diameter: 0.25

Column phase: Rxi-17sil



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Date : 23-FEB-2023 16:03

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-06,3

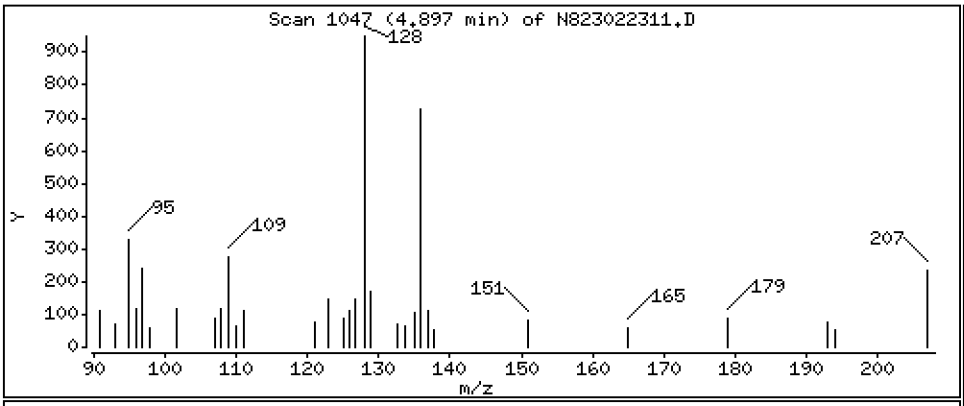
Operator: JZ

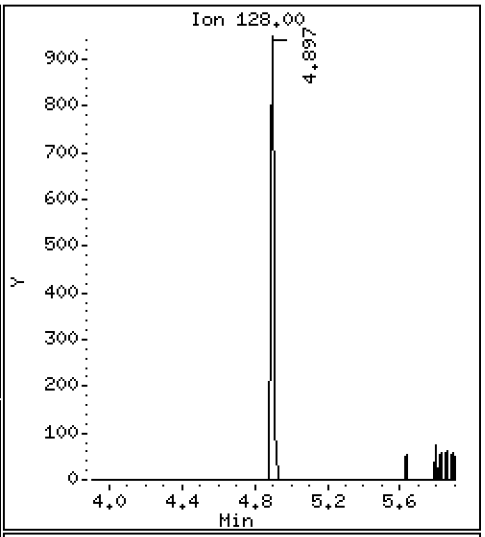
Column phase: Rxi-17sil

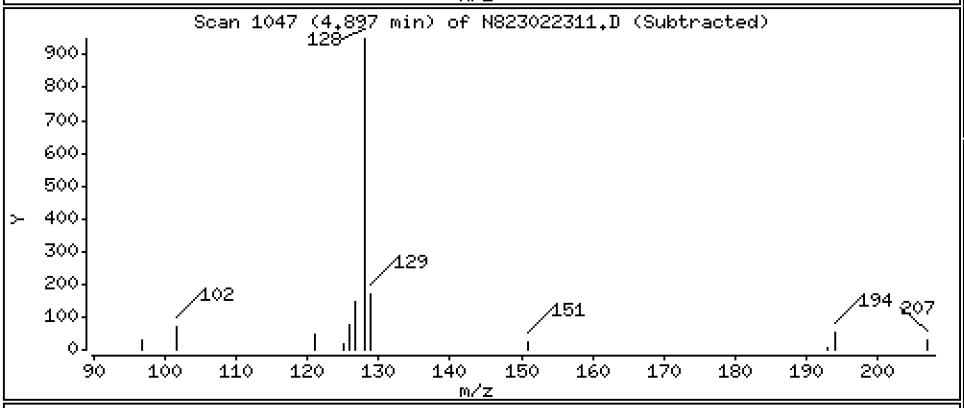
Column diameter: 0.25

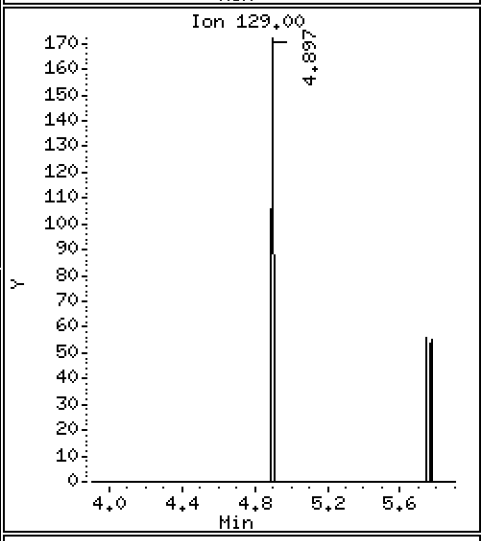
2 Naphthalene

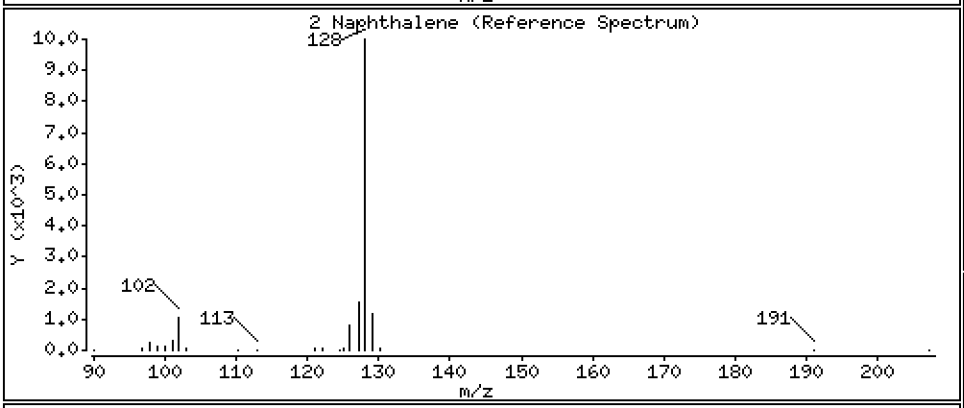
Concentration: 0.1953 ug/mL

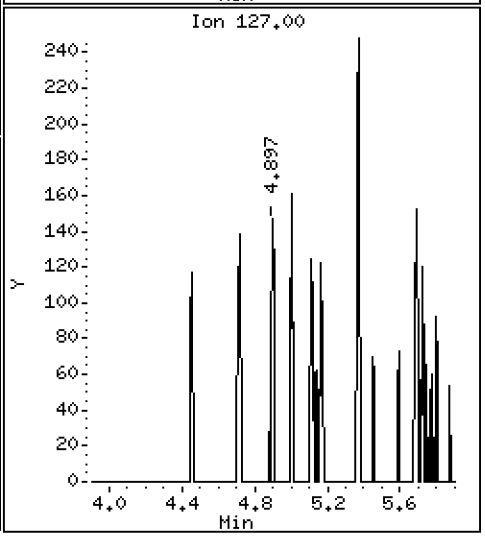


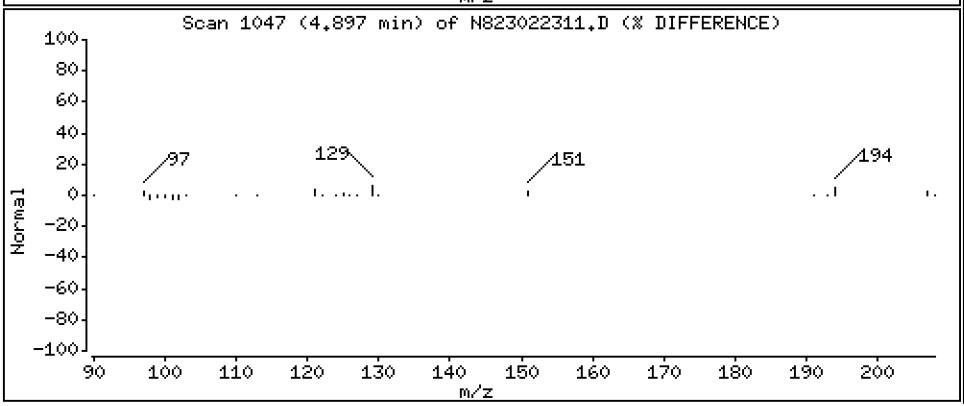












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Date : 23-FEB-2023 16:03

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-06,3

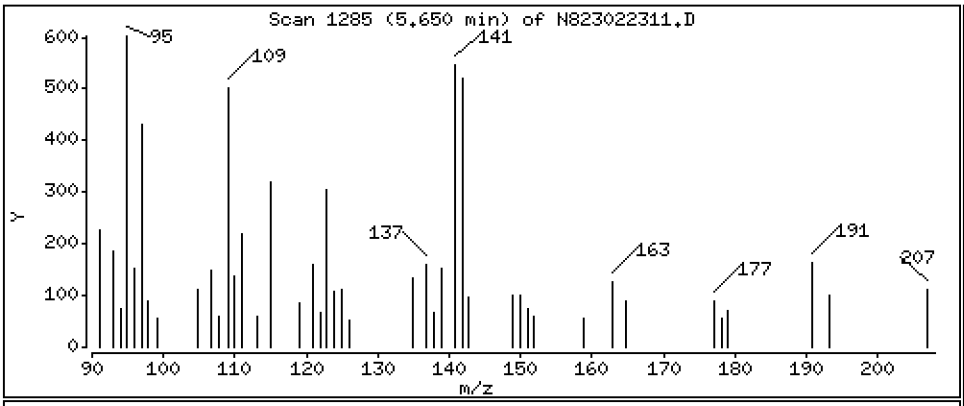
Operator: JZ

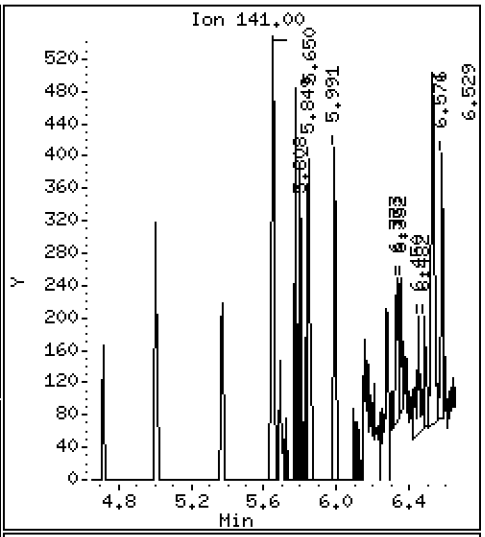
Column phase: Rxi-17sil

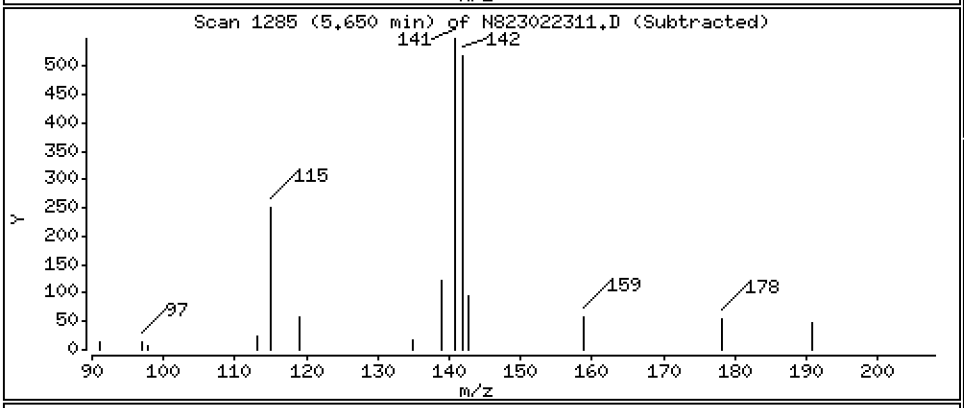
Column diameter: 0.25

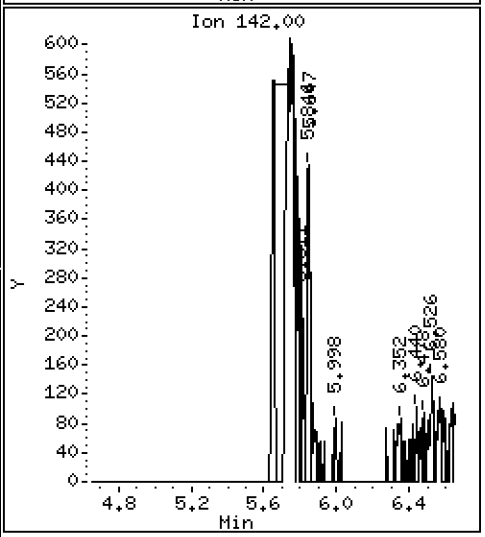
4 2-Methylnaphthalene

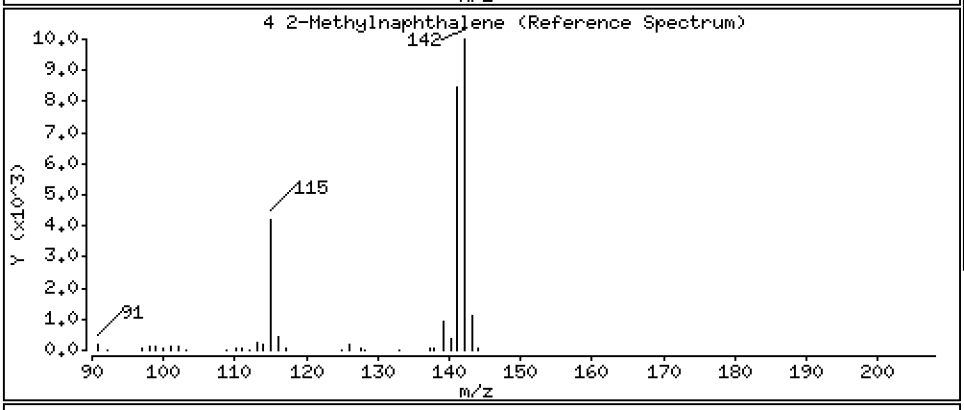
Concentration: 0.1822 ug/mL

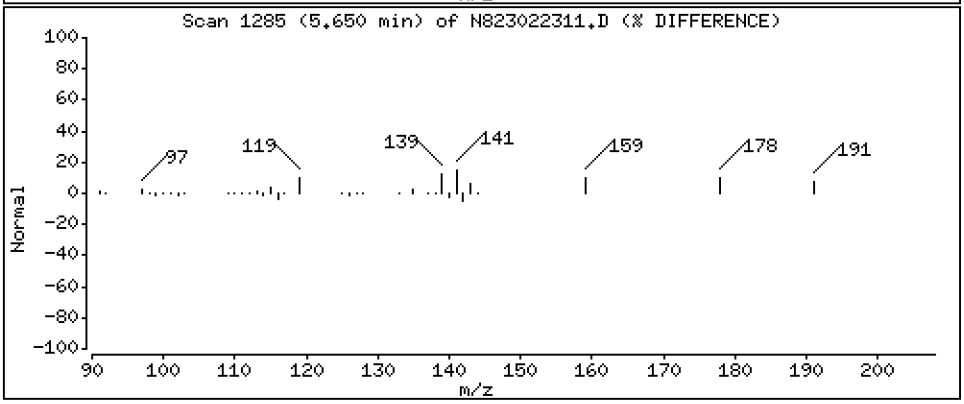












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Date : 23-FEB-2023 16:03

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-06,3

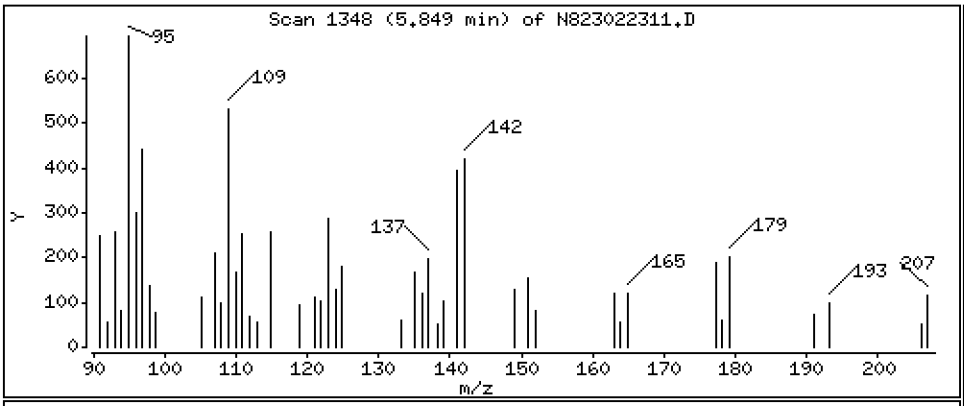
Operator: JZ

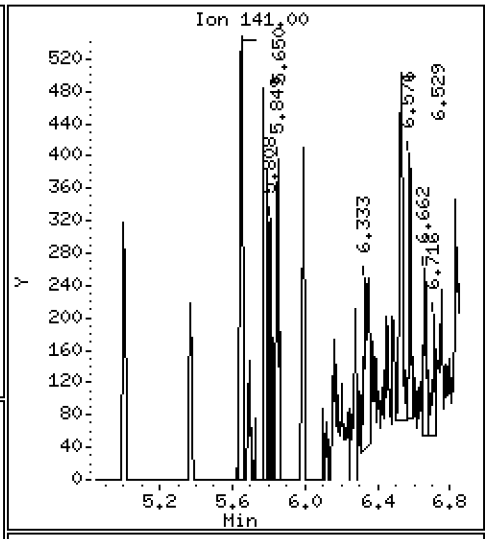
Column phase: Rxi-17sil

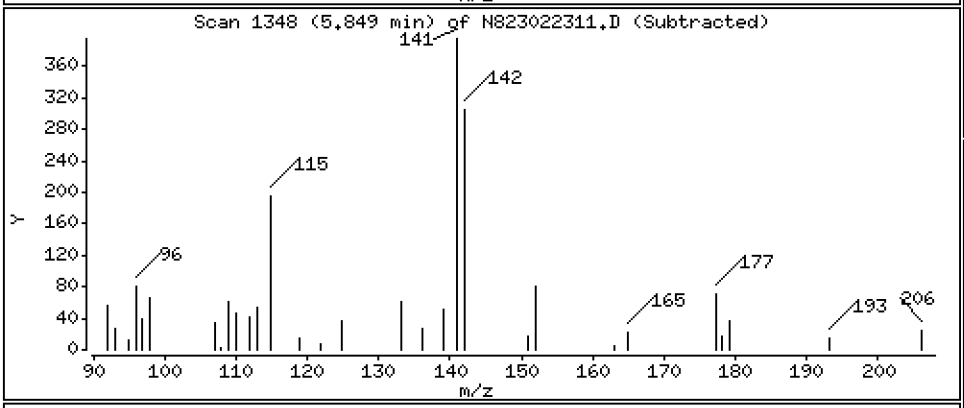
Column diameter: 0.25

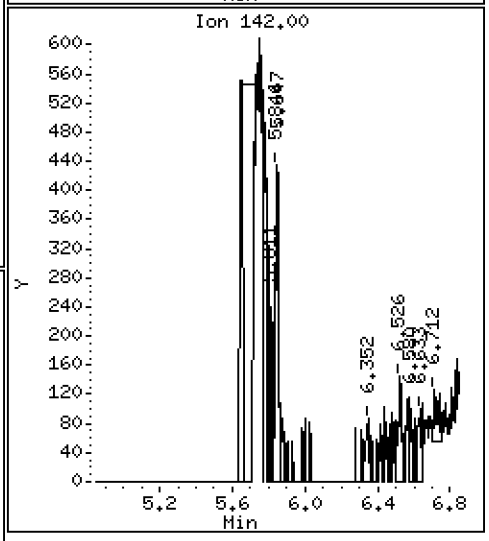
5 1-methylnaphthalene

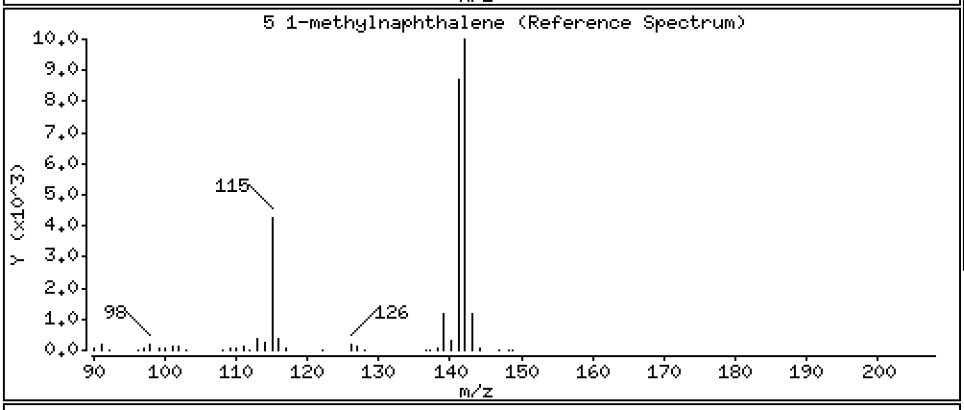
Concentration: 0.1297 ug/mL

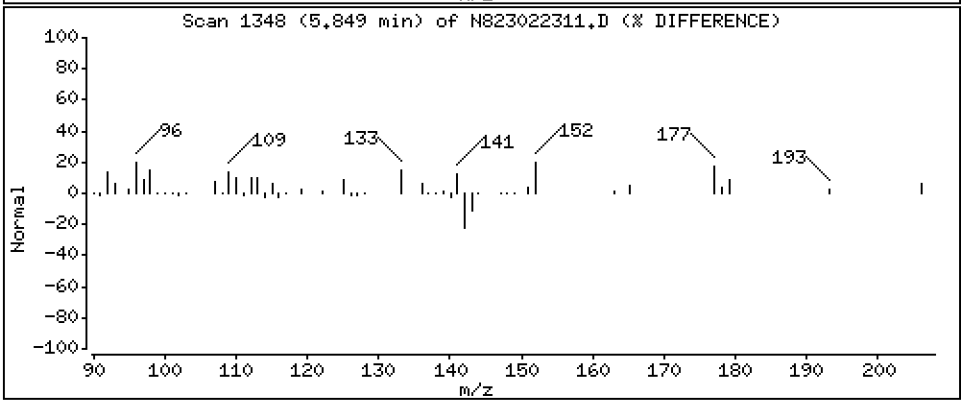












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022311.D

Date : 23-FEB-2023 16:03

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-06,3

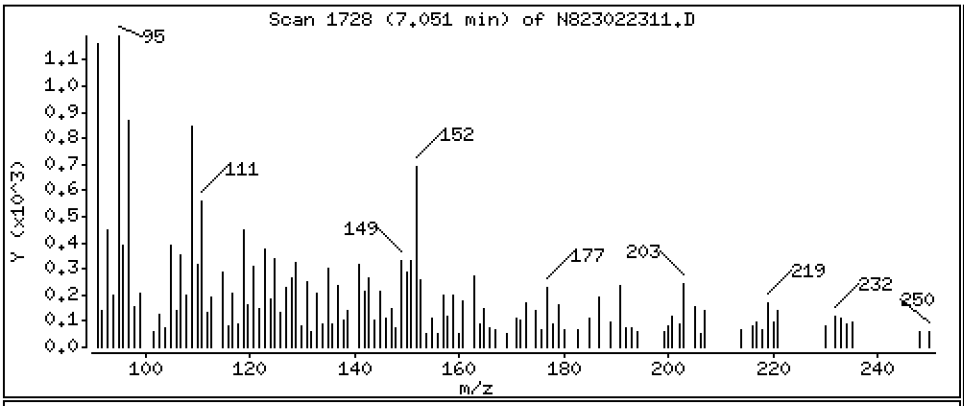
Operator: JZ

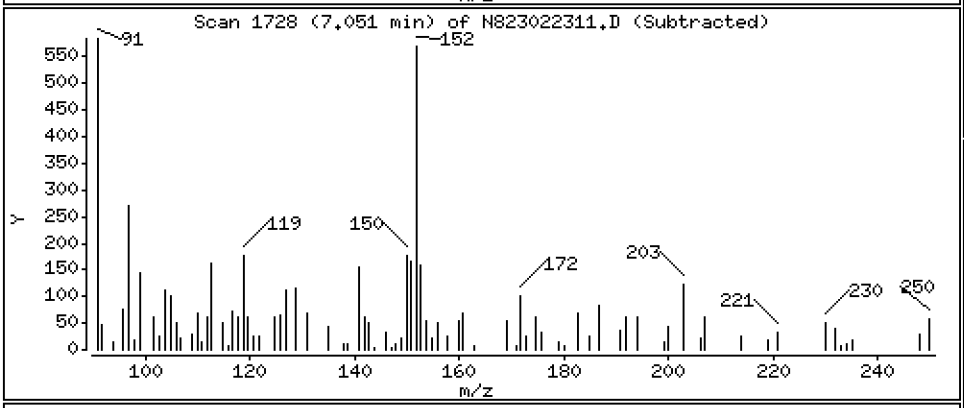
Column phase: Rxi-17sil

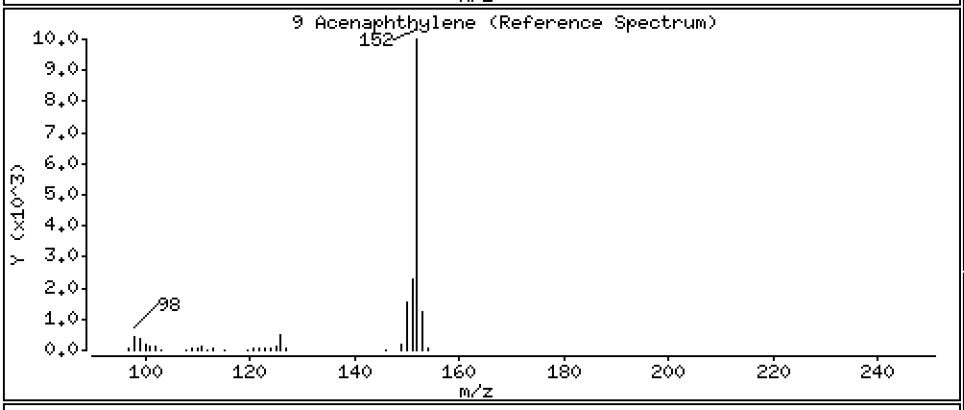
Column diameter: 0.25

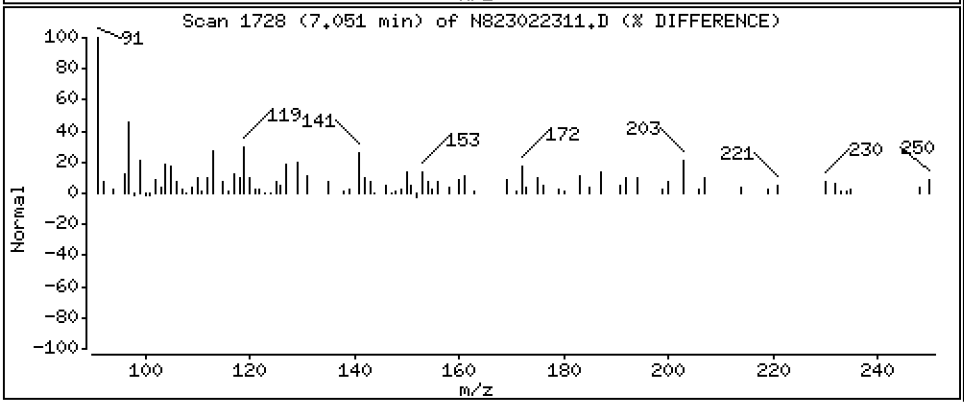
9 Acenaphthylene

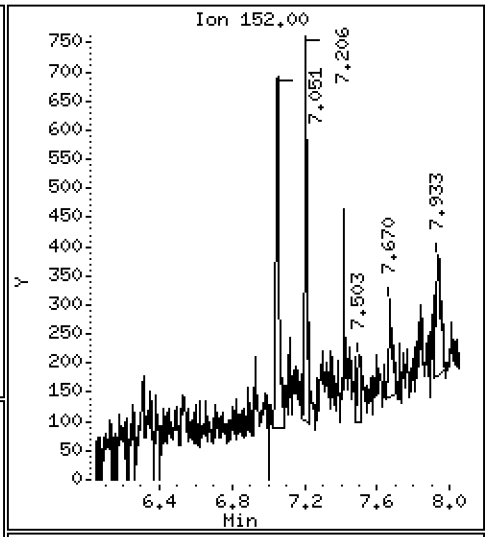
Concentration: 0.1410 ug/mL

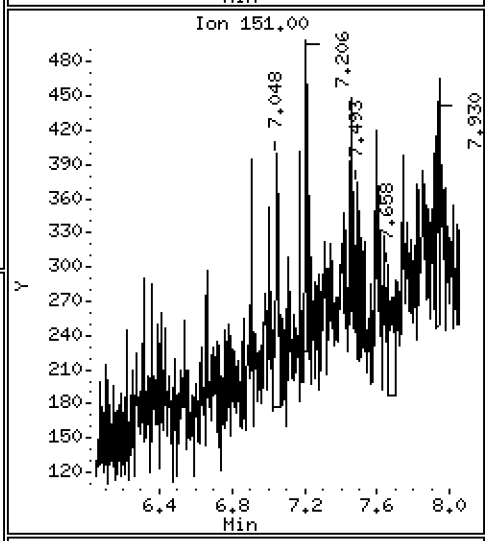


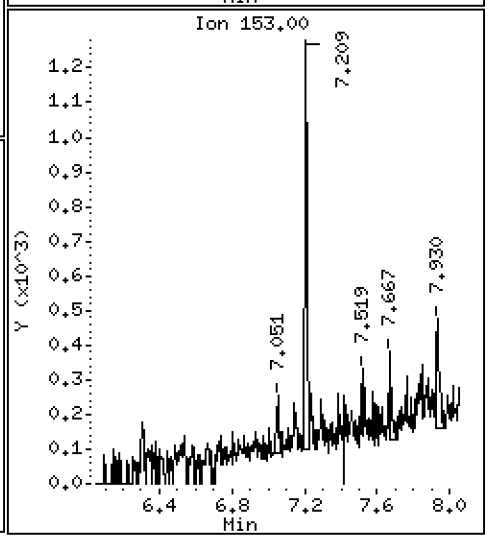












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022311.D

Date : 23-FEB-2023 16:03

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-06,3

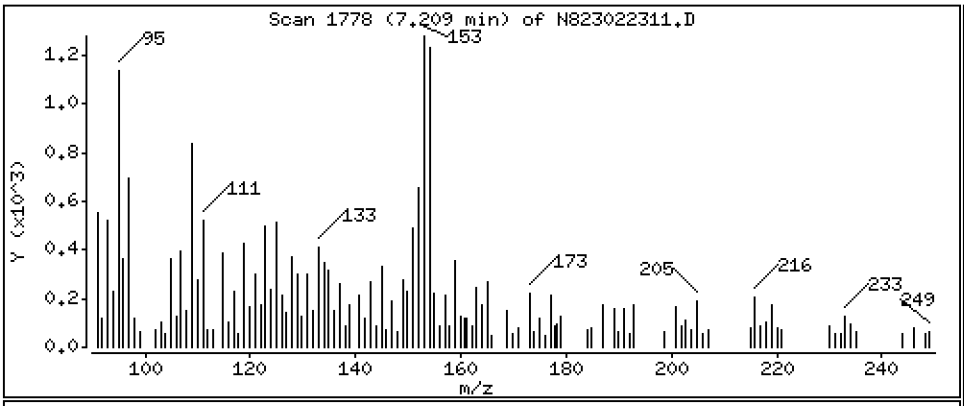
Operator: JZ

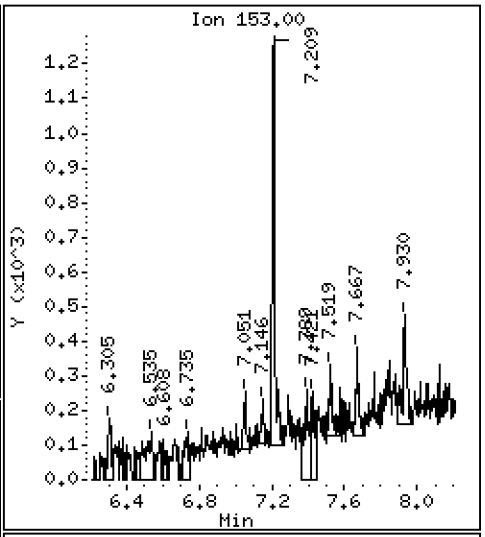
Column phase: Rxi-17sil

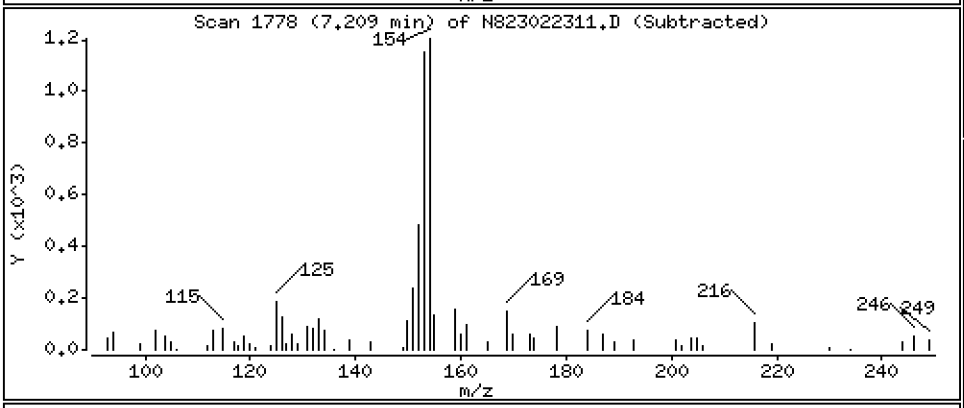
Column diameter: 0.25

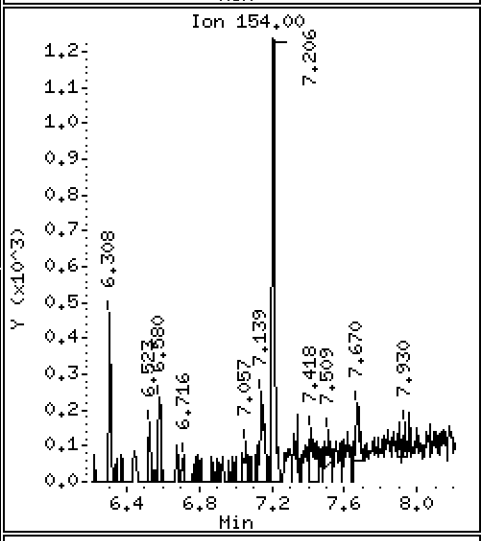
11 Acenaphthene

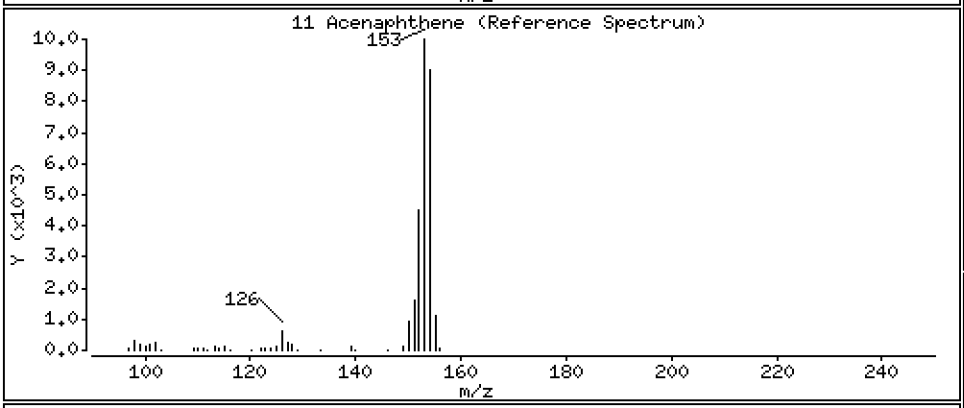
Concentration: 0.3408 ug/mL

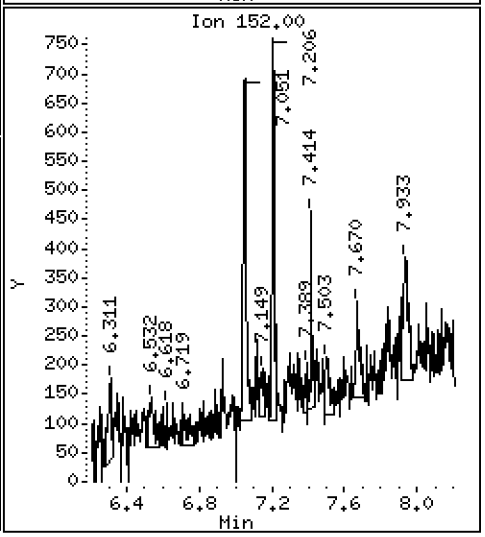


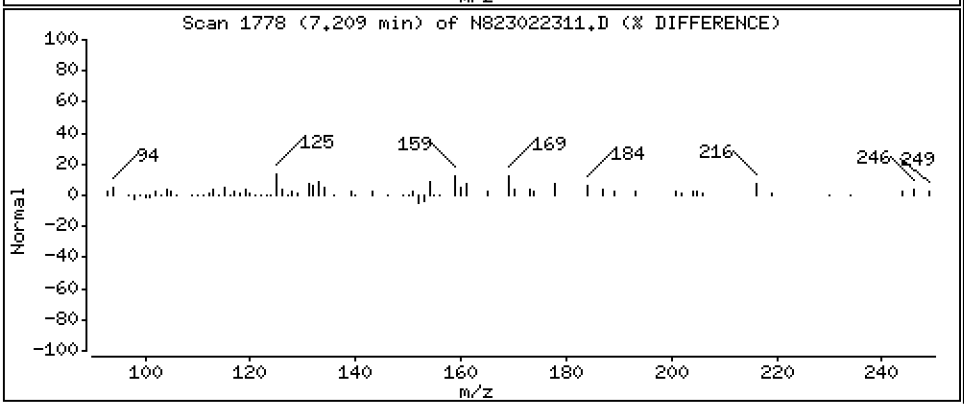












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022311.D

Date : 23-FEB-2023 16:03

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-06,3

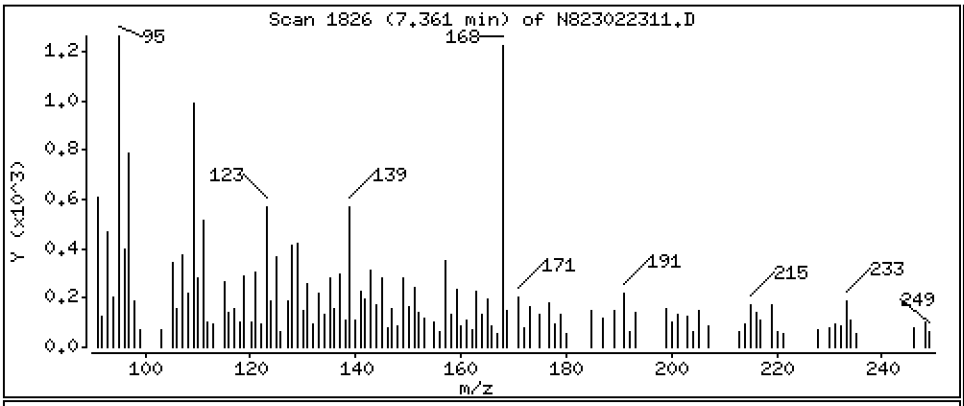
Operator: JZ

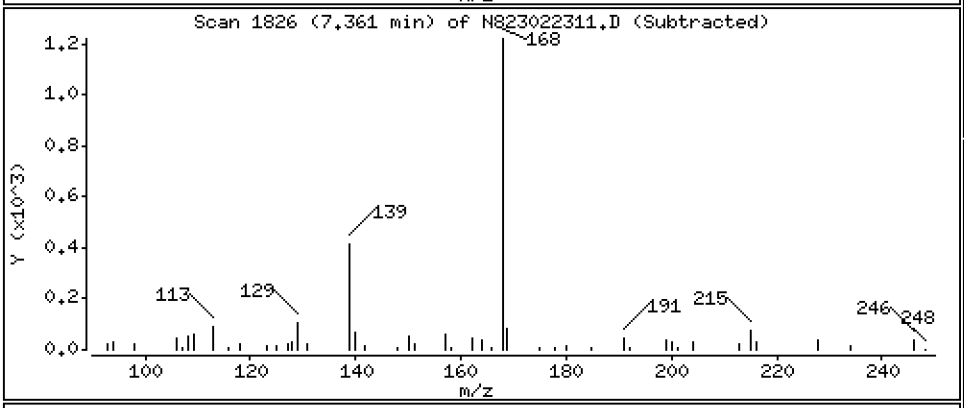
Column phase: Rxi-17sil

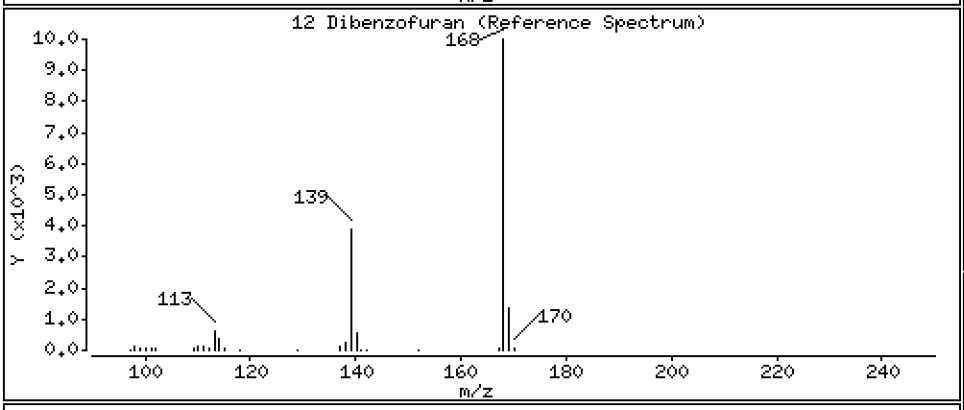
Column diameter: 0.25

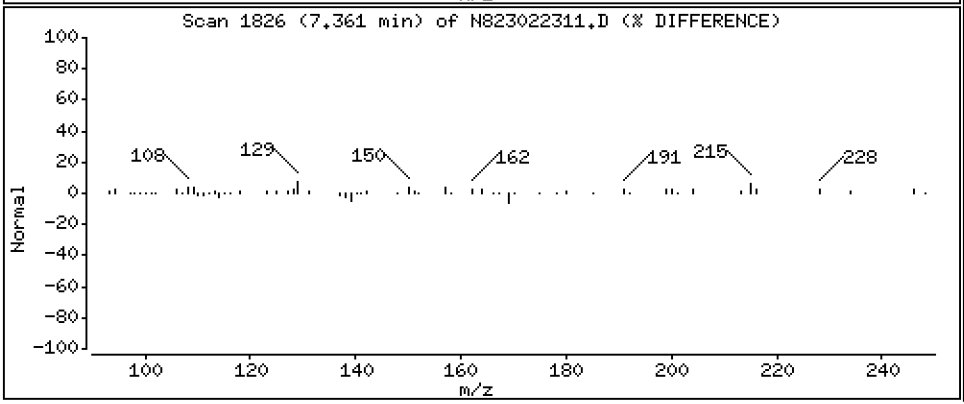
12 Dibenzofuran

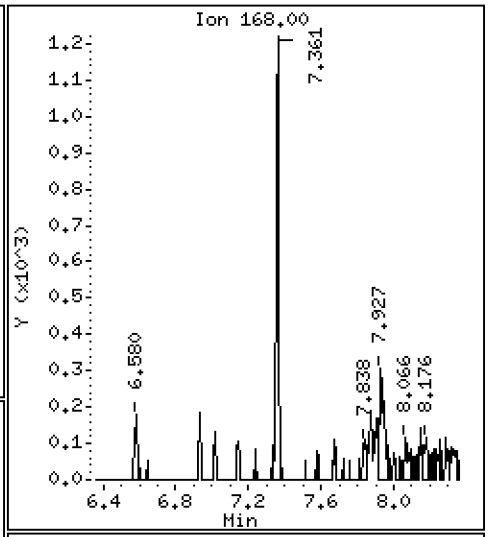
Concentration: 0.2056 ug/mL

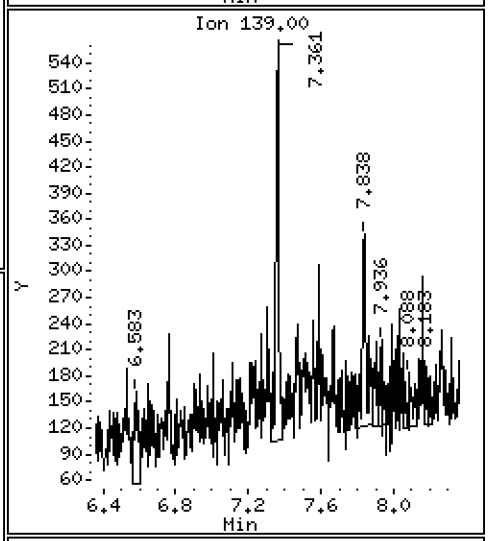


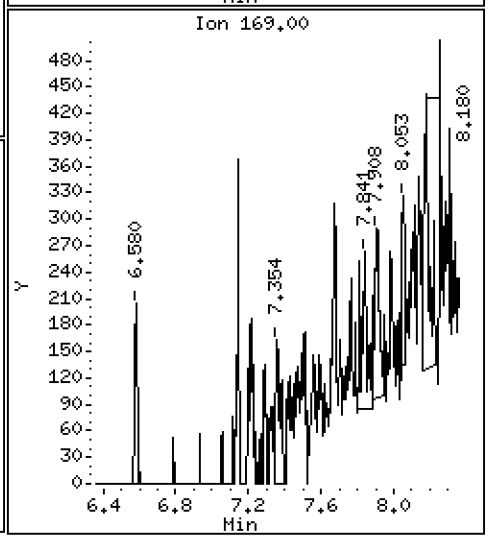












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022311.D

Date : 23-FEB-2023 16:03

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-06,3

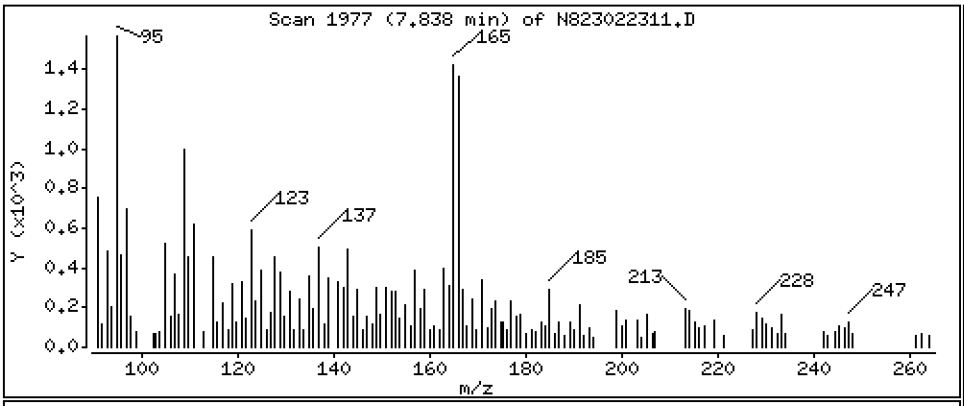
Operator: JZ

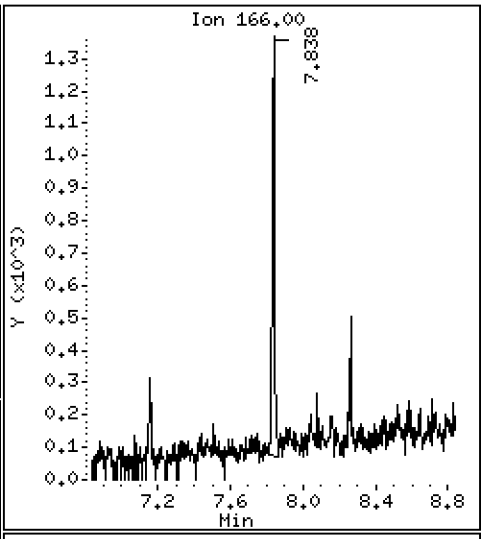
Column phase: Rxi-17sil

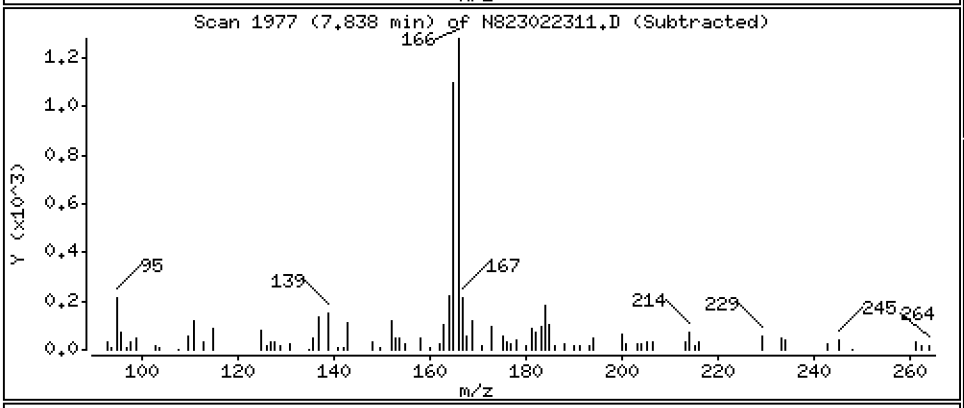
Column diameter: 0.25

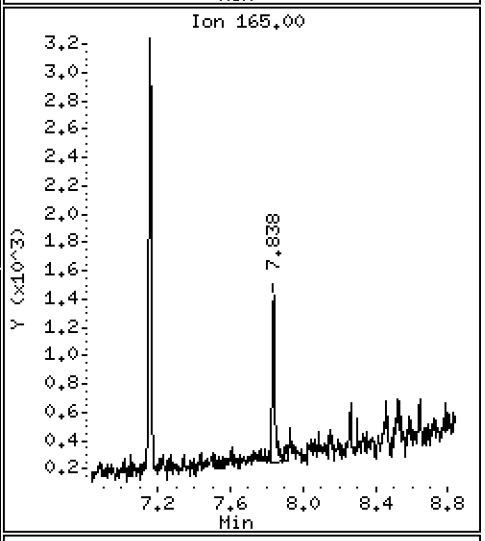
14 Fluorene

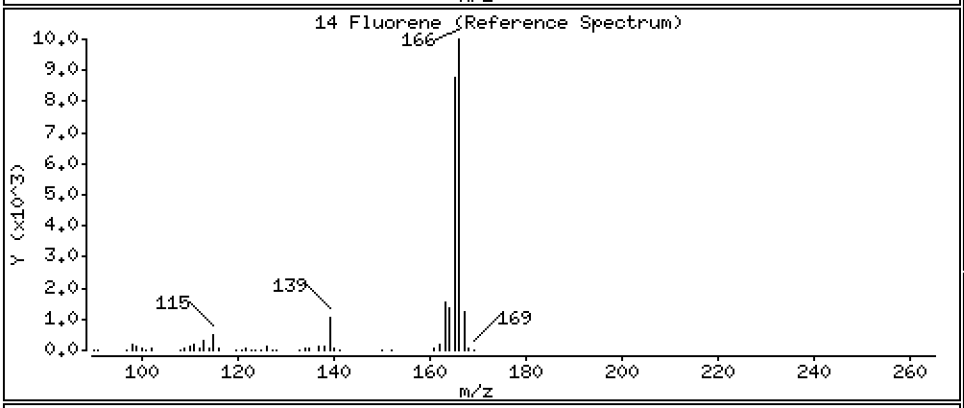
Concentration: 0.2715 ug/mL

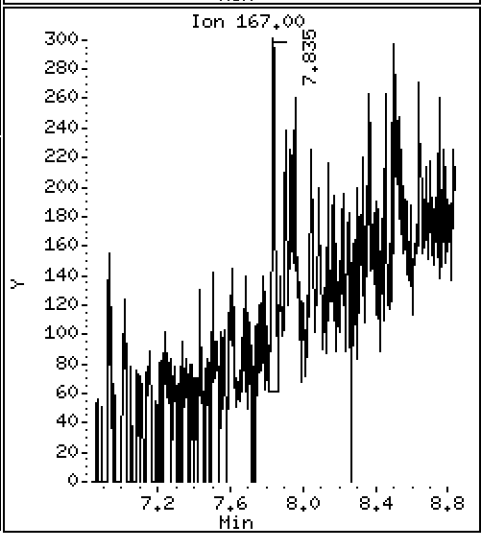


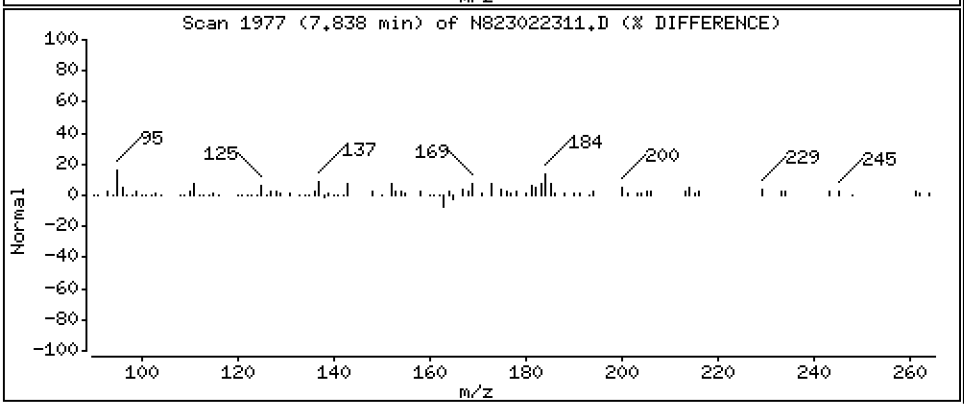












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Date : 23-FEB-2023 16:03

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-06,3

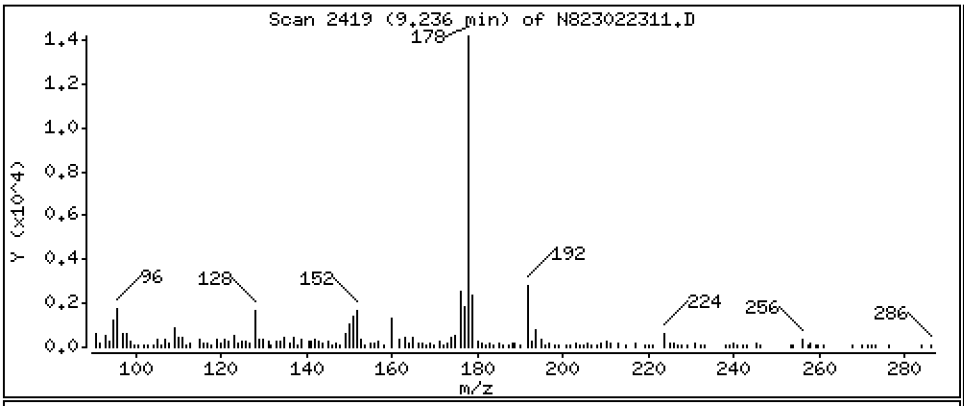
Operator: JZ

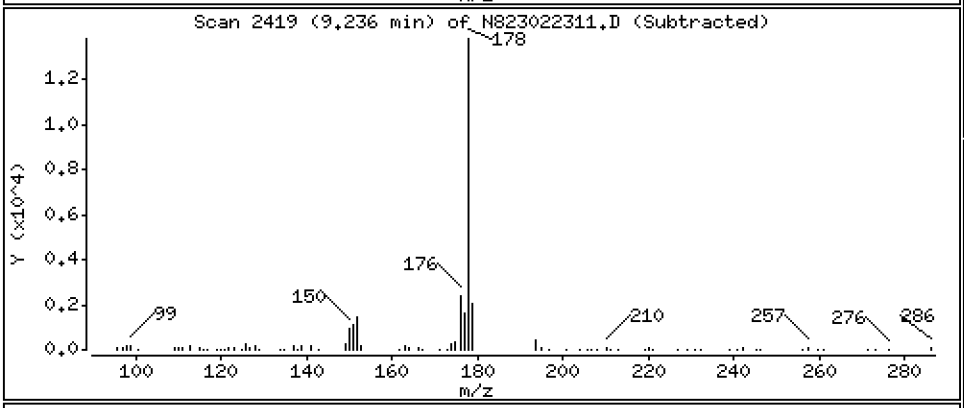
Column phase: Rxi-17sil

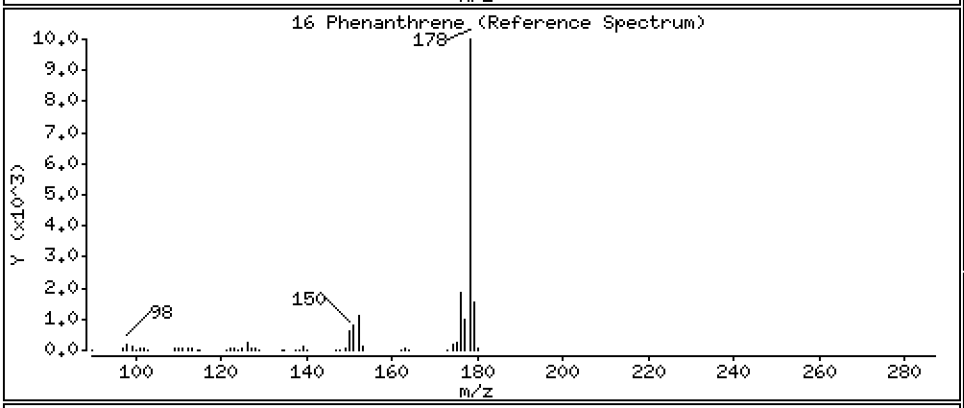
Column diameter: 0.25

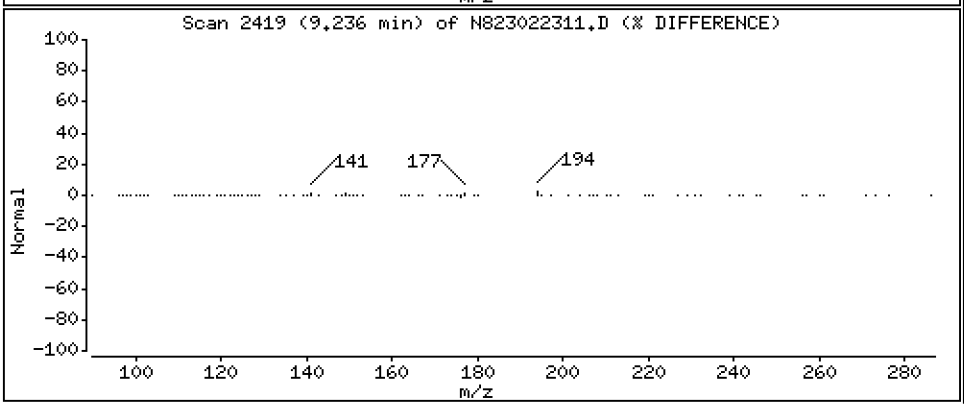
16 Phenanthrene

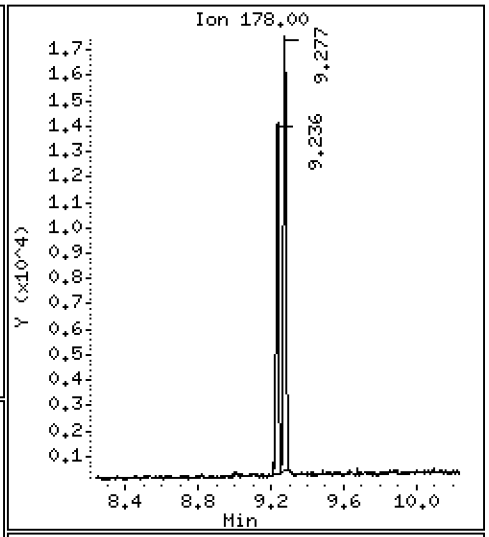
Concentration: 1.990 ug/mL

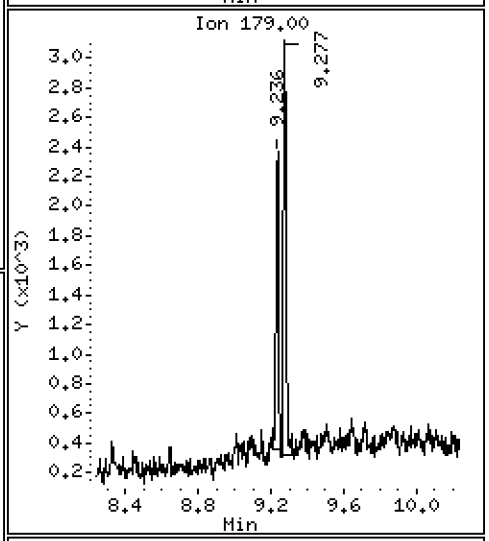


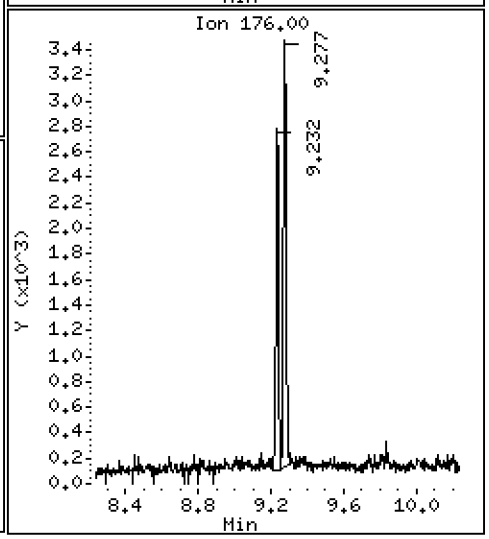












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022311.D

Date : 23-FEB-2023 16:03

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-06,3

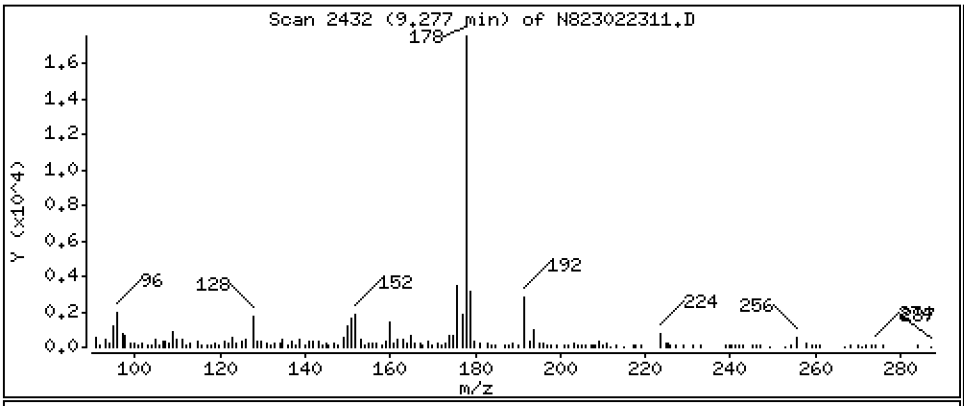
Operator: JZ

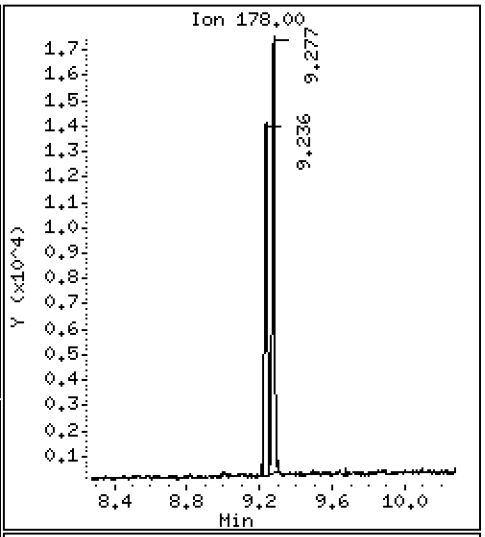
Column phase: Rxi-17sil

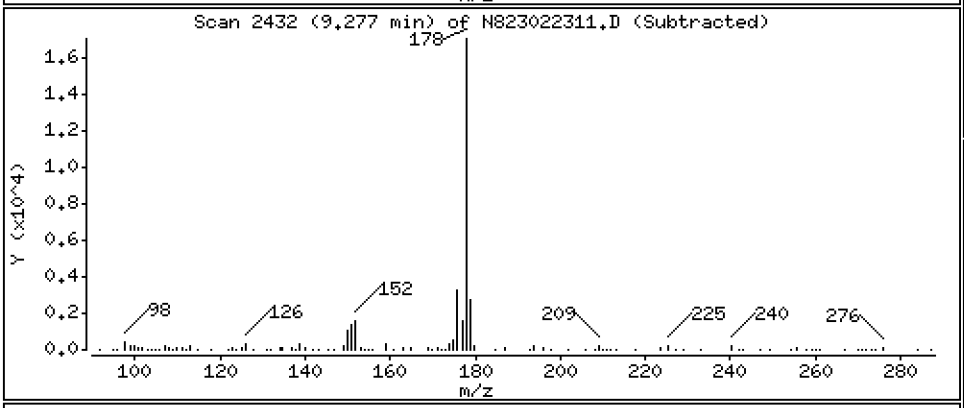
Column diameter: 0.25

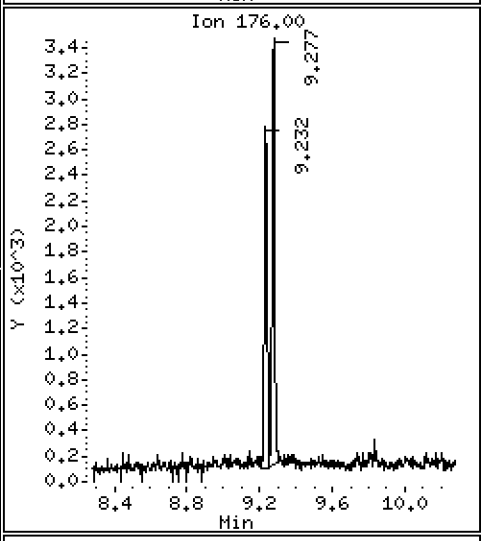
17 Anthracene

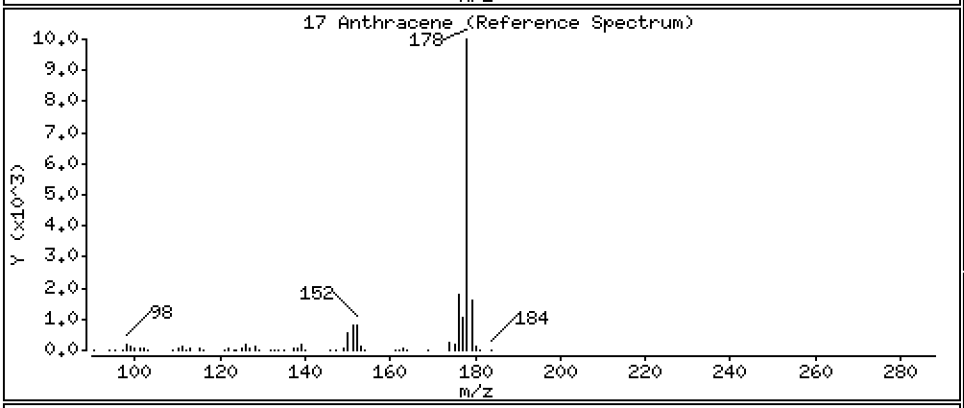
Concentration: 2.734 ug/mL

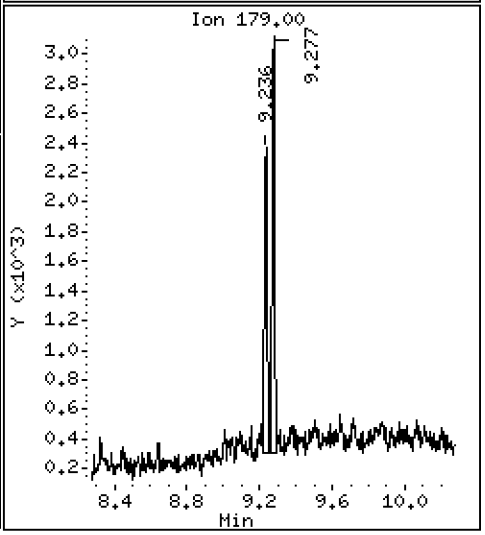


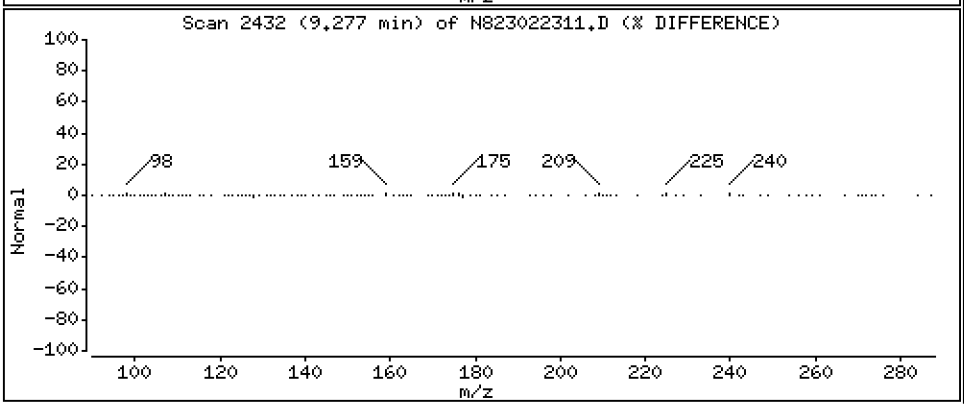












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022311.D

Date : 23-FEB-2023 16:03

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-06,3

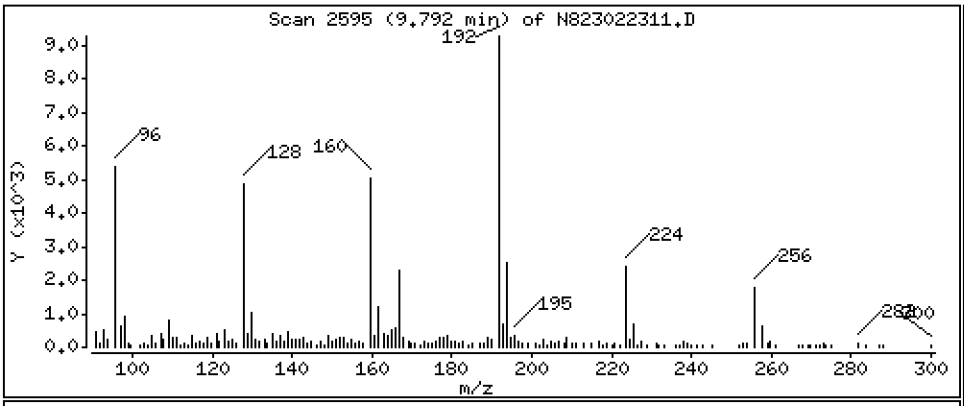
Operator: JZ

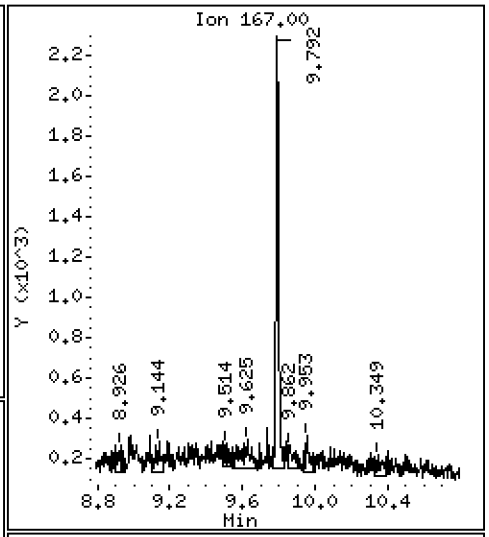
Column phase: Rxi-17sil

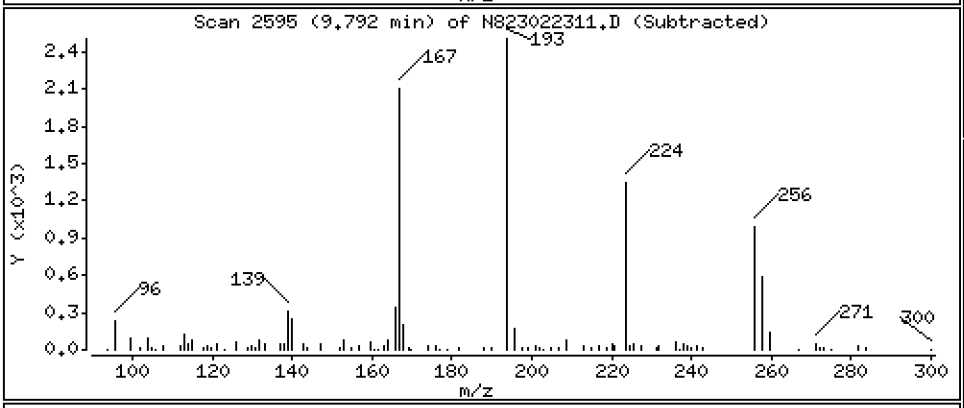
Column diameter: 0.25

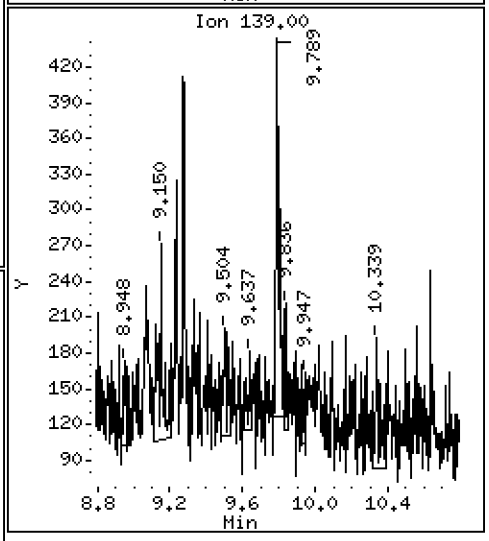
19 Carbazole

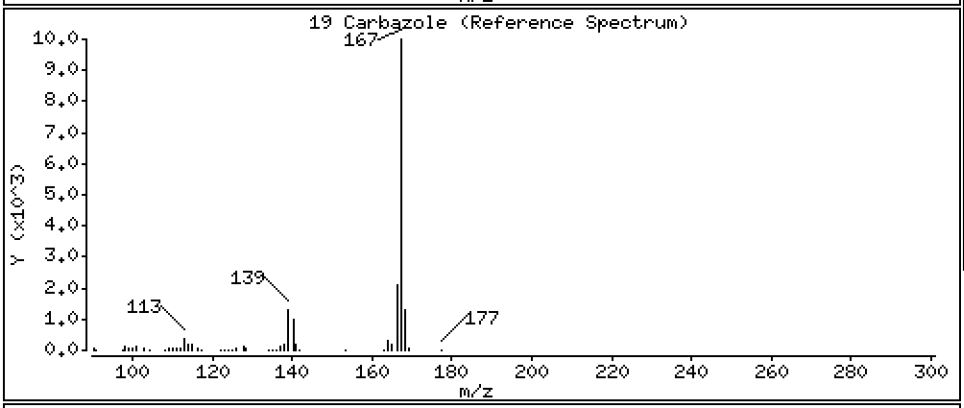
Concentration: 0.4140 ug/mL

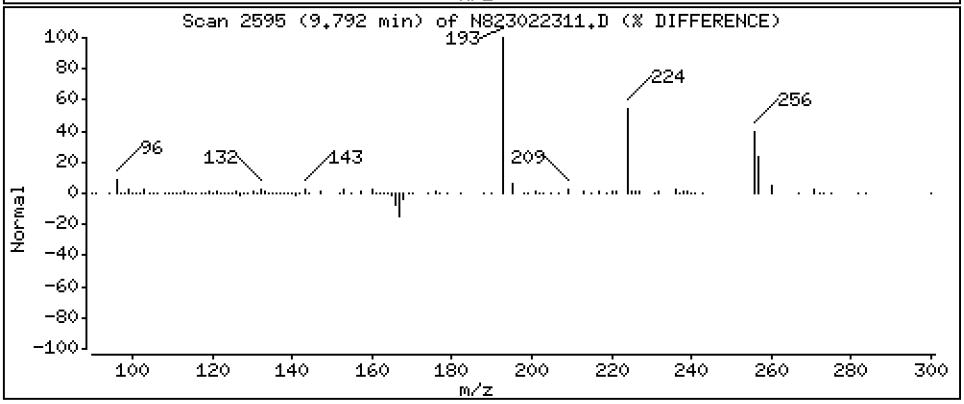












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022311.D

Date : 23-FEB-2023 16:03

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-06,3

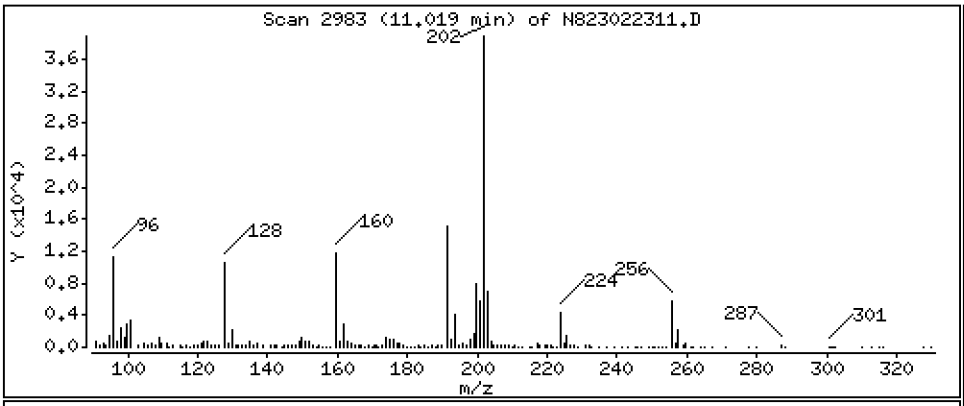
Operator: JZ

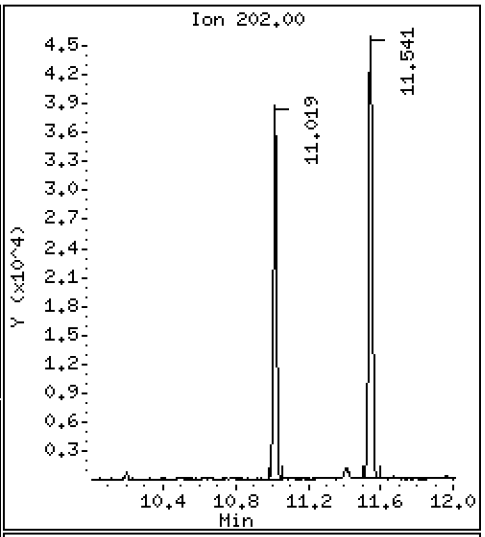
Column phase: Rxi-17sil

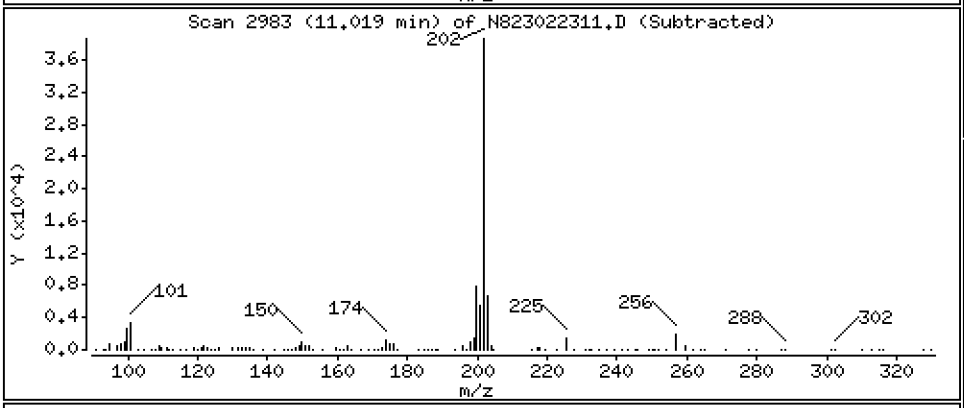
Column diameter: 0.25

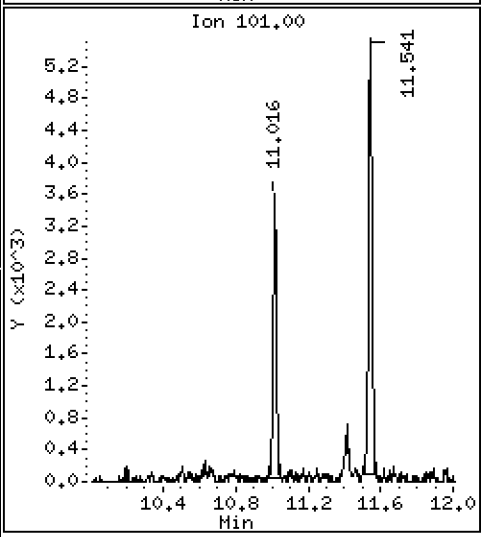
22 Fluoranthene

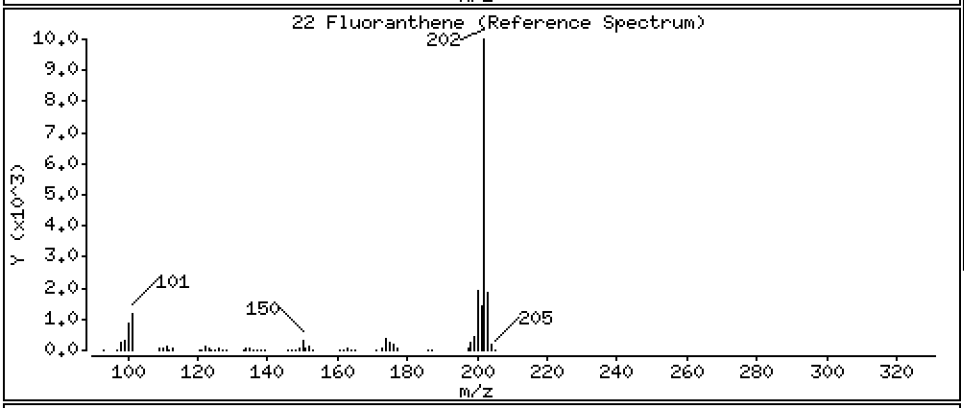
Concentration: 6.612 ug/mL

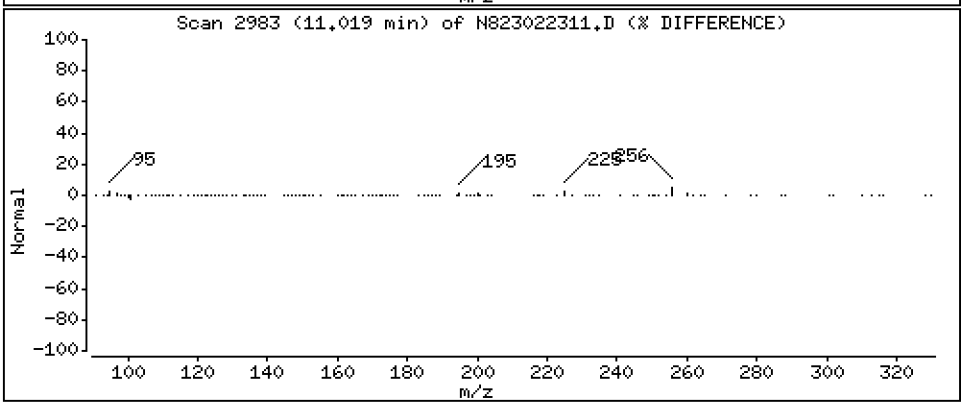












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022311.D

Date : 23-FEB-2023 16:03

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-06,3

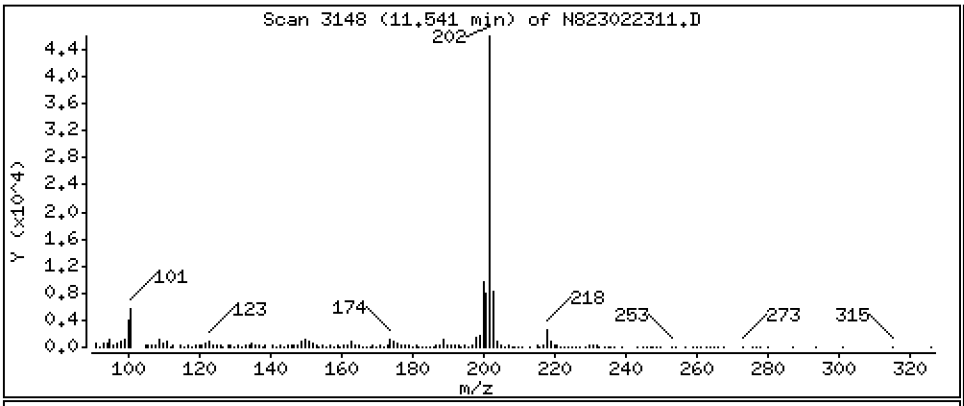
Operator: JZ

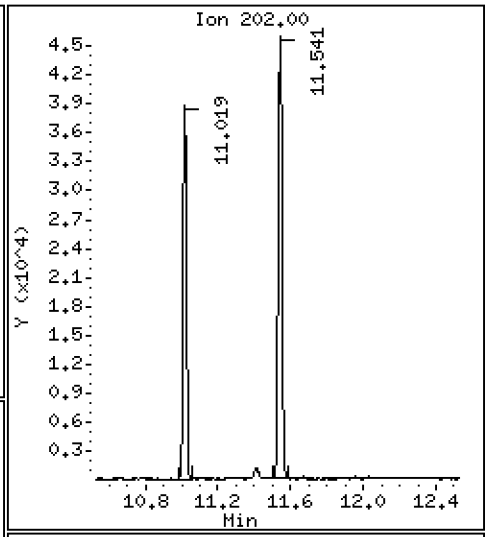
Column phase: Rxi-17sil

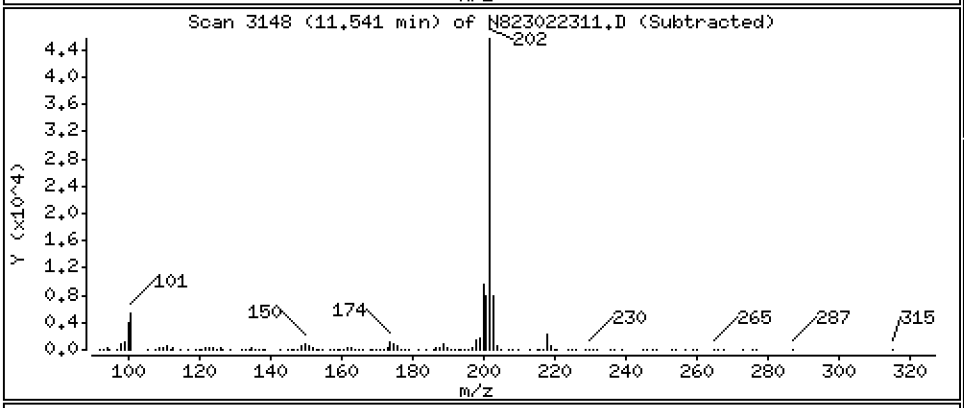
Column diameter: 0.25

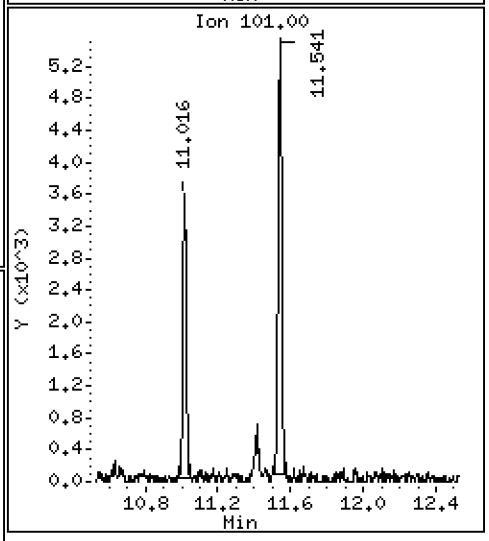
23 Pyrene

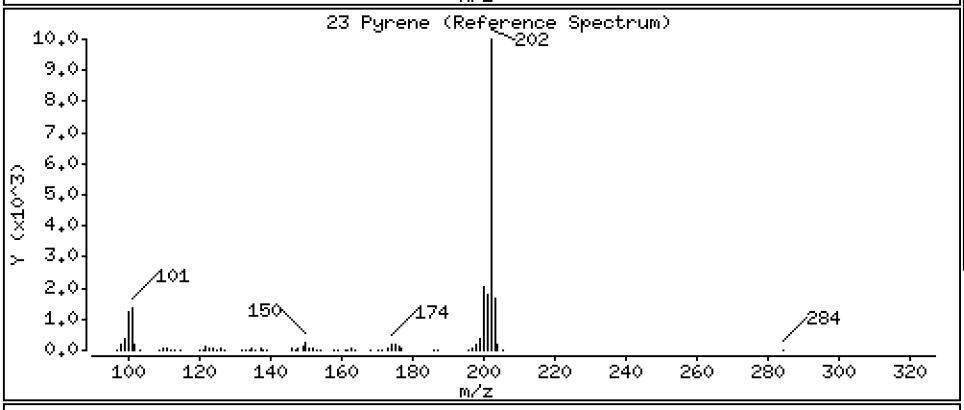
Concentration: 13.22 ug/mL

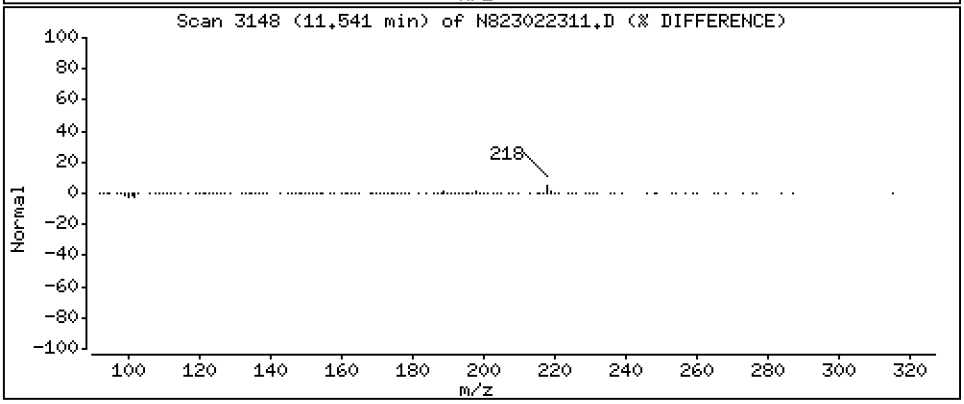












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Date : 23-FEB-2023 16:03

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-06,3

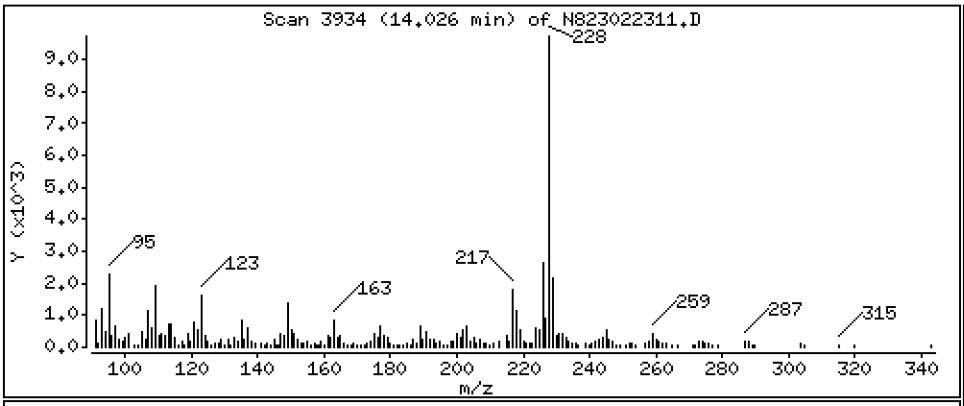
Operator: JZ

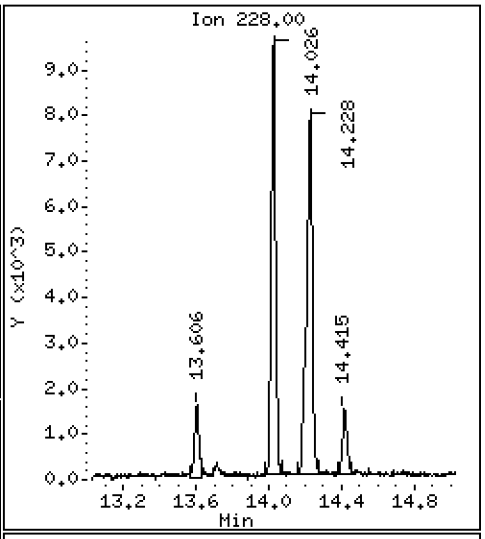
Column phase: Rxi-17sil

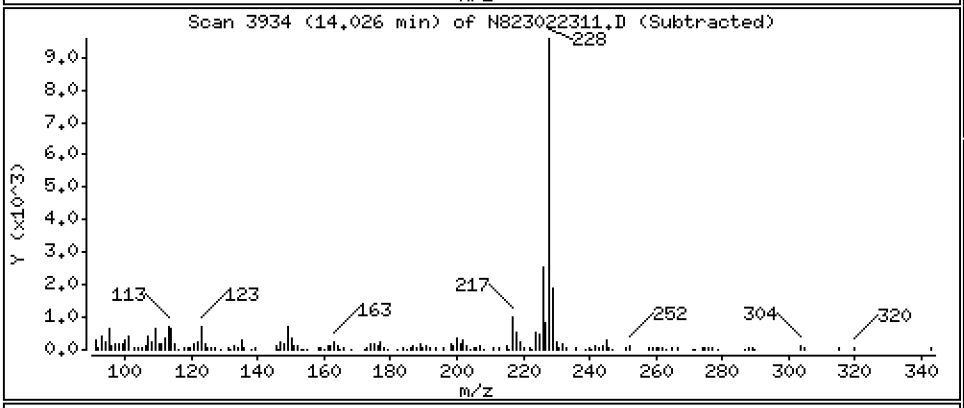
Column diameter: 0.25

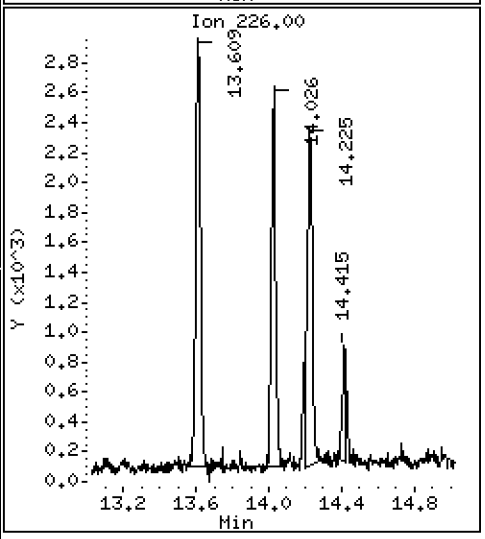
24 Benzo(a)anthracene

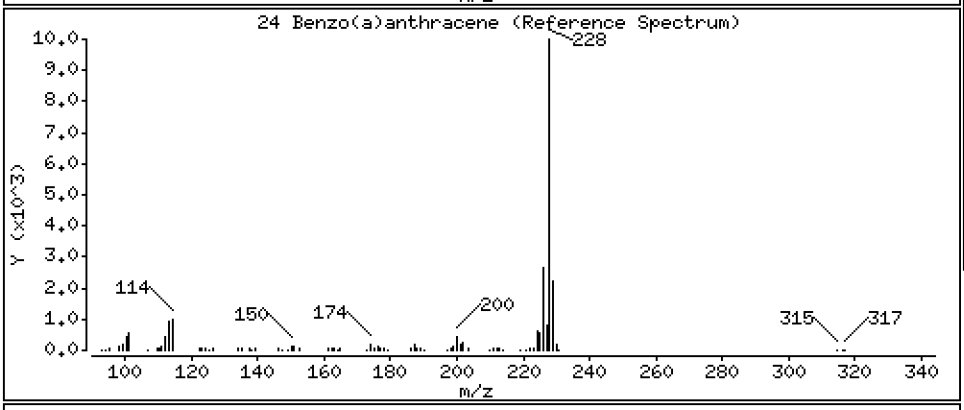
Concentration: 3.543 ug/mL

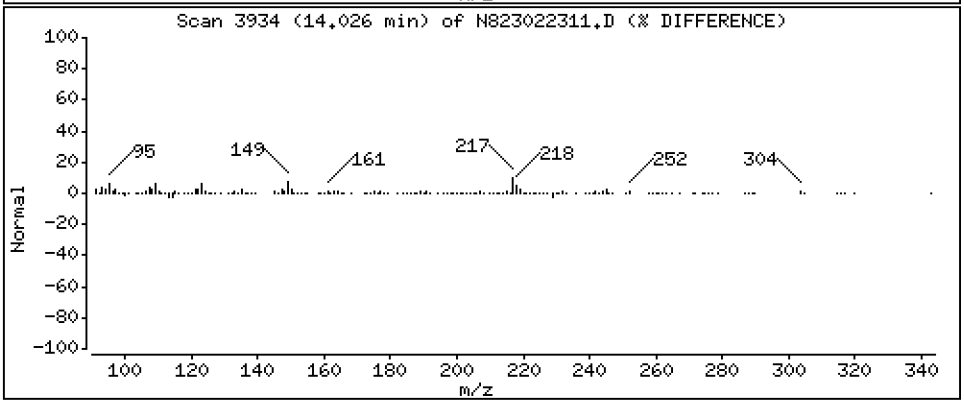












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Date : 23-FEB-2023 16:03

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-06,3

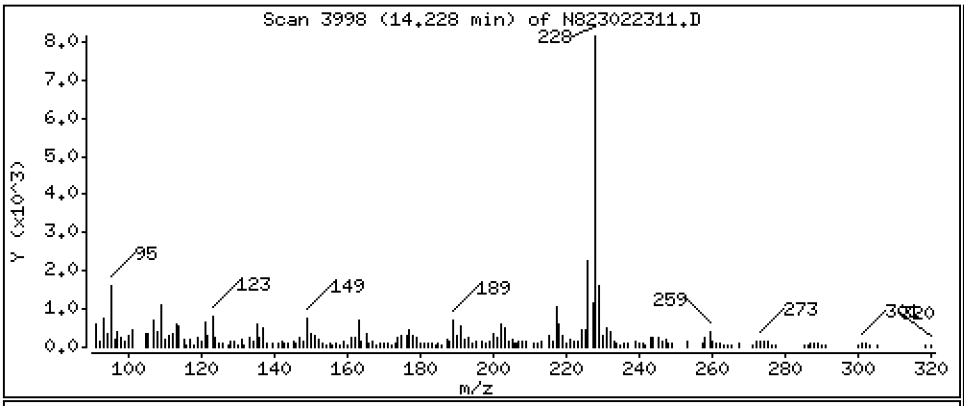
Operator: JZ

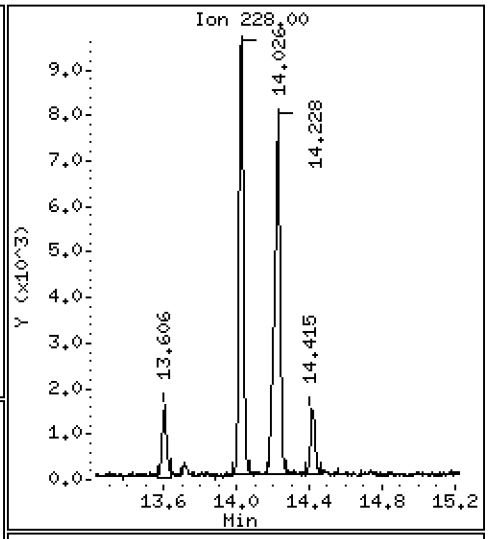
Column phase: Rxi-17sil

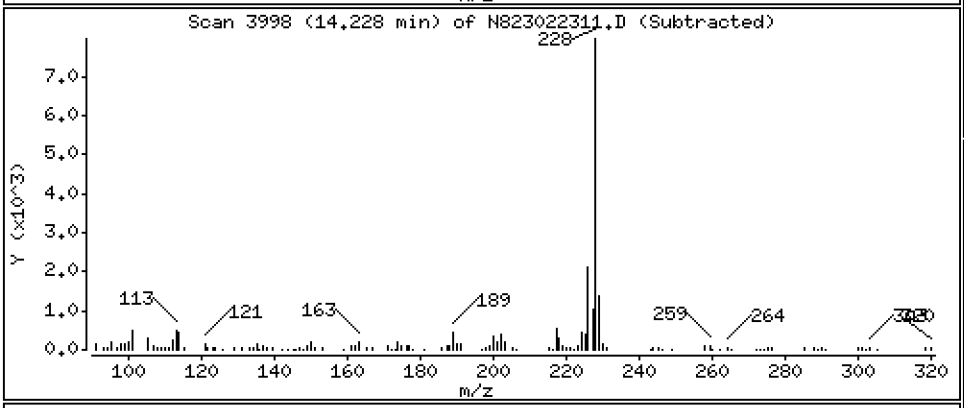
Column diameter: 0.25

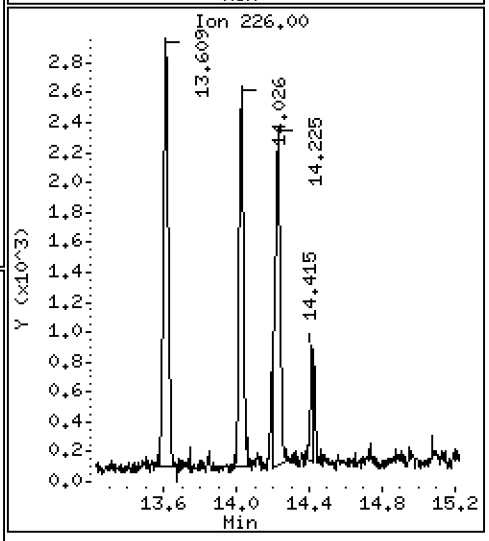
27 Chrysene

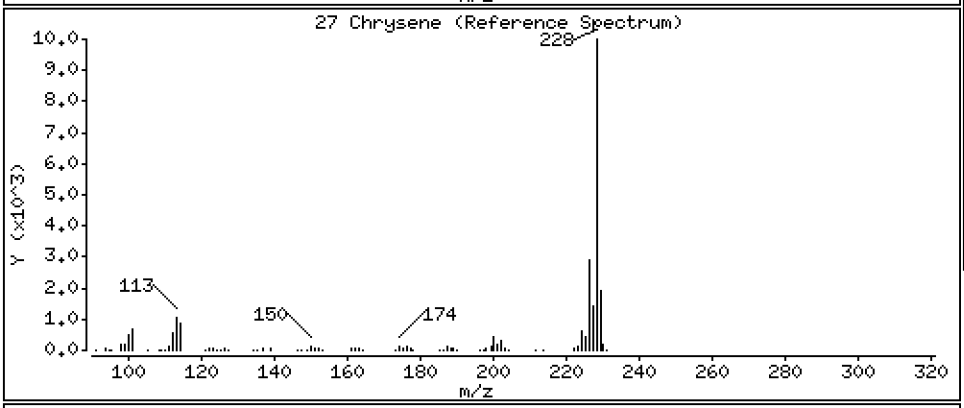
Concentration: 3.554 ug/mL

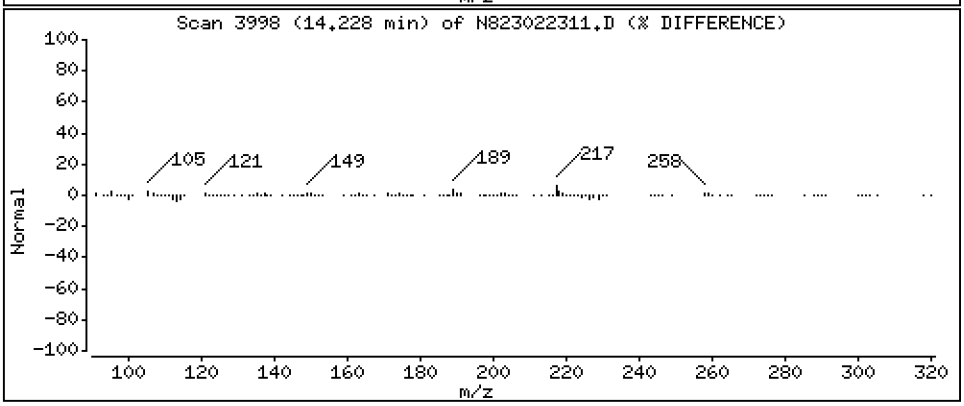












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Date : 23-FEB-2023 16:03

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-06,3

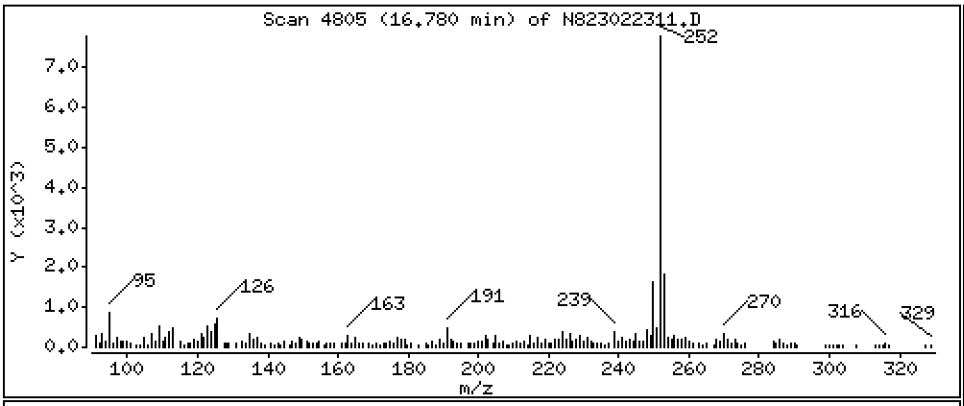
Operator: JZ

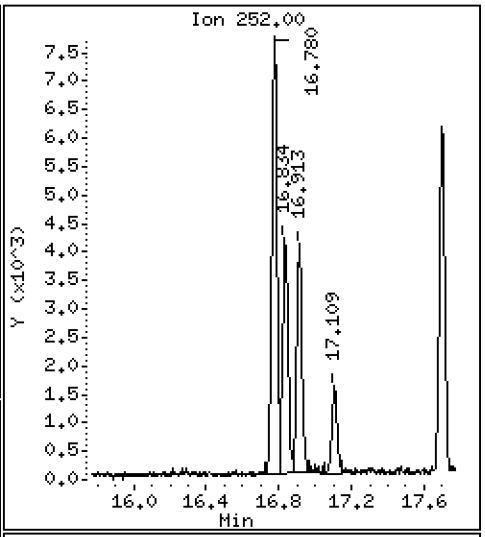
Column phase: Rxi-17sil

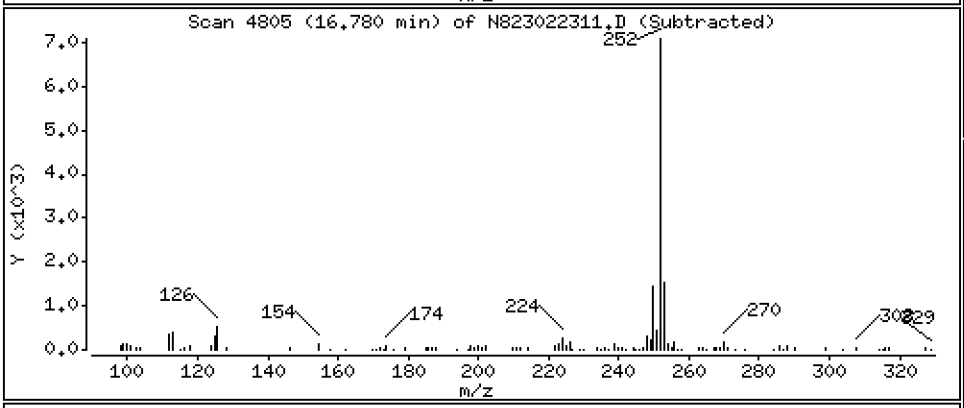
Column diameter: 0.25

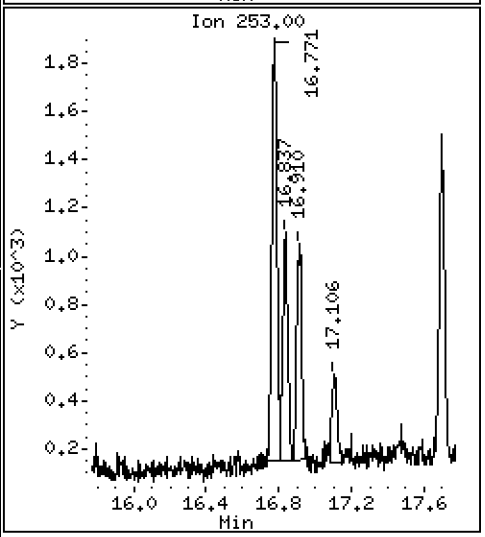
28 Benzo(b)fluoranthene

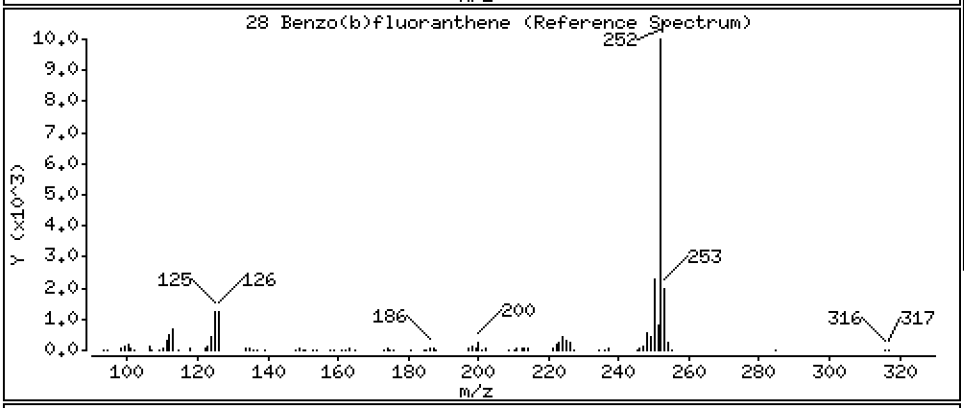
Concentration: 3.452 ug/mL

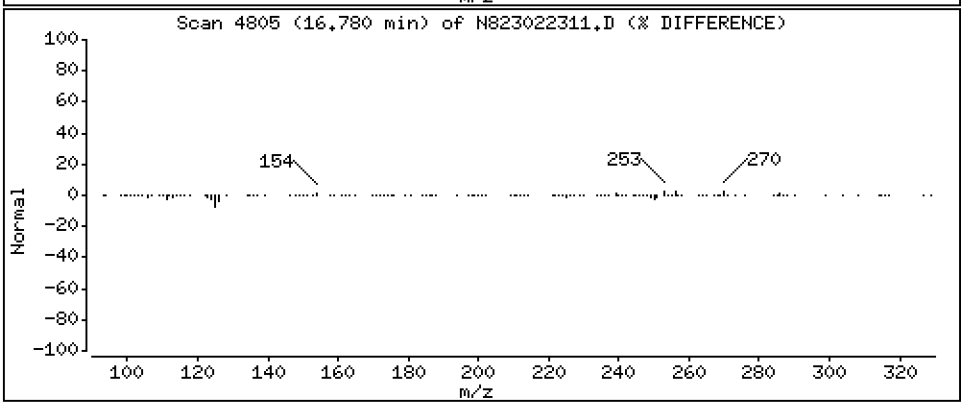












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Date : 23-FEB-2023 16:03

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-06,3

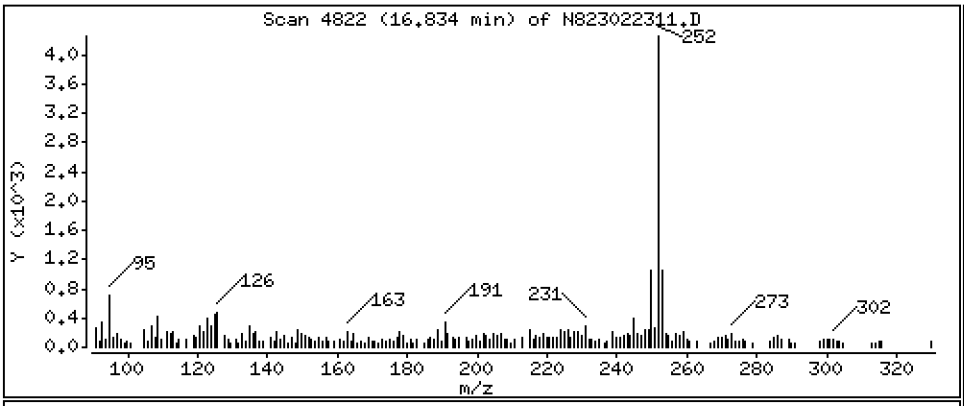
Operator: JZ

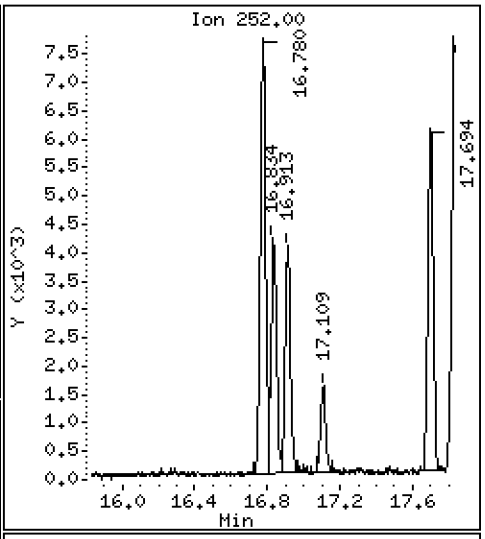
Column phase: Rxi-17sil

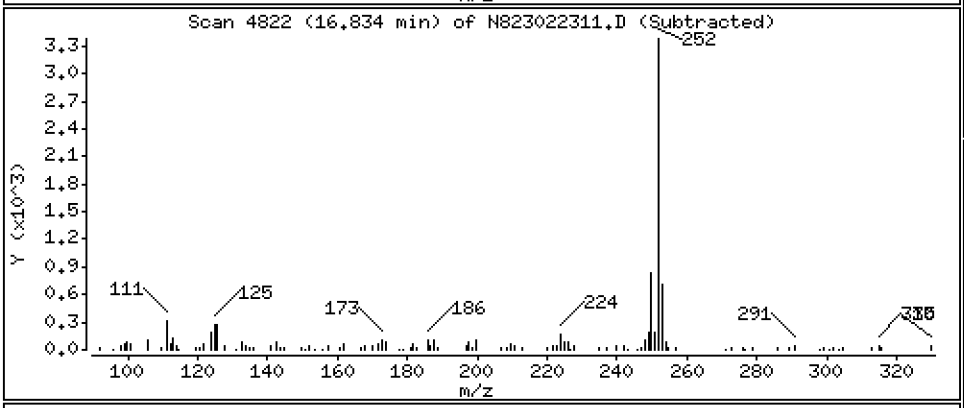
Column diameter: 0.25

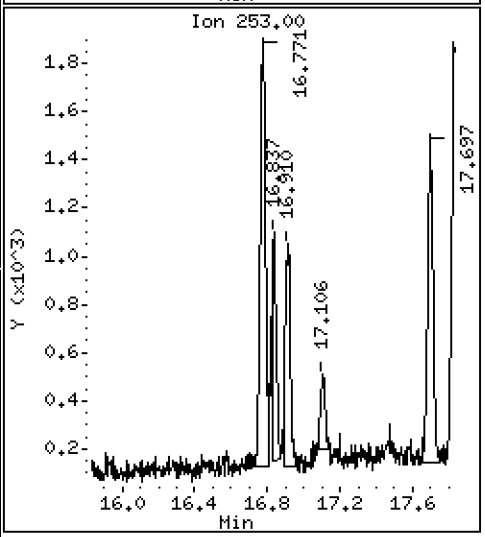
29 Benzo(k)fluoranthene

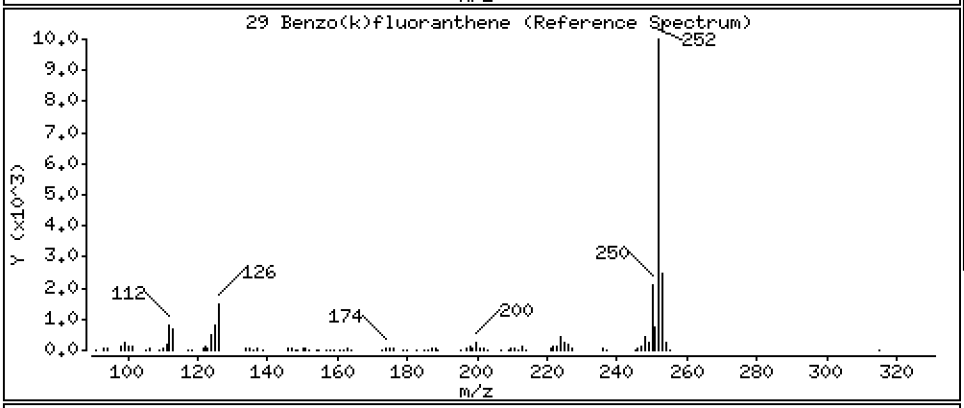
Concentration: 1.970 ug/mL

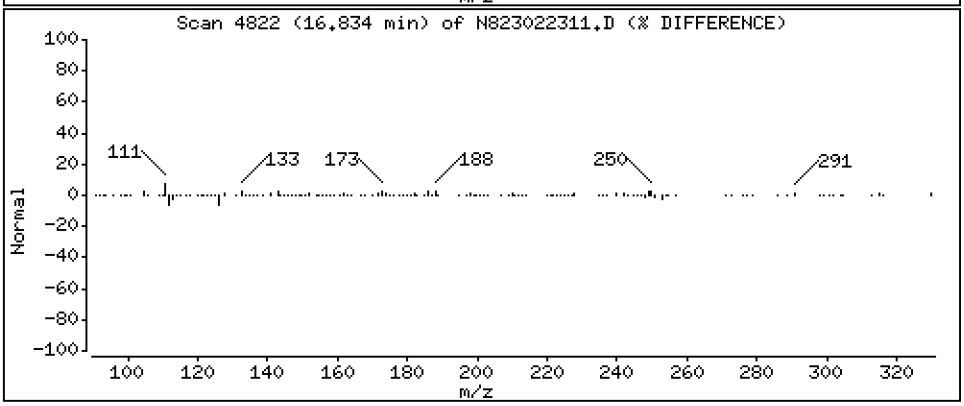












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Date : 23-FEB-2023 16:03

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-06,3

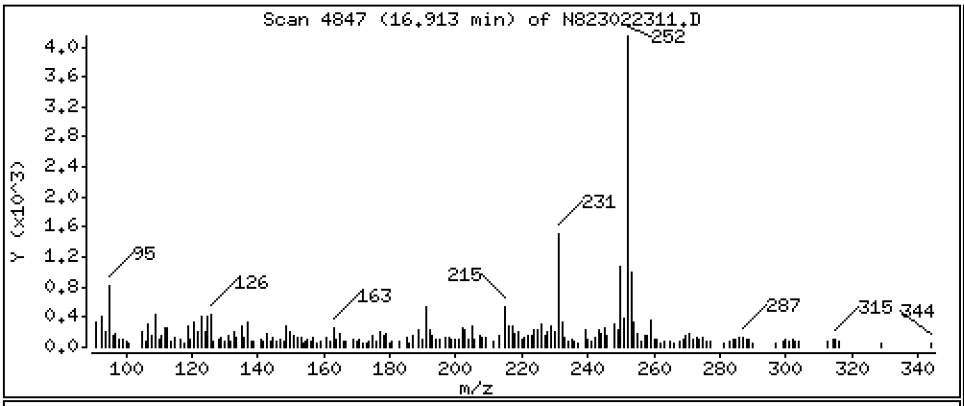
Operator: JZ

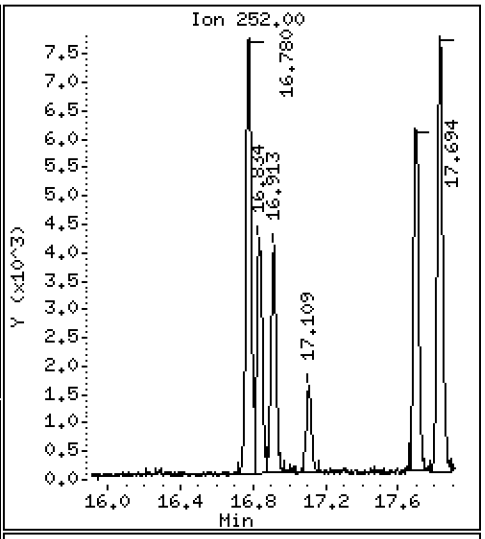
Column phase: Rxi-17sil

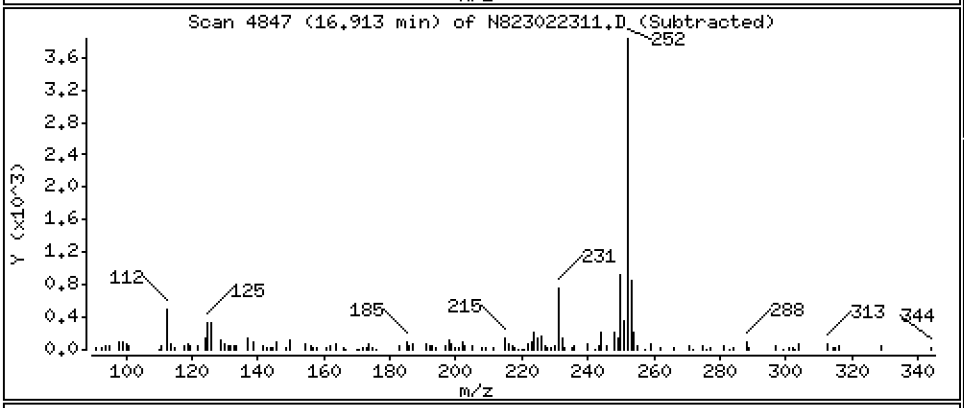
Column diameter: 0.25

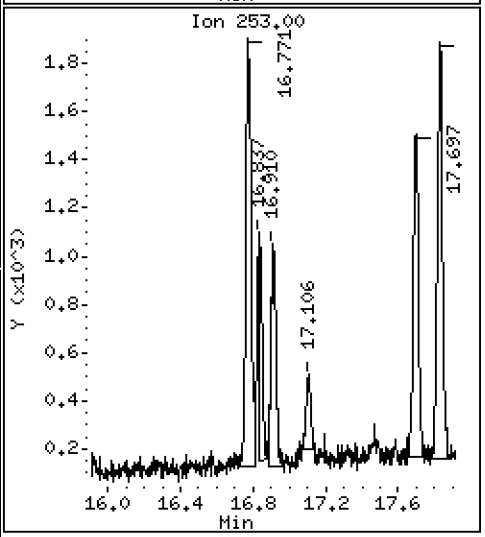
30 Benzo(j)fluoranthene

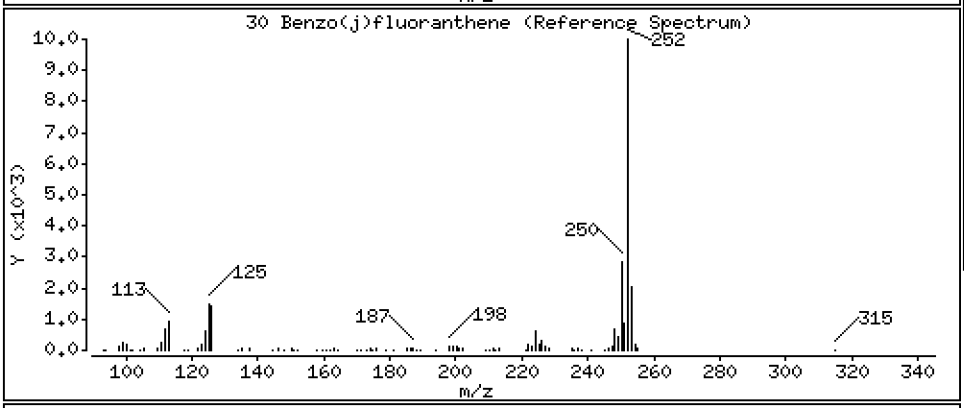
Concentration: 1.987 ug/mL

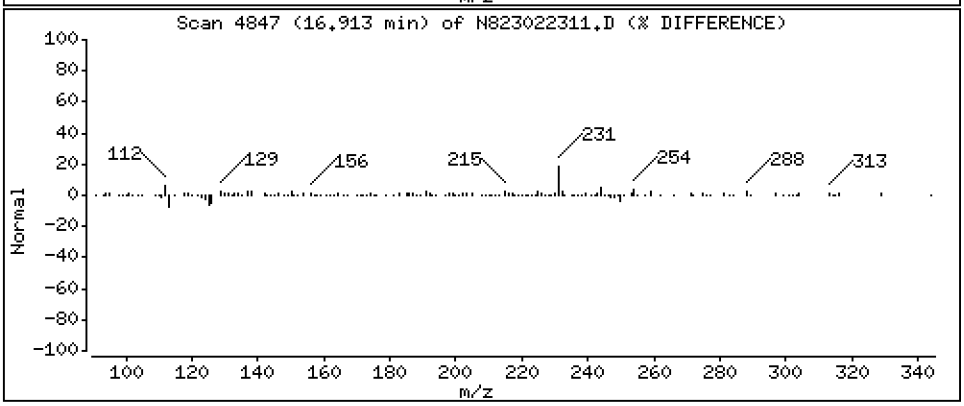












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Date : 23-FEB-2023 16:03

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-06,3

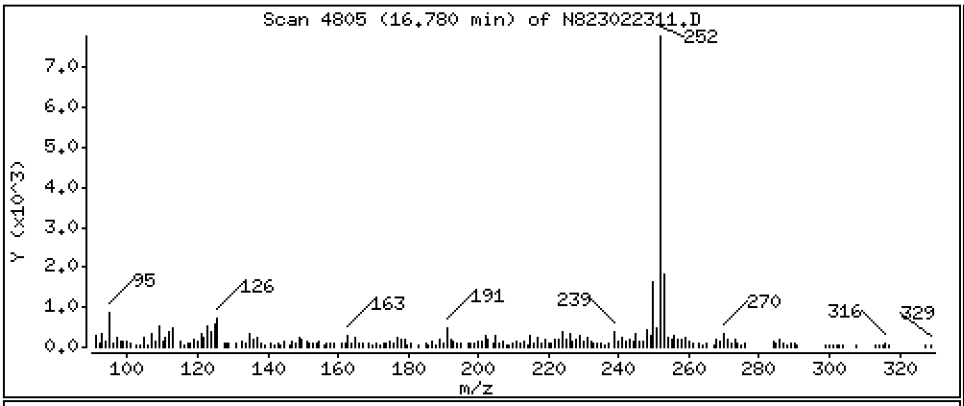
Operator: JZ

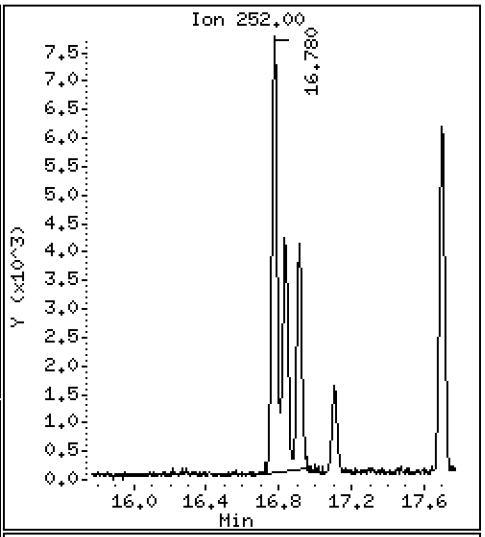
Column phase: Rxi-17sil

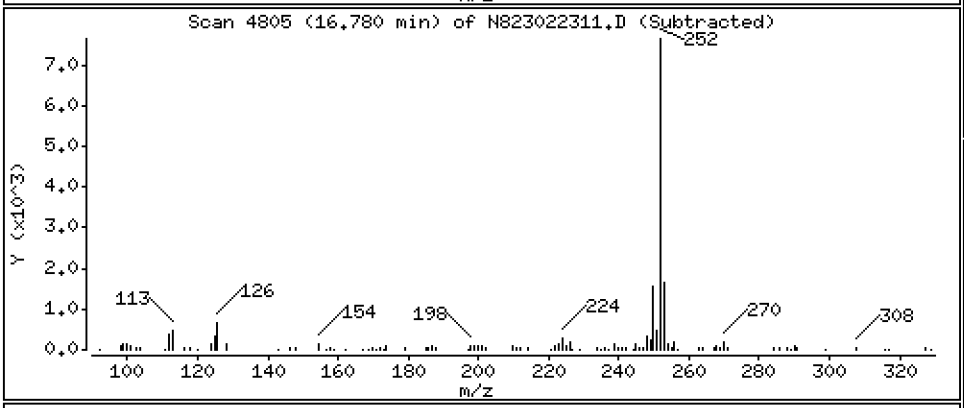
Column diameter: 0.25

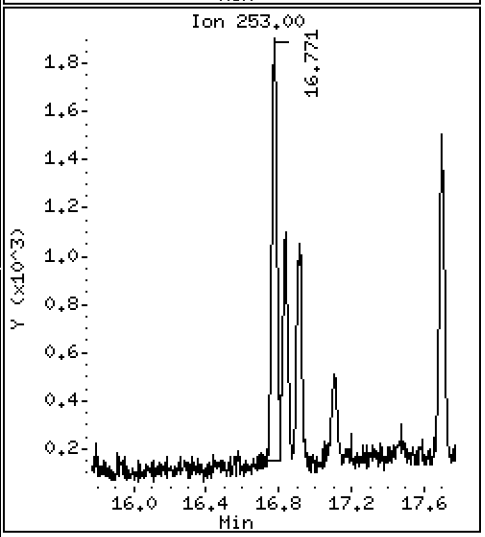
31 Total Benzofluoranthenes

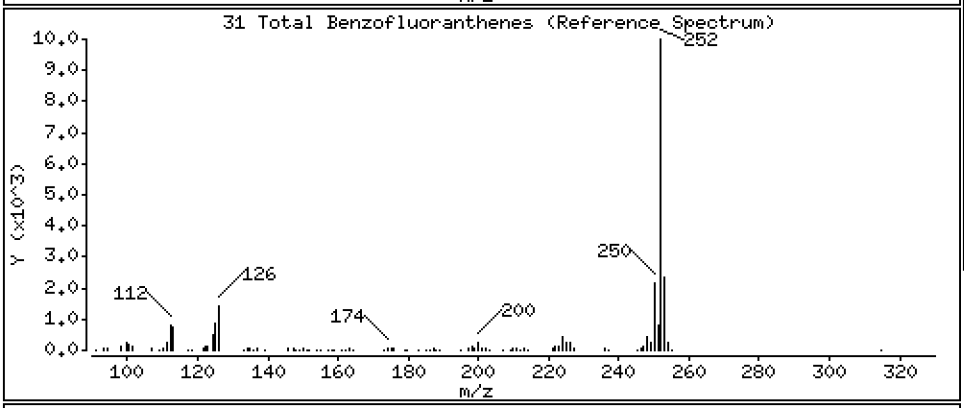
Concentration: 7.378 ug/mL

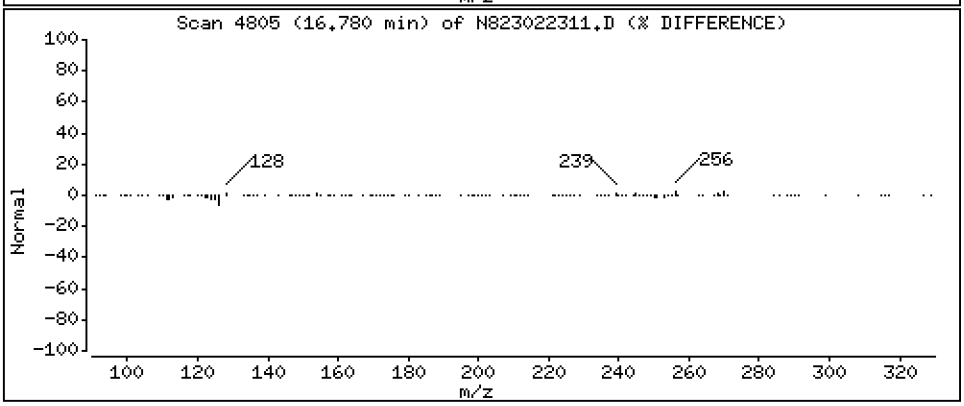












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Date : 23-FEB-2023 16:03

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-06,3

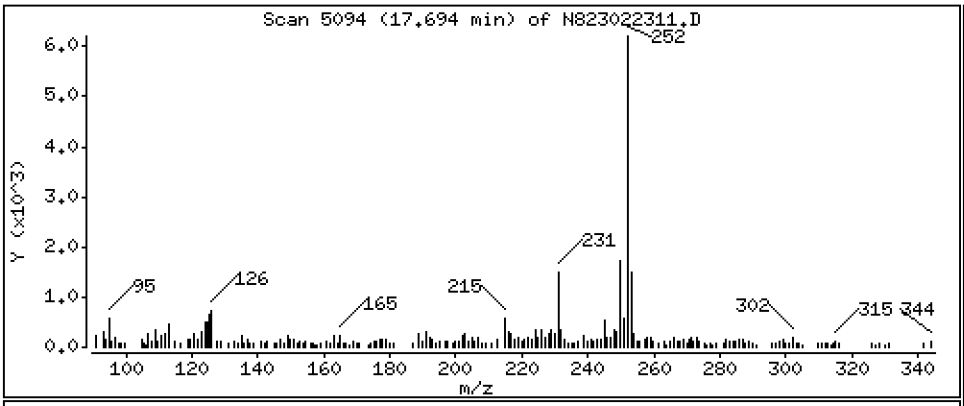
Operator: JZ

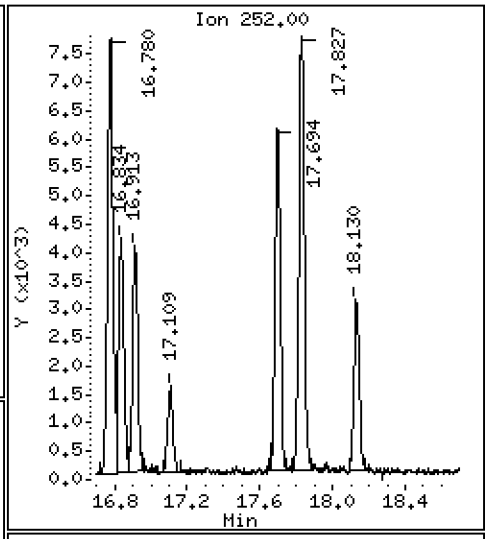
Column phase: Rxi-17sil

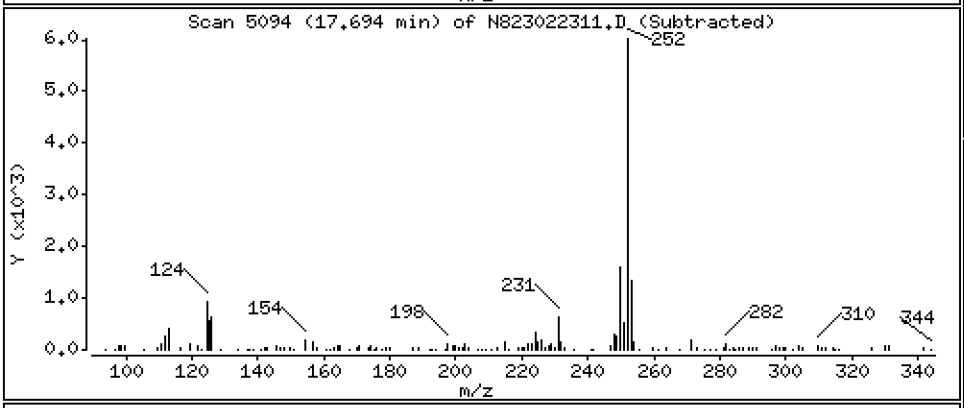
Column diameter: 0.25

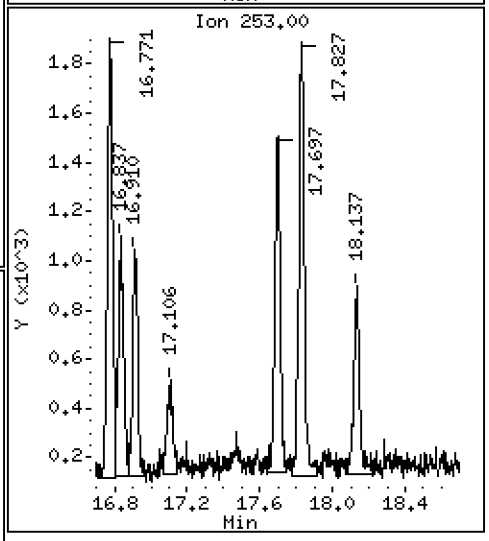
34 Benzo(e)pyrene

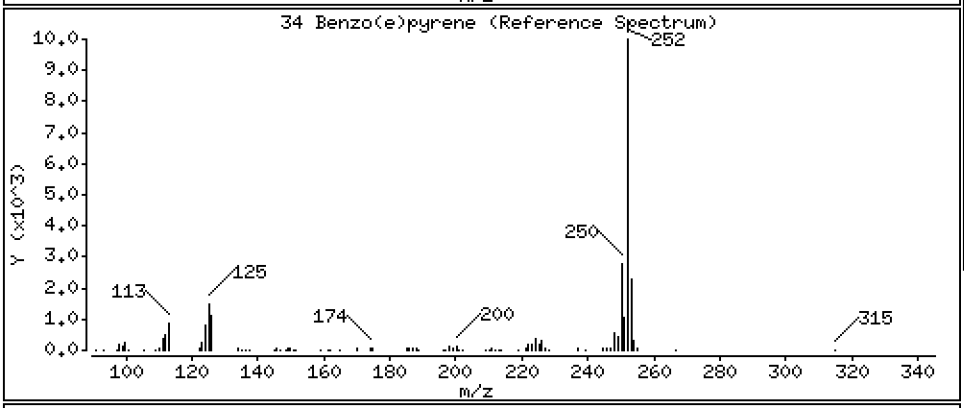
Concentration: 2.750 ug/mL

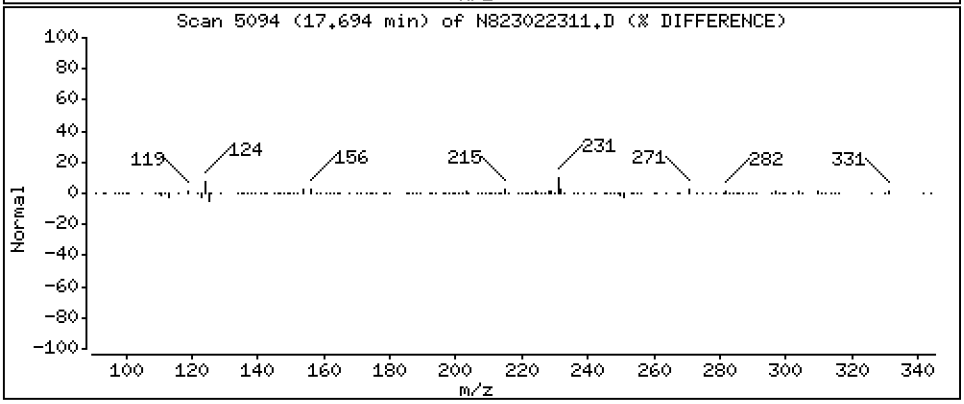












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Date : 23-FEB-2023 16:03

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-06,3

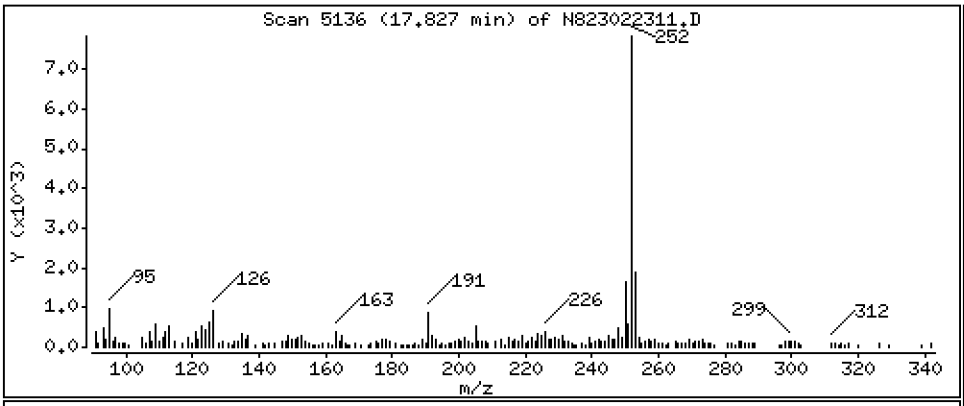
Operator: JZ

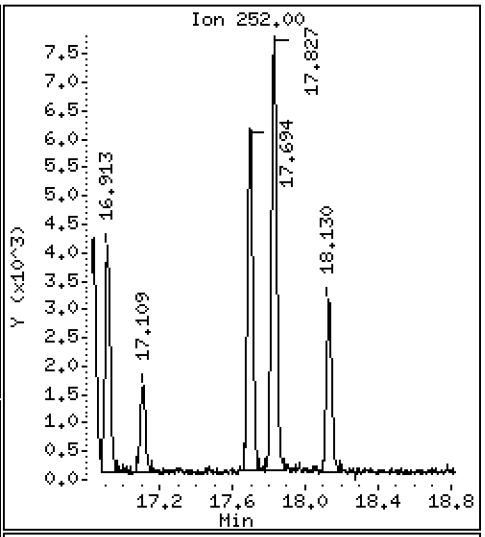
Column phase: Rxi-17sil

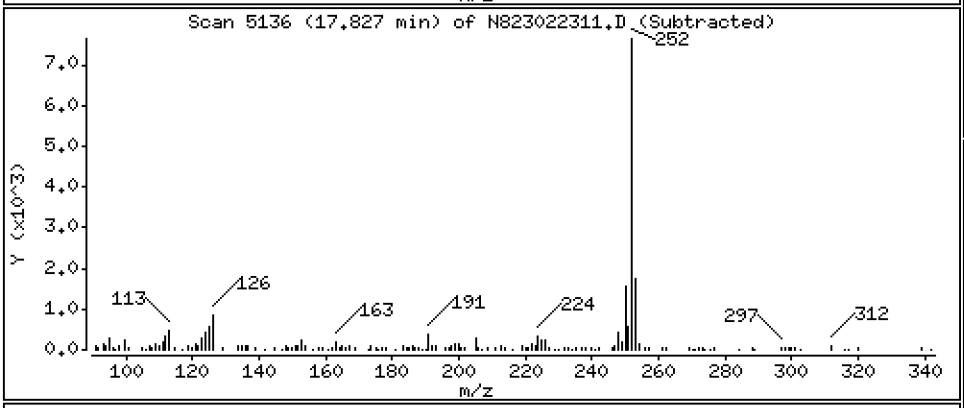
Column diameter: 0.25

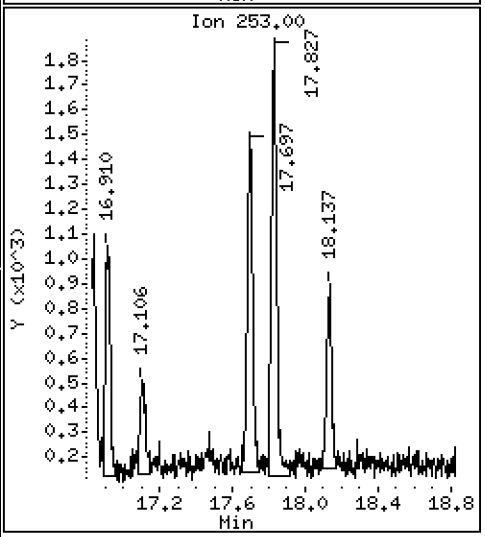
32 Benzo(a)pyrene

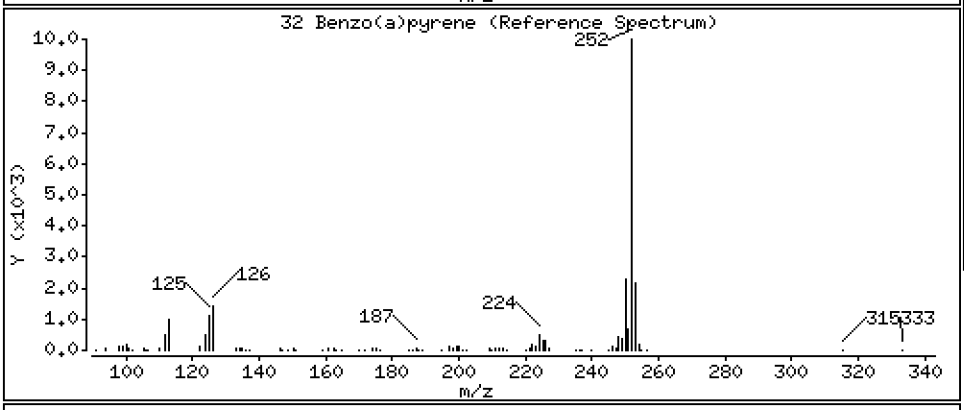
Concentration: 3.925 ug/mL

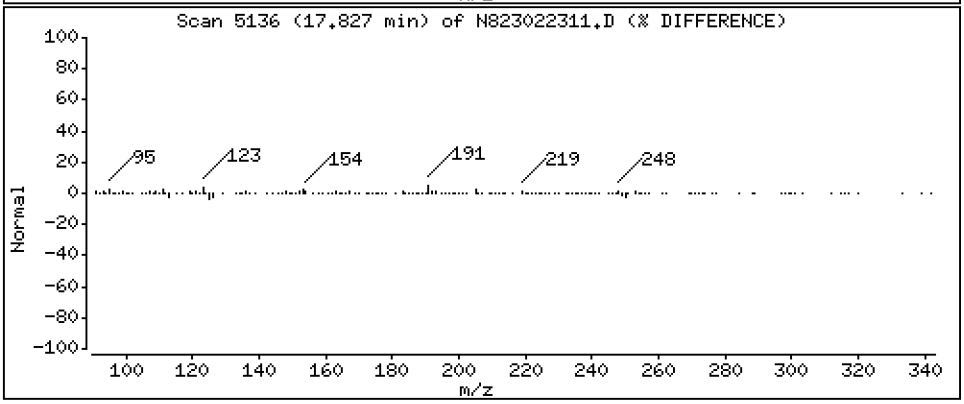












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022311.D

Date : 23-FEB-2023 16:03

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-06,3

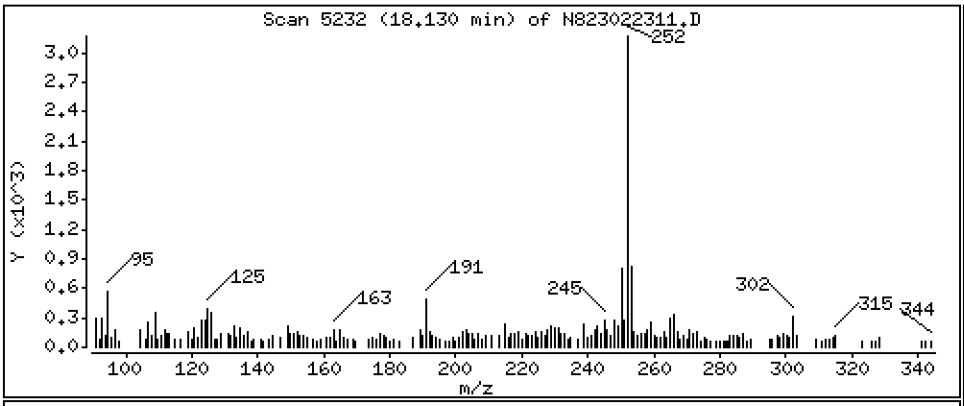
Operator: JZ

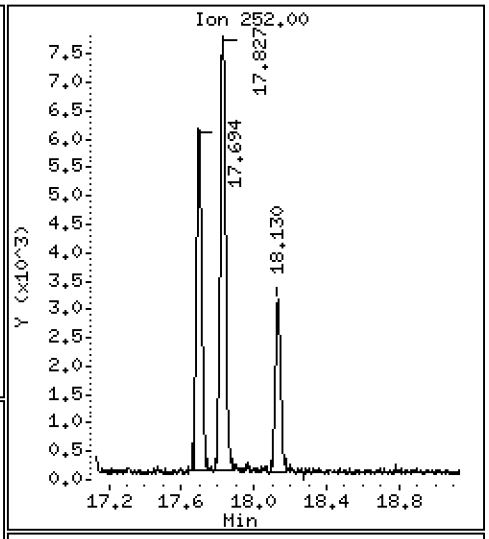
Column phase: Rxi-17sil

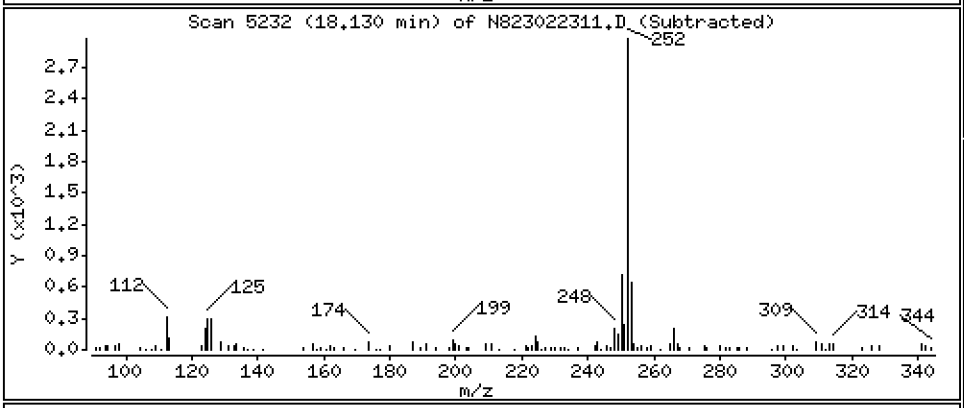
Column diameter: 0.25

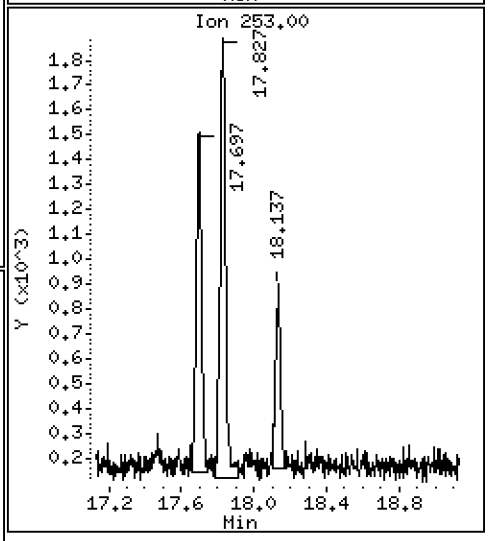
35 Perylene

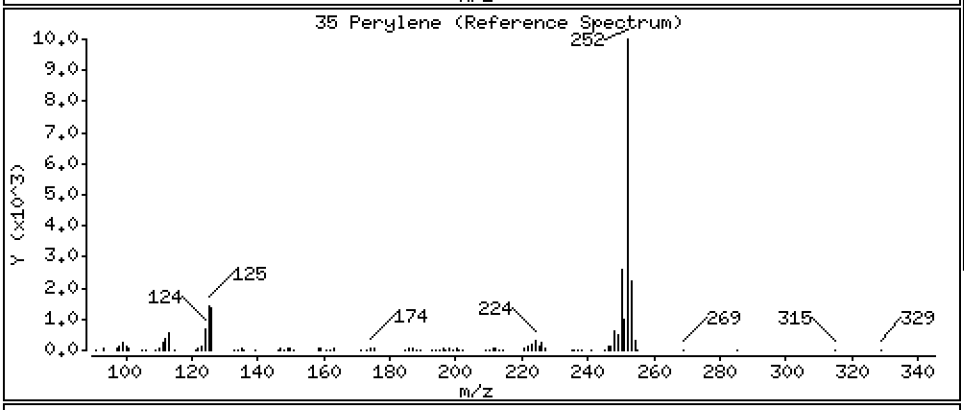
Concentration: 1.486 ug/mL

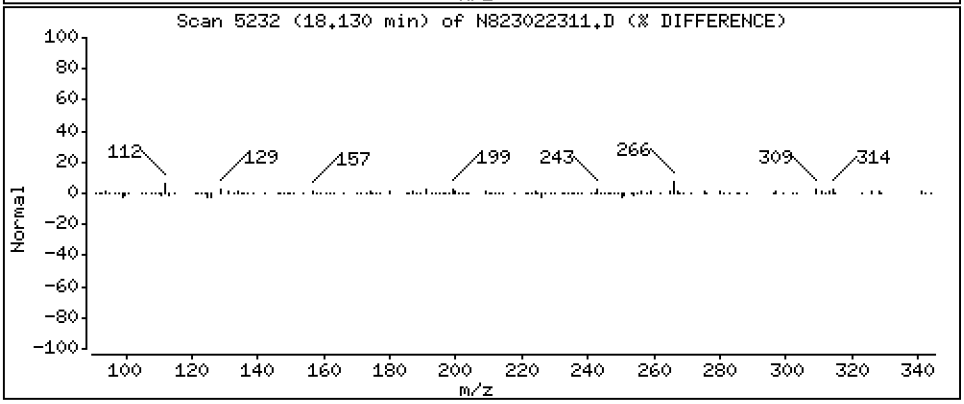












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Date : 23-FEB-2023 16:03

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-06,3

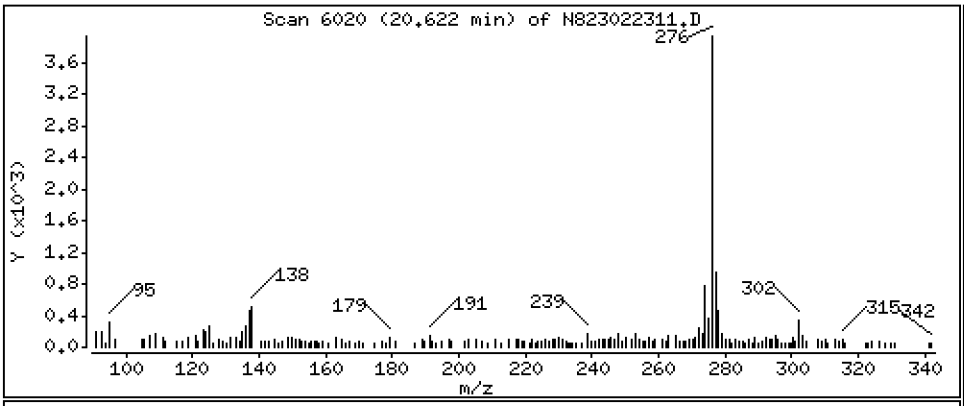
Operator: JZ

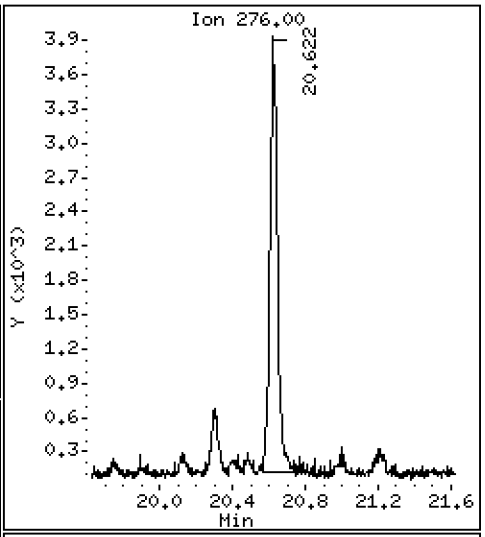
Column phase: Rxi-17sil

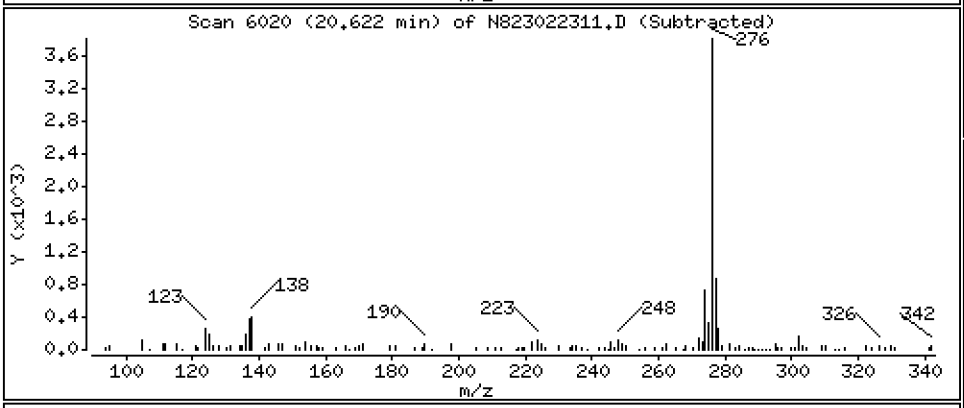
Column diameter: 0.25

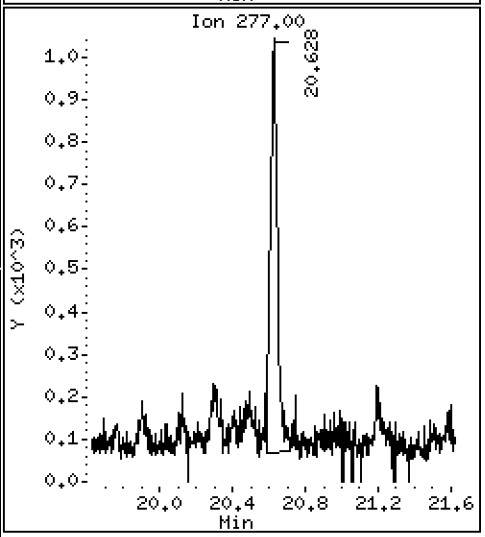
37 Indeno(1,2,3-cd)pyrene

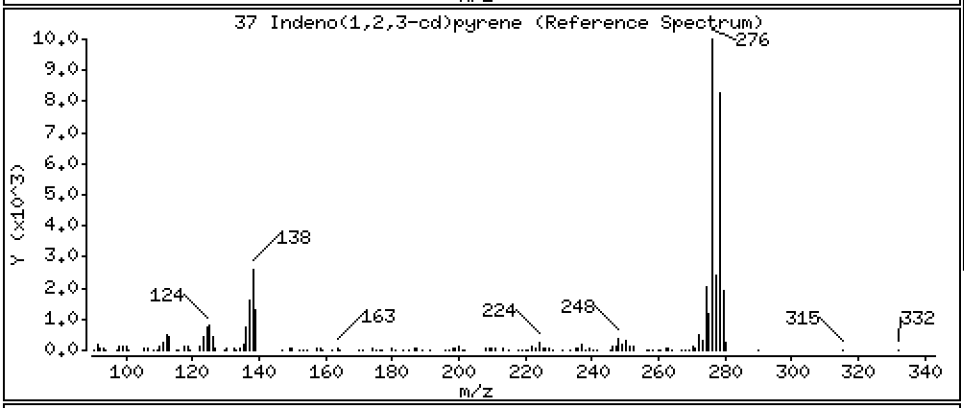
Concentration: 2.413 ug/mL

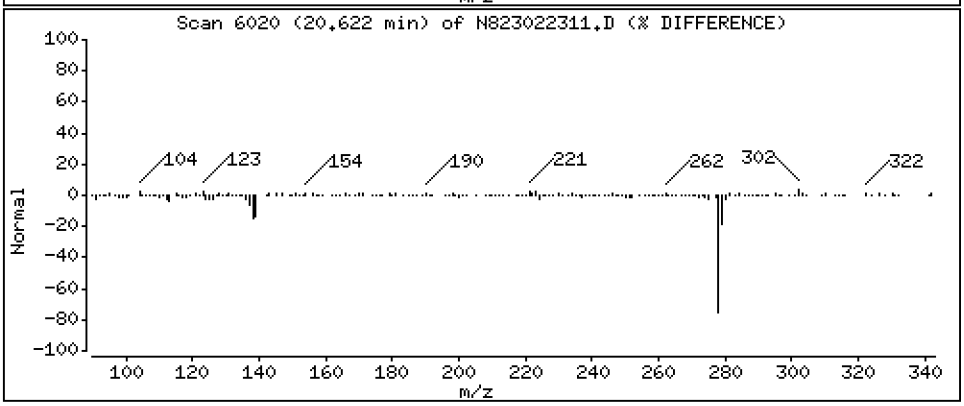












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Date : 23-FEB-2023 16:03

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-06,3

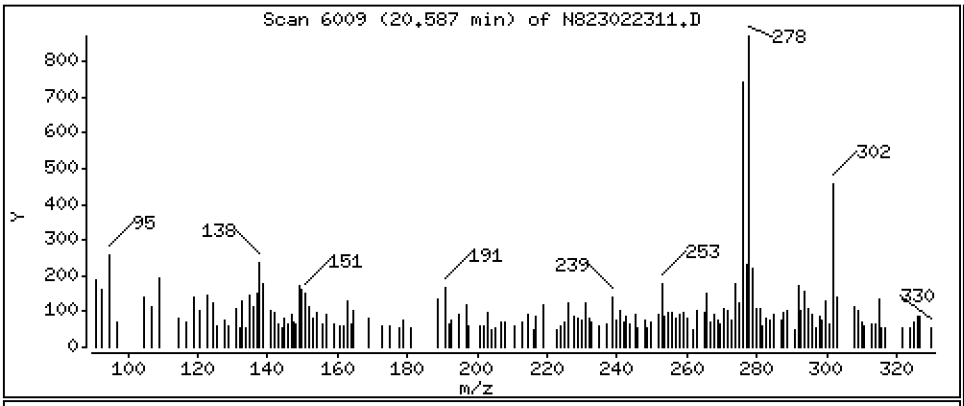
Operator: JZ

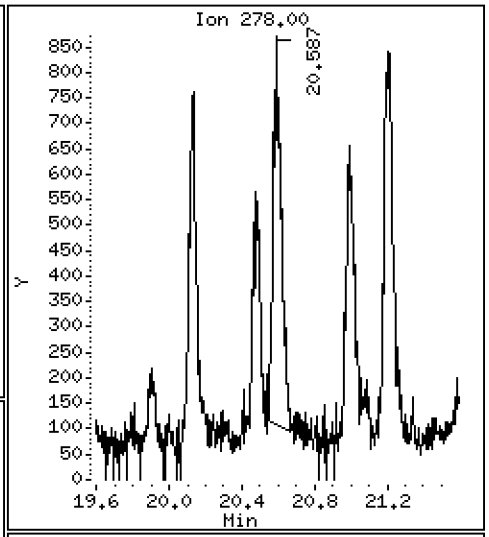
Column phase: Rxi-17sil

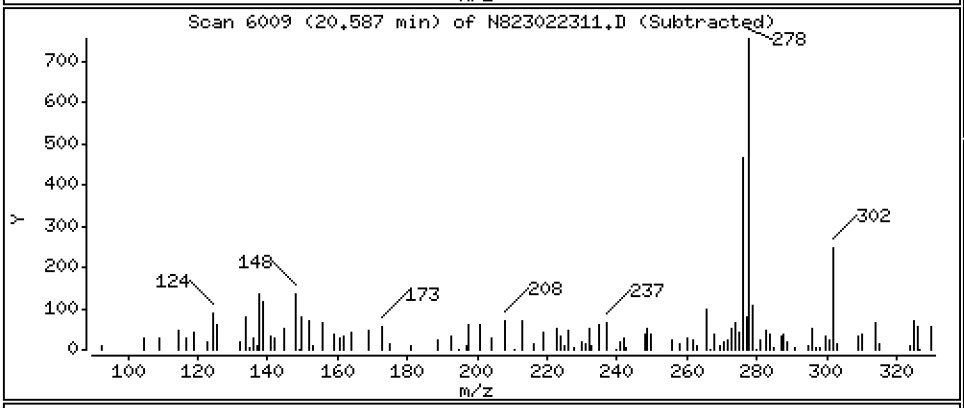
Column diameter: 0.25

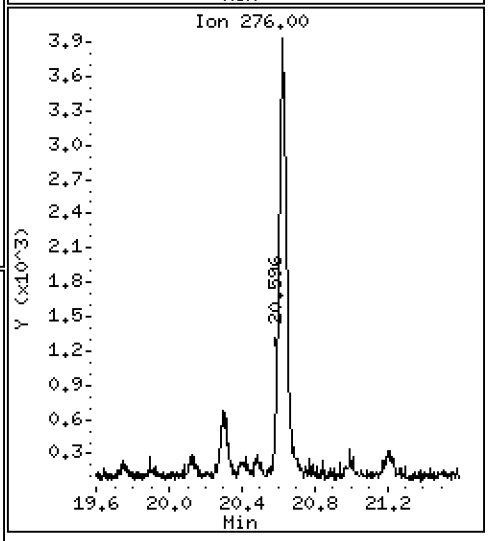
38 Dibenzo(a,h)anthracene

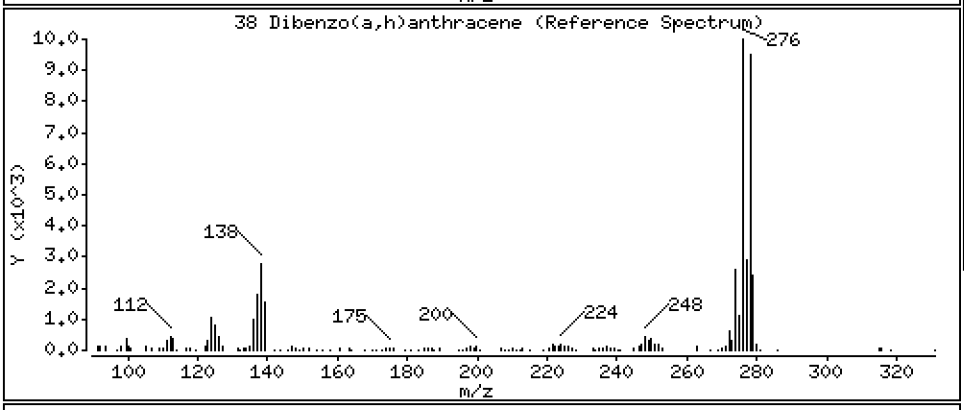
Concentration: 0.5881 ug/mL

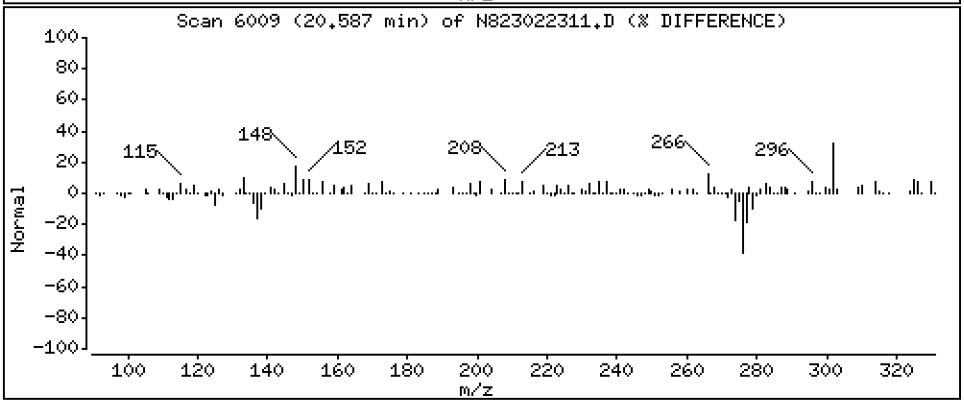












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022311.D

Date : 23-FEB-2023 16:03

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-06,3

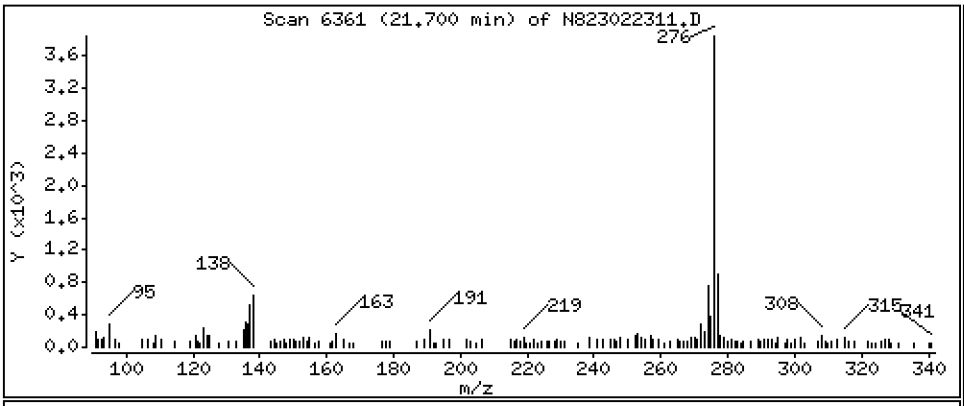
Operator: JZ

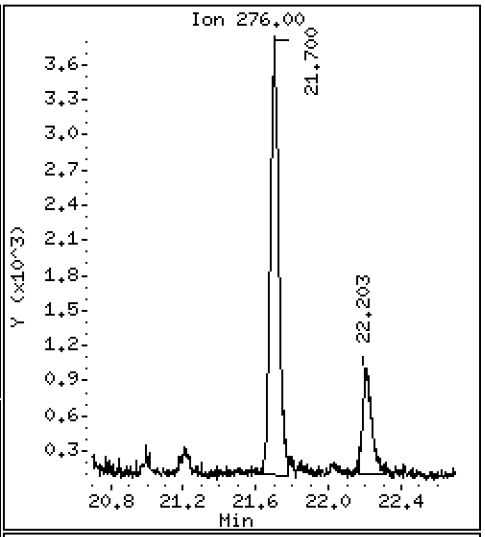
Column phase: Rxi-17sil

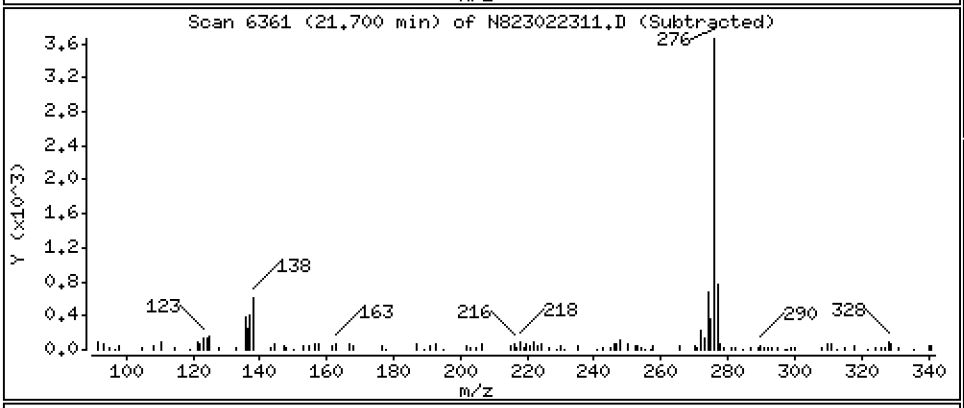
Column diameter: 0.25

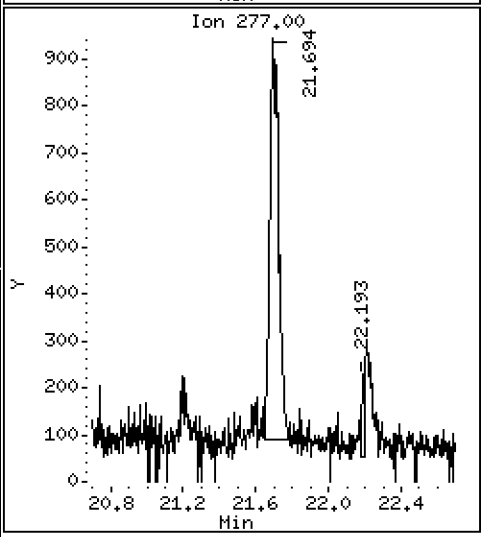
39 Benzo(g,h,i)perylene

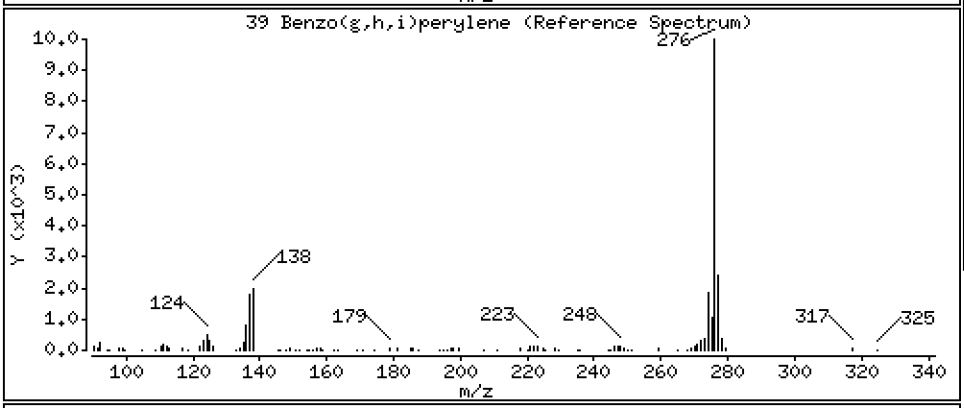
Concentration: 2.955 ug/mL

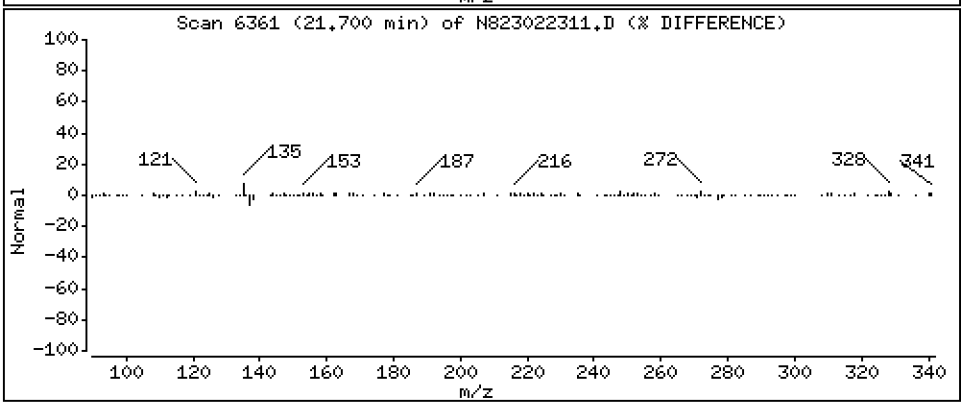












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230223.b\N823022311.D
Lab Smp Id: 23A0418-06
Inj Date : 23-FEB-2023 16:03
Operator : JZ Inst ID: nt8.i
Smp Info : 23A0418-06,3
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Meth Date : 26-Feb-2023 12:40 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 11
Dil Factor: 3.00000
Integrator: HP RTE Compound Sublist: PNAXEMDL.sub
Target Version: 4.14
Processing Host: JIANQING-202105

								CONCENTRATIONS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE		ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.865	4.871	(1.000)	37337		2.00000	
	2 Naphthalene	128	4.897	4.903	(1.006)	1130		0.06509	0.1953
$	3 2-Methylnaphthalene-d10	152	5.602	5.605	(1.151)	9526		0.93551	2.807
	4 2-Methylnaphthalene	141	5.649	5.652	(1.161)	580		0.06074	0.1822
	5 1-methylnaphthalene	141	5.849	5.849	(1.202)	419		0.04323	0.1297
	9 Acenaphthylene	152	7.050	7.050	(0.985)	788		0.04701	0.1410
*	10 Acenaphthene-d10	164	7.158	7.158	(1.000)	22199		2.00000	
	11 Acenaphthene	153	7.208	7.208	(1.007)	1276		0.11361	0.3408
	12 Dibenzofuran	168	7.360	7.360	(1.028)	1169		0.06852	0.2056
	14 Fluorene	166	7.838	7.837	(1.095)	1199		0.09049	0.2715(M)
*	15 Phenanthrene-d10	188	9.197	9.197	(1.000)	42144		2.00000	
	16 Phenanthrene	178	9.235	9.235	(1.004)	13659		0.66350	1.990
	17 Anthracene	178	9.276	9.276	(1.009)	17041		0.91122	2.734
	19 Carbazole	167	9.792	9.791	(1.065)	2366		0.13800	0.4140
	22 Fluoranthene	202	11.019	11.009	(1.198)	49390		2.20407	6.612
$	21 Fluoranthene-d10	212	10.977	10.971	(1.194)	18942		1.01873	3.056
	23 Pyrene	202	11.540	11.527	(0.815)	65592		4.40707	13.22
	24 Benzo(a)anthracene	228	14.026	14.025	(0.991)	15933		1.18110	3.543
*	25 Chrysene-d12	240	14.155	14.152	(1.000)	24006		2.00000	
	27 Chrysene	228	14.228	14.225	(1.005)	17012		1.18461	3.554
	28 Benzo(b)fluoranthene	252	16.780	16.770	(0.929)	15752		1.15077	3.452
	29 Benzo(k)fluoranthene	252	16.833	16.833	(0.932)	8803		0.65656	1.970
	30 Benzo(j)fluoranthene	252	16.912	16.912	(0.936)	7994		0.66230	1.987
	31 Total Benzofluoranthenes	252	16.780	16.770	(0.929)	31882		2.45936	7.378(M)
	34 Benzo(e)pyrene	252	17.693	17.696	(0.980)	12514		0.91679	2.750
	32 Benzo(a)pyrene	252	17.826	17.826	(0.987)	15758		1.30819	3.925
*	33 Perylene-d12	264	18.063	18.057	(1.000)	23503		2.00000	
	35 Perylene	252	18.130	18.130	(1.004)	6401		0.49520	1.486
$	36 Dibenzo(a,h)anthracene-d14	292	20.485	20.485	(1.134)	10441		1.13378	3.401(M)
	37 Indeno(1,2,3-cd)pyrene	276	20.621	20.624	(1.142)	11040		0.80450	2.413(M)
	38 Dibenzo(a,h)anthracene	278	20.587	20.596	(1.140)	2315		0.19603	0.5881(M)
	39 Benzo(g,h,i)perylene	276	21.700	21.696	(1.201)	12245		0.98486	2.955

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823022311.D
Lab Smp Id: 23A0418-06
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 23-FEB-2023
Calibration Time: 11:46
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	37022	18511	74044	37337	0.85
10 Acenaphthene-d10	22454	11227	44908	22199	-1.14
15 Phenanthrene-d10	43277	21639	86554	42144	-2.62
25 Chrysene-d12	38907	19454	77814	24006	-38.30
33 Perylene-d12	39582	19791	79164	23503	-40.62

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.87	4.37	5.37	4.87	-0.13
10 Acenaphthene-d10	7.16	6.66	7.66	7.16	0.00
15 Phenanthrene-d10	9.20	8.70	9.70	9.20	0.00
25 Chrysene-d12	14.15	13.65	14.65	14.16	0.02
33 Perylene-d12	18.06	17.56	18.56	18.06	0.04

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

REVIEW SUMMARY FOR FILE - N823022311.D

Lab ID: 23A0418-06
nt8.i, 20230223.b\FSIMPNA230119.m,   23-FEB-2023 16:03

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

No RRT check performed

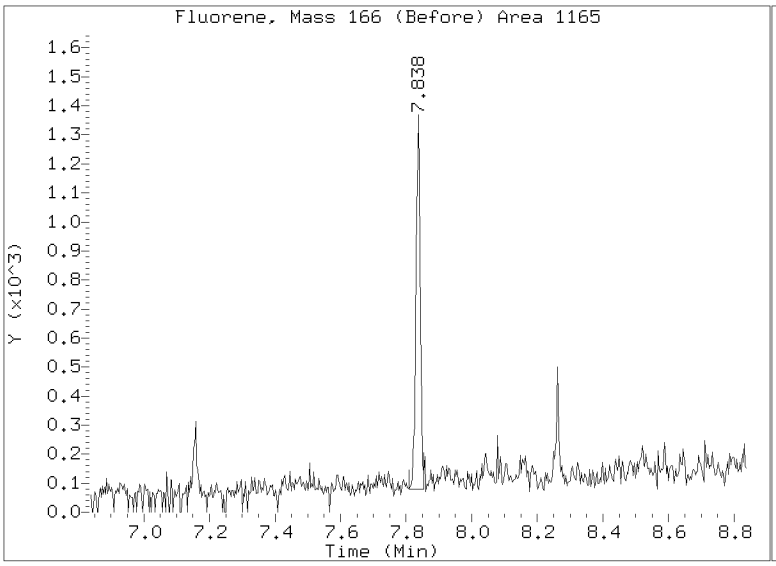
On Column LOD for nt8.i, 20230223.b\FSIMPNA230119.m, PNAXEMDL.sub = 0.0080

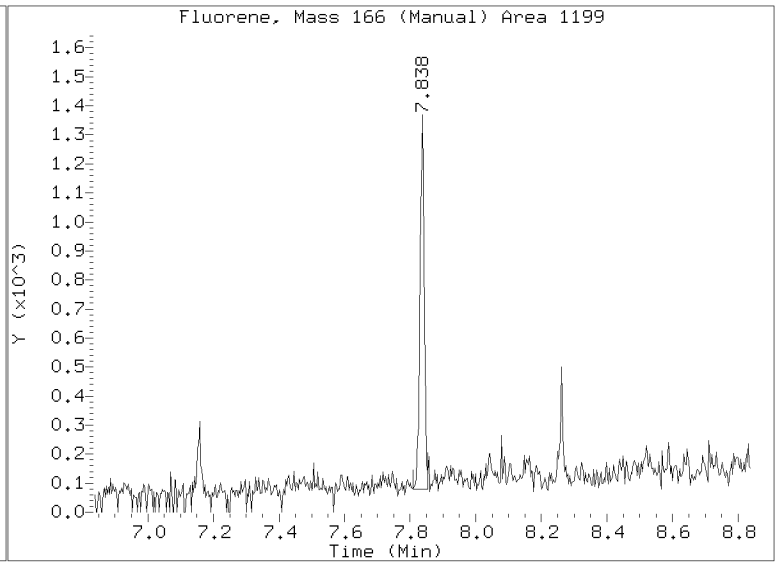
Exception: Benzo(e)pyrene 0.0800

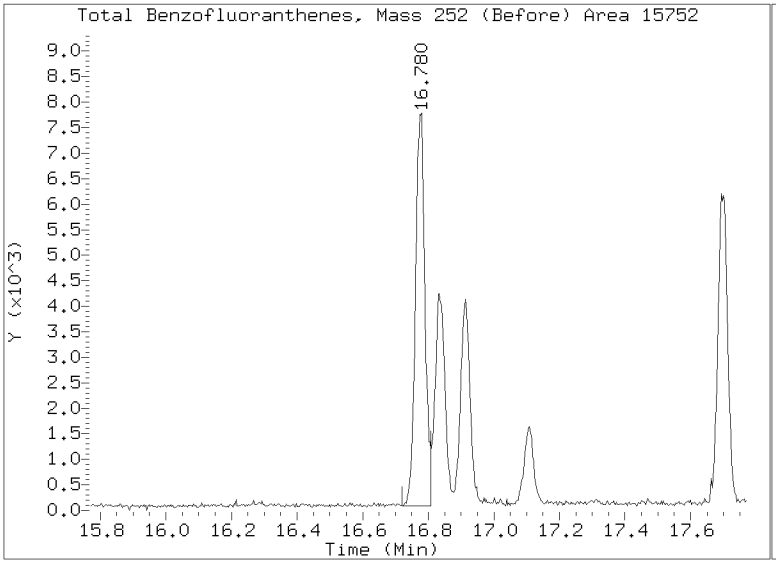
* Only compounds listed in the work order have been verified by the analyst *

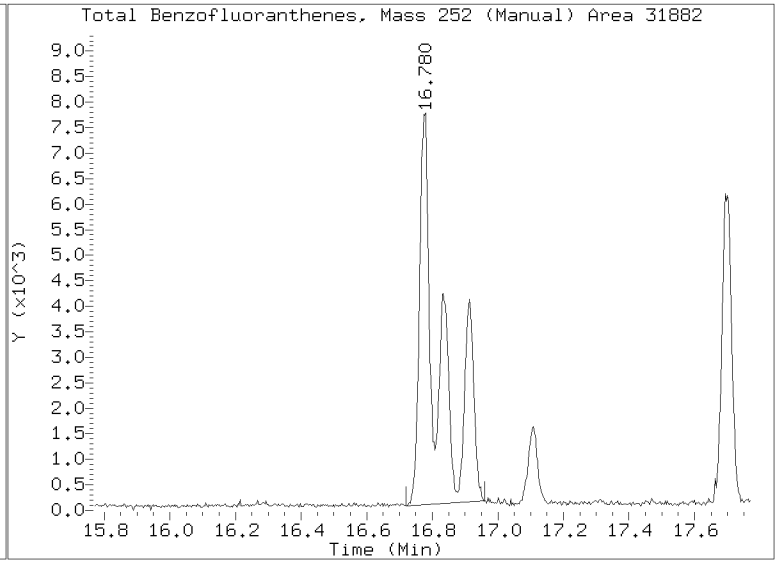
Quant Ion Manual Peak Adjustment Report

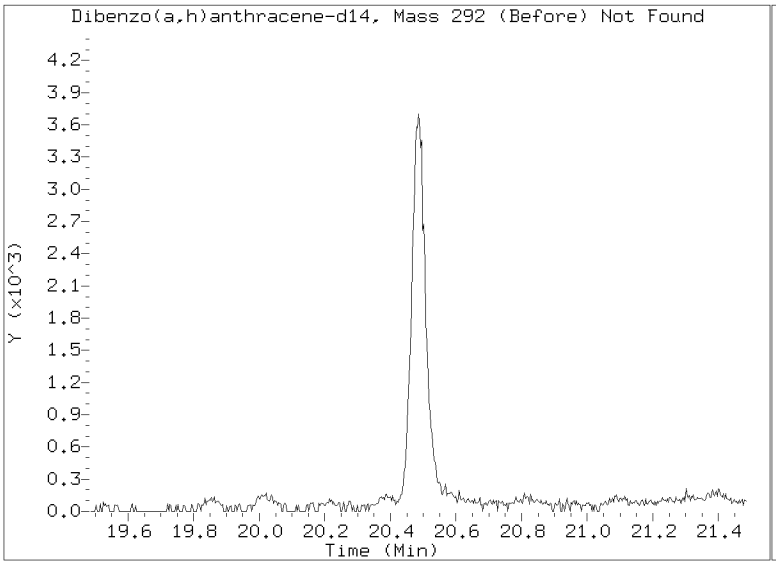
Datafile: //target/share/chem3/nt8.i/20230223.b/N823022311.D
Injection Date: 23-FEB-2023 16:03
Lab ID:23A0418-06 Client ID:
Report Date: 02/26/2023 14:18

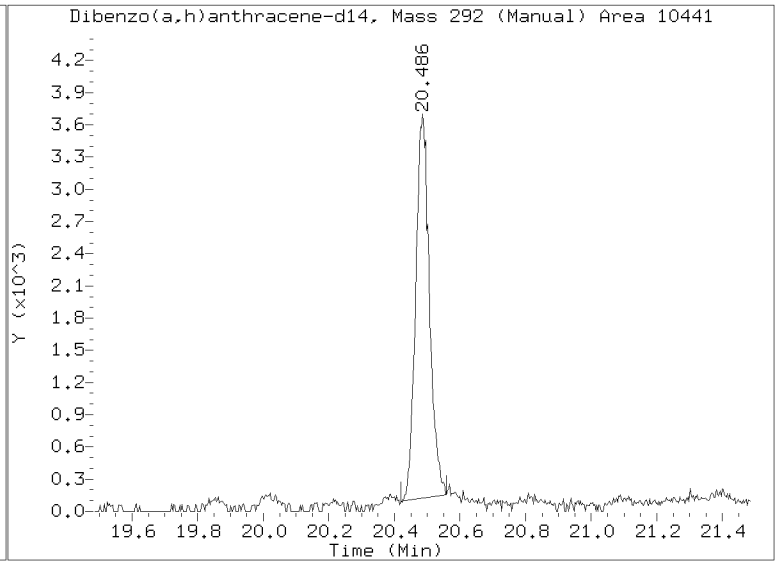






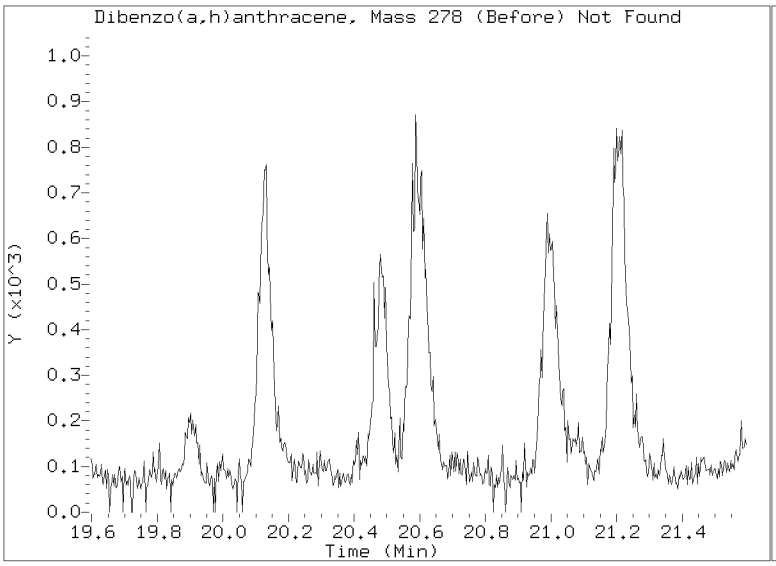


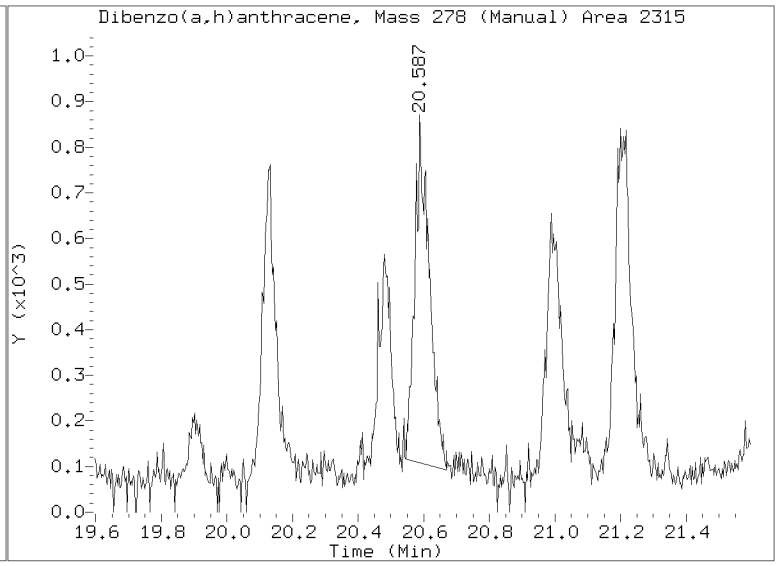


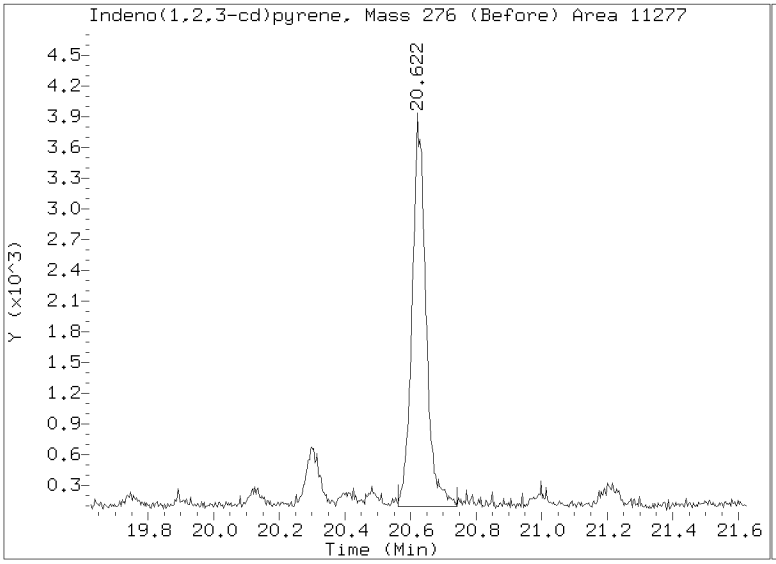


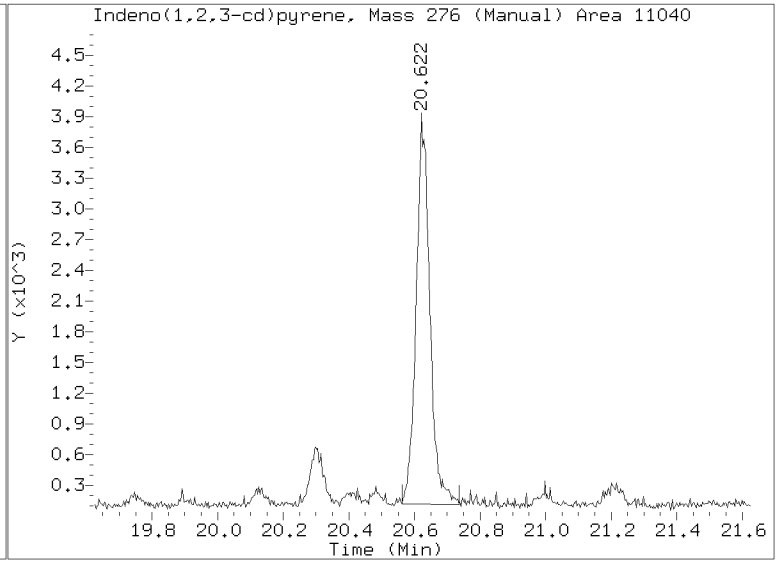
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20230223.b/N823022311.D
Injection Date: 23-FEB-2023 16:03
Lab ID:23A0418-06 Client ID:
Report Date: 02/26/2023 14:18









Analytical Resources, LLC
Analytical Chemists and Consultants

LDW23-IT1180

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270E-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-07 A	SDG:	23A0418
Sampled:	01/18/23 13:14	Prepared:	02/16/23 14:32	File ID:	N823022312.D
% Solids:	79.85	Preparation:	EPA 3546 (Microwave)	Analyzed:	02/23/23 16:30
Batch:	BLB0386	Sequence:	SLB0310	Initial/Final:	12.82 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	GA00050
Cleanups:	GPC, Silica Gel				

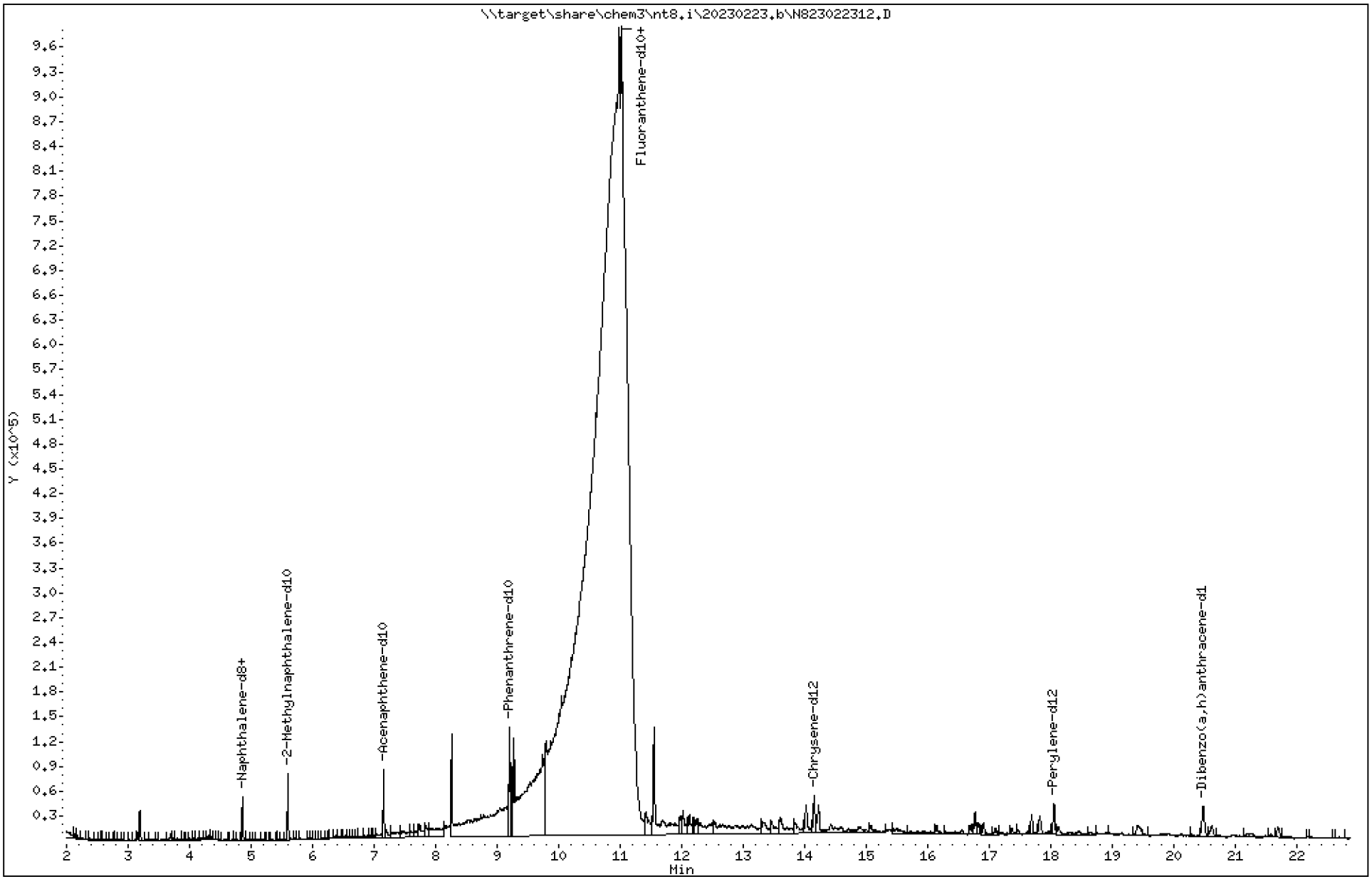
CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	64.6		0.80	4.88
218-01-9	Chrysene	1	80.5		1.03	4.88
205-99-2	Benzo(b)fluoranthene	1	66.3		1.34	4.88
207-08-9	Benzo(k)fluoranthene	1	35.2		0.74	4.88
50-32-8	Benzo(a)pyrene	1	58.4		0.60	4.88
193-39-5	Indeno(1,2,3-cd)pyrene	1	43.0		1.03	4.88
53-70-3	Dibenzo(a,h)anthracene	1	10.1		0.87	4.88

SURROGATES	ADDED: (ug/kg dry)	FOUND: (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	146.53	126	86.1	32 - 120	
Dibenzo[a,h]anthracene-d14	146.53	167	114	21 - 133	
Fluoranthene-d10	146.53	159	109	36 - 134	

Data File: \\target\share\chem3\nt8.i\20230223.b\N823022312.D
Date : 23-FEB-2023 16:30
Client ID:
Sample Info: 23A0418-07

Instrument: nt8.i
Operator: JZ
Column diameter: 0.25

Column phase: Rxi-17sil



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Date : 23-FEB-2023 16:30

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-07

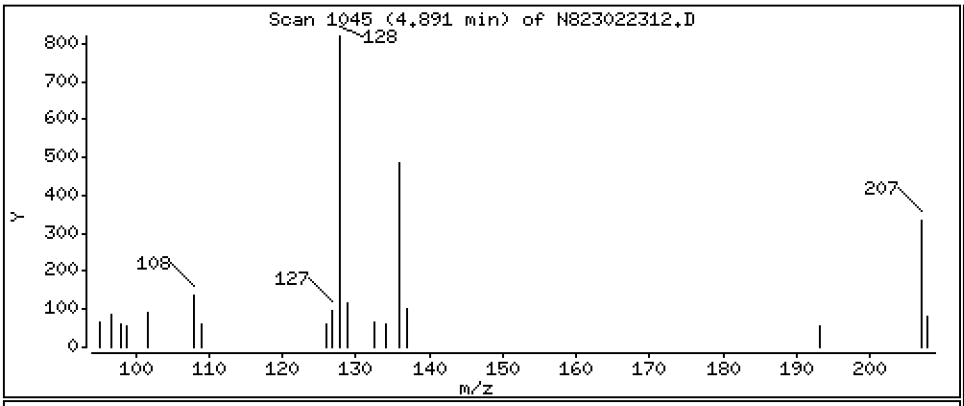
Operator: JZ

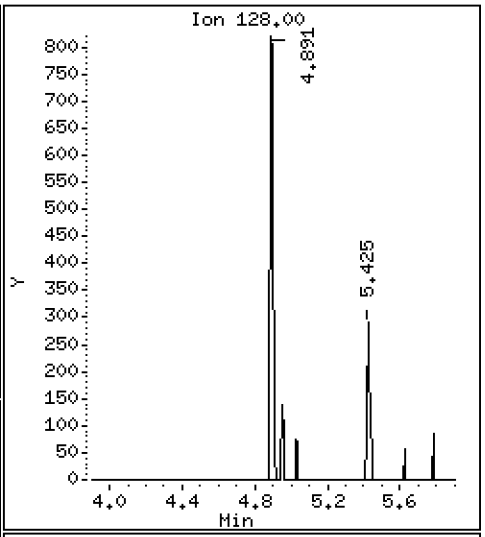
Column phase: Rxi-17sil

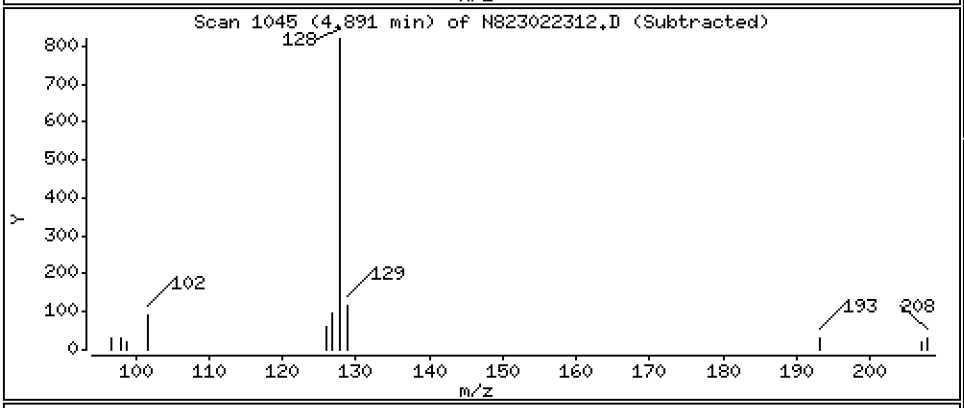
Column diameter: 0.25

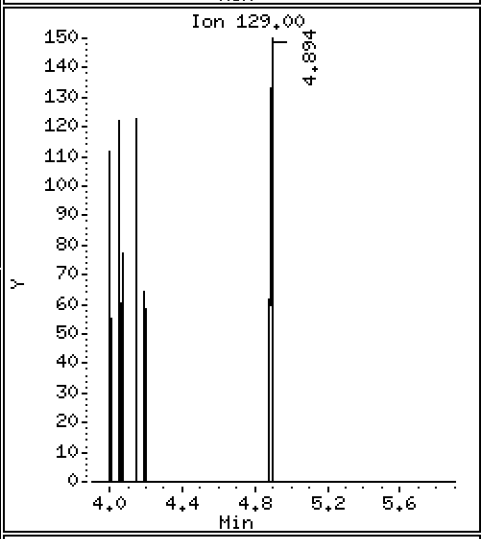
2 Naphthalene

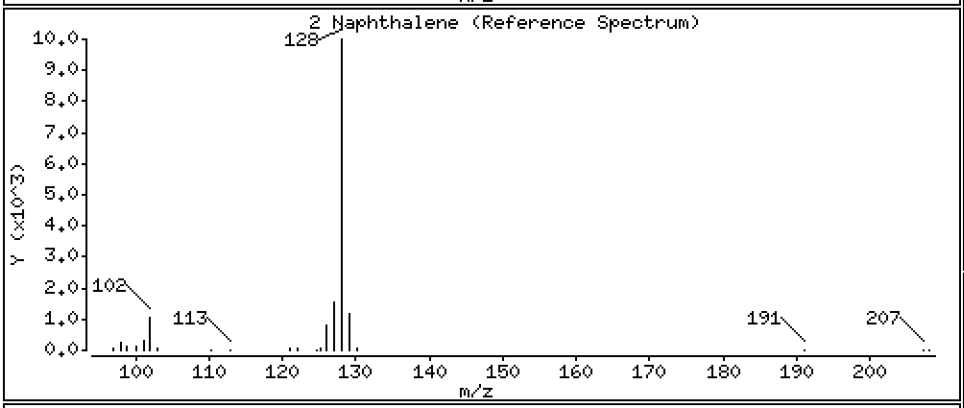
Concentration: 0.05298 ug/mL

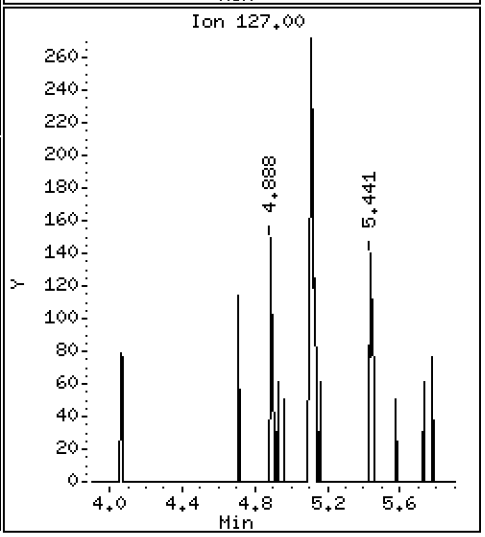


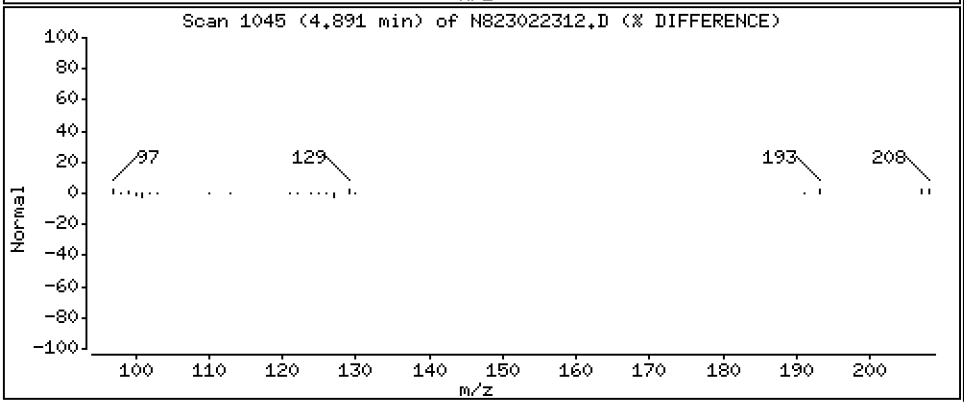












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Date : 23-FEB-2023 16:30

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-07

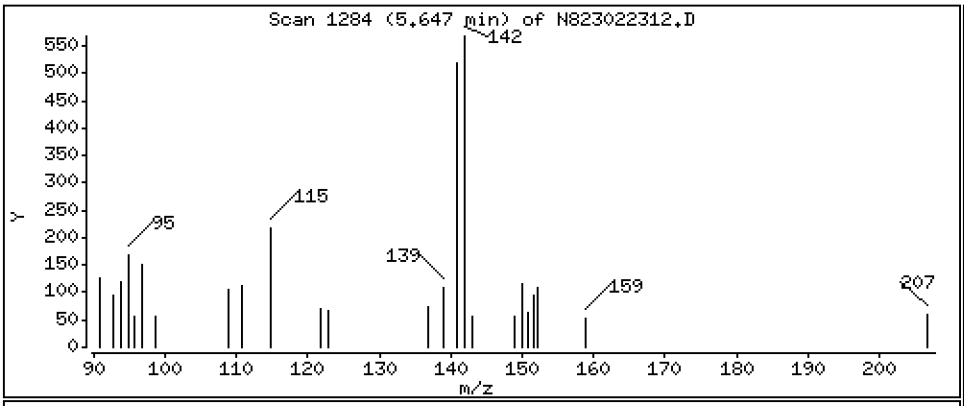
Operator: JZ

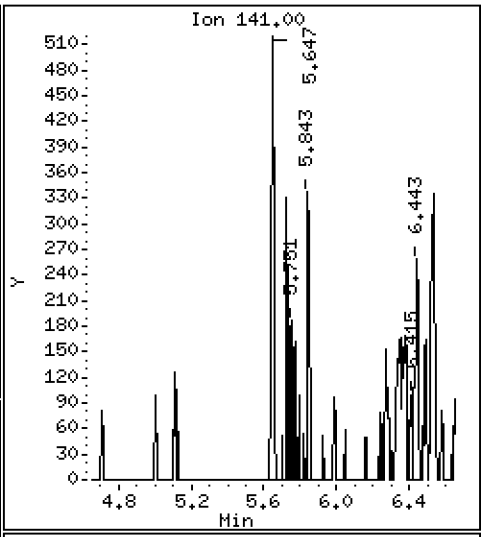
Column phase: Rxi-17sil

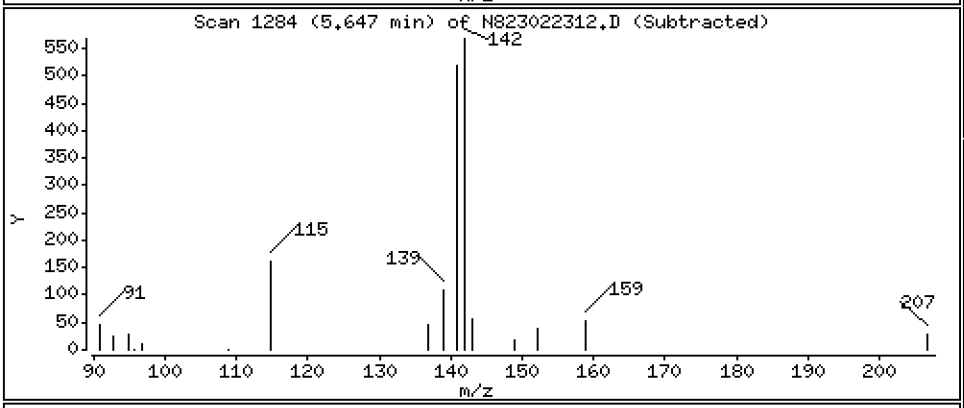
Column diameter: 0.25

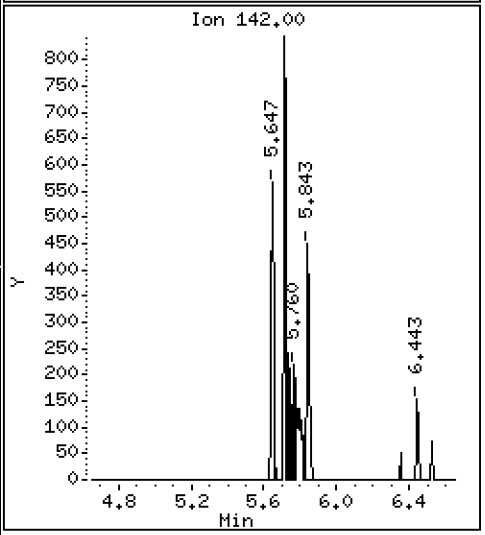
4 2-Methylnaphthalene

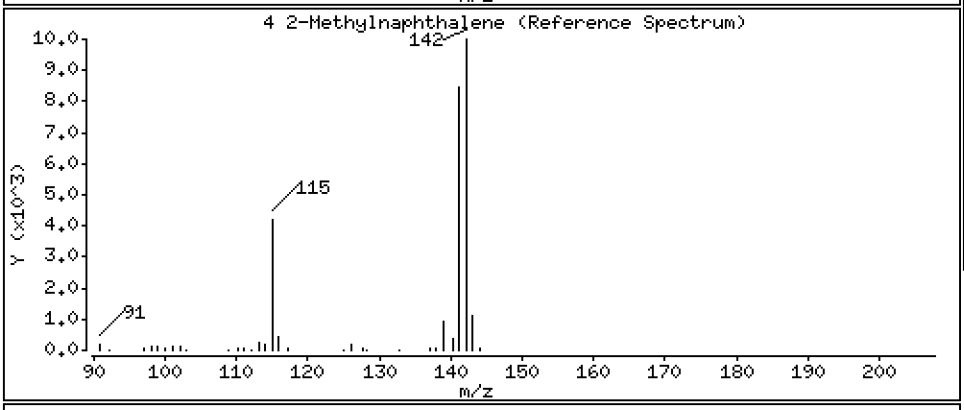
Concentration: 0.05202 ug/mL

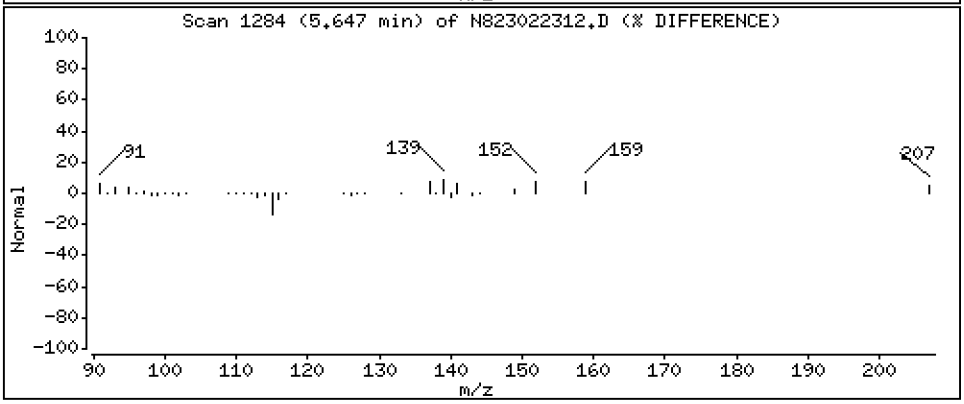












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Date : 23-FEB-2023 16:30

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-07

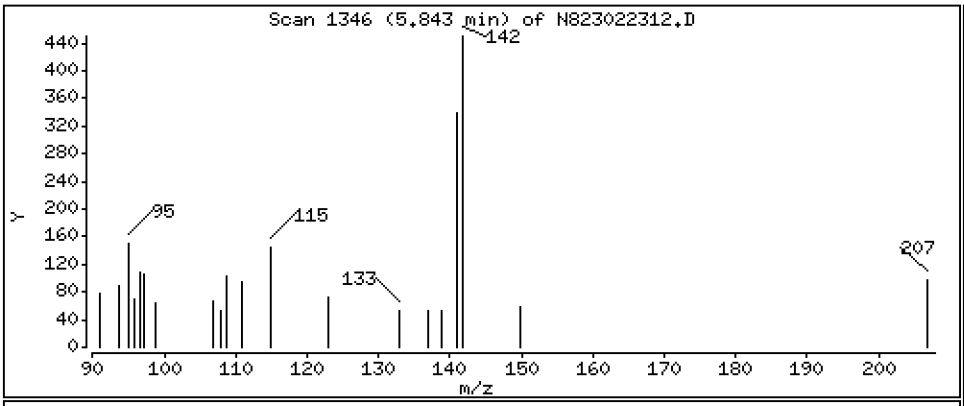
Operator: JZ

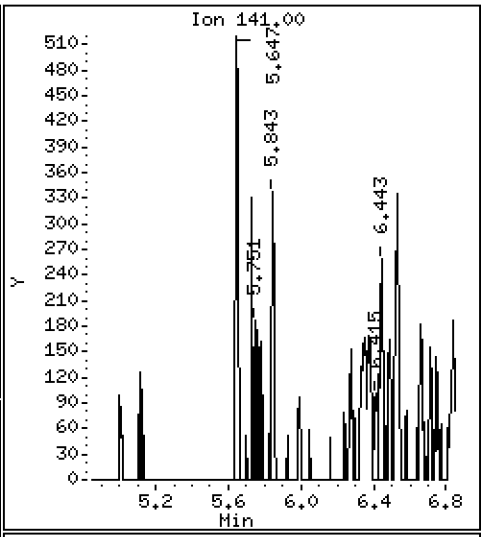
Column phase: Rxi-17sil

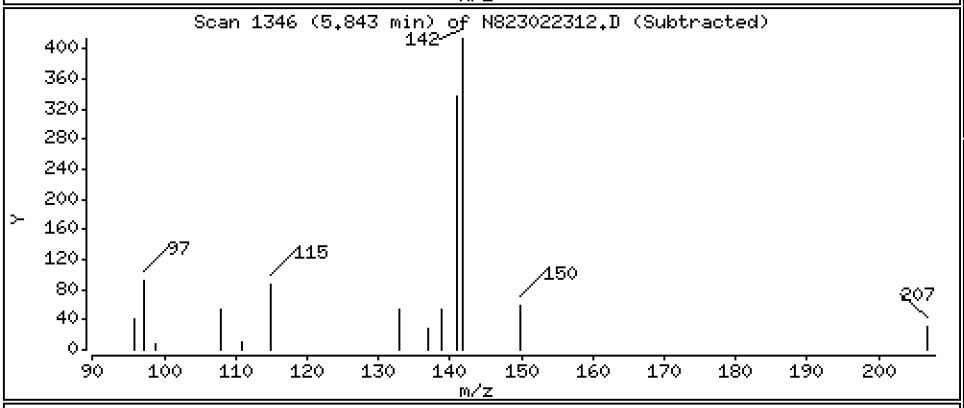
Column diameter: 0.25

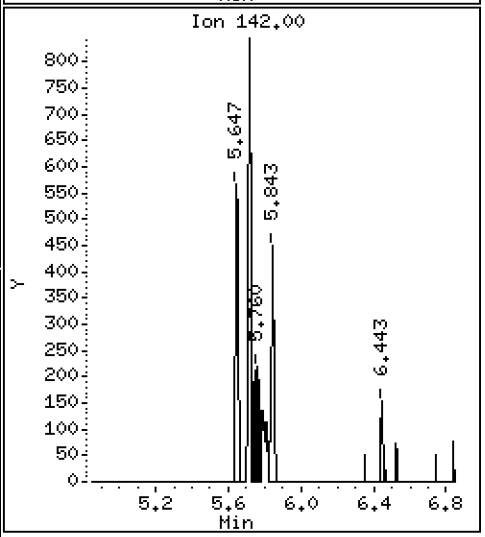
5 1-methylnaphthalene

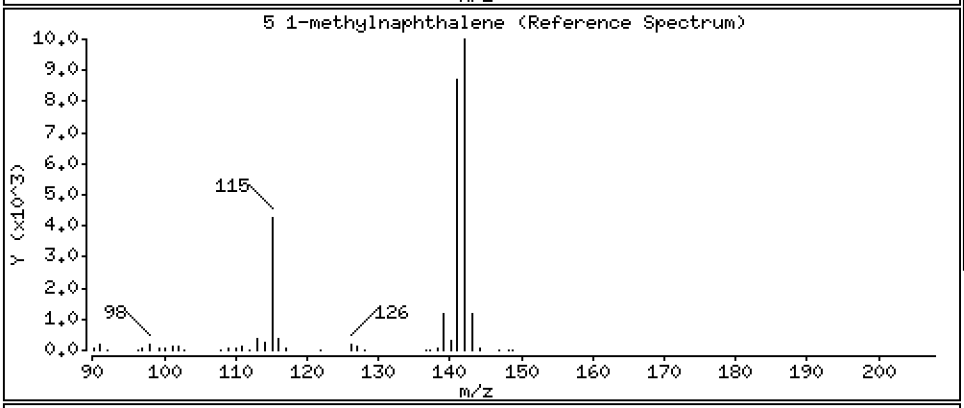
Concentration: 0.03251 ug/mL

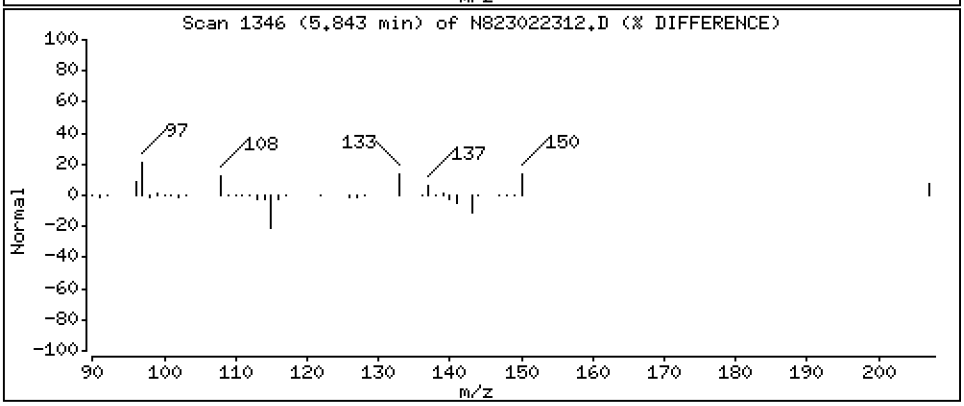












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Date : 23-FEB-2023 16:30

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-07

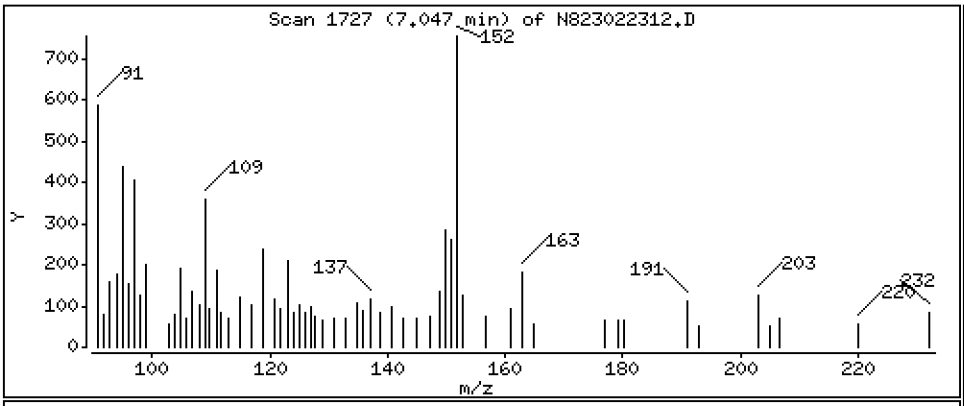
Operator: JZ

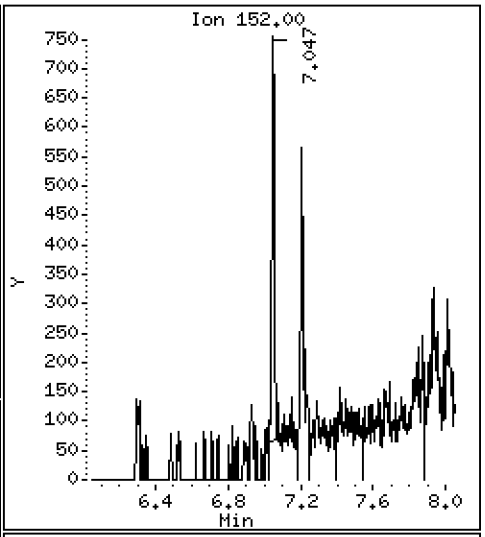
Column phase: Rxi-17sil

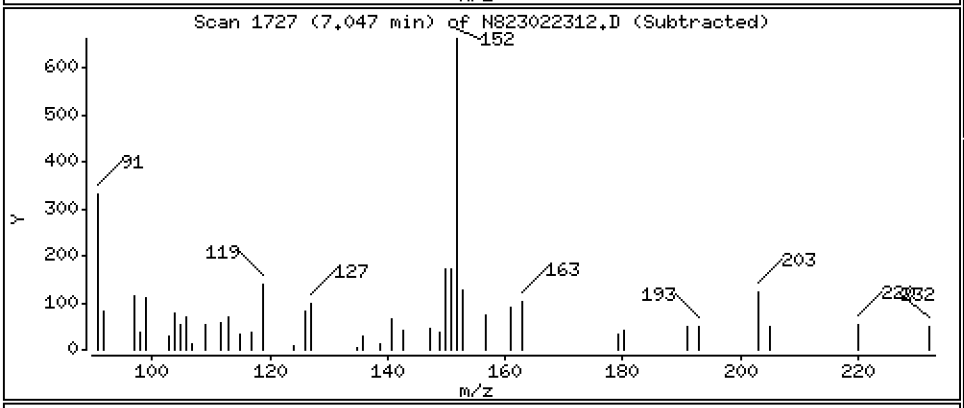
Column diameter: 0.25

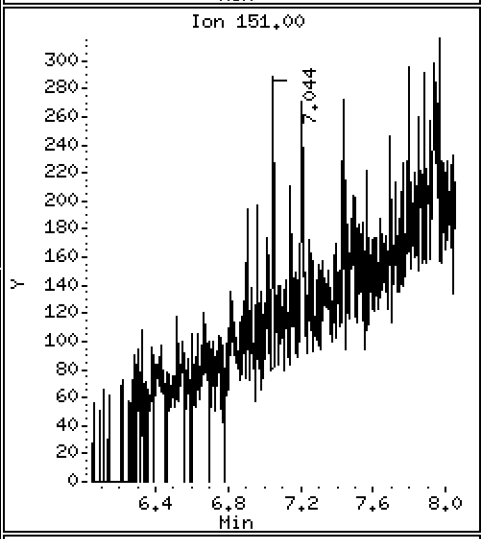
9 Acenaphthylene

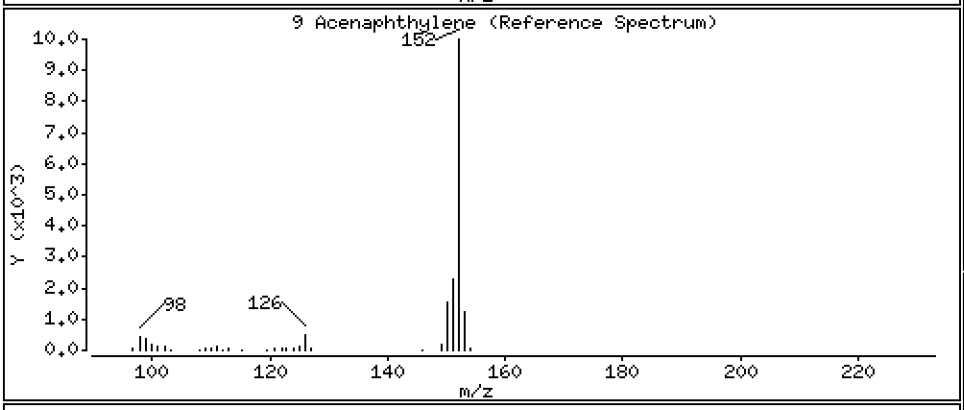
Concentration: 0.04133 ug/mL

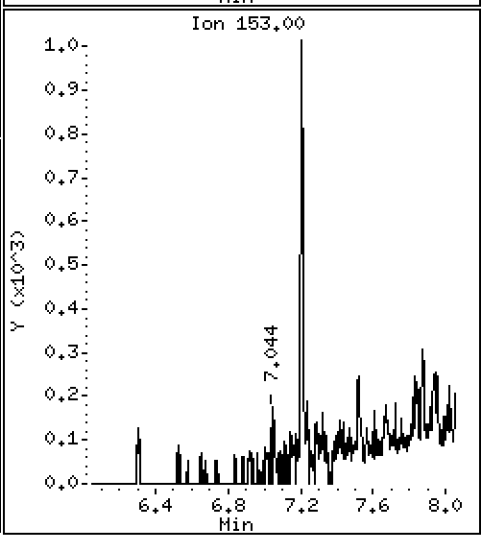


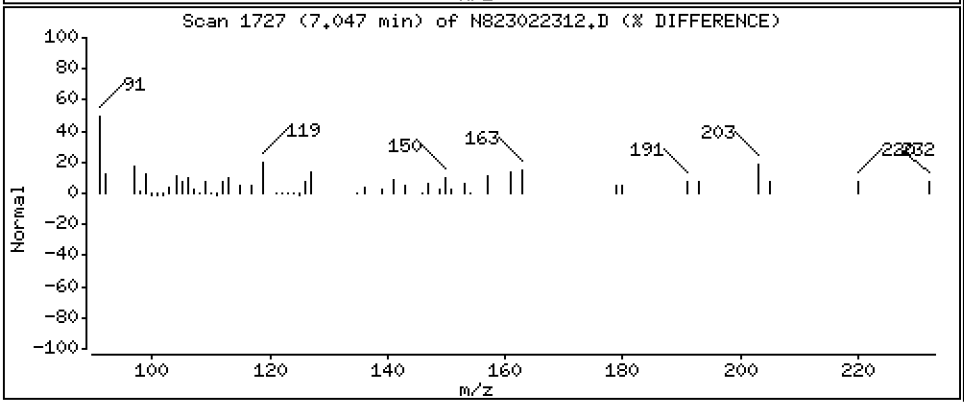












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Date : 23-FEB-2023 16:30

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-07

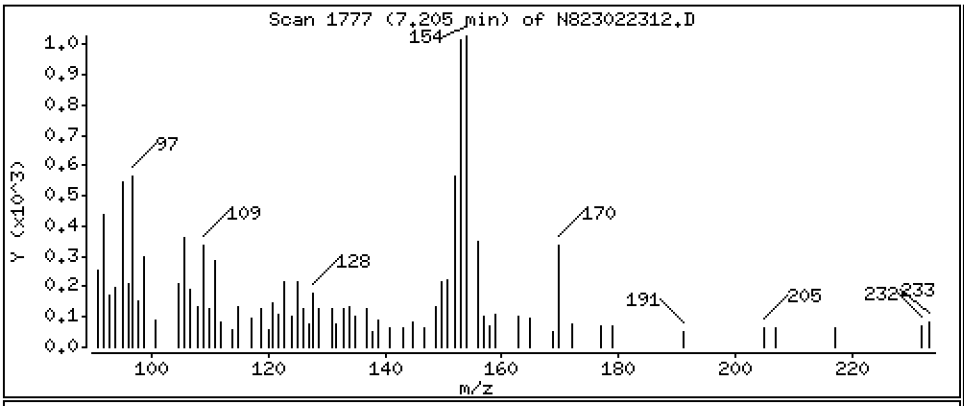
Operator: JZ

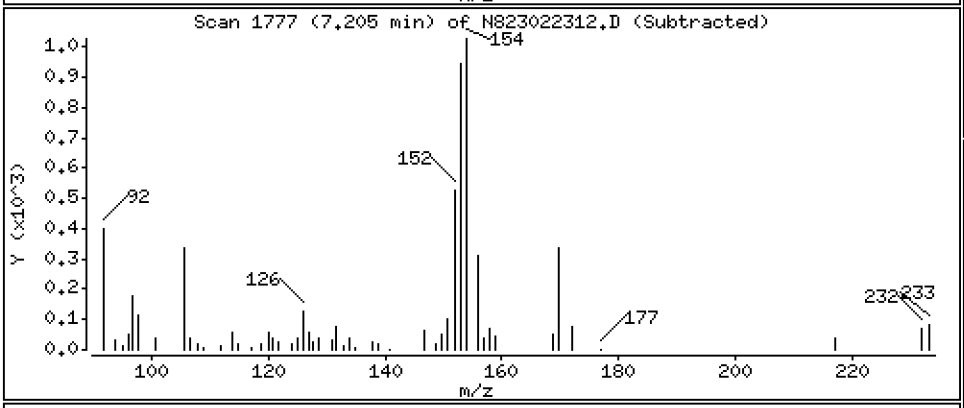
Column phase: Rxi-17sil

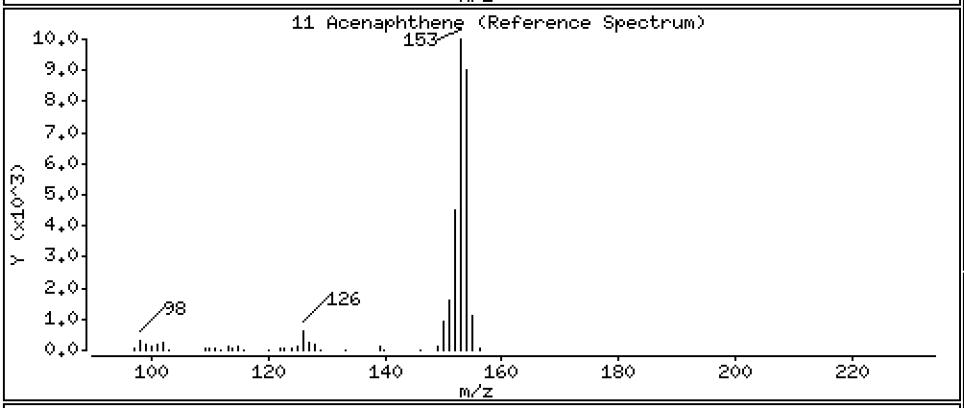
Column diameter: 0.25

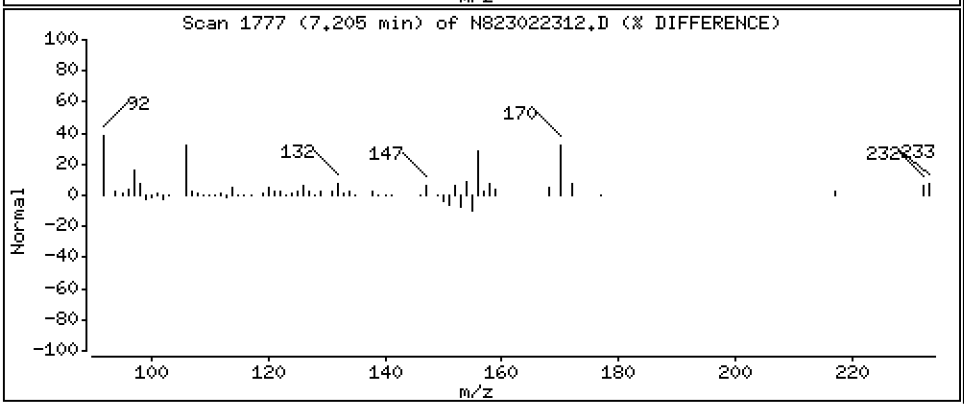
11 Acenaphthene

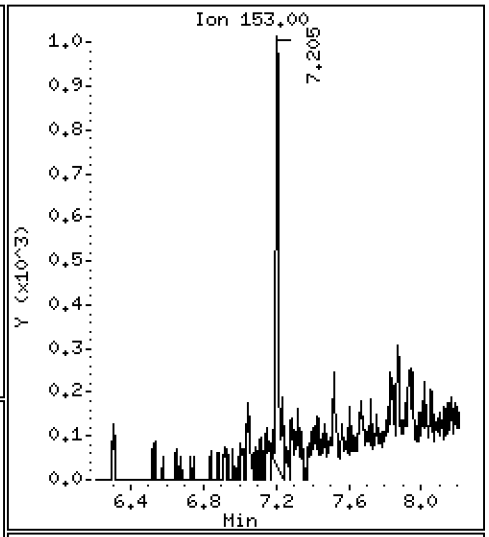
Concentration: 0.09992 ug/mL

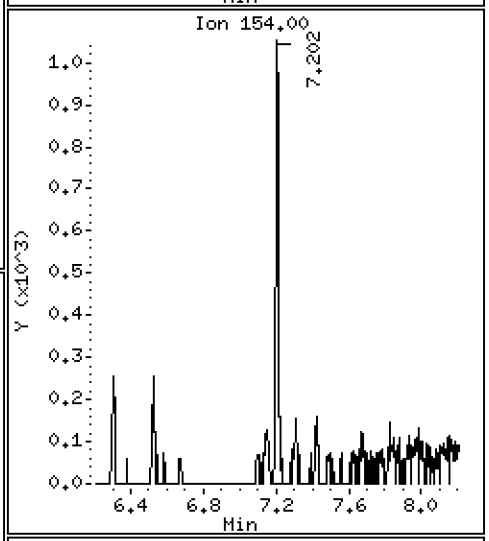


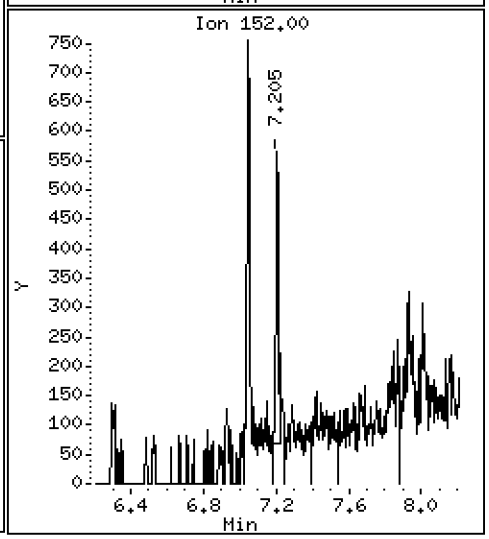












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Date : 23-FEB-2023 16:30

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-07

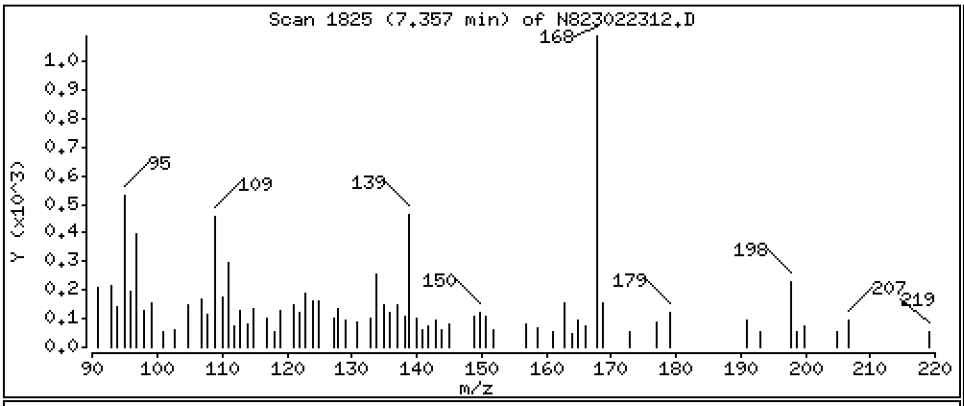
Operator: JZ

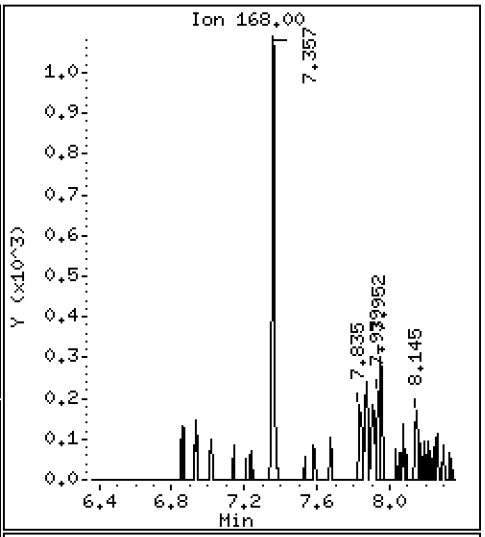
Column phase: Rxi-17sil

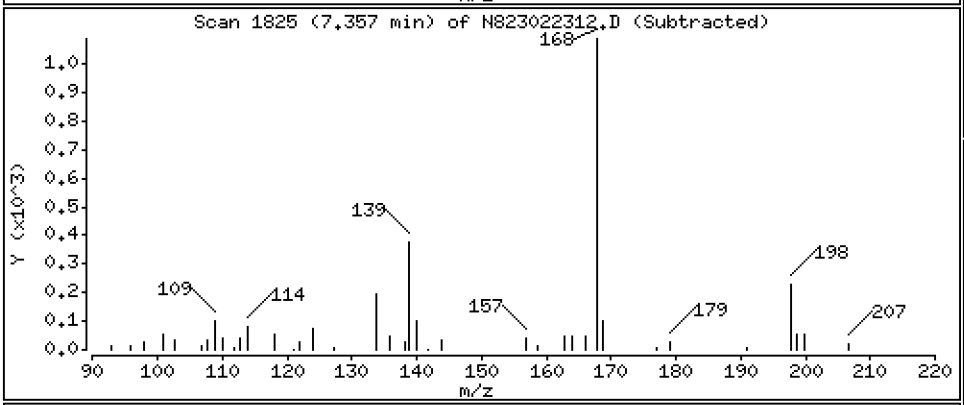
Column diameter: 0.25

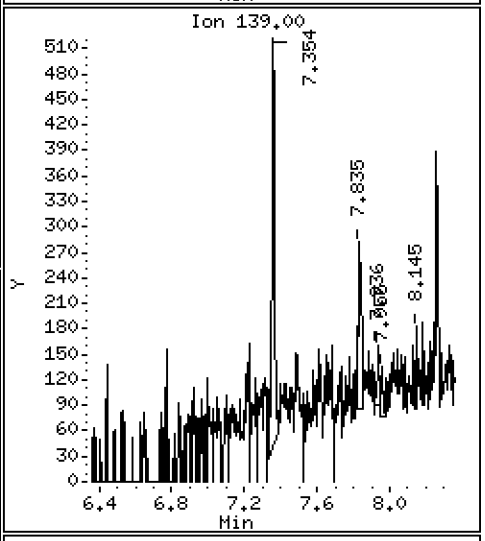
12 Dibenzofuran

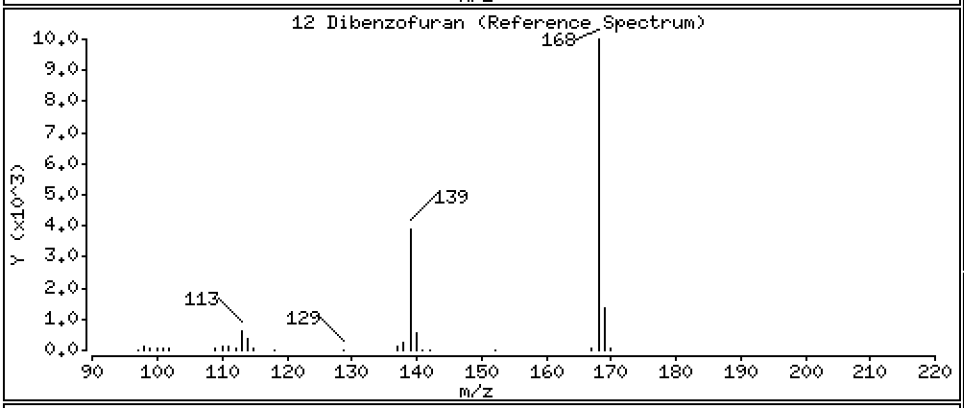
Concentration: 0.05890 ug/mL

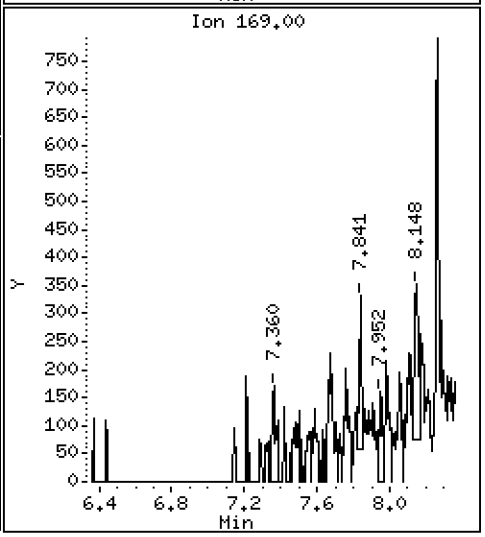


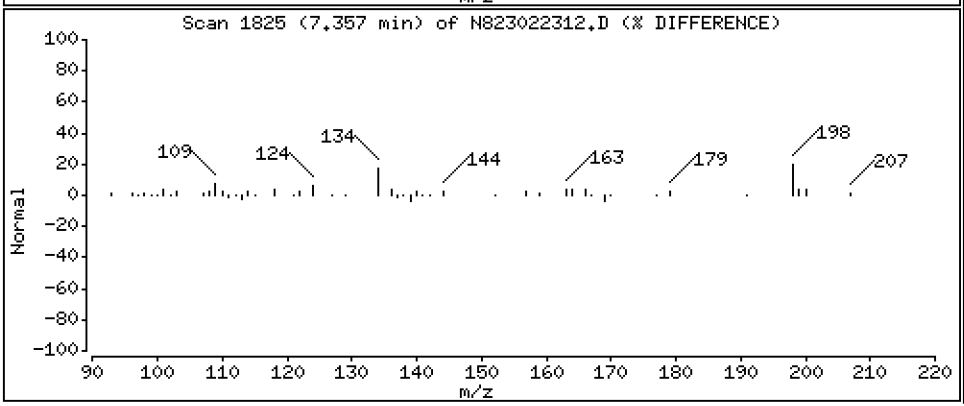












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Date : 23-FEB-2023 16:30

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-07

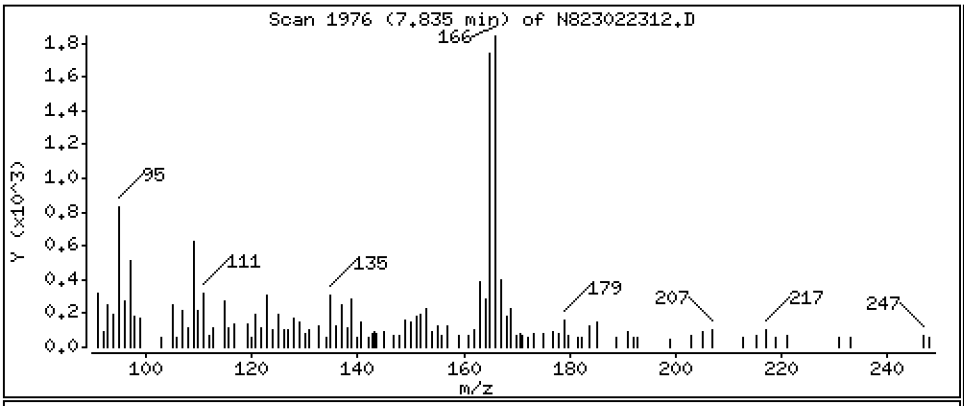
Operator: JZ

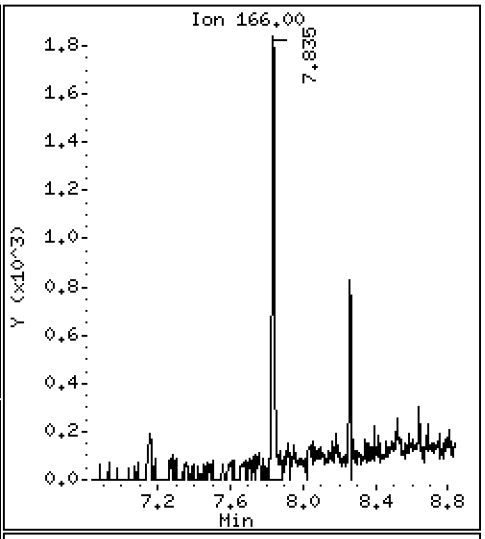
Column phase: Rxi-17sil

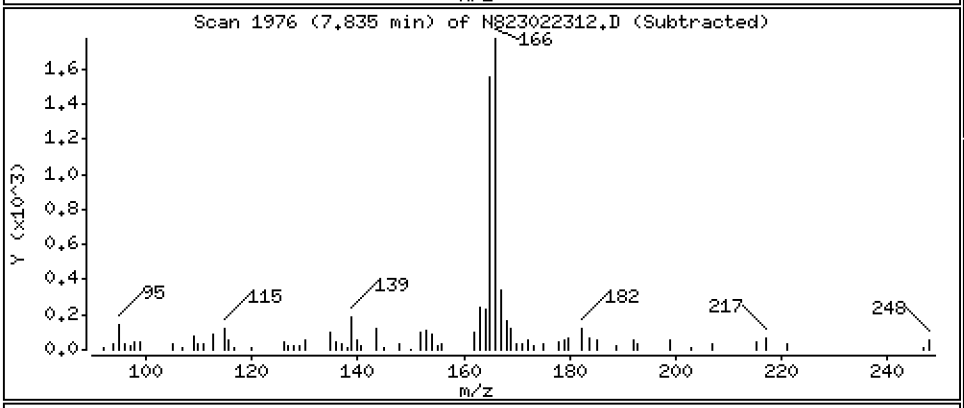
Column diameter: 0.25

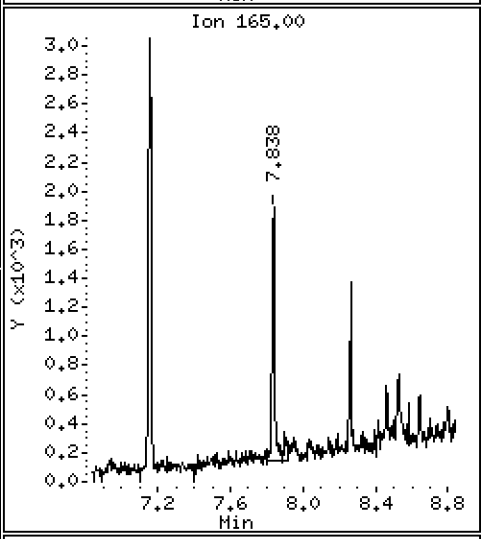
14 Fluorene

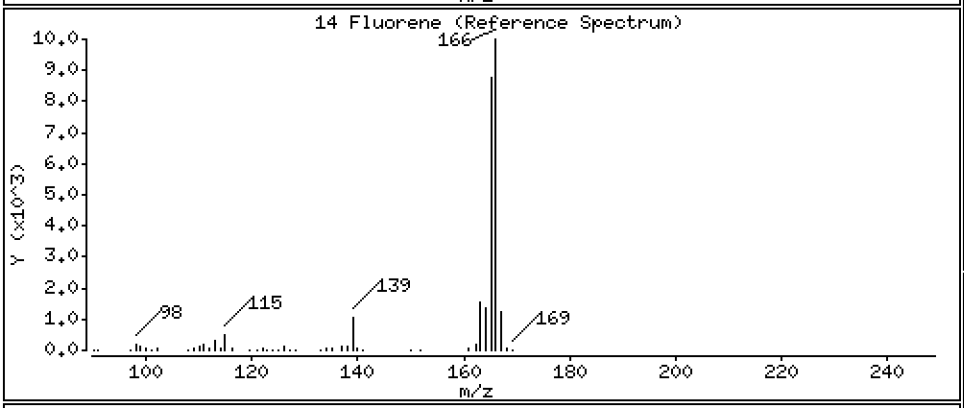
Concentration: 0.1520 ug/mL

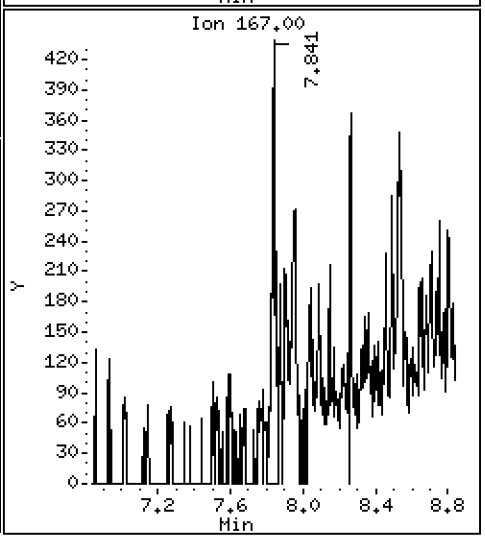


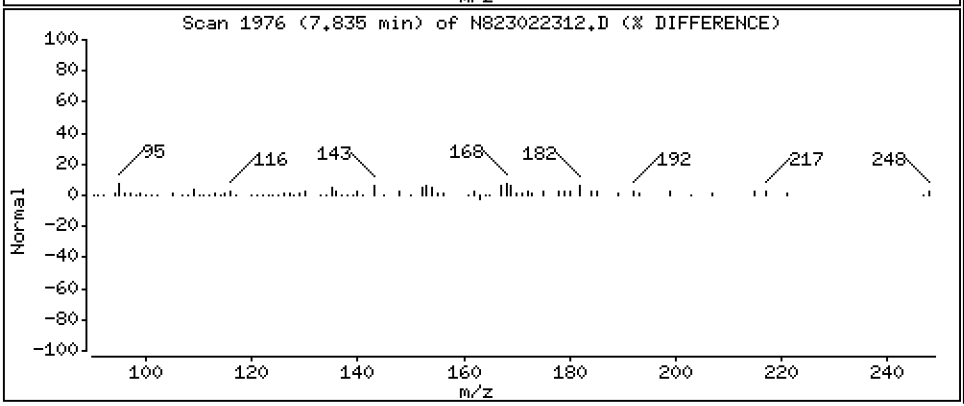












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Date : 23-FEB-2023 16:30

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-07

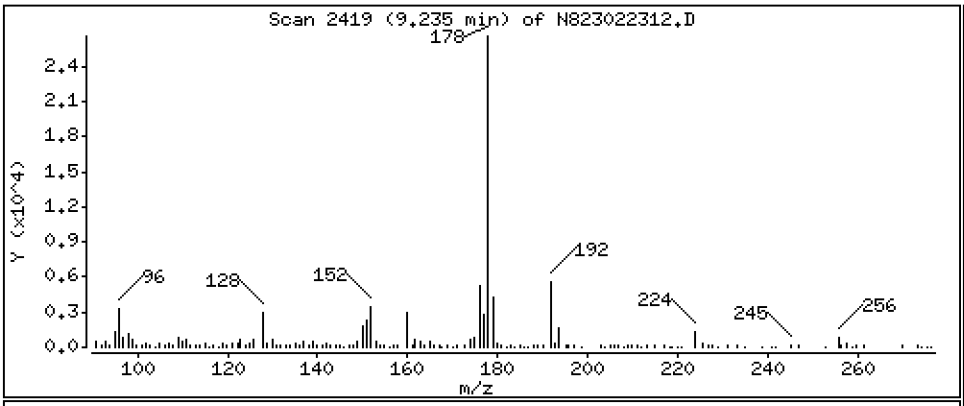
Operator: JZ

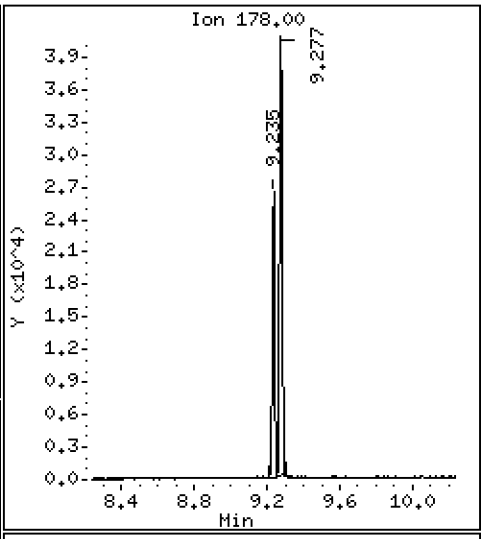
Column phase: Rxi-17sil

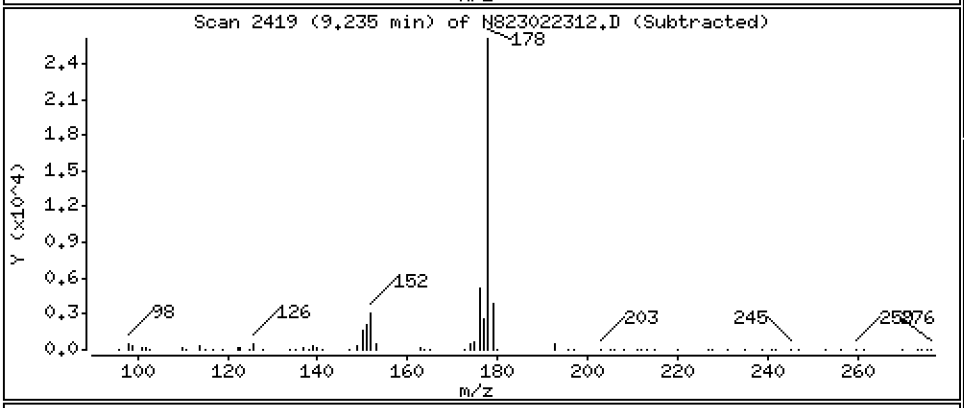
Column diameter: 0.25

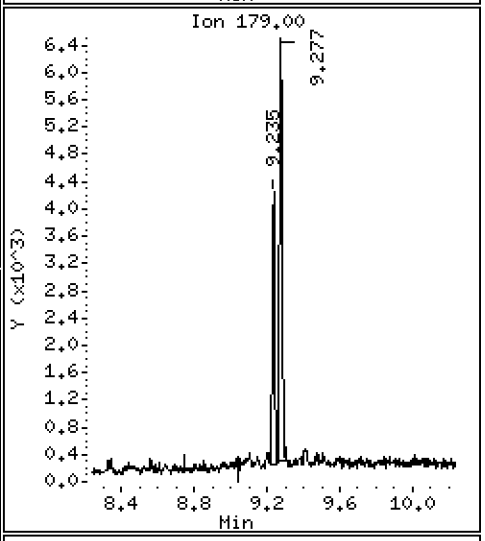
16 Phenanthrene

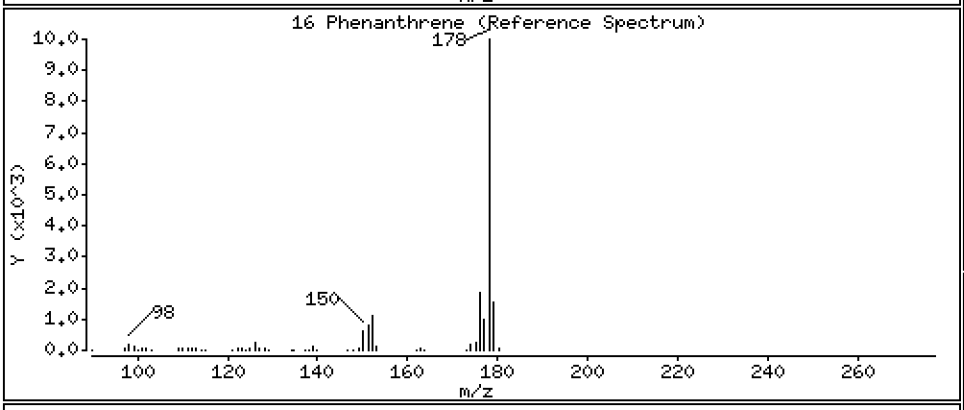
Concentration: 1.197 ug/mL

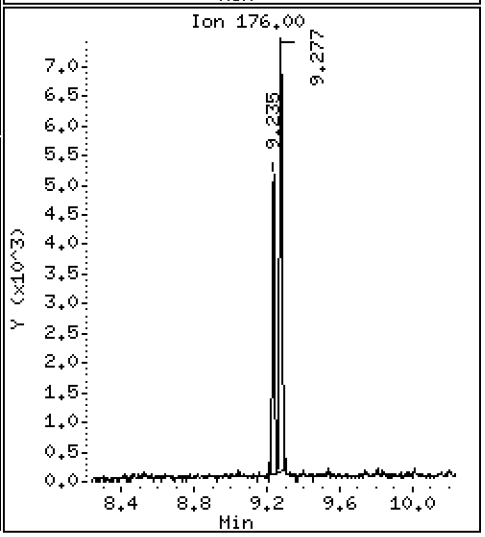


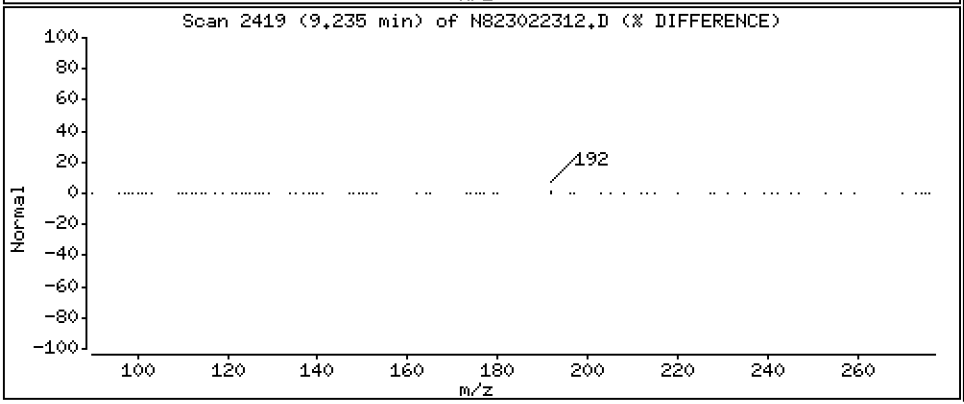












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Date : 23-FEB-2023 16:30

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-07

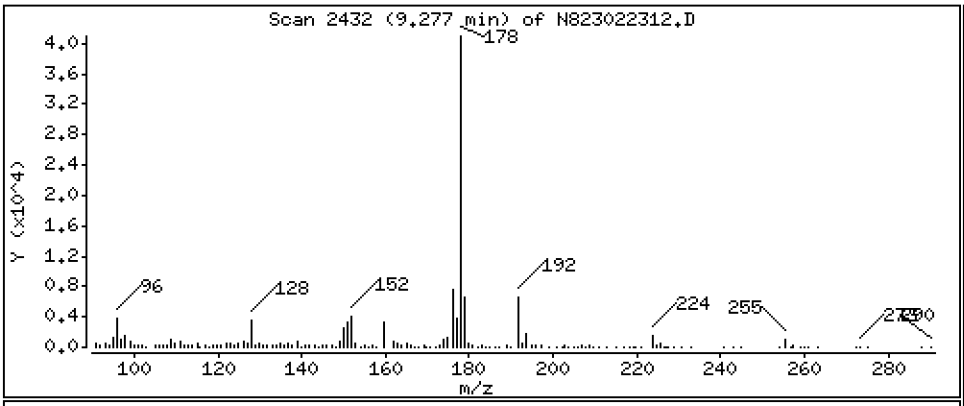
Operator: JZ

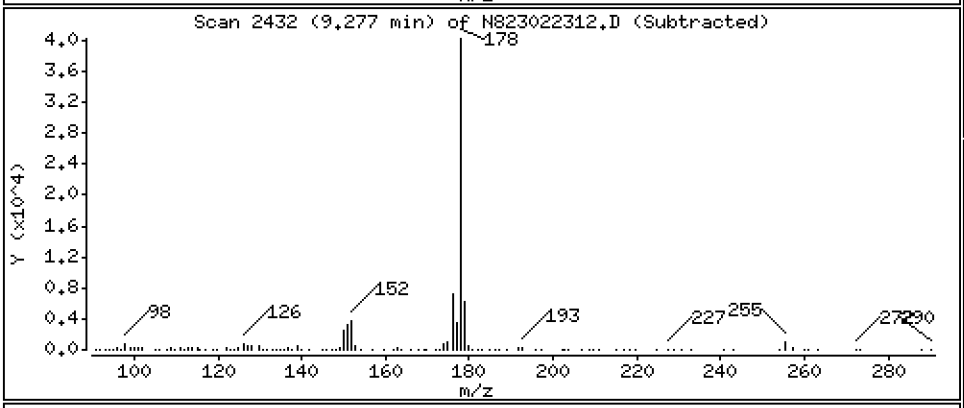
Column phase: Rxi-17sil

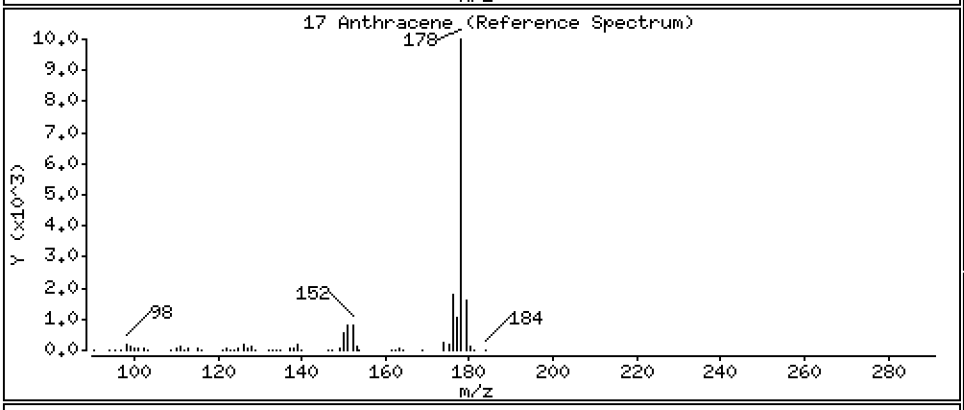
Column diameter: 0.25

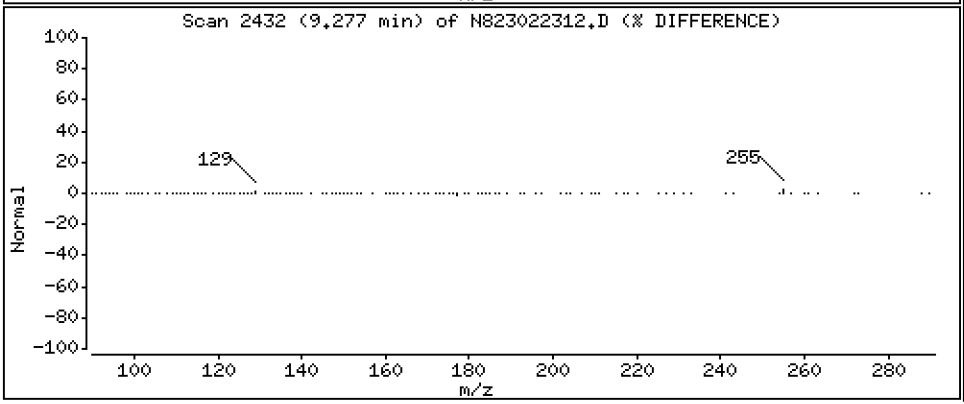
17 Anthracene

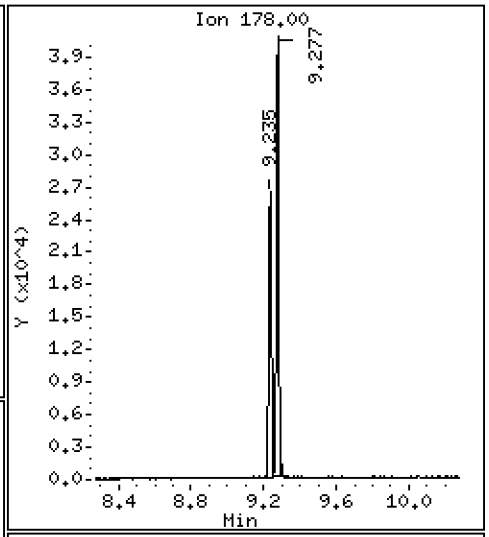
Concentration: 2.027 ug/mL

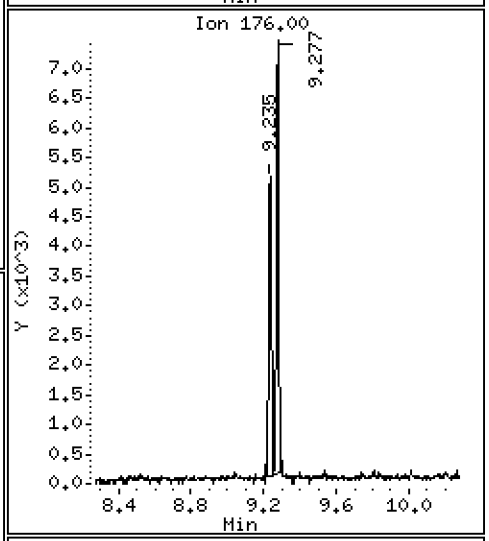


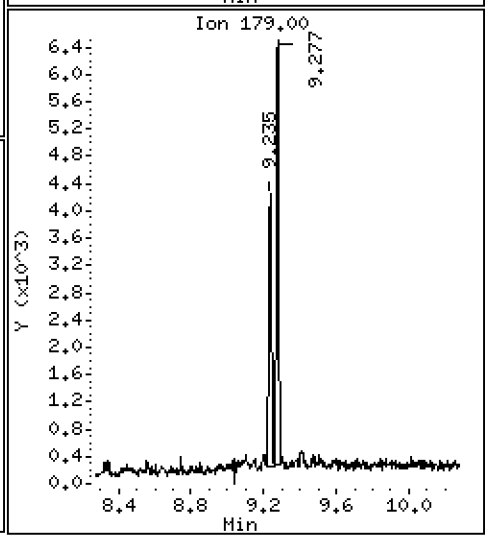












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Date : 23-FEB-2023 16:30

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-07

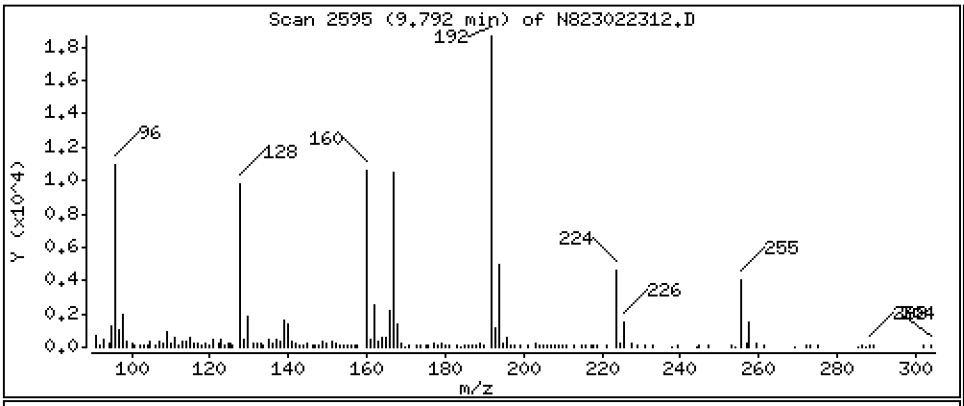
Operator: JZ

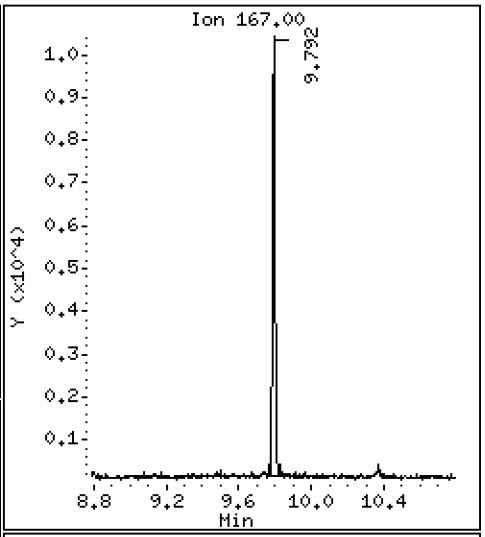
Column phase: Rxi-17sil

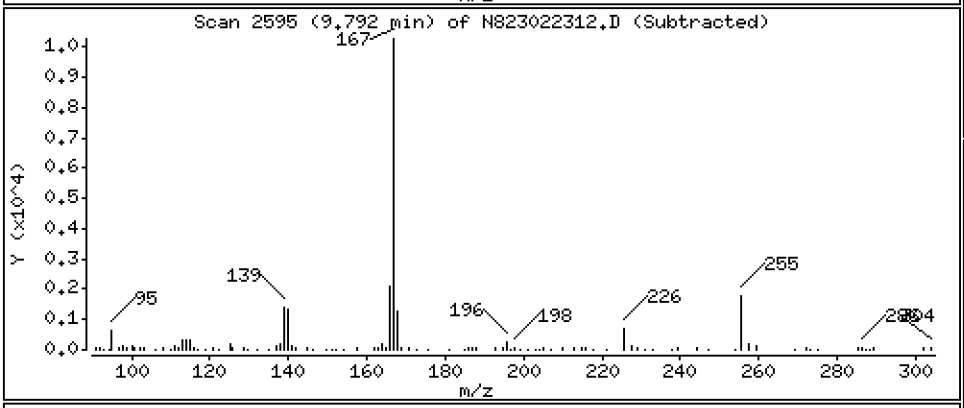
Column diameter: 0.25

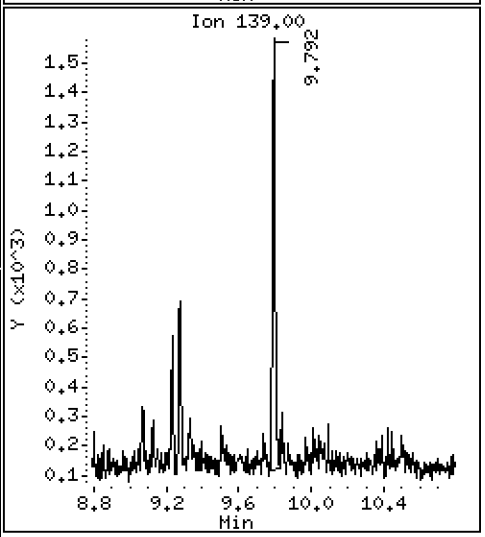
19 Carbazole

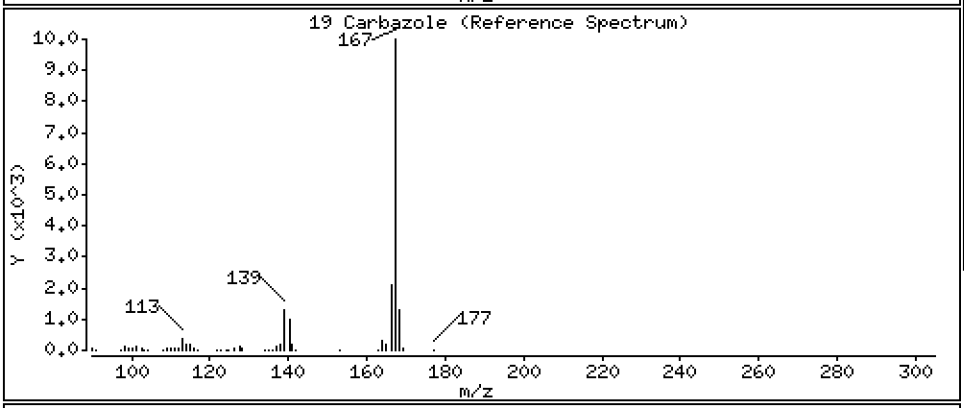
Concentration: 0.6091 ug/mL

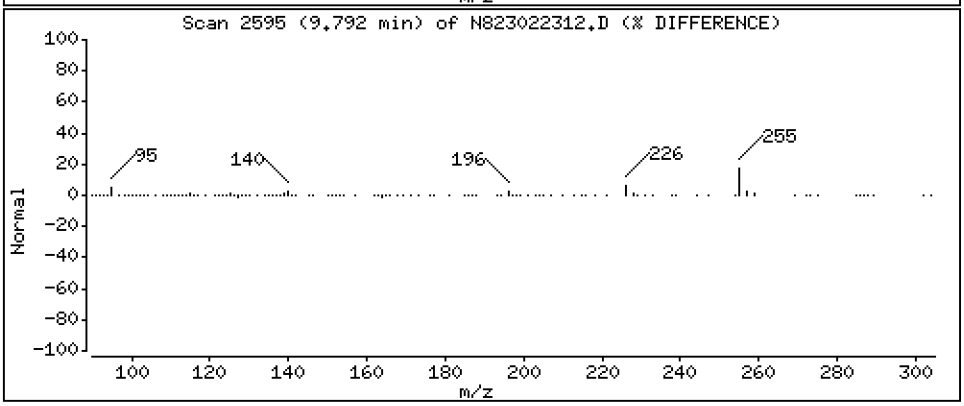












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Date : 23-FEB-2023 16:30

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-07

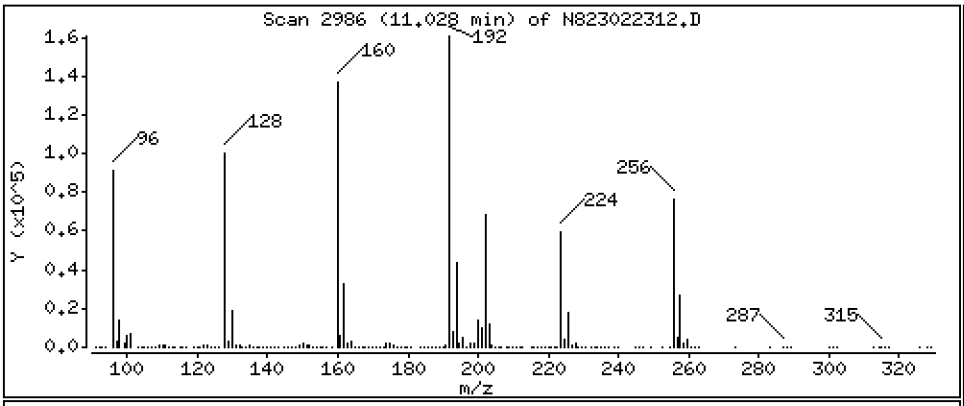
Operator: JZ

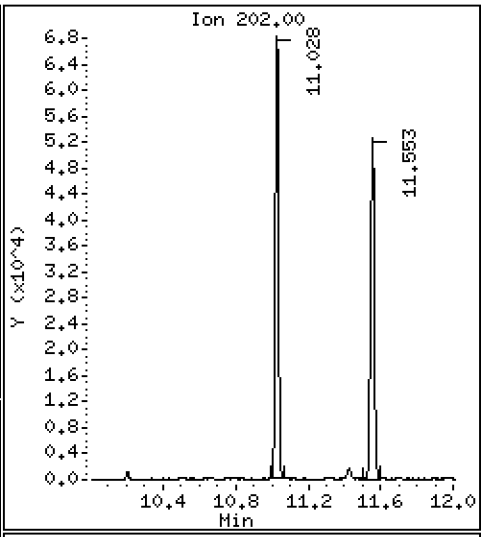
Column phase: Rxi-17sil

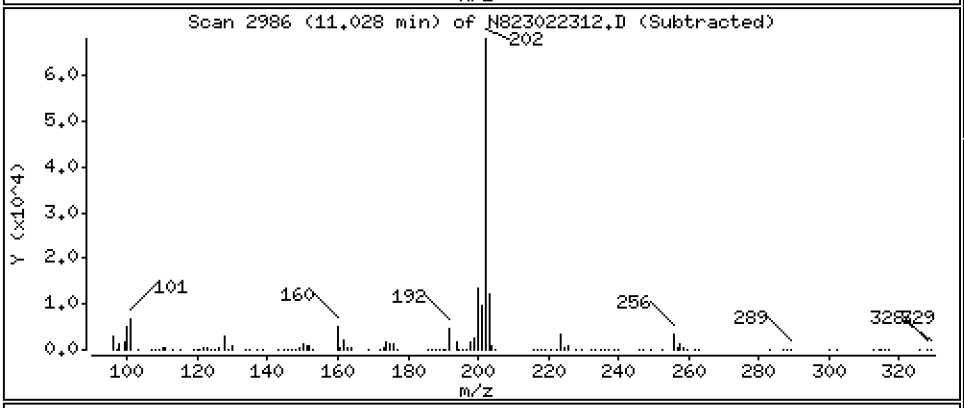
Column diameter: 0.25

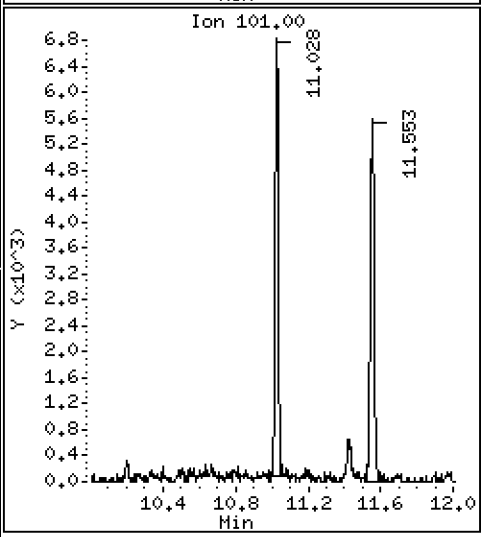
22 Fluoranthene

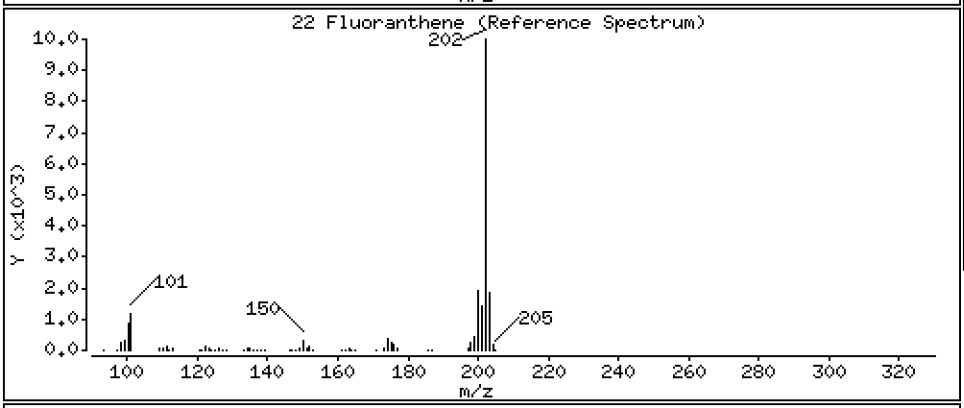
Concentration: 3.837 ug/mL

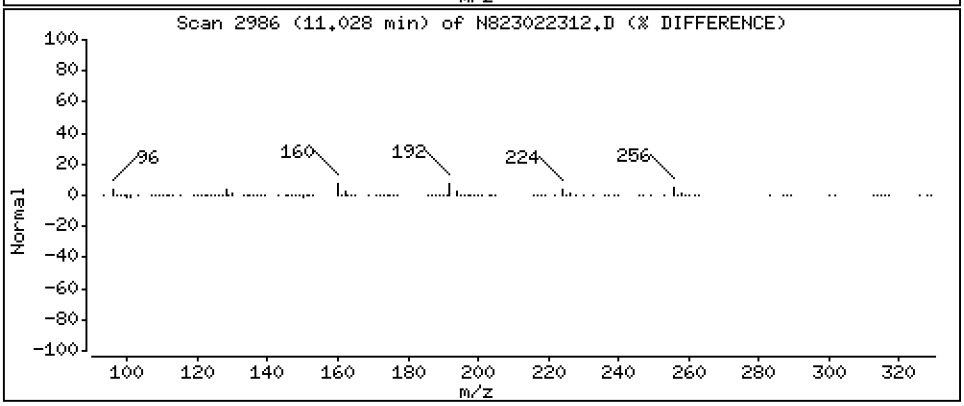












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Date : 23-FEB-2023 16:30

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-07

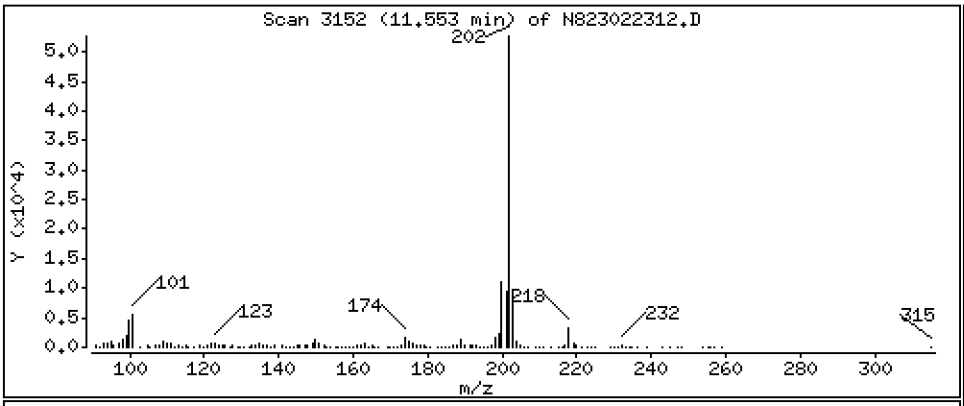
Operator: JZ

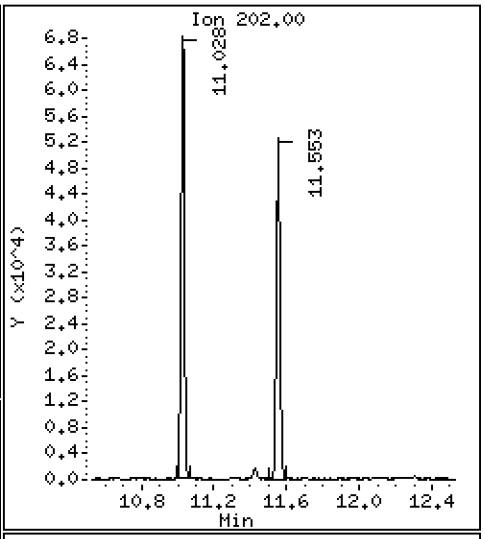
Column phase: Rxi-17sil

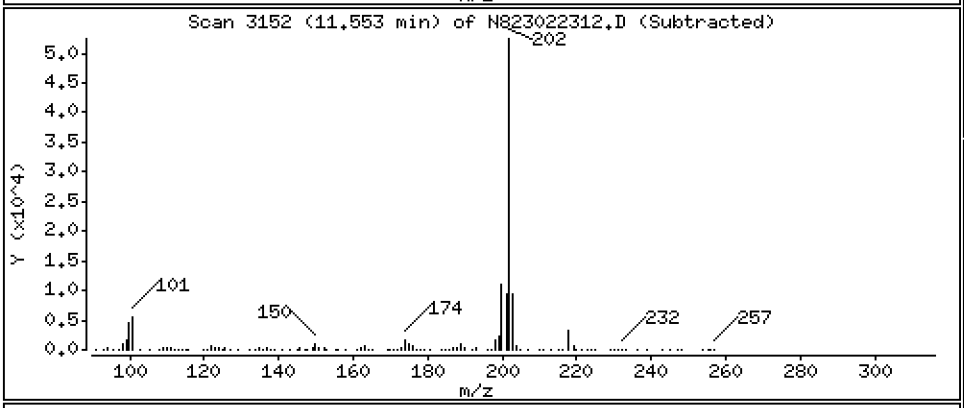
Column diameter: 0.25

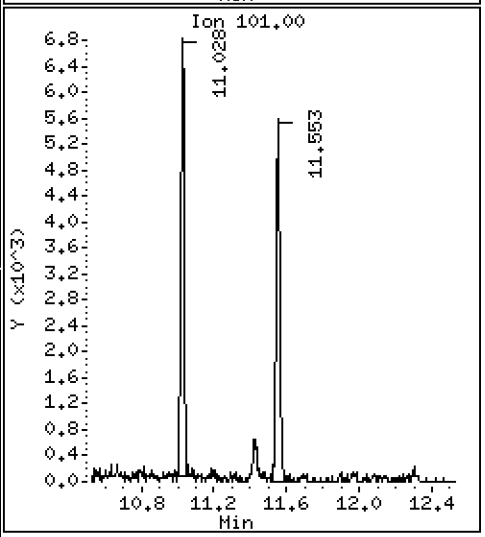
23 Pyrene

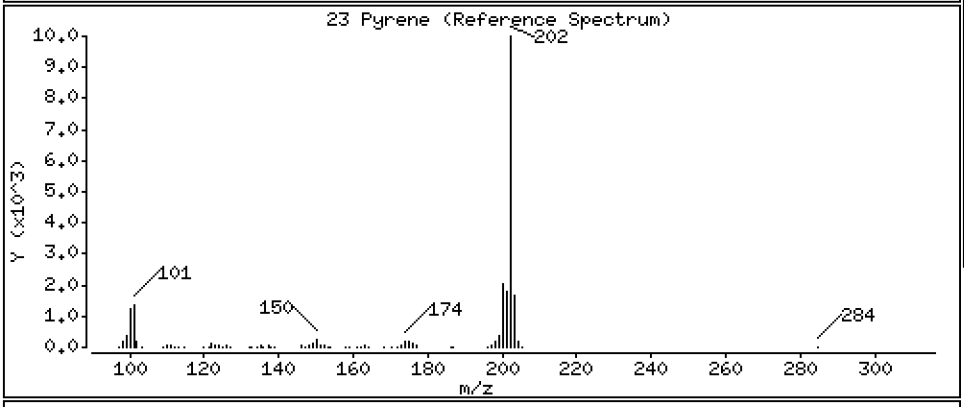
Concentration: 4.587 ug/mL

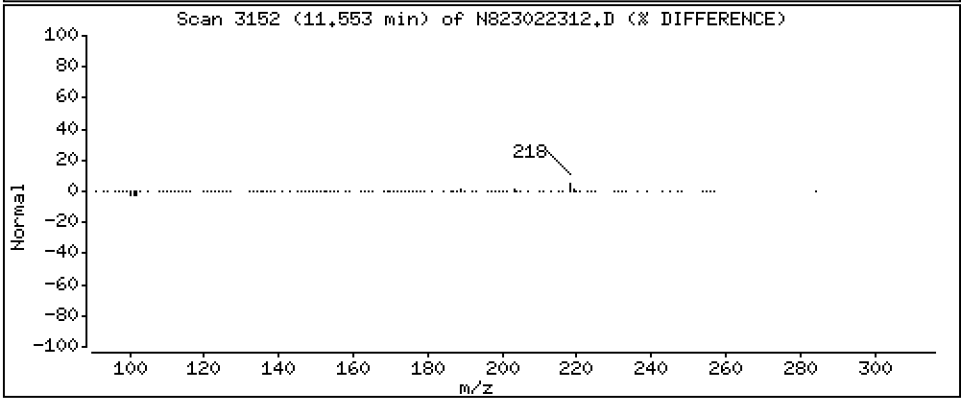












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Date : 23-FEB-2023 16:30

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-07

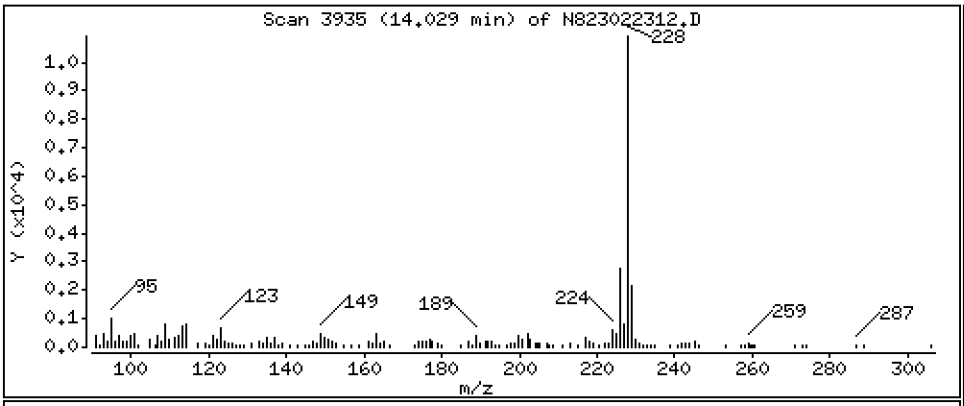
Operator: JZ

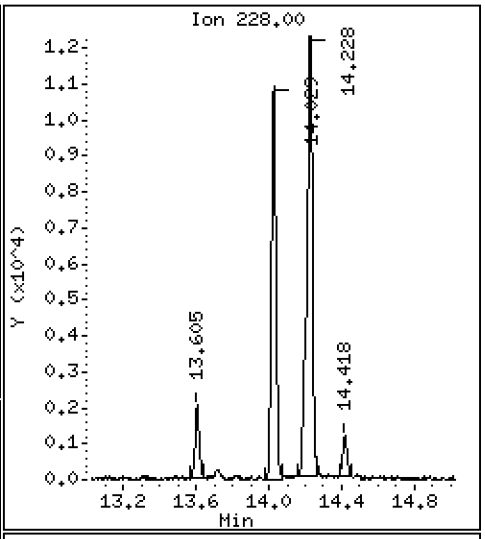
Column phase: Rxi-17sil

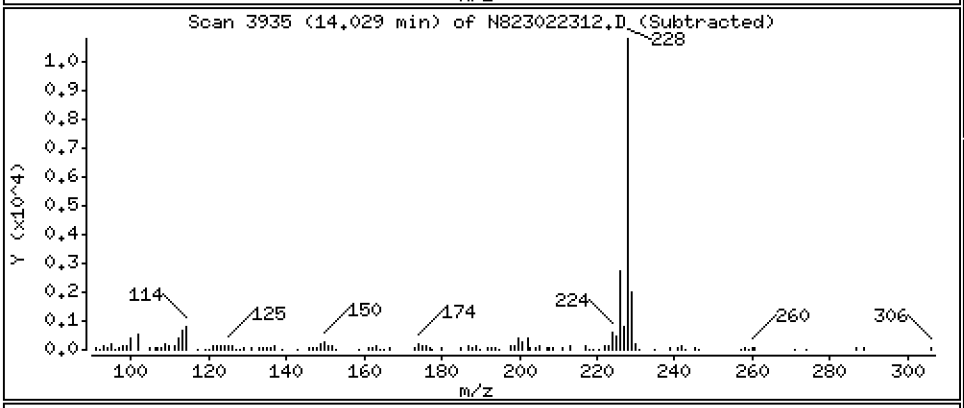
Column diameter: 0.25

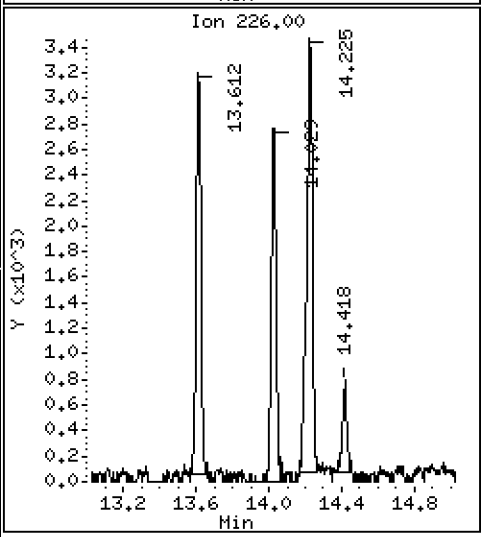
24 Benzo(a)anthracene

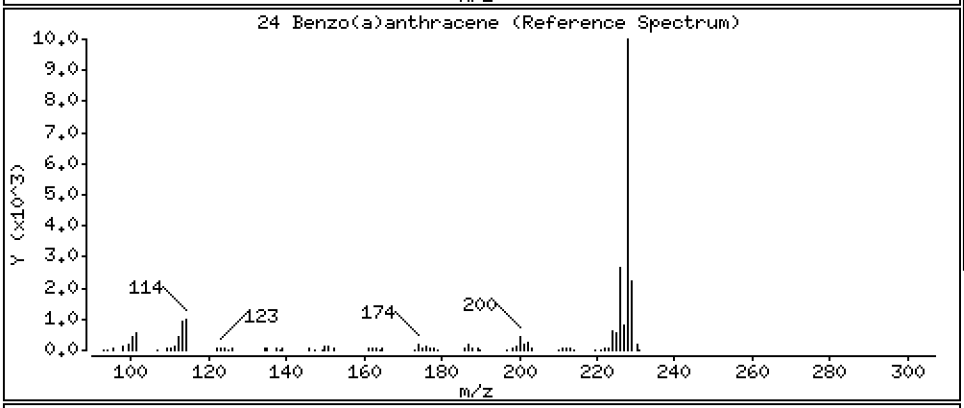
Concentration: 1.322 ug/mL

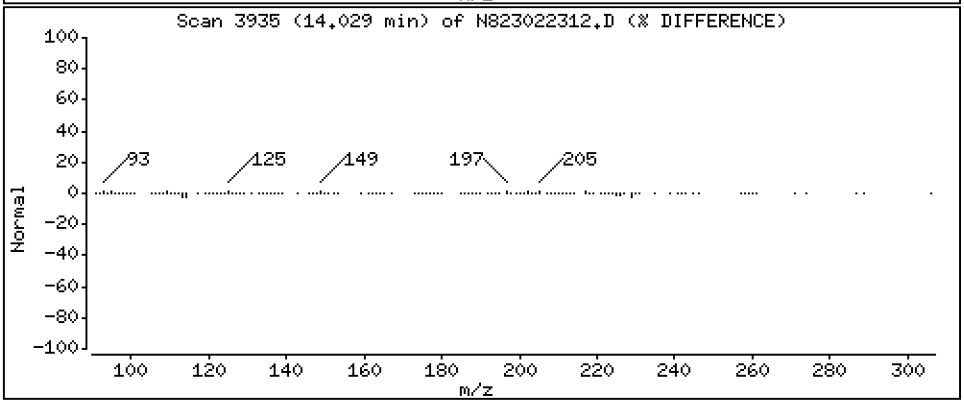












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Date : 23-FEB-2023 16:30

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-07

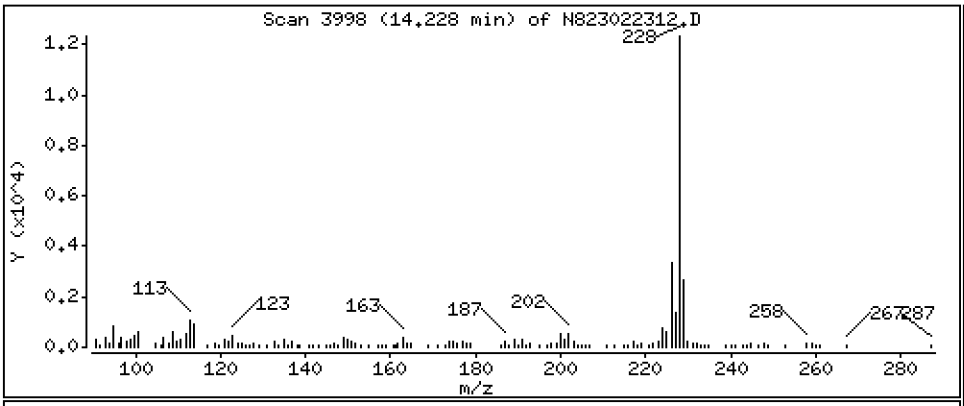
Operator: JZ

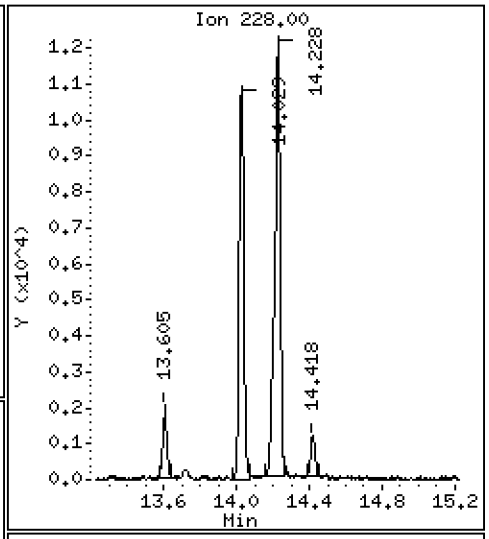
Column phase: Rxi-17sil

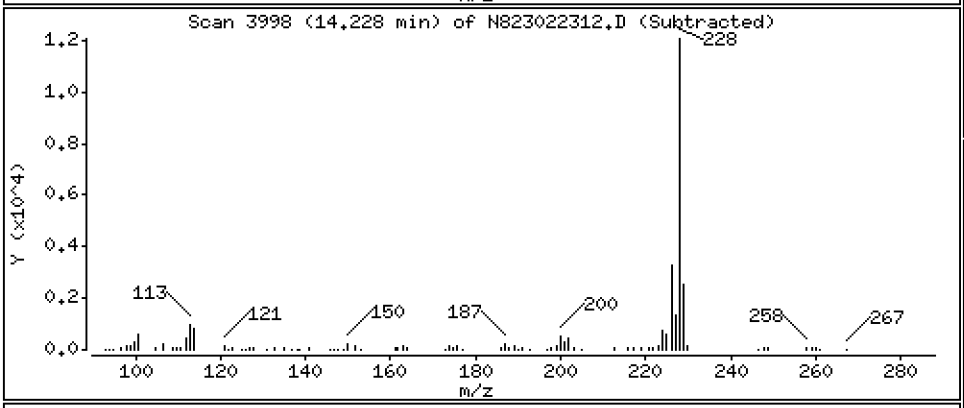
Column diameter: 0.25

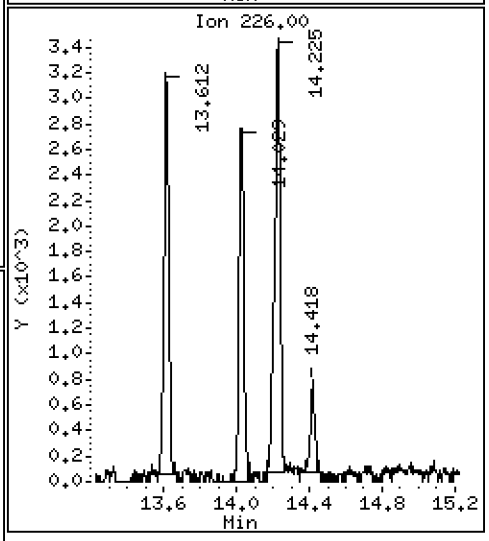
27 Chrysene

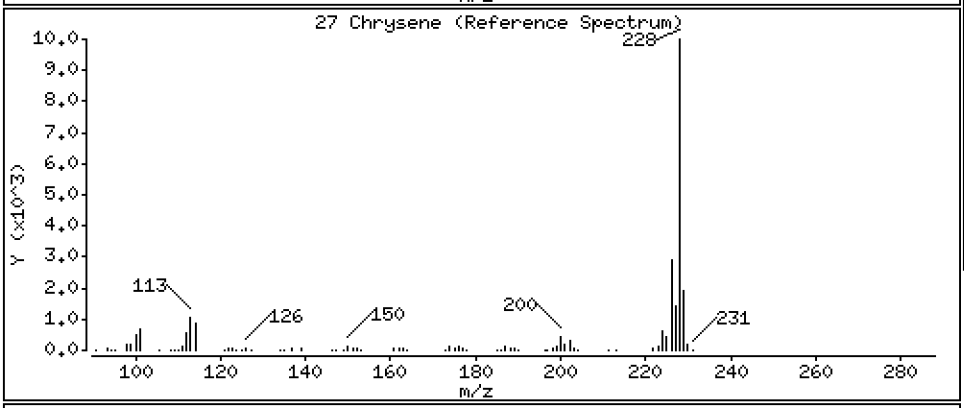
Concentration: 1.648 ug/mL

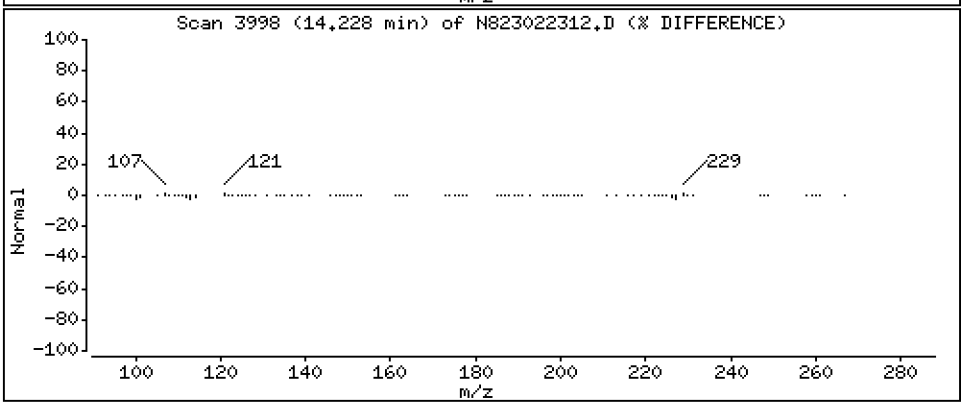












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Date : 23-FEB-2023 16:30

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-07

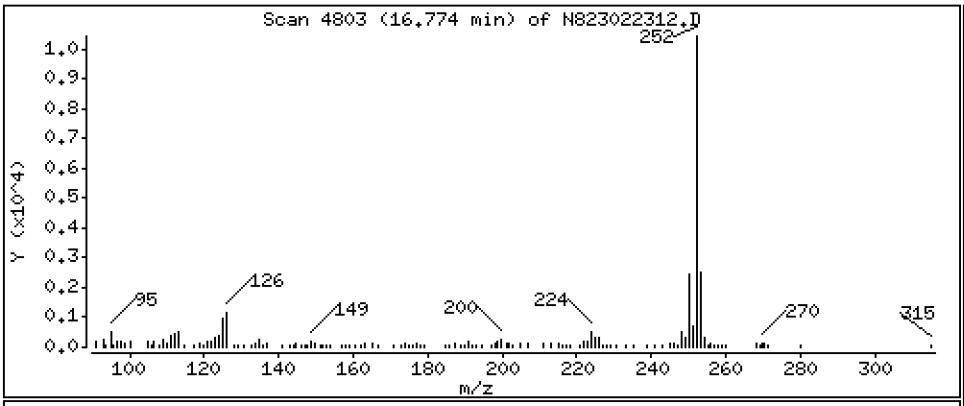
Operator: JZ

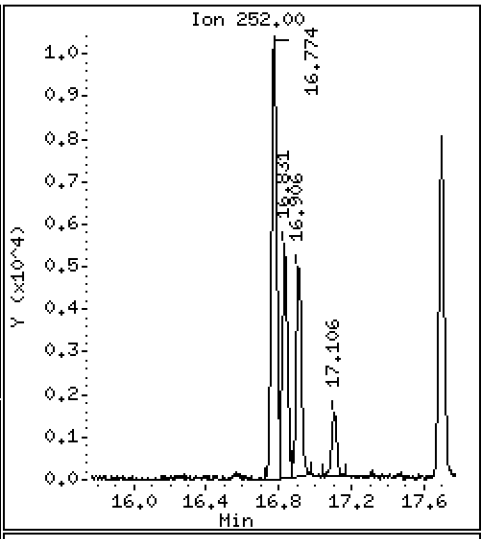
Column phase: Rxi-17sil

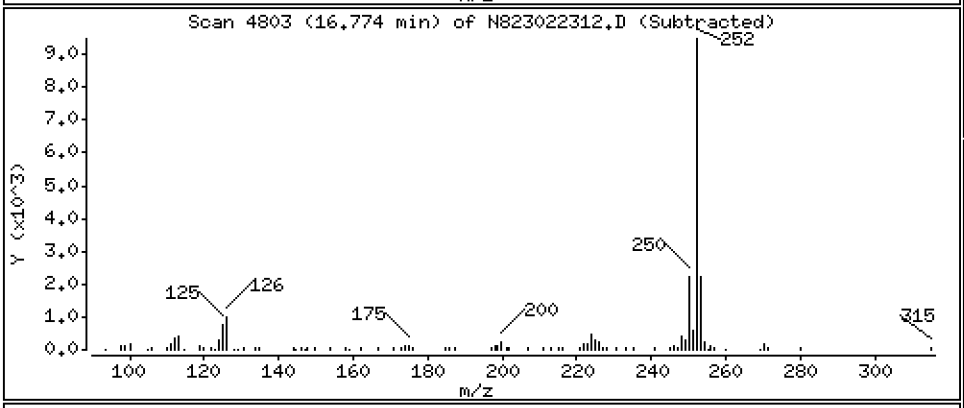
Column diameter: 0.25

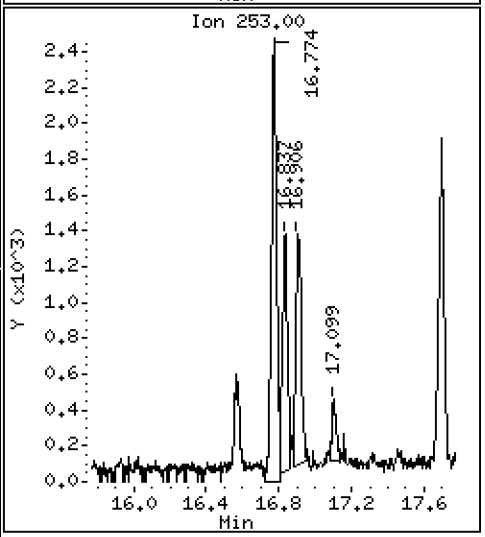
28 Benzo(b)fluoranthene

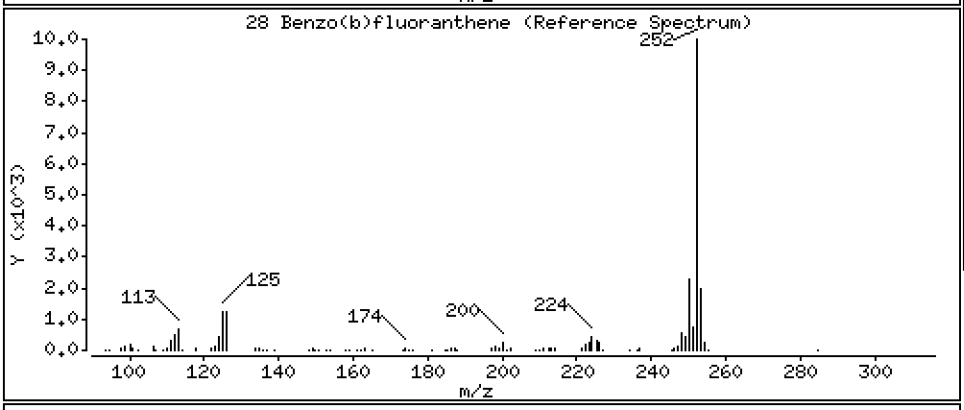
Concentration: 1.357 ug/mL

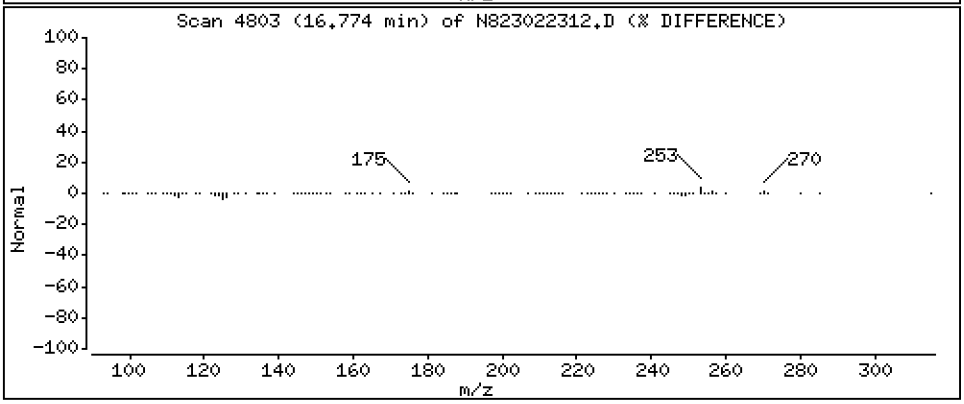












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Date : 23-FEB-2023 16:30

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-07

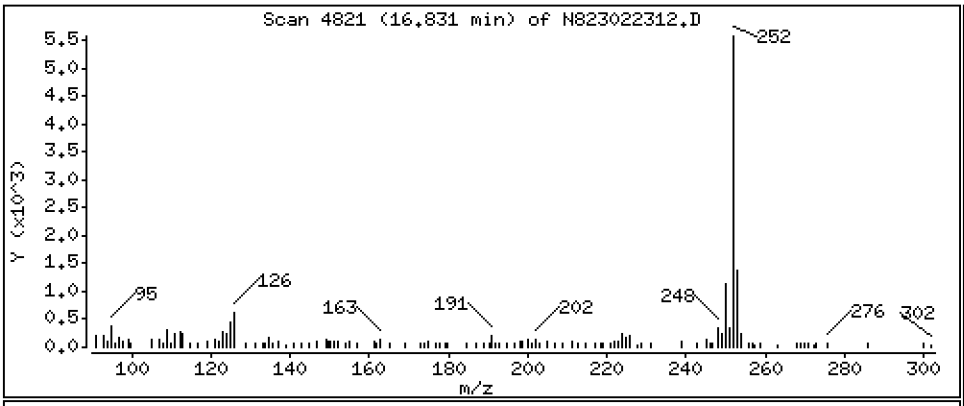
Operator: JZ

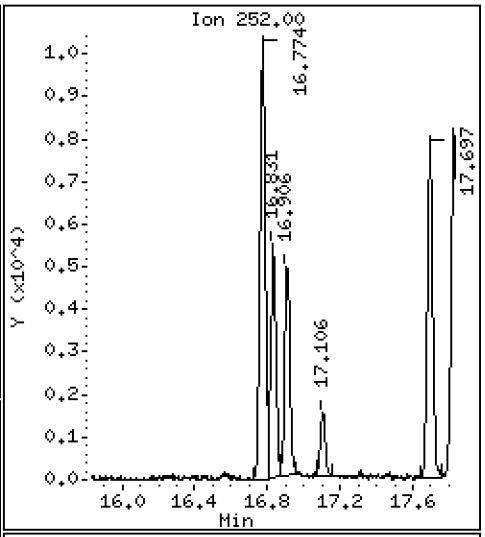
Column phase: Rxi-17sil

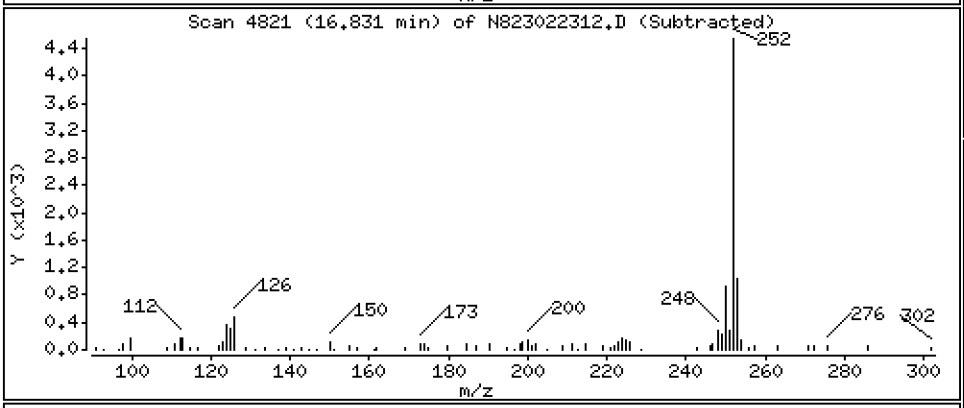
Column diameter: 0.25

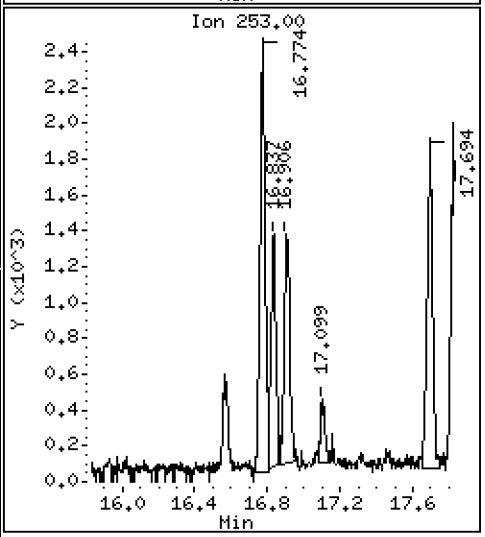
29 Benzo(k)fluoranthene

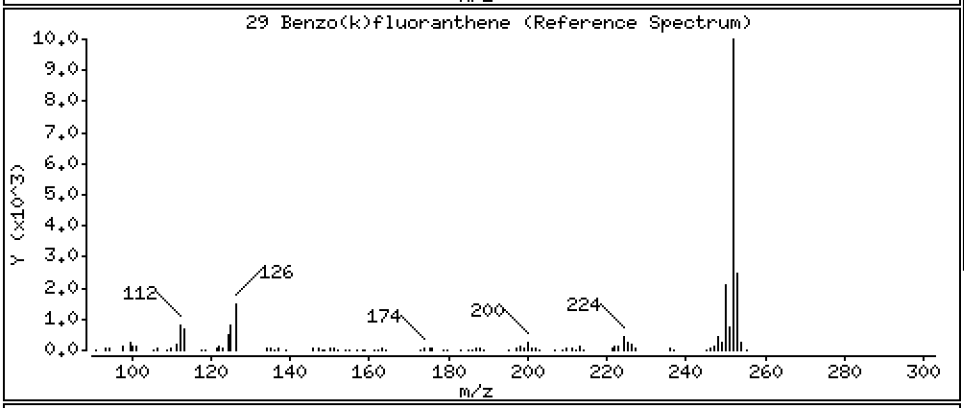
Concentration: 0.7197 ug/mL

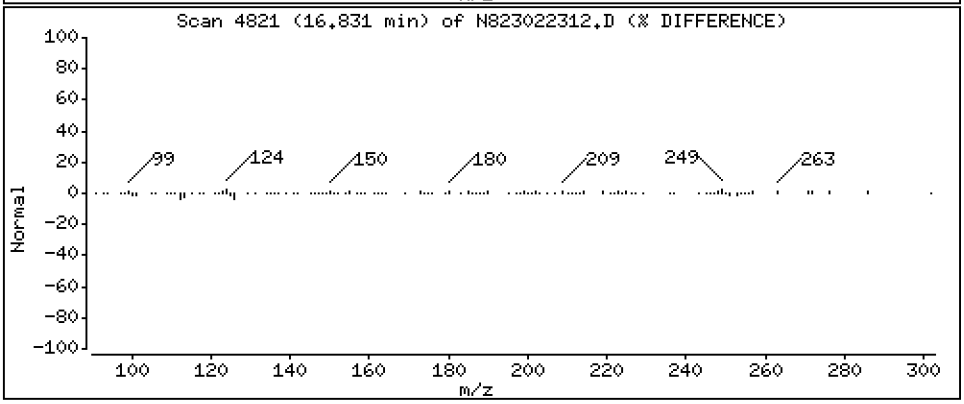












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Date : 23-FEB-2023 16:30

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-07

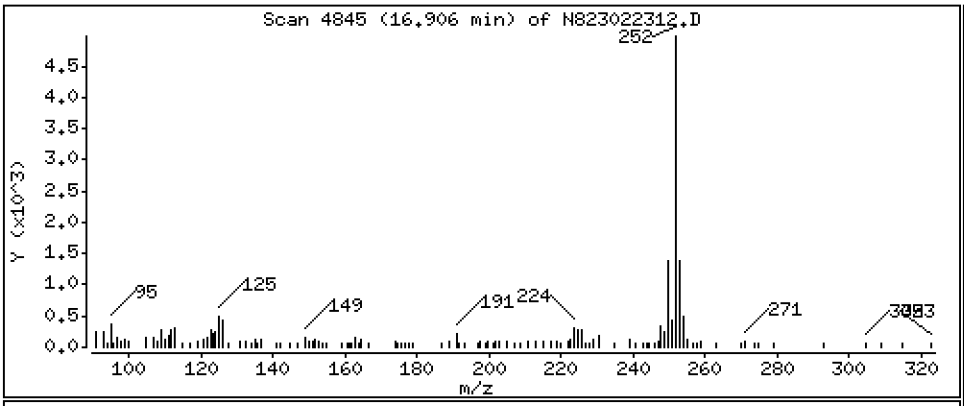
Operator: JZ

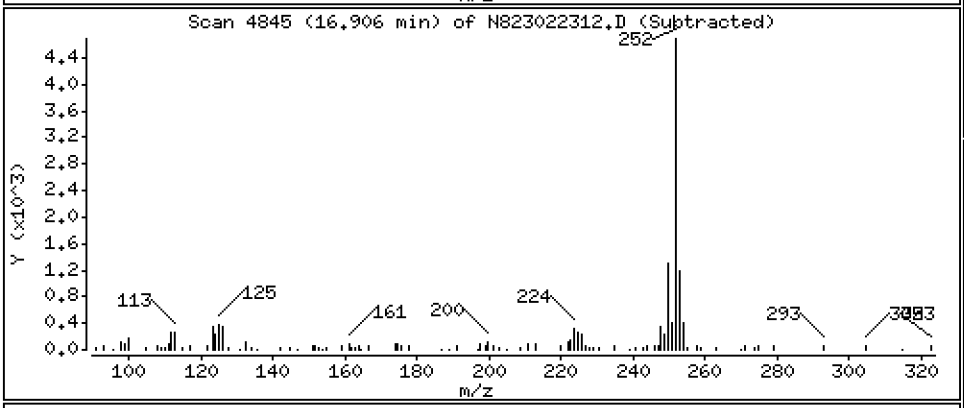
Column phase: Rxi-17sil

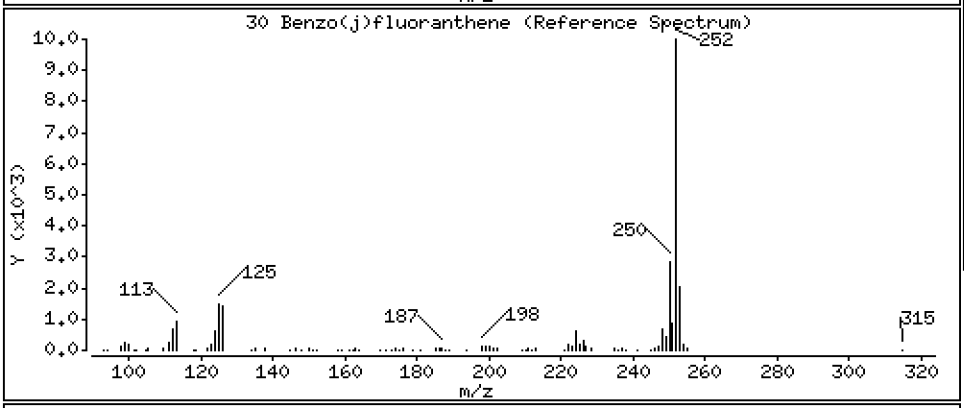
Column diameter: 0.25

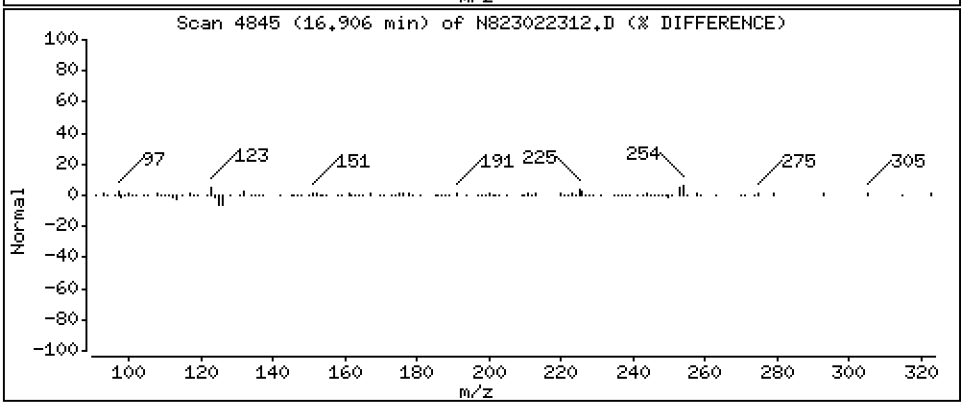
30 Benzo(j)fluoranthene

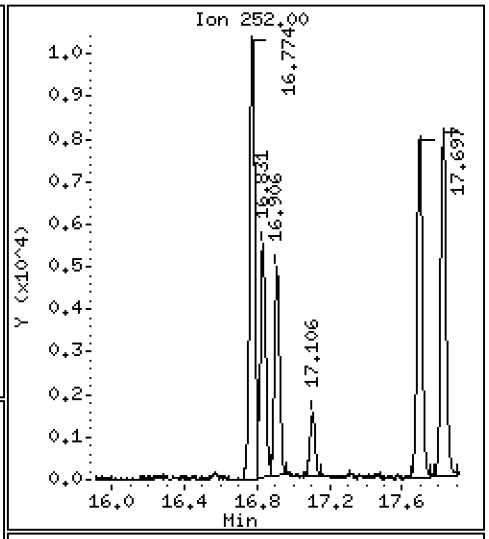
Concentration: 0.6966 ug/mL

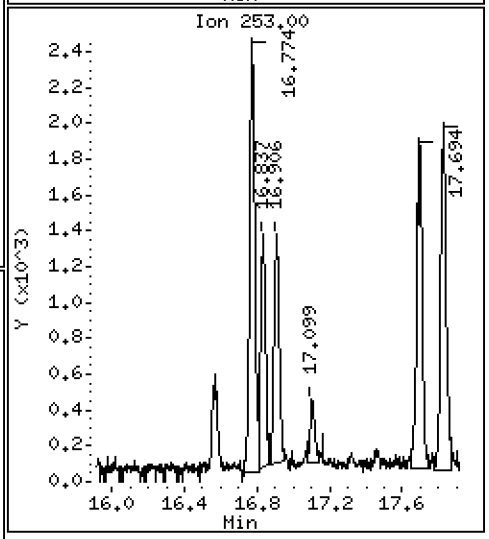












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Date : 23-FEB-2023 16:30

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-07

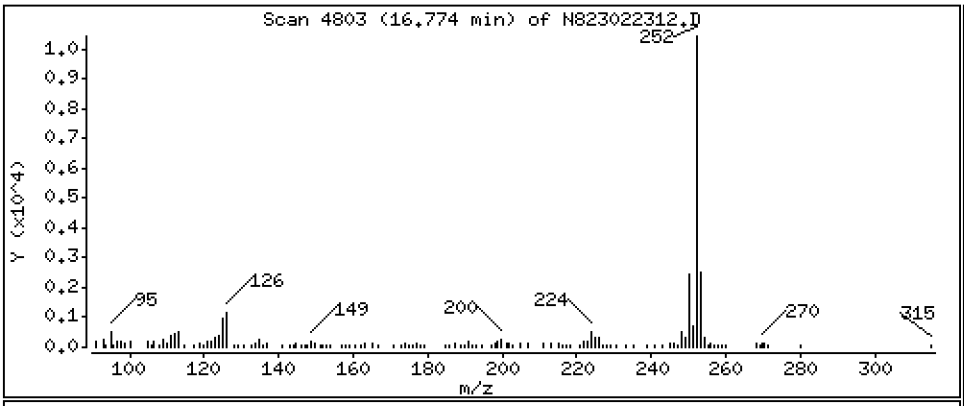
Operator: JZ

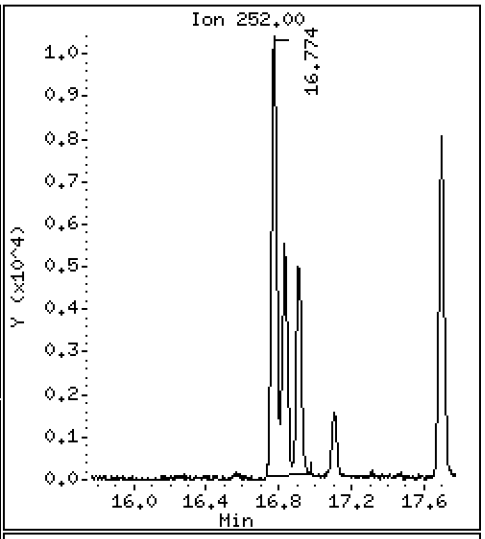
Column phase: Rxi-17sil

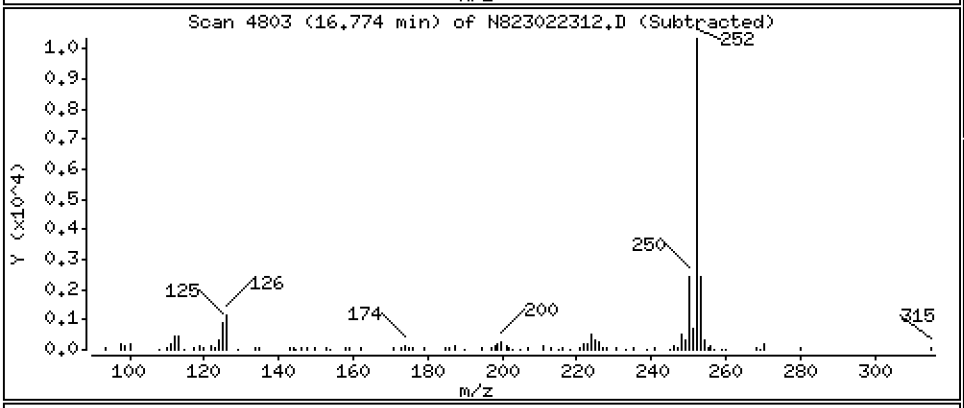
Column diameter: 0.25

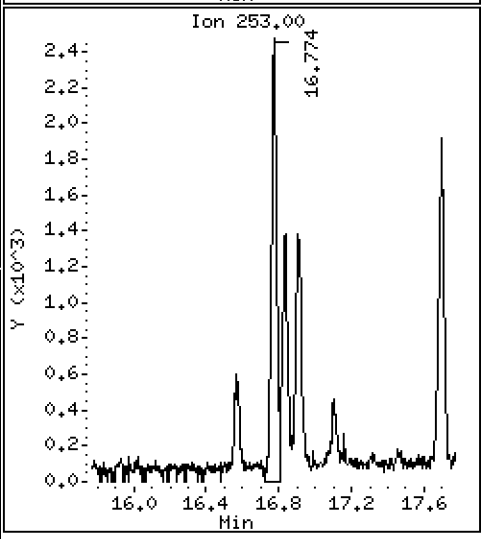
31 Total Benzofluoranthenes

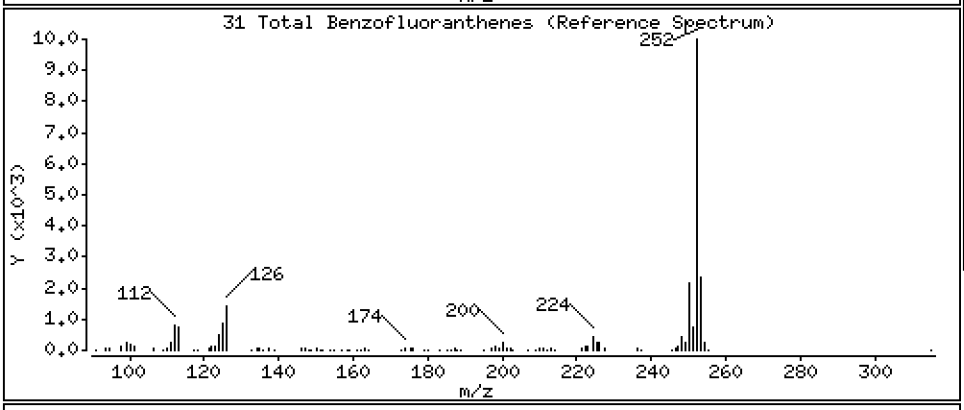
Concentration: 2.751 ug/mL

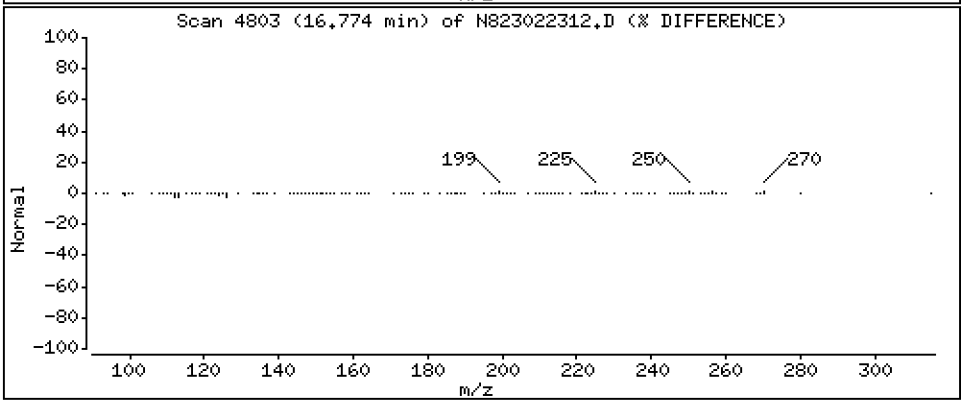












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Date : 23-FEB-2023 16:30

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-07

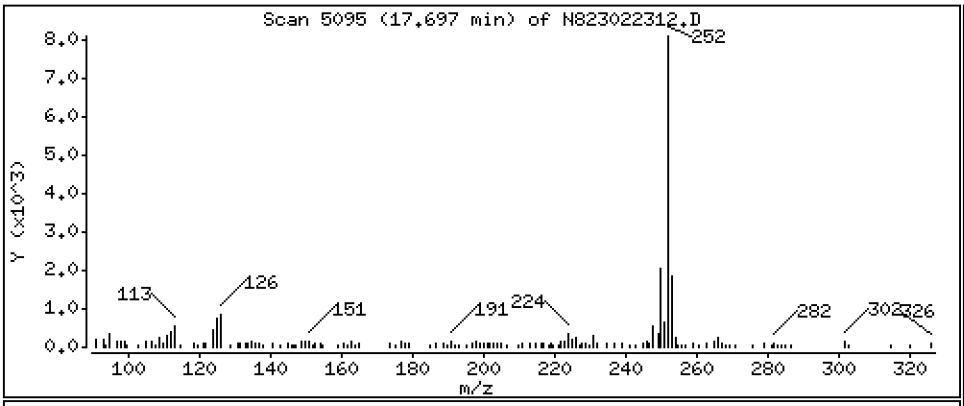
Operator: JZ

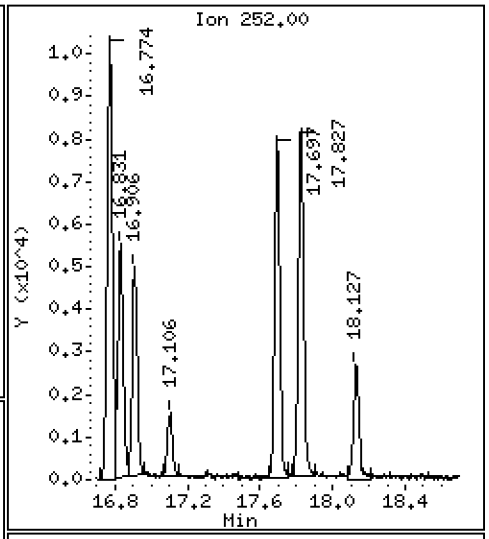
Column phase: Rxi-17sil

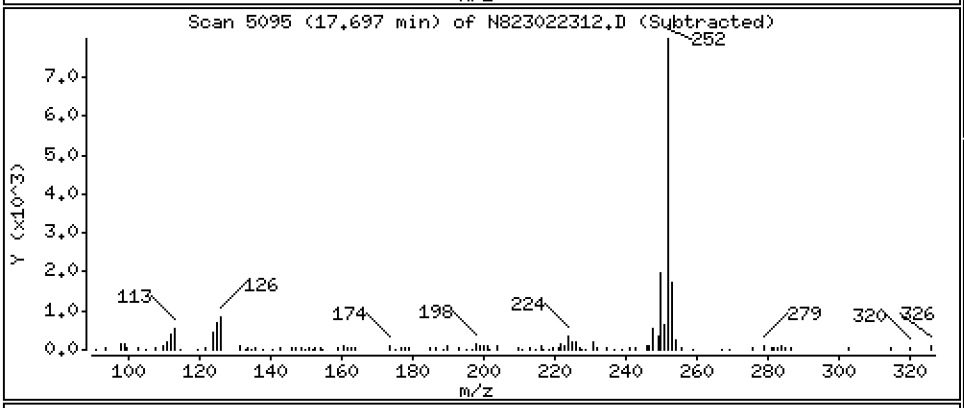
Column diameter: 0.25

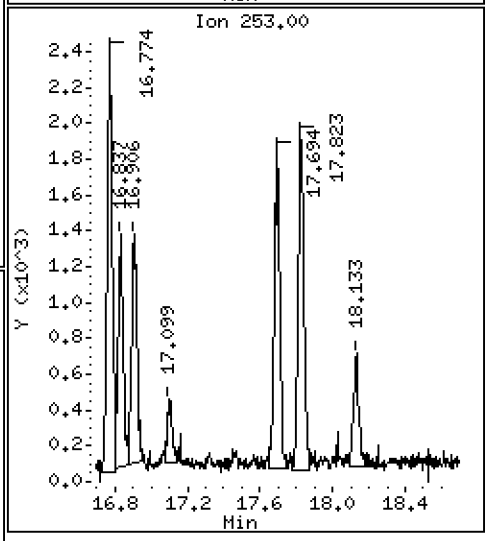
34 Benzo(e)pyrene

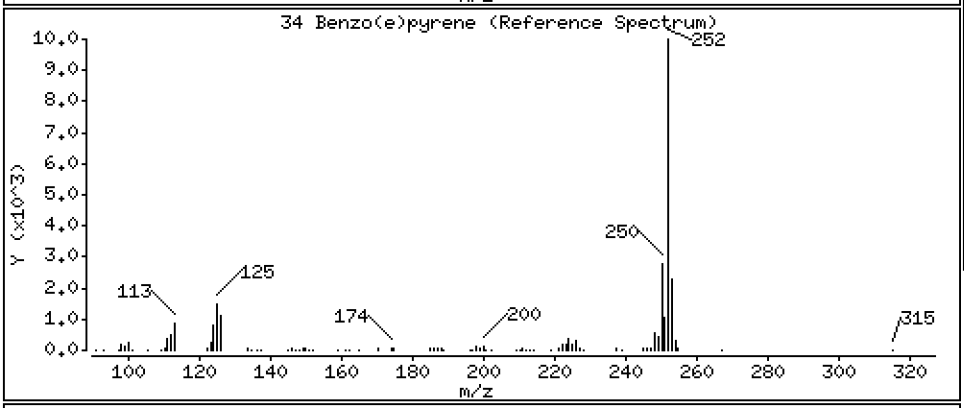
Concentration: 1.020 ug/mL

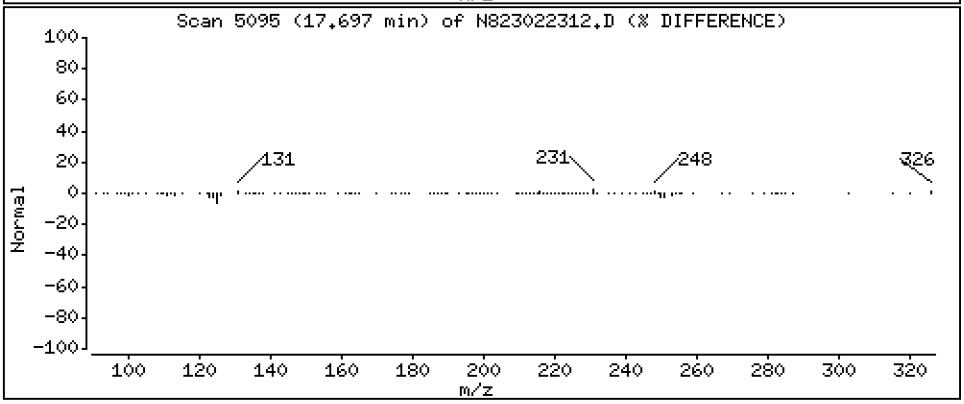












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Date : 23-FEB-2023 16:30

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-07

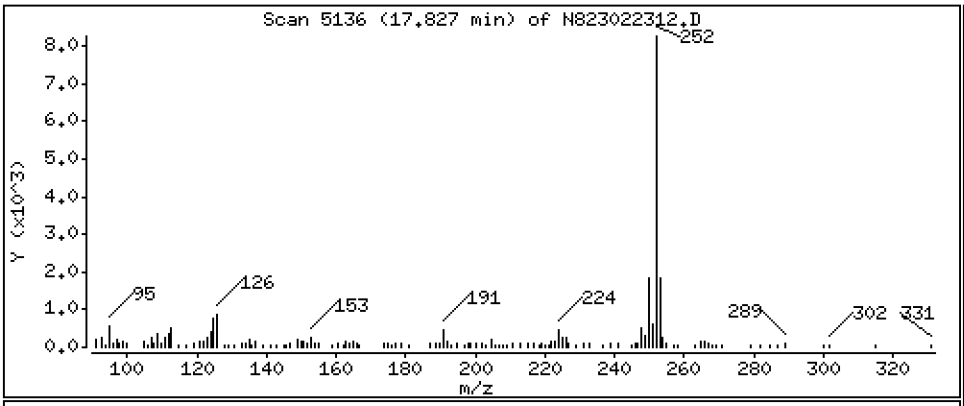
Operator: JZ

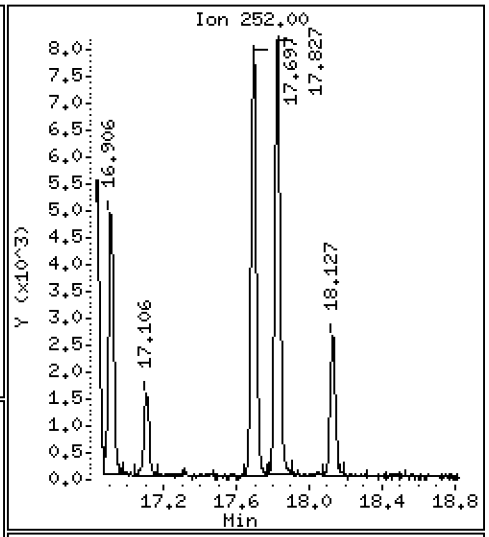
Column phase: Rxi-17sil

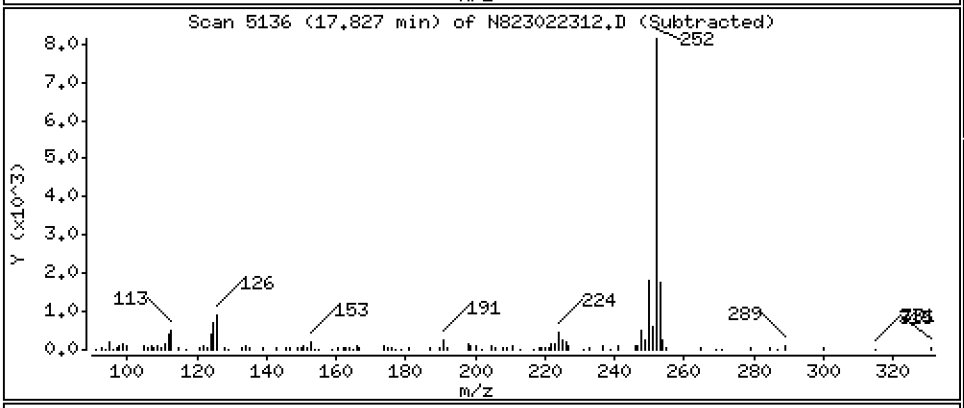
Column diameter: 0.25

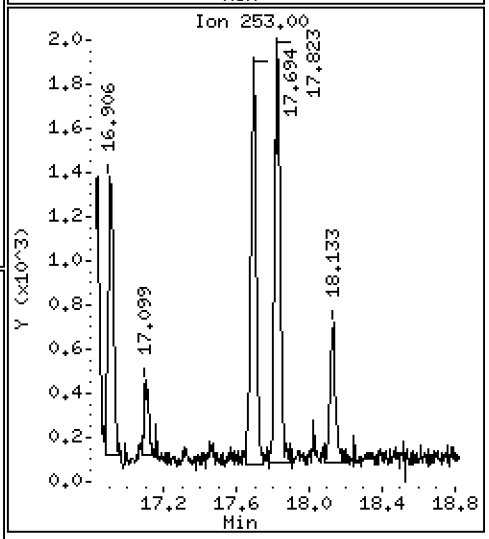
32 Benzo(a)pyrene

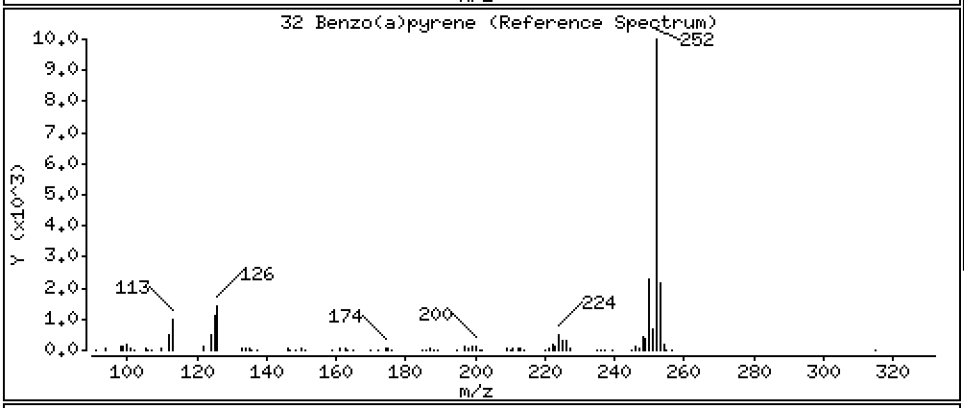
Concentration: 1.195 ug/mL

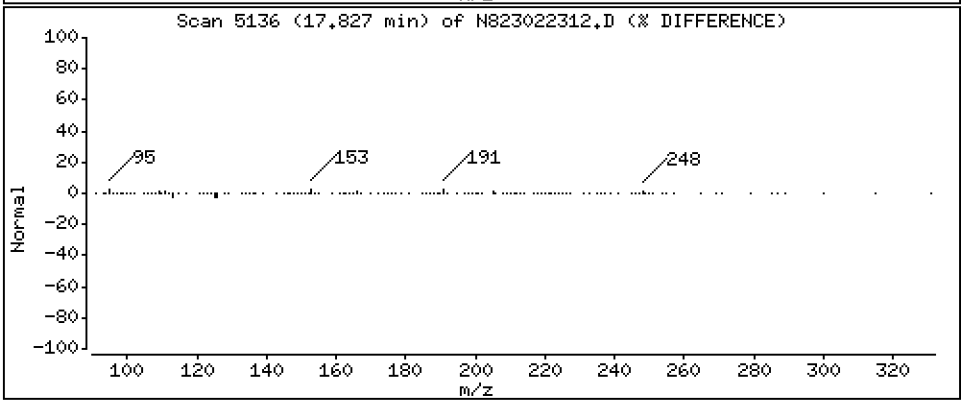












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Date : 23-FEB-2023 16:30

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-07

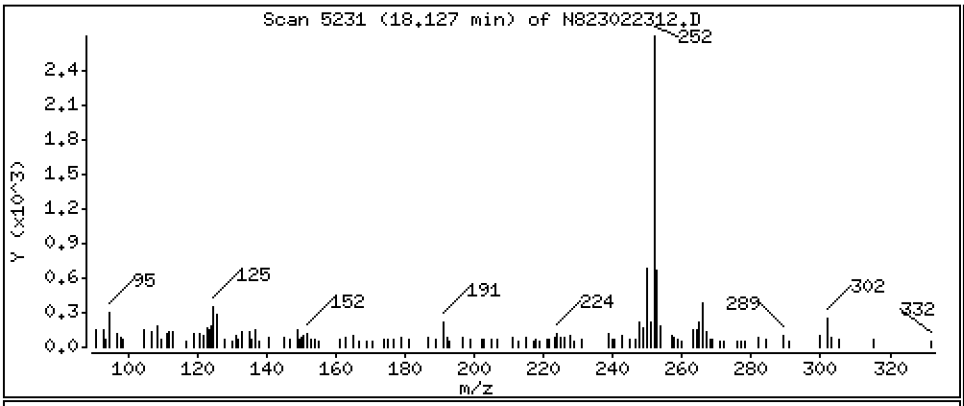
Operator: JZ

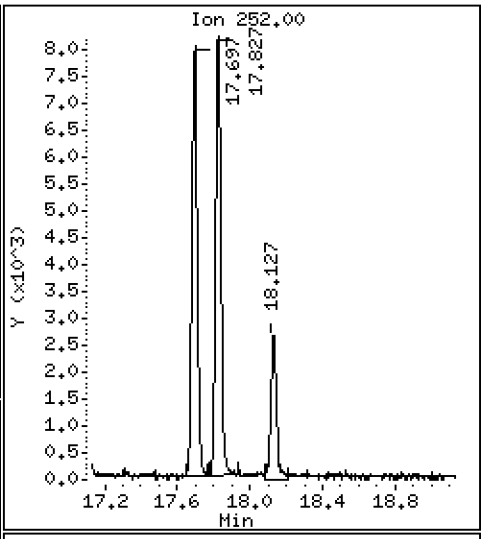
Column phase: Rxi-17sil

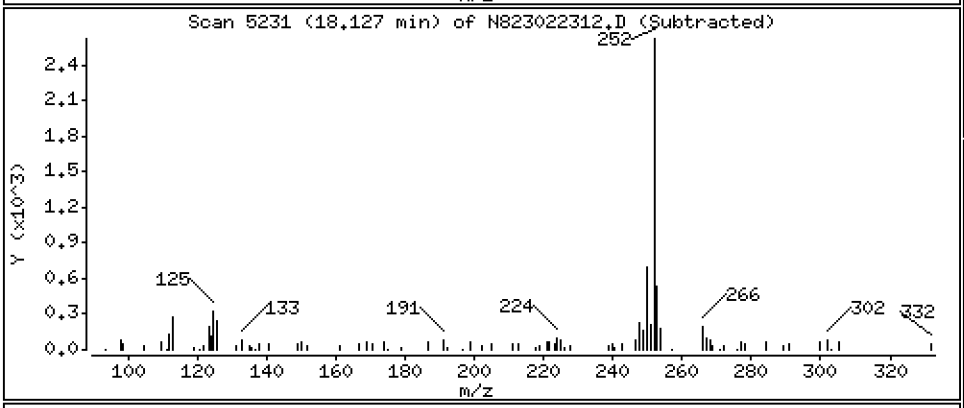
Column diameter: 0.25

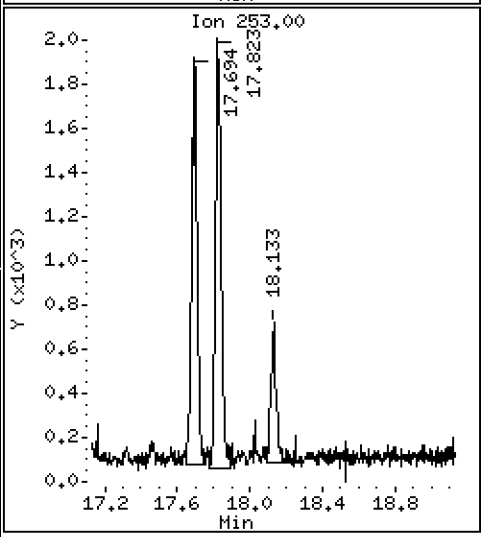
35 Perylene

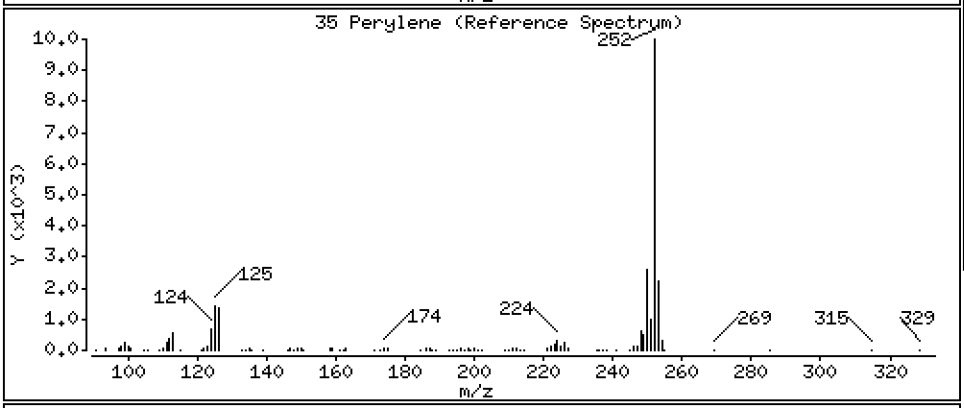
Concentration: 0.4118 ug/mL

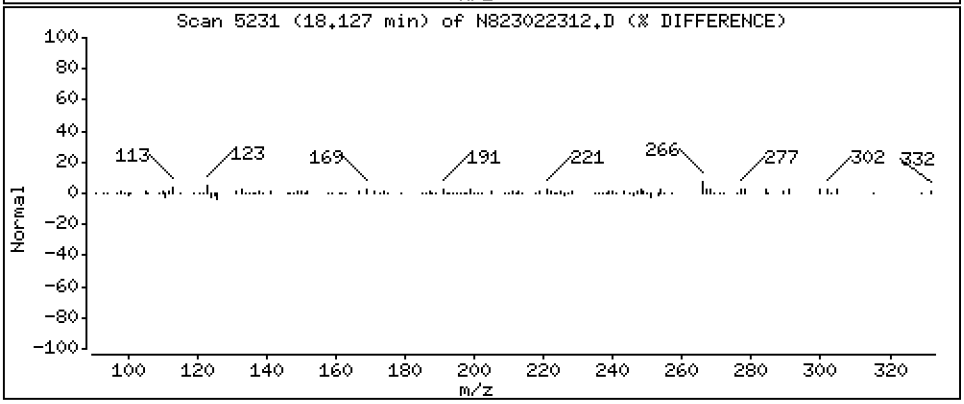












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Date : 23-FEB-2023 16:30

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-07

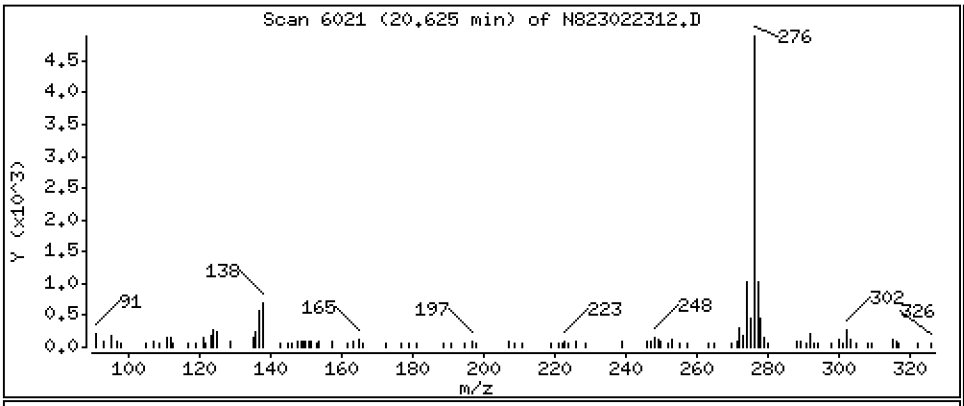
Operator: JZ

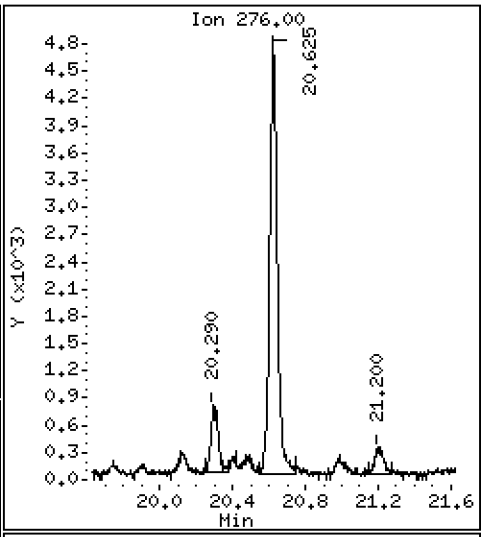
Column phase: Rxi-17sil

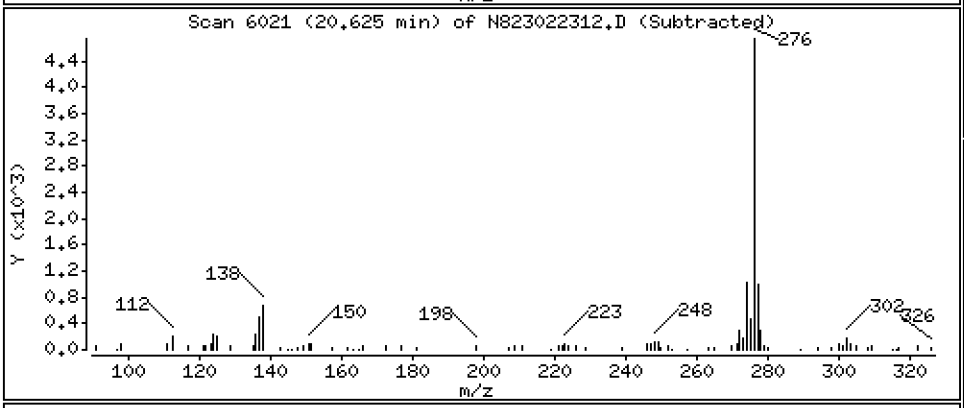
Column diameter: 0.25

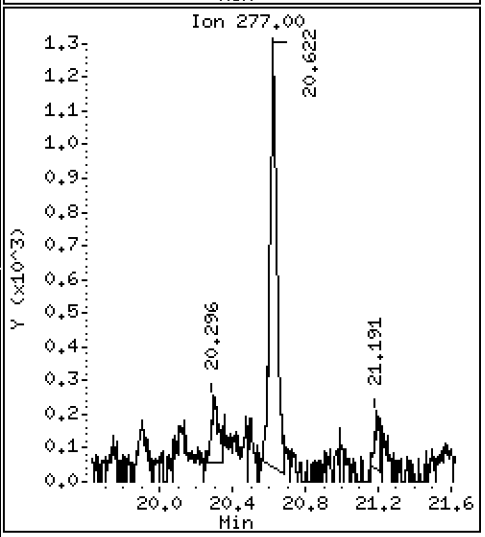
37 Indeno(1,2,3-cd)pyrene

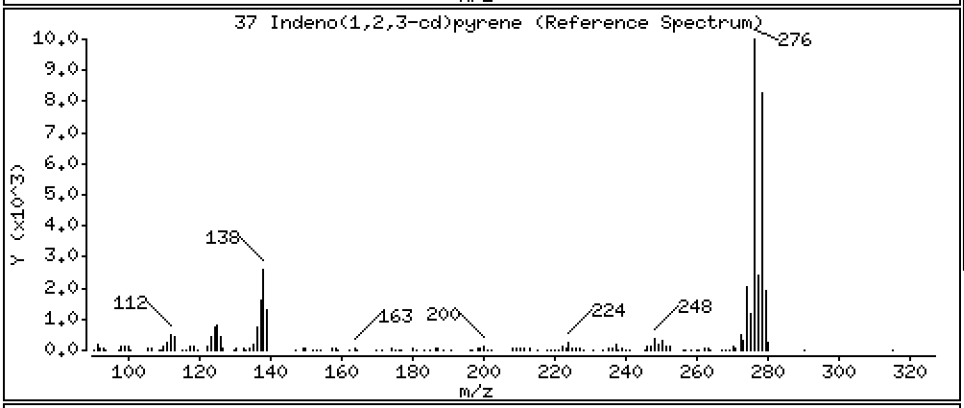
Concentration: 0.8813 ug/mL

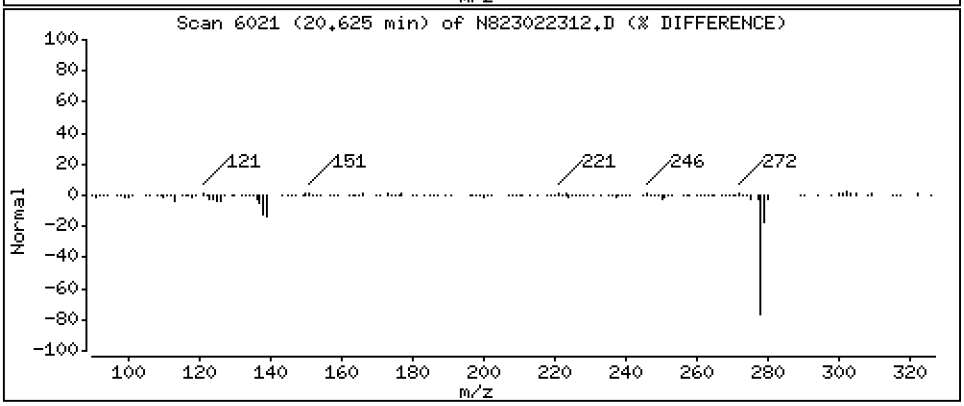












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Date : 23-FEB-2023 16:30

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-07

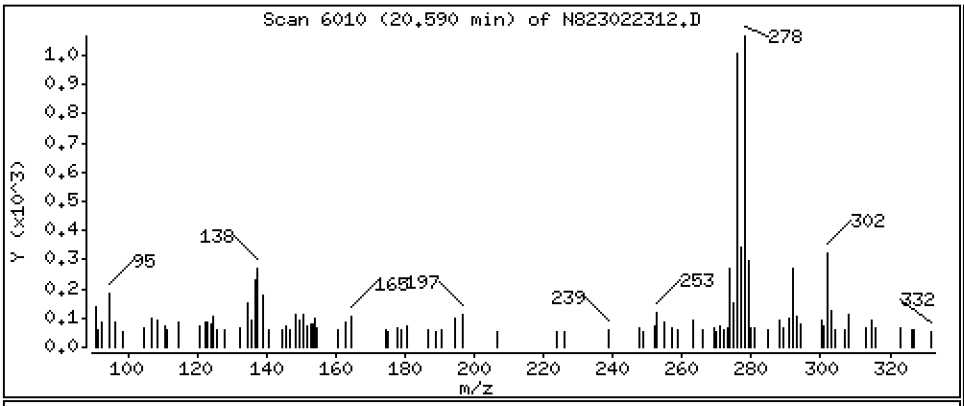
Operator: JZ

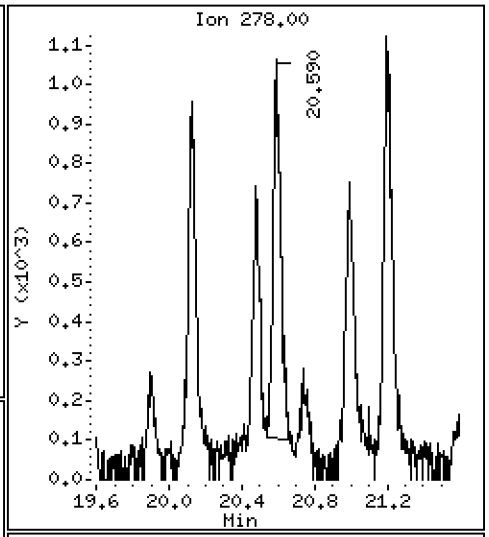
Column phase: Rxi-17sil

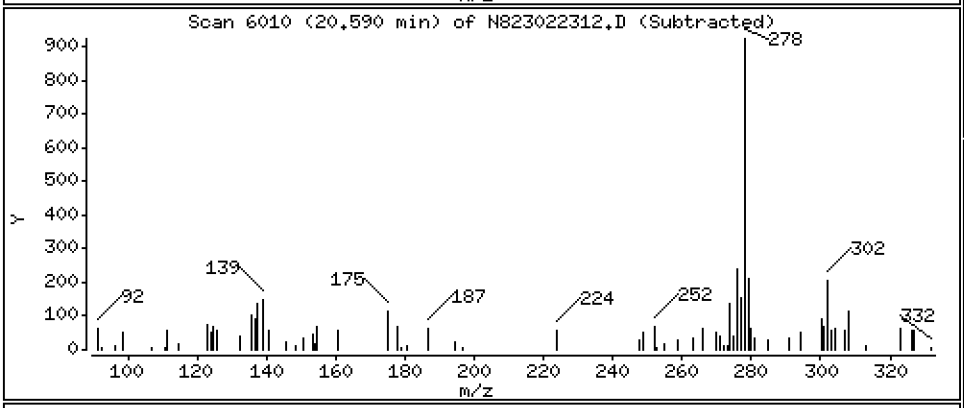
Column diameter: 0.25

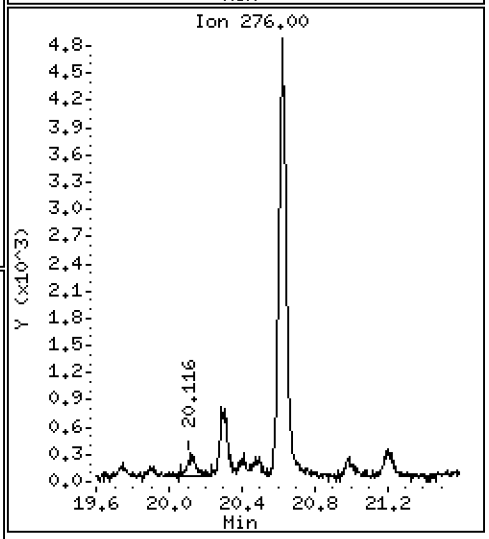
38 Dibenzo(a,h)anthracene

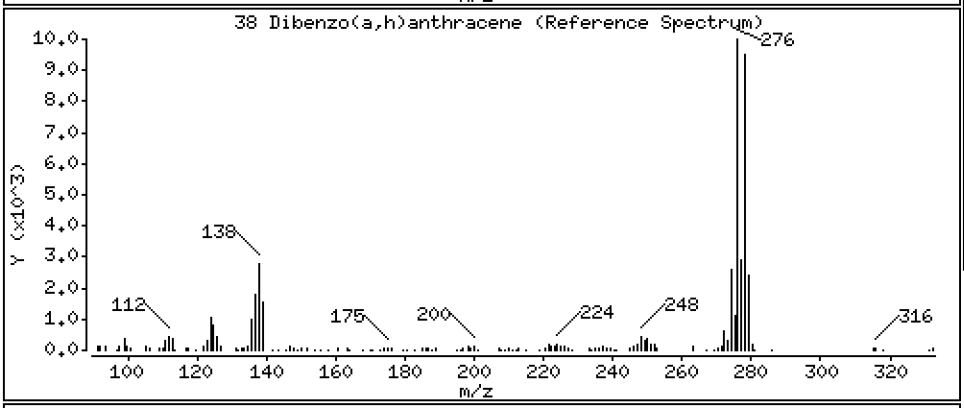
Concentration: 0.2062 ug/mL

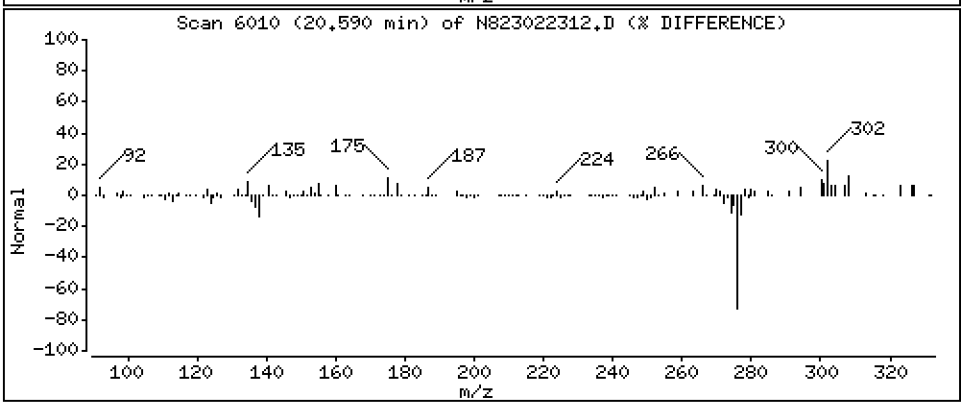












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Date : 23-FEB-2023 16:30

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-07

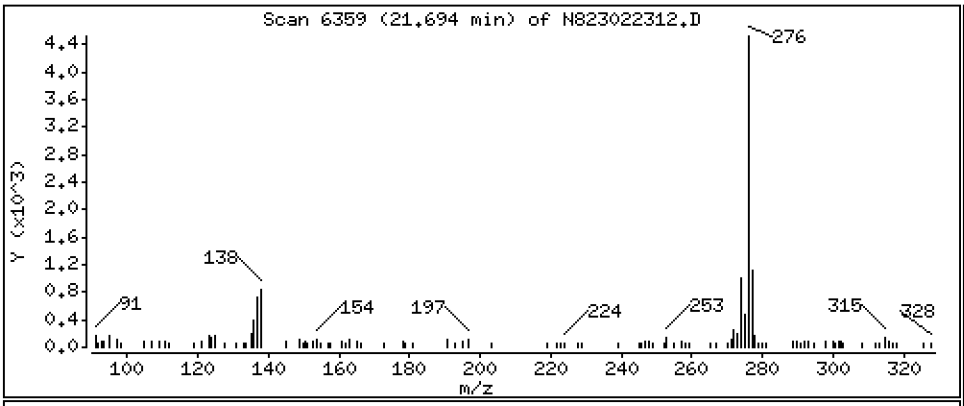
Operator: JZ

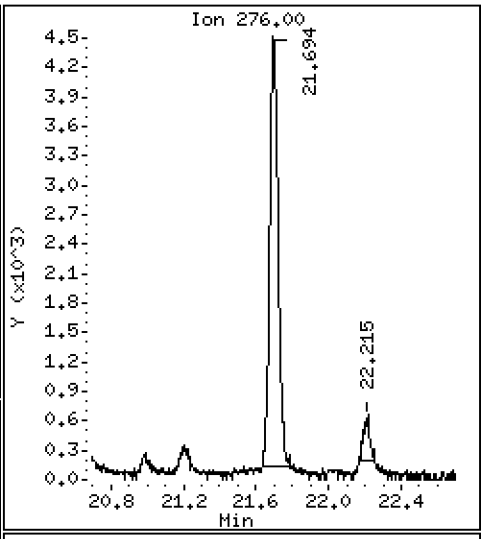
Column phase: Rxi-17sil

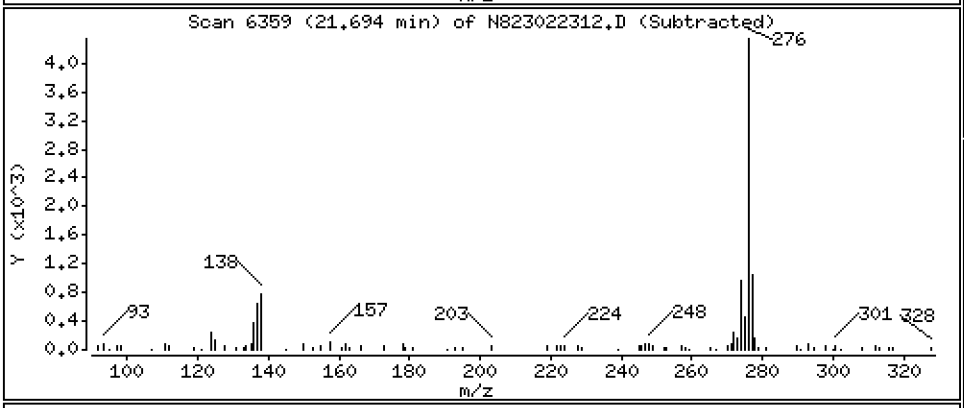
Column diameter: 0.25

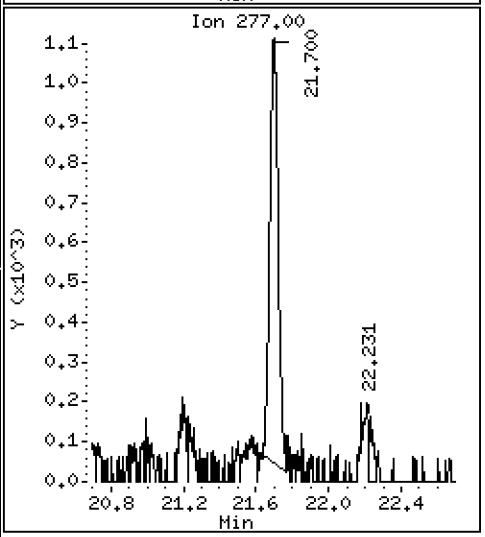
39 Benzo(g,h,i)perylene

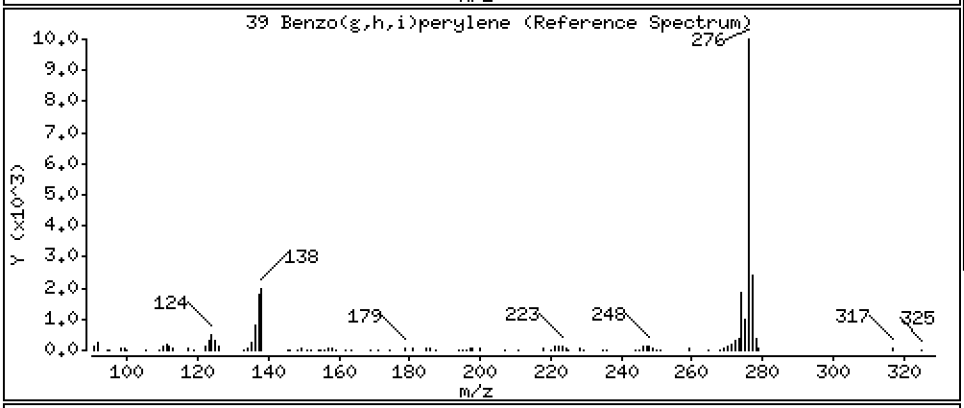
Concentration: 0.9948 ug/mL

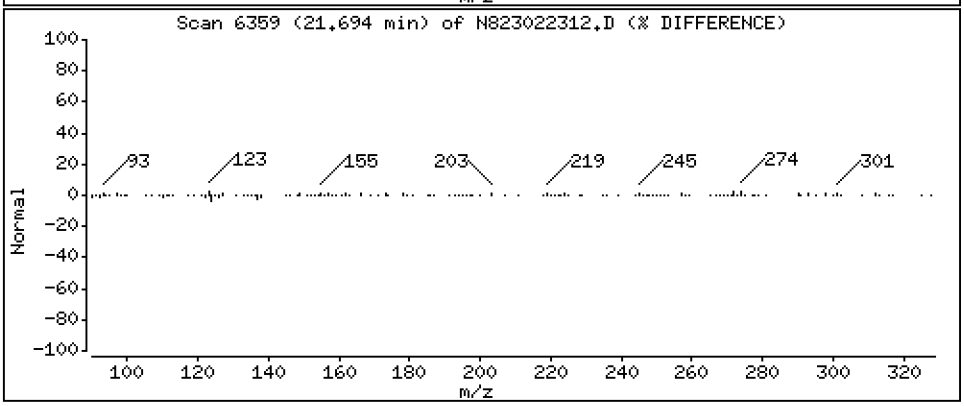












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

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Inj Date : 23-FEB-2023 16:30
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Smp Info : 23A0418-07
Misc Info : 23-
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Method   : \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Meth Date : 26-Feb-2023 12:40 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PNAXEMDL.sub
Target Version: 4.14
Processing Host: JIANQING-202105

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.862	4.871	(1.000)	36376	2.00000	
	2 Naphthalene	128	4.890	4.903	(1.006)	896	0.05298	0.05298
$	3 2-Methylnaphthalene-d10	152	5.599	5.605	(1.152)	25614	2.58189	2.582
	4 2-Methylnaphthalene	141	5.646	5.652	(1.161)	484	0.05202	0.05202
	5 1-methylnaphthalene	141	5.842	5.849	(1.202)	307	0.03251	0.03251
	9 Acenaphthylene	152	7.047	7.050	(0.985)	702	0.04133	0.04133(M)
*	10 Acenaphthene-d10	164	7.158	7.158	(1.000)	22491	2.00000	
	11 Acenaphthene	153	7.205	7.208	(1.007)	1137	0.09992	0.09992(M)
	12 Dibenzofuran	168	7.357	7.360	(1.028)	1018	0.05890	0.05890
	14 Fluorene	166	7.834	7.837	(1.095)	2041	0.15204	0.1520(M)
*	15 Phenanthrene-d10	188	9.200	9.197	(1.000)	42544	2.00000	
	16 Phenanthrene	178	9.235	9.235	(1.004)	24876	1.19701	1.197
	17 Anthracene	178	9.276	9.276	(1.008)	38274	2.02735	2.027
	19 Carbazole	167	9.791	9.791	(1.064)	10542	0.60911	0.6091
	22 Fluoranthene	202	11.028	11.009	(1.199)	86799	3.83707	3.837
$	21 Fluoranthene-d10	212	10.987	10.971	(1.194)	61162	3.25845	3.258
	23 Pyrene	202	11.553	11.527	(0.816)	74732	4.58722	4.587
	24 Benzo(a)anthracene	228	14.029	14.025	(0.991)	19516	1.32167	1.322
*	25 Chrysene-d12	240	14.155	14.152	(1.000)	26277	2.00000	
	27 Chrysene	228	14.228	14.225	(1.005)	25902	1.64778	1.648
	28 Benzo(b)fluoranthene	252	16.773	16.770	(0.929)	21358	1.35687	1.357
	29 Benzo(k)fluoranthene	252	16.830	16.833	(0.932)	11096	0.71968	0.7197
	30 Benzo(j)fluoranthene	252	16.906	16.912	(0.936)	9669	0.69662	0.6966
	31 Total Benzofluoranthenes	252	16.773	16.770	(0.929)	41012	2.75115	2.751(M)
	34 Benzo(e)pyrene	252	17.696	17.696	(0.980)	16018	1.02048	1.020
	32 Benzo(a)pyrene	252	17.826	17.826	(0.987)	16558	1.19538	1.195
*	33 Perylene-d12	264	18.057	18.057	(1.000)	27027	2.00000	
	35 Perylene	252	18.126	18.130	(1.004)	6121	0.41179	0.4118
$	36 Dibenzo(a,h)anthracene-d14	292	20.482	20.485	(1.134)	36166	3.41519	3.415
	37 Indeno(1,2,3-cd)pyrene	276	20.624	20.624	(1.142)	13907	0.88128	0.8813
	38 Dibenzo(a,h)anthracene	278	20.590	20.596	(1.140)	2800	0.20618	0.2062(M)
	39 Benzo(g,h,i)perylene	276	21.693	21.696	(1.201)	14223	0.99479	0.9948

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823022312.D
Lab Smp Id: 23A0418-07
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 23-FEB-2023
Calibration Time: 11:46
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	37022	18511	74044	36376	-1.74
10 Acenaphthene-d10	22454	11227	44908	22491	0.16
15 Phenanthrene-d10	43277	21639	86554	42544	-1.69
25 Chrysene-d12	38907	19454	77814	26277	-32.46
33 Perylene-d12	39582	19791	79164	27027	-31.72

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.87	4.37	5.37	4.86	-0.19
10 Acenaphthene-d10	7.16	6.66	7.66	7.16	0.00
15 Phenanthrene-d10	9.20	8.70	9.70	9.20	0.03
25 Chrysene-d12	14.15	13.65	14.65	14.16	0.02
33 Perylene-d12	18.06	17.56	18.56	18.06	0.00

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

REVIEW SUMMARY FOR FILE - N823022312.D

Lab ID: 23A0418-07
nt8.i, 20230223.b\FSIMPNA230119.m,   23-FEB-2023 16:30

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

No RRT check performed

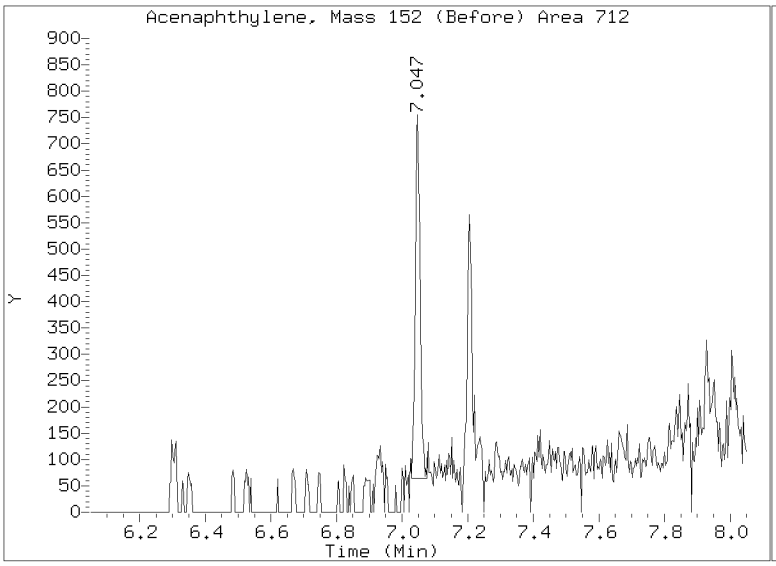
On Column LOD for nt8.i, 20230223.b\FSIMPNA230119.m, PNAXEMDL.sub = 0.0080

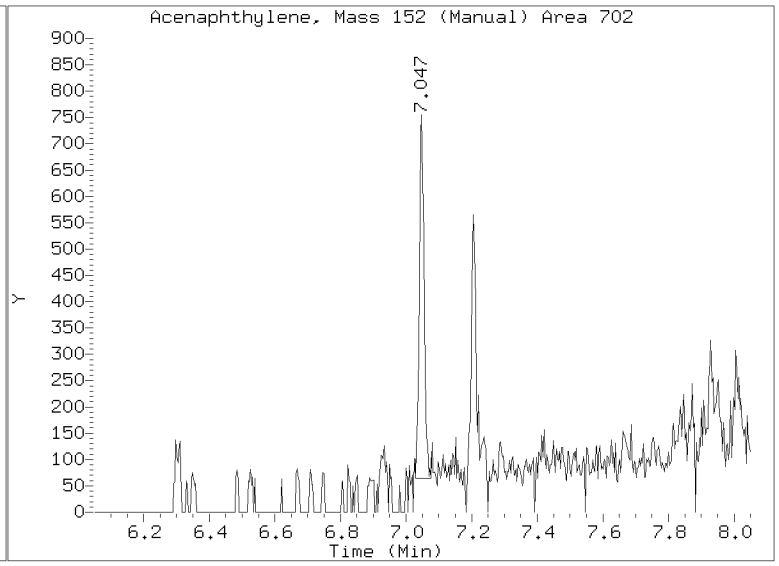
Exception: Benzo(e)pyrene 0.0800

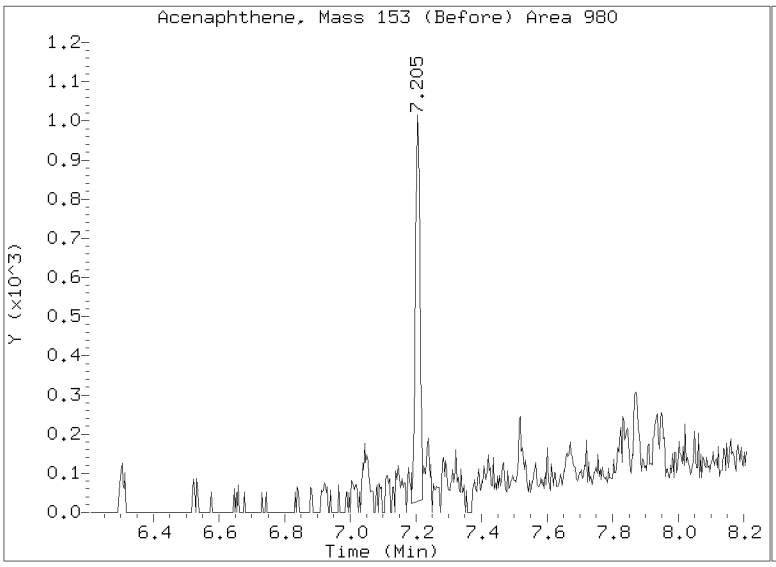
* Only compounds listed in the work order have been verified by the analyst *

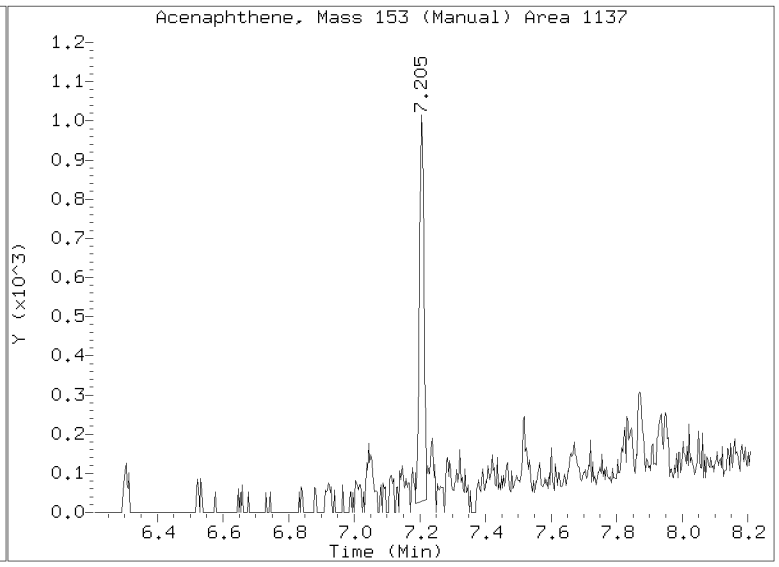
Quant Ion Manual Peak Adjustment Report

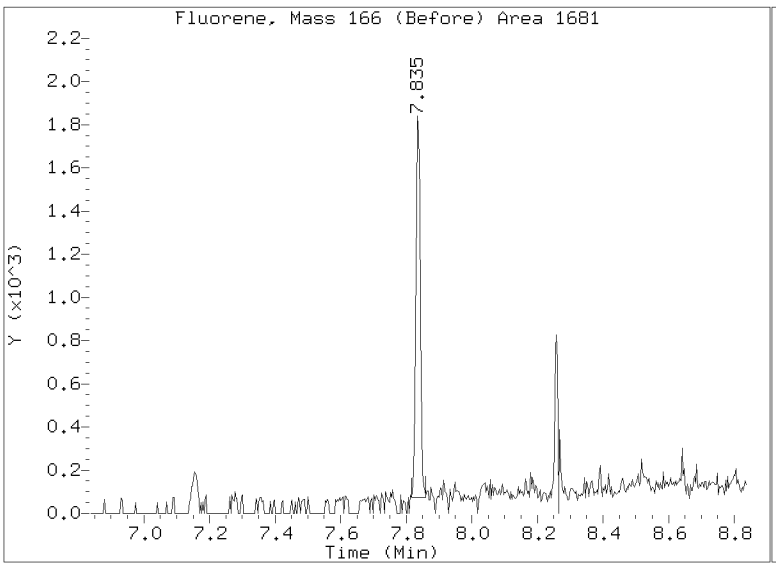
Datafile: //target/share/chem3/nt8.i/20230223.b/N823022312.D
Injection Date: 23-FEB-2023 16:30
Lab ID:23A0418-07 Client ID:
Report Date: 02/26/2023 14:18

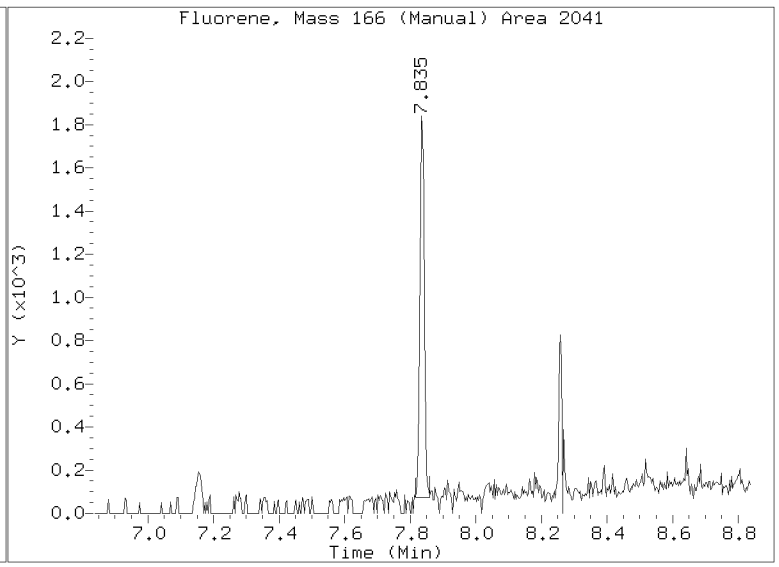












Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20230223.b/N823022312.D
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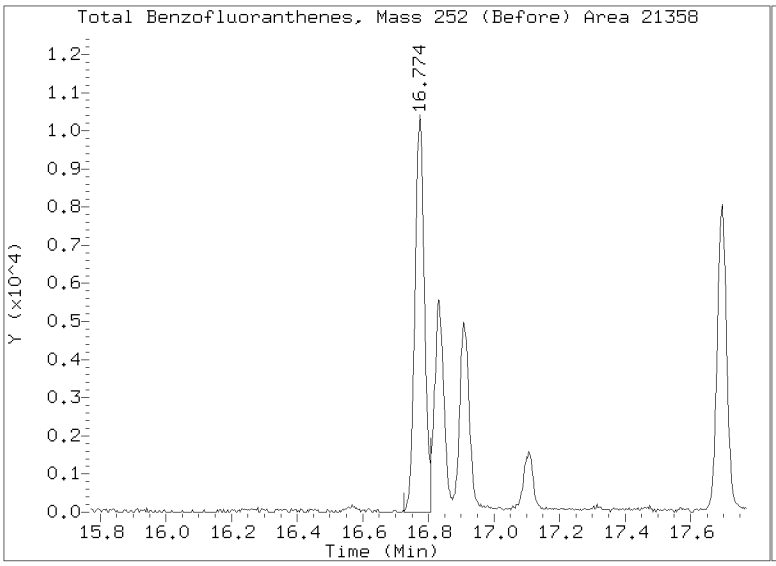
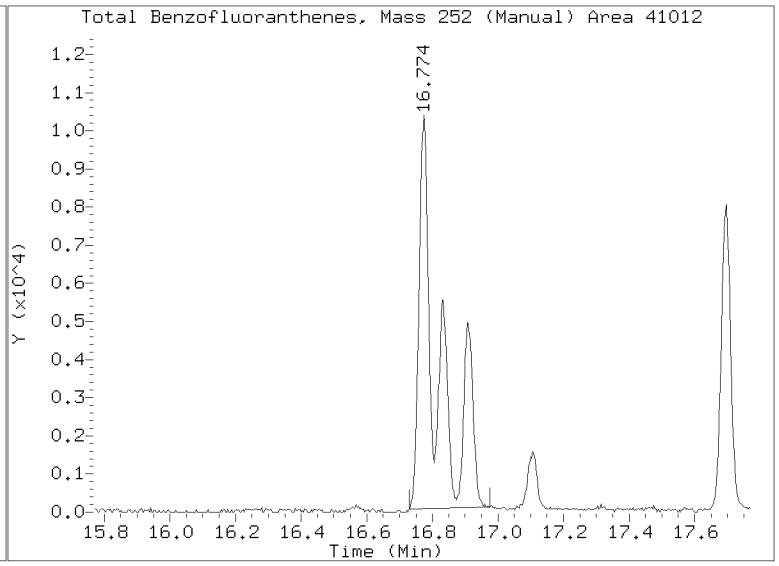
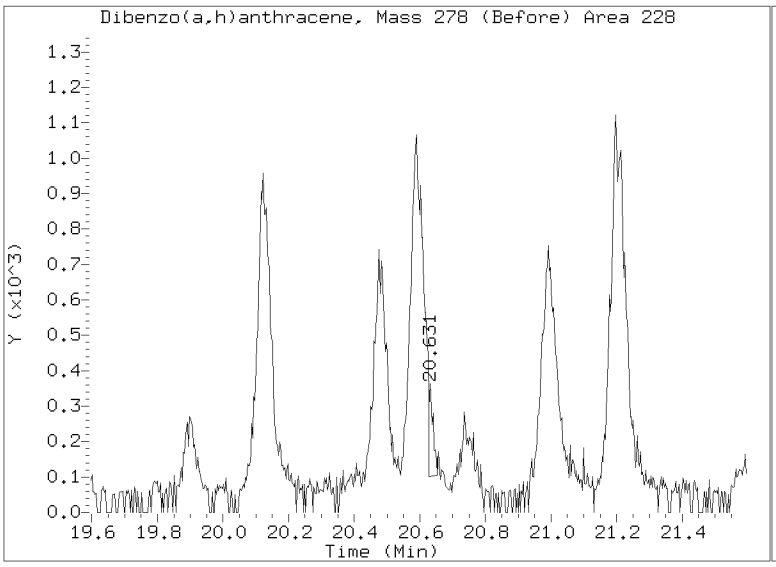
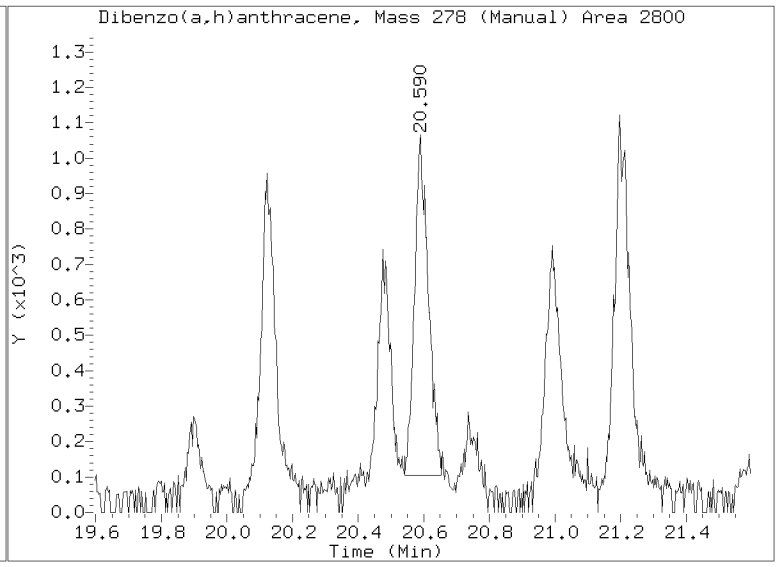
Lab ID:23A0418-07 Client ID:
Report Date: 02/26/2023 14:18









Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270E-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-08 A	SDG:	23A0418
Sampled:	01/18/23 13:42	Prepared:	02/16/23 14:32	File ID:	N823022313.D
% Solids:	58.95	Preparation:	EPA 3546 (Microwave)	Analyzed:	02/23/23 16:57
Batch:	BLB0386	Sequence:	SLB0310	Initial/Final:	16.96 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	GA00050
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	101		0.82	5.00
218-01-9	Chrysene	1	102		1.05	5.00
205-99-2	Benzo(b)fluoranthene	1	97.6		1.37	5.00
207-08-9	Benzo(k)fluoranthene	1	49.9		0.76	5.00
50-32-8	Benzo(a)pyrene	1	89.4		0.61	5.00
193-39-5	Indeno(1,2,3-cd)pyrene	1	57.0		1.05	5.00
53-70-3	Dibenzo(a,h)anthracene	1	18.5		0.89	5.00

SURROGATES	ADDED: (ug/kg dry)	FOUND: (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	150.03	102	68.3	32 - 120	
Dibenzo[a,h]anthracene-d14	150.03	135	90.1	21 - 133	
Fluoranthene-d10	150.03	135	89.9	36 - 134	

Data File: \\target\share\chem3\nt8.i\20230223.b\N823022313.D

Date : 23-FEB-2023 16:57

Client ID:

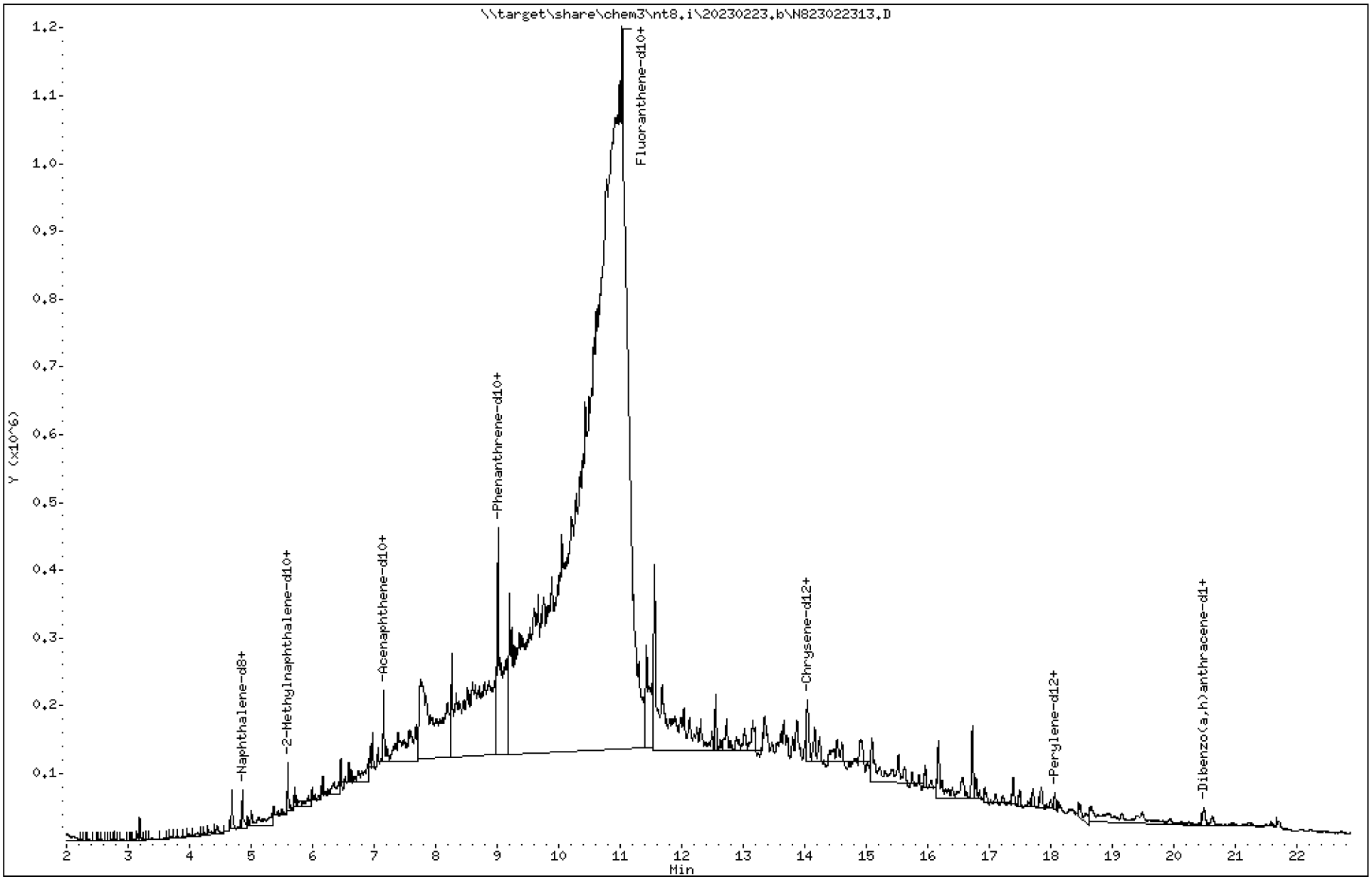
Instrument: nt8.i

Sample Info: 23A0418-08

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



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Date : 23-FEB-2023 16:57

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-08

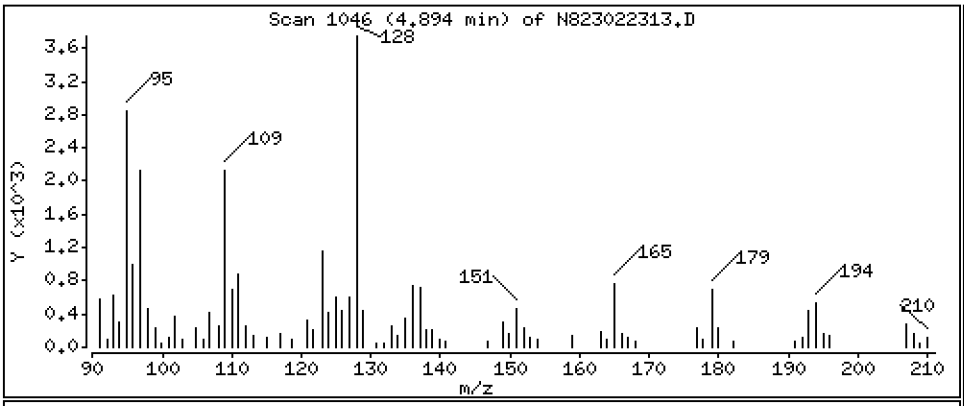
Operator: JZ

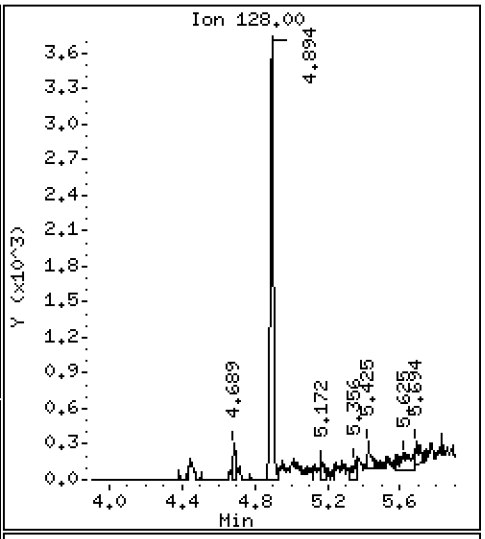
Column phase: Rxi-17sil

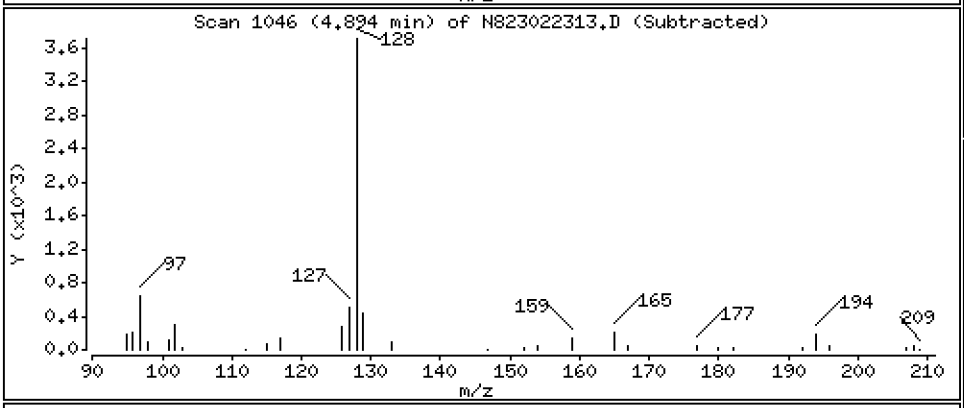
Column diameter: 0.25

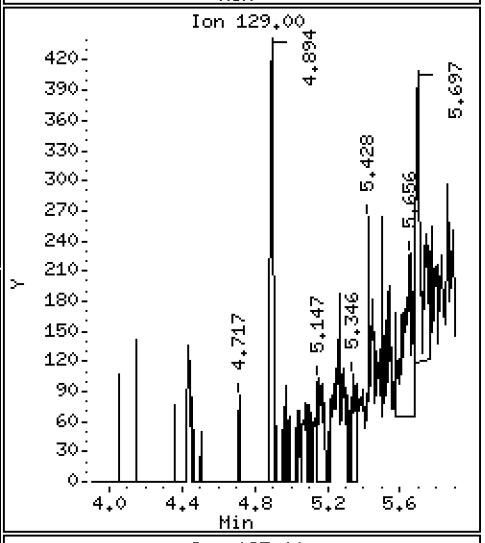
2 Naphthalene

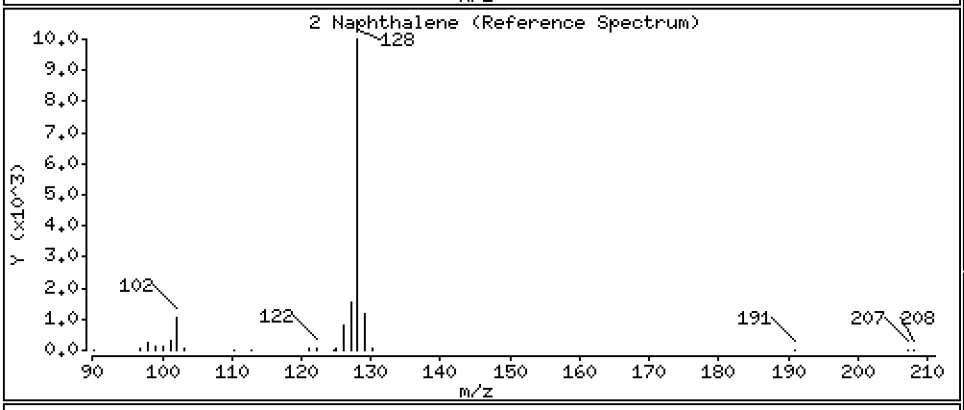
Concentration: 0.2201 ug/mL

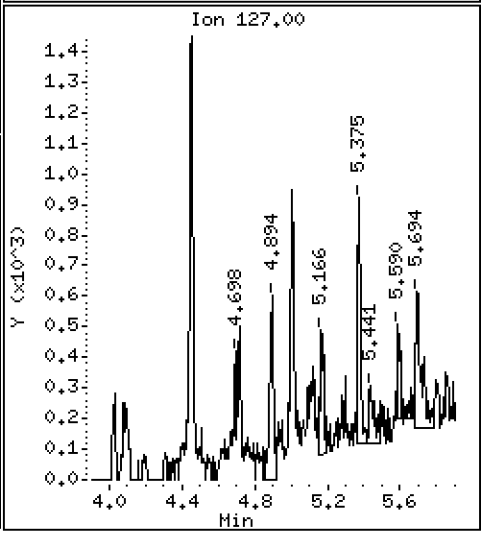


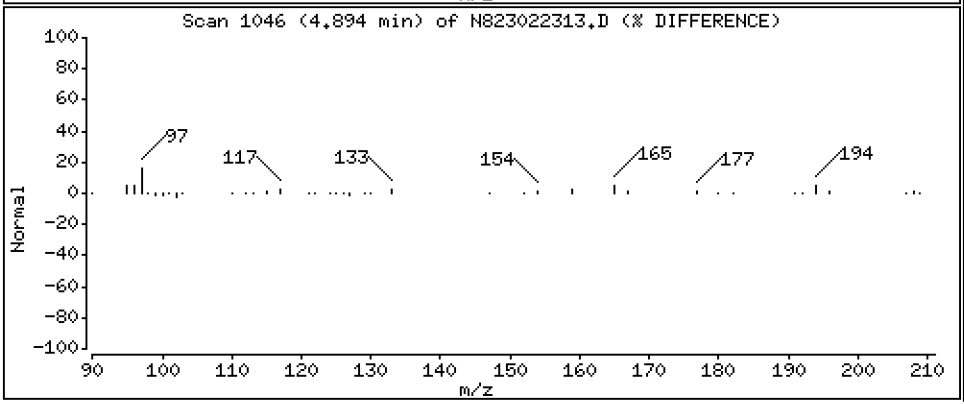












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Date : 23-FEB-2023 16:57

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-08

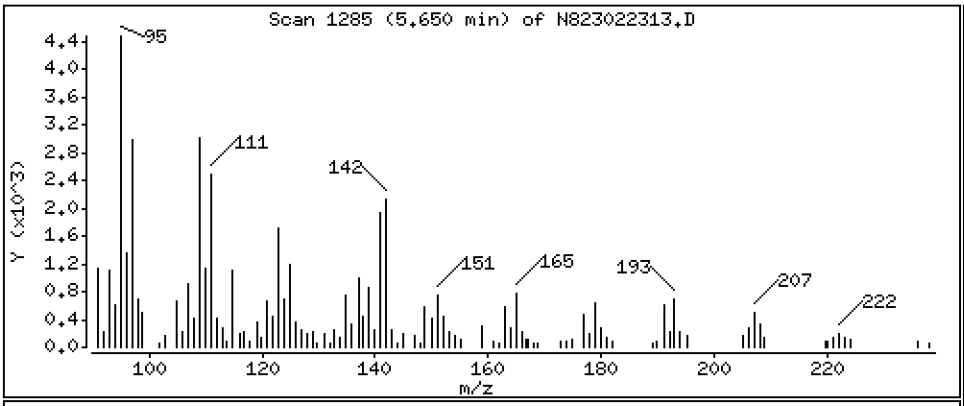
Operator: JZ

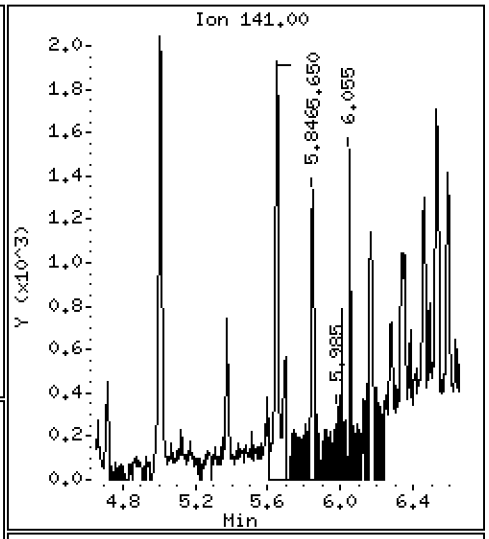
Column phase: Rxi-17sil

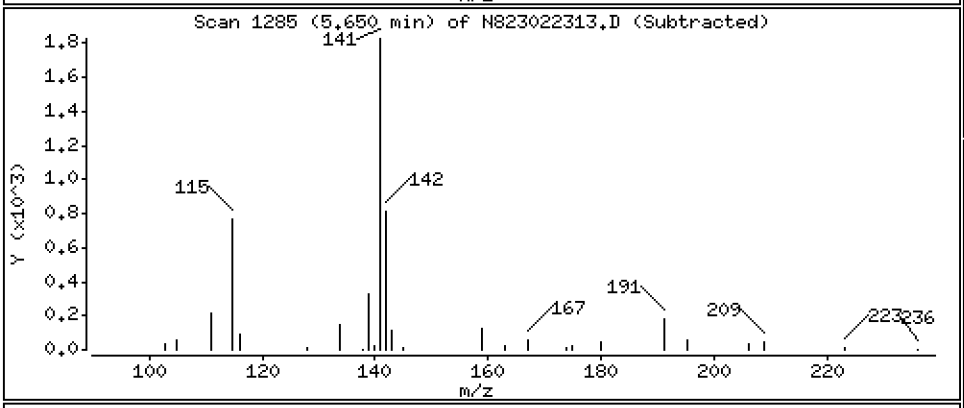
Column diameter: 0.25

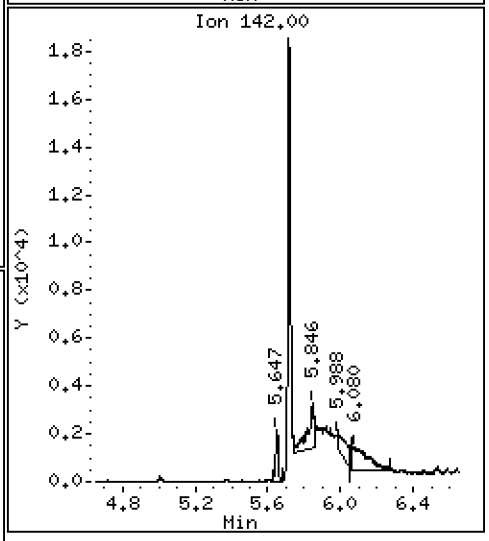
4 2-Methylnaphthalene

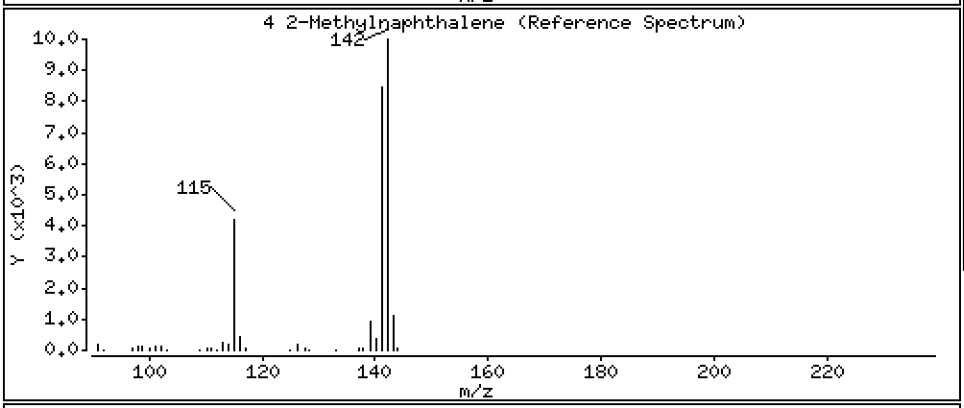
Concentration: 0.3028 ug/mL

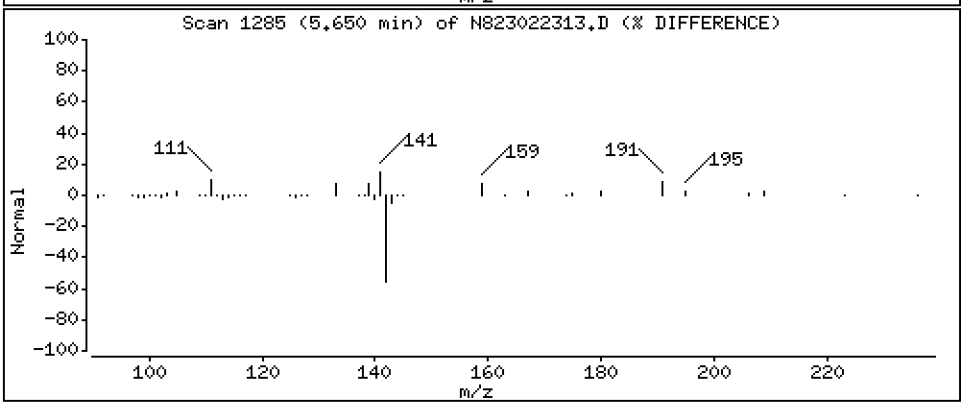












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Date : 23-FEB-2023 16:57

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-08

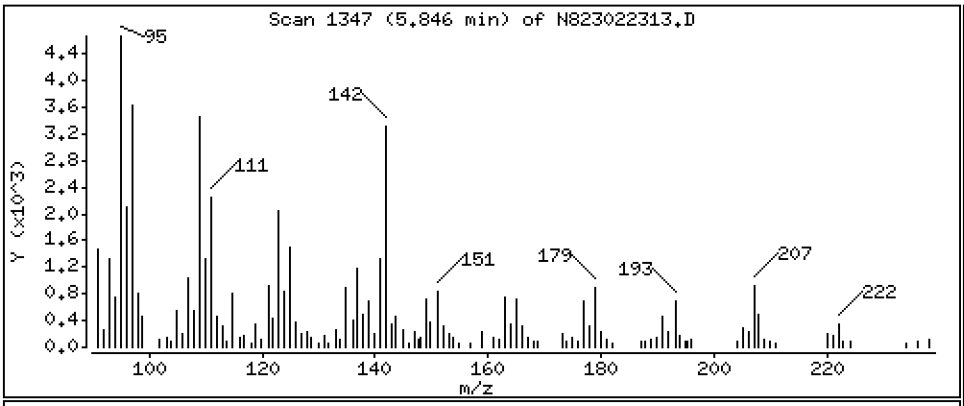
Operator: JZ

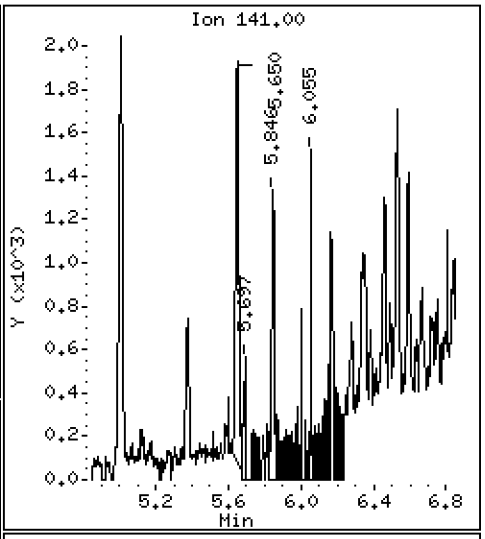
Column phase: Rxi-17sil

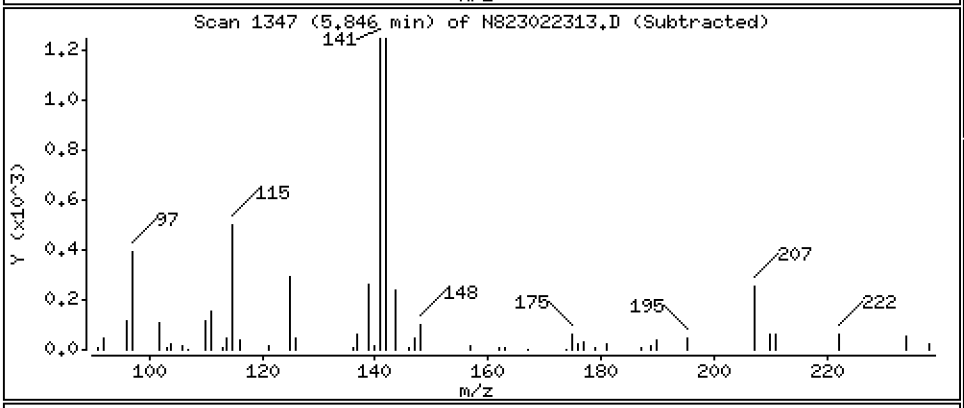
Column diameter: 0.25

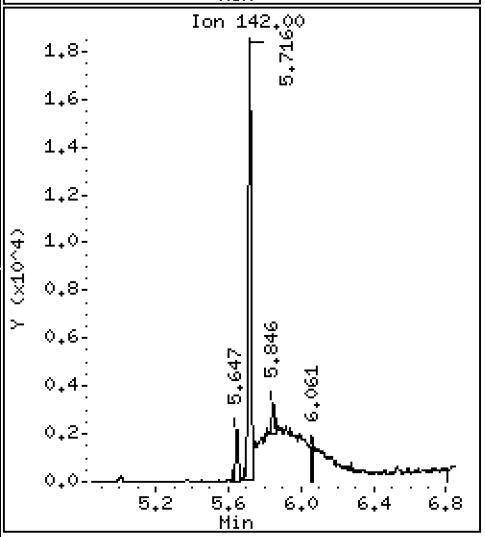
5 1-methylnaphthalene

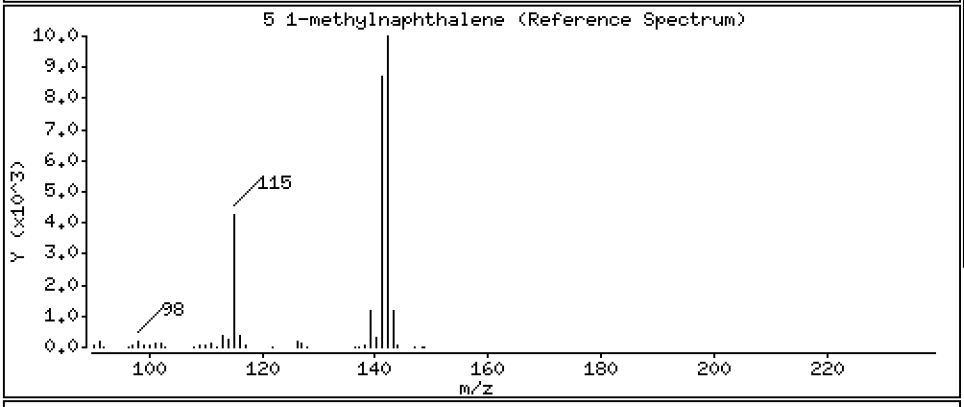
Concentration: 0.1385 ug/mL

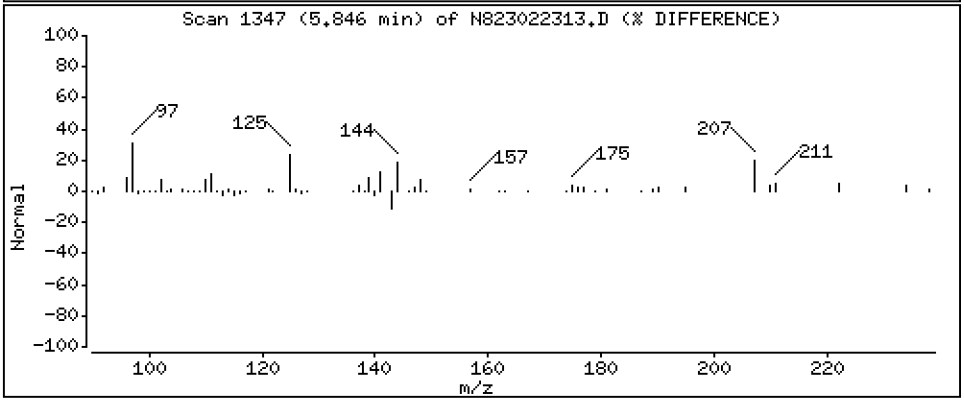












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Date : 23-FEB-2023 16:57

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-08

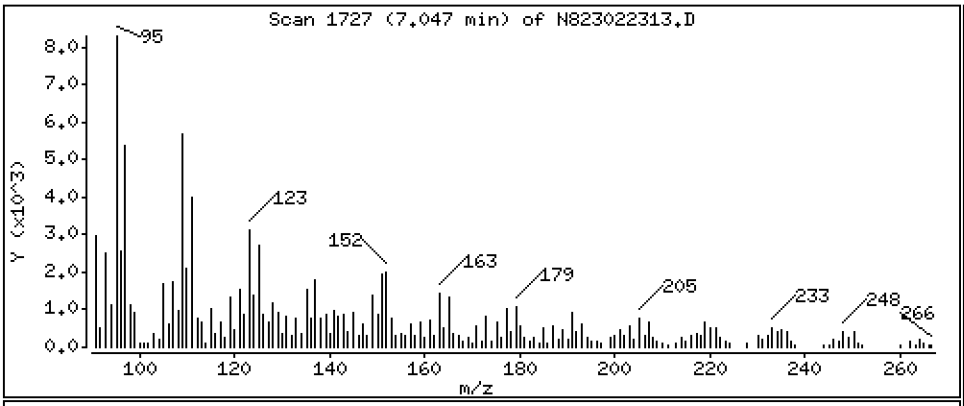
Operator: JZ

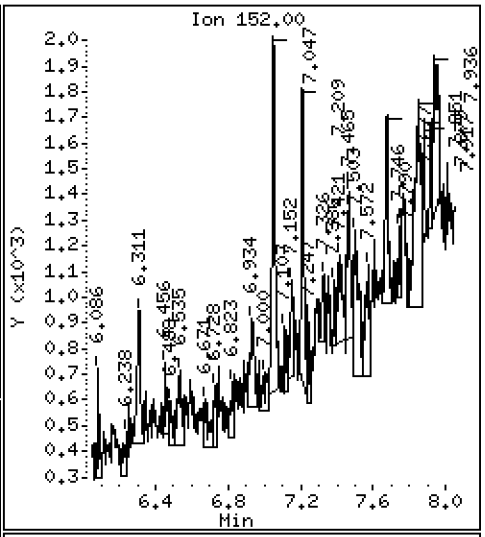
Column phase: Rxi-17sil

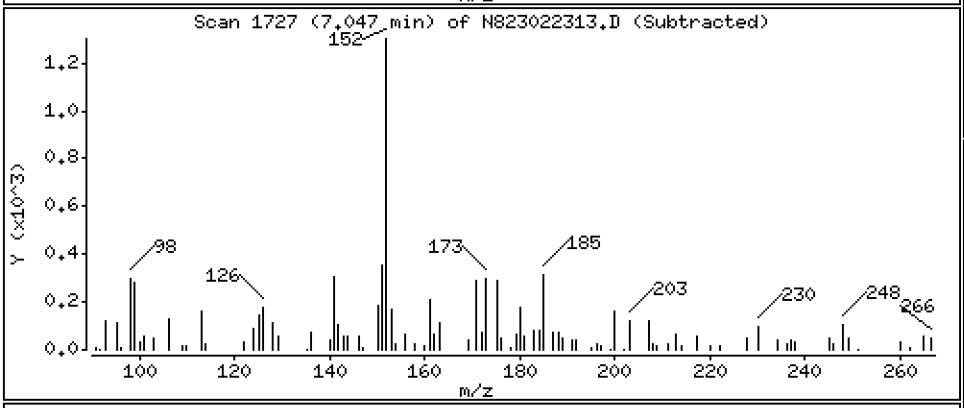
Column diameter: 0.25

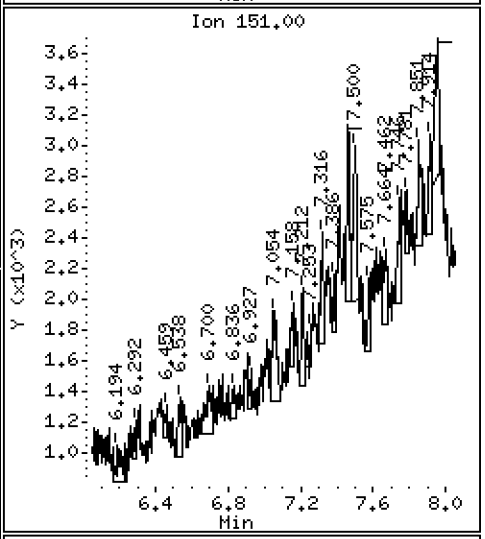
9 Acenaphthylene

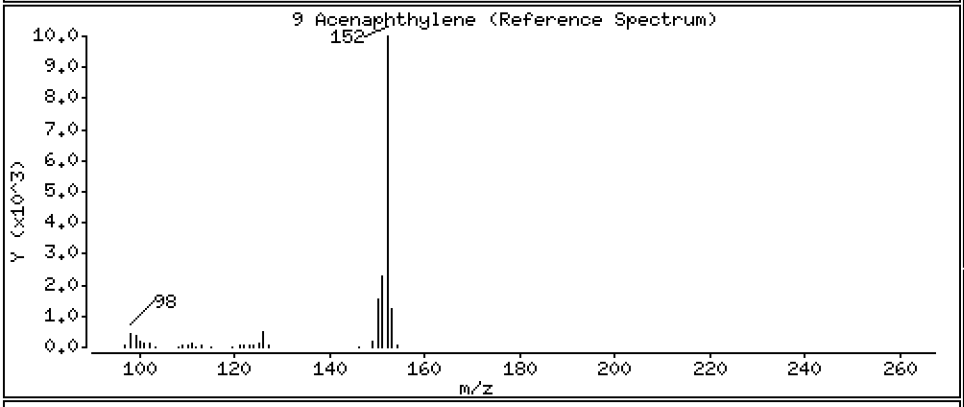
Concentration: 0.09740 ug/mL

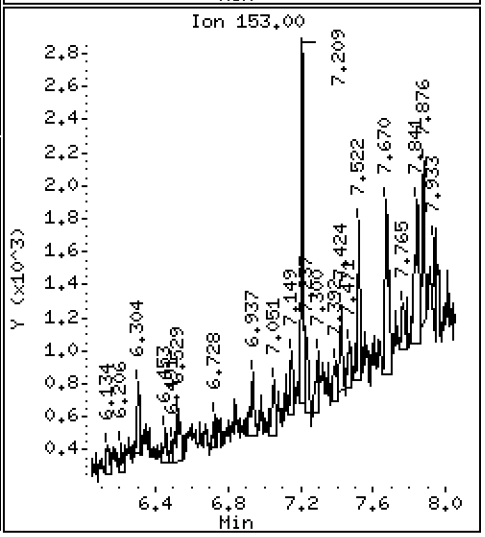


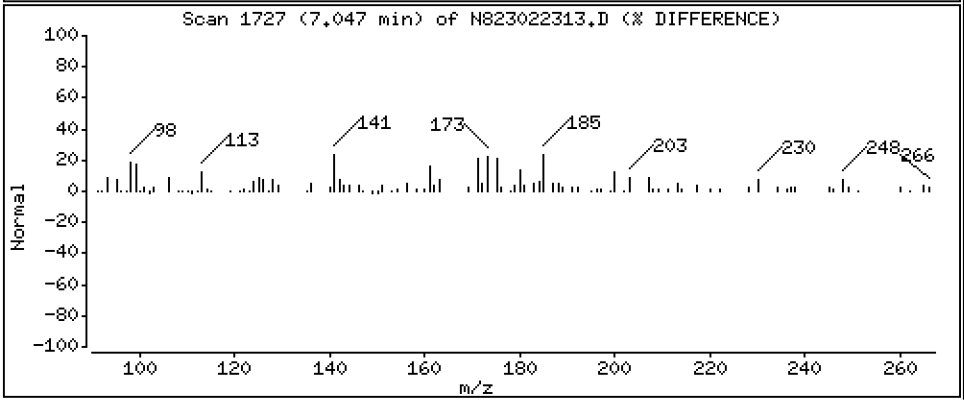












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022313.D

Date : 23-FEB-2023 16:57

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-08

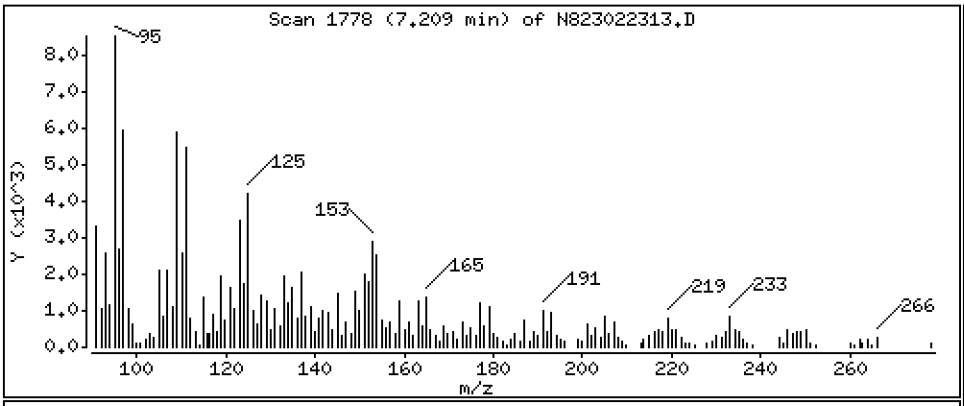
Operator: JZ

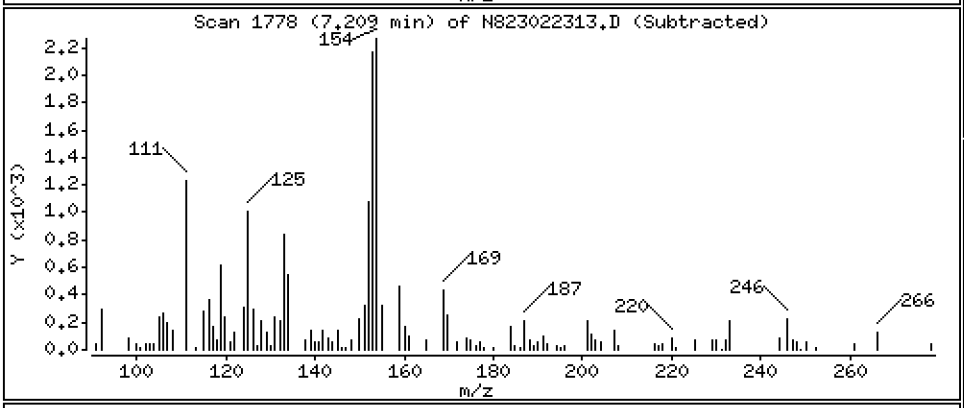
Column phase: Rxi-17sil

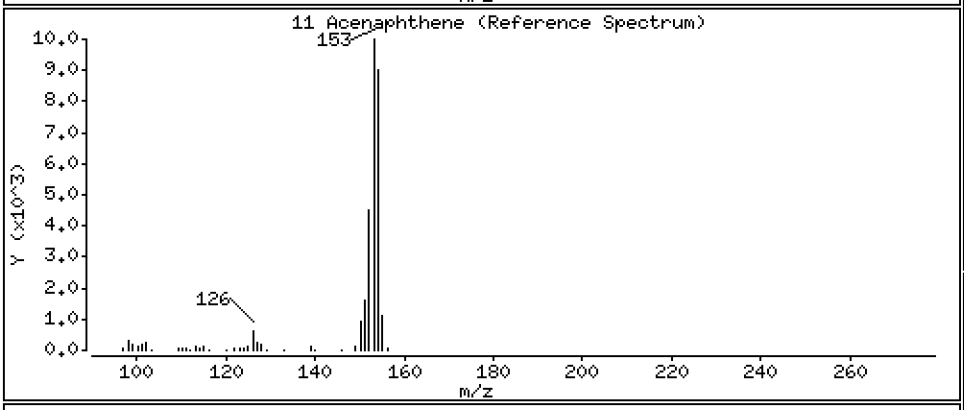
Column diameter: 0.25

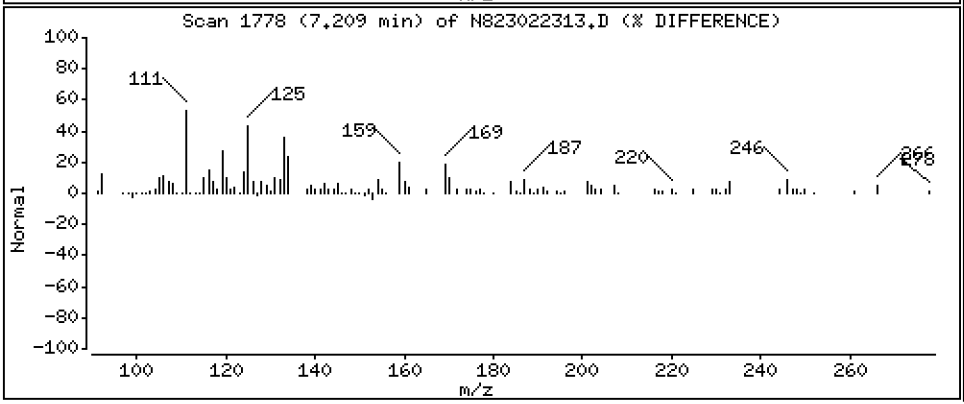
11 Acenaphthene

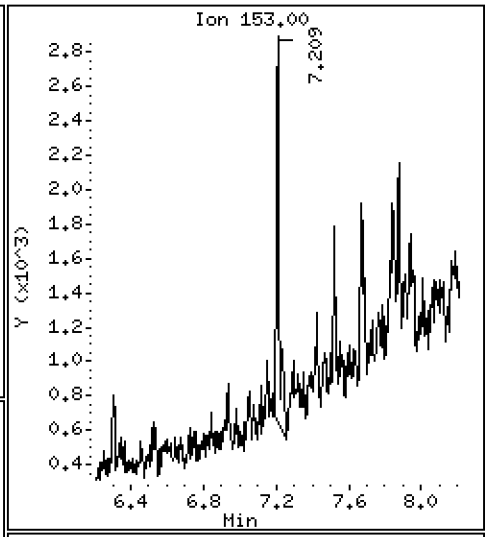
Concentration: 0.2290 ug/mL

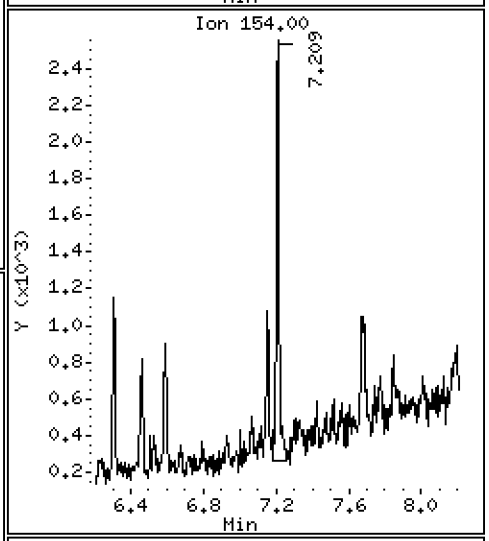


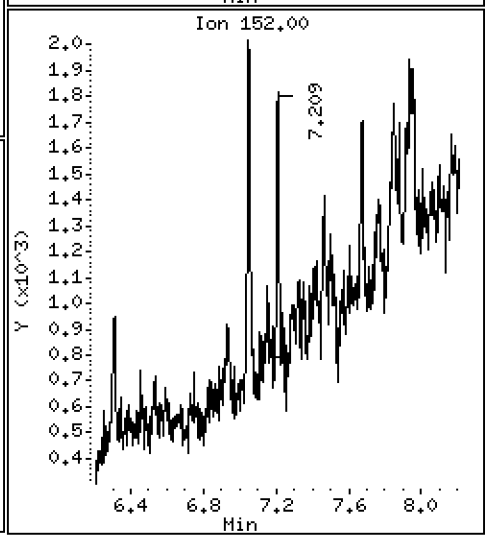












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022313.D

Date : 23-FEB-2023 16:57

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-08

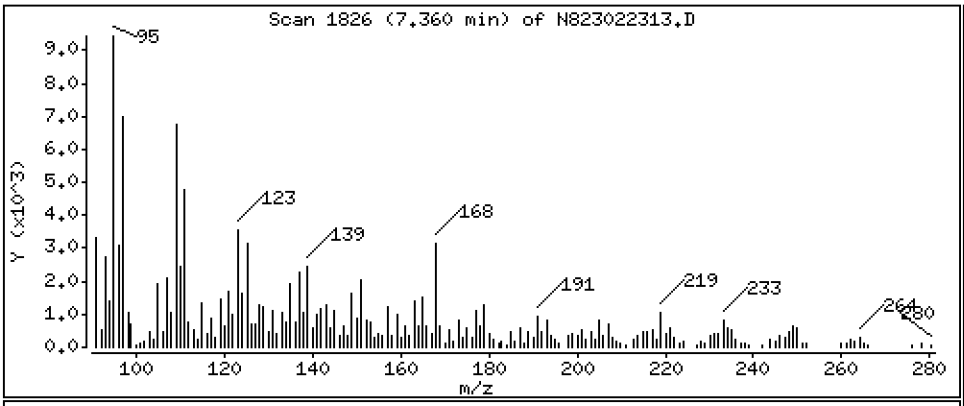
Operator: JZ

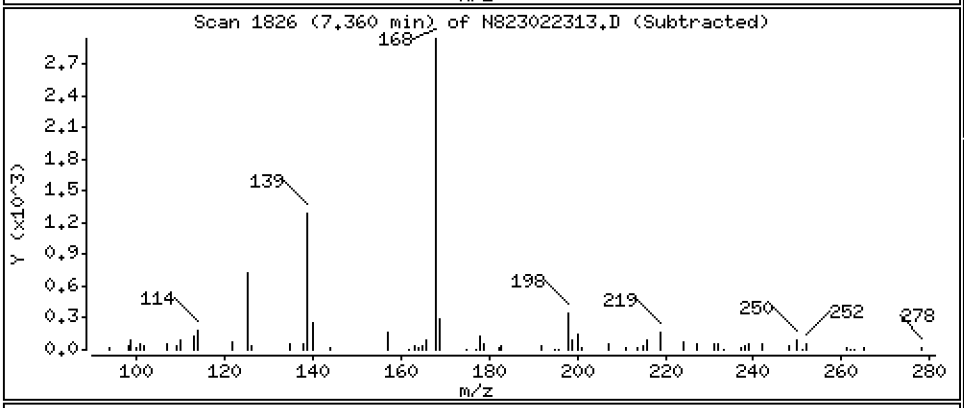
Column phase: Rxi-17sil

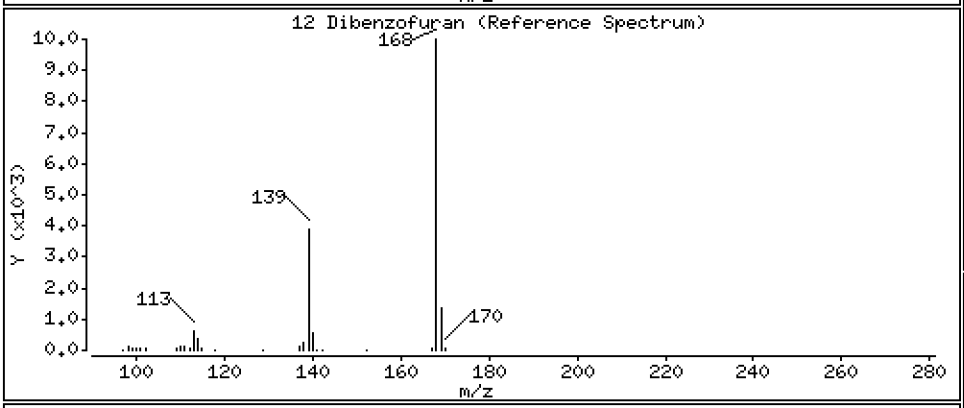
Column diameter: 0.25

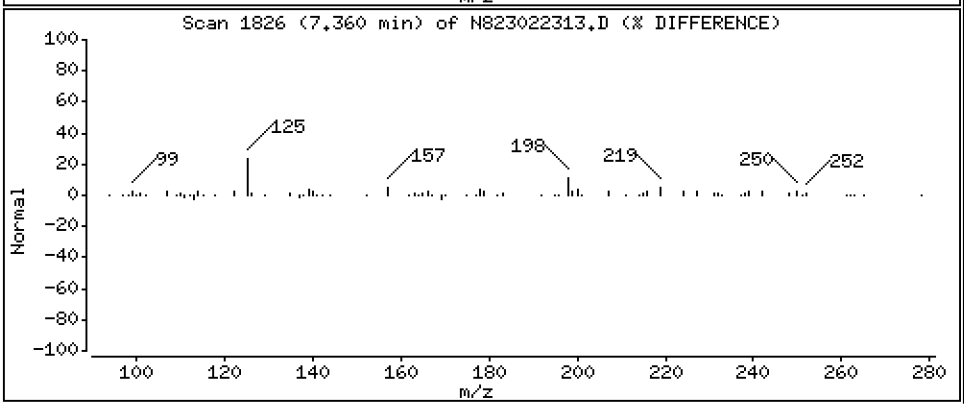
12 Dibenzofuran

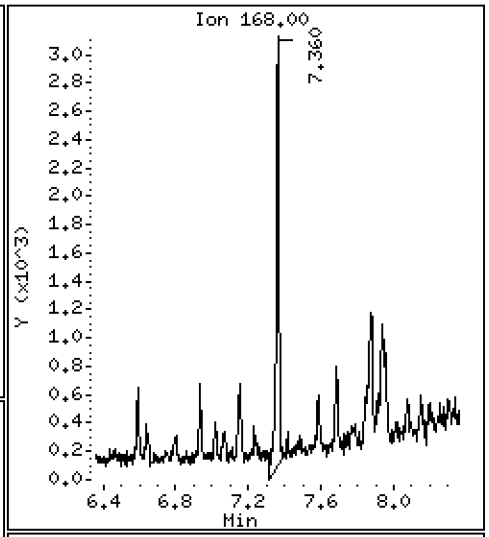
Concentration: 0.1945 ug/mL

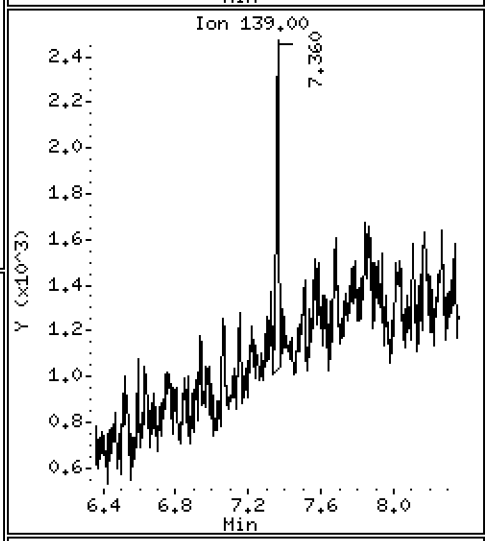


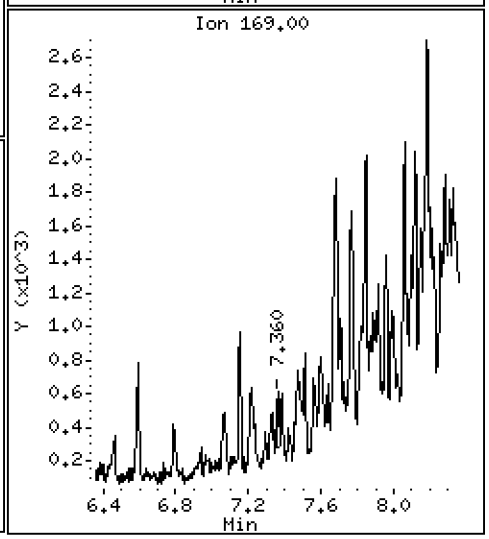












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022313.D

Date : 23-FEB-2023 16:57

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-08

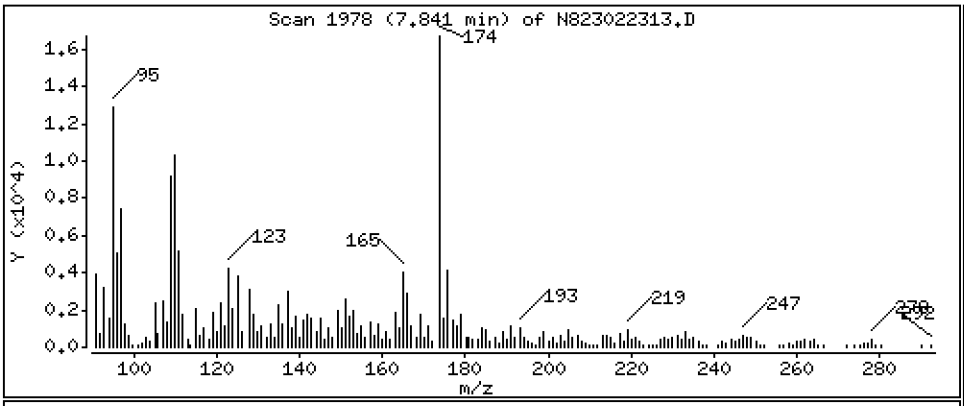
Operator: JZ

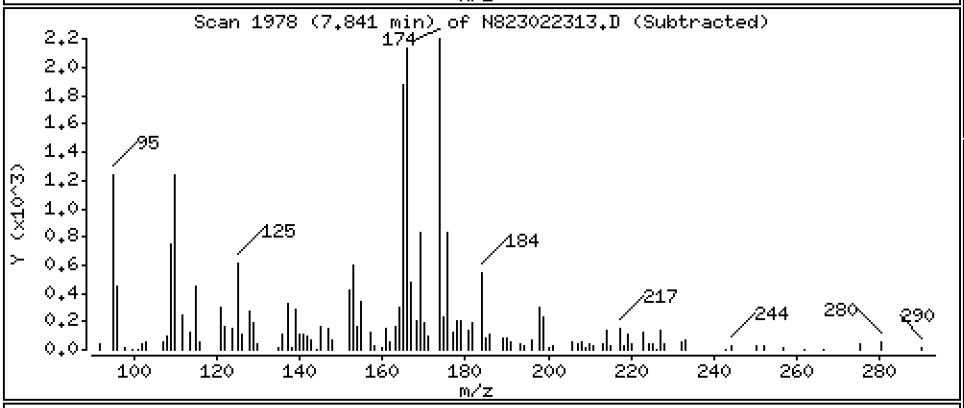
Column phase: Rxi-17sil

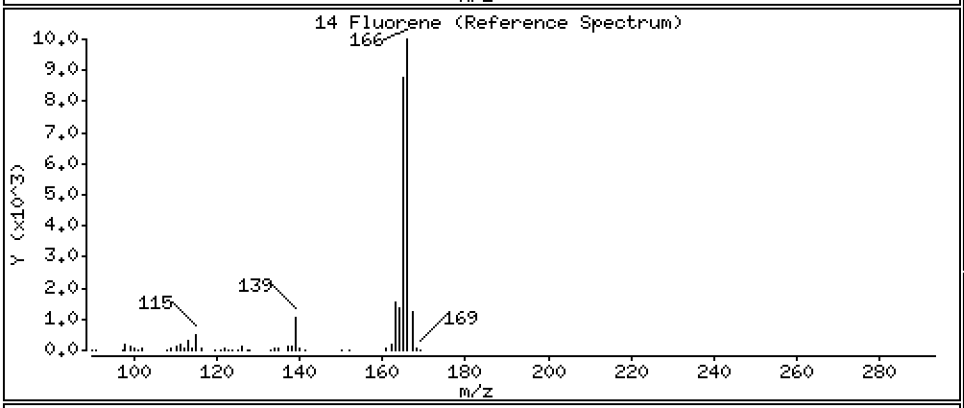
Column diameter: 0.25

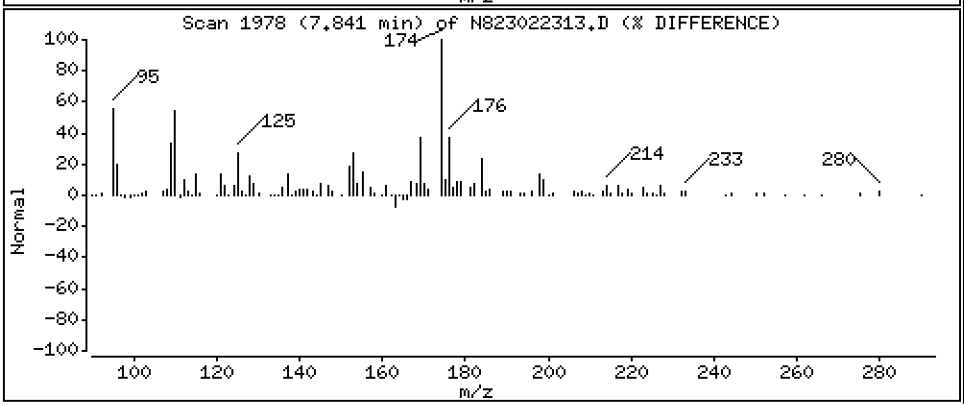
14 Fluorene

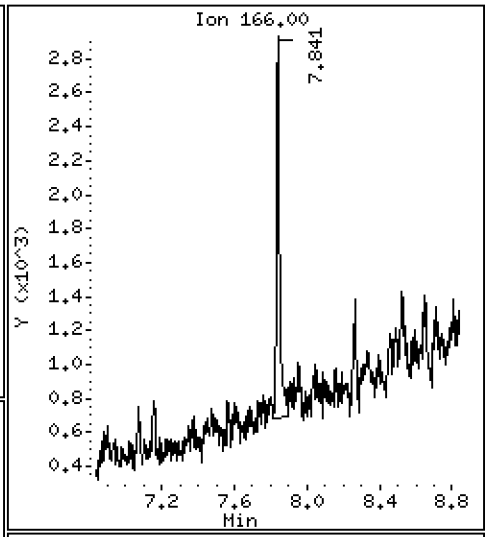
Concentration: 0.1910 ug/mL

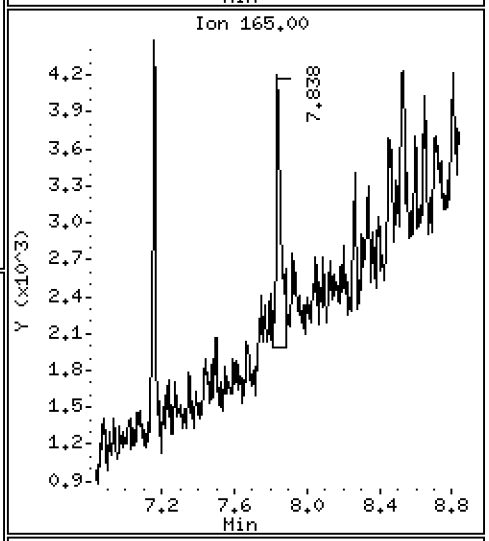


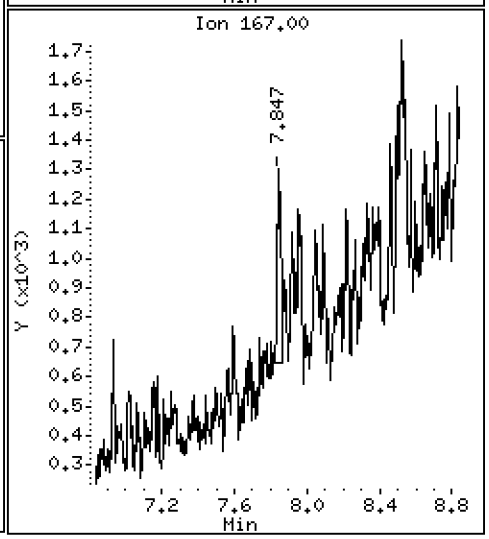












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022313.D

Date : 23-FEB-2023 16:57

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-08

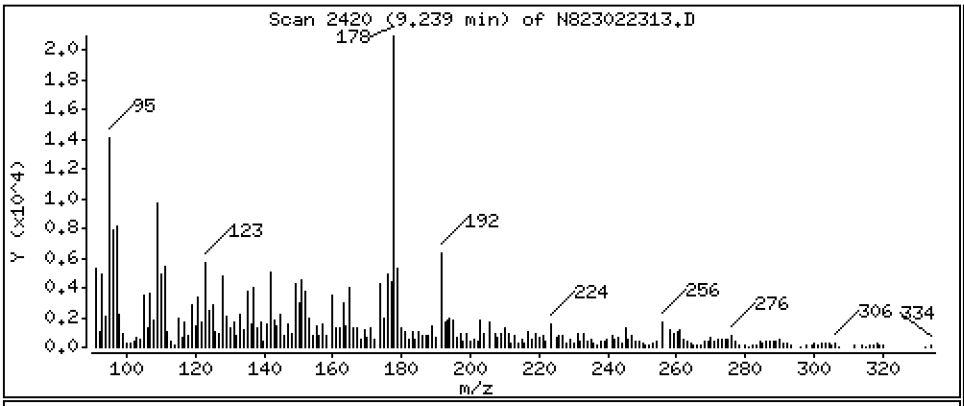
Operator: JZ

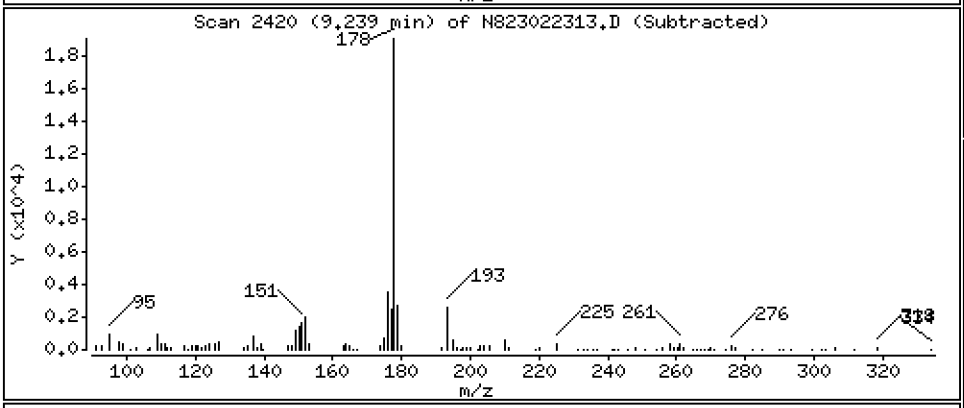
Column phase: Rxi-17sil

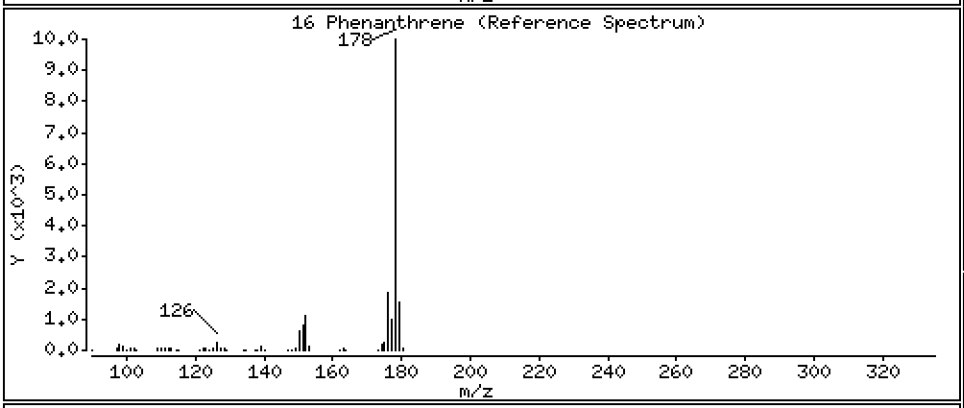
Column diameter: 0.25

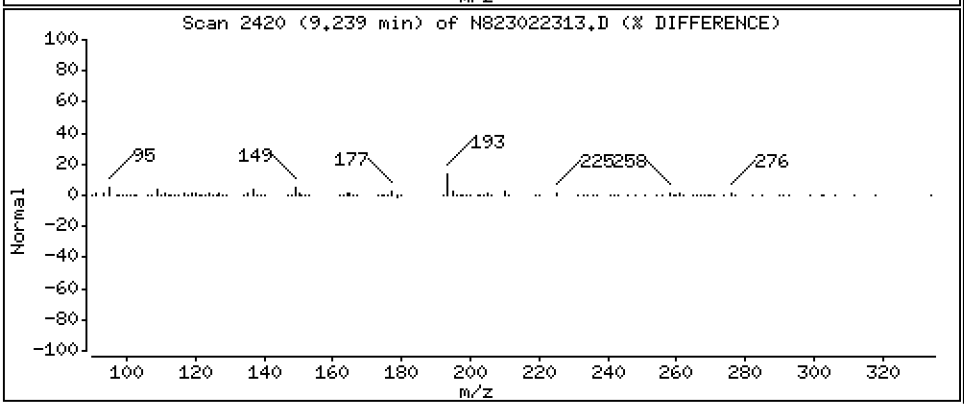
16 Phenanthrene

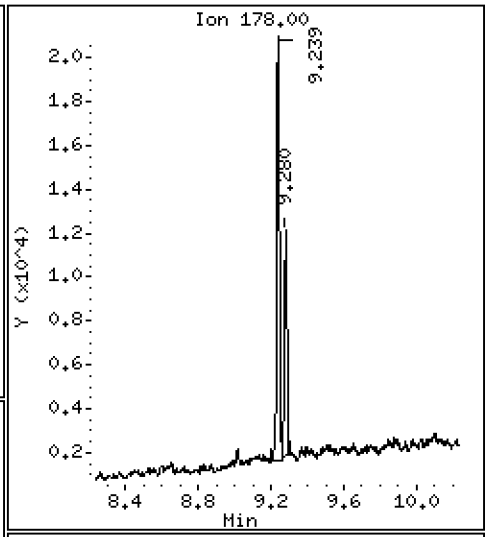
Concentration: 0.9743 ug/mL

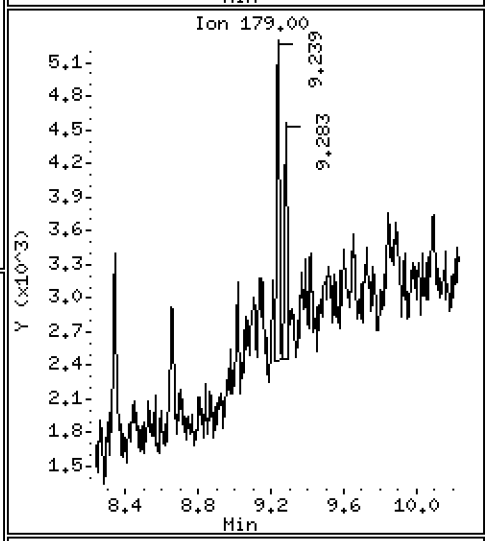


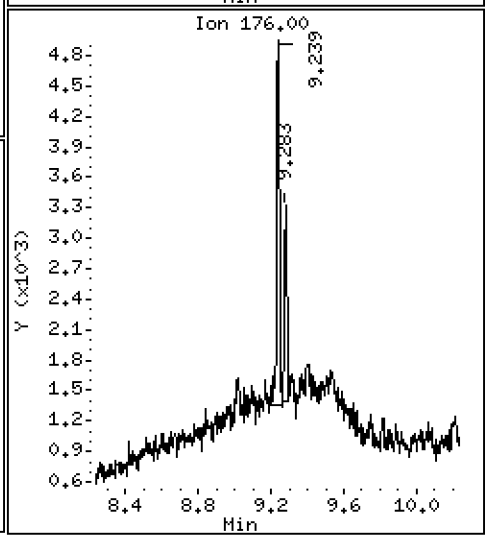












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022313.D

Date : 23-FEB-2023 16:57

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-08

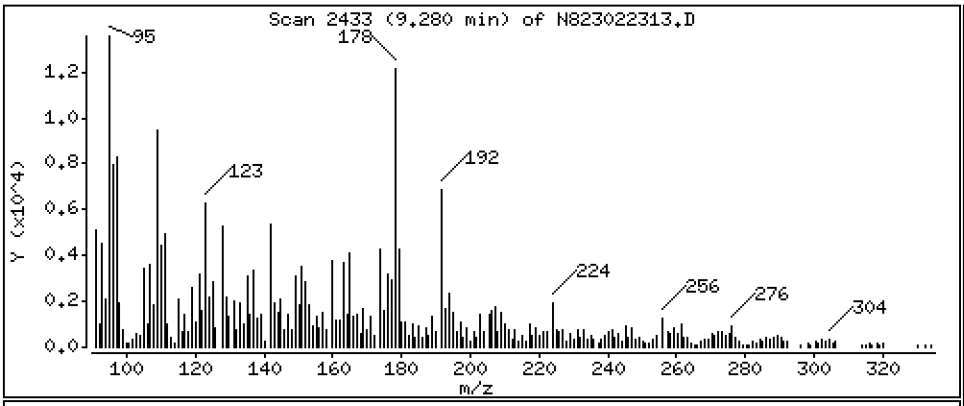
Operator: JZ

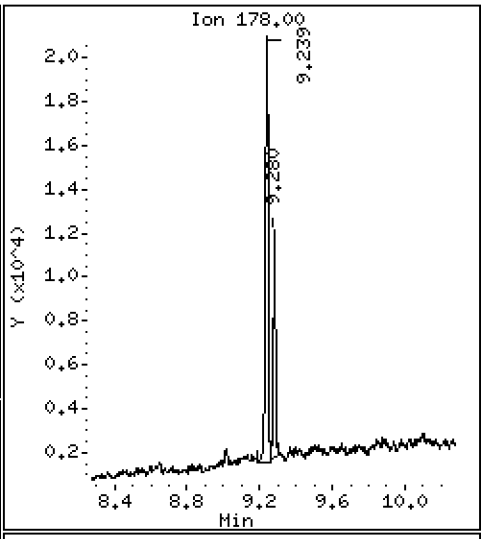
Column phase: Rxi-17sil

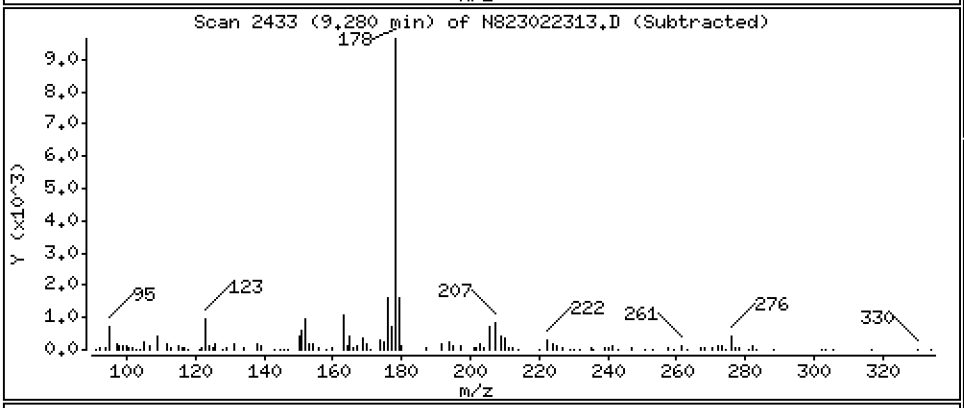
Column diameter: 0.25

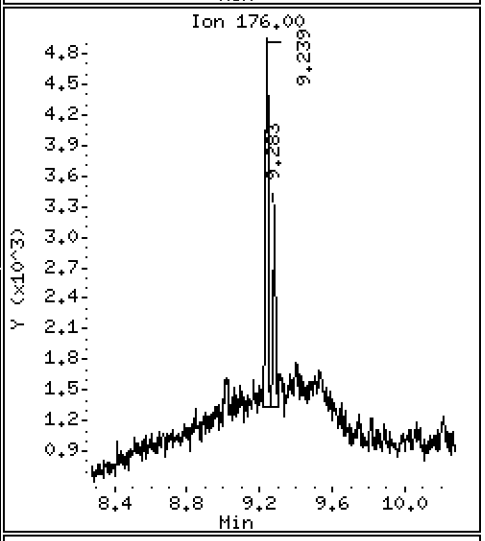
17 Anthracene

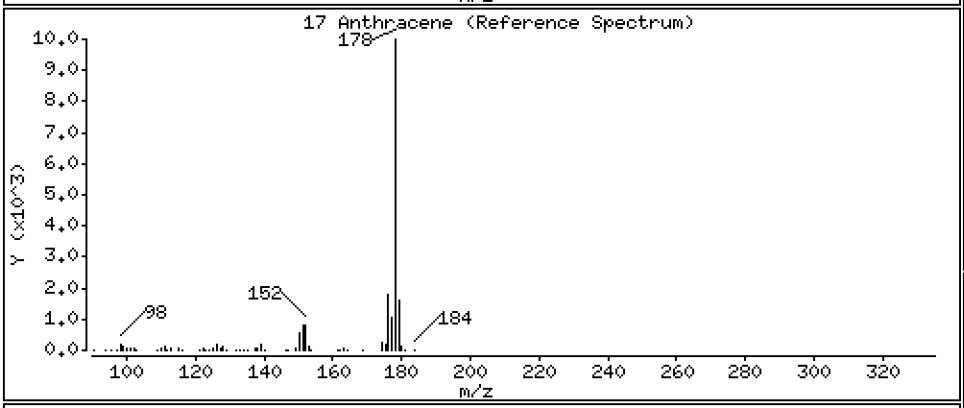
Concentration: 0.5215 ug/mL

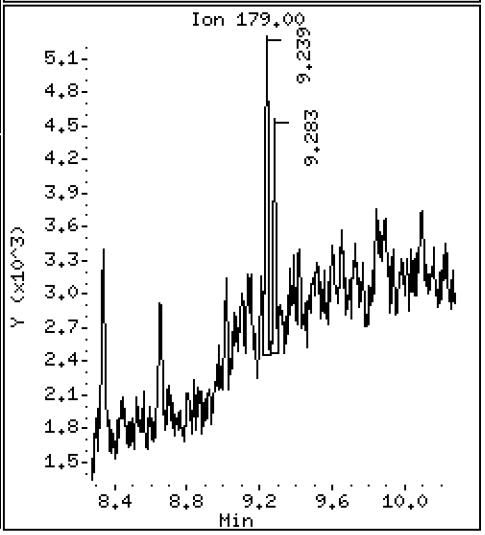


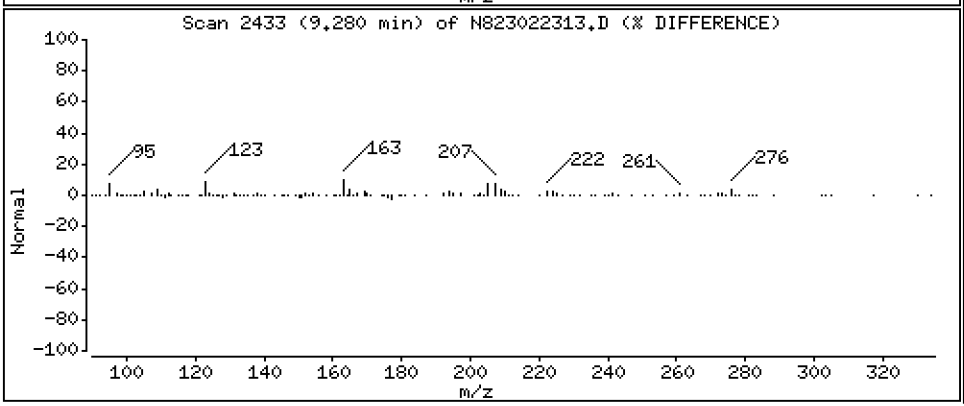












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Date : 23-FEB-2023 16:57

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-08

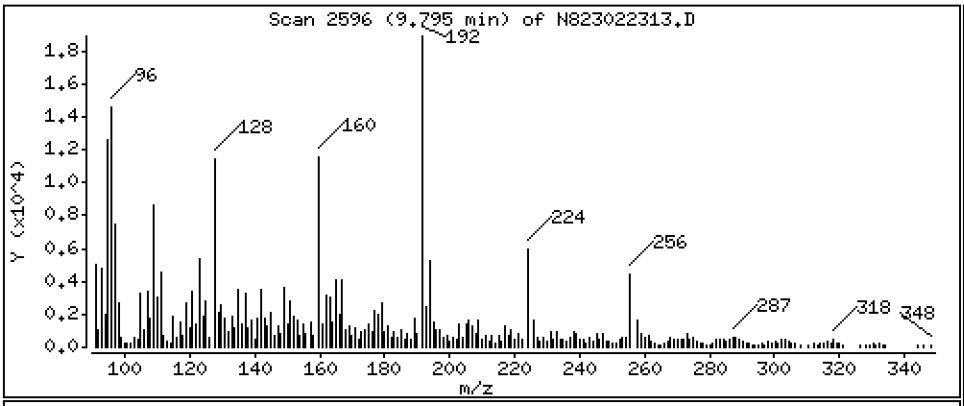
Operator: JZ

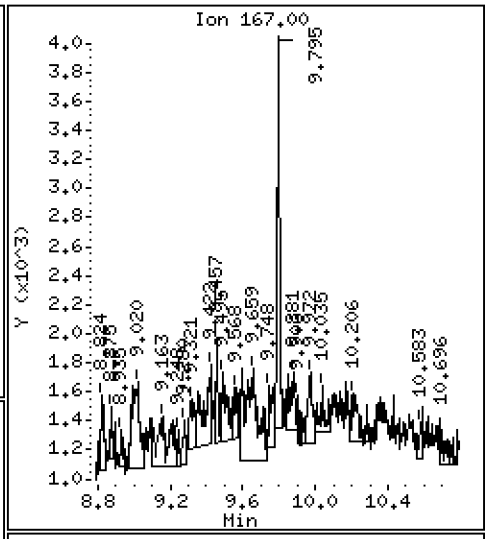
Column phase: Rxi-17sil

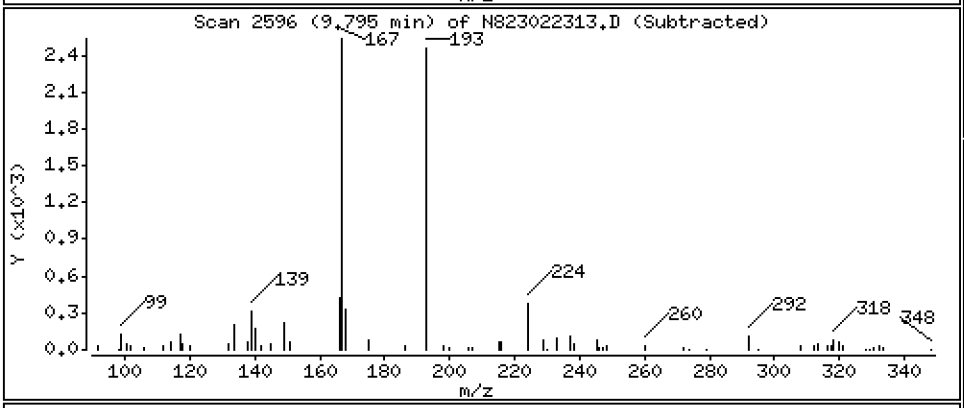
Column diameter: 0.25

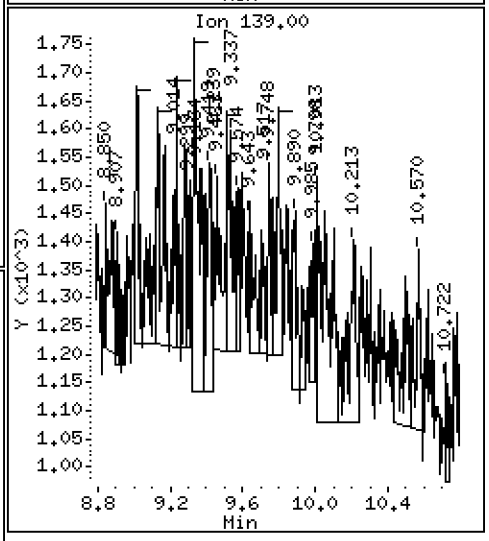
19 Carbazole

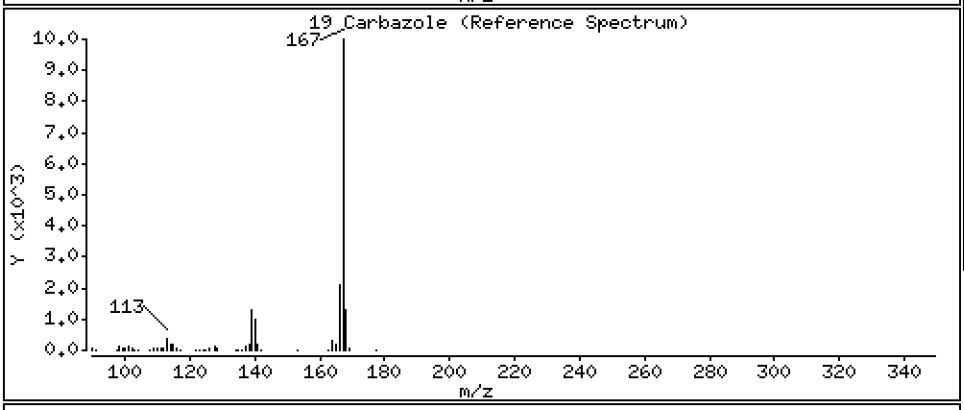
Concentration: 0.1540 ug/mL

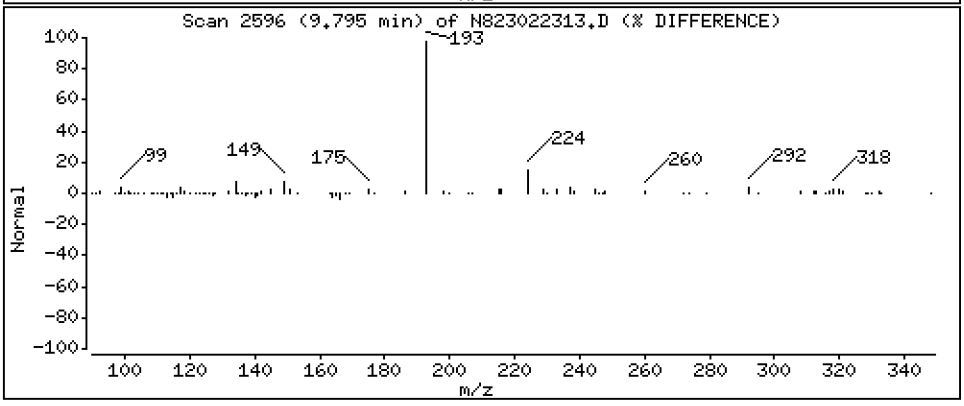












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022313.D

Date : 23-FEB-2023 16:57

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-08

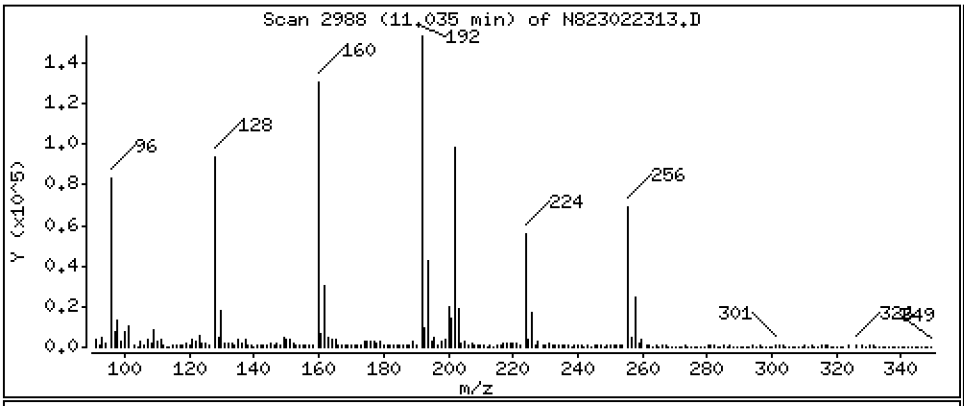
Operator: JZ

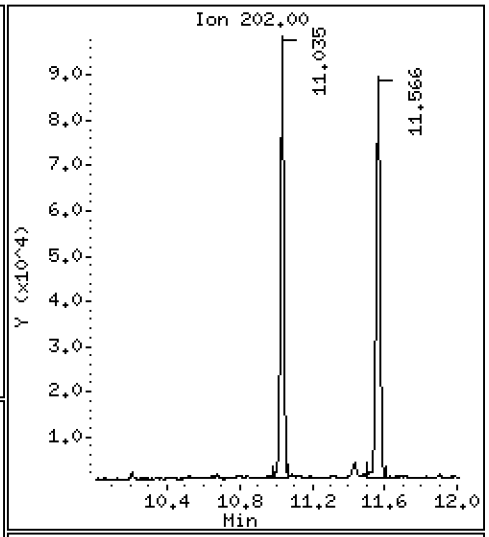
Column phase: Rxi-17sil

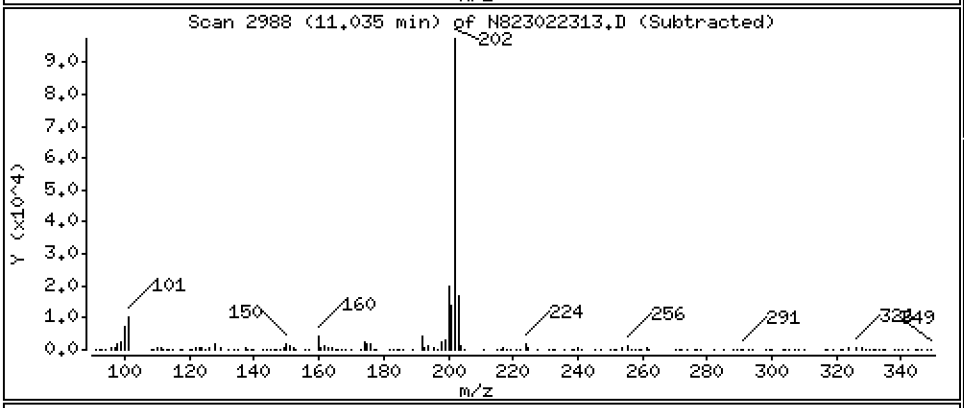
Column diameter: 0.25

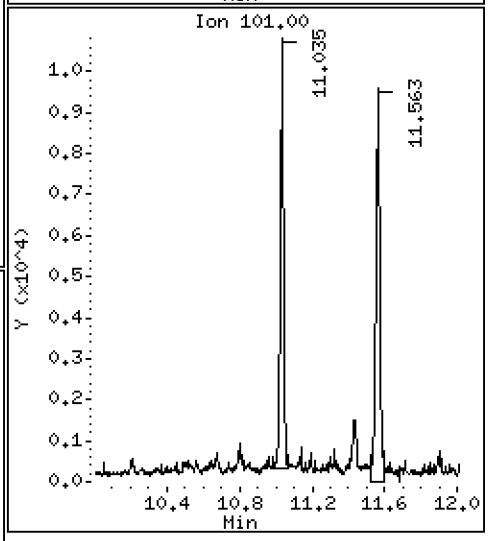
22 Fluoranthene

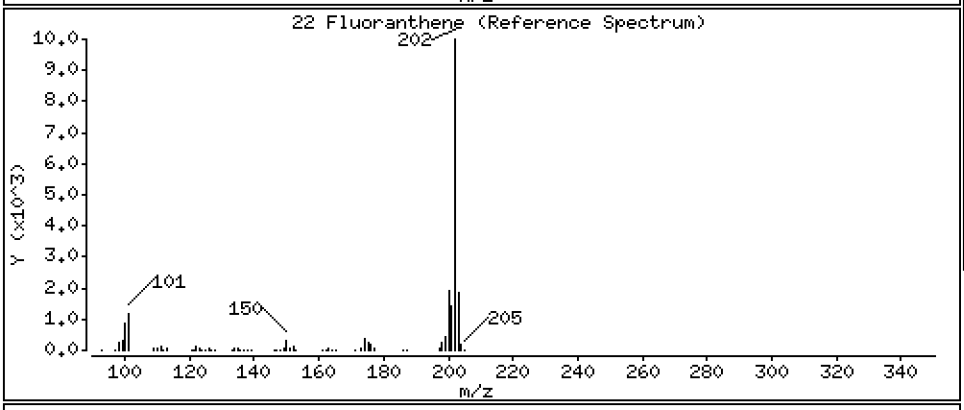
Concentration: 5.657 ug/mL

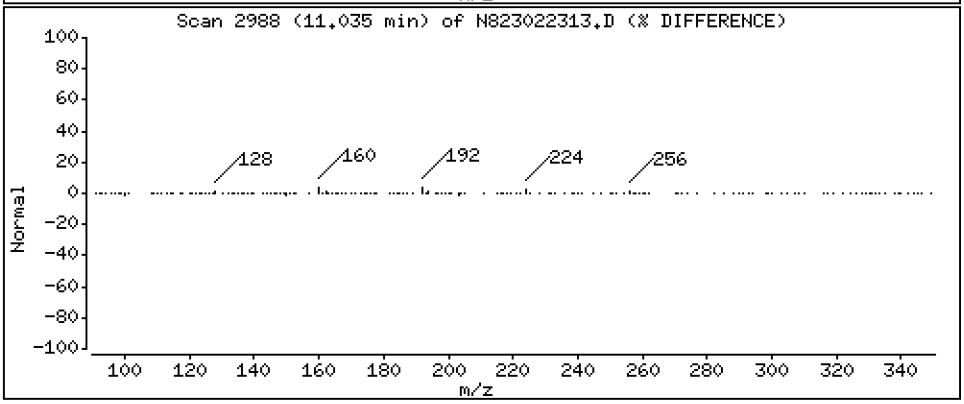












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022313.D

Date : 23-FEB-2023 16:57

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-08

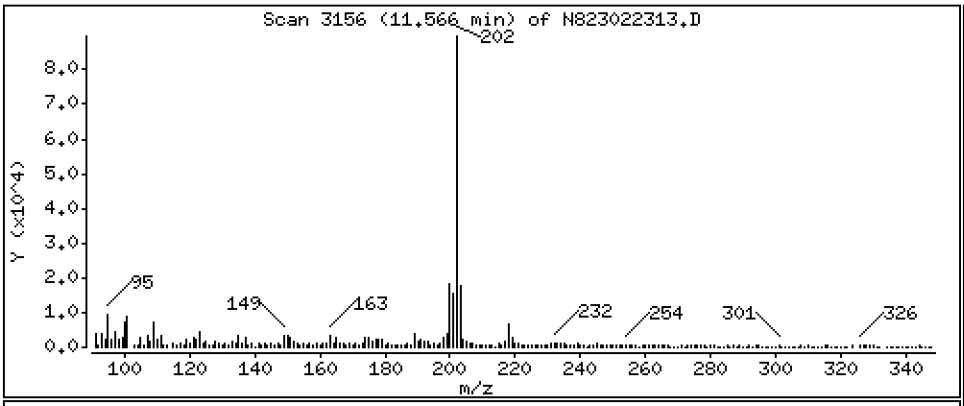
Operator: JZ

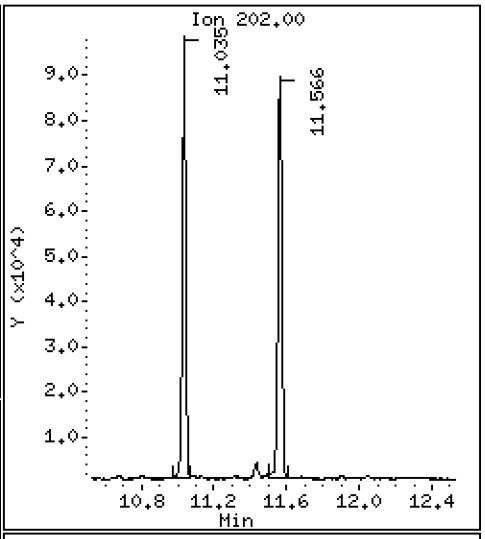
Column phase: Rxi-17sil

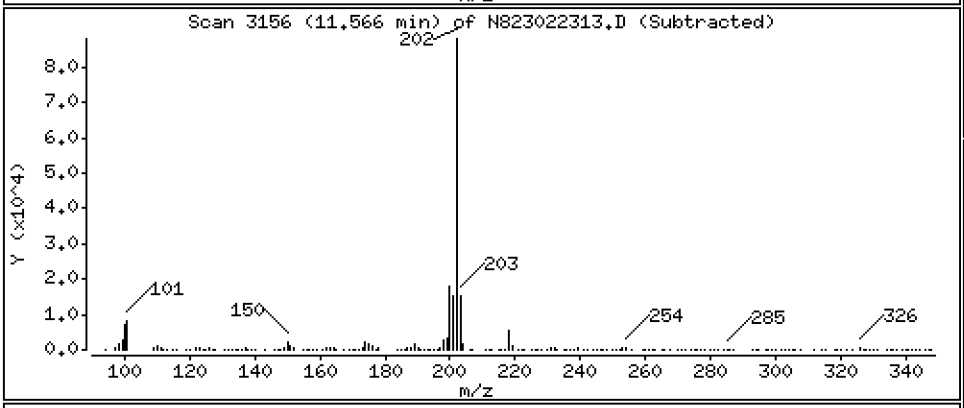
Column diameter: 0.25

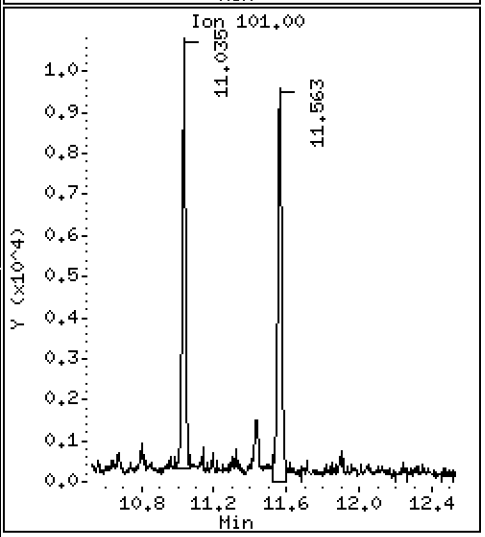
23 Pyrene

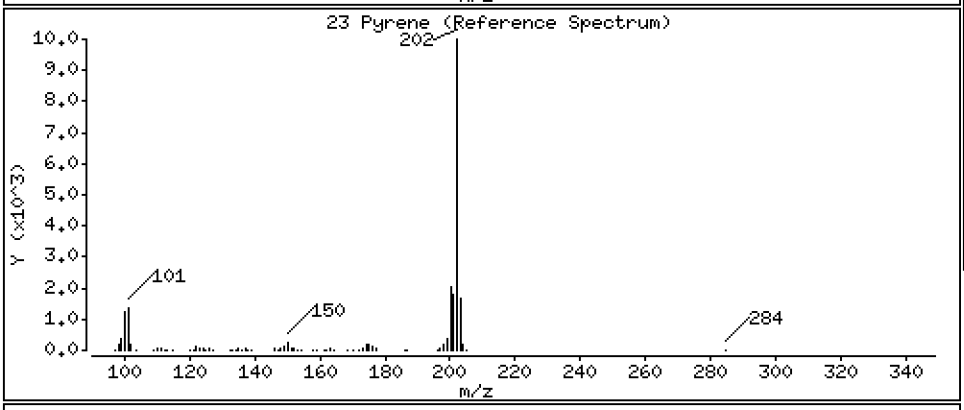
Concentration: 10.00 ug/mL

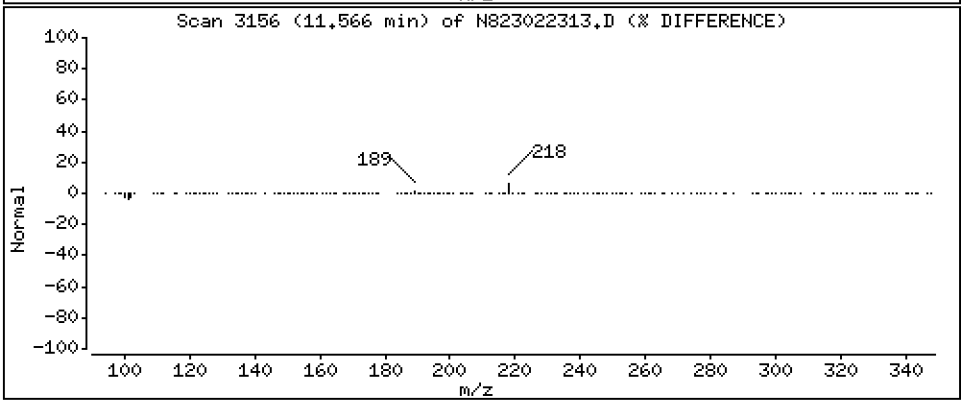












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022313.D

Date : 23-FEB-2023 16:57

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-08

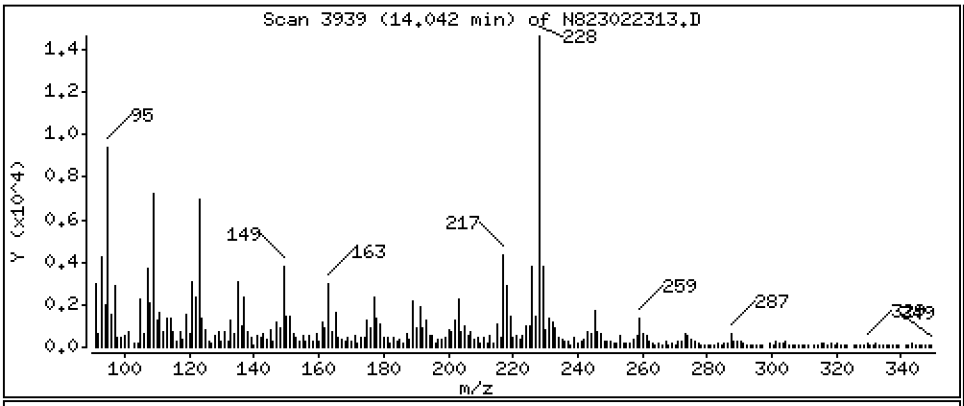
Operator: JZ

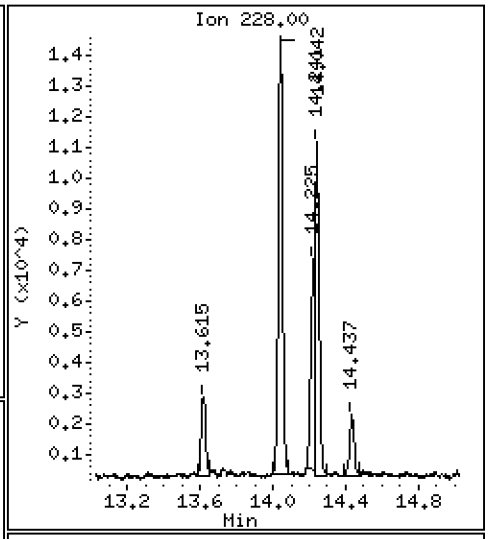
Column phase: Rxi-17sil

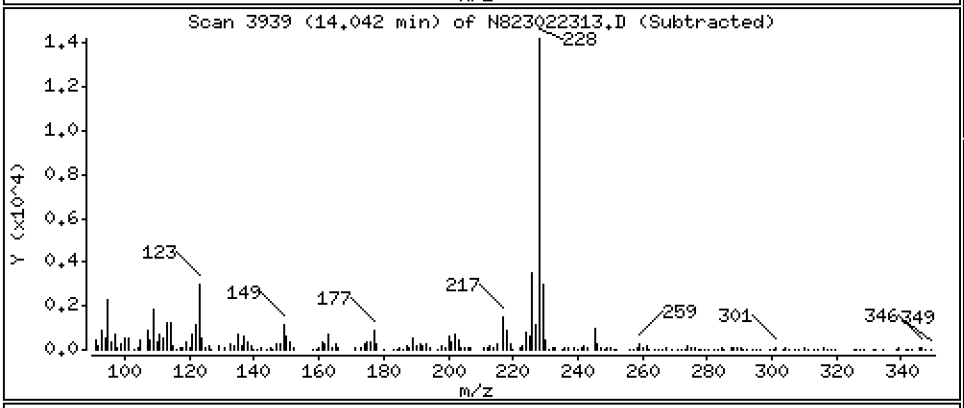
Column diameter: 0.25

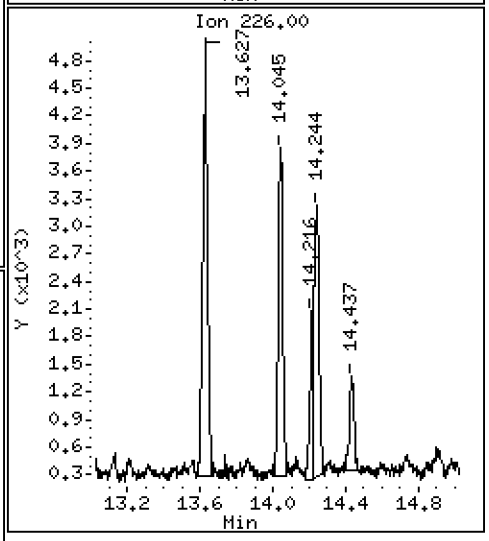
24 Benzo(a)anthracene

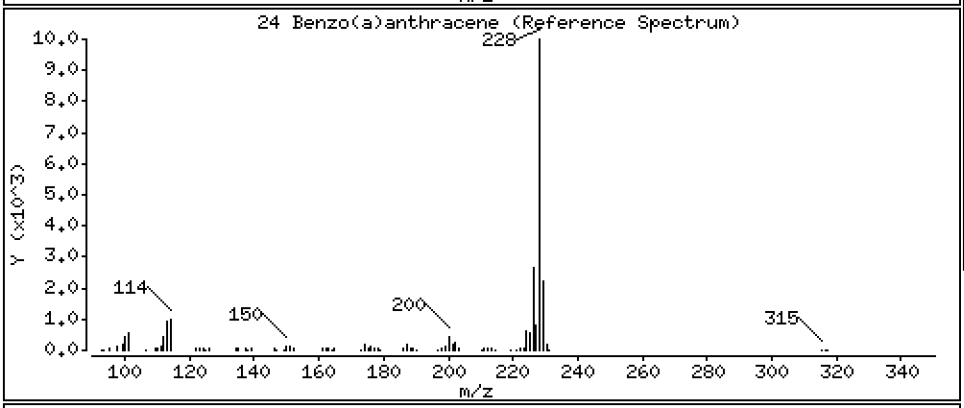
Concentration: 2.024 ug/mL

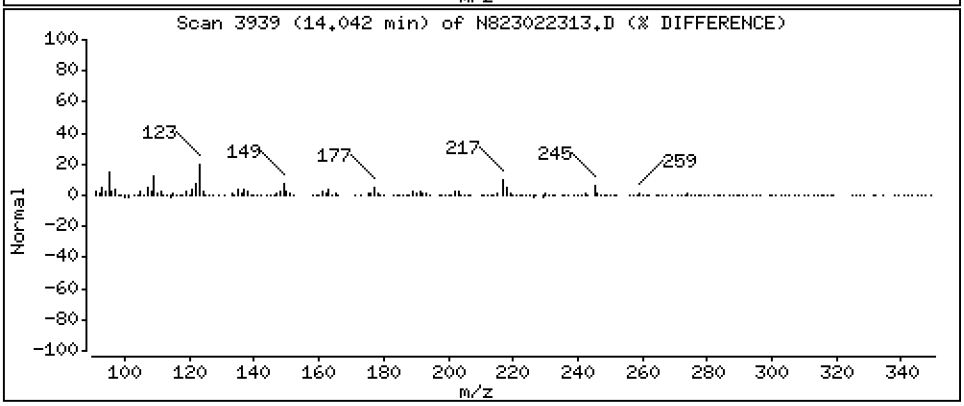












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Date : 23-FEB-2023 16:57

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-08

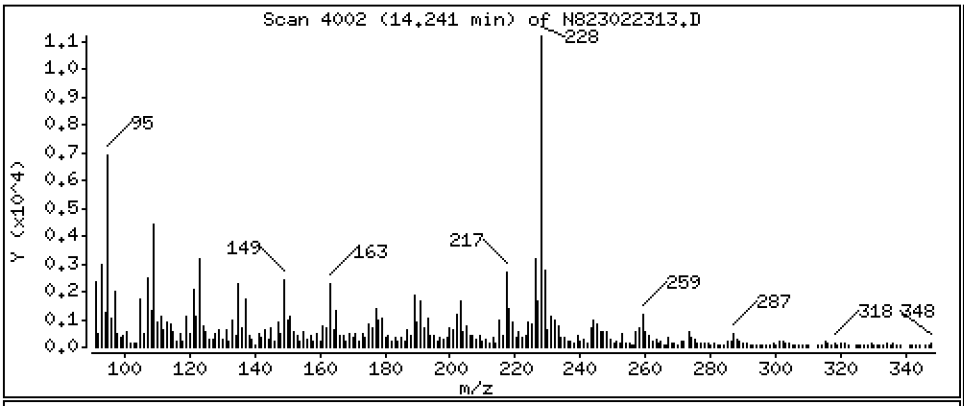
Operator: JZ

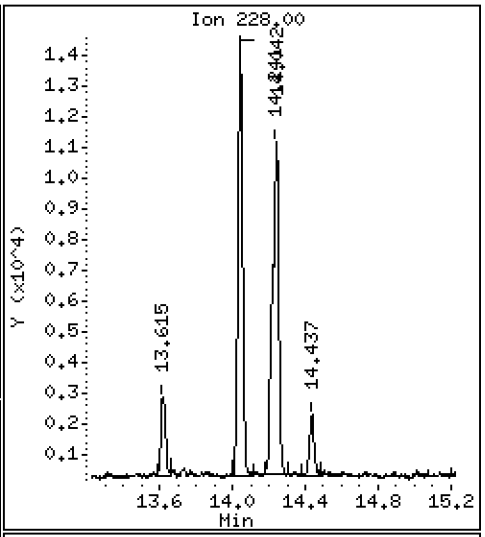
Column phase: Rxi-17sil

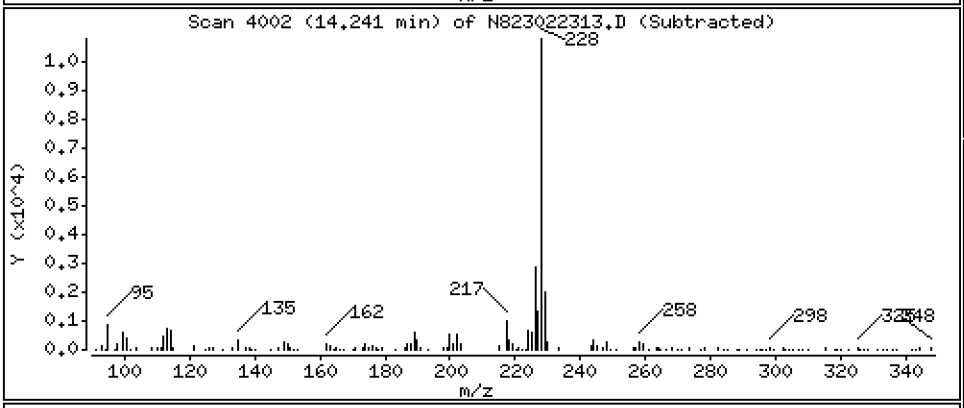
Column diameter: 0.25

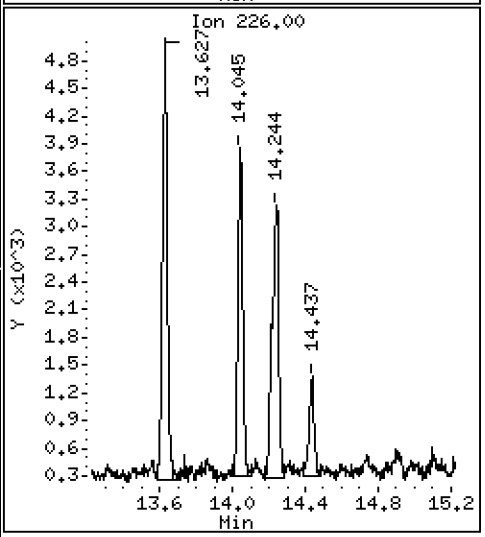
27 Chrysene

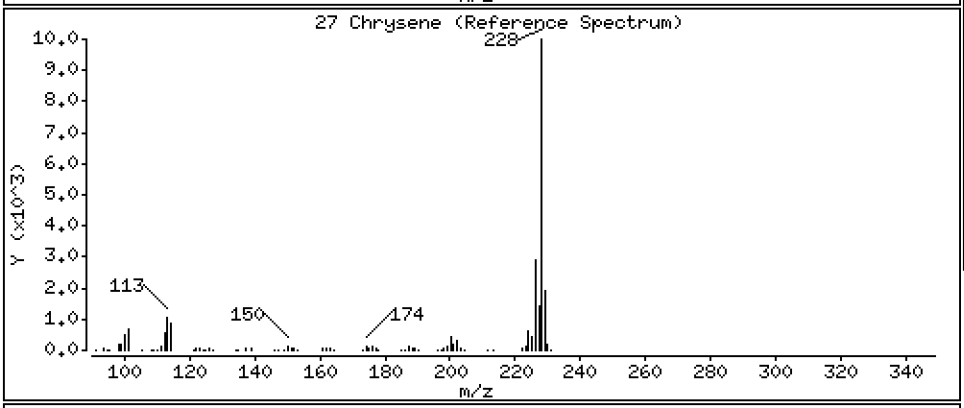
Concentration: 2.045 ug/mL

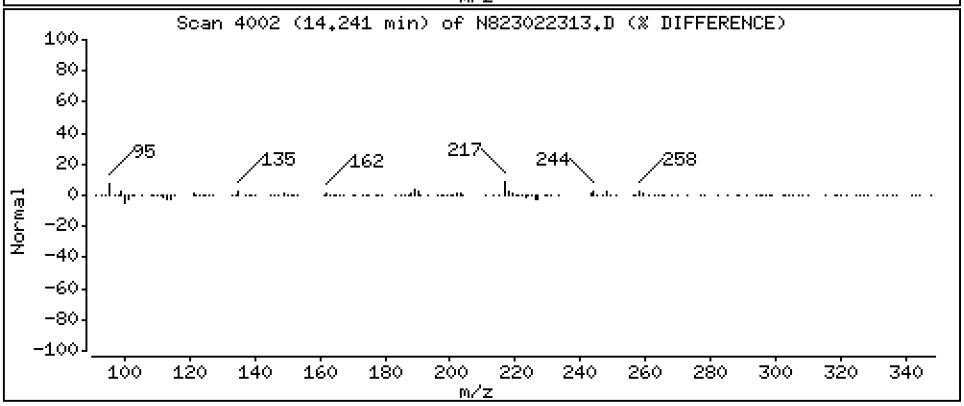












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Date : 23-FEB-2023 16:57

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-08

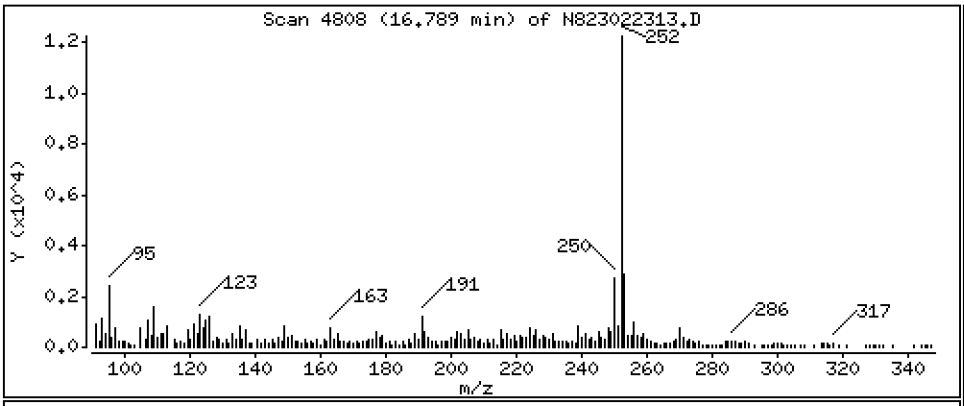
Operator: JZ

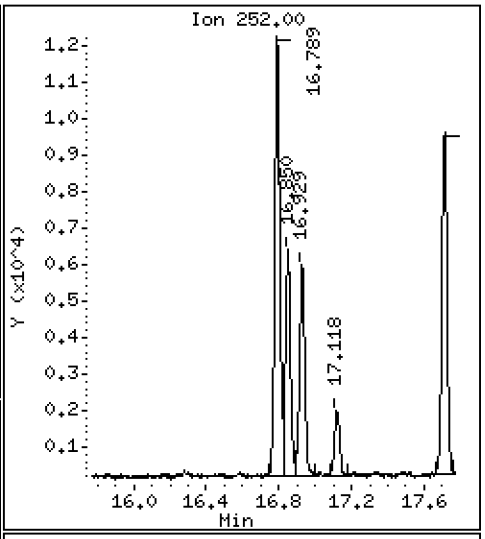
Column phase: Rxi-17sil

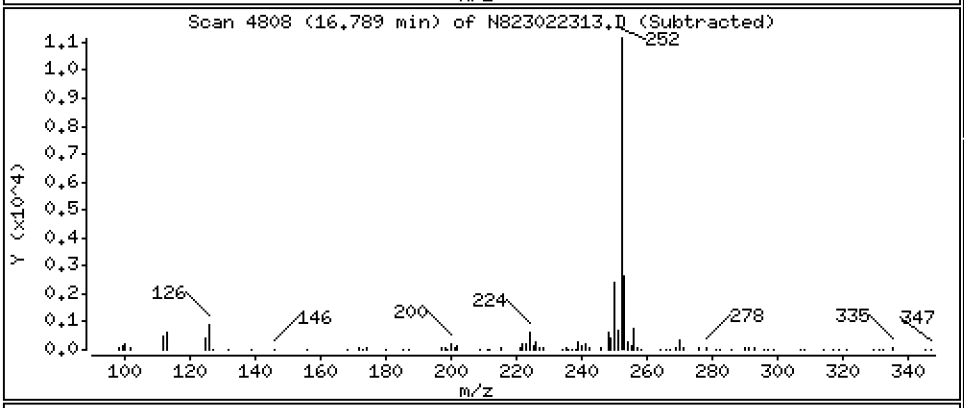
Column diameter: 0.25

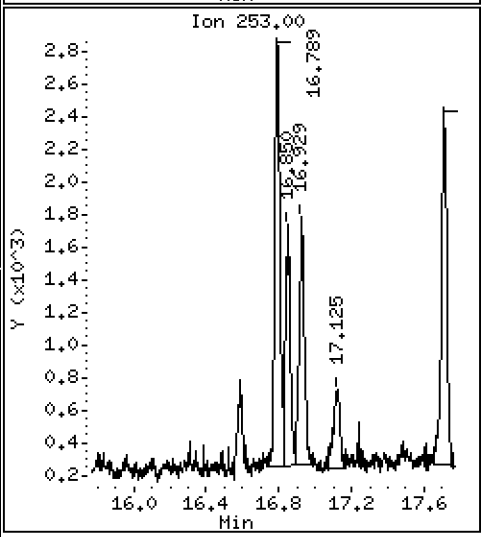
28 Benzo(b)fluoranthene

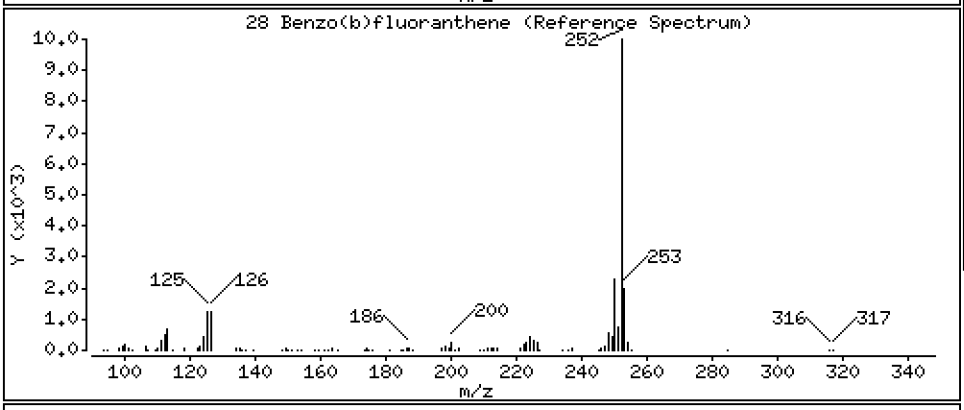
Concentration: 1.951 ug/mL

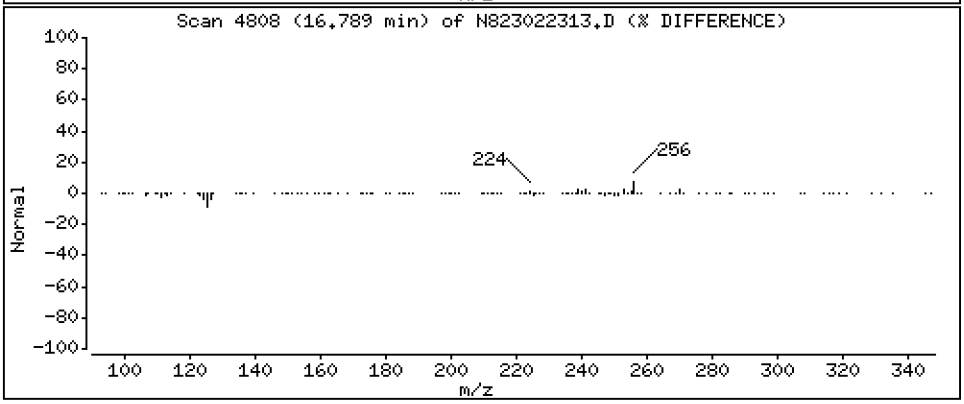












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Date : 23-FEB-2023 16:57

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-08

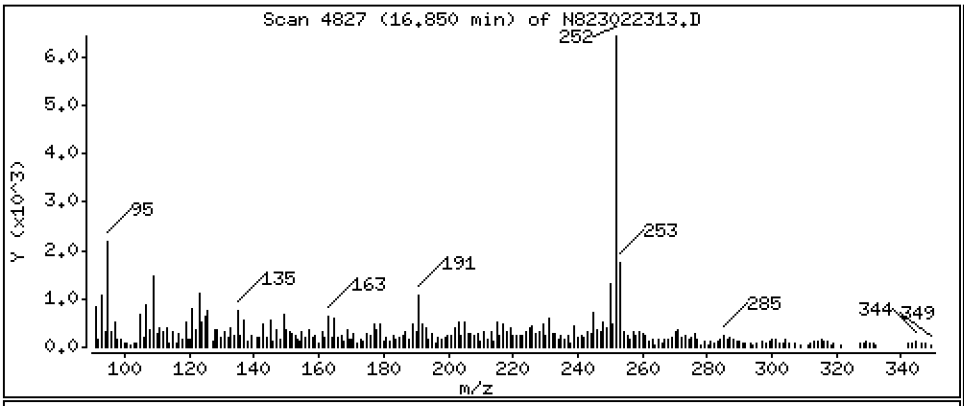
Operator: JZ

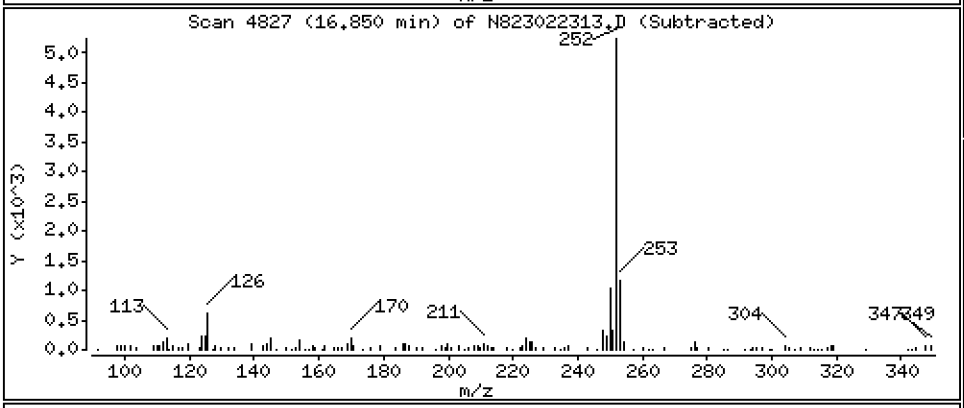
Column phase: Rxi-17sil

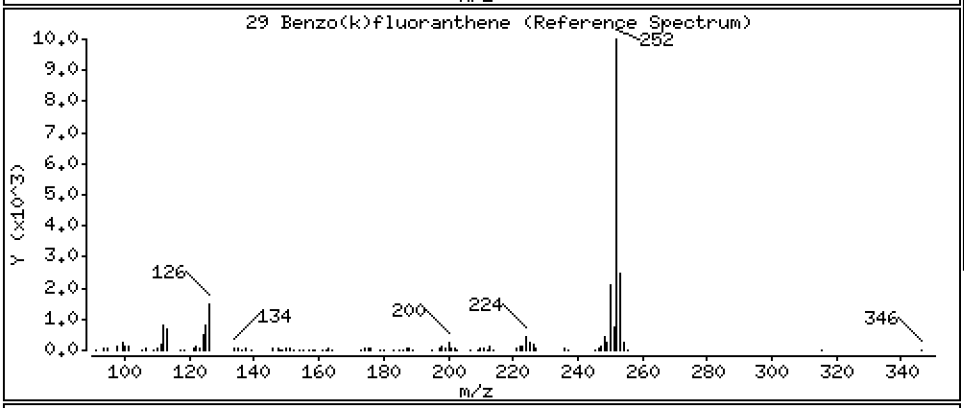
Column diameter: 0.25

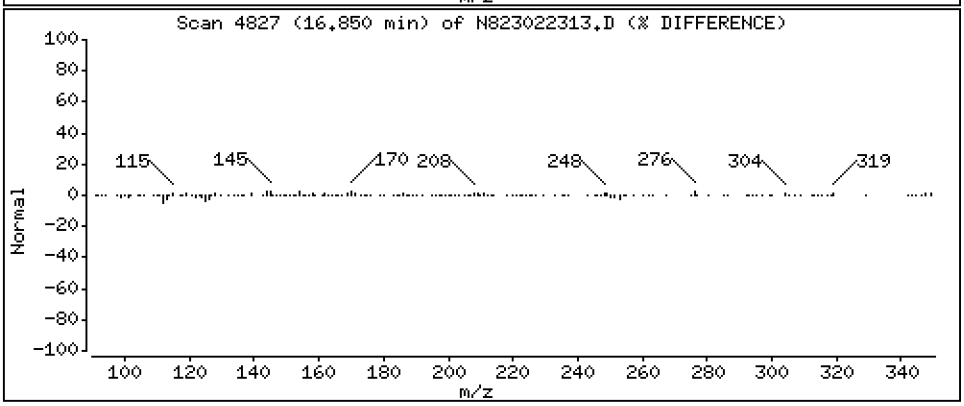
29 Benzo(k)fluoranthene

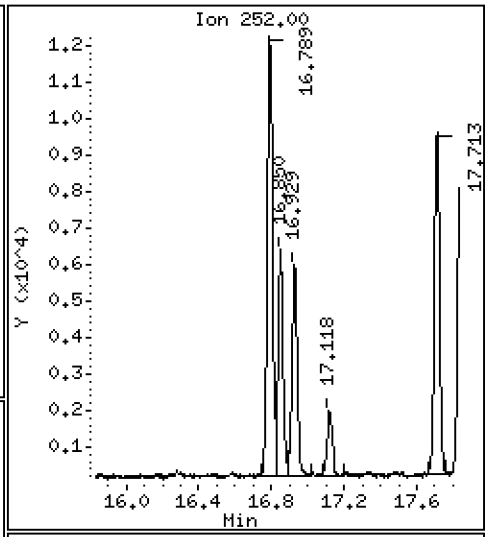
Concentration: 0.9973 ug/mL

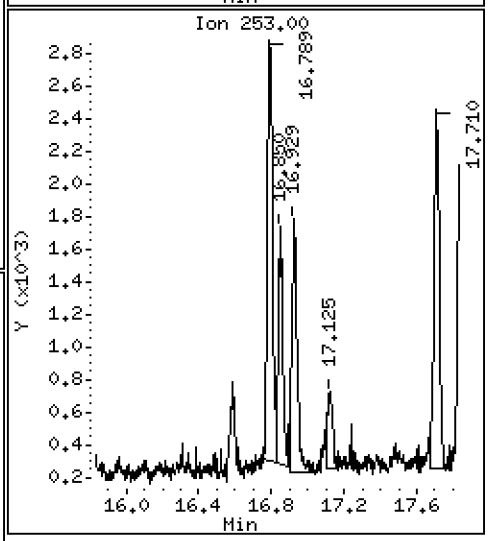












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Date : 23-FEB-2023 16:57

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-08

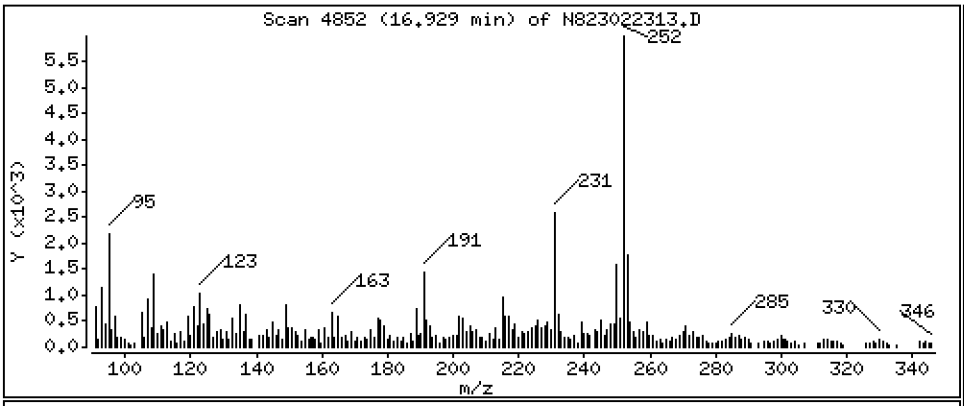
Operator: JZ

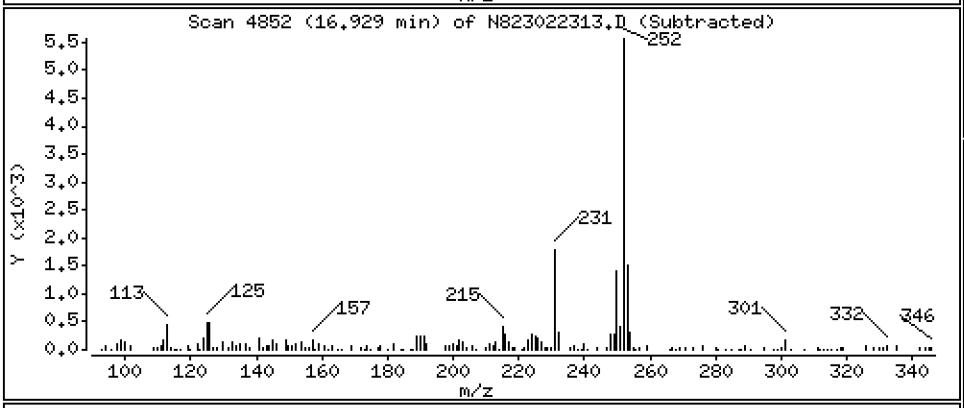
Column phase: Rxi-17sil

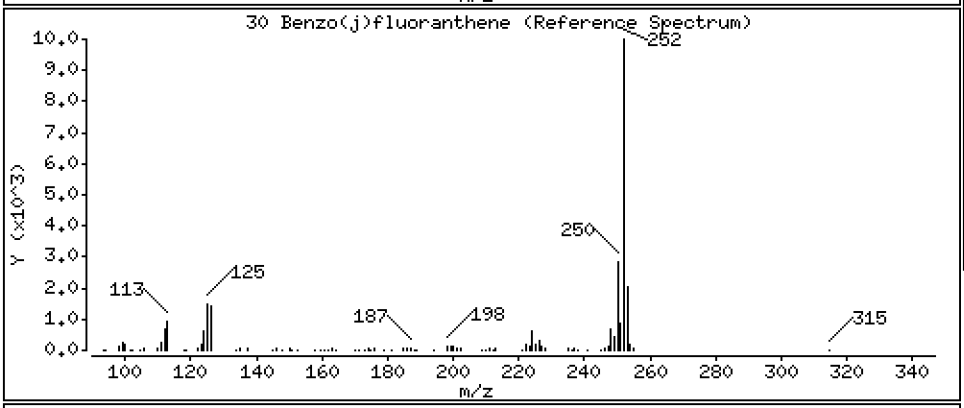
Column diameter: 0.25

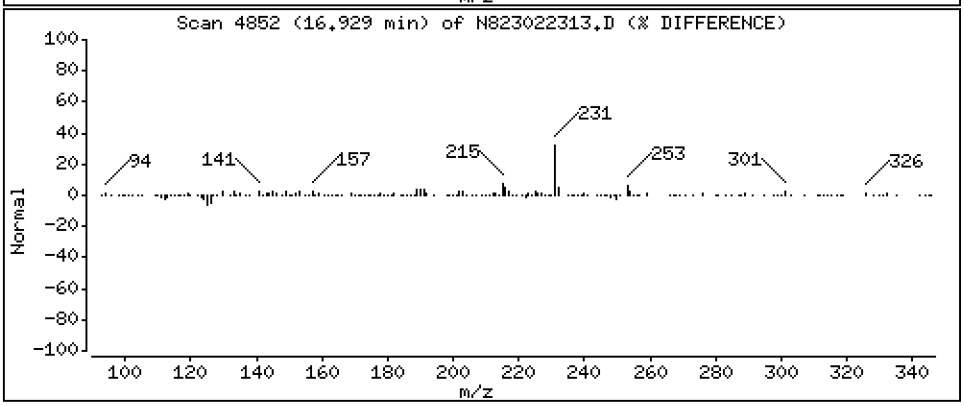
30 Benzo(j)fluoranthene

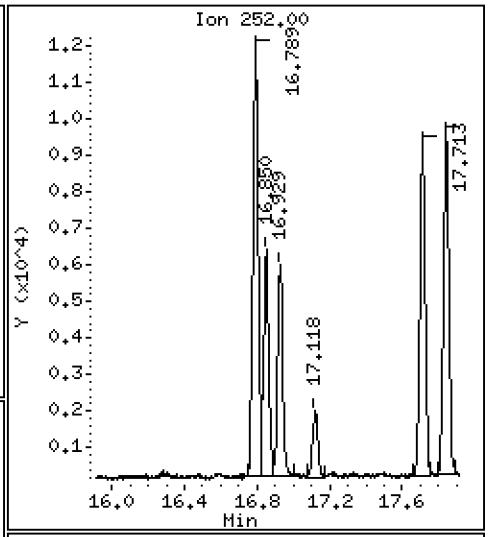
Concentration: 1.061 ug/mL

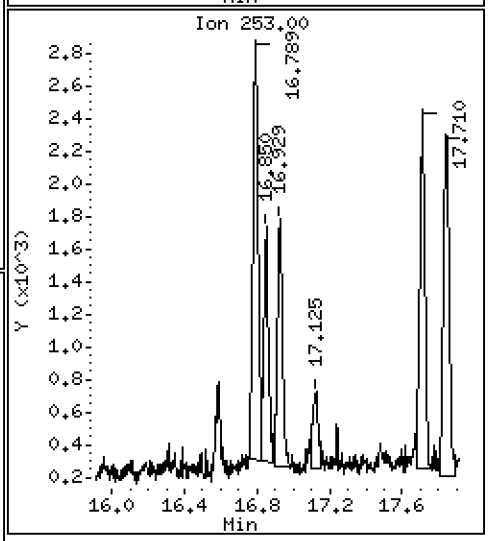












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Date : 23-FEB-2023 16:57

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-08

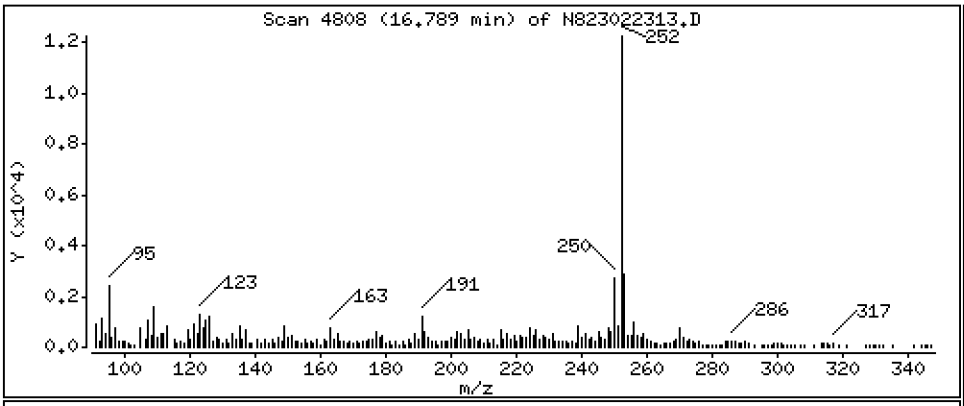
Operator: JZ

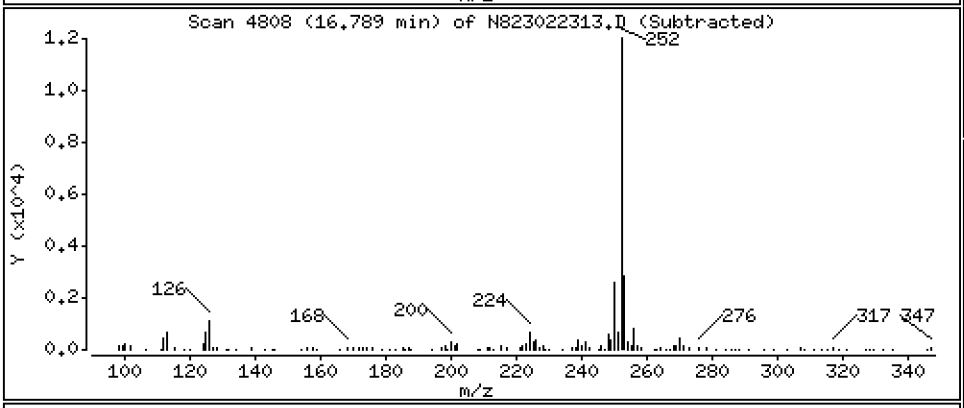
Column phase: Rxi-17sil

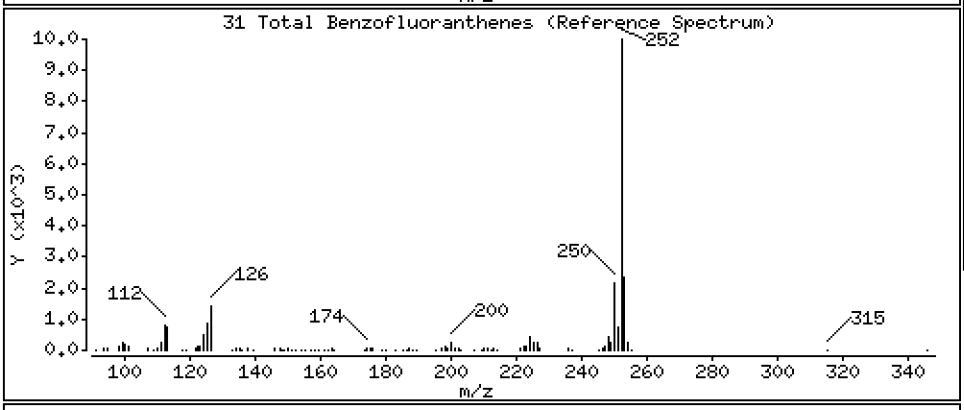
Column diameter: 0.25

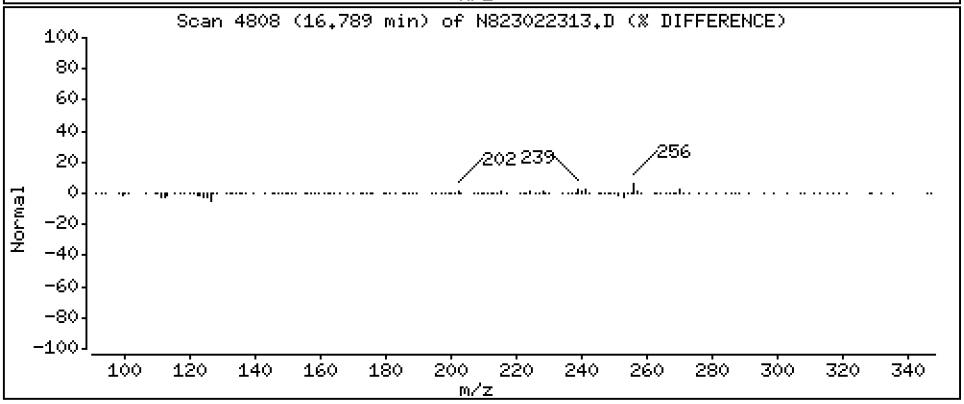
31 Total Benzofluoranthenes

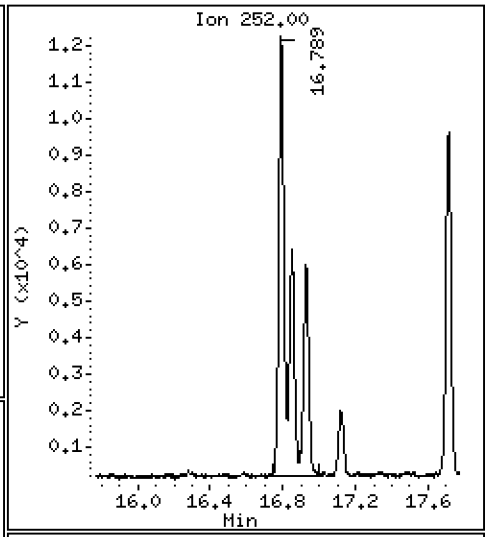
Concentration: 4.041 ug/mL

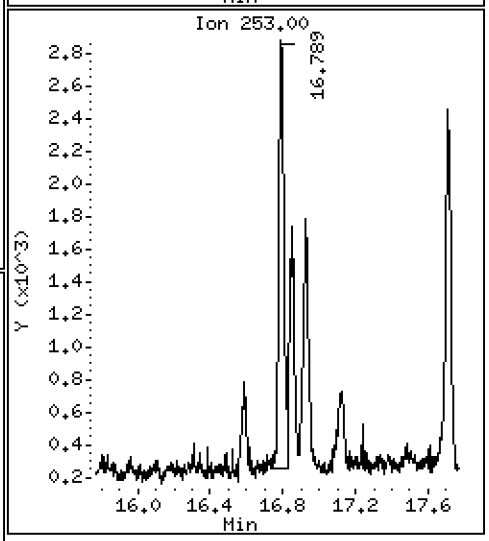












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Date : 23-FEB-2023 16:57

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-08

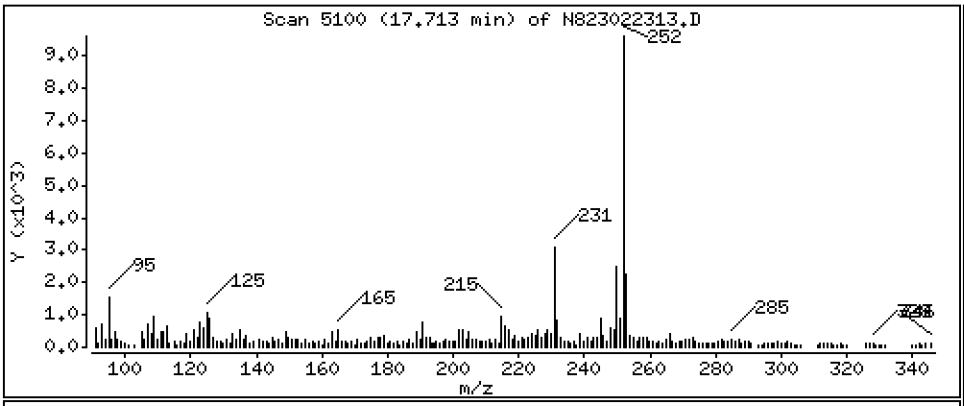
Operator: JZ

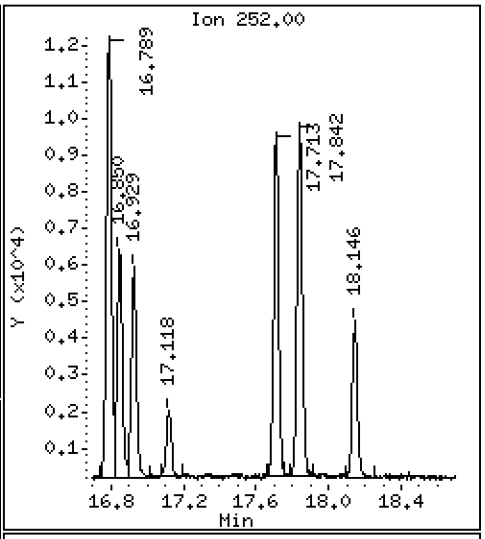
Column phase: Rxi-17sil

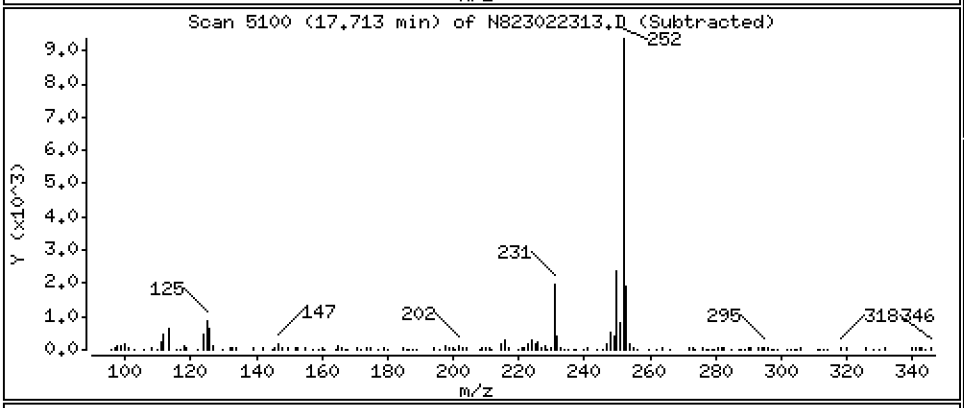
Column diameter: 0.25

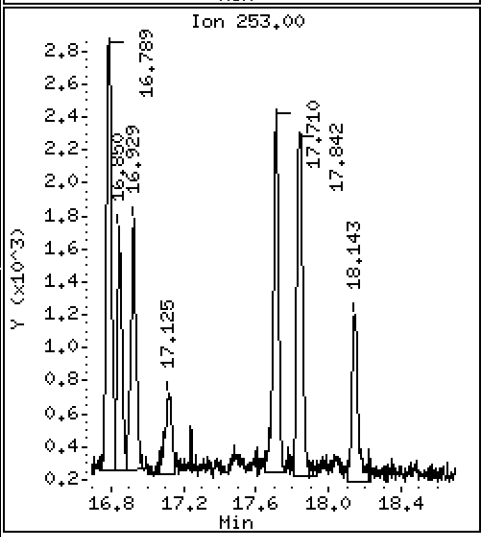
34 Benzo(e)pyrene

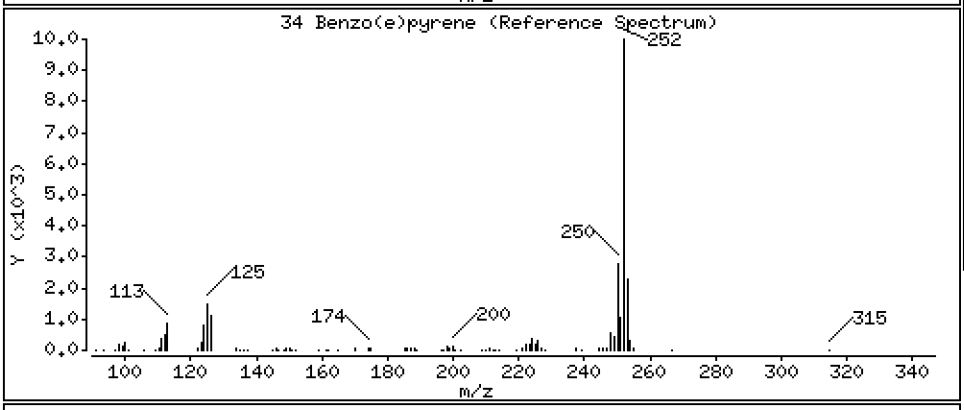
Concentration: 1.494 ug/mL

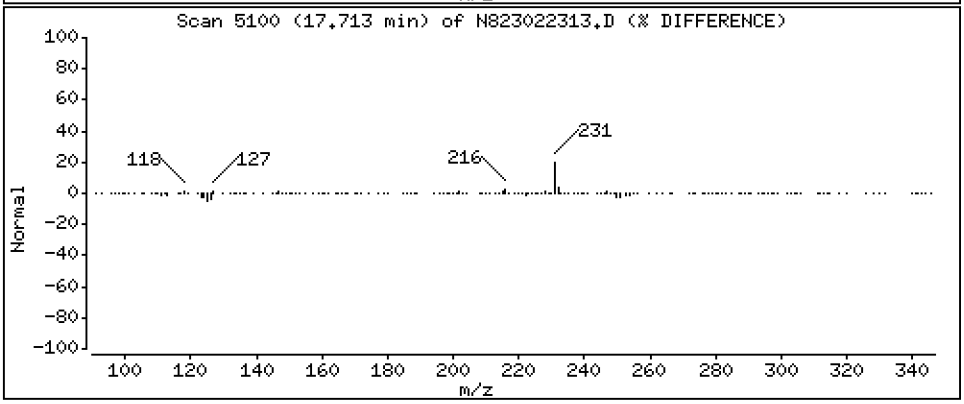












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Date : 23-FEB-2023 16:57

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-08

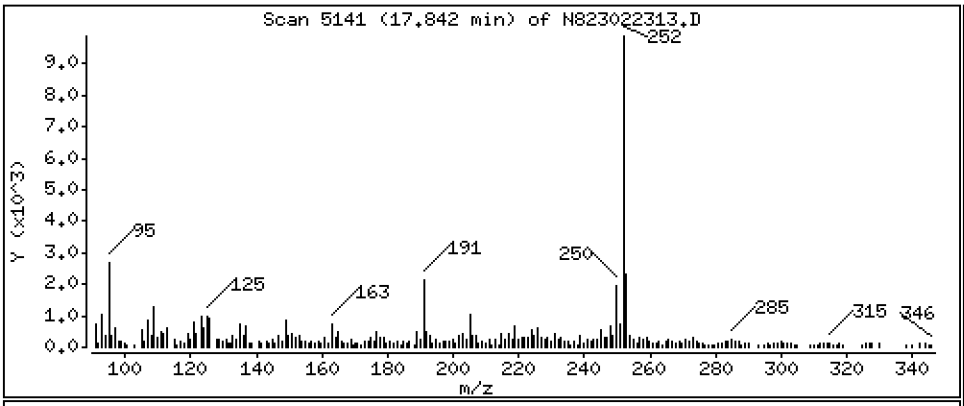
Operator: JZ

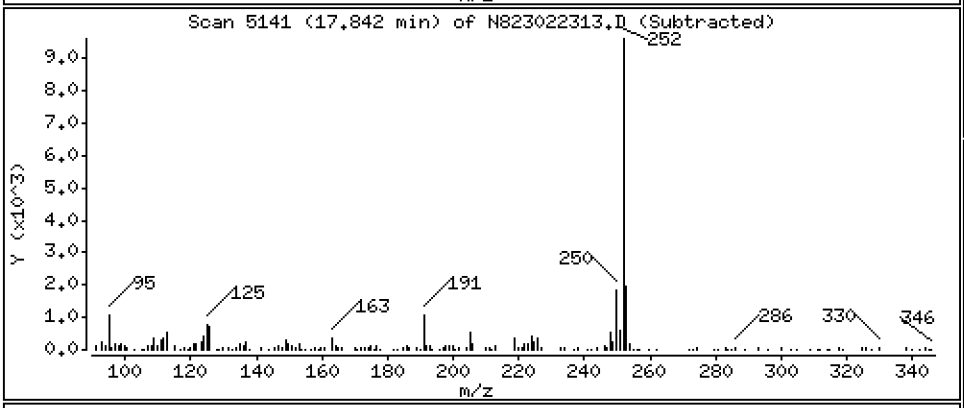
Column phase: Rxi-17sil

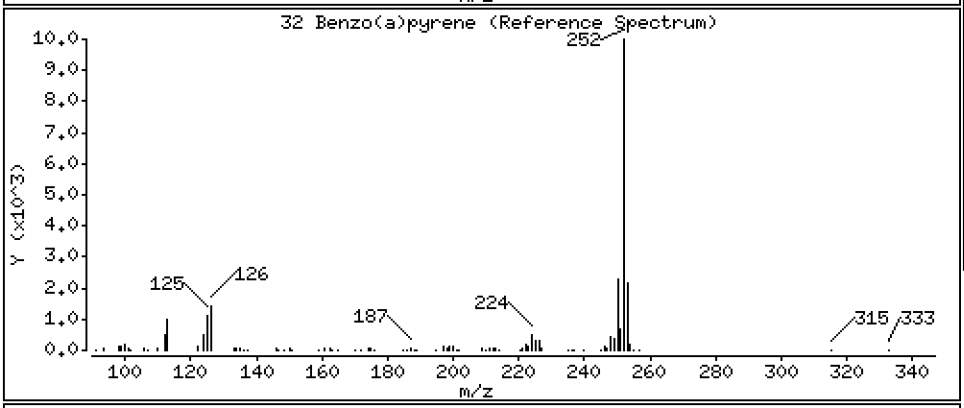
Column diameter: 0.25

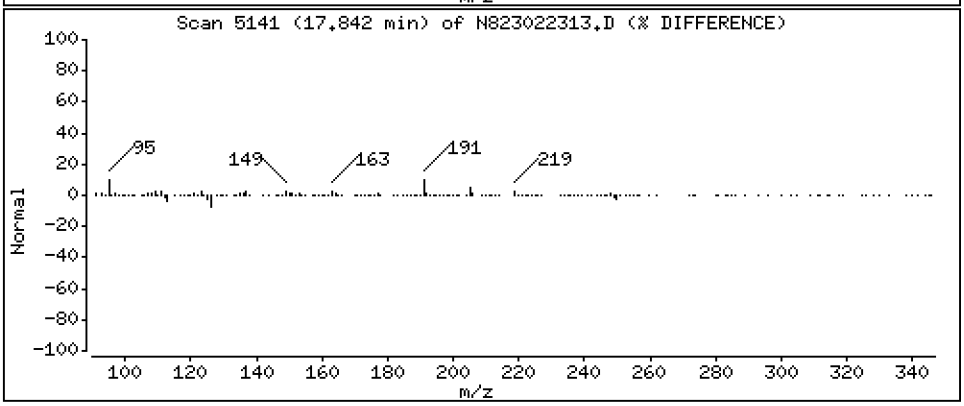
32 Benzo(a)pyrene

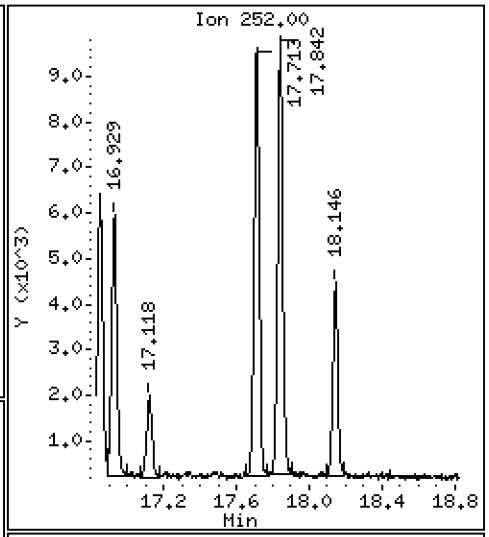
Concentration: 1.787 ug/mL

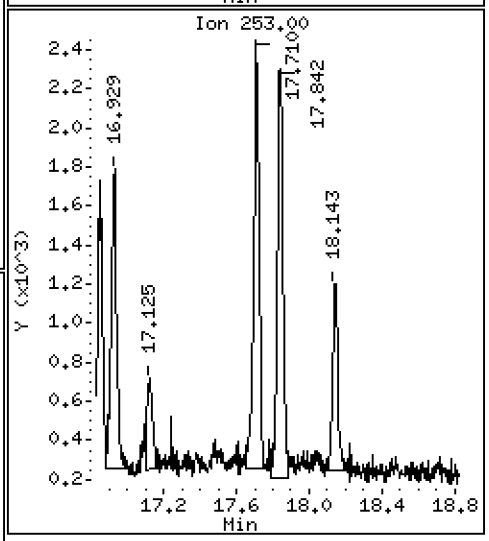












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Date : 23-FEB-2023 16:57

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-08

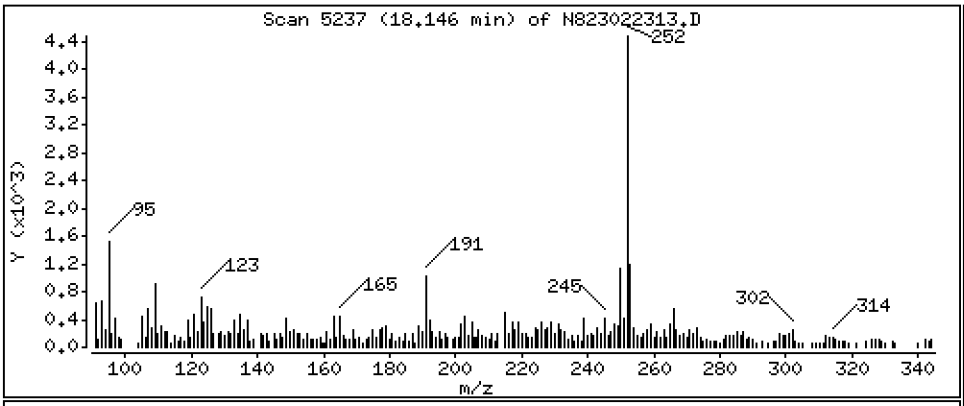
Operator: JZ

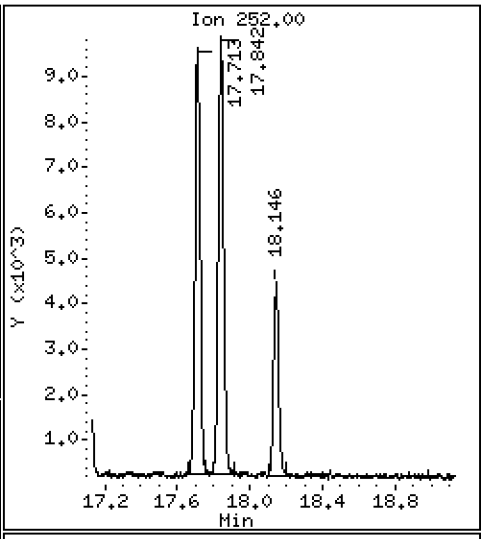
Column phase: Rxi-17sil

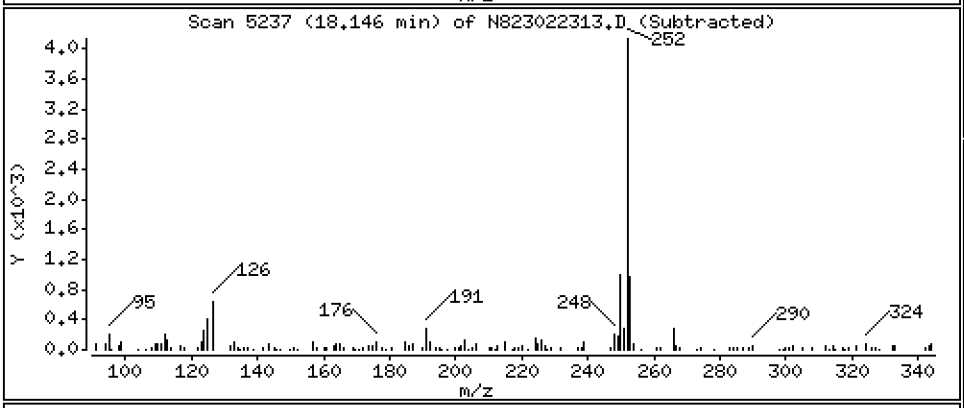
Column diameter: 0.25

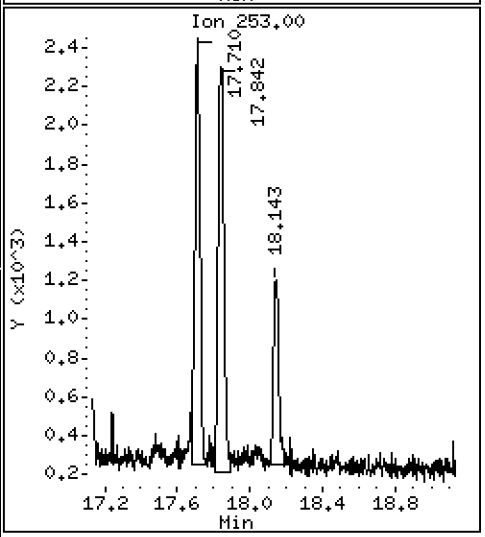
35 Perylene

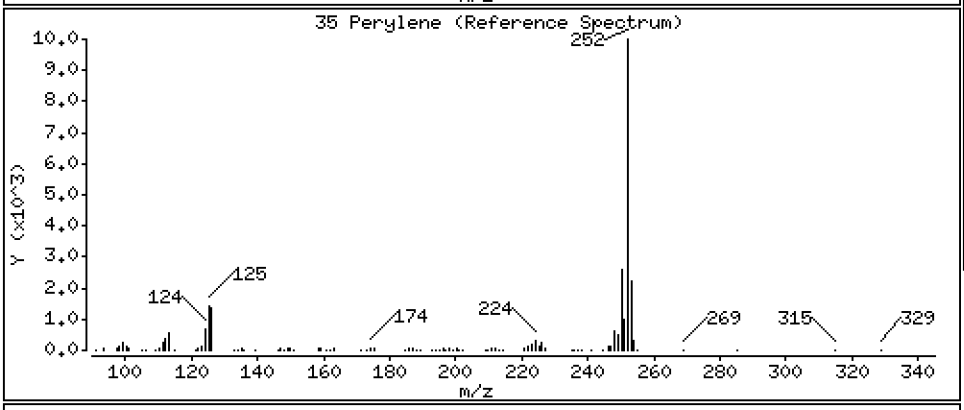
Concentration: 0.7083 ug/mL

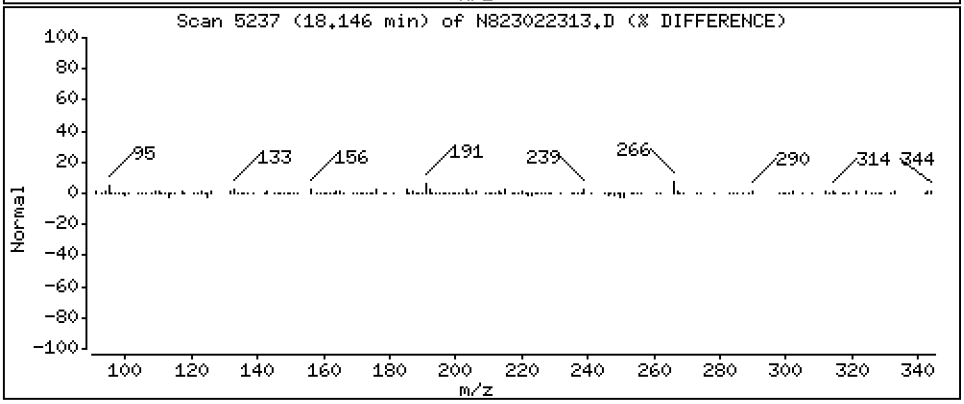












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022313.D

Date : 23-FEB-2023 16:57

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-08

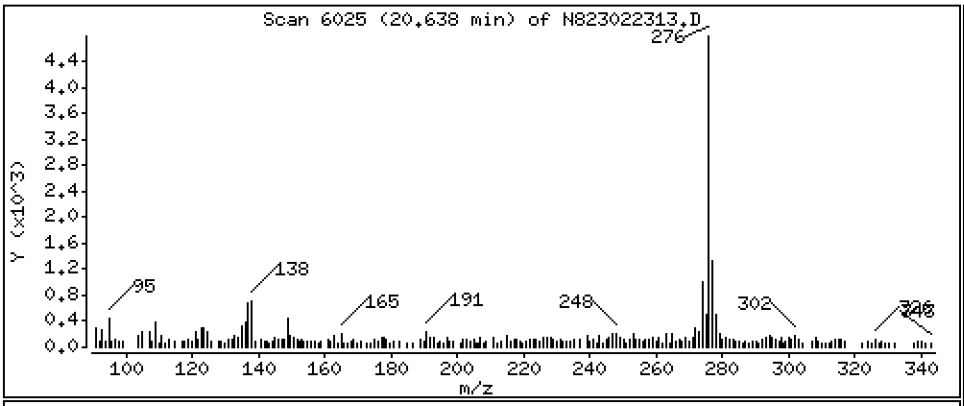
Operator: JZ

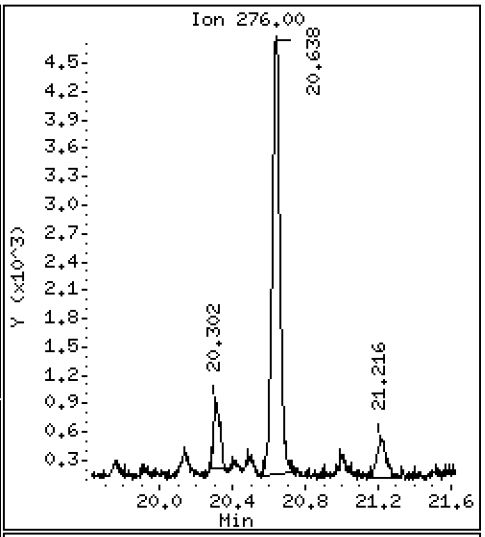
Column phase: Rxi-17sil

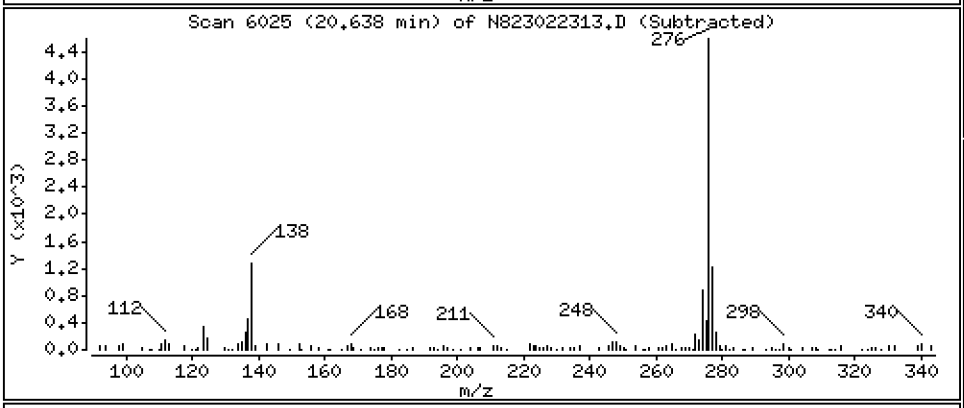
Column diameter: 0.25

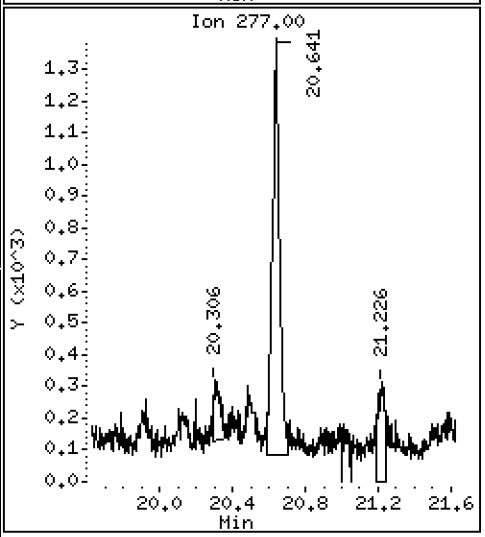
37 Indeno(1,2,3-cd)pyrene

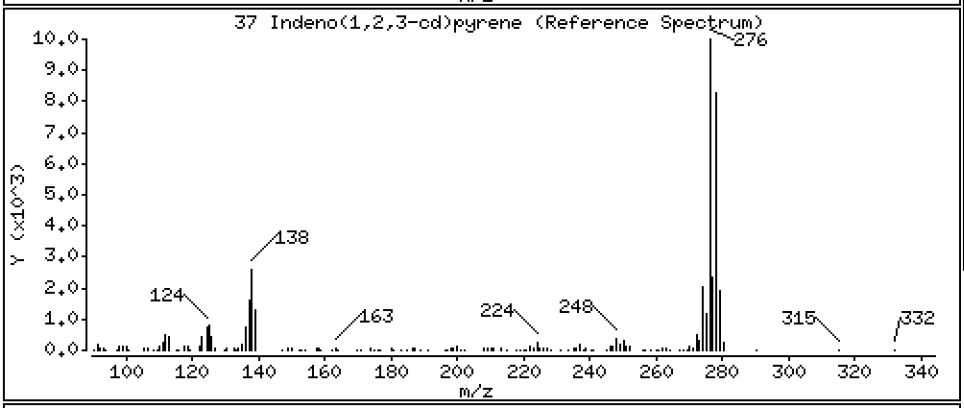
Concentration: 1.139 ug/mL

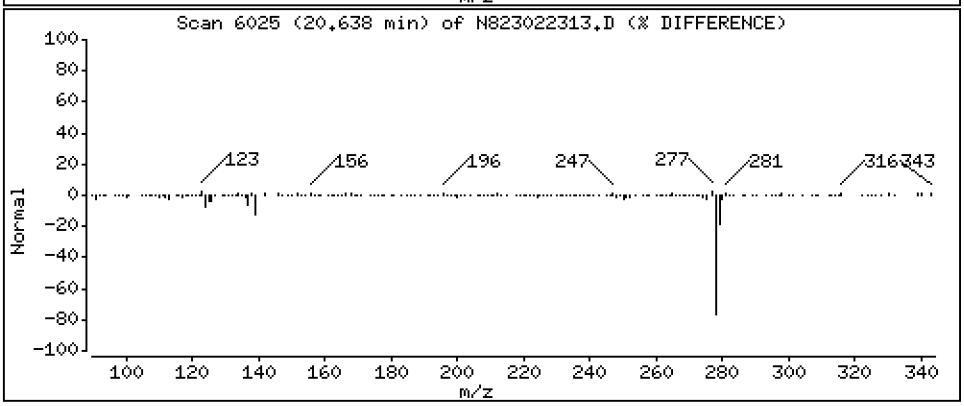












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022313.D

Date : 23-FEB-2023 16:57

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-08

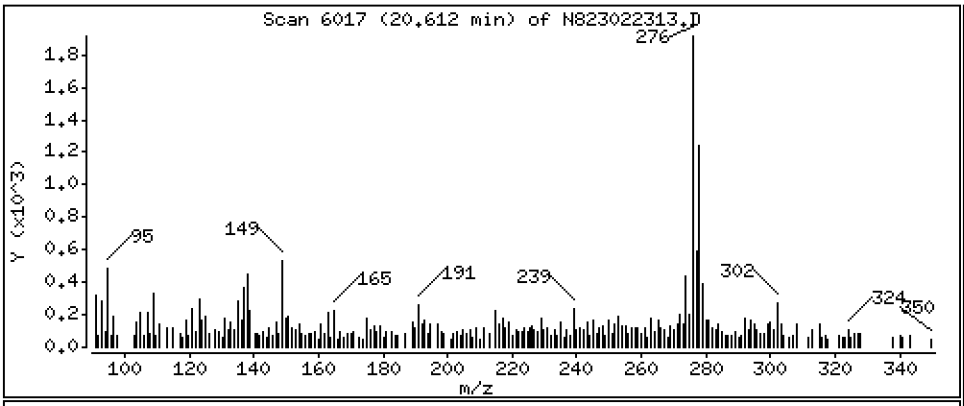
Operator: JZ

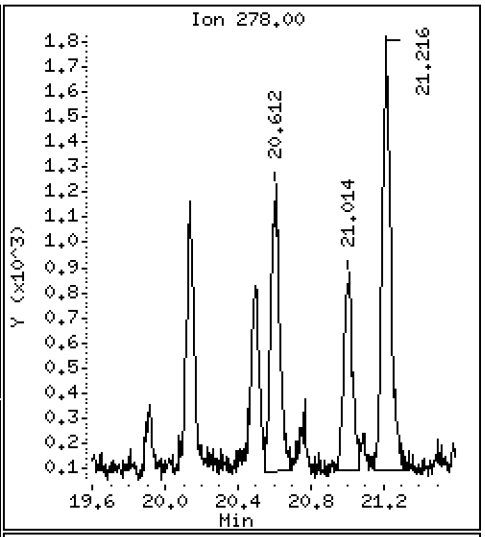
Column phase: Rxi-17sil

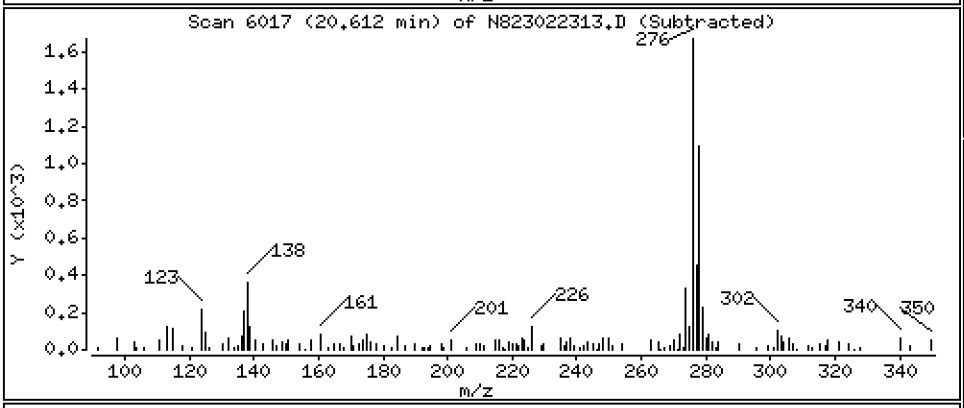
Column diameter: 0.25

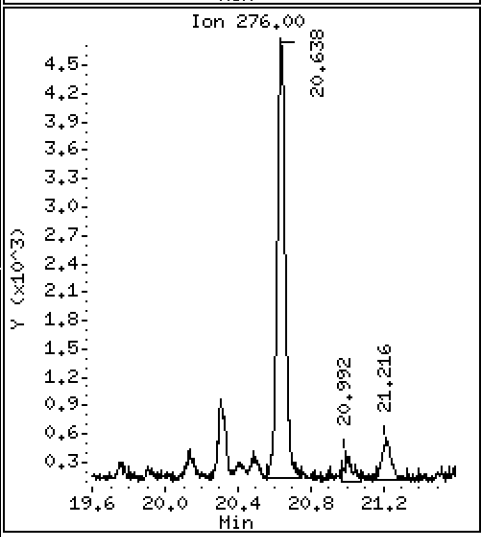
38 Dibenzo(a,h)anthracene

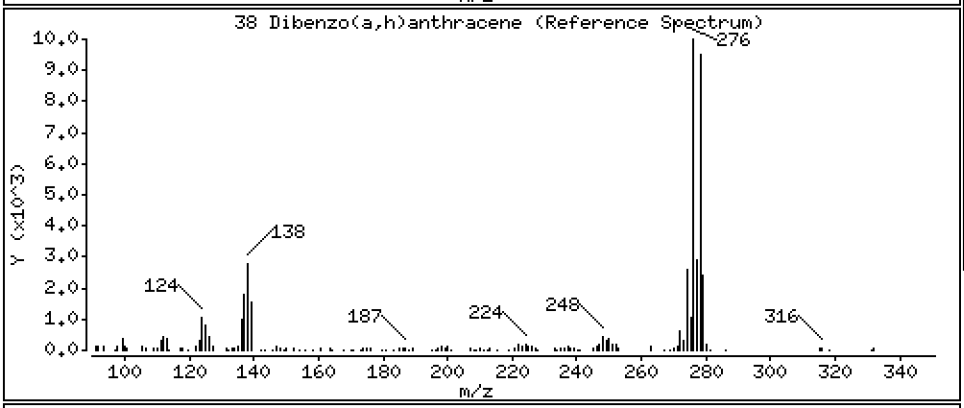
Concentration: 0.3700 ug/mL

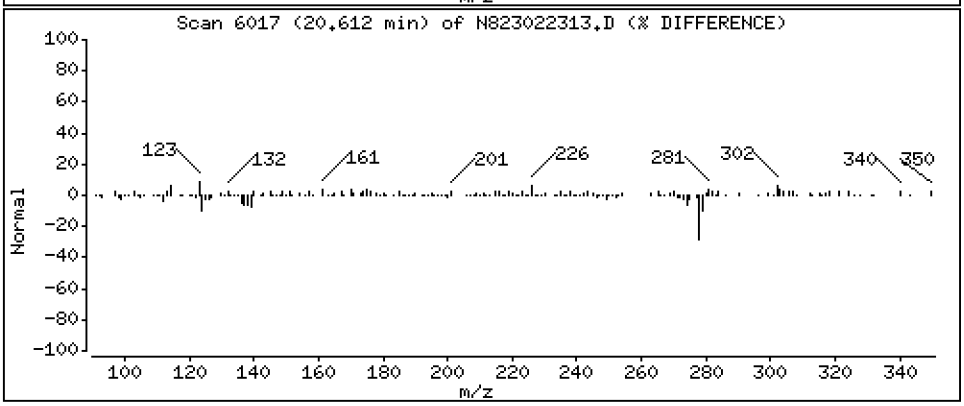












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022313.D

Date : 23-FEB-2023 16:57

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-08

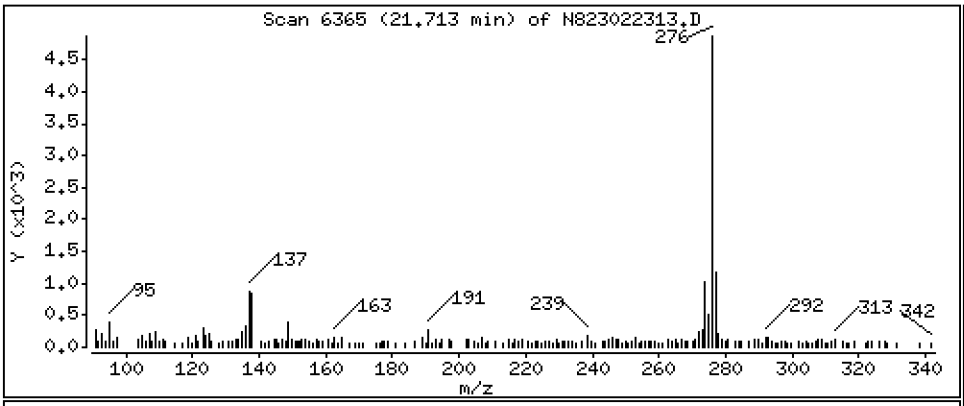
Operator: JZ

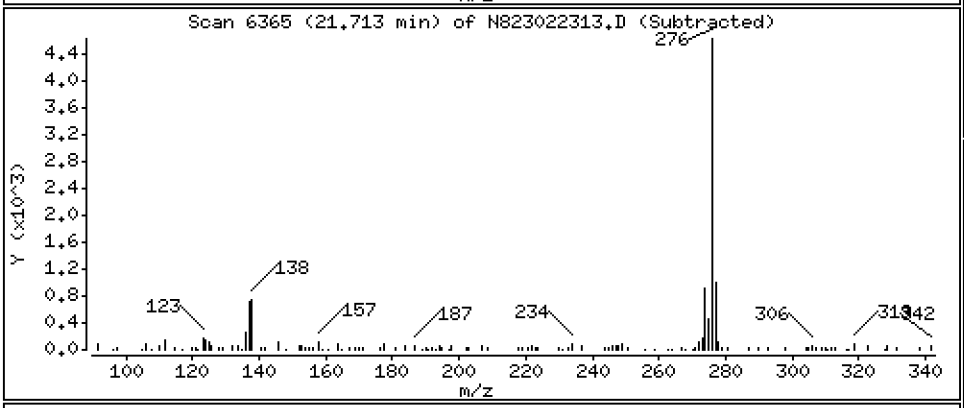
Column phase: Rxi-17sil

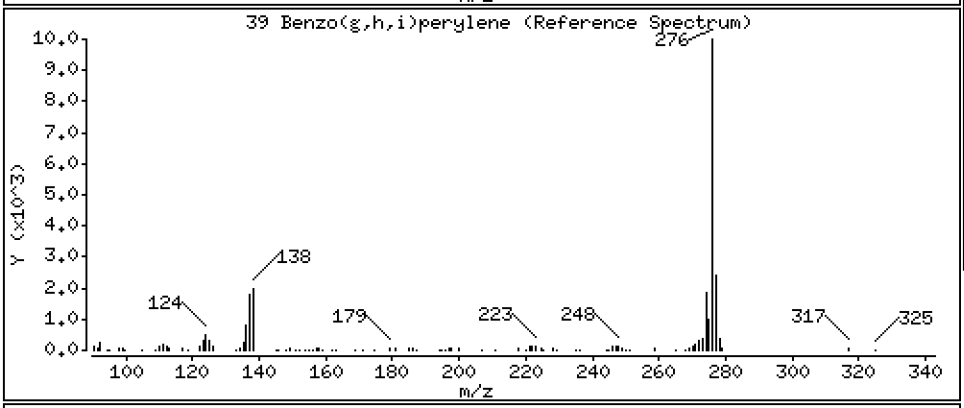
Column diameter: 0.25

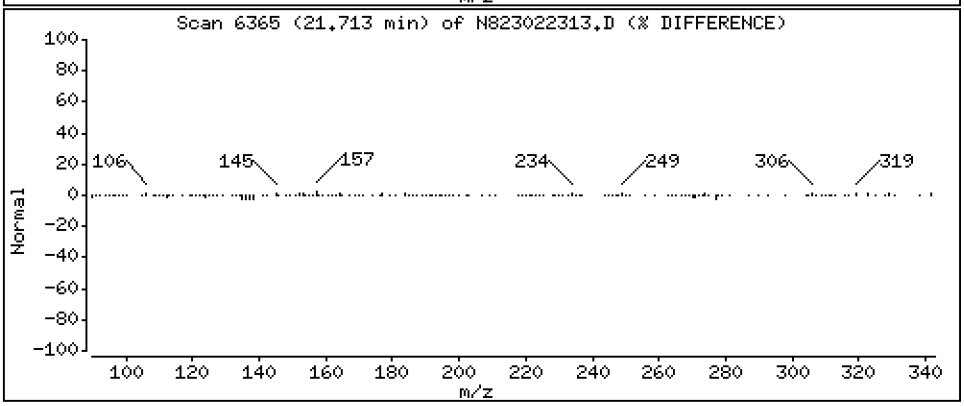
39 Benzo(g,h,i)perylene

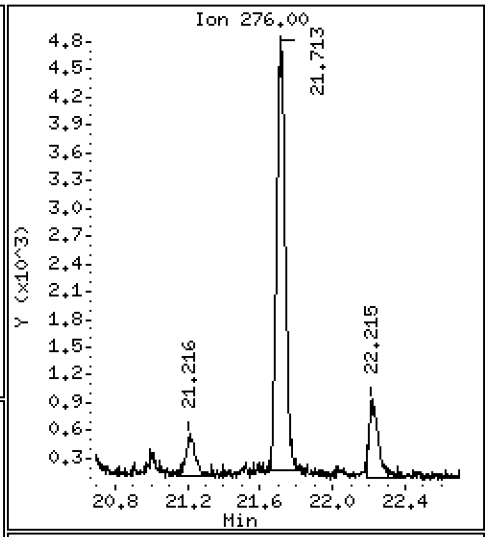
Concentration: 1.388 ug/mL

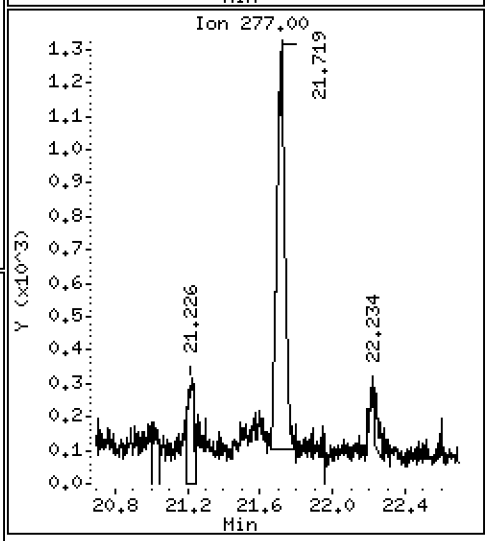












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230223.b\N823022313.D
Lab Smp Id: 23A0418-08
Inj Date : 23-FEB-2023 16:57
Operator : JZ Inst ID: nt8.i
Smp Info : 23A0418-08
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Meth Date : 26-Feb-2023 12:40 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PNAXEMDL.sub
Target Version: 4.14
Processing Host: JIANQING-202105

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.862	4.871	(1.000)	40119	2.00000	
	2 Naphthalene	128	4.894	4.903	(1.007)	4106	0.22012	0.2201
$	3 2-Methylnaphthalene-d10	152	5.602	5.605	(1.152)	22410	2.04817	2.048
	4 2-Methylnaphthalene	141	5.649	5.652	(1.162)	3107	0.30281	0.3028
	5 1-methylnaphthalene	141	5.845	5.849	(1.202)	1442	0.13847	0.1385
	9 Acenaphthylene	152	7.047	7.050	(0.985)	1703	0.09740	0.09740
*	10 Acenaphthene-d10	164	7.158	7.158	(1.000)	23154	2.00000	
	11 Acenaphthene	153	7.208	7.208	(1.007)	2683	0.22902	0.2290(M)
	12 Dibenzofuran	168	7.360	7.360	(1.028)	3461	0.19451	0.1945(M)
	14 Fluorene	166	7.841	7.837	(1.095)	2640	0.19103	0.1910(M)
*	15 Phenanthrene-d10	188	9.203	9.197	(1.000)	41927	2.00000	
	16 Phenanthrene	178	9.238	9.235	(1.004)	19954	0.97430	0.9743
	17 Anthracene	178	9.279	9.276	(1.008)	9703	0.52153	0.5215
	19 Carbazole	167	9.795	9.791	(1.064)	2627	0.15402	0.1540
	22 Fluoranthene	202	11.034	11.009	(1.199)	126116	5.65717	5.657
$	21 Fluoranthene-d10	212	10.996	10.971	(1.195)	49873	2.69612	2.696
	23 Pyrene	202	11.565	11.527	(0.816)	134183	10.0046	10.00
	24 Benzo(a)anthracene	228	14.041	14.025	(0.991)	24605	2.02402	2.024
*	25 Chrysene-d12	240	14.168	14.152	(1.000)	21633	2.00000	
	27 Chrysene	228	14.240	14.225	(1.005)	26459	2.04455	2.045
	28 Benzo(b)fluoranthene	252	16.789	16.770	(0.929)	24045	1.95149	1.951
	29 Benzo(k)fluoranthene	252	16.849	16.833	(0.932)	12036	0.99728	0.9973
	30 Benzo(j)fluoranthene	252	16.928	16.912	(0.937)	11529	1.06113	1.061
	31 Total Benzofluoranthenes	252	16.789	16.770	(0.929)	47150	4.04063	4.041(M)
	34 Benzo(e)pyrene	252	17.712	17.696	(0.980)	18356	1.49396	1.494
	32 Benzo(a)pyrene	252	17.842	17.826	(0.987)	19373	1.78673	1.787
*	33 Perylene-d12	264	18.070	18.057	(1.000)	21156	2.00000	
	35 Perylene	252	18.145	18.130	(1.004)	8241	0.70827	0.7083
$	36 Dibenzo(a,h)anthracene-d14	292	20.495	20.485	(1.134)	22413	2.70382	2.704
	37 Indeno(1,2,3-cd)pyrene	276	20.637	20.624	(1.142)	14070	1.13904	1.139
	38 Dibenzo(a,h)anthracene	278	20.612	20.596	(1.141)	3933	0.36998	0.3700
	39 Benzo(g,h,i)perylene	276	21.712	21.696	(1.202)	15537	1.38827	1.388

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823022313.D
Lab Smp Id: 23A0418-08
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 23-FEB-2023
Calibration Time: 11:46
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	37022	18511	74044	40119	8.37
10 Acenaphthene-d10	22454	11227	44908	23154	3.12
15 Phenanthrene-d10	43277	21639	86554	41927	-3.12
25 Chrysene-d12	38907	19454	77814	21633	-44.40
33 Perylene-d12	39582	19791	79164	21156	-46.55

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.87	4.37	5.37	4.86	-0.19
10 Acenaphthene-d10	7.16	6.66	7.66	7.16	0.00
15 Phenanthrene-d10	9.20	8.70	9.70	9.20	0.07
25 Chrysene-d12	14.15	13.65	14.65	14.17	0.11
33 Perylene-d12	18.06	17.56	18.56	18.07	0.07

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

REVIEW SUMMARY FOR FILE - N823022313.D

Lab ID: 23A0418-08
nt8.i, 20230223.b\FSIMPNA230119.m,   23-FEB-2023 16:57

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

No RRT check performed

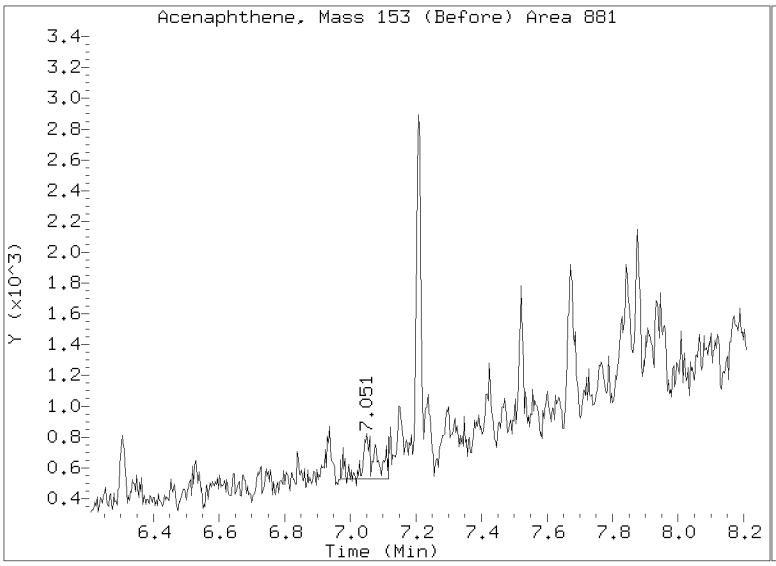
On Column LOD for nt8.i, 20230223.b\FSIMPNA230119.m, PNAXEMDL.sub = 0.0080

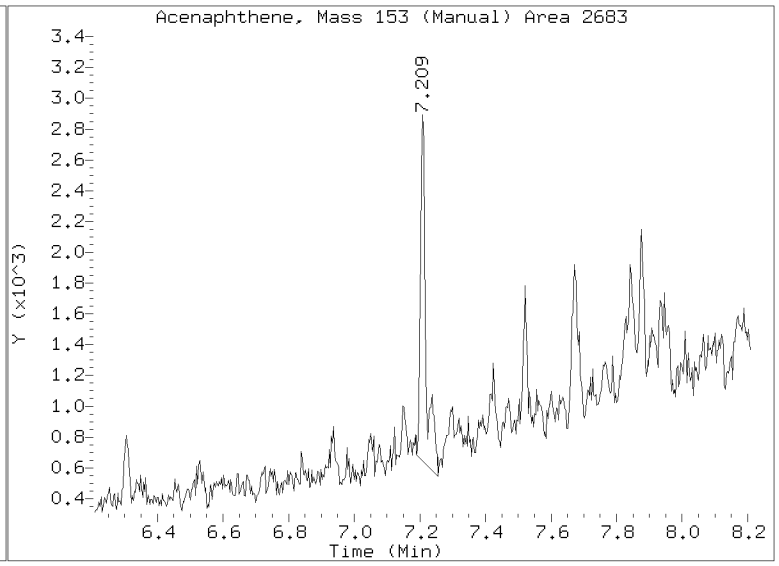
Exception: Benzo(e)pyrene 0.0800

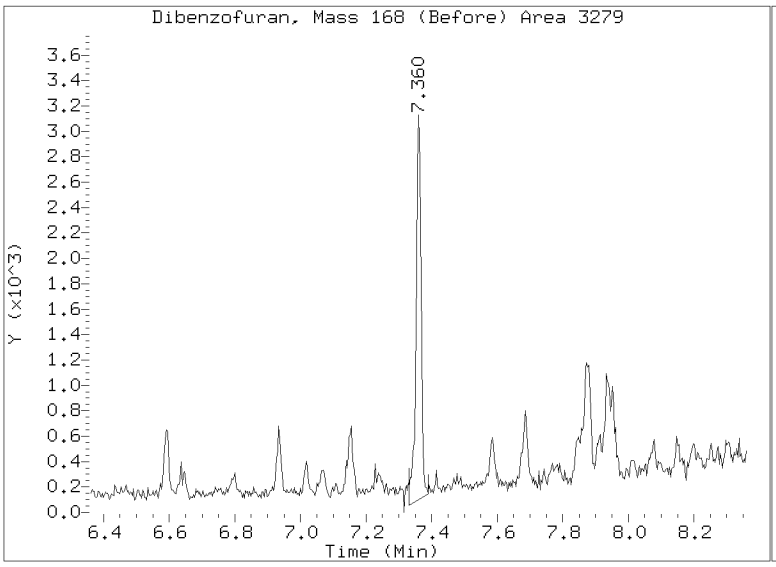
* Only compounds listed in the work order have been verified by the analyst *

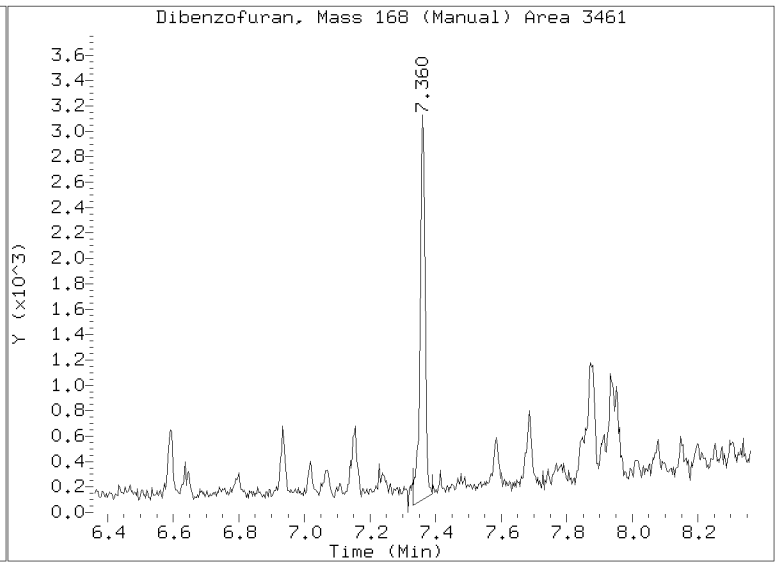
Quant Ion Manual Peak Adjustment Report

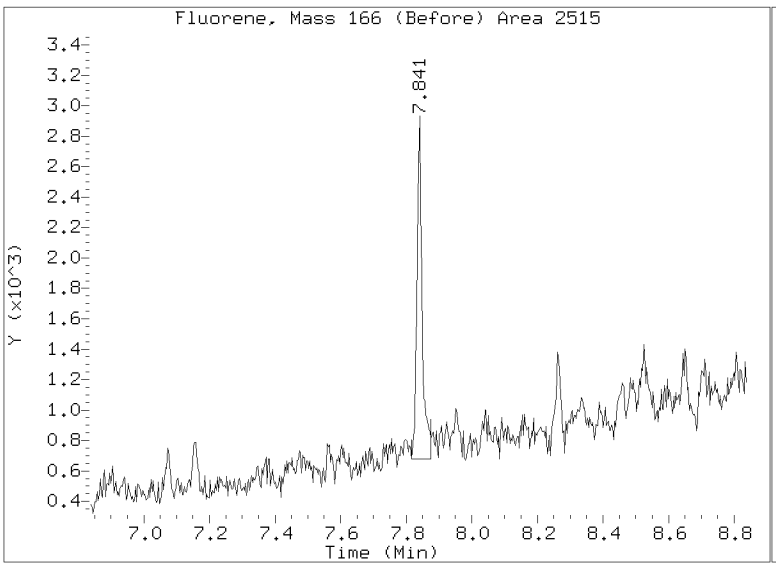
Datafile: //target/share/chem3/nt8.i/20230223.b/N823022313.D
Injection Date: 23-FEB-2023 16:57
Lab ID:23A0418-08 Client ID:
Report Date: 02/26/2023 14:18

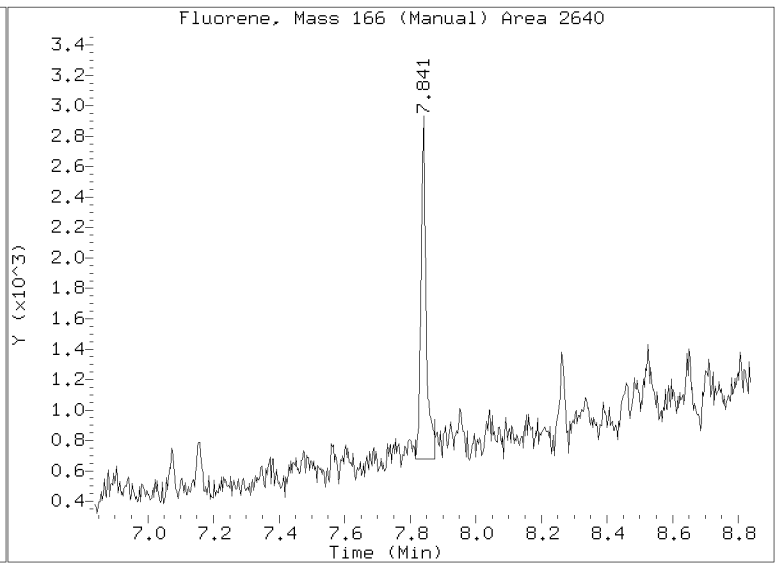






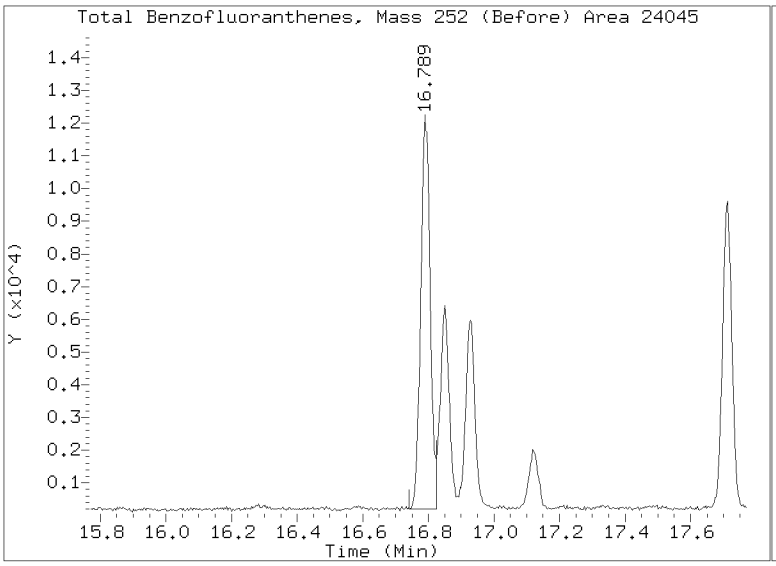


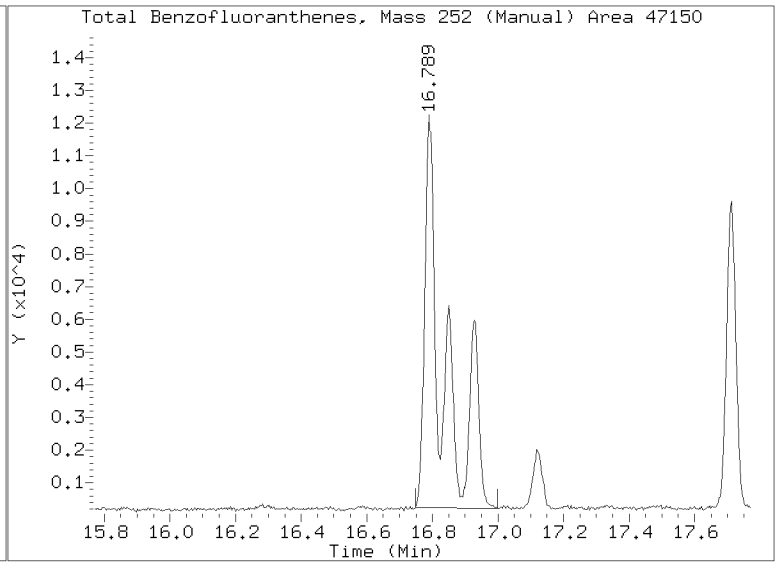




Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20230223.b/N823022313.D
Injection Date: 23-FEB-2023 16:57
Lab ID:23A0418-08 Client ID:
Report Date: 02/26/2023 14:18





Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270E-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-09 A	SDG:	23A0418
Sampled:	01/18/23 13:57	Prepared:	02/16/23 14:32	File ID:	N823022316.D
% Solids:	79.45	Preparation:	EPA 3546 (Microwave)	Analyzed:	02/23/23 18:18
Batch:	BLB0386	Sequence:	SLB0310	Initial/Final:	12.86 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	GA00050
Cleanups:	GPC, Silica Gel				

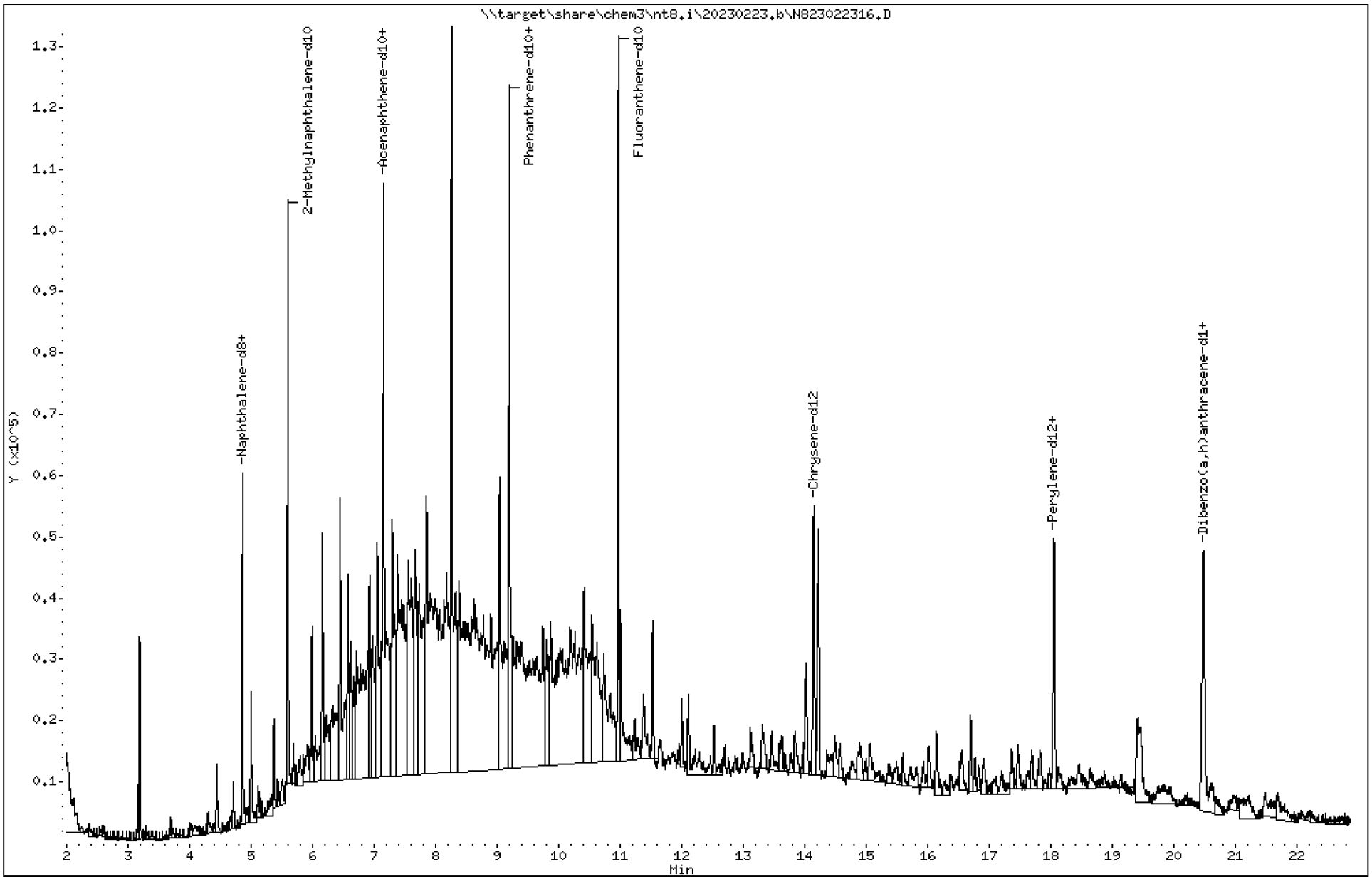
CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	24.3		0.81	4.89
218-01-9	Chrysene	1	78.8		1.03	4.89
205-99-2	Benzo(b)fluoranthene	1	12.6		1.34	4.89
207-08-9	Benzo(k)fluoranthene	1	8.66		0.74	4.89
50-32-8	Benzo(a)pyrene	1	9.85		0.60	4.89
193-39-5	Indeno(1,2,3-cd)pyrene	1	5.17		1.03	4.89
53-70-3	Dibenzo(a,h)anthracene	1	2.71	J	0.87	4.89

SURROGATES	ADDED: (ug/kg dry)	FOUND: (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	146.81	137	93.3	32 - 120	
Dibenzo[a,h]anthracene-d14	146.81	179	122	21 - 133	
Fluoranthene-d10	146.81	172	117	36 - 134	

Data File: \\target\share\chem3\nt8.i\20230223.b\N823022316.D
Date : 23-FEB-2023 18:18
Client ID:
Sample Info: 23A0418-09

Instrument: nt8.i
Operator: JZ
Column diameter: 0.25

Column phase: Rxi-17sil



Data File: \\target\share\chem3\nt8.i\20230223.b\N823022316.D

Date : 23-FEB-2023 18:18

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-09

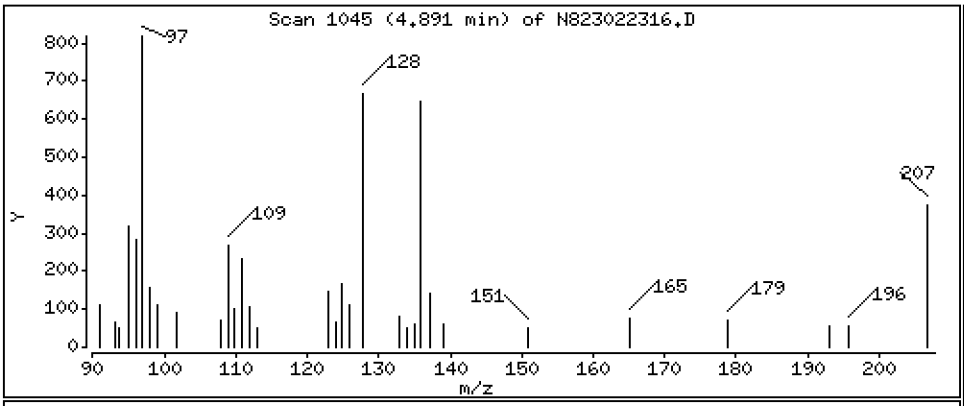
Operator: JZ

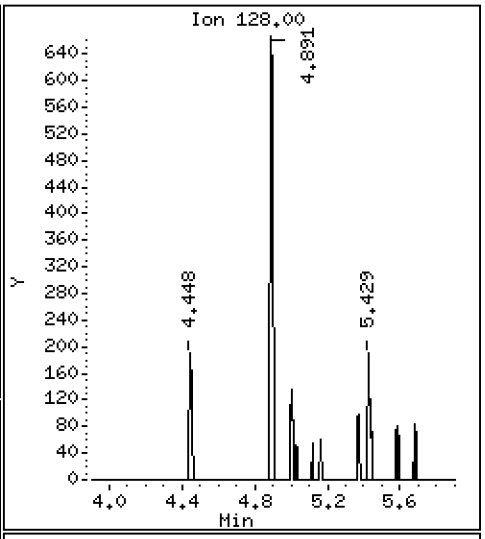
Column phase: Rxi-17sil

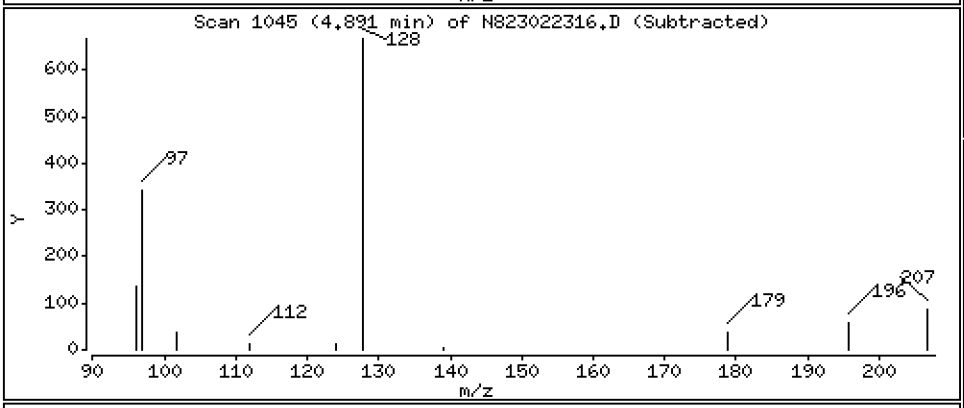
Column diameter: 0.25

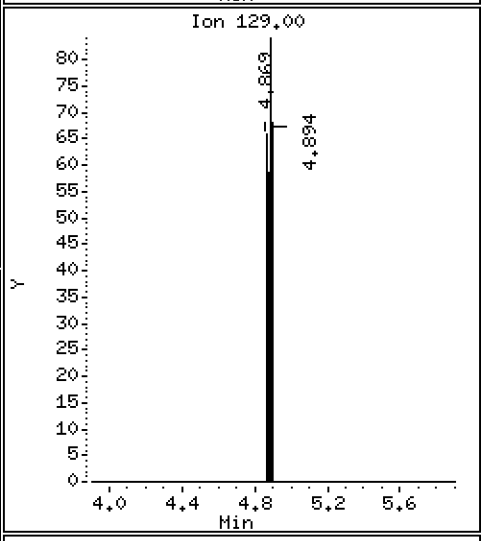
2 Naphthalene

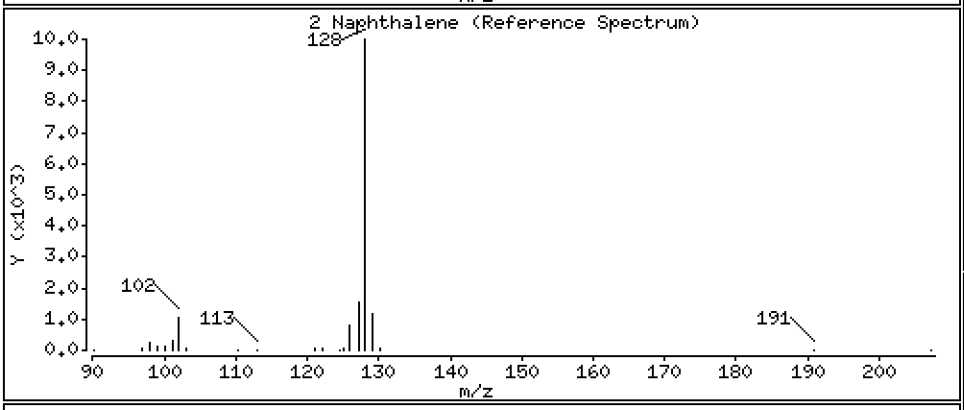
Concentration: 0.03736 ug/mL

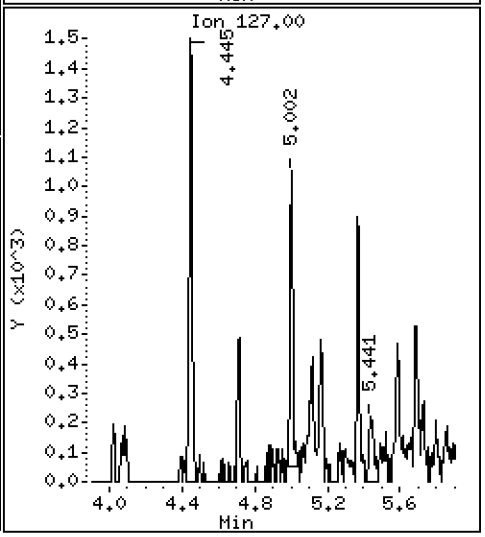


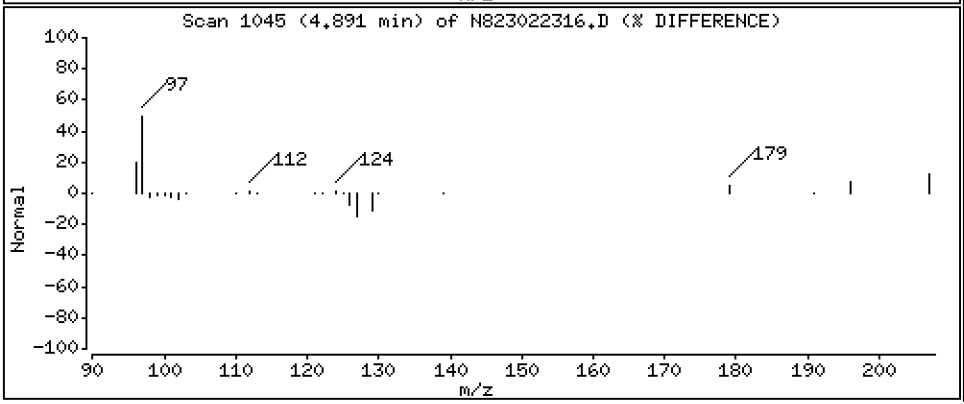












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022316.D

Date : 23-FEB-2023 18:18

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-09

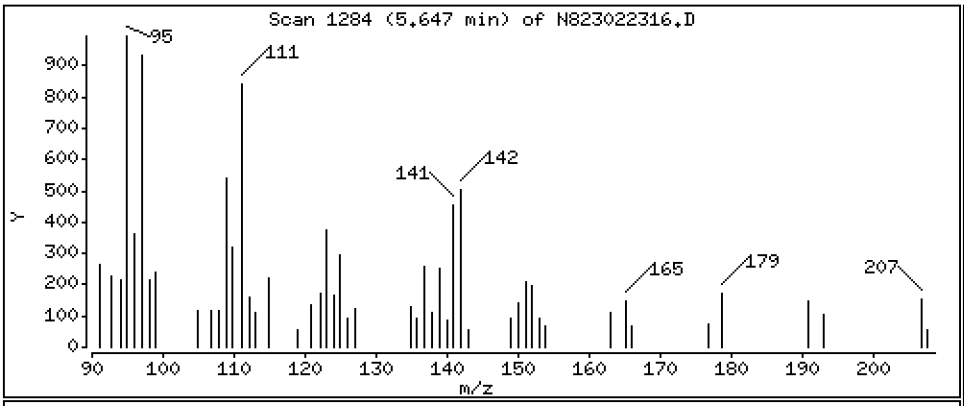
Operator: JZ

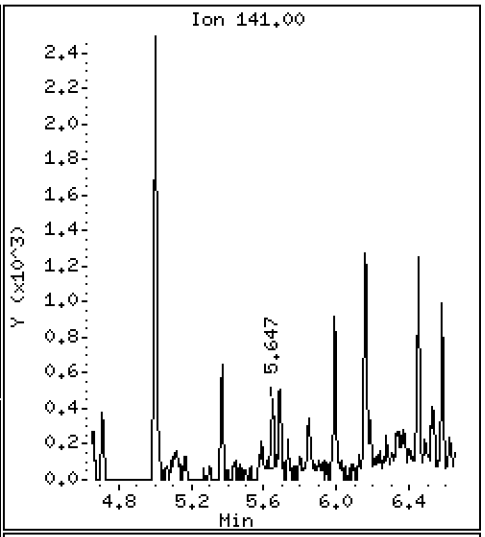
Column phase: Rxi-17sil

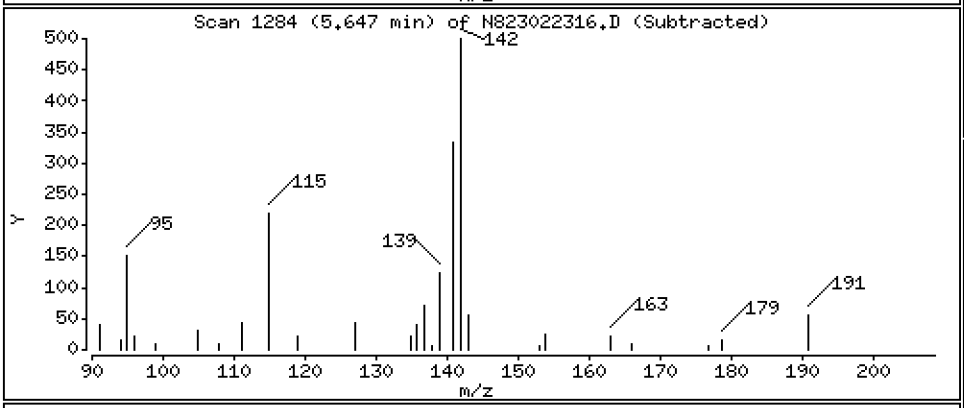
Column diameter: 0.25

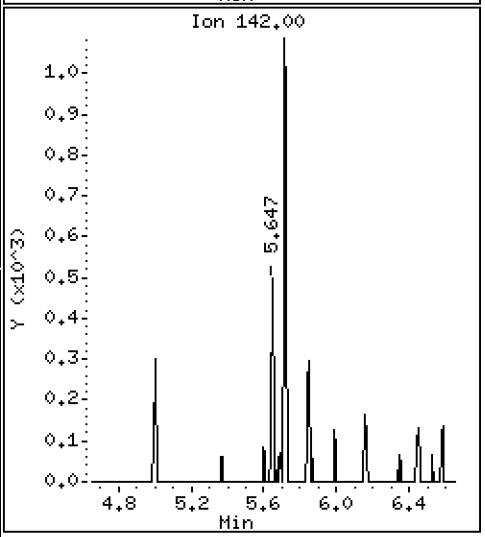
4 2-Methylnaphthalene

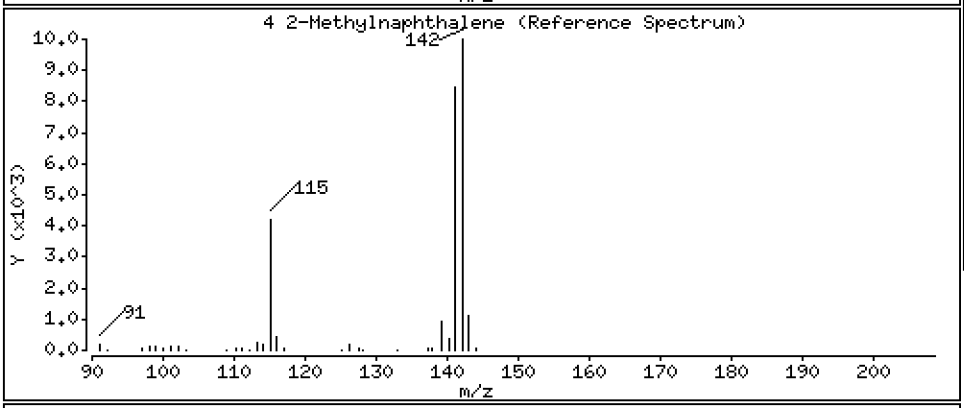
Concentration: 0.03459 ug/mL

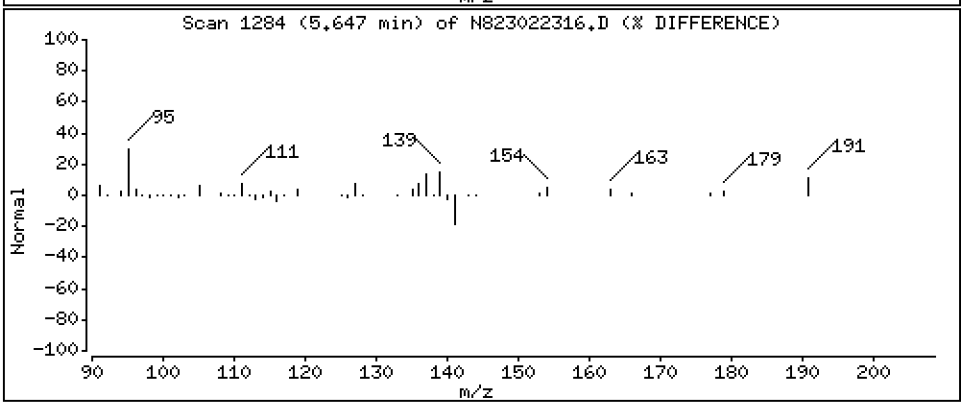












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Date : 23-FEB-2023 18:18

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-09

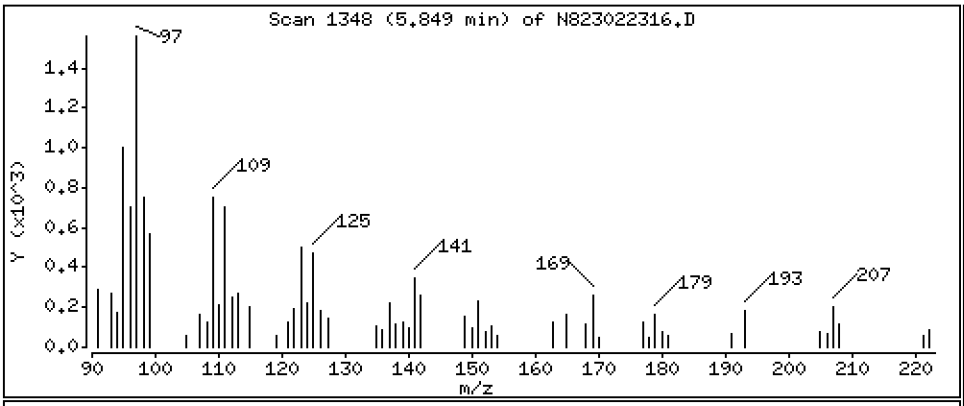
Operator: JZ

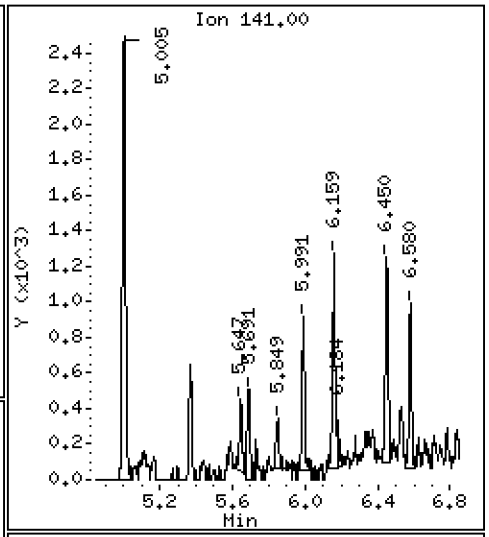
Column phase: Rxi-17sil

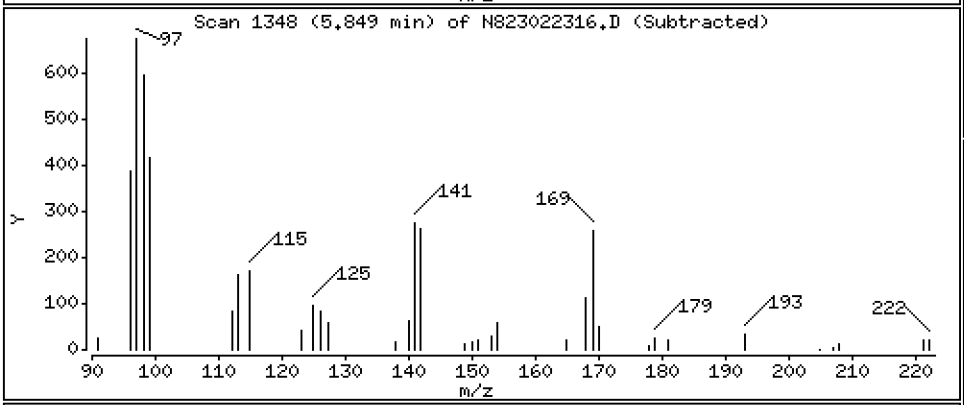
Column diameter: 0.25

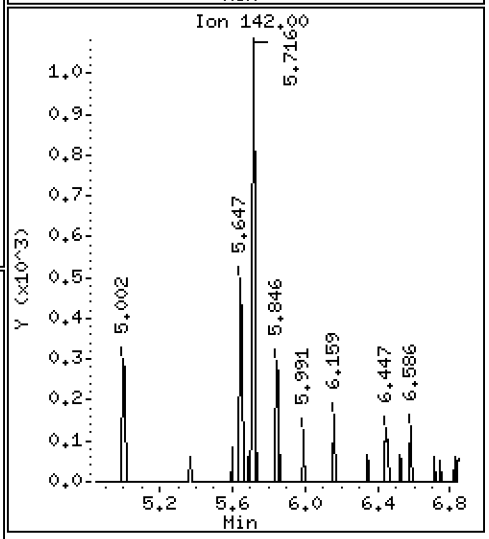
5 1-methylnaphthalene

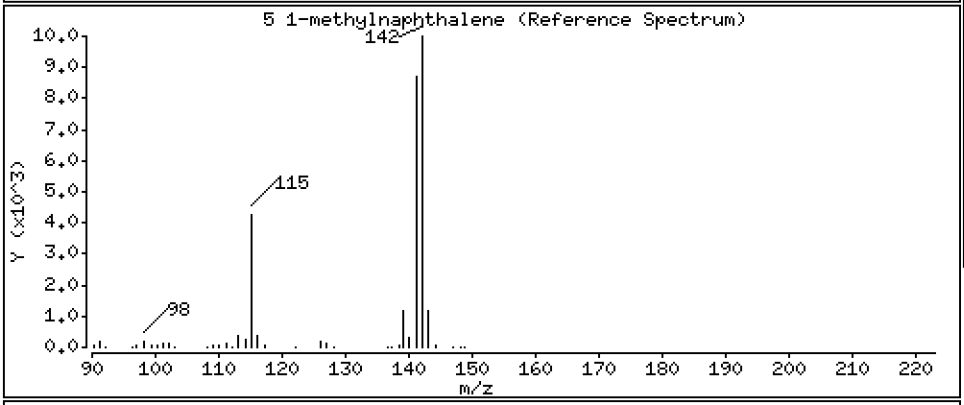
Concentration: 0.03112 ug/mL

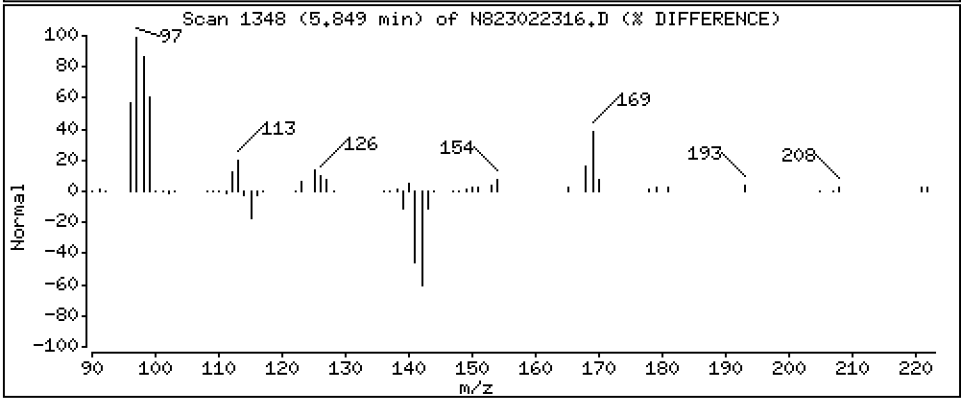












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Date : 23-FEB-2023 18:18

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-09

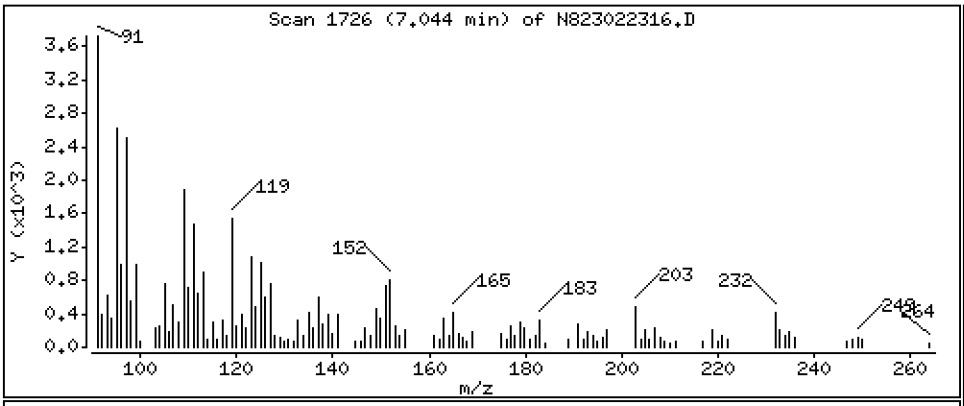
Operator: JZ

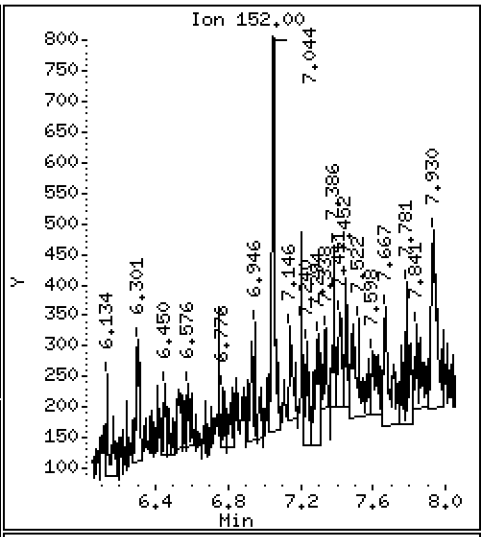
Column phase: Rxi-17sil

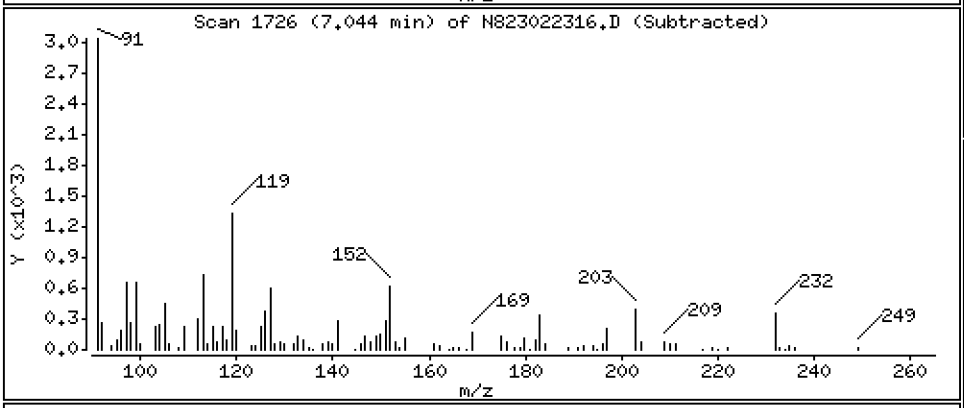
Column diameter: 0.25

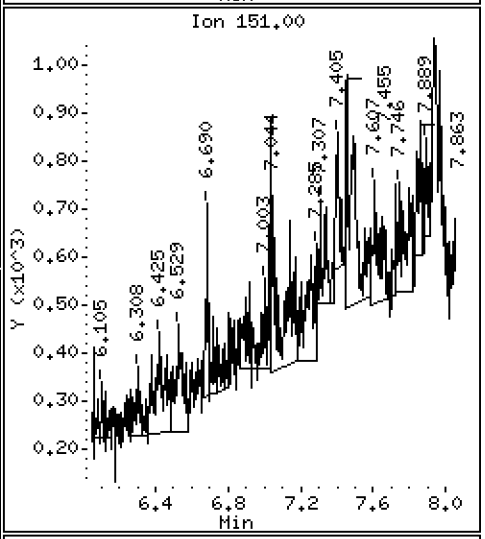
9 Acenaphthylene

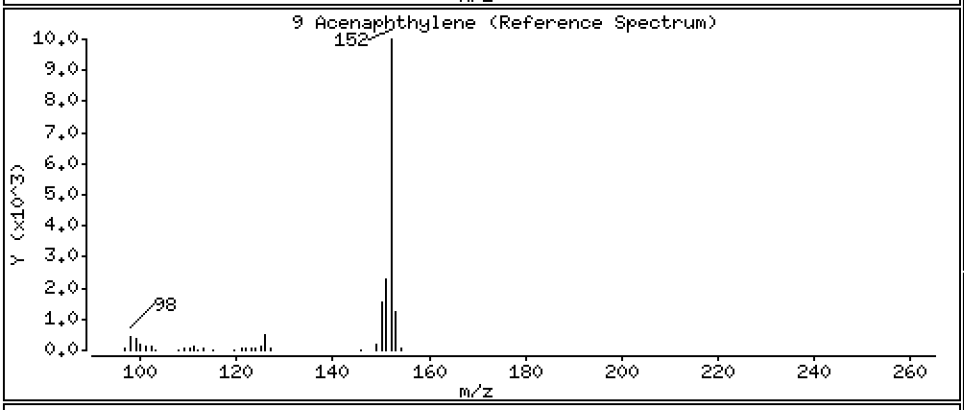
Concentration: 0.04627 ug/mL

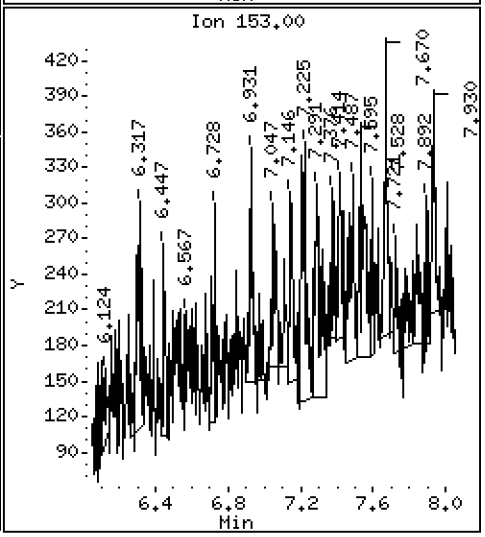


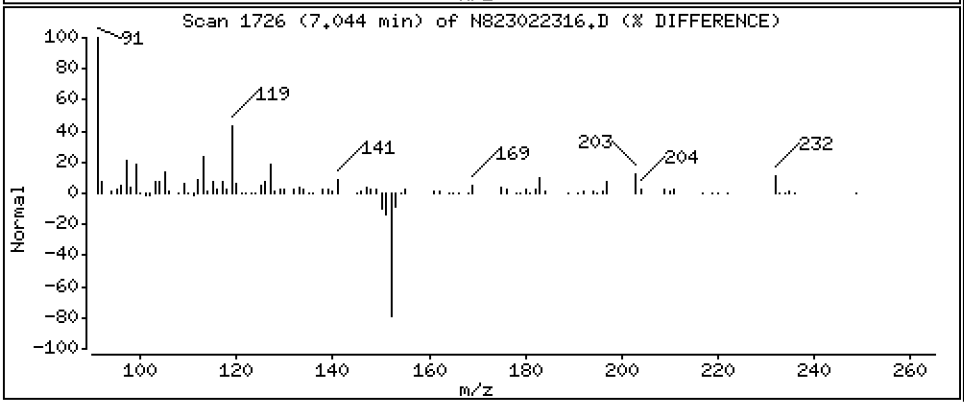












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022316.D

Date : 23-FEB-2023 18:18

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-09

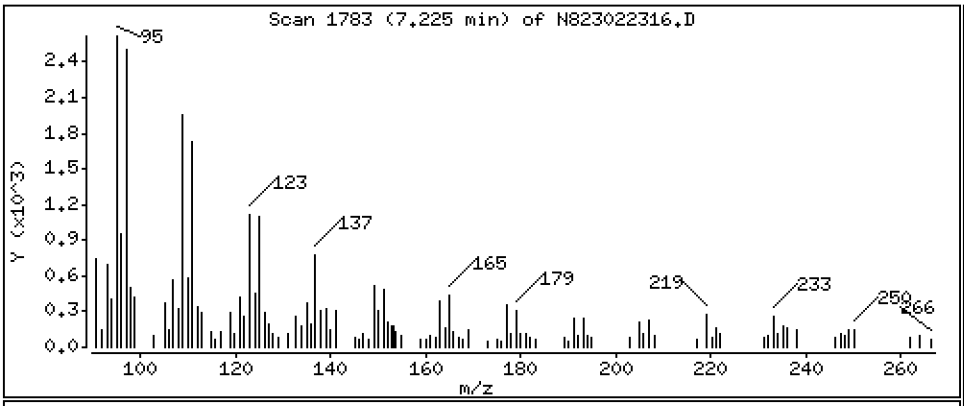
Operator: JZ

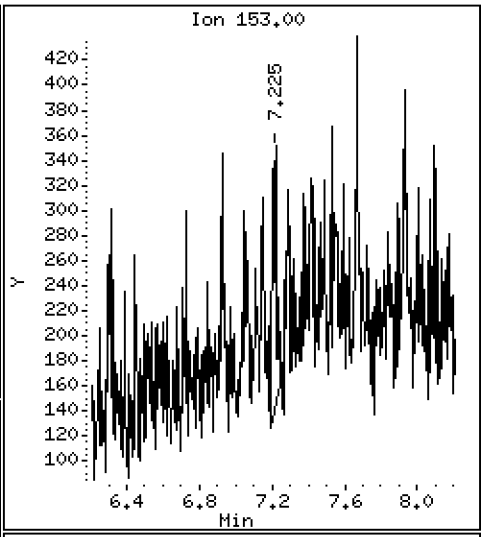
Column phase: Rxi-17sil

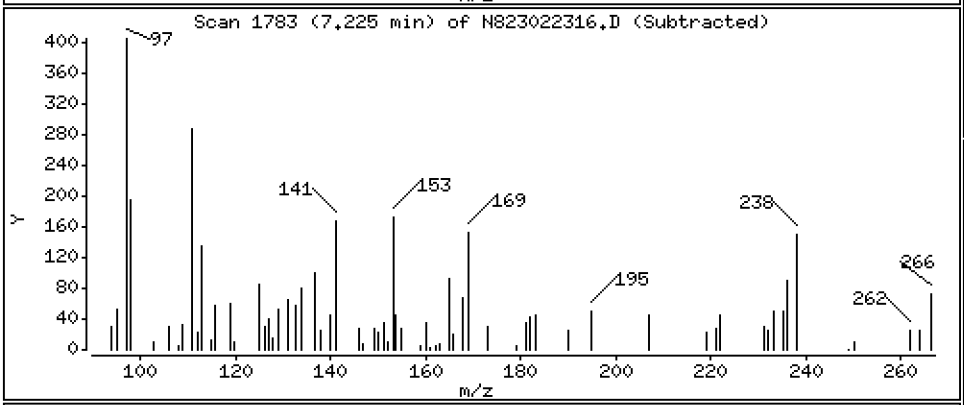
Column diameter: 0.25

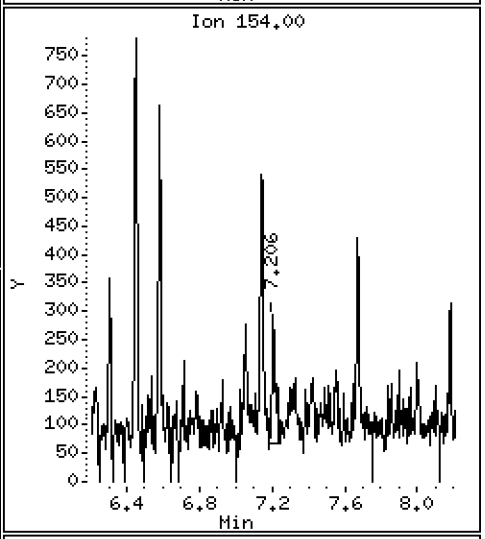
11 Acenaphthene

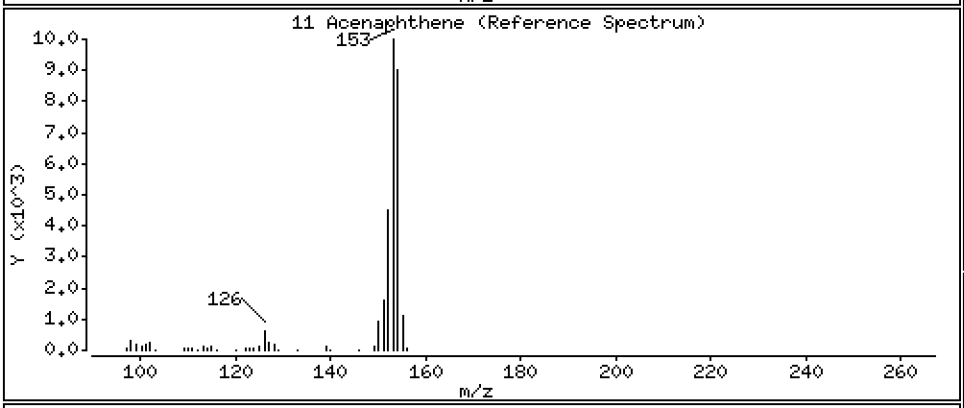
Concentration: 0.02803 ug/mL

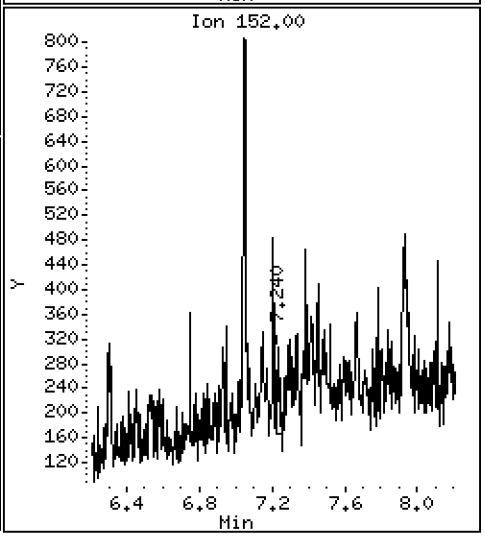


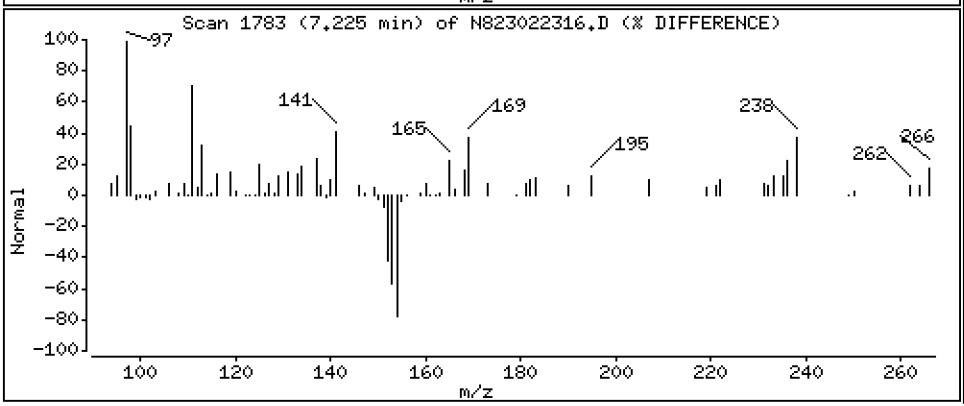












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Date : 23-FEB-2023 18:18

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-09

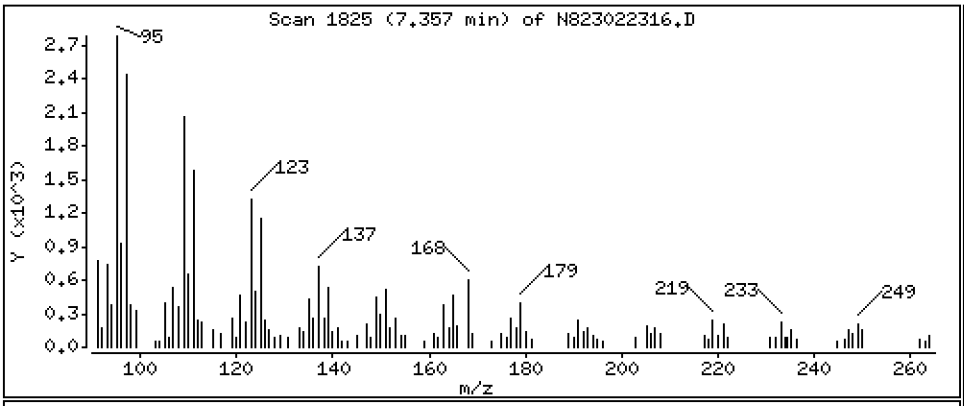
Operator: JZ

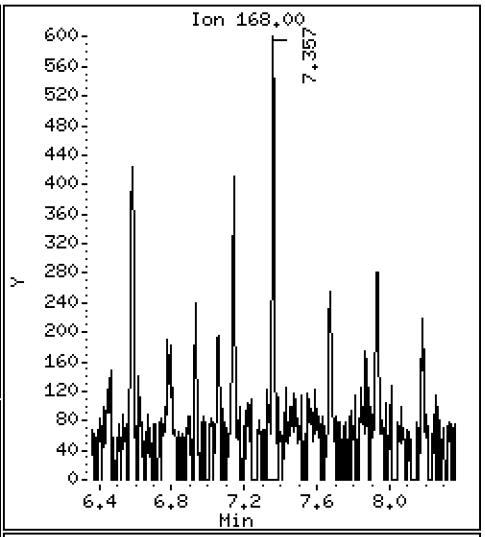
Column phase: Rxi-17sil

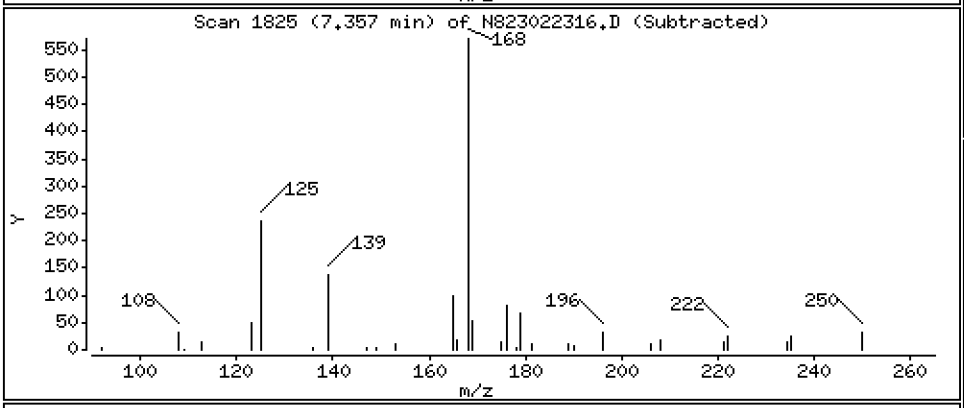
Column diameter: 0.25

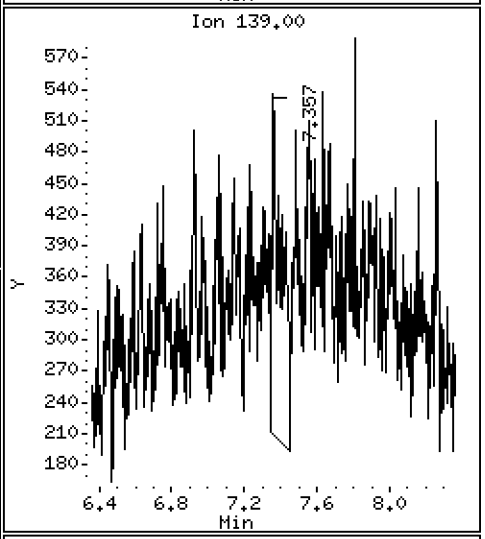
12 Dibenzofuran

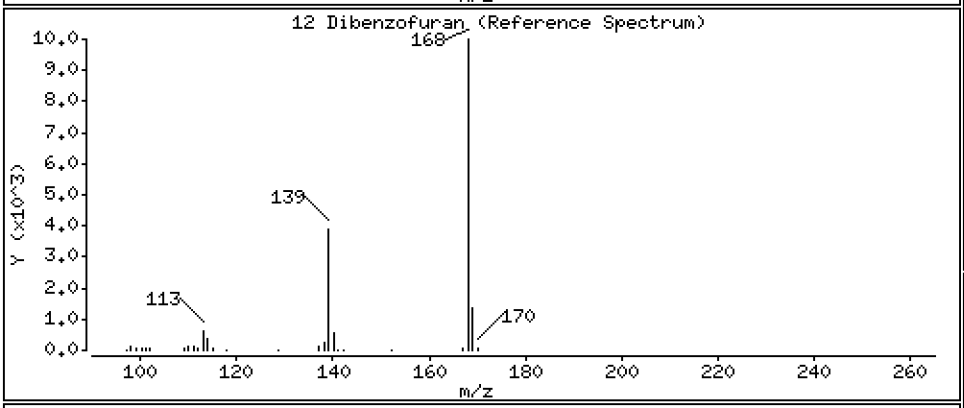
Concentration: 0.04158 ug/mL

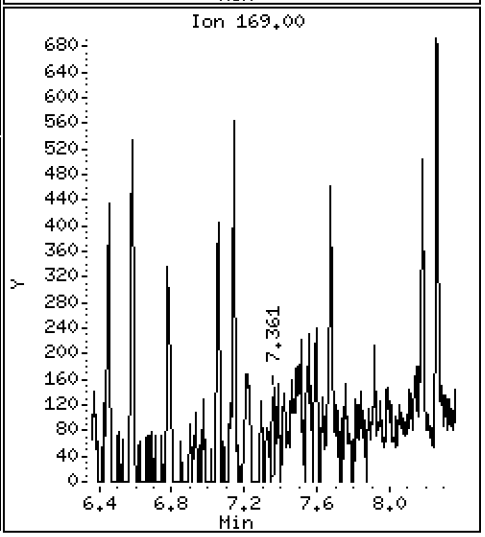


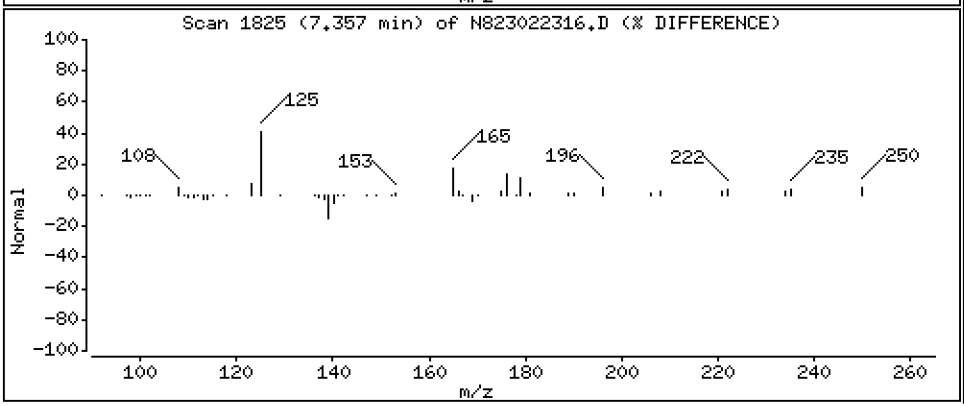












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Date : 23-FEB-2023 18:18

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-09

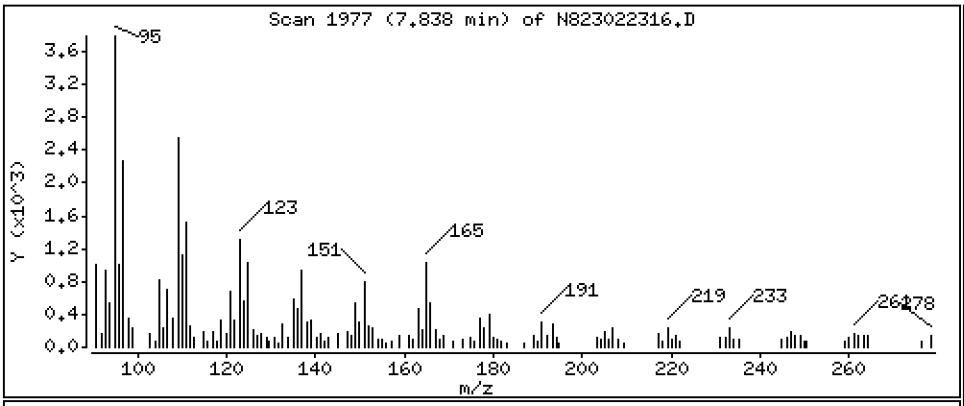
Operator: JZ

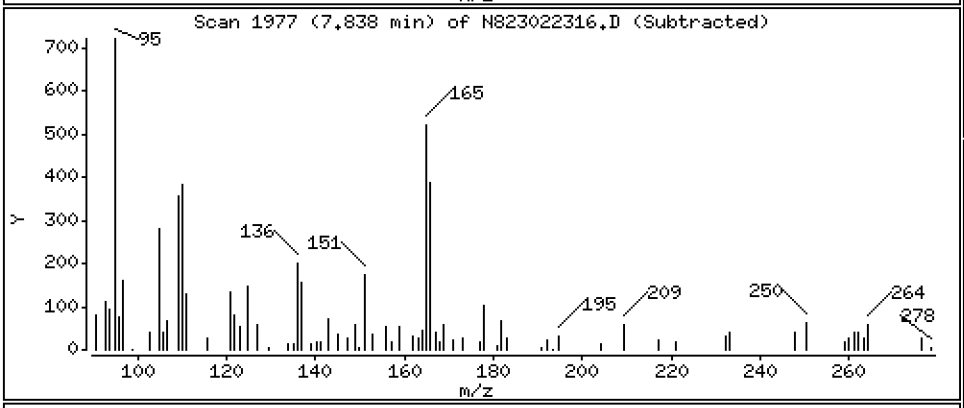
Column phase: Rxi-17sil

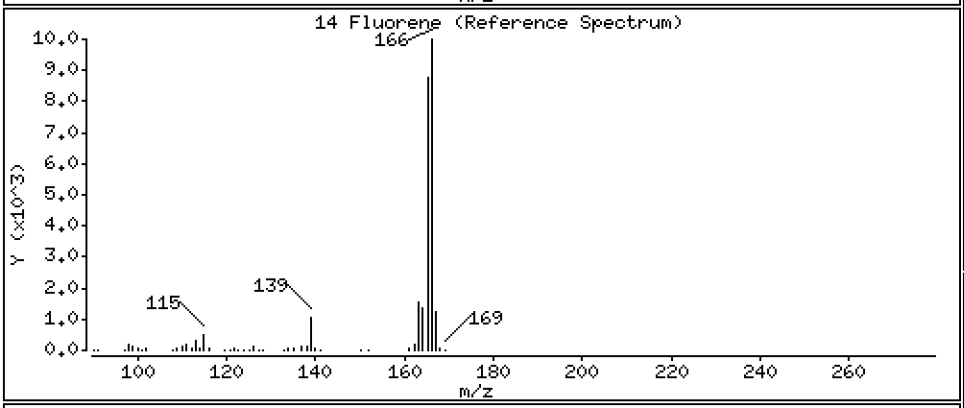
Column diameter: 0.25

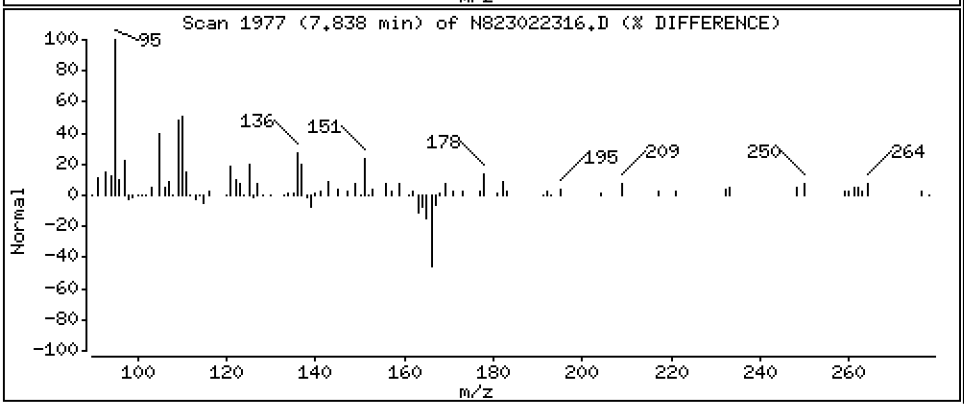
14 Fluorene

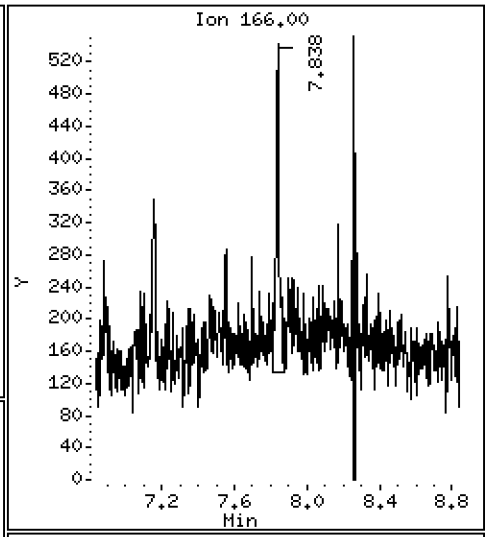
Concentration: 0.03803 ug/mL

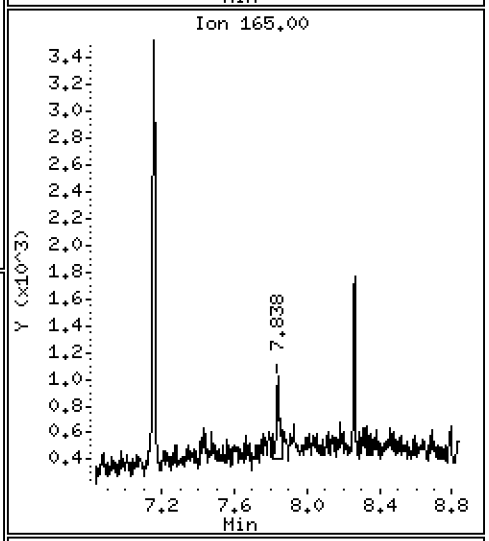


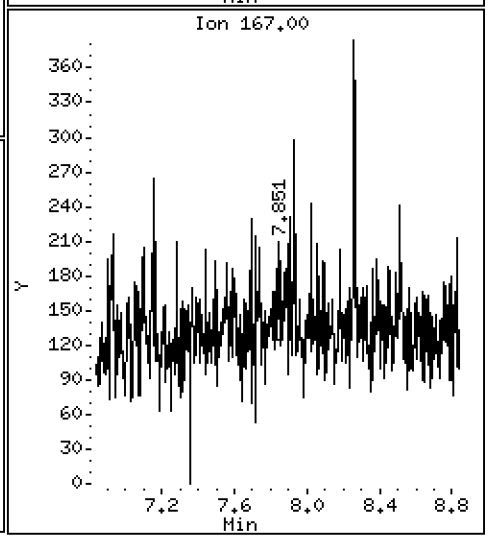












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022316.D

Date : 23-FEB-2023 18:18

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-09

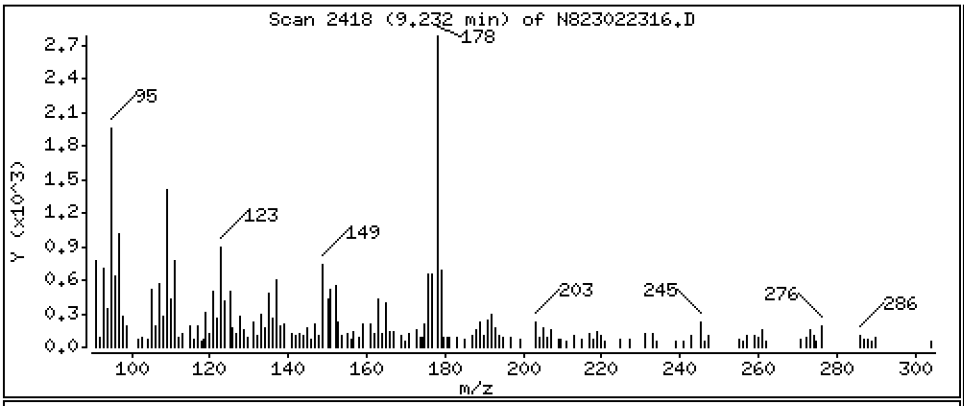
Operator: JZ

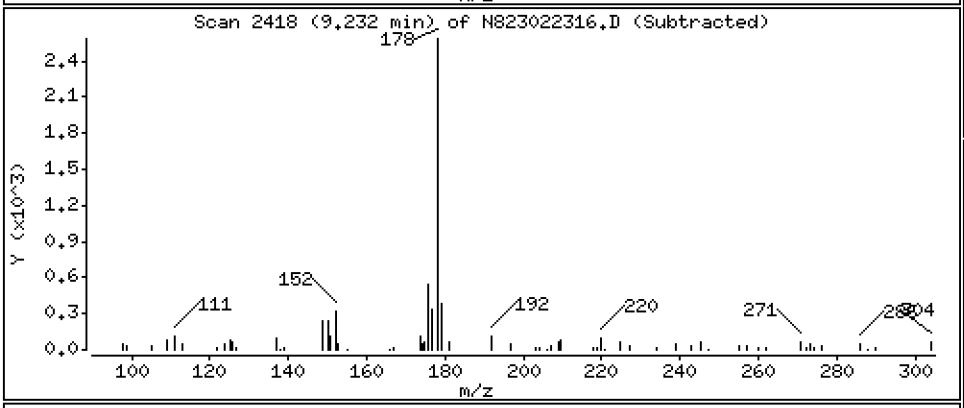
Column phase: Rxi-17sil

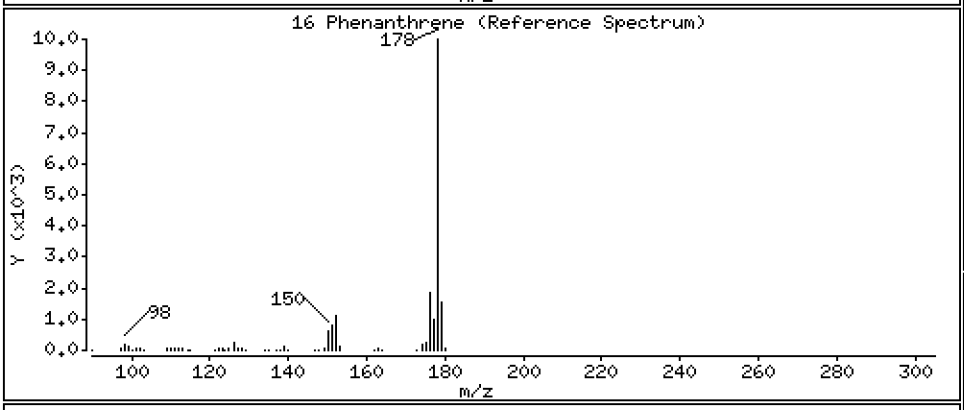
Column diameter: 0.25

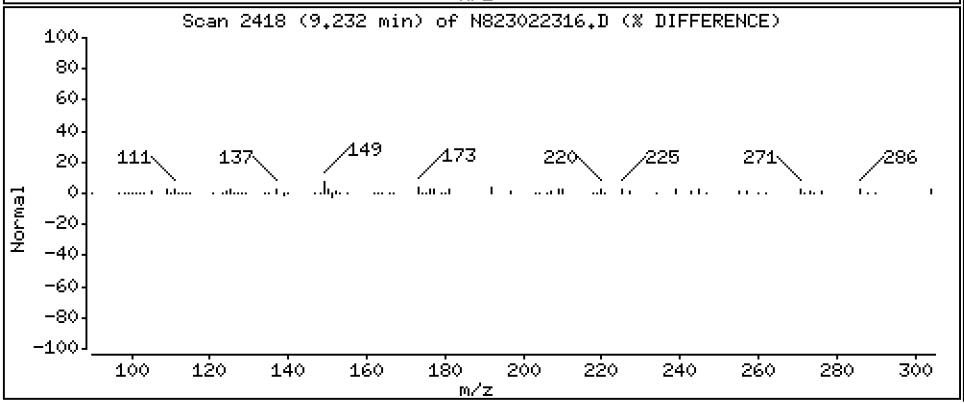
16 Phenanthrene

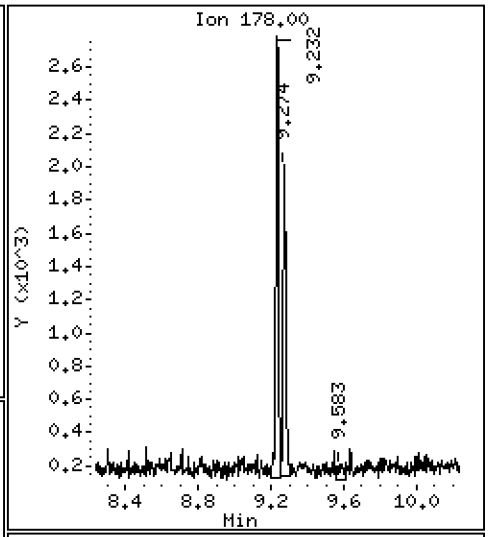
Concentration: 0.1386 ug/mL

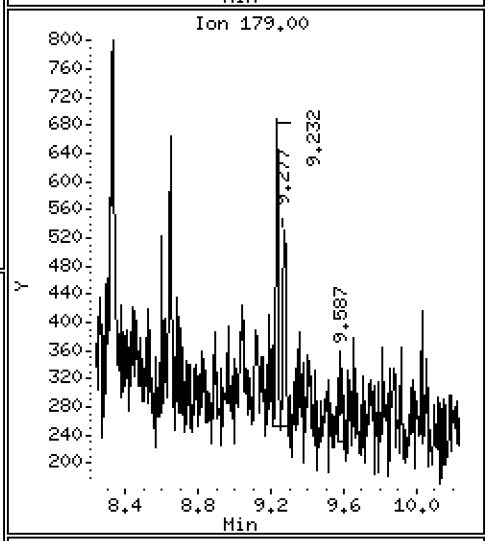


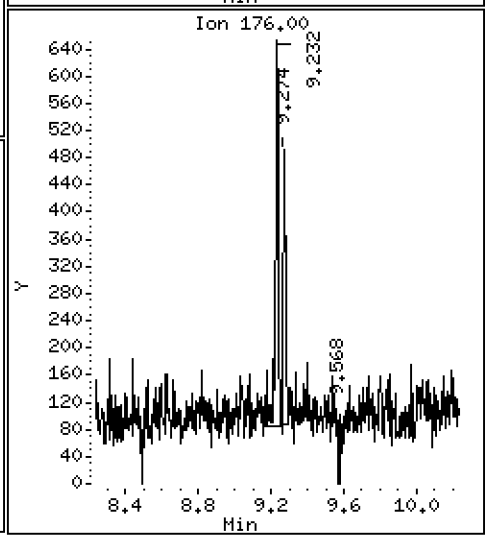












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022316.D

Date : 23-FEB-2023 18:18

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-09

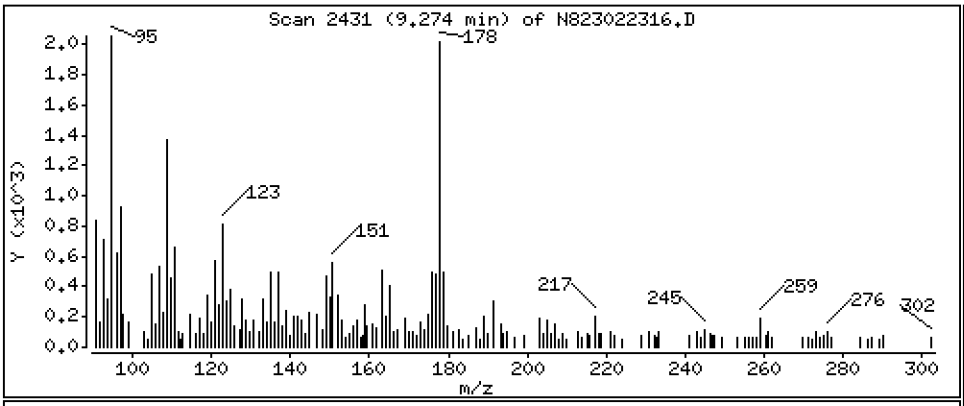
Operator: JZ

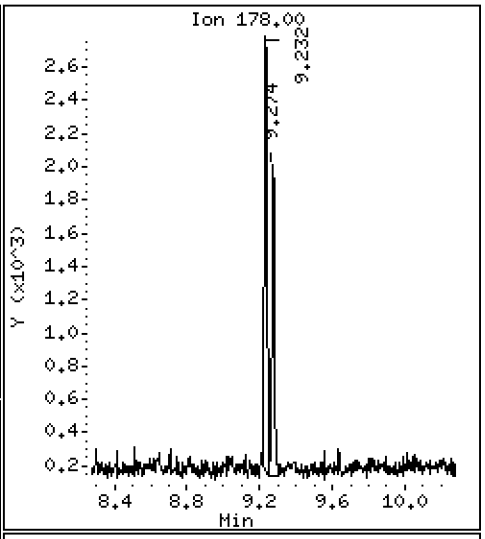
Column phase: Rxi-17sil

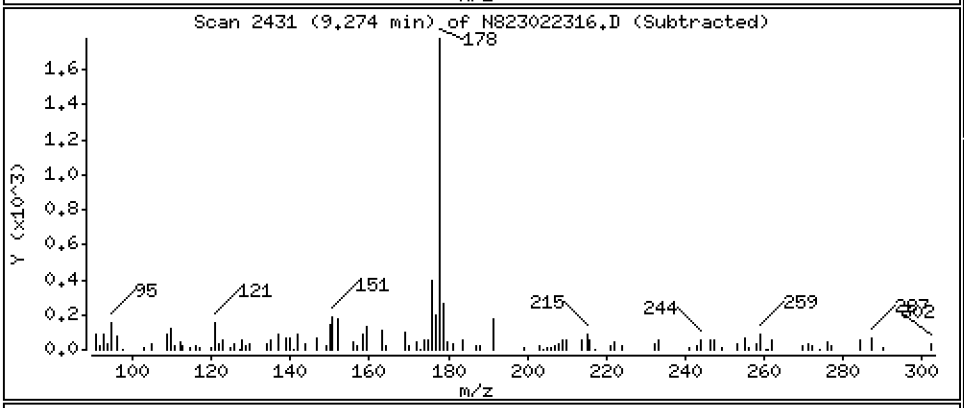
Column diameter: 0.25

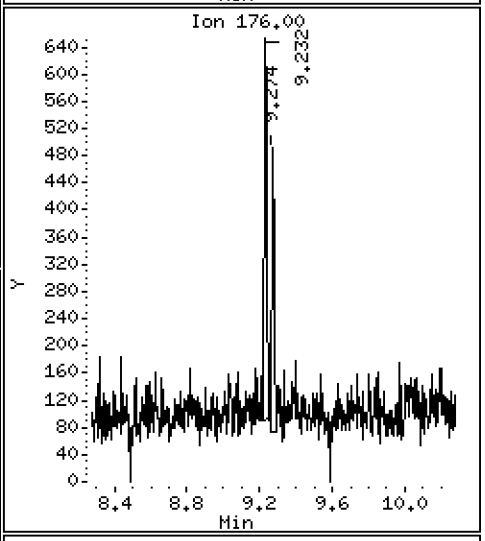
17 Anthracene

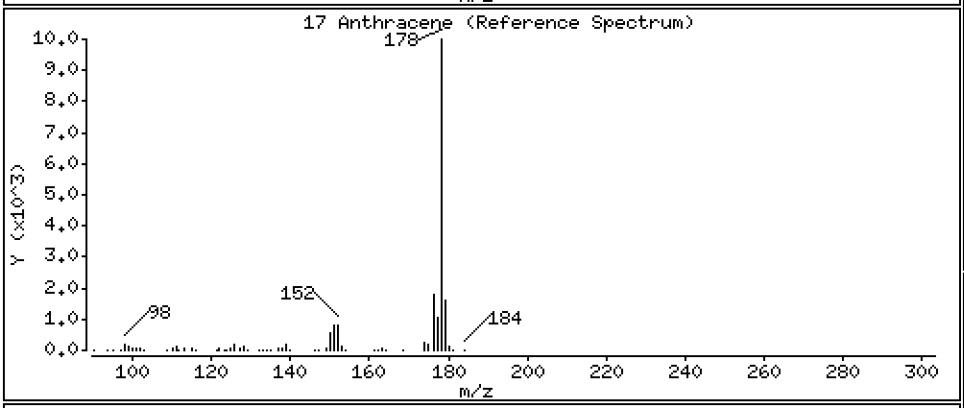
Concentration: 0.1019 ug/mL

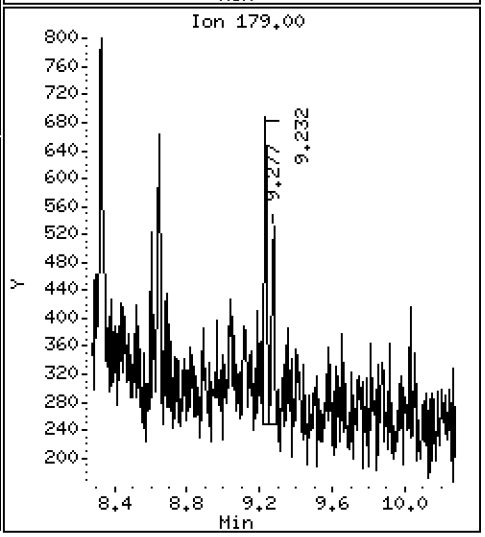


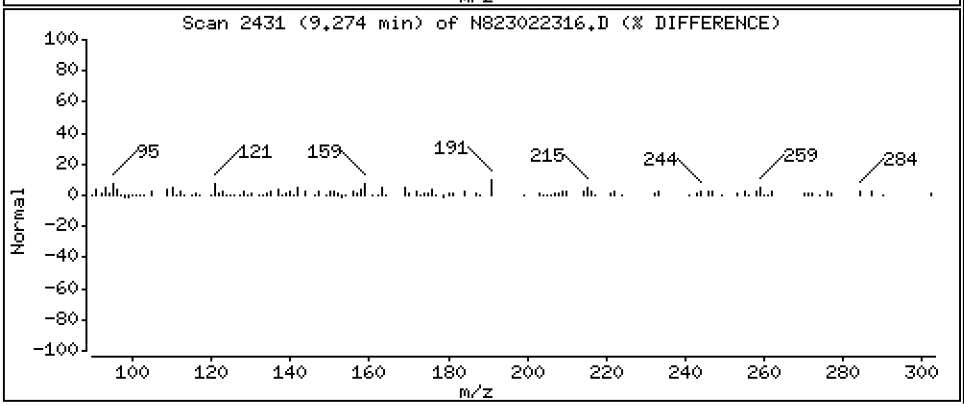












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Client ID:

Instrument: nt8.i

Sample Info: 23A0418-09

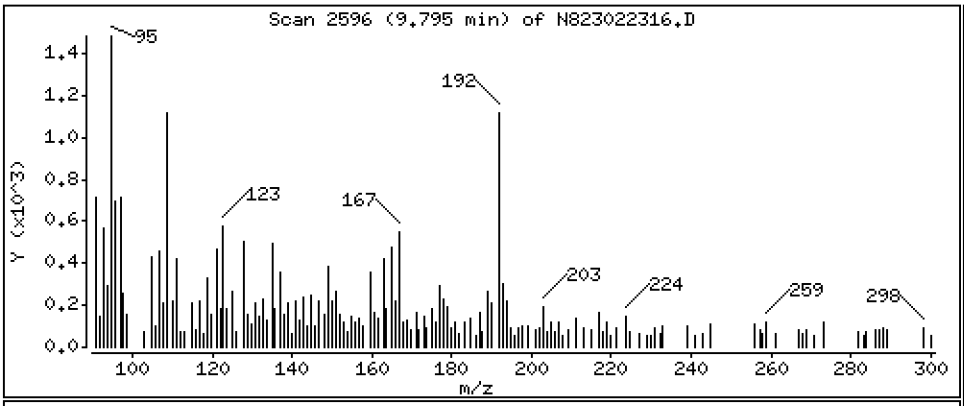
Operator: JZ

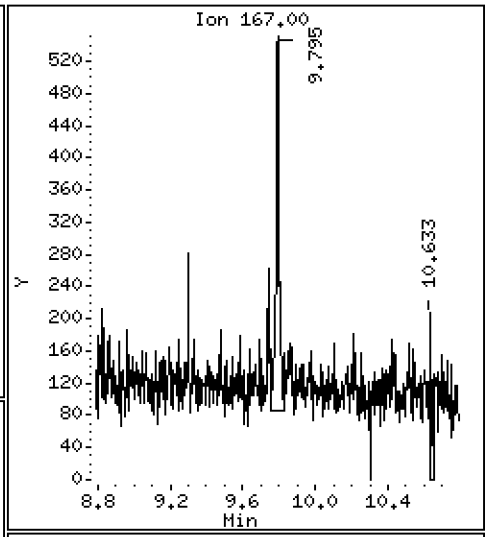
Column phase: Rxi-17sil

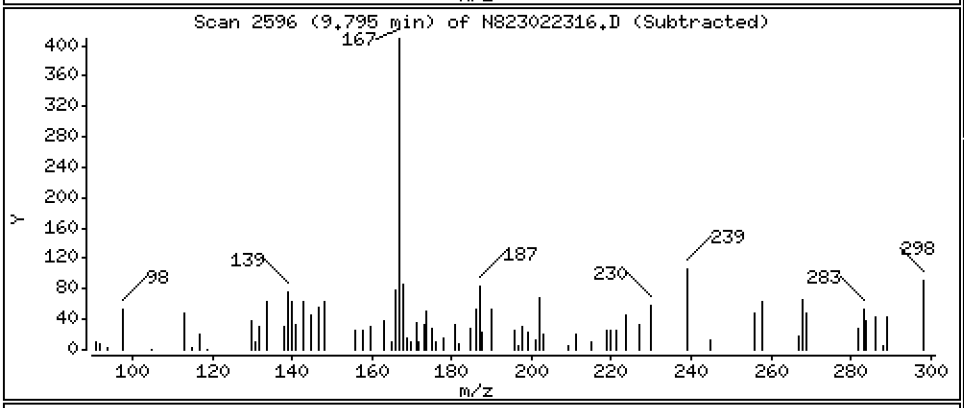
Column diameter: 0.25

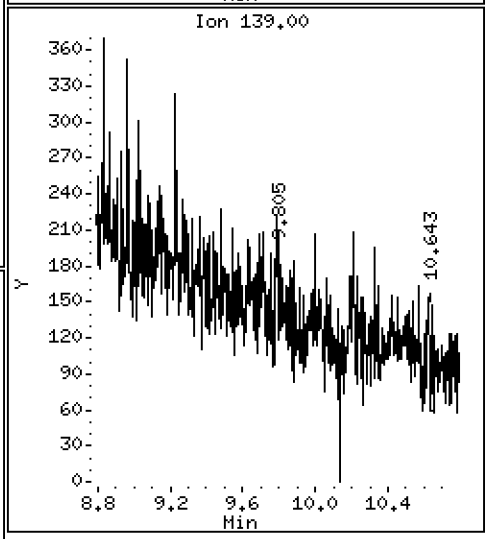
19 Carbazole

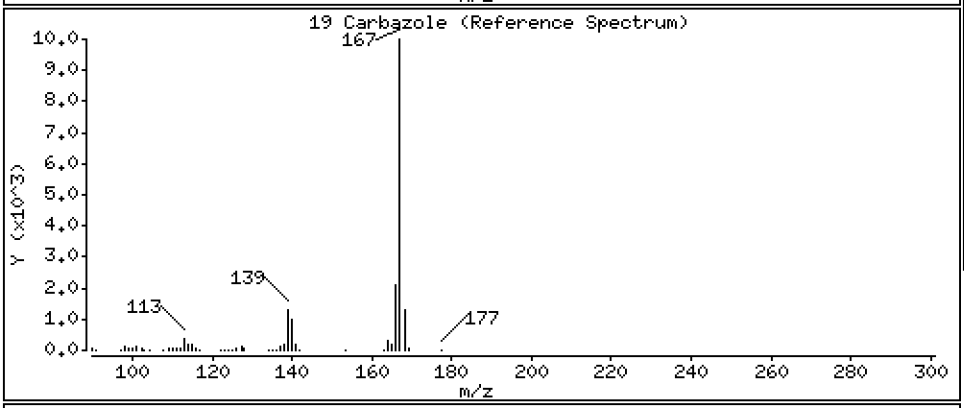
Concentration: 0.03745 ug/mL

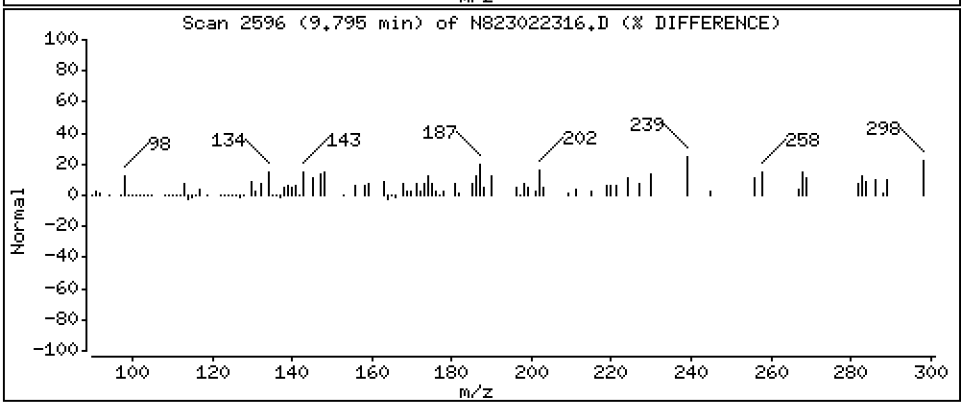












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Client ID:

Instrument: nt8.i

Sample Info: 23A0418-09

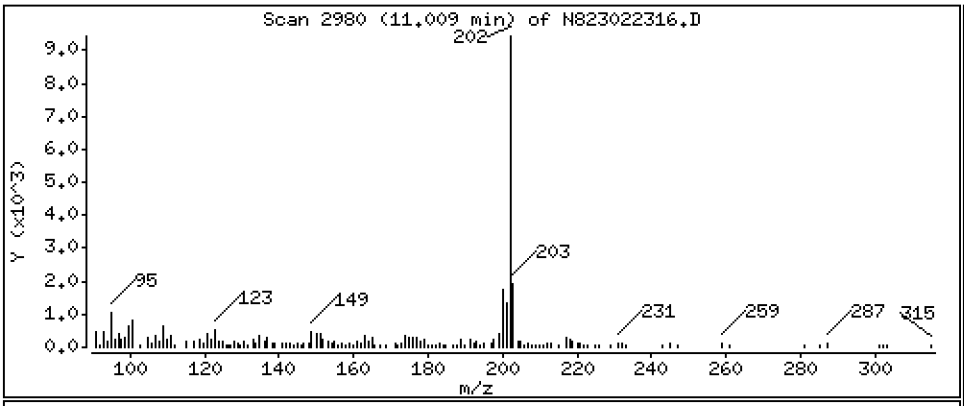
Operator: JZ

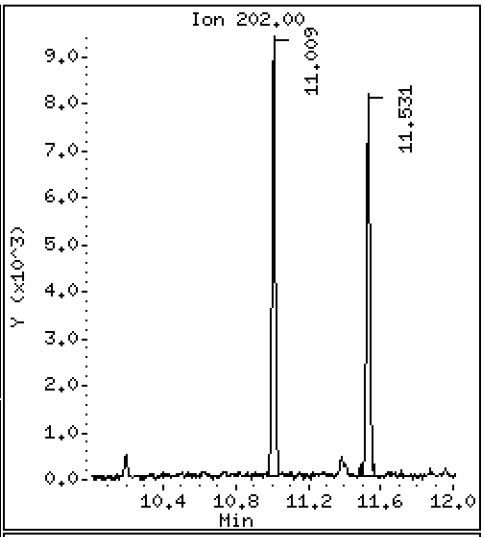
Column phase: Rxi-17sil

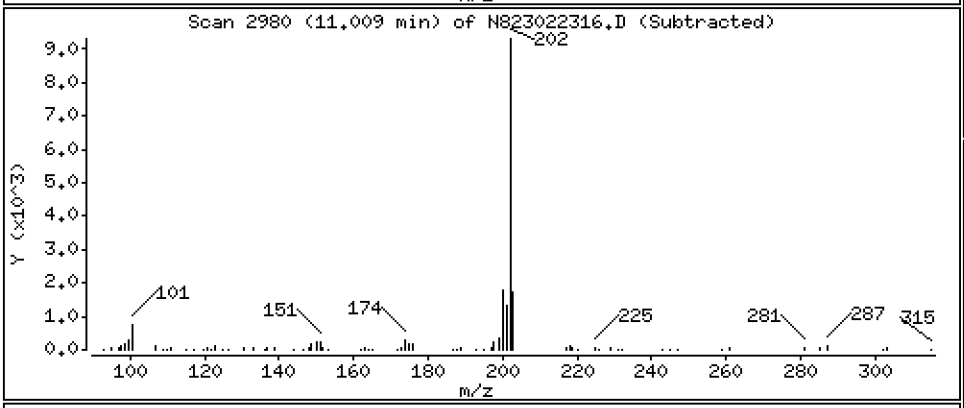
Column diameter: 0.25

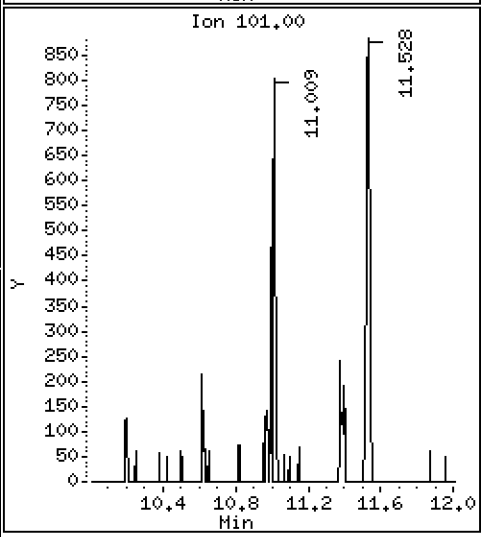
22 Fluoranthene

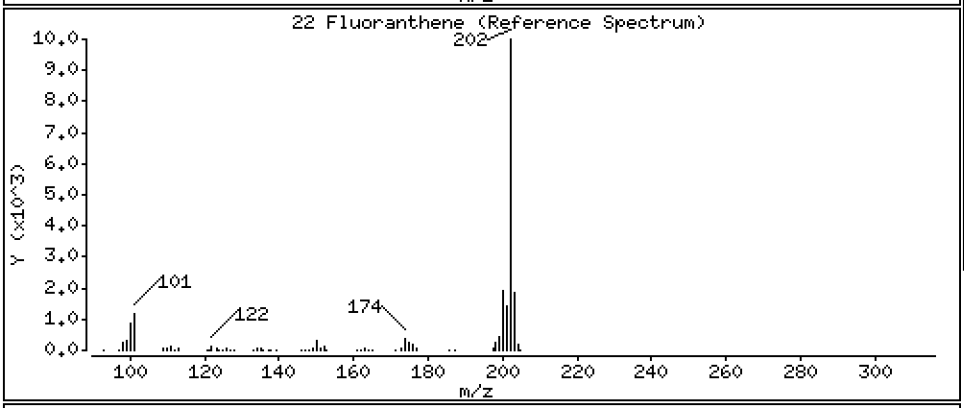
Concentration: 0.5238 ug/mL

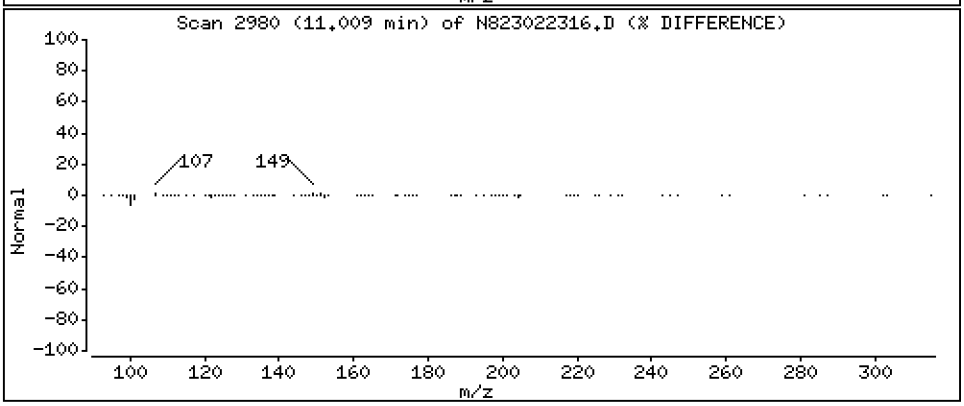












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Client ID:

Instrument: nt8.i

Sample Info: 23A0418-09

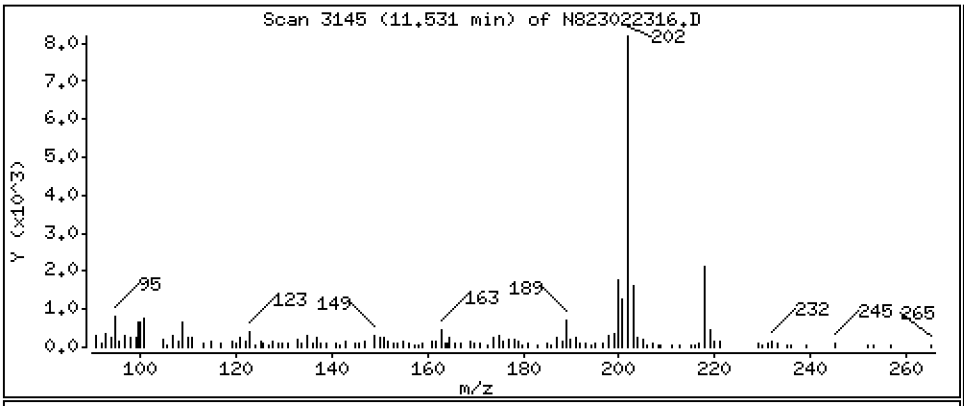
Operator: JZ

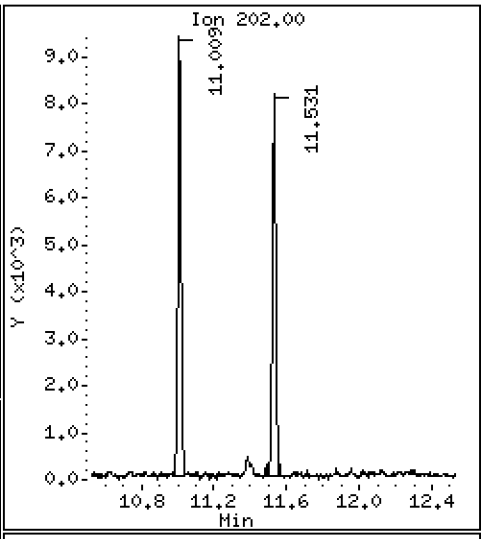
Column phase: Rxi-17sil

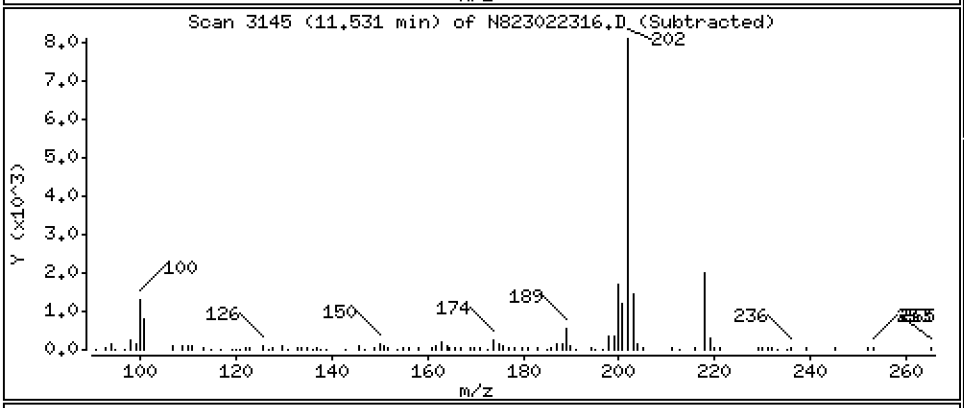
Column diameter: 0.25

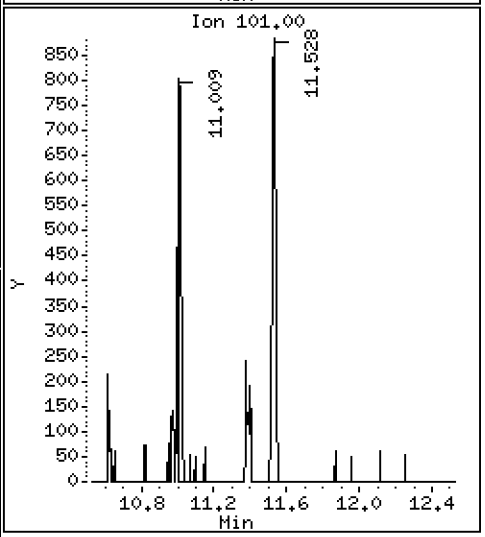
23 Pyrene

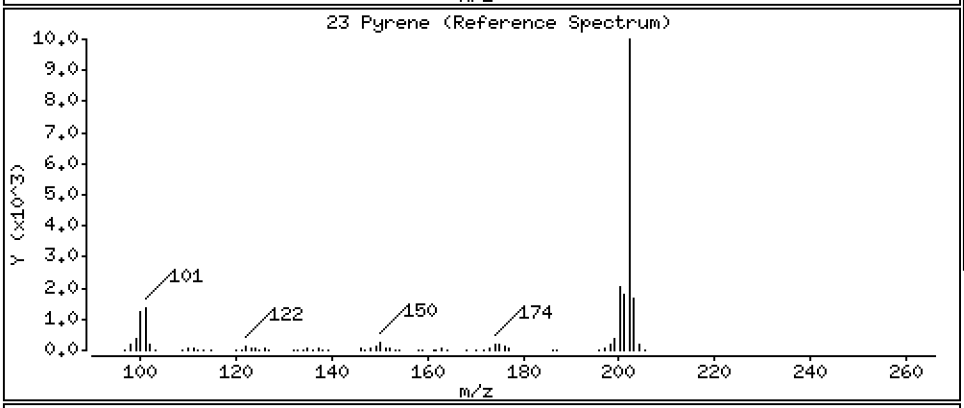
Concentration: 0.6180 ug/mL

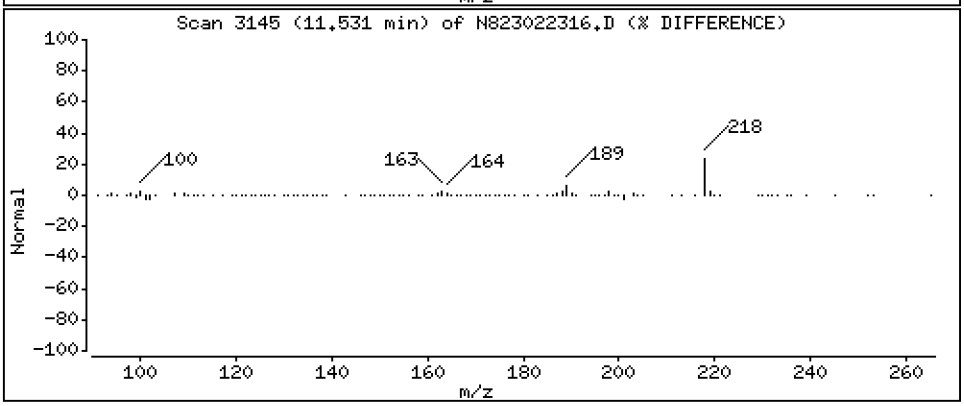












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Client ID:

Instrument: nt8.i

Sample Info: 23A0418-09

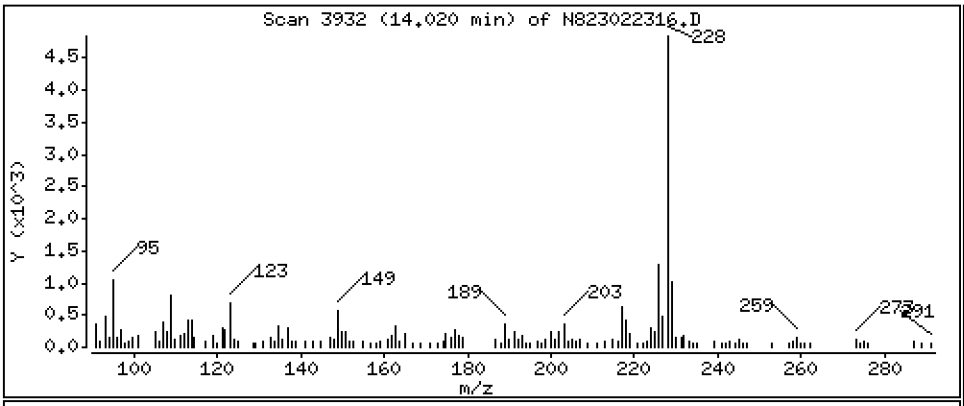
Operator: JZ

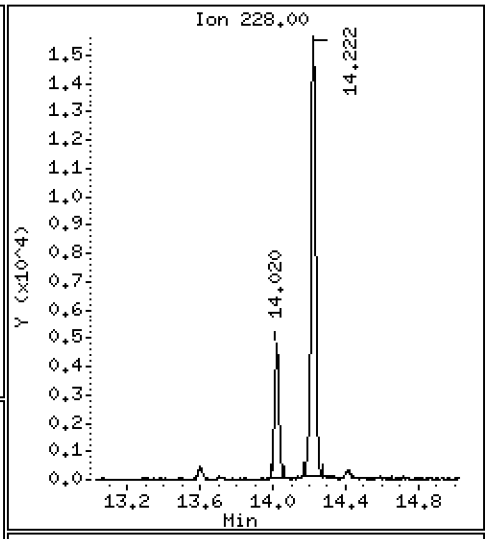
Column phase: Rxi-17sil

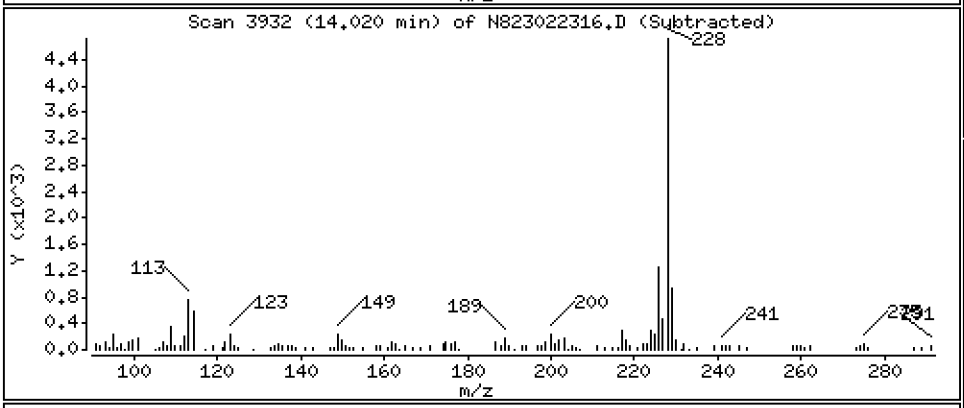
Column diameter: 0.25

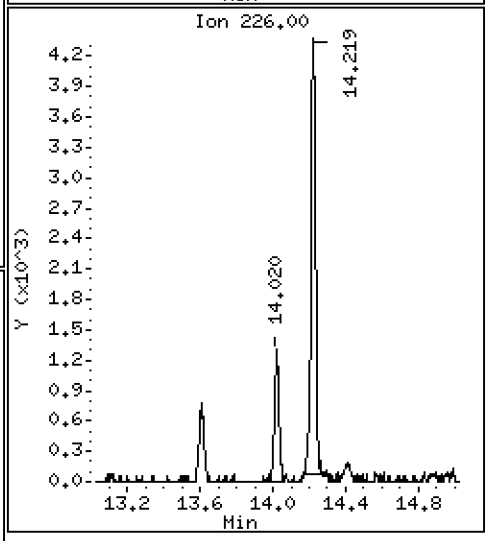
24 Benzo(a)anthracene

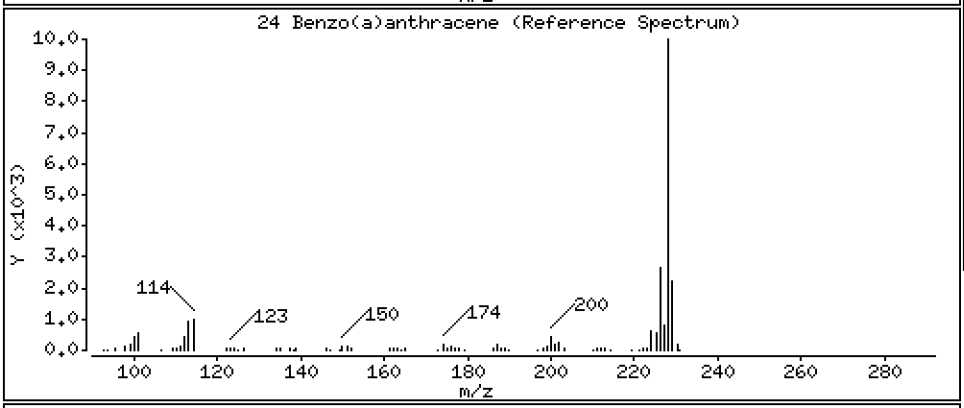
Concentration: 0.4960 ug/mL

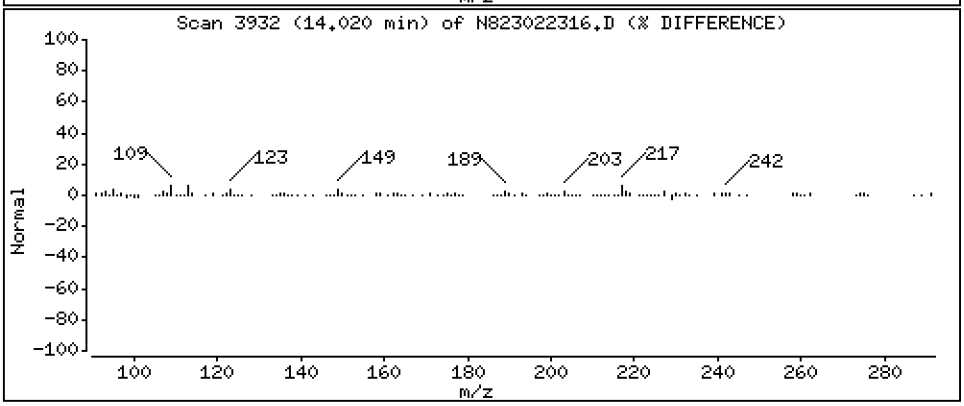












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Client ID:

Instrument: nt8.i

Sample Info: 23A0418-09

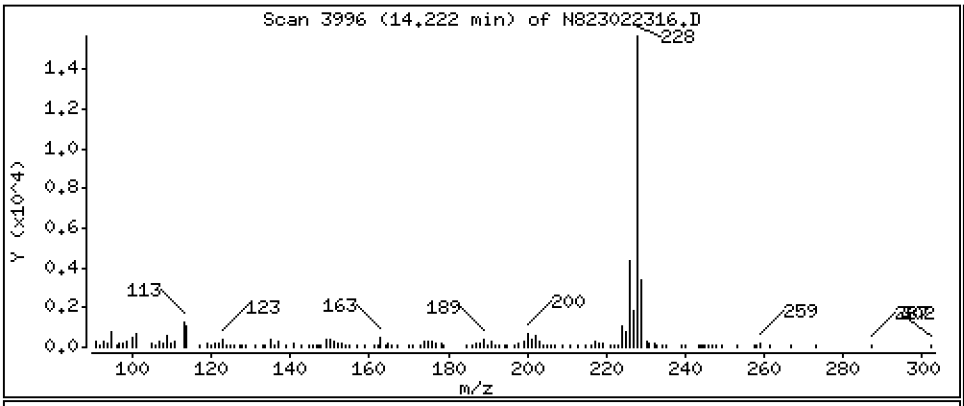
Operator: JZ

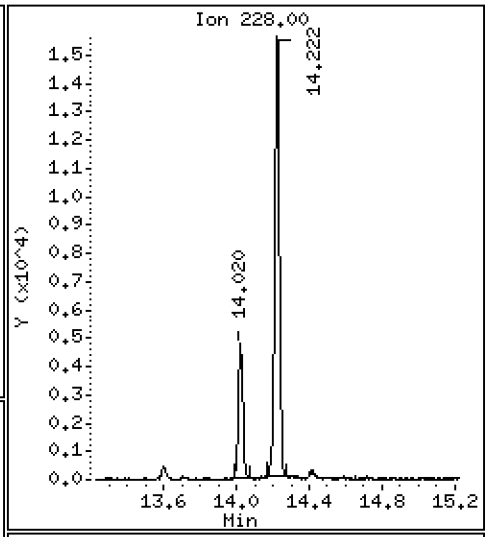
Column phase: Rxi-17sil

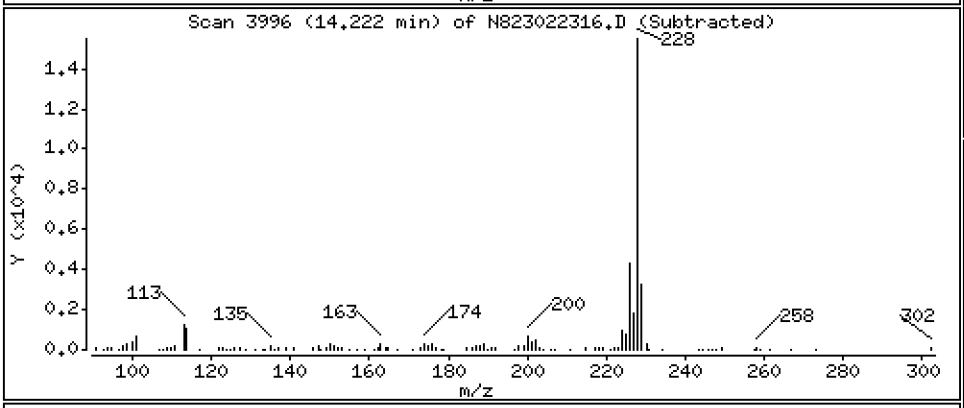
Column diameter: 0.25

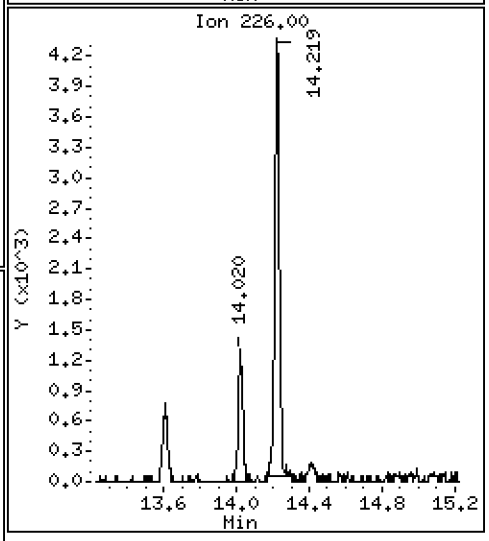
27 Chrysene

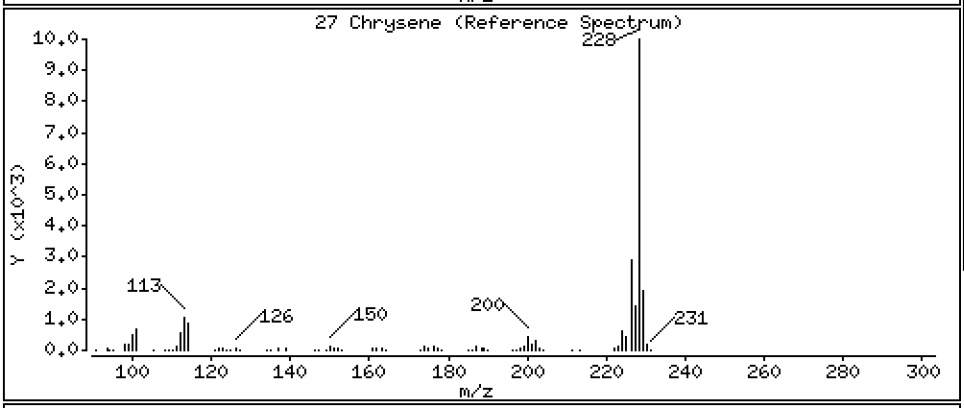
Concentration: 1.611 ug/mL

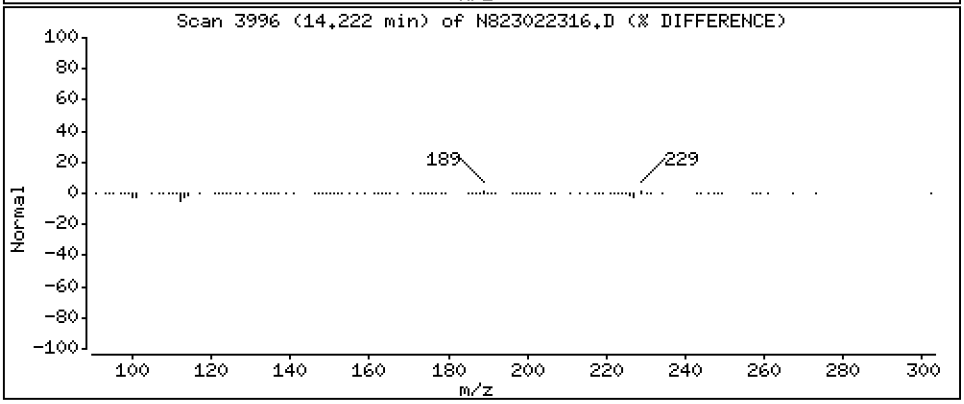












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Client ID:

Instrument: nt8.i

Sample Info: 23A0418-09

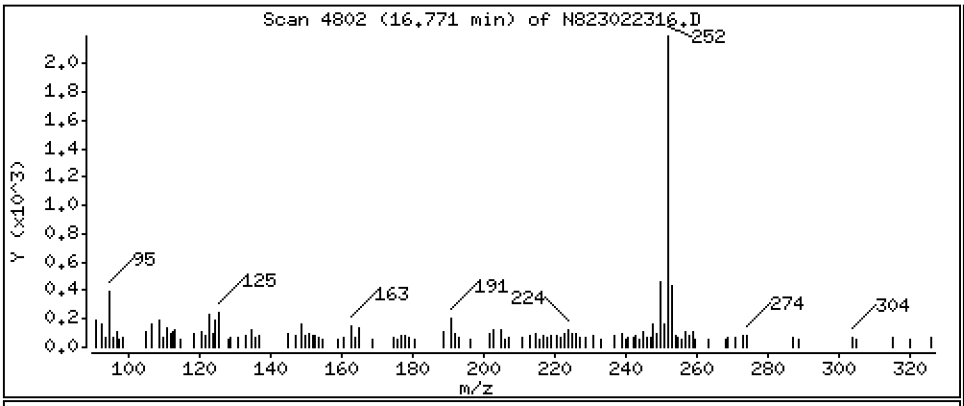
Operator: JZ

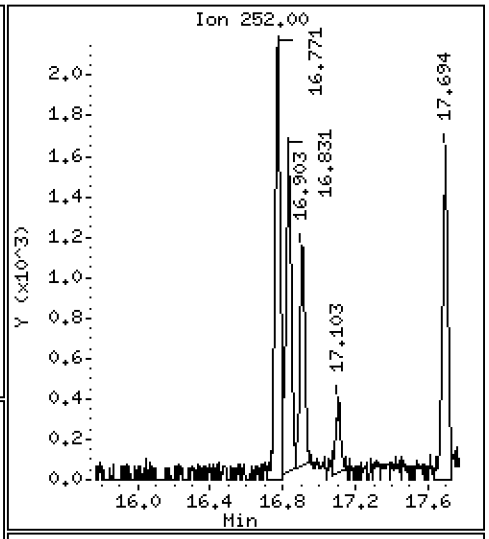
Column phase: Rxi-17sil

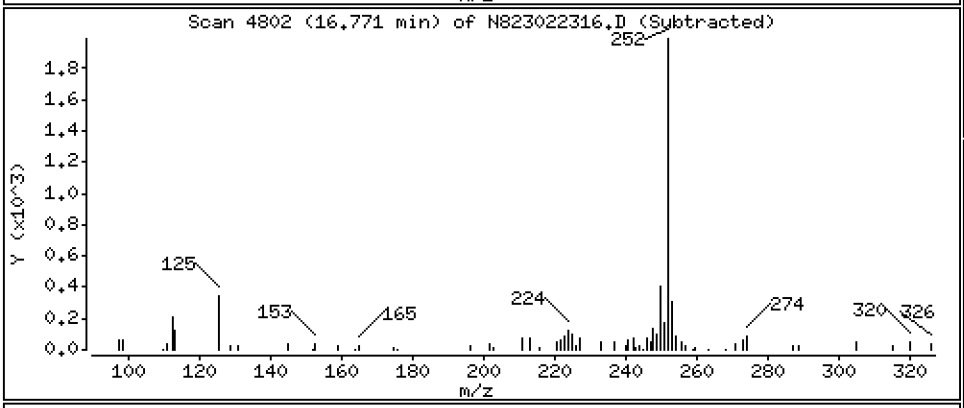
Column diameter: 0.25

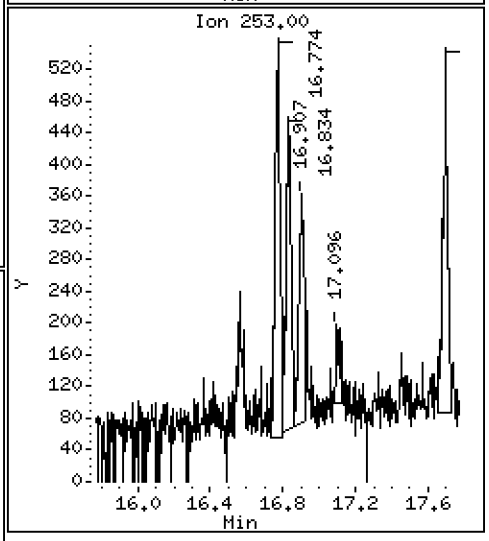
28 Benzo(b)fluoranthene

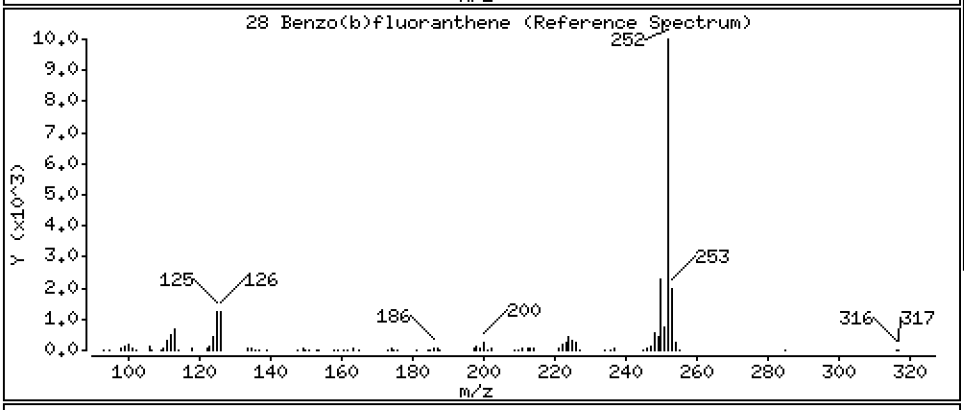
Concentration: 0.2569 ug/mL

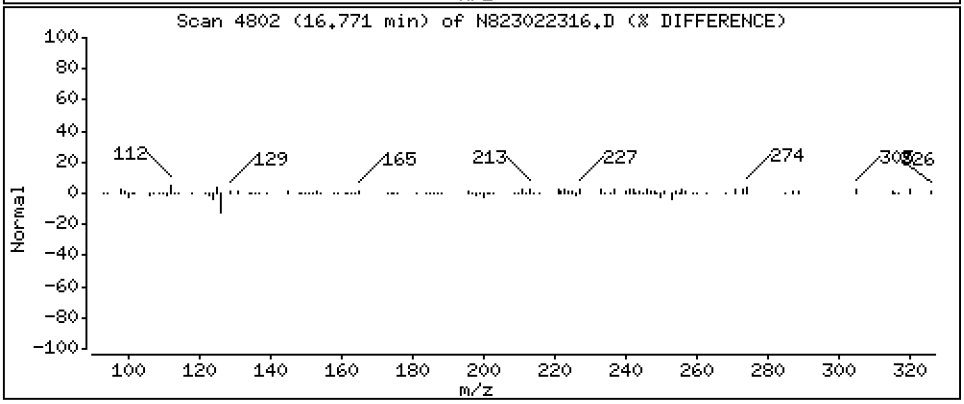












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Client ID:

Instrument: nt8.i

Sample Info: 23A0418-09

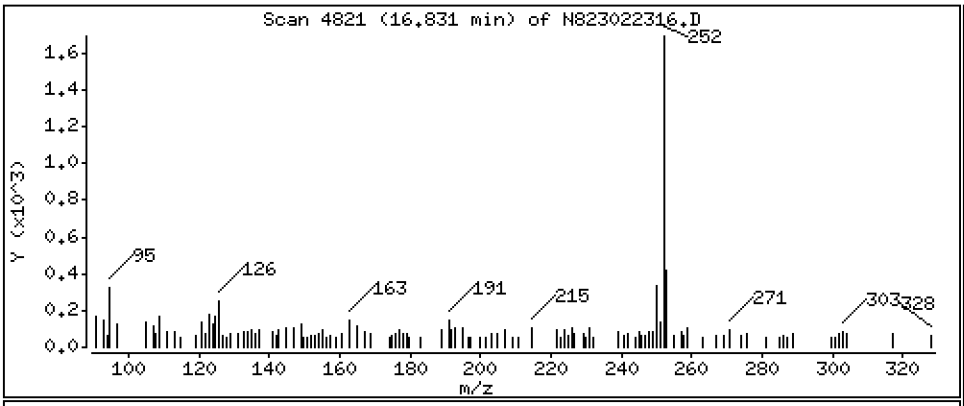
Operator: JZ

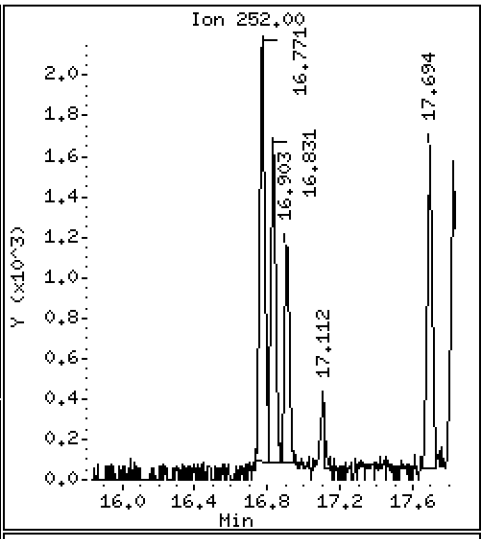
Column phase: Rxi-17sil

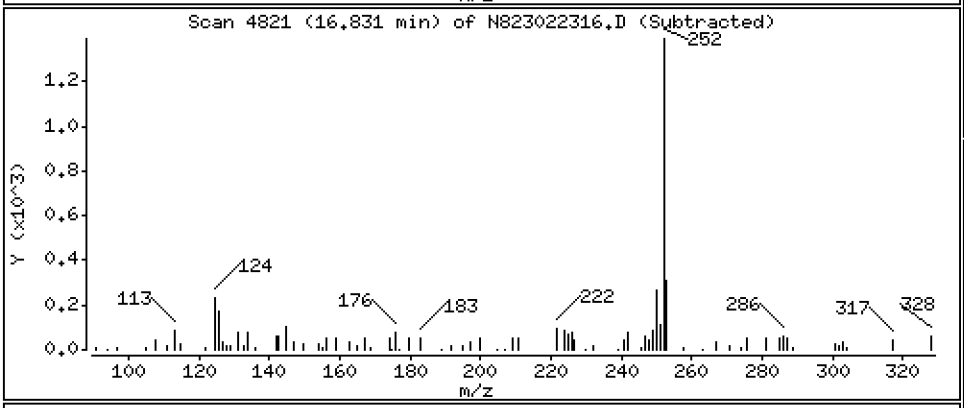
Column diameter: 0.25

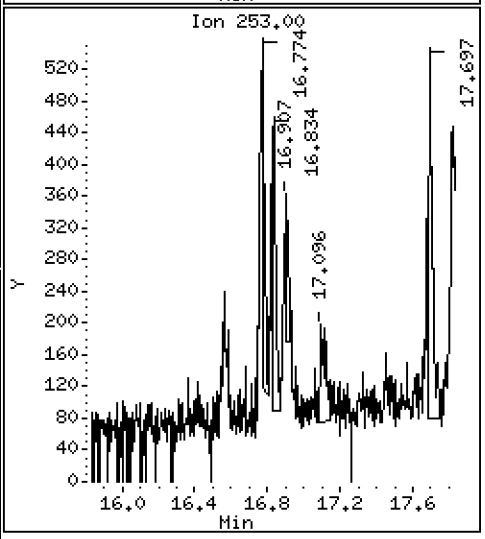
29 Benzo(k)fluoranthene

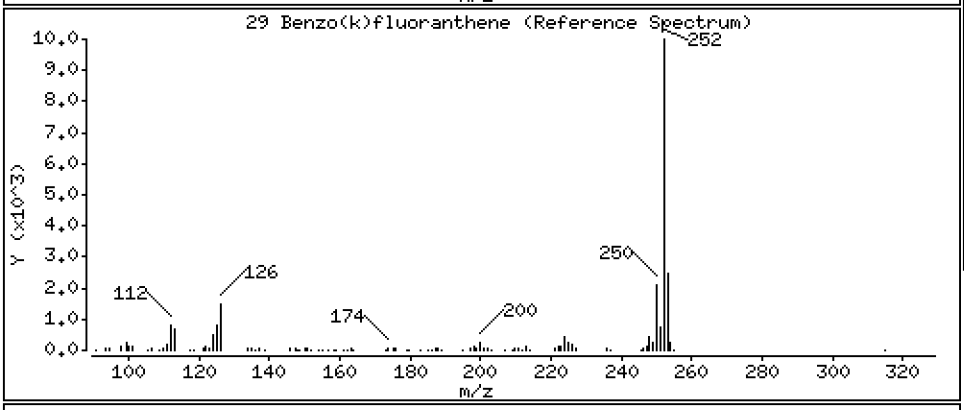
Concentration: 0.1769 ug/mL

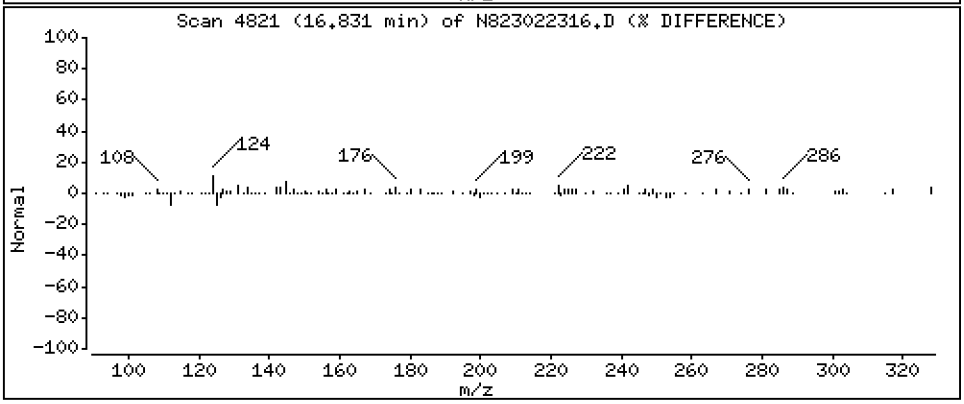












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Client ID:

Instrument: nt8.i

Sample Info: 23A0418-09

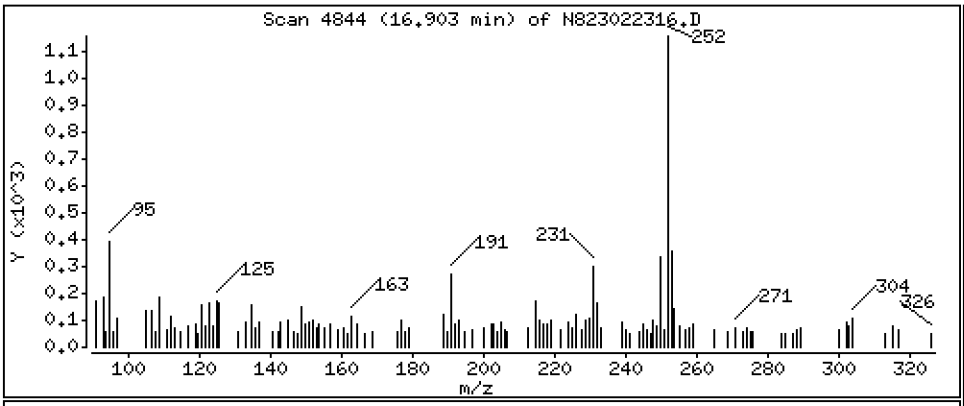
Operator: JZ

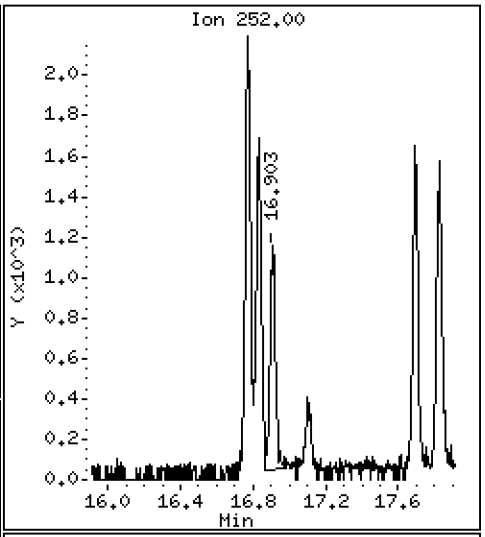
Column phase: Rxi-17sil

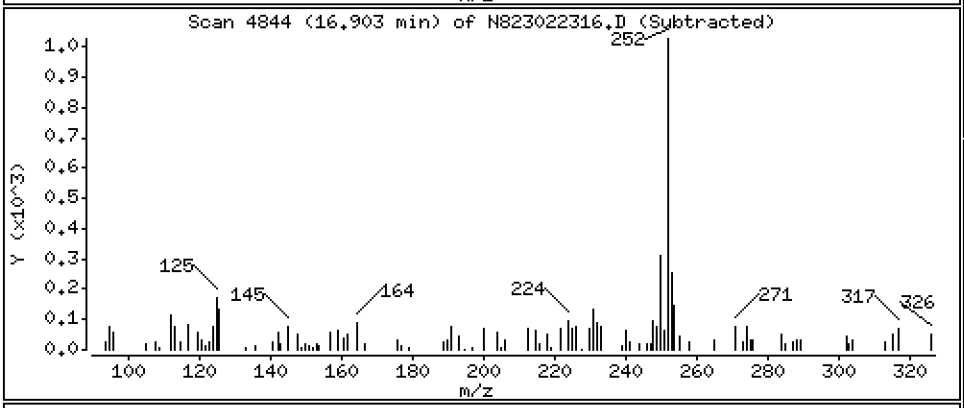
Column diameter: 0.25

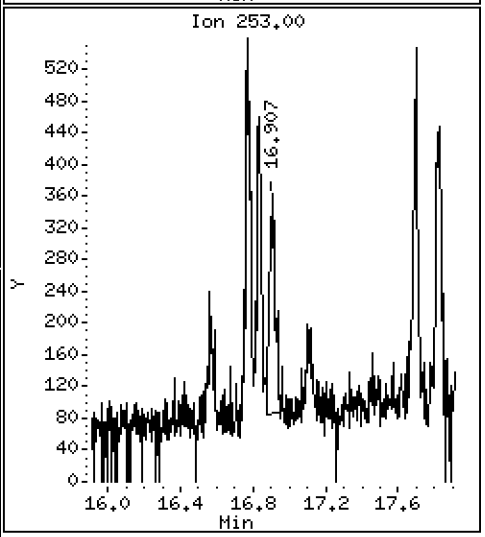
30 Benzo(j)fluoranthene

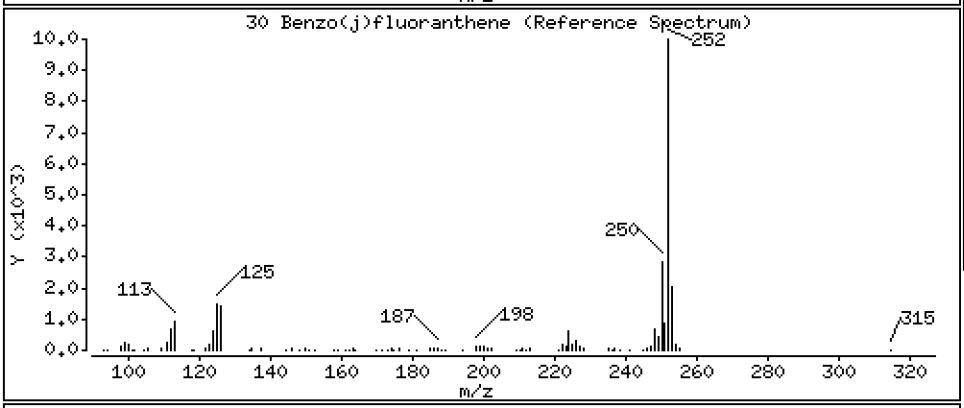
Concentration: 0.1472 ug/mL

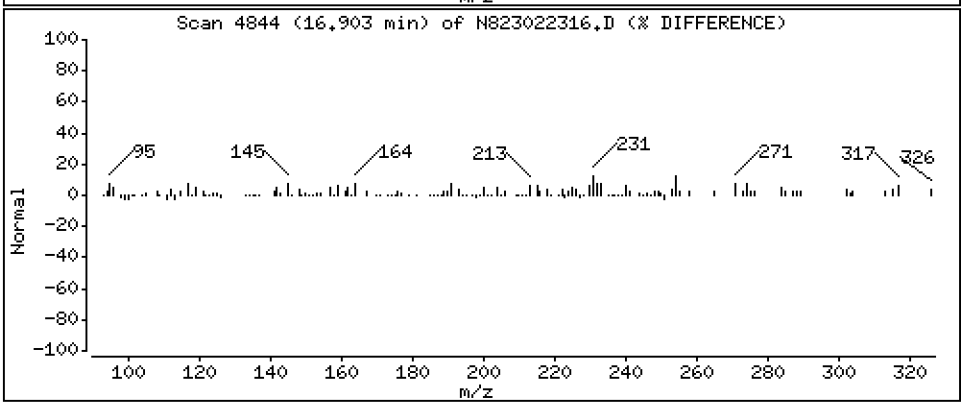












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Date : 23-FEB-2023 18:18

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-09

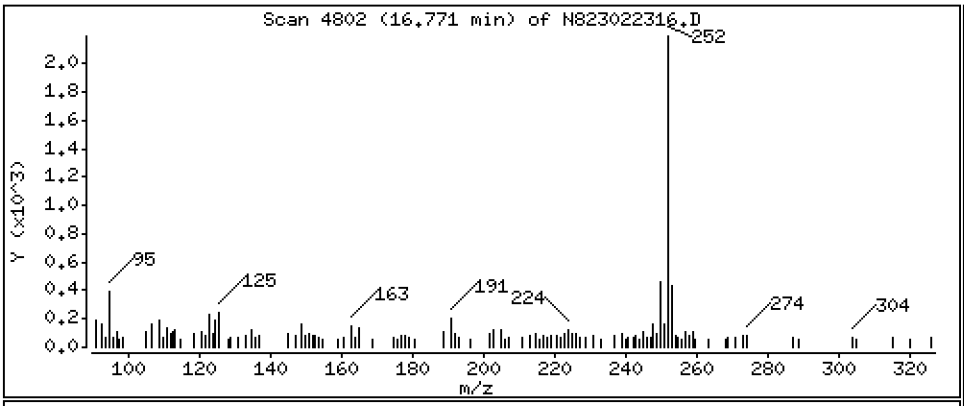
Operator: JZ

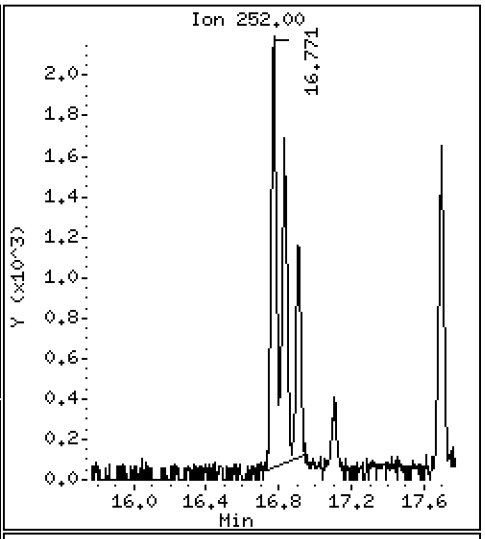
Column phase: Rxi-17sil

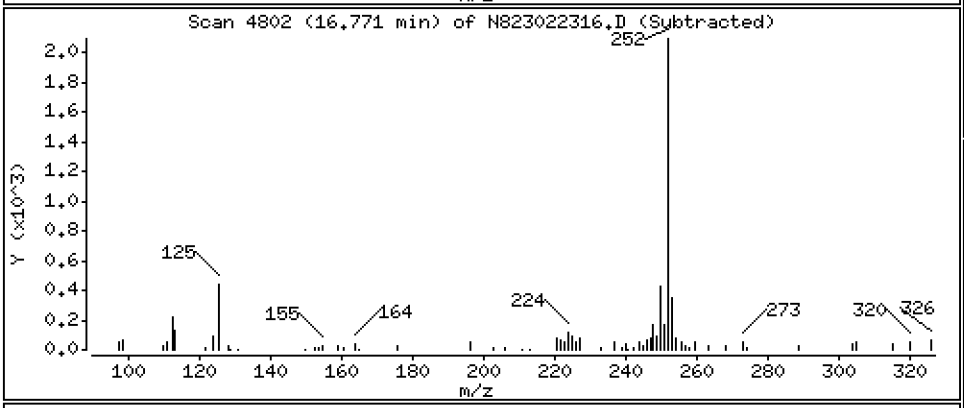
Column diameter: 0.25

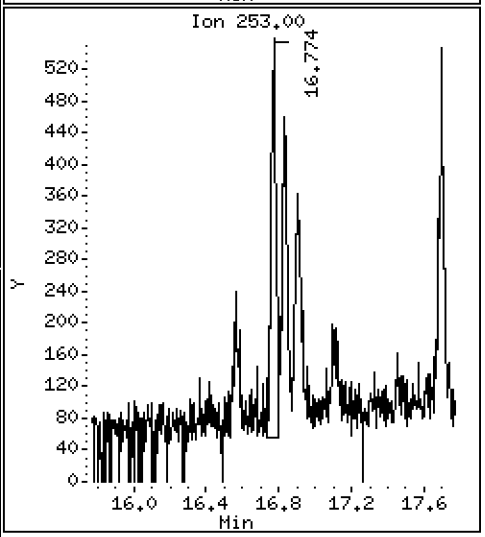
31 Total Benzofluoranthenes

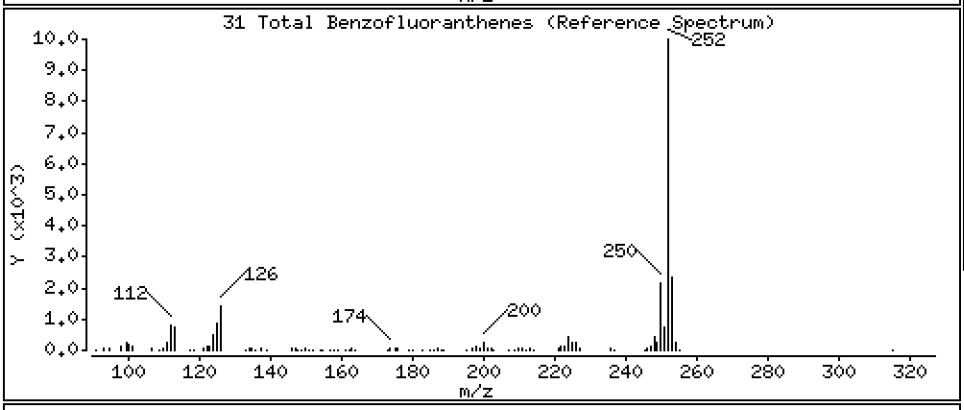
Concentration: 0.5493 ug/mL

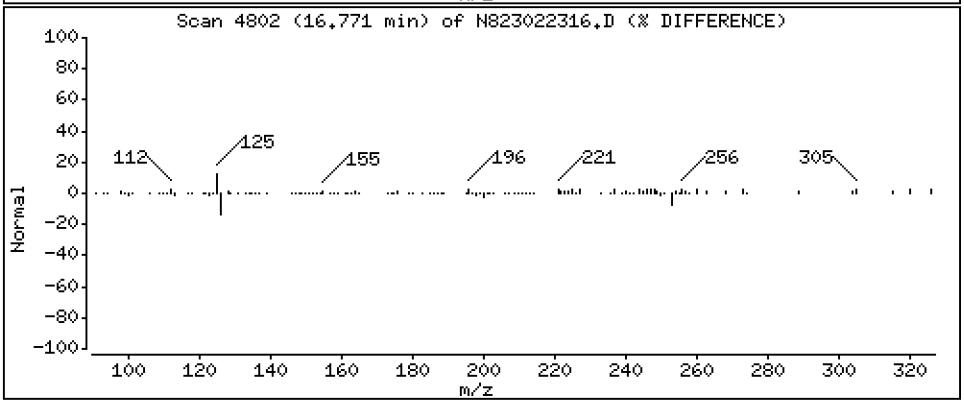












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022316.D

Date : 23-FEB-2023 18:18

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-09

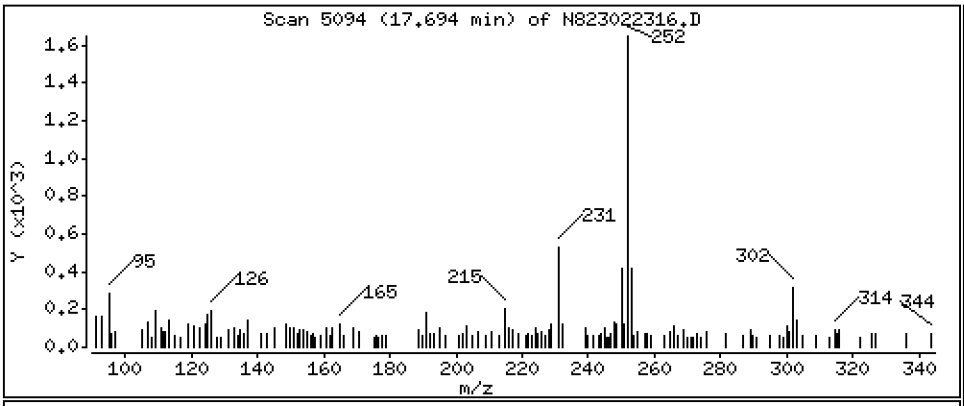
Operator: JZ

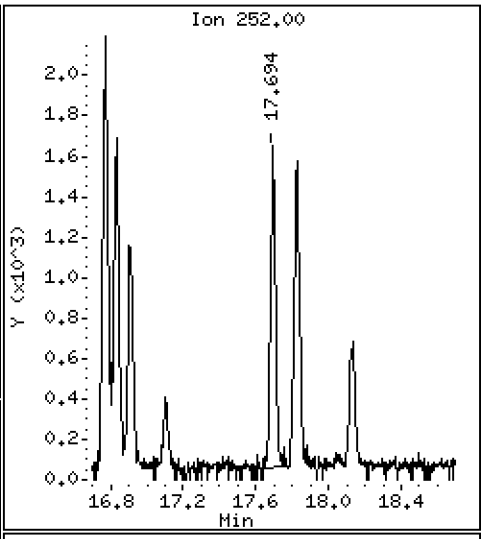
Column phase: Rxi-17sil

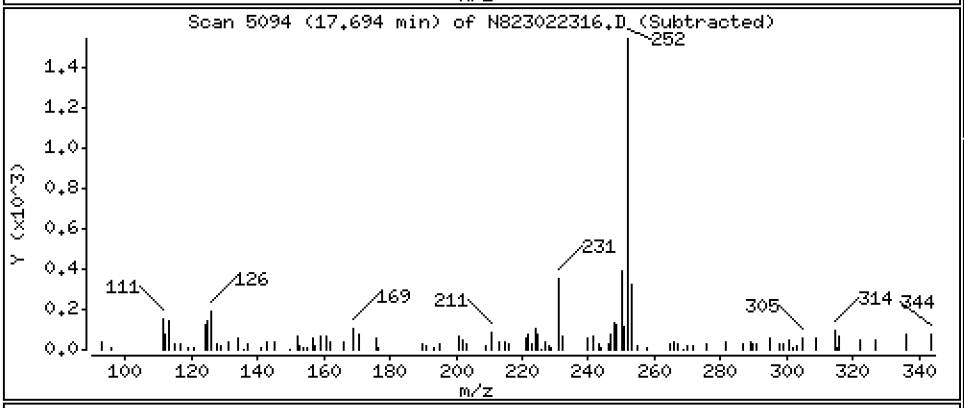
Column diameter: 0.25

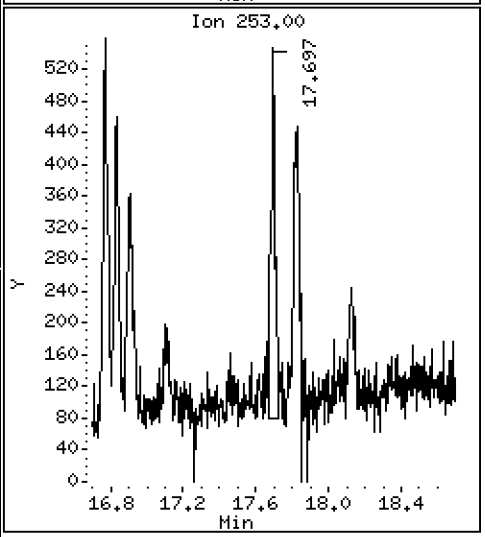
34 Benzo(e)pyrene

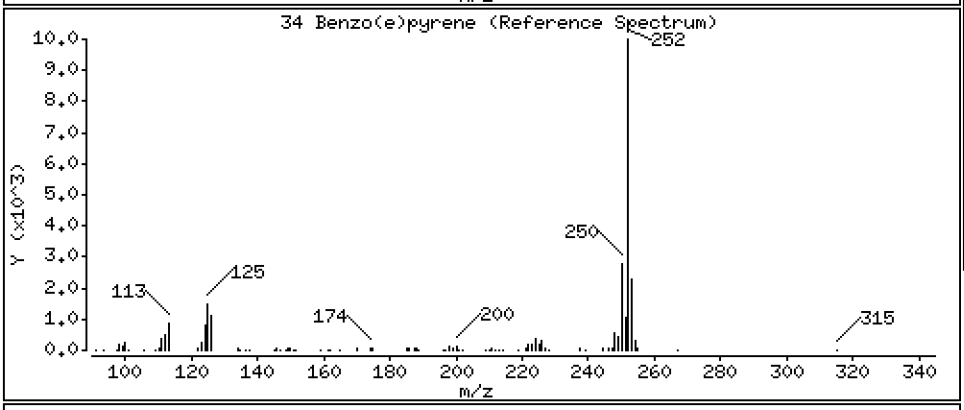
Concentration: 0.1736 ug/mL

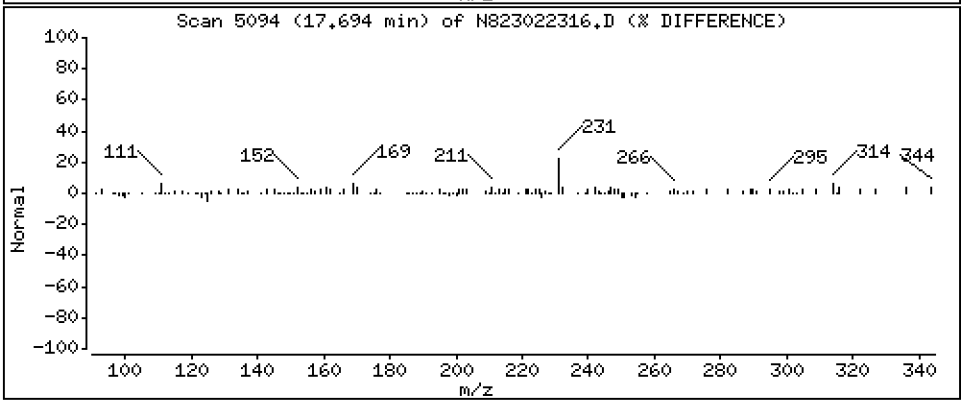












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022316.D

Date : 23-FEB-2023 18:18

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-09

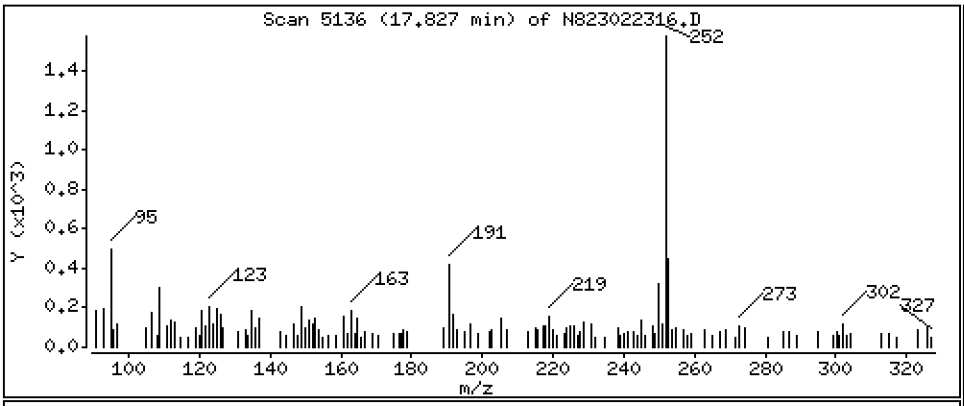
Operator: JZ

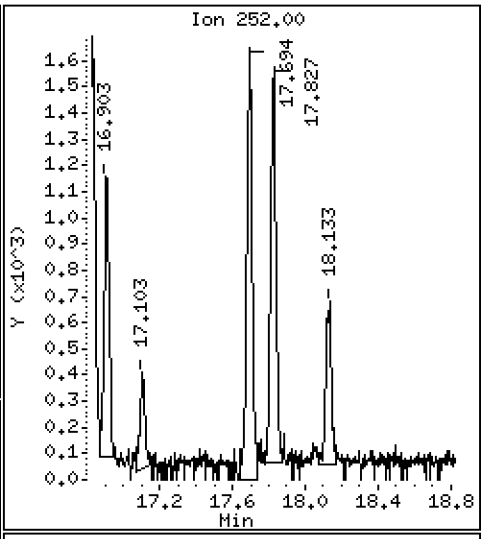
Column phase: Rxi-17sil

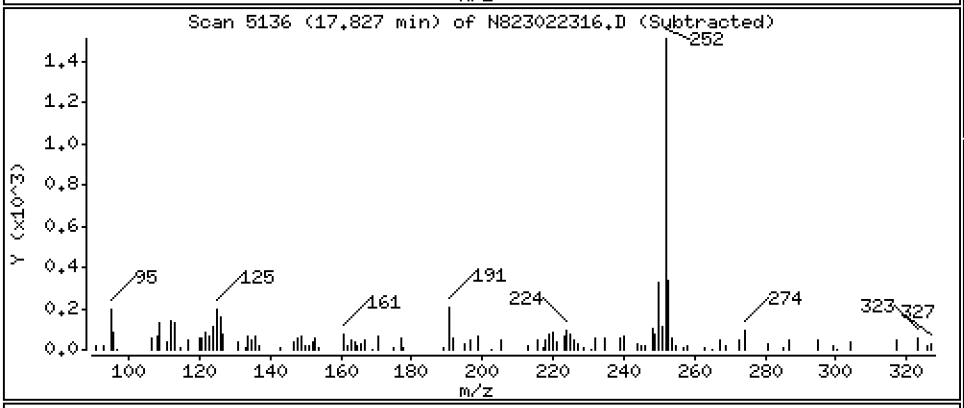
Column diameter: 0.25

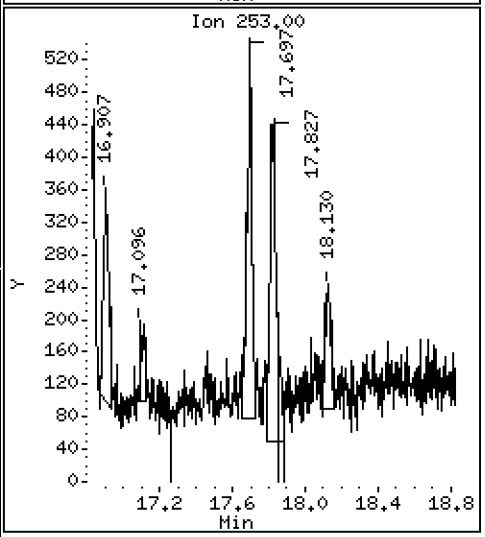
32 Benzo(a)pyrene

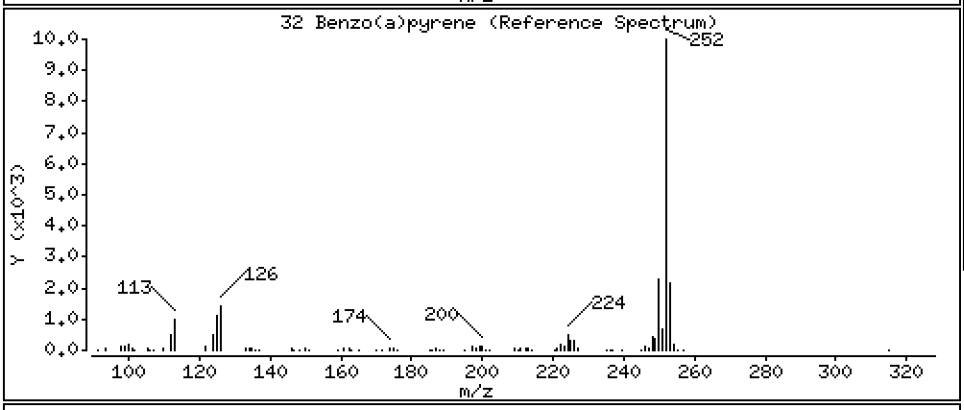
Concentration: 0.2013 ug/mL

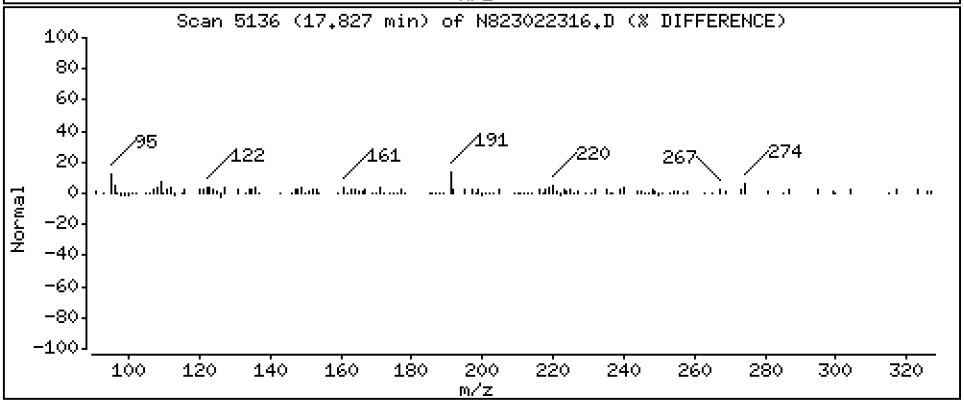












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Date : 23-FEB-2023 18:18

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-09

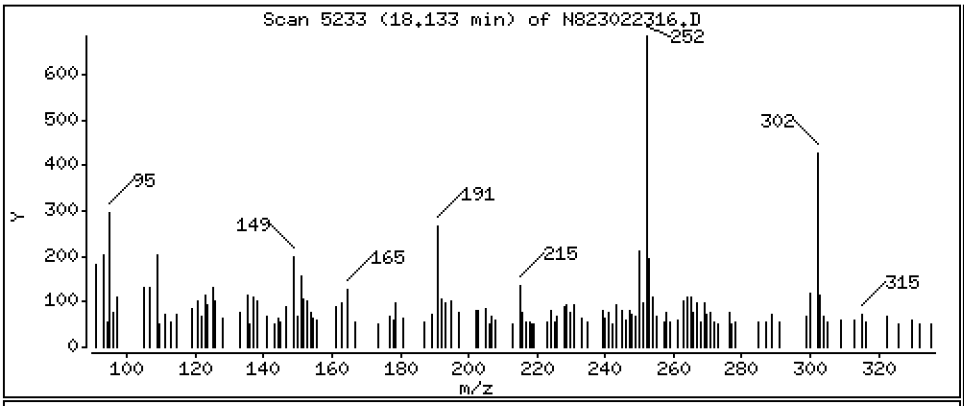
Operator: JZ

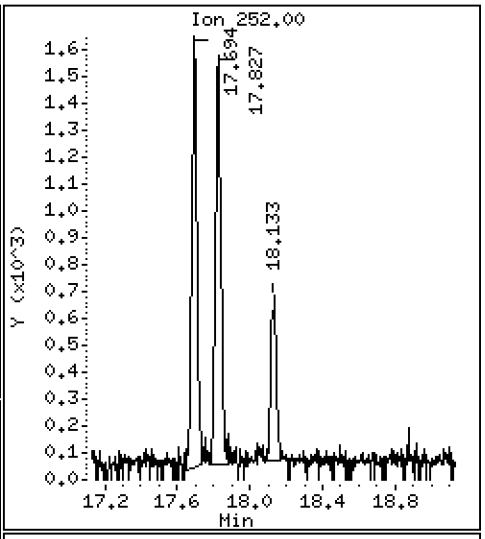
Column phase: Rxi-17sil

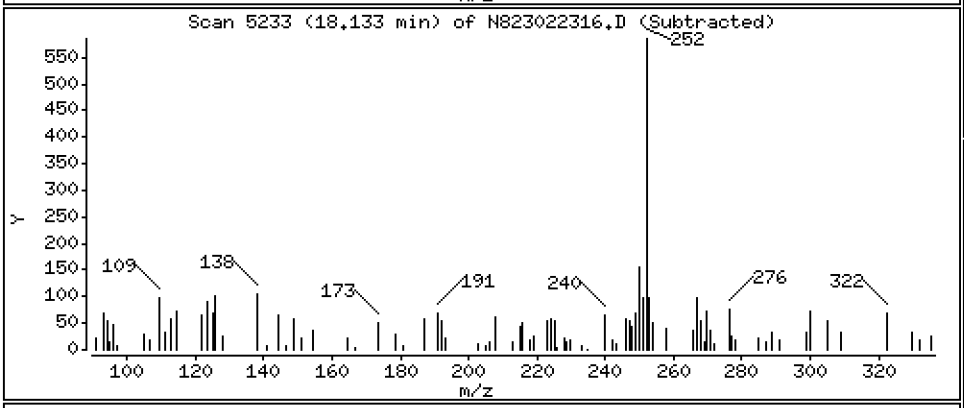
Column diameter: 0.25

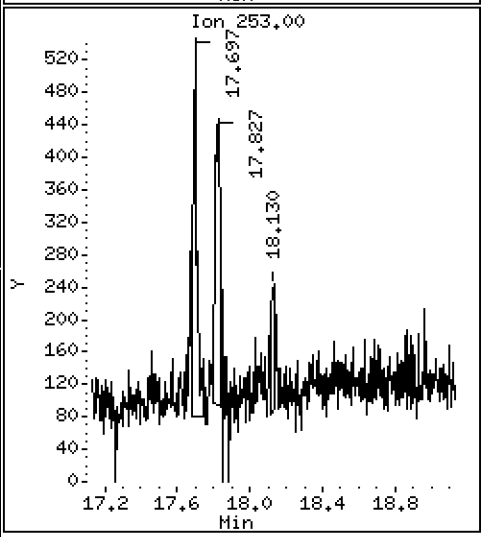
35 Perylene

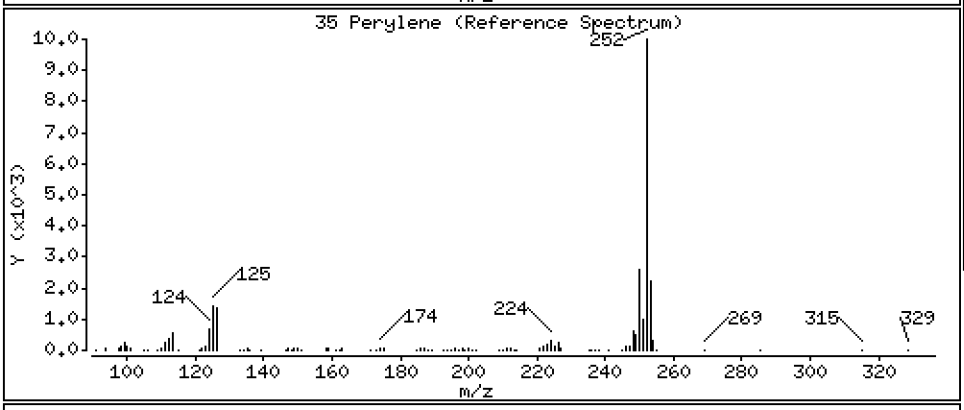
Concentration: 0.07814 ug/mL

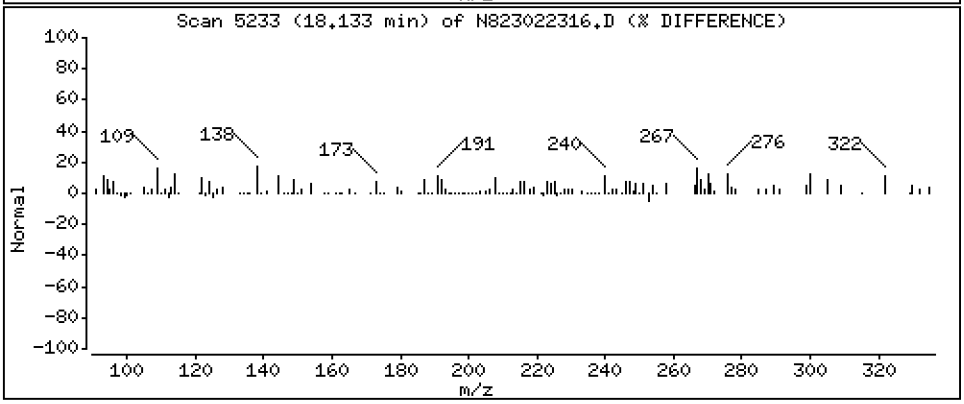












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Date : 23-FEB-2023 18:18

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-09

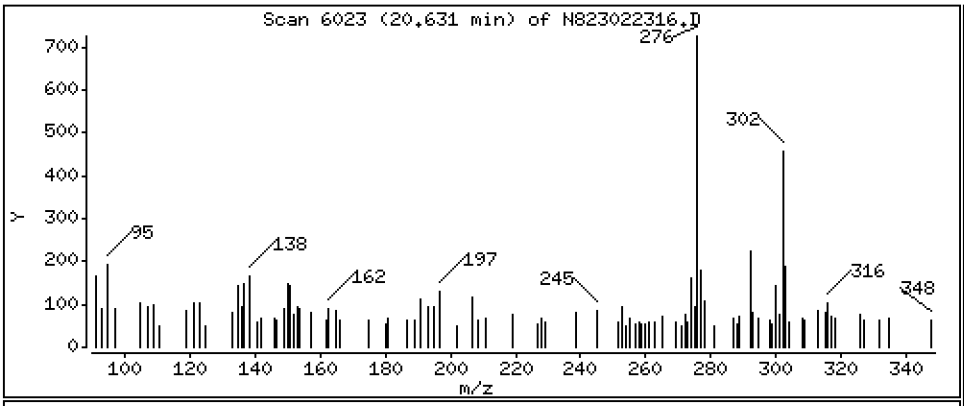
Operator: JZ

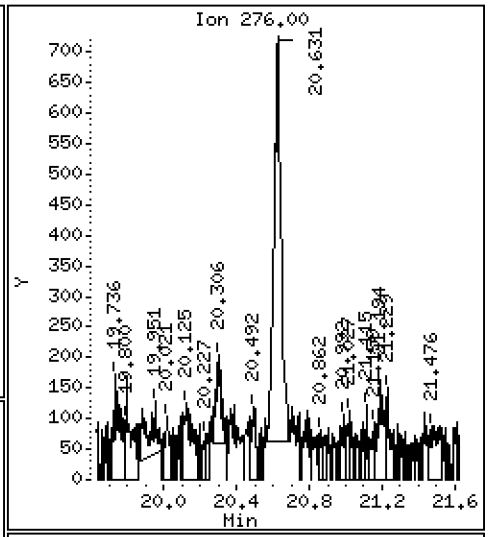
Column phase: Rxi-17sil

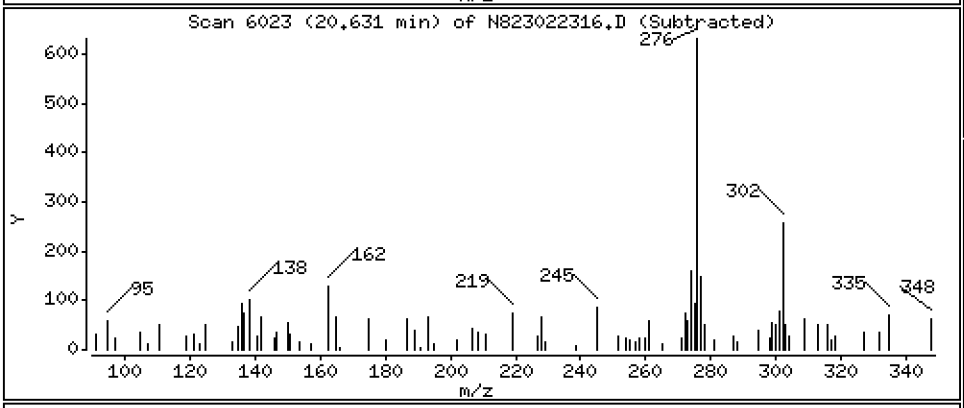
Column diameter: 0.25

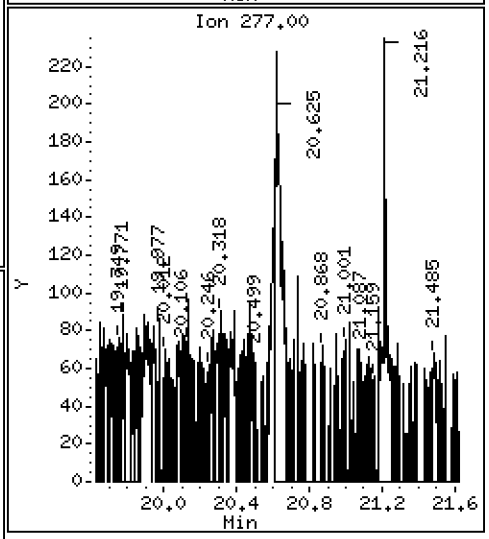
37 Indeno(1,2,3-cd)pyrene

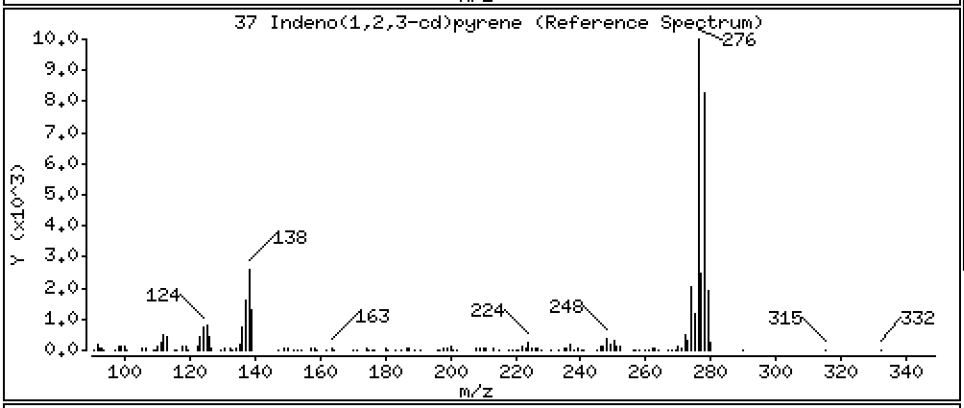
Concentration: 0.1056 ug/mL

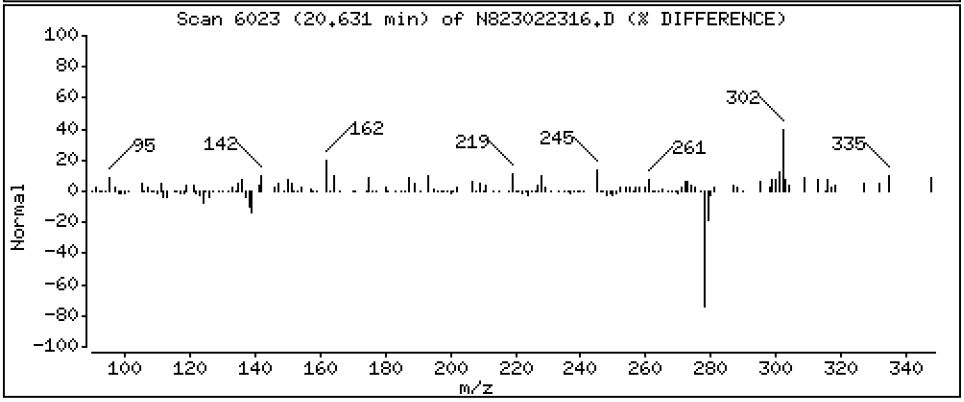












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Date : 23-FEB-2023 18:18

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-09

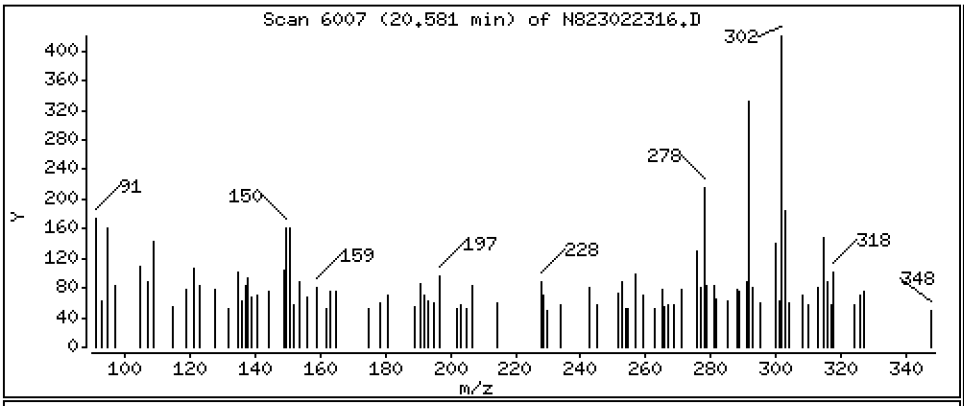
Operator: JZ

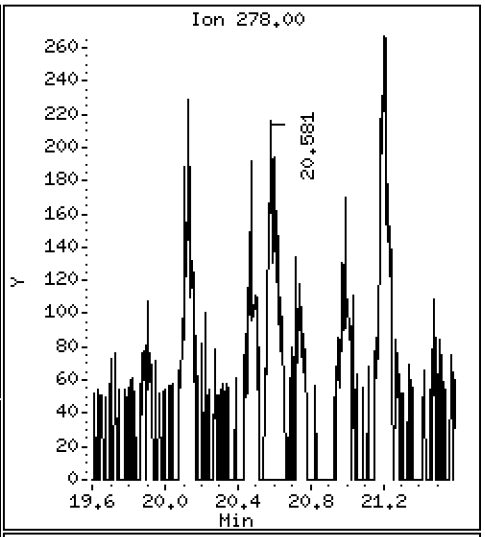
Column phase: Rxi-17sil

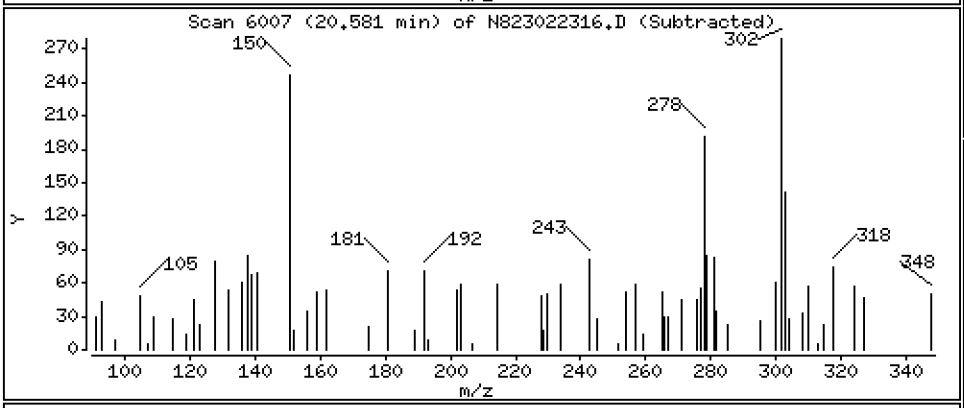
Column diameter: 0.25

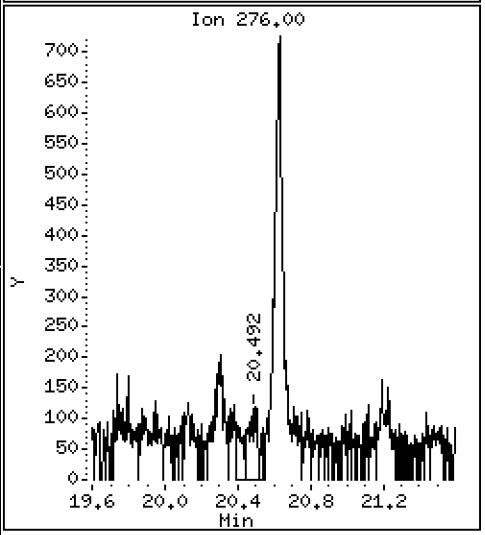
38 Dibenzo(a,h)anthracene

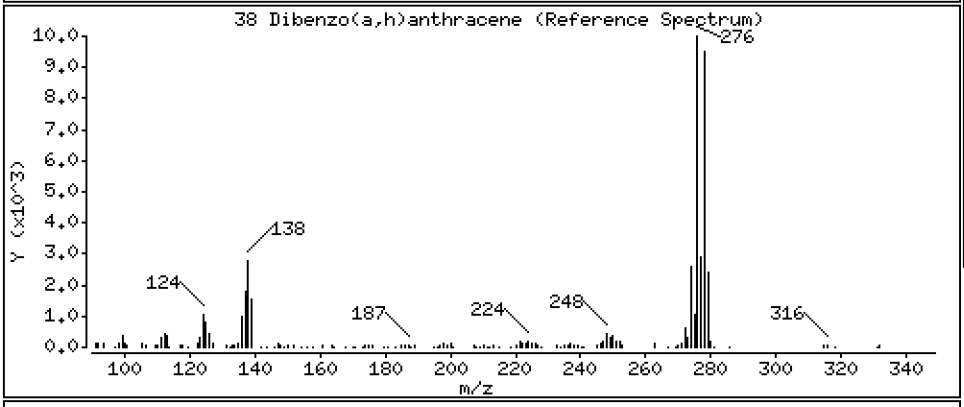
Concentration: 0.05532 ug/mL

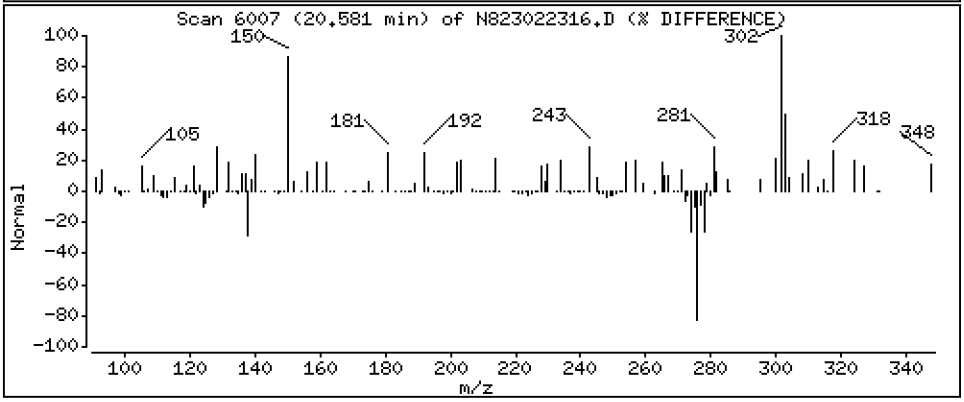












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Date : 23-FEB-2023 18:18

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-09

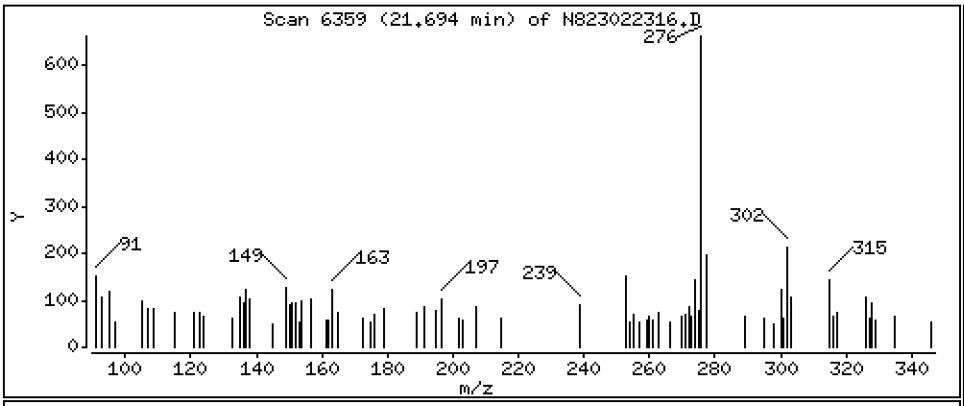
Operator: JZ

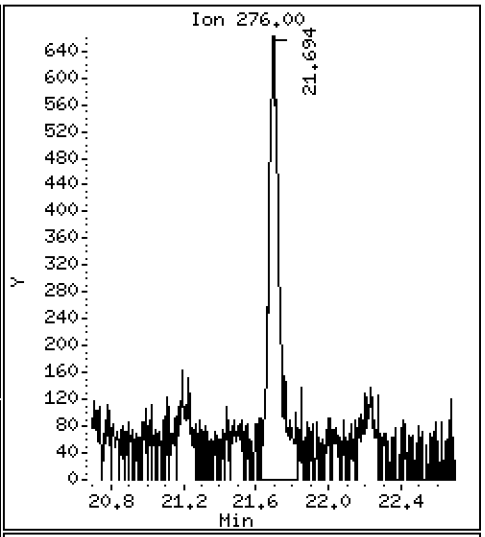
Column phase: Rxi-17sil

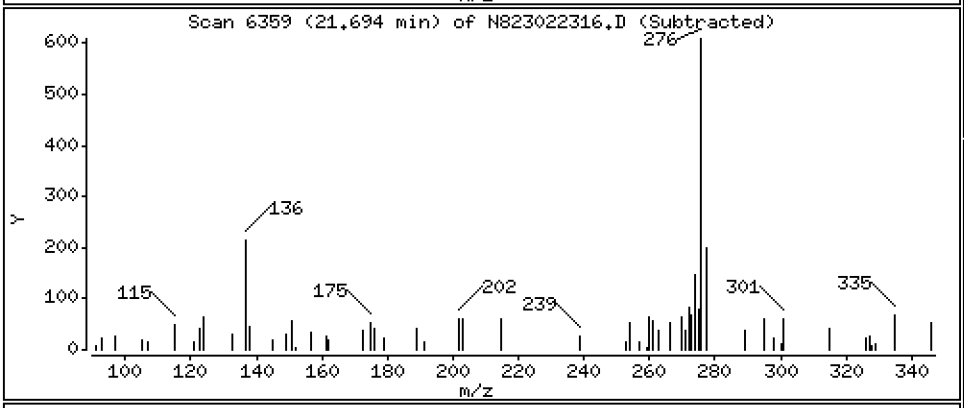
Column diameter: 0.25

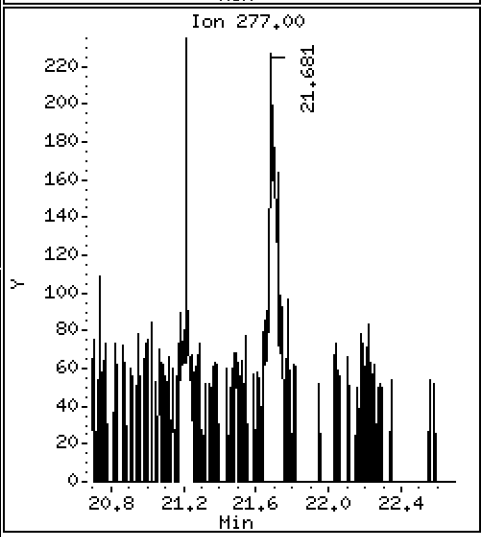
39 Benzo(g,h,i)perylene

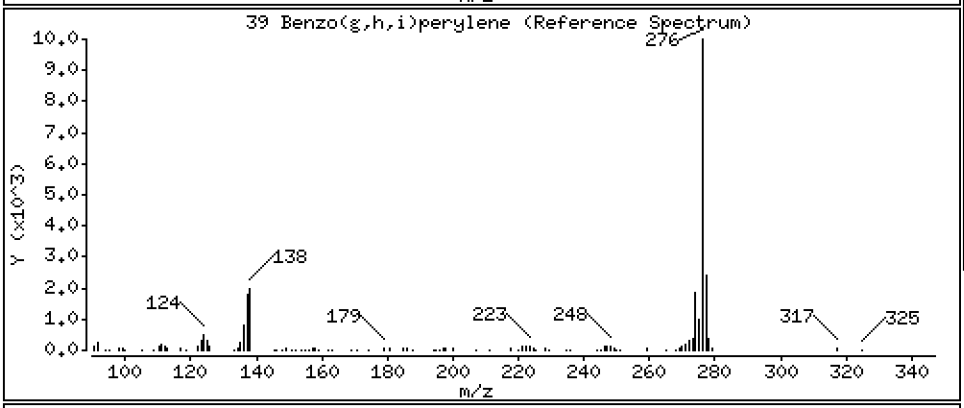
Concentration: 0.1748 ug/mL

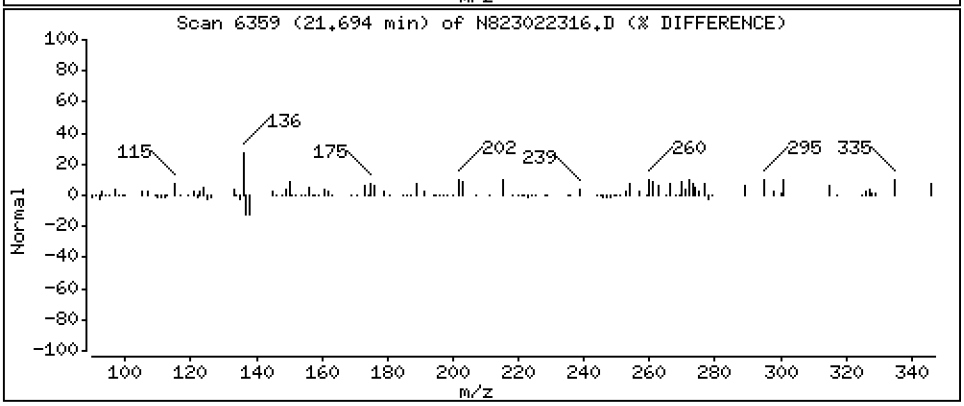












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230223.b\N823022316.D
Lab Smp Id: 23A0418-09
Inj Date : 23-FEB-2023 18:18
Operator : JZ Inst ID: nt8.i
Smp Info : 23A0418-09
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Meth Date : 26-Feb-2023 12:40 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PNAXEMDL.sub
Target Version: 4.14
Processing Host: JIANQING-202105

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.862	4.871	(1.000)	40358	2.00000	
	2 Naphthalene	128	4.891	4.903	(1.006)	701	0.03736	0.03736
$	3 2-Methylnaphthalene-d10	152	5.599	5.605	(1.152)	30802	2.79849	2.798
	4 2-Methylnaphthalene	141	5.646	5.652	(1.161)	357	0.03459	0.03459(M)
	5 1-methylnaphthalene	141	5.849	5.849	(1.203)	326	0.03112	0.03112
	9 Acenaphthylene	152	7.044	7.050	(0.985)	808	0.04627	0.04627
*	10 Acenaphthene-d10	164	7.155	7.158	(1.000)	23127	2.00000	
	11 Acenaphthene	153	7.224	7.208	(1.010)	328	0.02803	0.02803(M)
	12 Dibenzofuran	168	7.357	7.360	(1.028)	739	0.04158	0.04158(M)
	14 Fluorene	166	7.837	7.837	(1.095)	525	0.03803	0.03803(M)
*	15 Phenanthrene-d10	188	9.197	9.197	(1.000)	40697	2.00000	
	16 Phenanthrene	178	9.232	9.235	(1.004)	2755	0.13858	0.1386
	17 Anthracene	178	9.273	9.276	(1.008)	1840	0.10189	0.1019
	19 Carbazole	167	9.795	9.791	(1.065)	620	0.03745	0.03745
	22 Fluoranthene	202	11.009	11.009	(1.197)	11335	0.52382	0.5238
$	21 Fluoranthene-d10	212	10.971	10.971	(1.193)	63026	3.51015	3.510
	23 Pyrene	202	11.531	11.527	(0.815)	10953	0.61804	0.6180
	24 Benzo(a)anthracene	228	14.019	14.025	(0.991)	7968	0.49604	0.4960
*	25 Chrysene-d12	240	14.149	14.152	(1.000)	28585	2.00000	
	27 Chrysene	228	14.222	14.225	(1.005)	27548	1.61099	1.611
	28 Benzo(b)fluoranthene	252	16.770	16.770	(0.929)	4515	0.25686	0.2569
	29 Benzo(k)fluoranthene	252	16.830	16.833	(0.932)	3046	0.17692	0.1769
	30 Benzo(j)fluoranthene	252	16.903	16.912	(0.936)	2282	0.14723	0.1472(M)
	31 Total Benzofluoranthenes	252	16.770	16.770	(0.929)	9144	0.54929	0.5493(M)
	34 Benzo(e)pyrene	252	17.693	17.696	(0.980)	3043	0.17361	0.1736(M)
	32 Benzo(a)pyrene	252	17.826	17.826	(0.987)	3114	0.20132	0.2013
*	33 Perylene-d12	264	18.057	18.057	(1.000)	30181	2.00000	
	35 Perylene	252	18.133	18.130	(1.004)	1297	0.07814	0.07814
$	36 Dibenzo(a,h)anthracene-d14	292	20.485	20.485	(1.134)	43295	3.66114	3.661
	37 Indeno(1,2,3-cd)pyrene	276	20.631	20.624	(1.143)	1861	0.10561	0.1056
	38 Dibenzo(a,h)anthracene	278	20.580	20.596	(1.140)	839	0.05532	0.05532(M)
	39 Benzo(g,h,i)perylene	276	21.693	21.696	(1.201)	2791	0.17481	0.1748(M)

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823022316.D
Lab Smp Id: 23A0418-09
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 23-FEB-2023
Calibration Time: 11:46
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	37022	18511	74044	40358	9.01
10 Acenaphthene-d10	22454	11227	44908	23127	3.00
15 Phenanthrene-d10	43277	21639	86554	40697	-5.96
25 Chrysene-d12	38907	19454	77814	28585	-26.53
33 Perylene-d12	39582	19791	79164	30181	-23.75

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.87	4.37	5.37	4.86	-0.19
10 Acenaphthene-d10	7.16	6.66	7.66	7.16	-0.04
15 Phenanthrene-d10	9.20	8.70	9.70	9.20	0.00
25 Chrysene-d12	14.15	13.65	14.65	14.15	-0.02
33 Perylene-d12	18.06	17.56	18.56	18.06	0.00

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

REVIEW SUMMARY FOR FILE - N823022316.D

Lab ID: 23A0418-09
nt8.i, 20230223.b\FSIMPNA230119.m,   23-FEB-2023 18:18

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

No RRT check performed

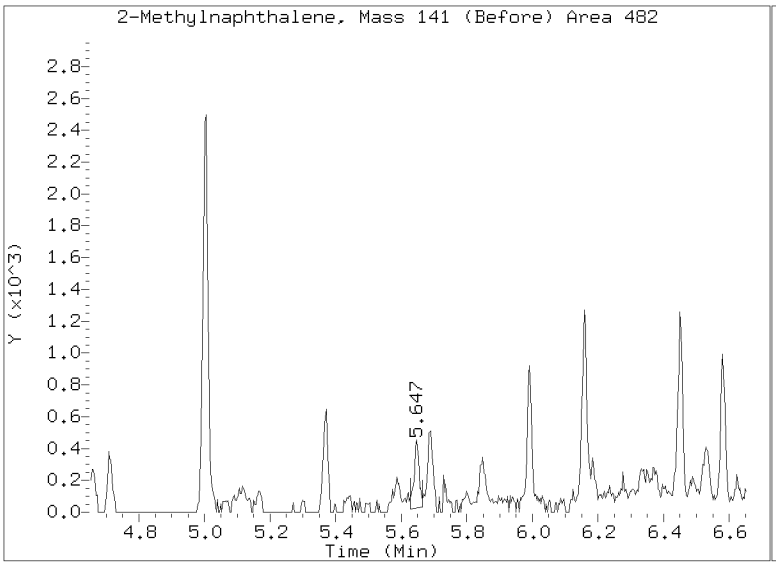
On Column LOD for nt8.i, 20230223.b\FSIMPNA230119.m, PNAXEMDL.sub = 0.0080

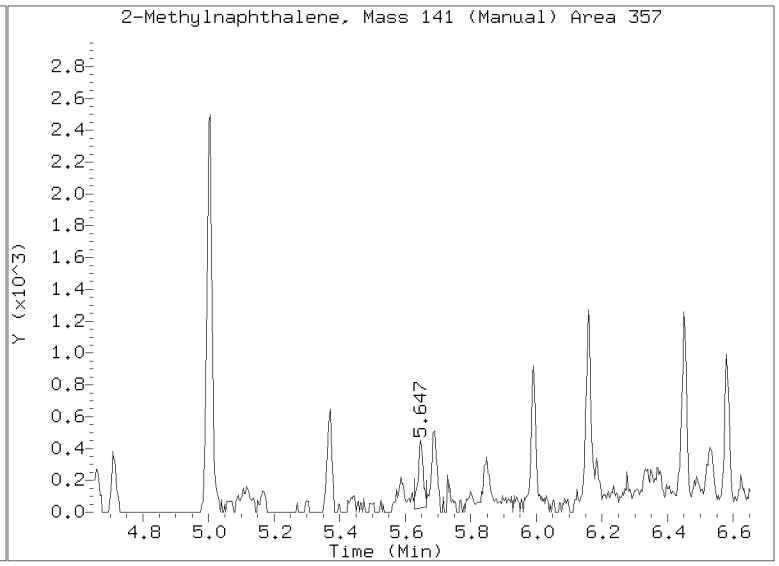
Exception: Benzo(e)pyrene 0.0800

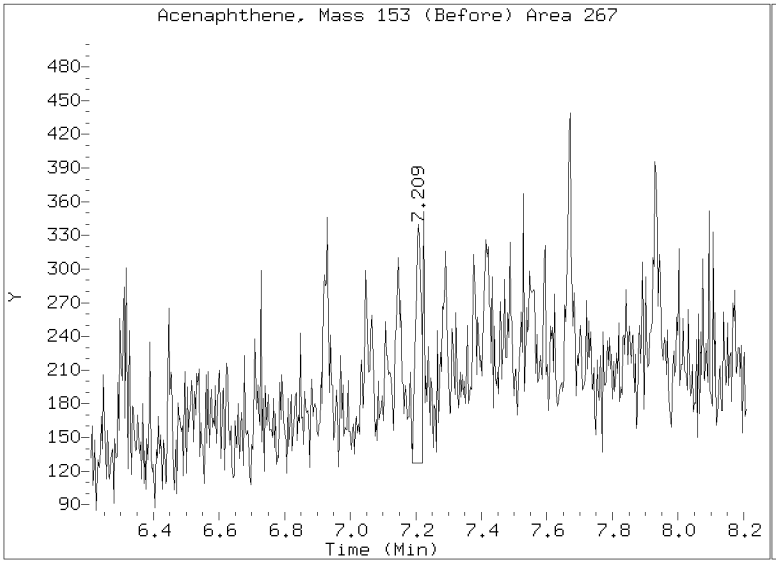
* Only compounds listed in the work order have been verified by the analyst *

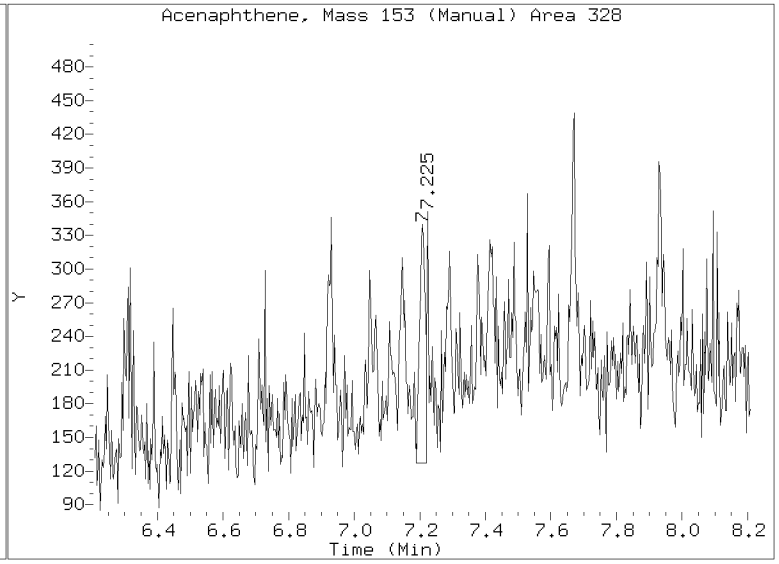
Quant Ion Manual Peak Adjustment Report

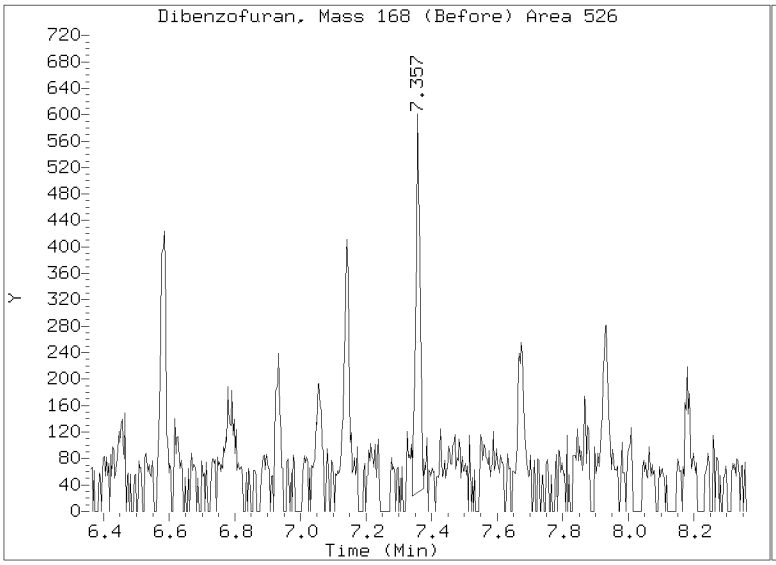
Datafile: //target/share/chem3/nt8.i/20230223.b/N823022316.D
Injection Date: 23-FEB-2023 18:18
Lab ID:23A0418-09 Client ID:
Report Date: 02/26/2023 14:18

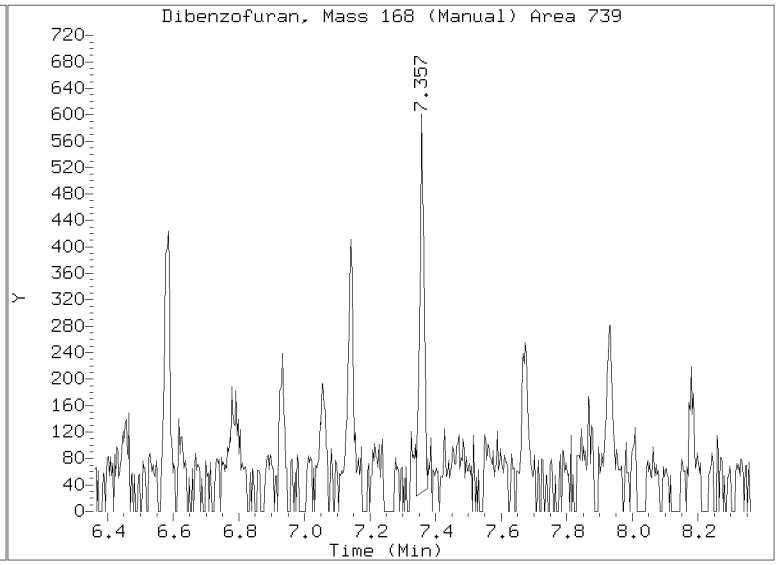












Quant Ion Manual Peak Adjustment Report

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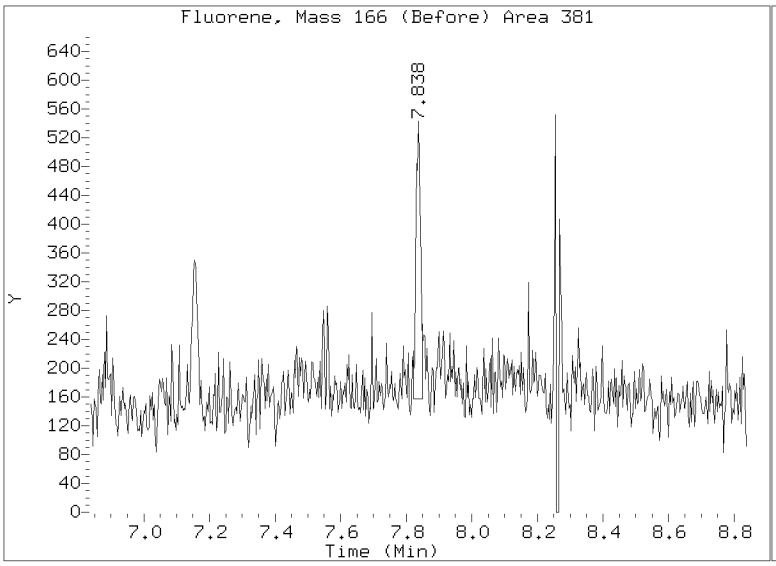
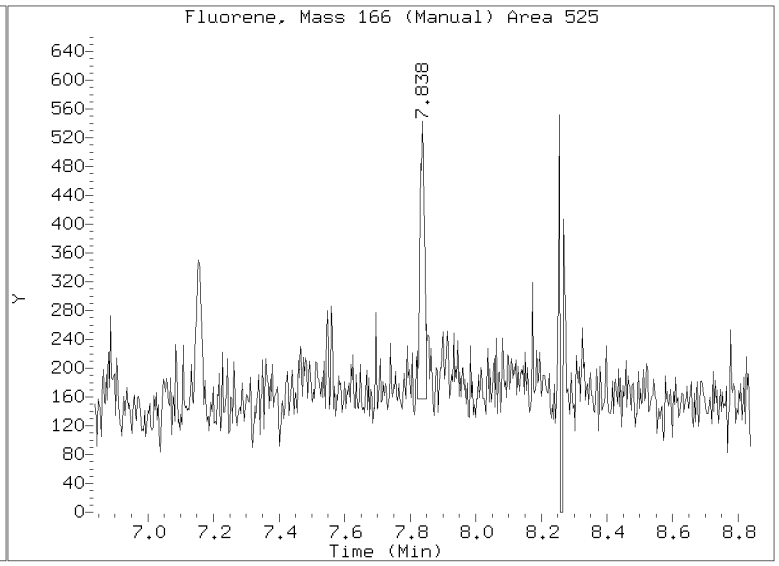
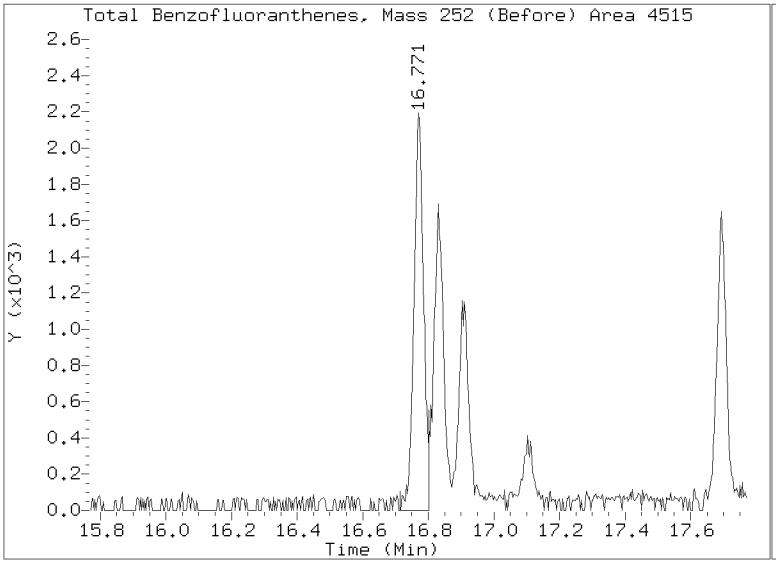
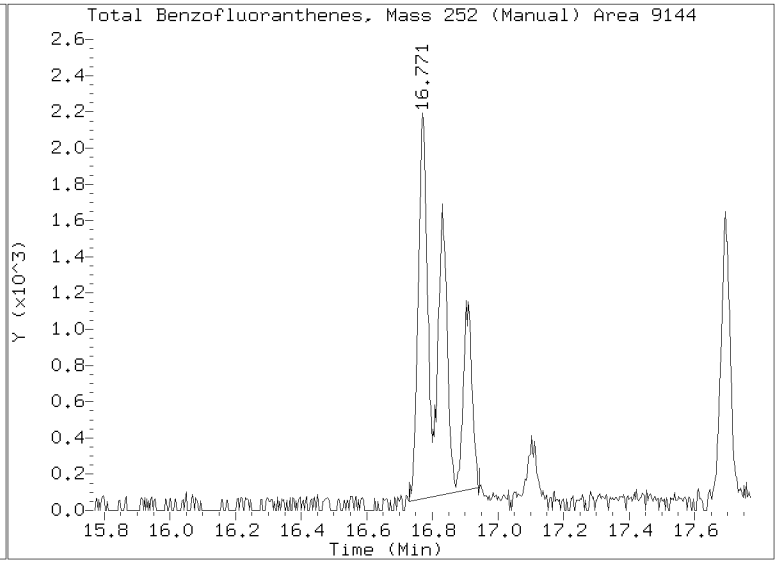
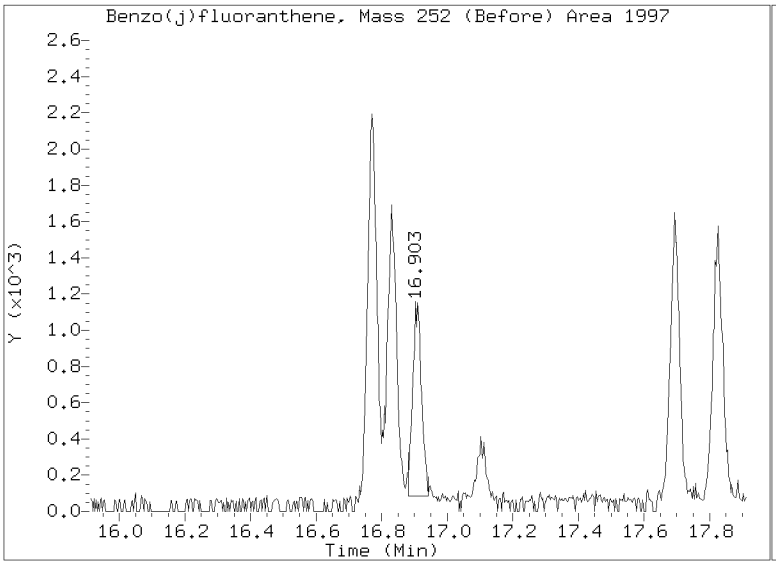
Injection Date: 23-FEB-2023 18:18
Lab ID:23A0418-09 Client ID:
Report Date: 02/26/2023 14:18

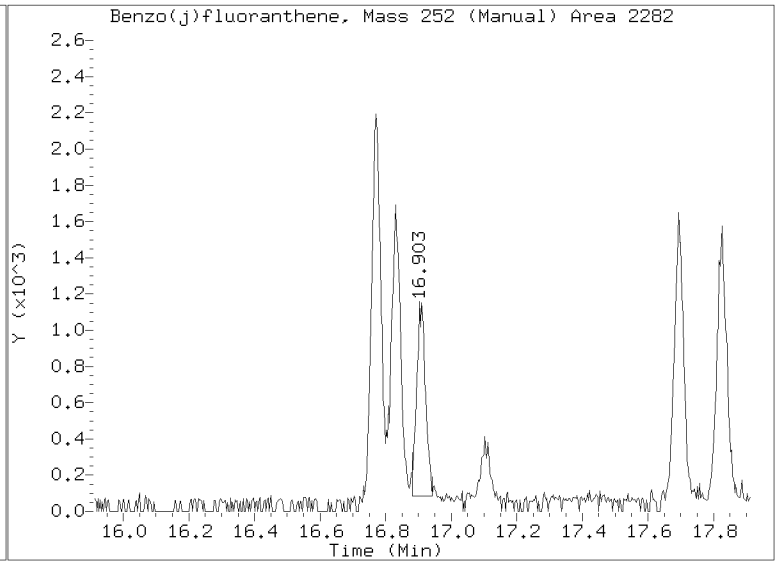












Quant Ion Manual Peak Adjustment Report

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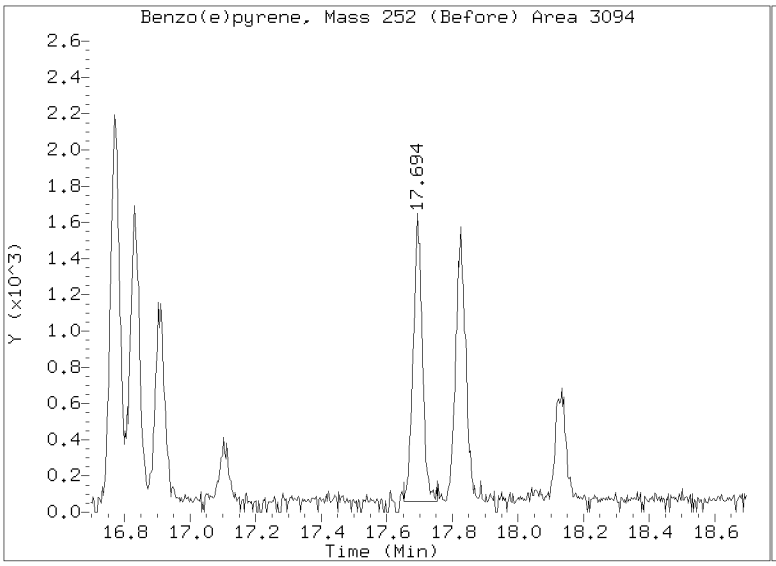
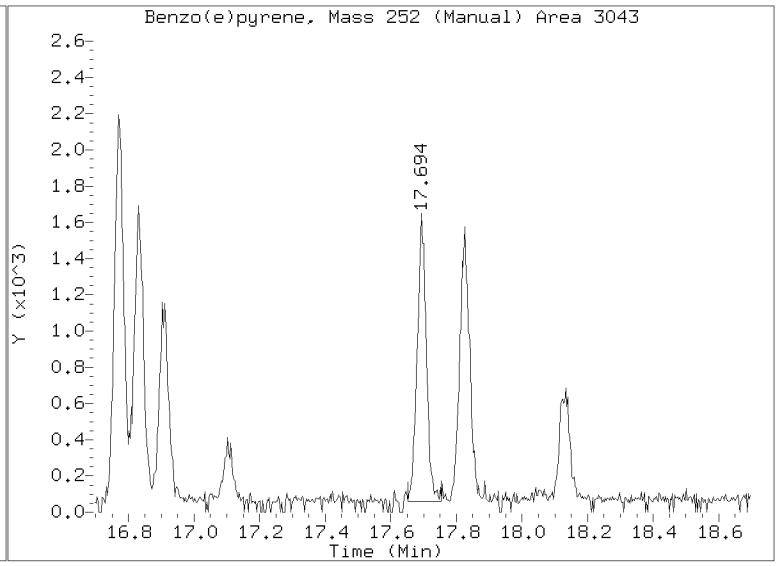
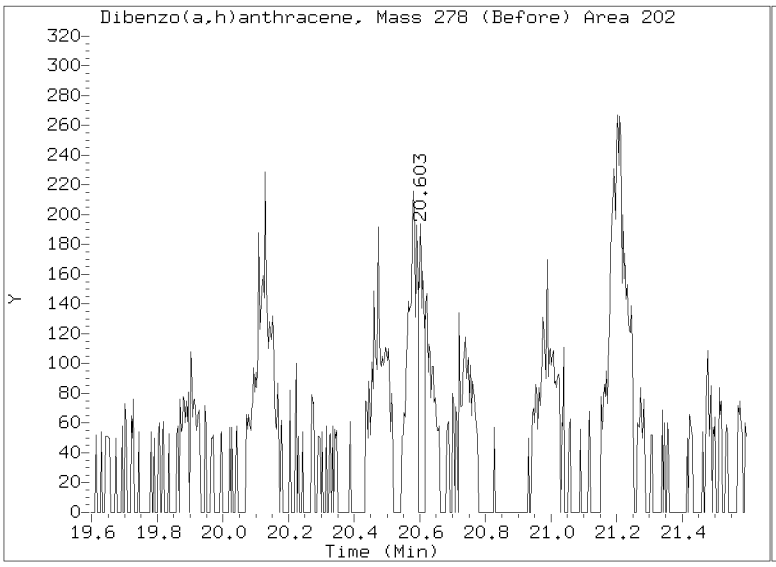
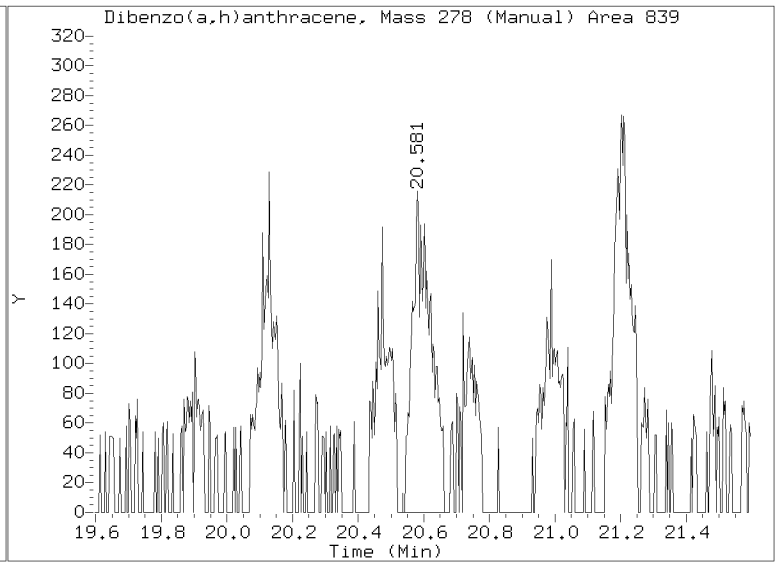
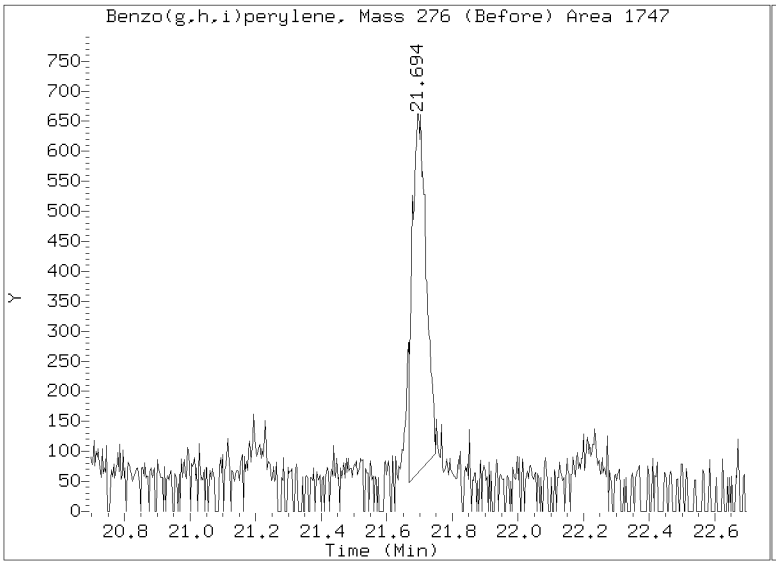
Report Date: 02/26/2023 14:18

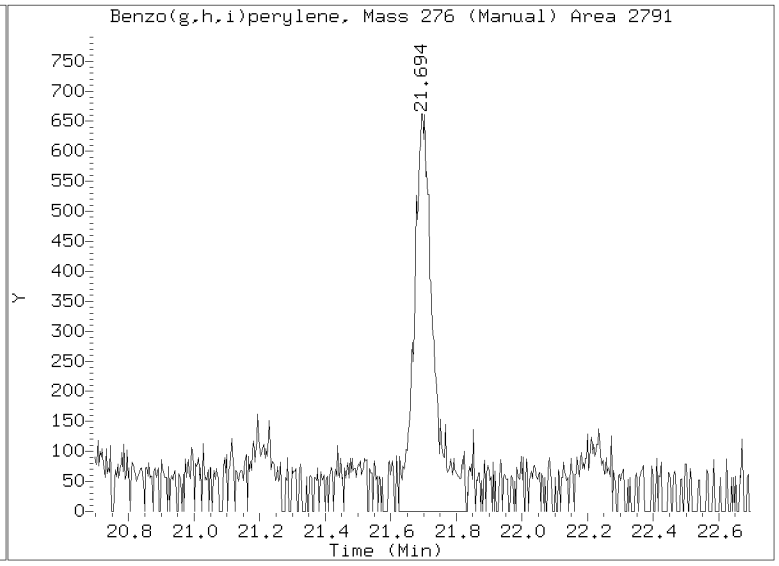












Analytical Resources, LLC
Analytical Chemists and Consultants

LDW23-IT1135

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270E-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-10 A	SDG:	23A0418
Sampled:	01/18/23 14:23	Prepared:	02/16/23 14:32	File ID:	N823022317.D
% Solids:	68.42	Preparation:	EPA 3546 (Microwave)	Analyzed:	02/23/23 18:44
Batch:	BLB0386	Sequence:	SLB0310	Initial/Final:	14.75 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	GA00050
Cleanups:	GPC, Silica Gel				

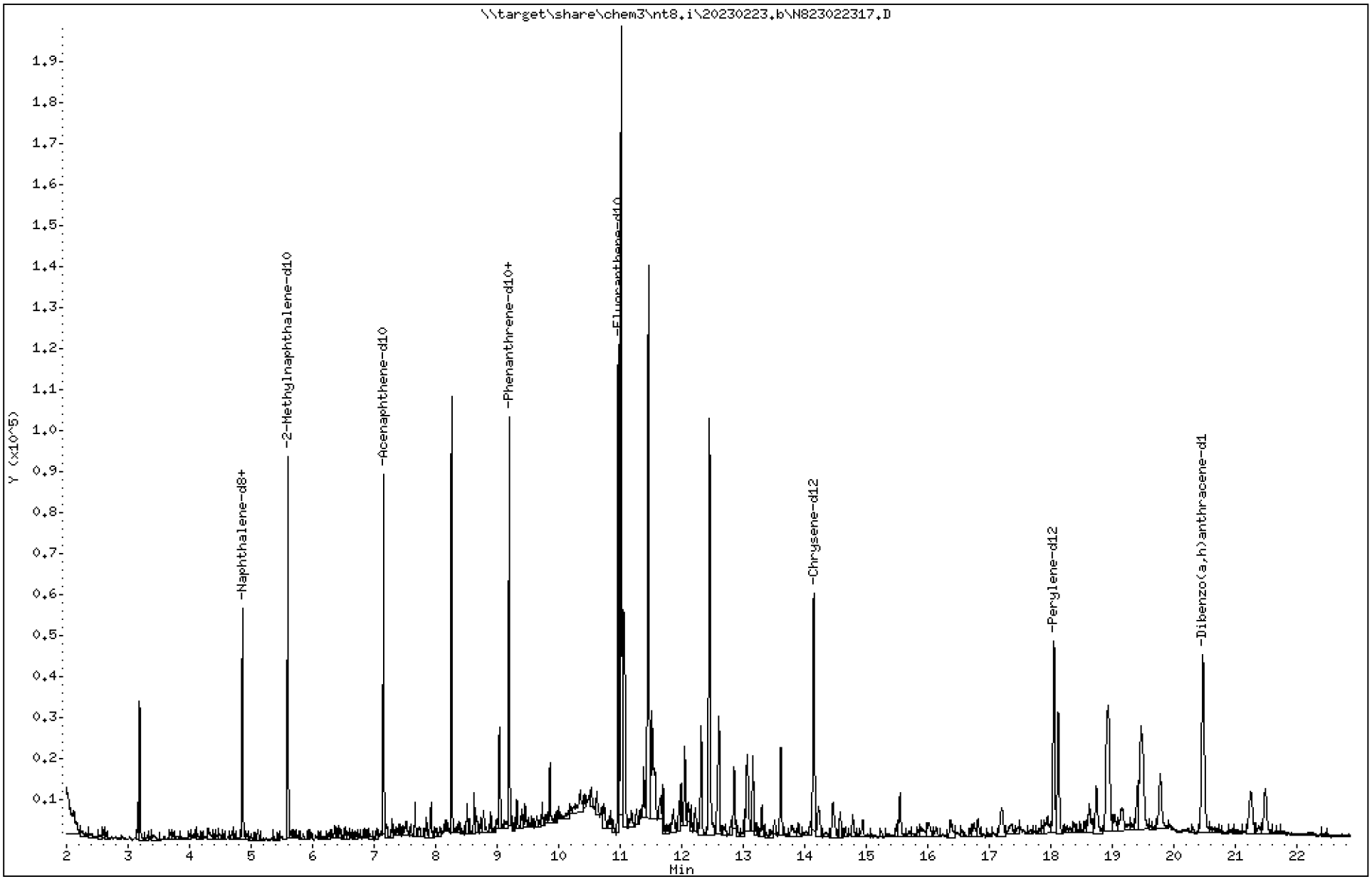
CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	1.37	J	0.82	4.95
218-01-9	Chrysene	1	2.20	J	1.04	4.95
205-99-2	Benzo(b)fluoranthene	1	1.57	J	1.36	4.95
207-08-9	Benzo(k)fluoranthene	1	0.91	J	0.75	4.95
50-32-8	Benzo(a)pyrene	1	1.20	J	0.61	4.95
193-39-5	Indeno(1,2,3-cd)pyrene	1	4.95	U	1.04	4.95
53-70-3	Dibenzo(a,h)anthracene	1	4.95	U	0.88	4.95

SURROGATES	ADDED: (ug/kg dry)	FOUND: (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	148.63	139	93.7	32 - 120	
Dibenzo[a,h]anthracene-d14	148.63	162	109	21 - 133	
Fluoranthene-d10	148.63	162	109	36 - 134	

Data File: \\target\share\chem3\nt8.i\20230223.b\N823022317.D
Date : 23-FEB-2023 18:44
Client ID:
Sample Info: 23A0418-10

Instrument: nt8.i
Operator: JZ
Column diameter: 0.25

Column phase: Rxi-17sil



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Date : 23-FEB-2023 18:44

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-10

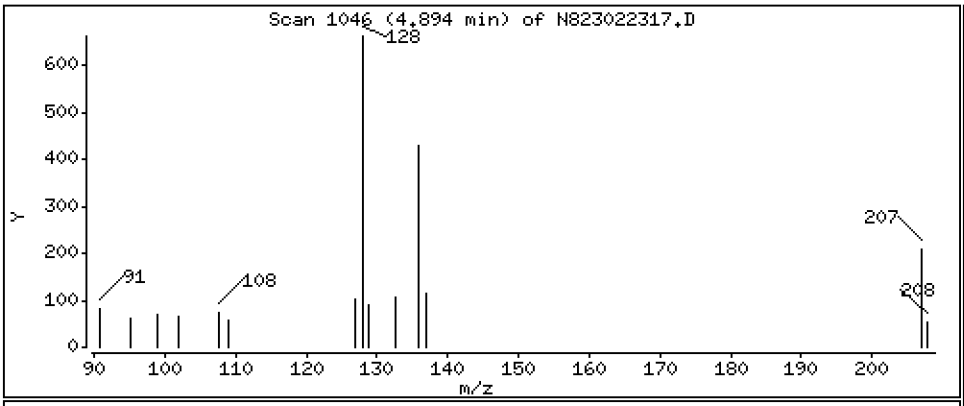
Operator: JZ

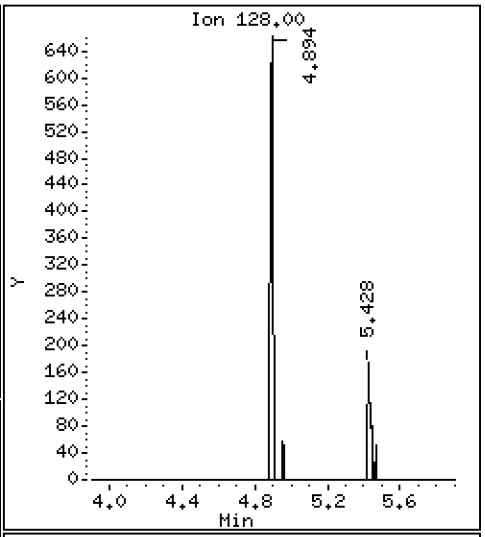
Column phase: Rxi-17sil

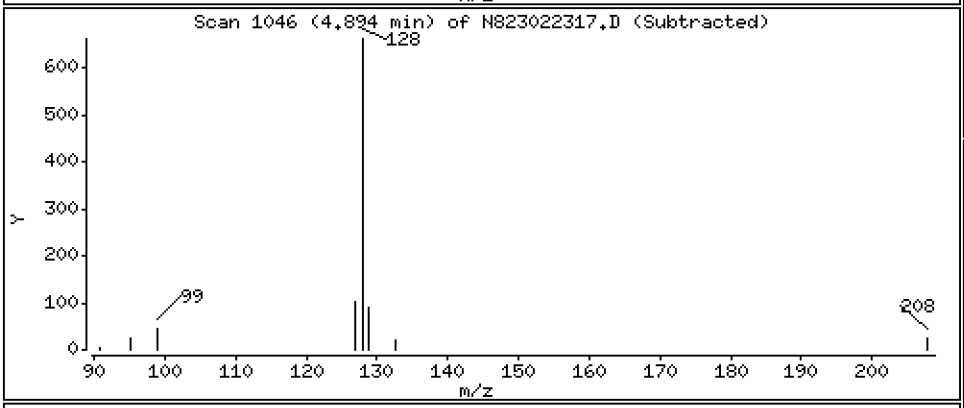
Column diameter: 0.25

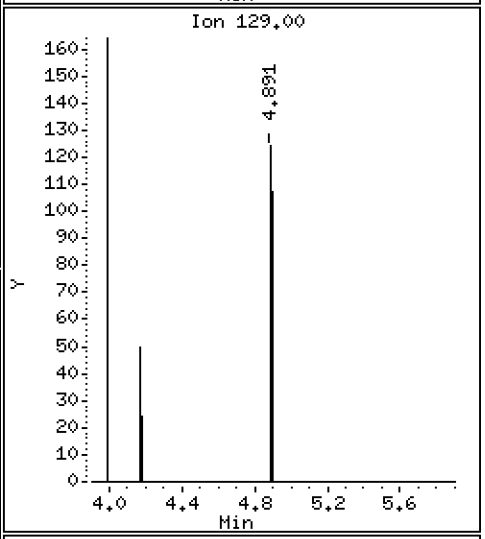
2 Naphthalene

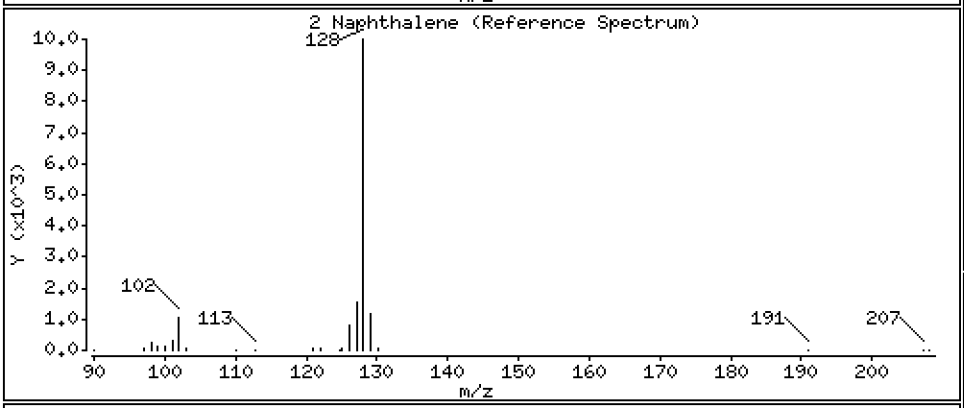
Concentration: 0.03718 ug/mL

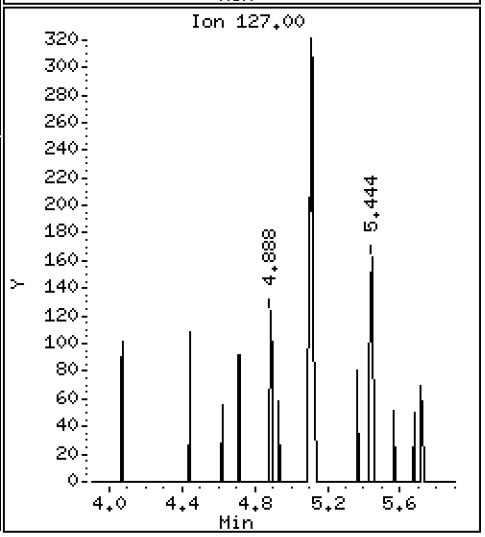


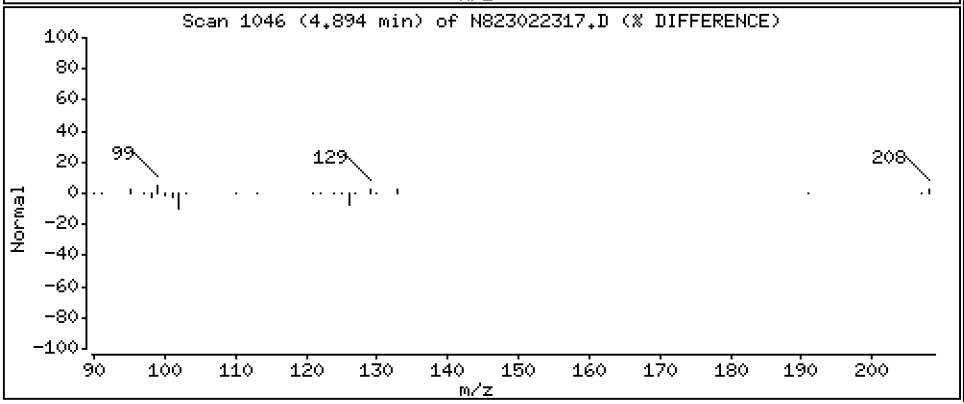












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Date : 23-FEB-2023 18:44

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-10

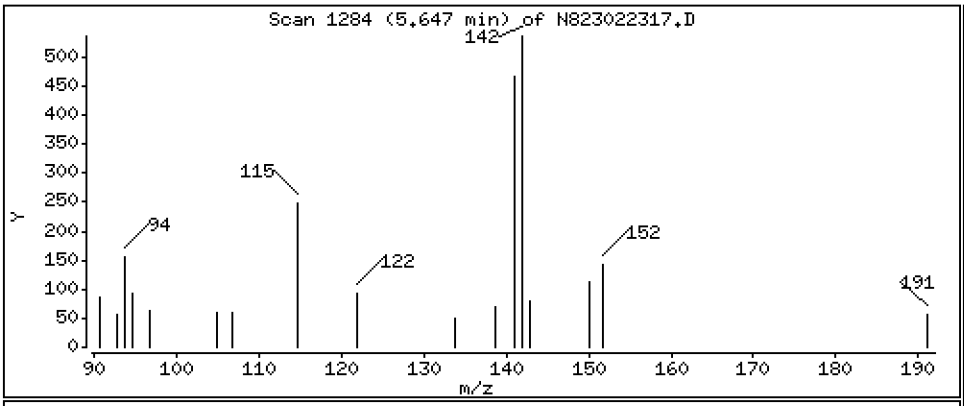
Operator: JZ

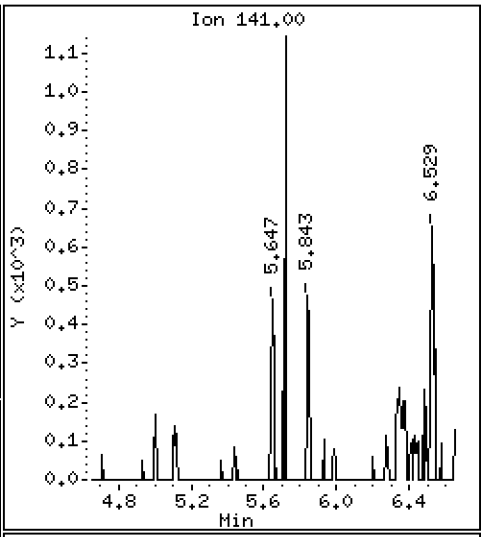
Column phase: Rxi-17sil

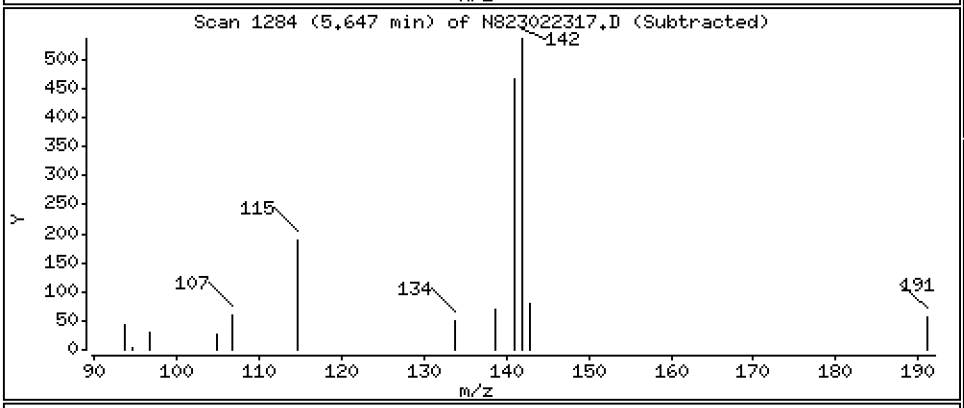
Column diameter: 0.25

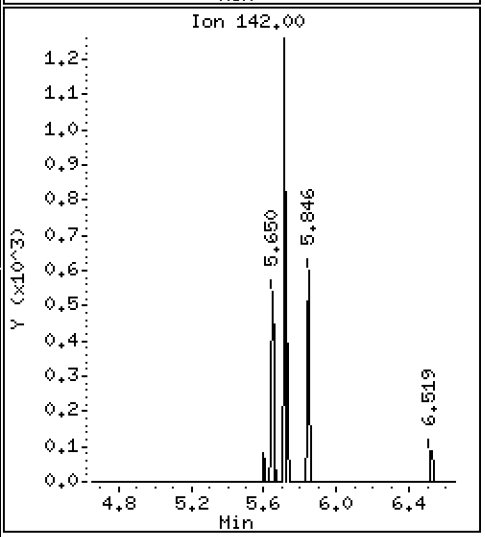
4 2-Methylnaphthalene

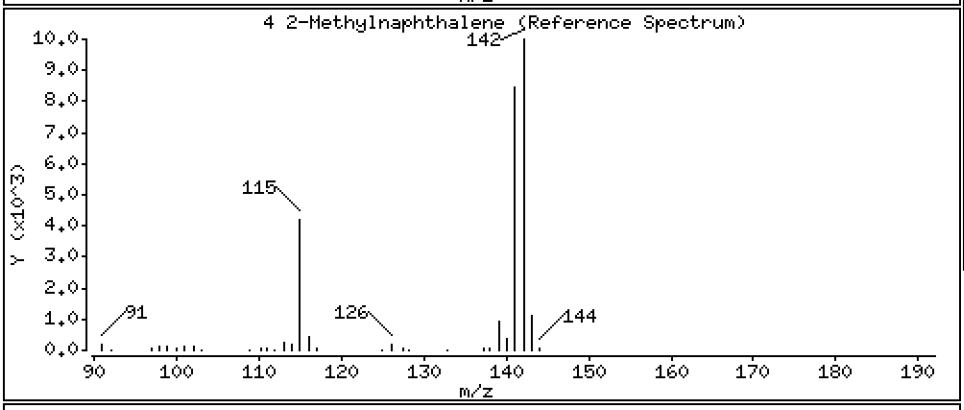
Concentration: 0.04766 ug/mL

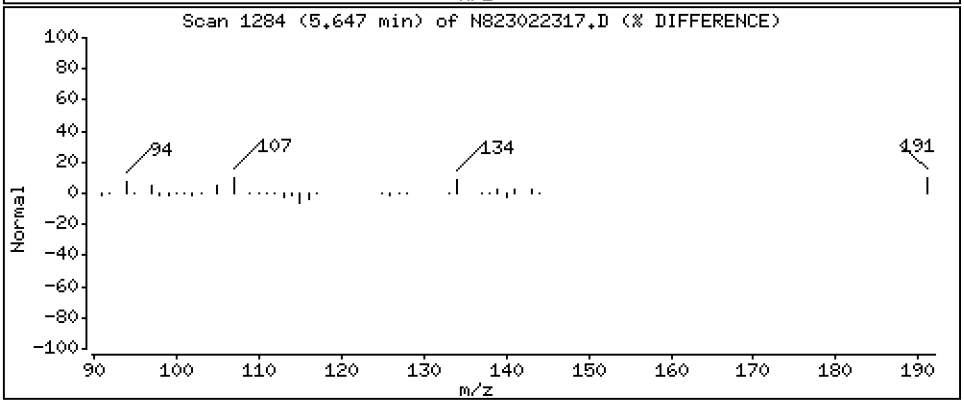












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Date : 23-FEB-2023 18:44

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-10

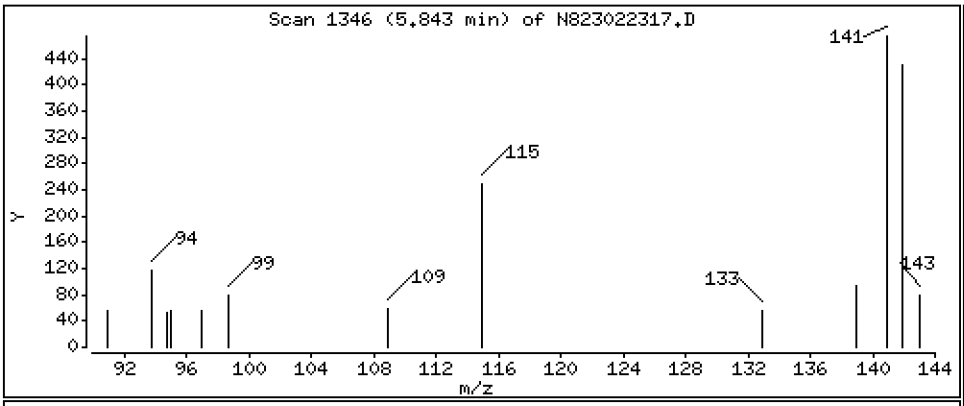
Operator: JZ

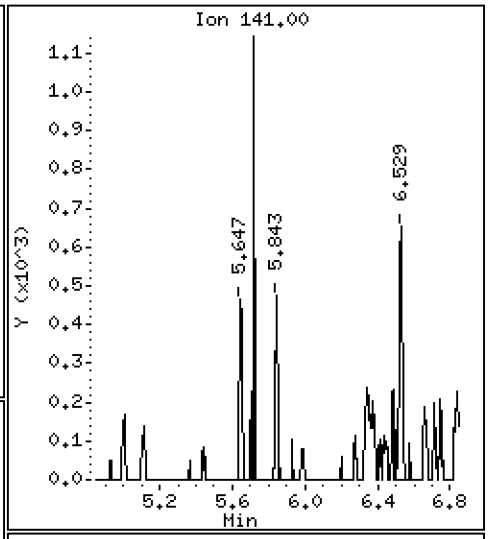
Column phase: Rxi-17sil

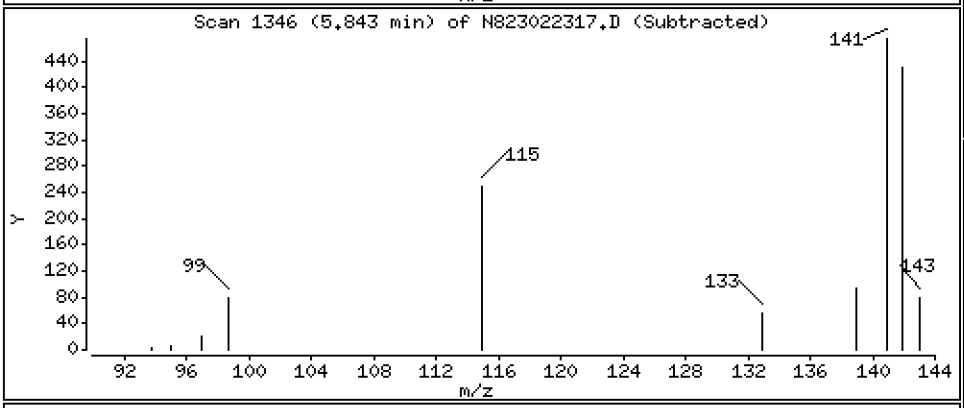
Column diameter: 0.25

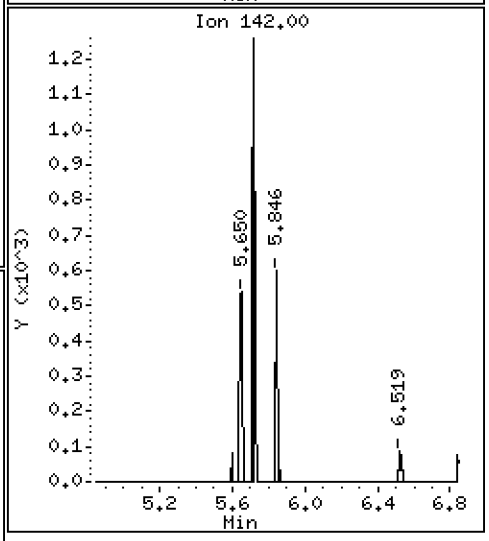
5 1-methylnaphthalene

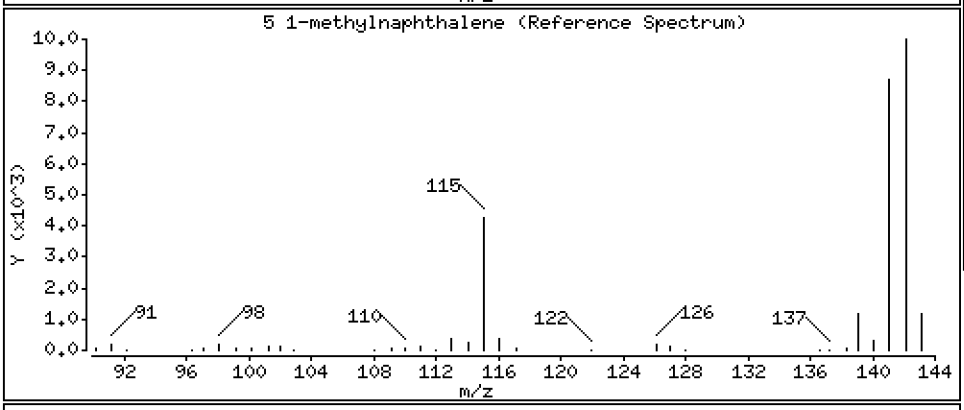
Concentration: 0.04556 ug/mL

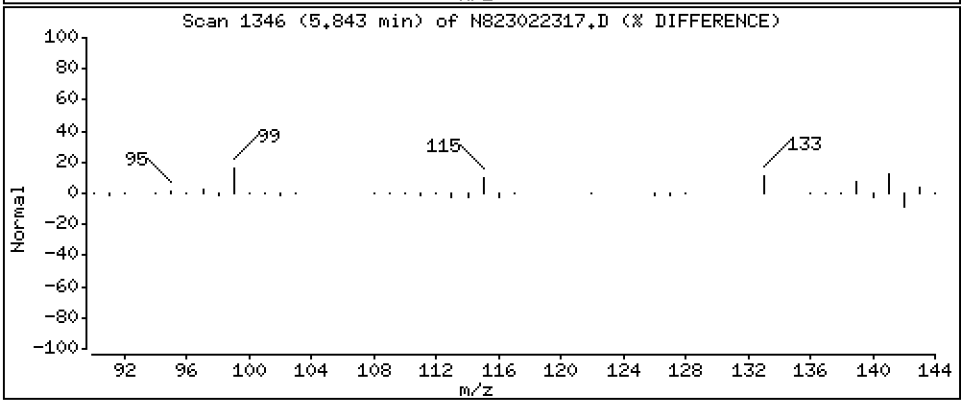












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Date : 23-FEB-2023 18:44

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-10

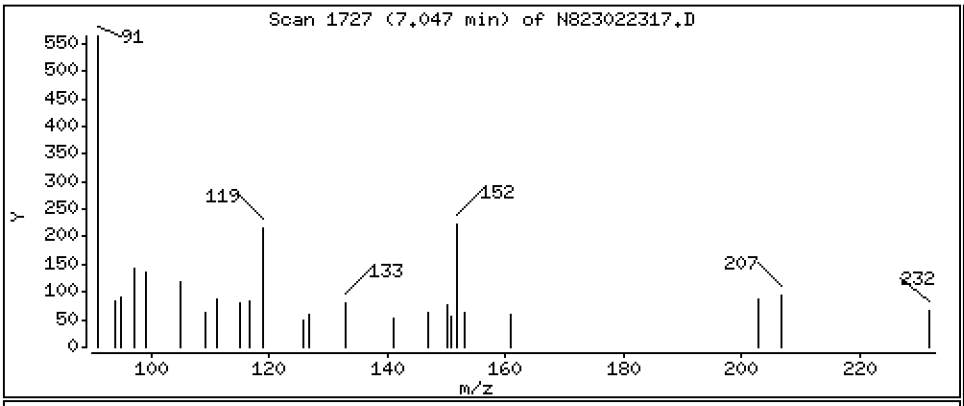
Operator: JZ

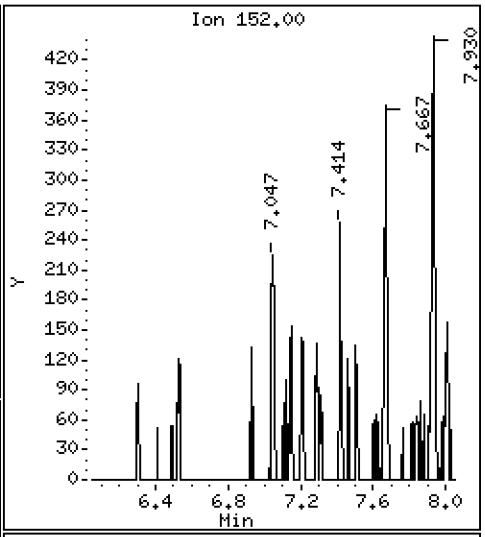
Column phase: Rxi-17sil

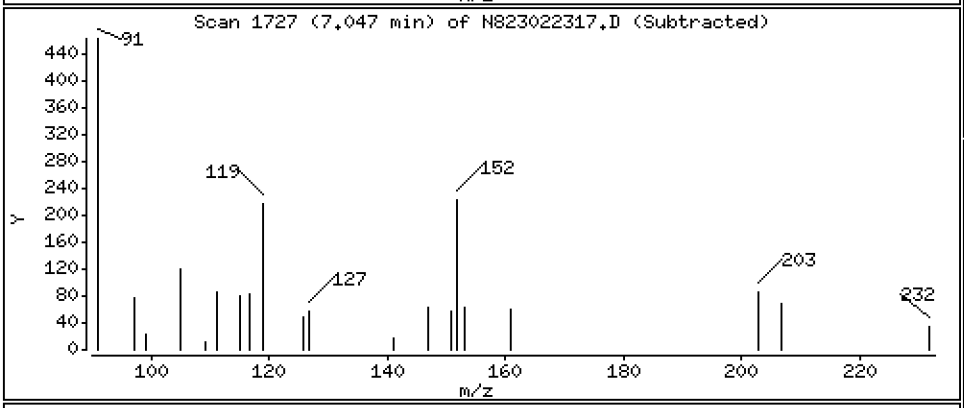
Column diameter: 0.25

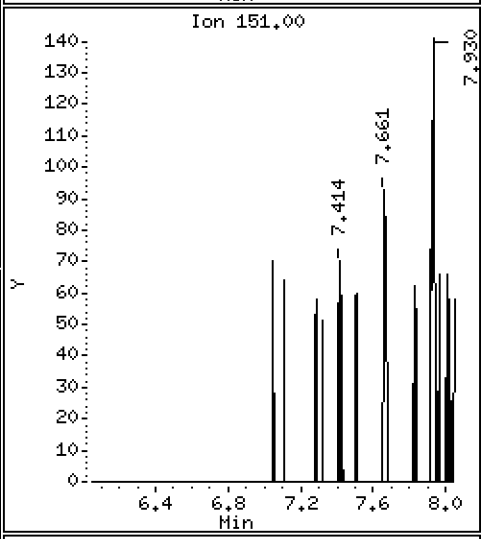
9 Acenaphthylene

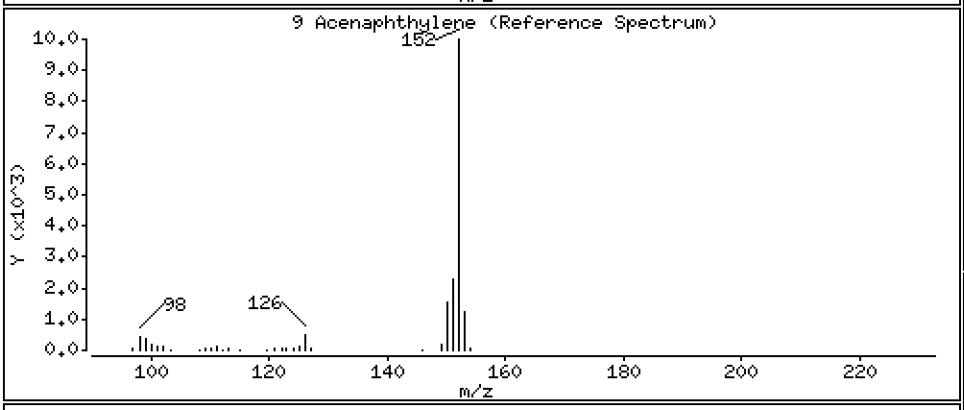
Concentration: 0.01317 ug/mL

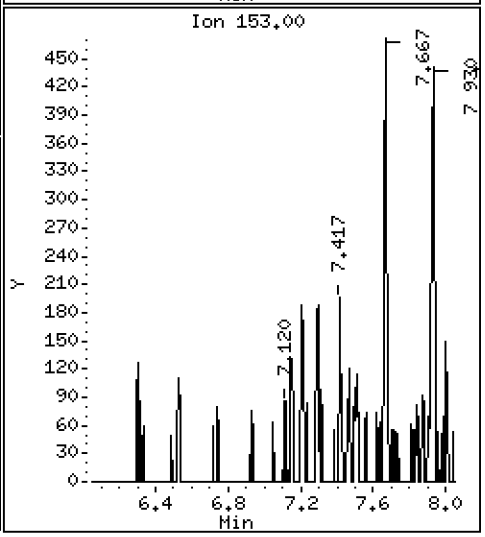


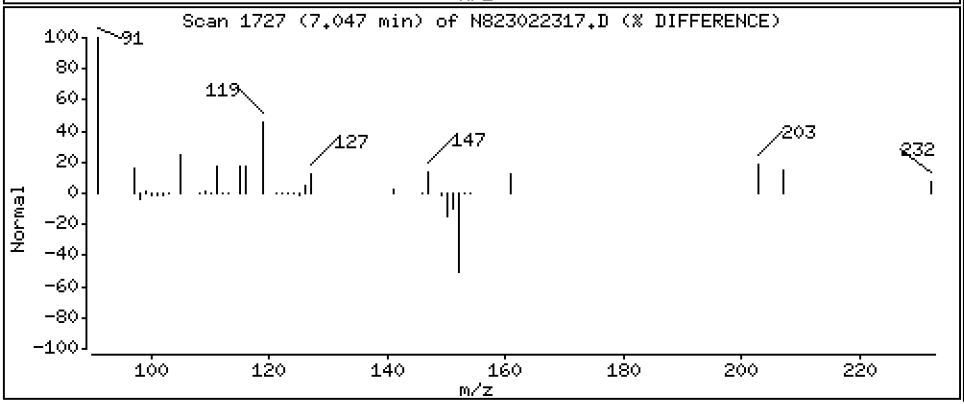












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022317.D

Date : 23-FEB-2023 18:44

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-10

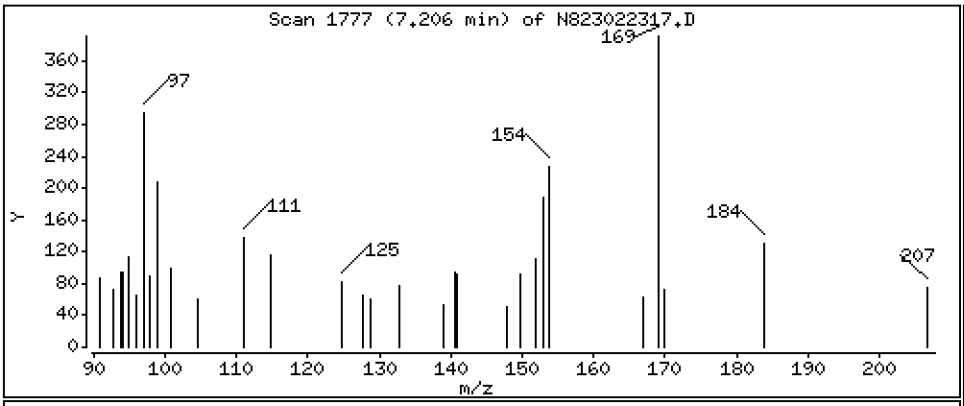
Operator: JZ

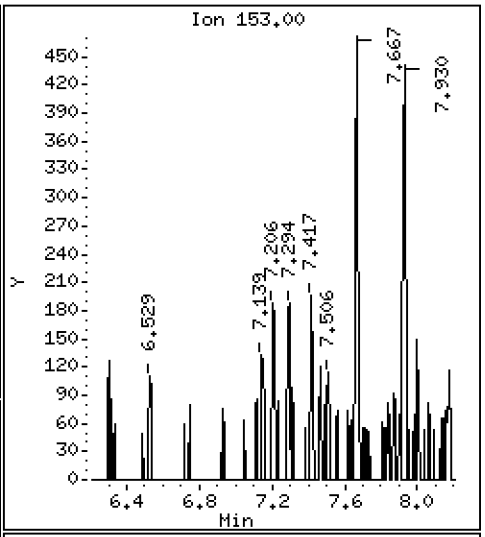
Column phase: Rxi-17sil

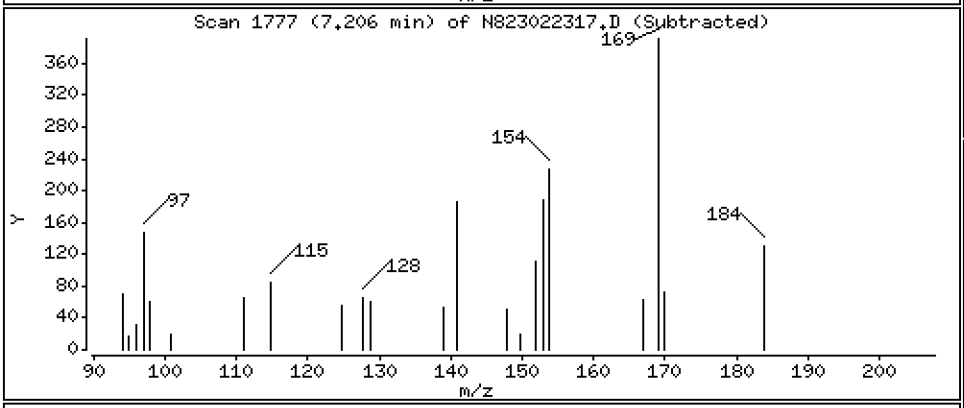
Column diameter: 0.25

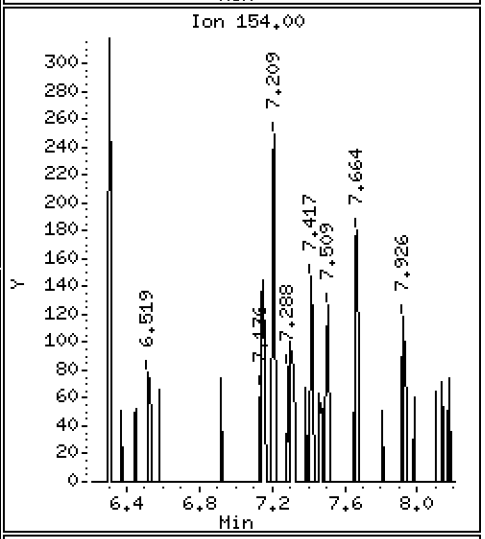
11 Acenaphthene

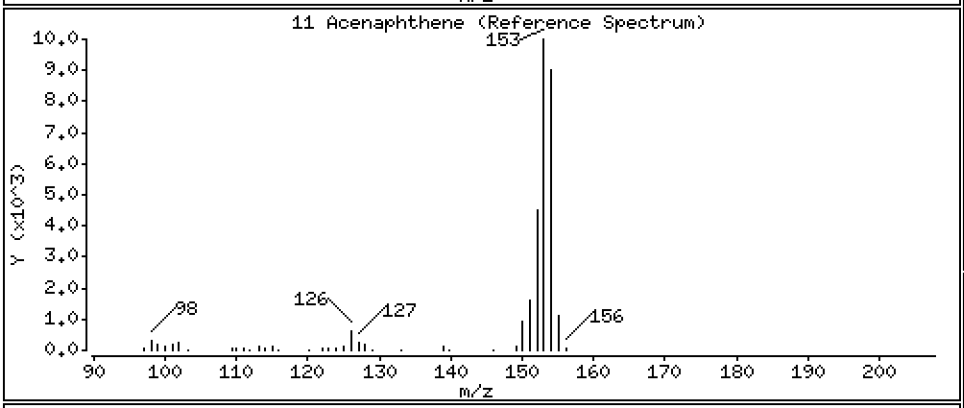
Concentration: 0.01632 ug/mL

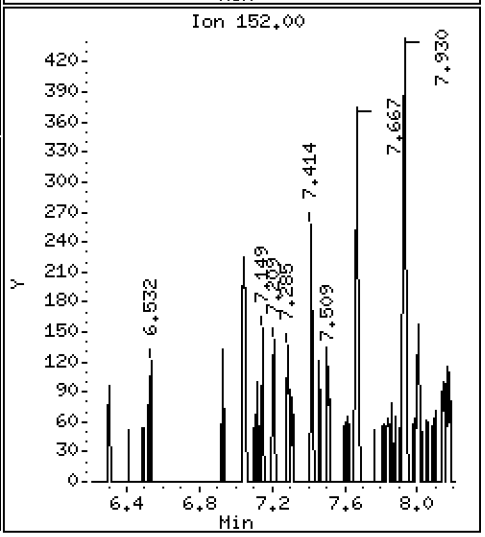


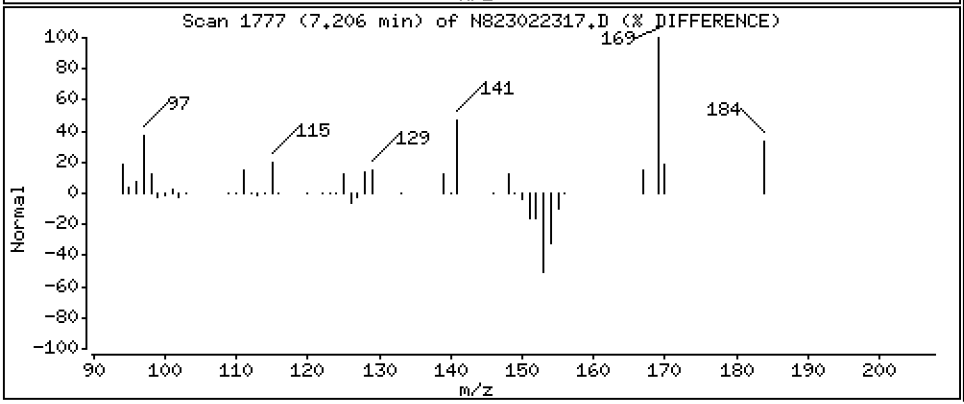












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022317.D

Date : 23-FEB-2023 18:44

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-10

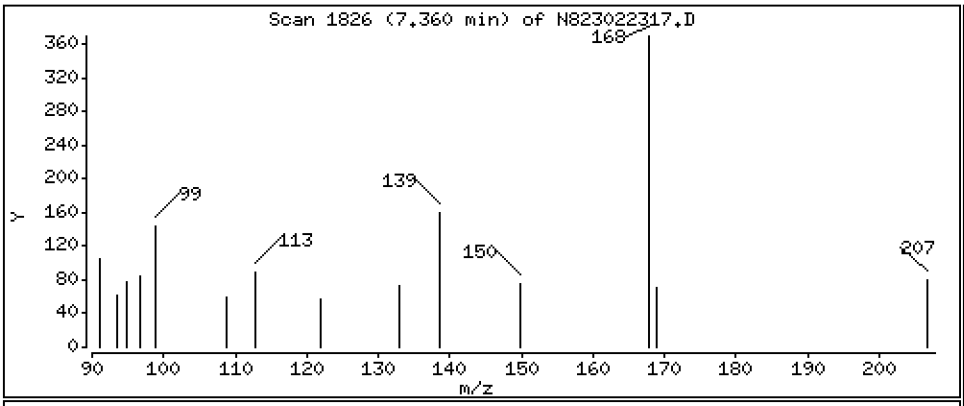
Operator: JZ

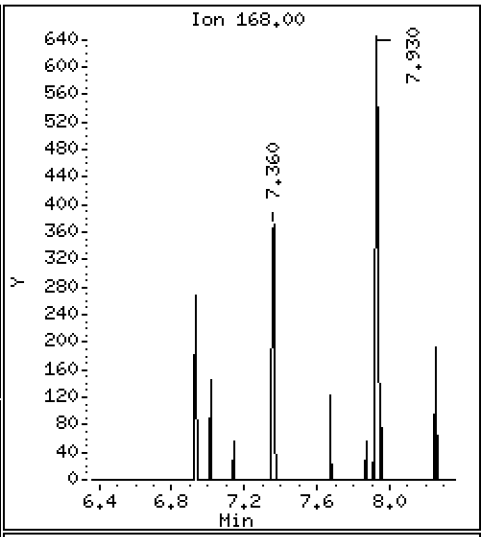
Column phase: Rxi-17sil

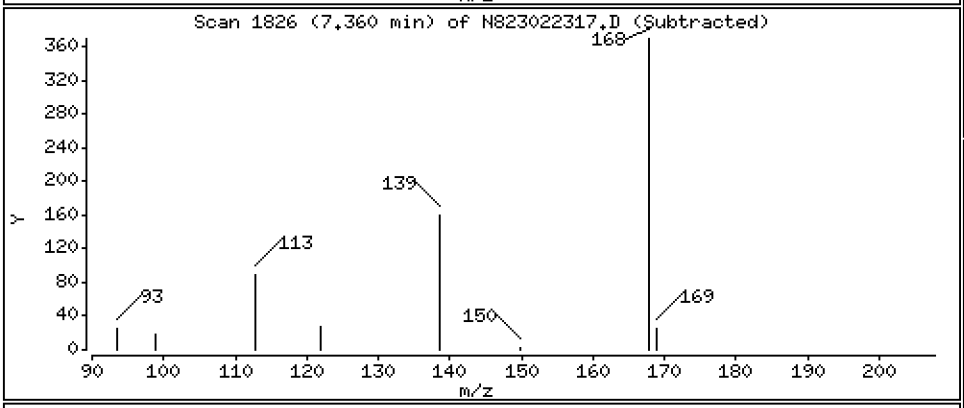
Column diameter: 0.25

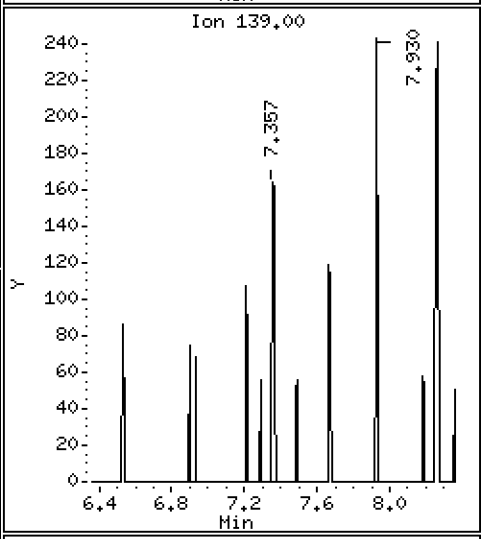
12 Dibenzofuran

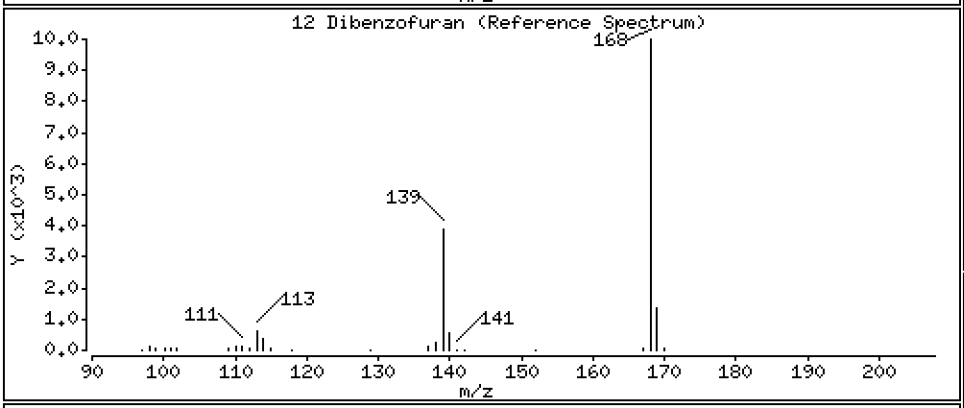
Concentration: 0.01887 ug/mL

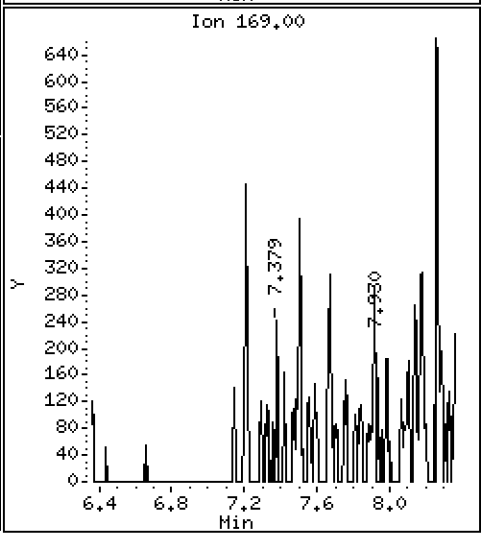


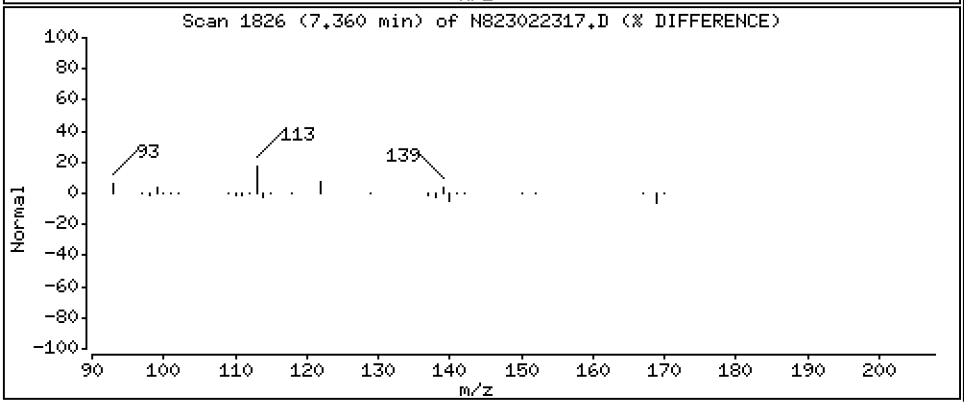












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022317.D

Date : 23-FEB-2023 18:44

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-10

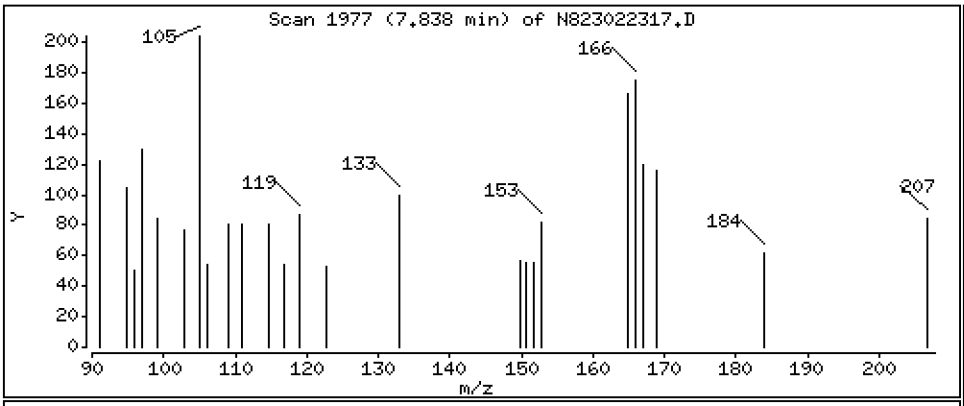
Operator: JZ

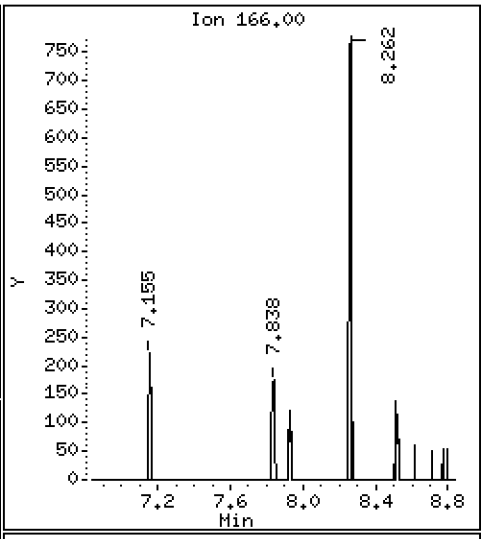
Column phase: Rxi-17sil

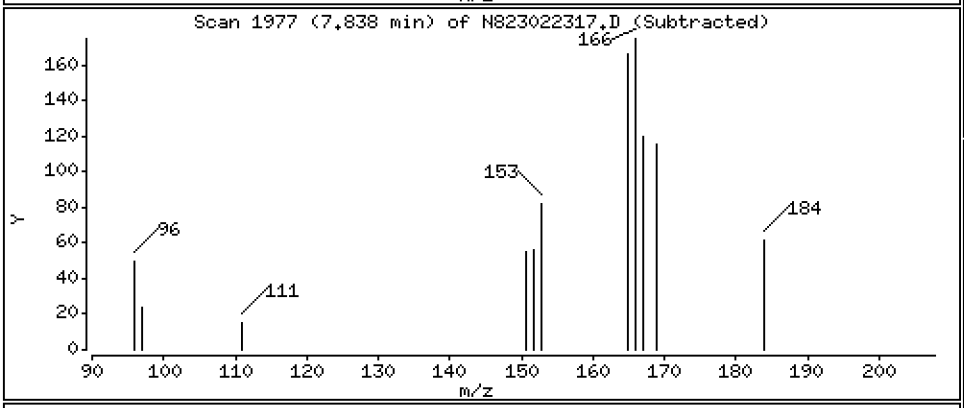
Column diameter: 0.25

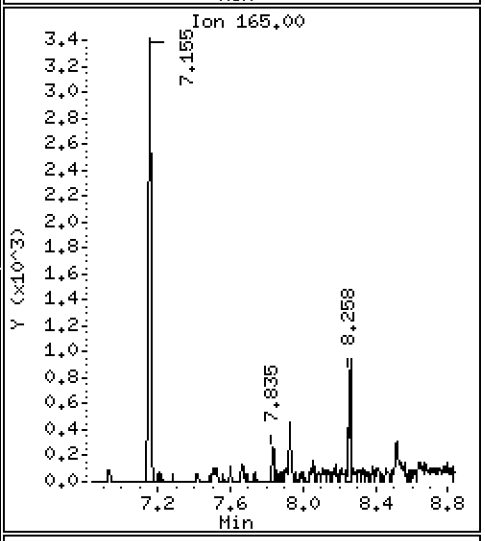
14 Fluorene

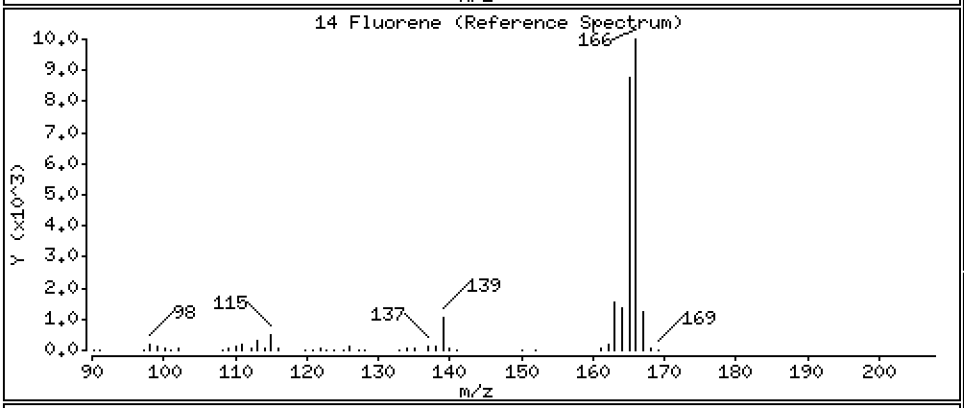
Concentration: 0.01212 ug/mL

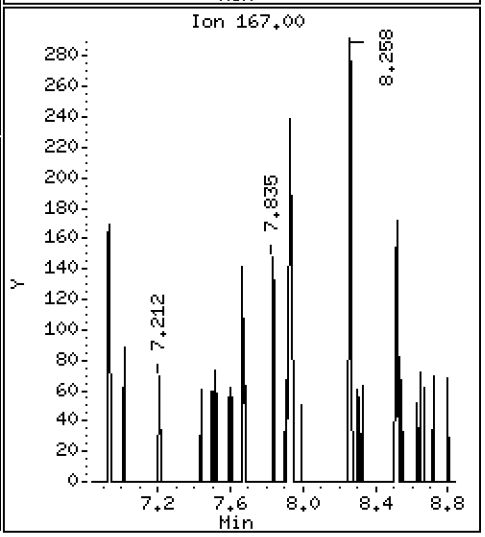


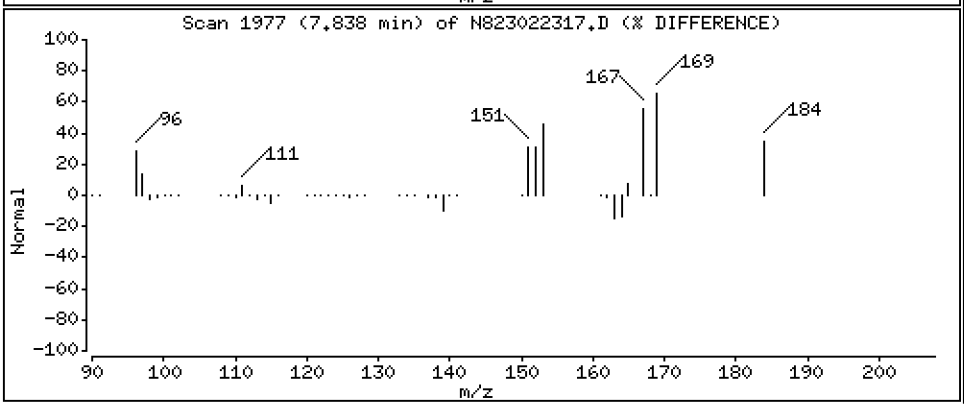












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022317.D

Date : 23-FEB-2023 18:44

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-10

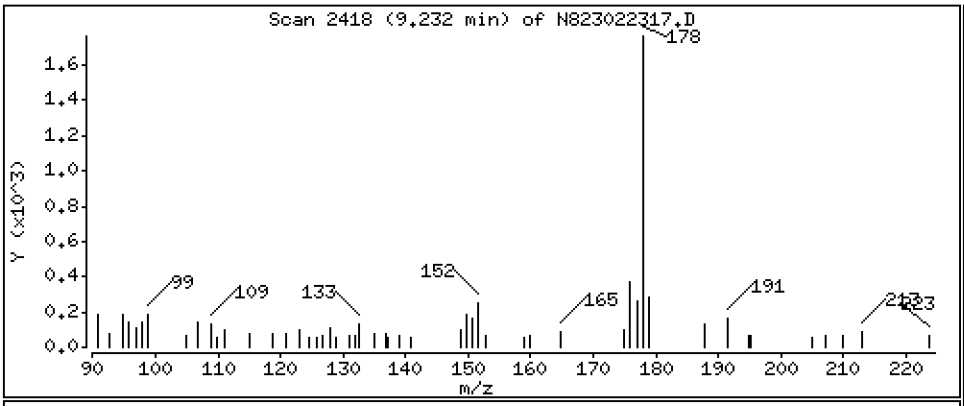
Operator: JZ

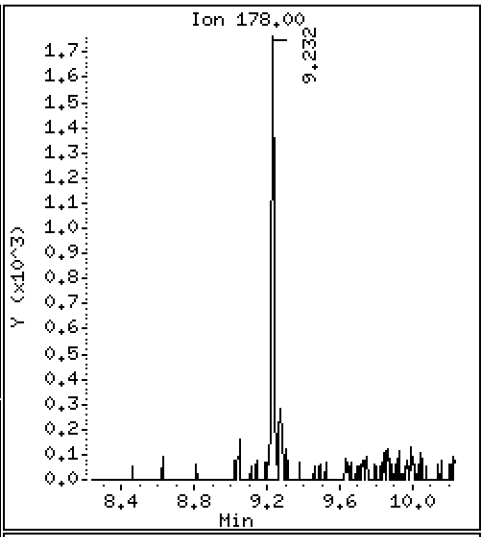
Column phase: Rxi-17sil

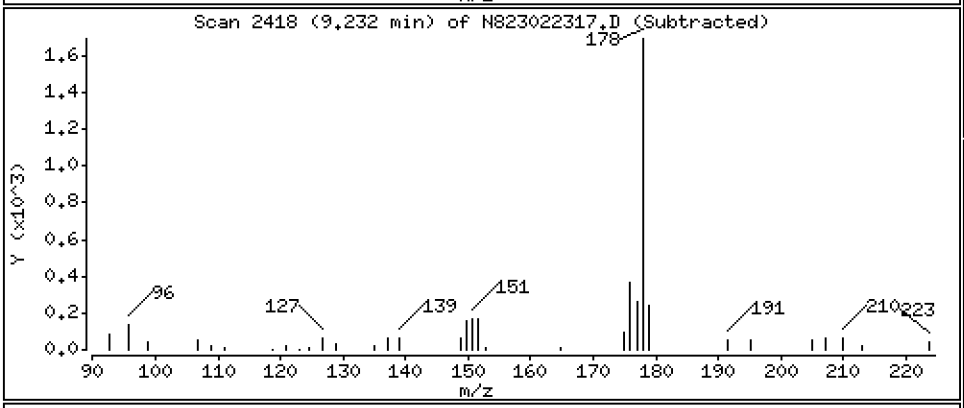
Column diameter: 0.25

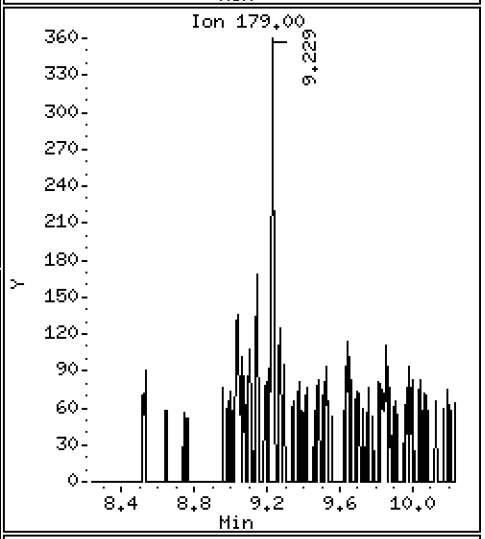
16 Phenanthrene

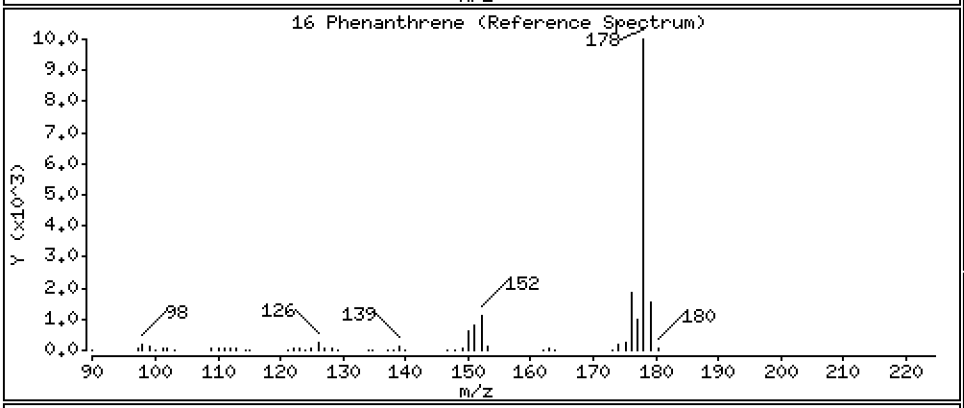
Concentration: 0.08753 ug/mL

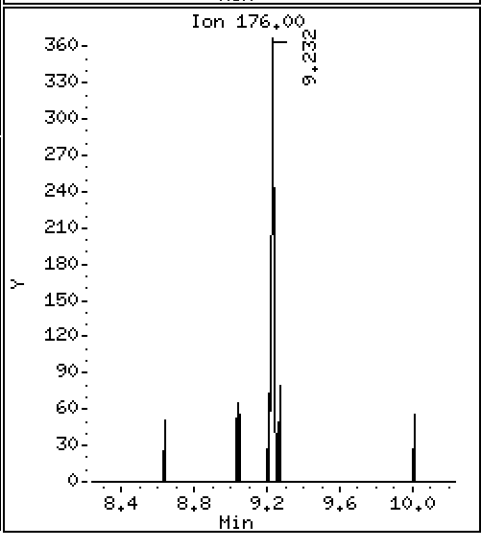


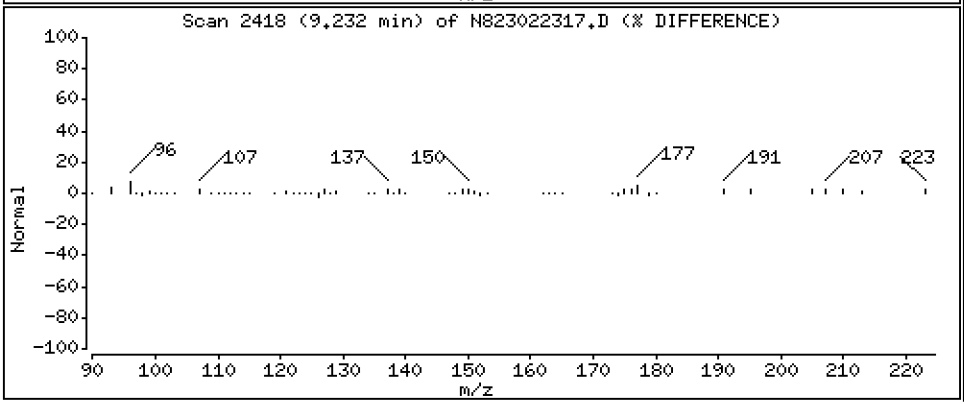












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022317.D

Date : 23-FEB-2023 18:44

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-10

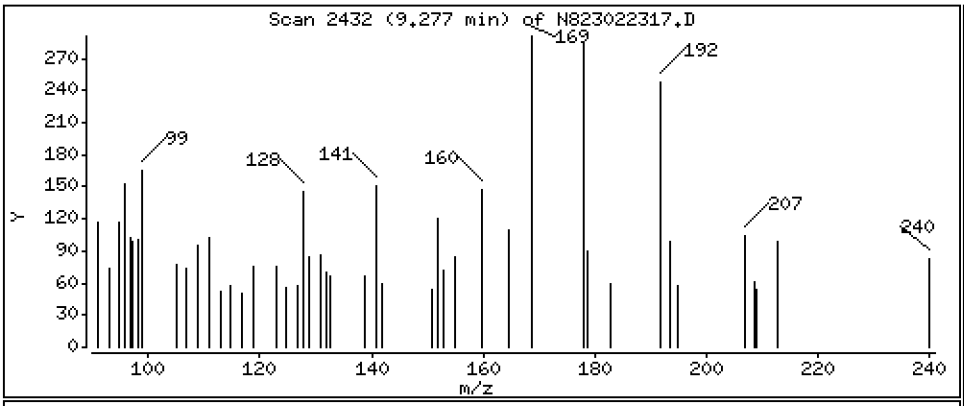
Operator: JZ

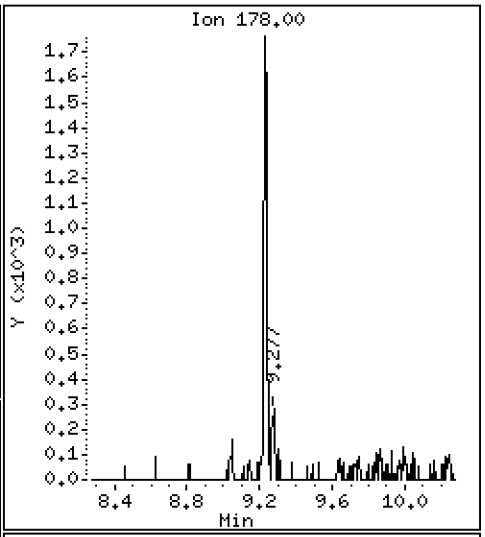
Column phase: Rxi-17sil

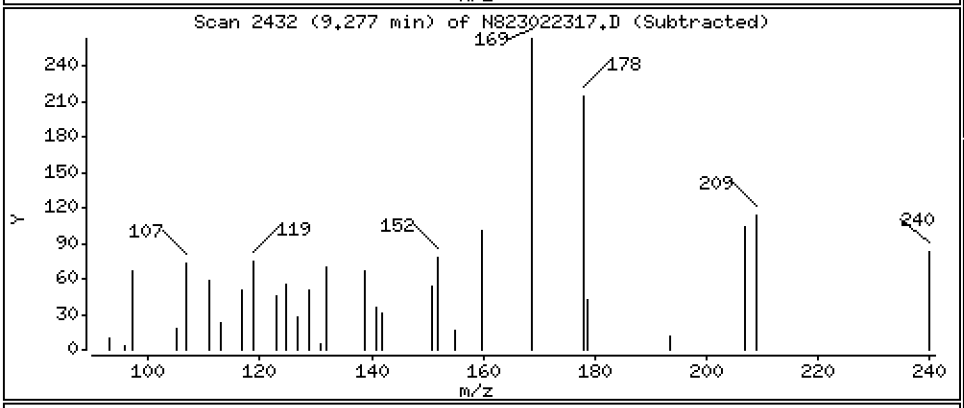
Column diameter: 0.25

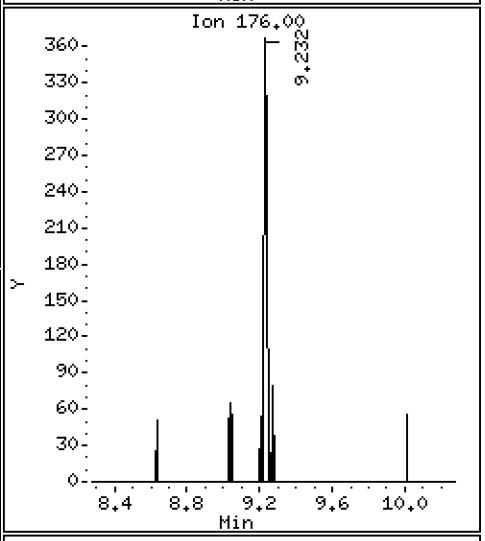
17 Anthracene

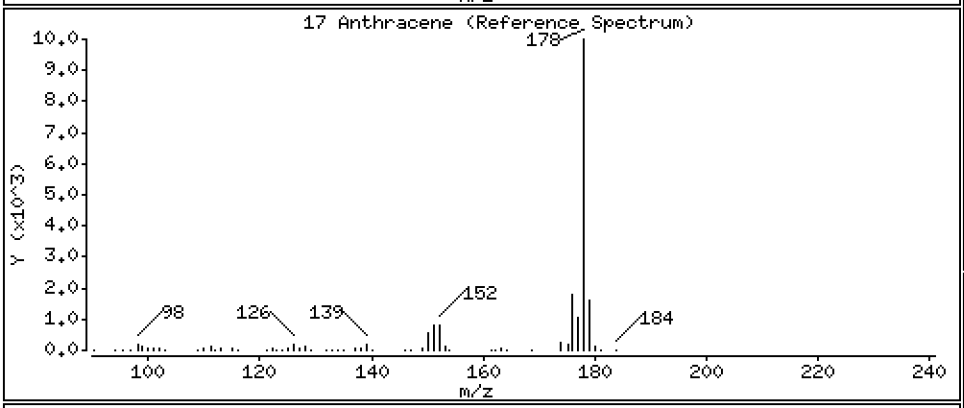
Concentration: 0.01815 ug/mL

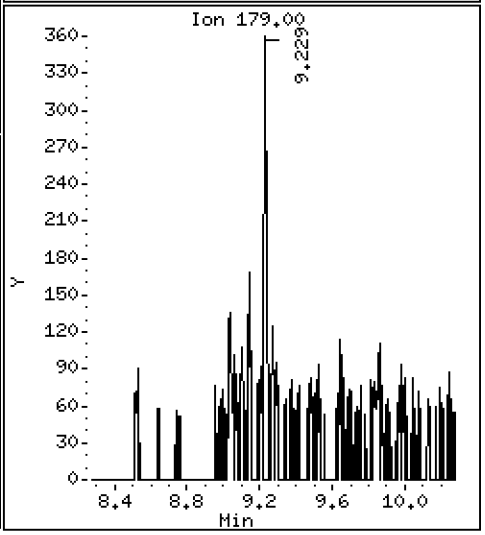


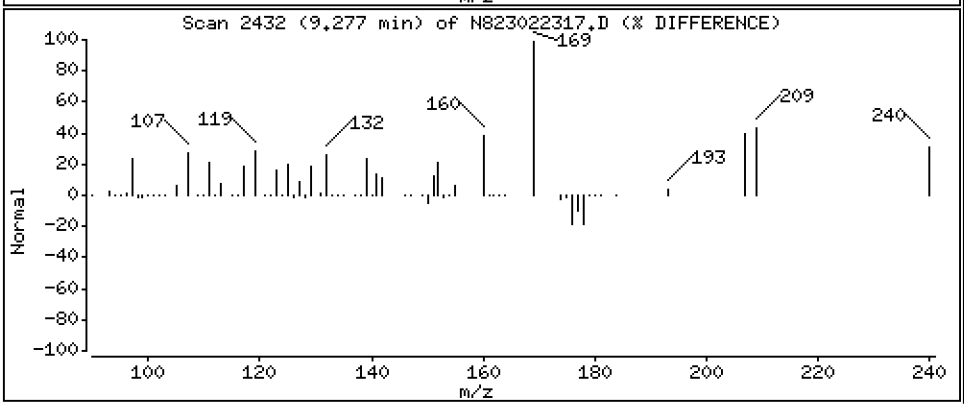












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Date : 23-FEB-2023 18:44

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-10

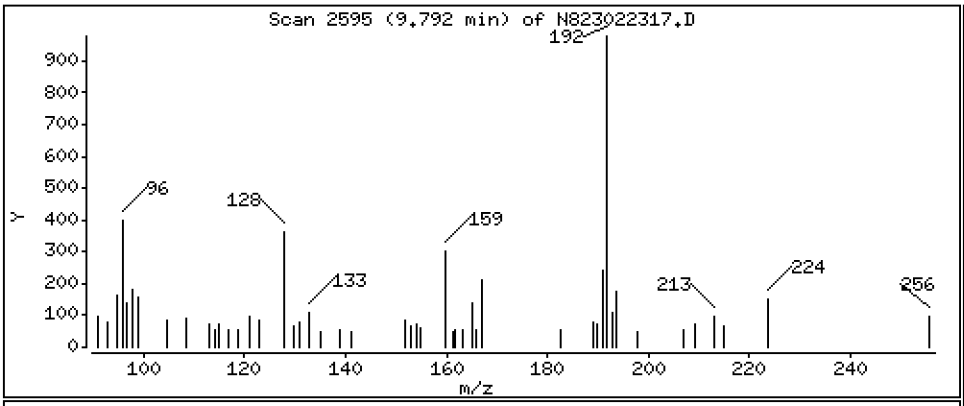
Operator: JZ

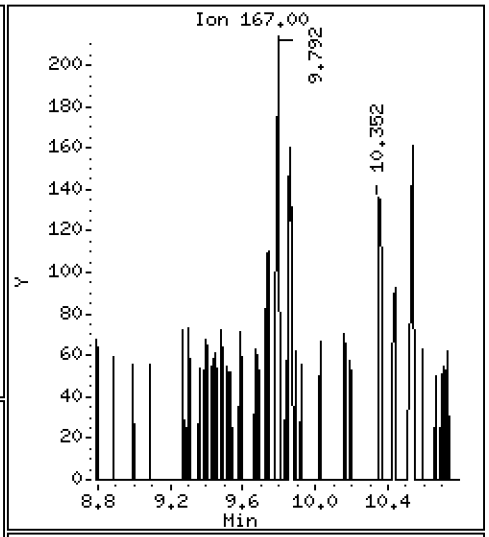
Column phase: Rxi-17sil

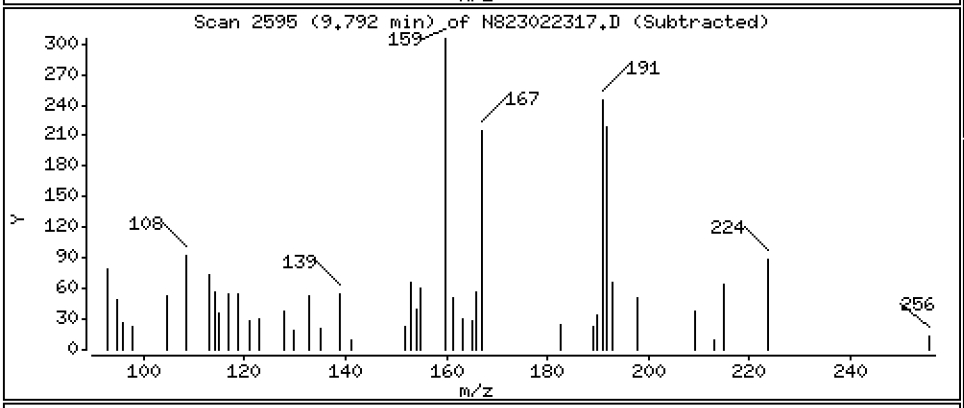
Column diameter: 0.25

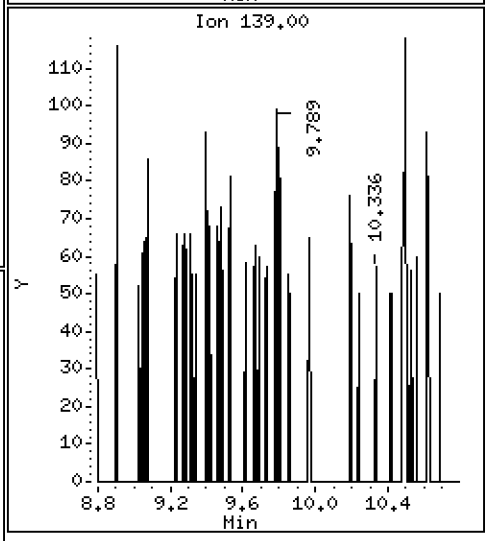
19 Carbazole

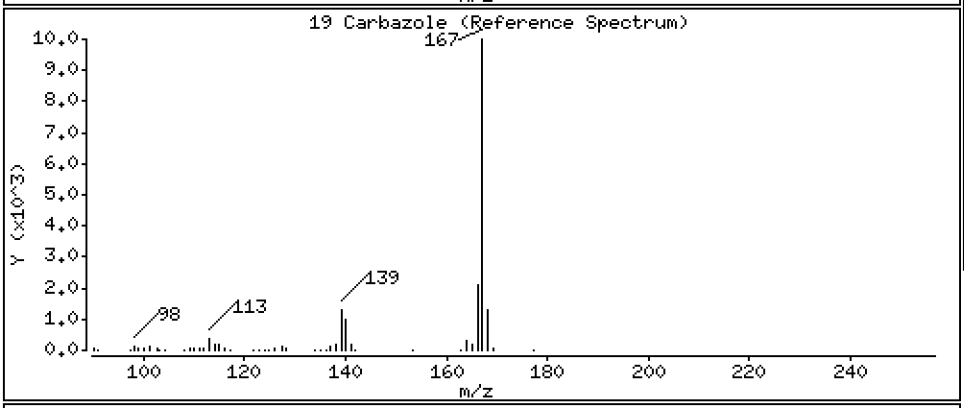
Concentration: 0.01149 ug/mL

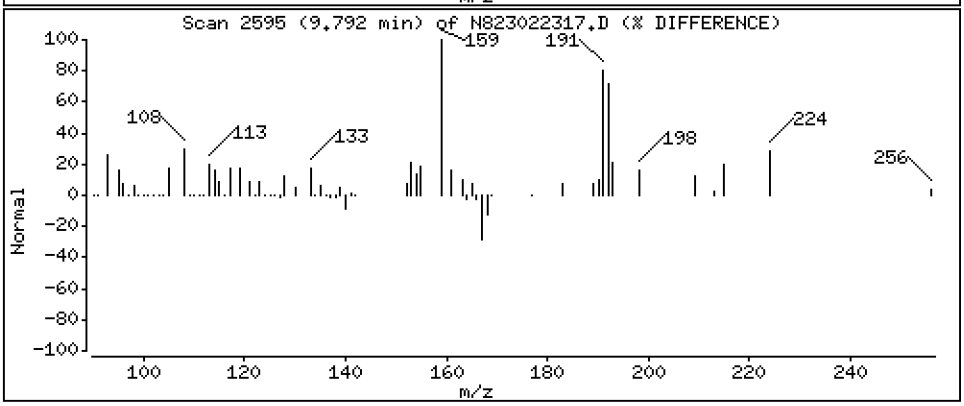












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Date : 23-FEB-2023 18:44

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-10

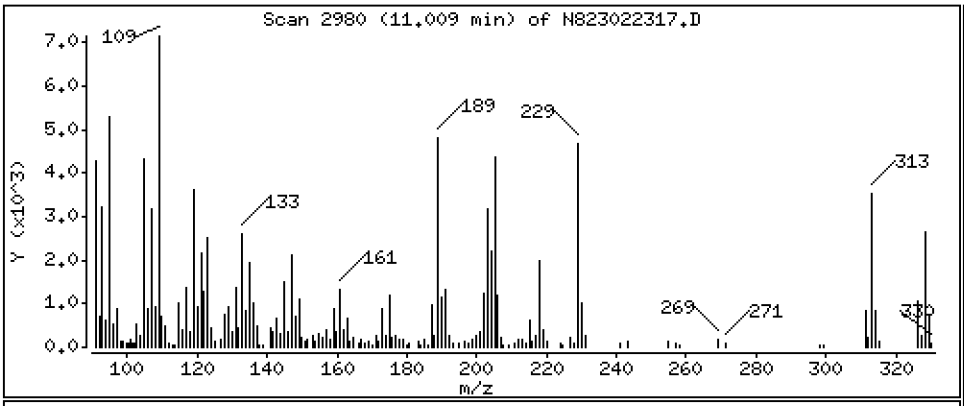
Operator: JZ

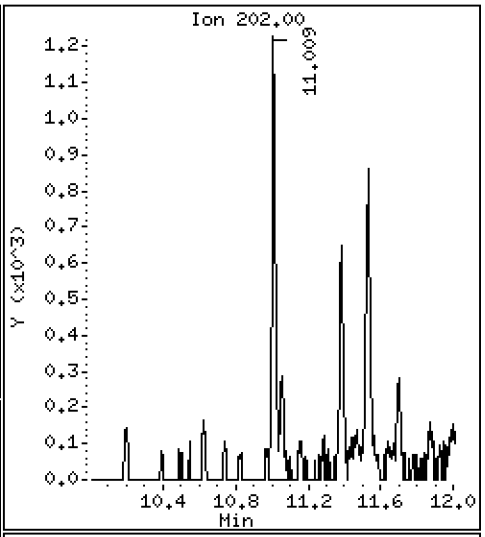
Column phase: Rxi-17sil

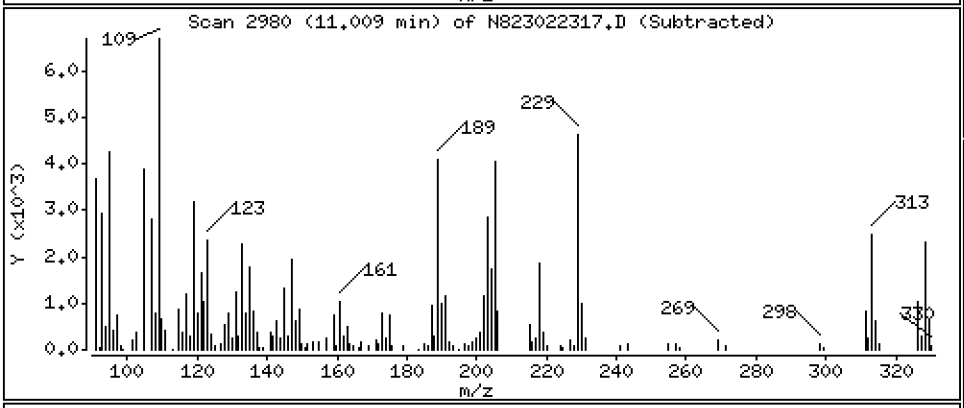
Column diameter: 0.25

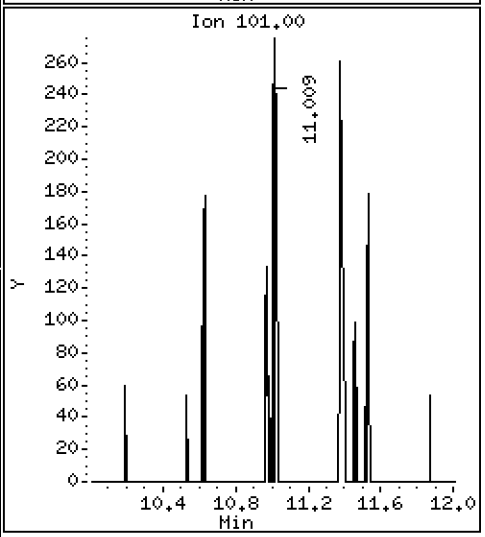
22 Fluoranthene

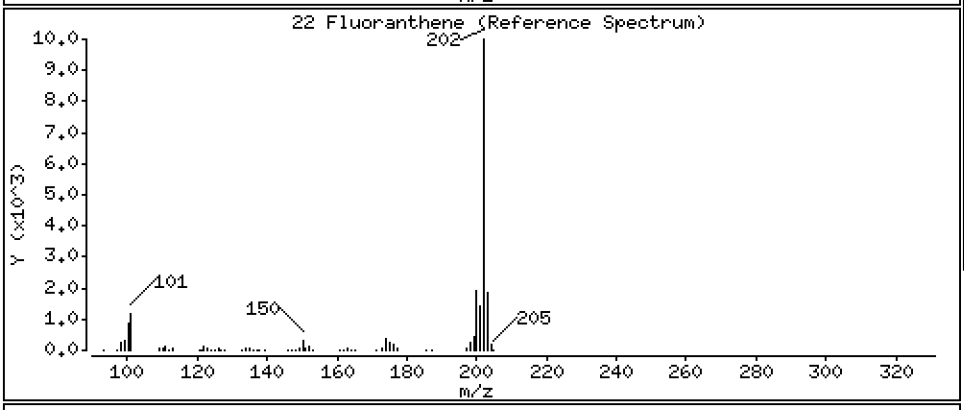
Concentration: 0.08142 ug/mL

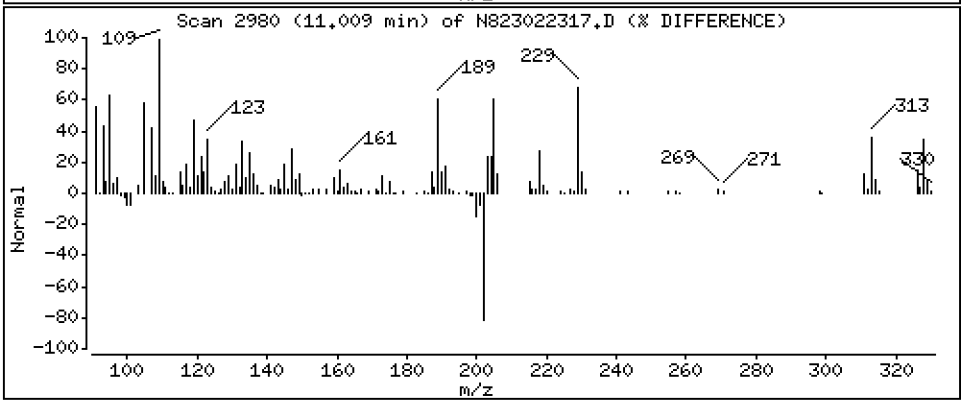












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Date : 23-FEB-2023 18:44

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-10

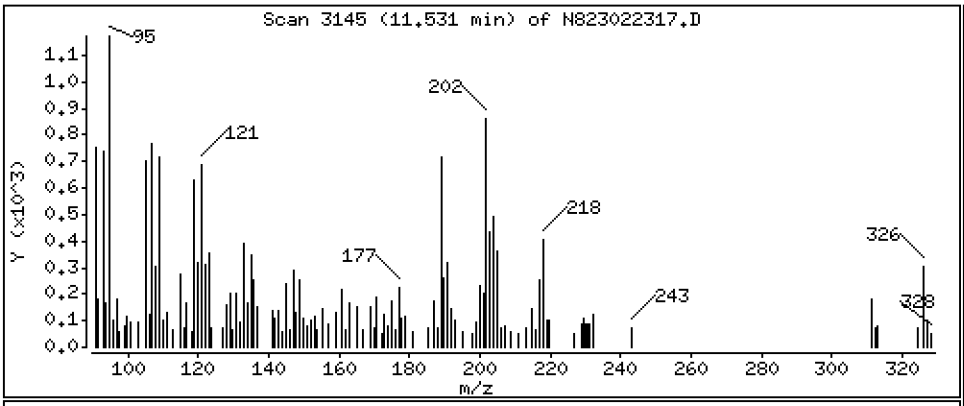
Operator: JZ

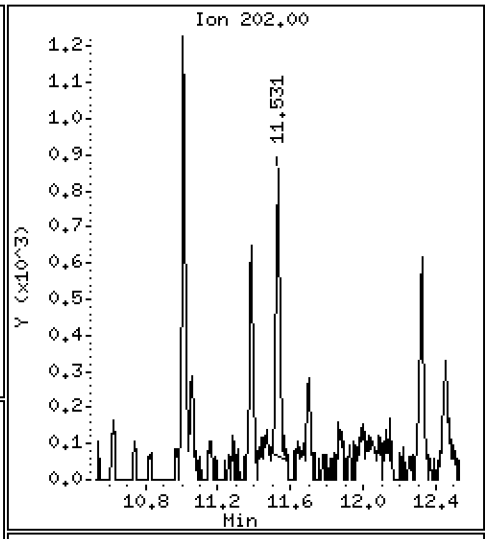
Column phase: Rxi-17sil

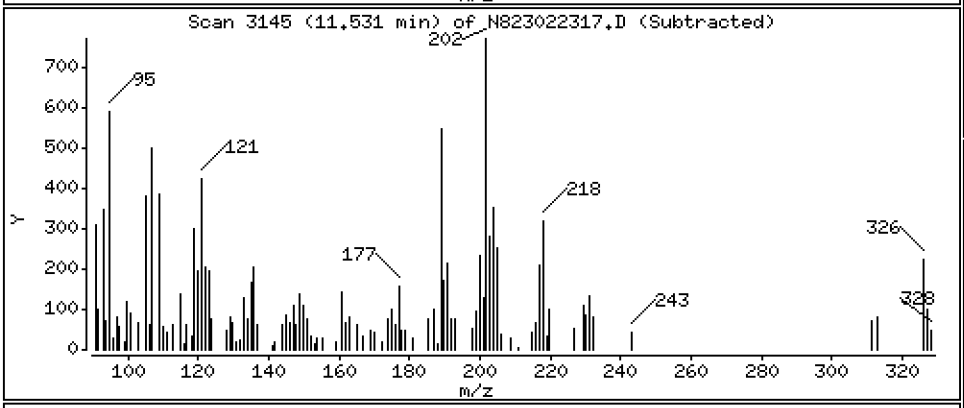
Column diameter: 0.25

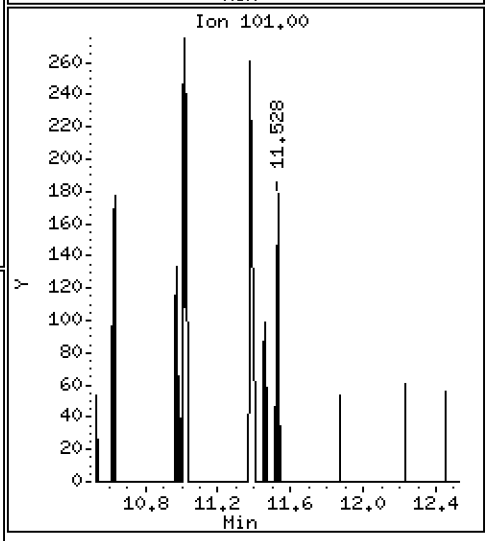
23 Pyrene

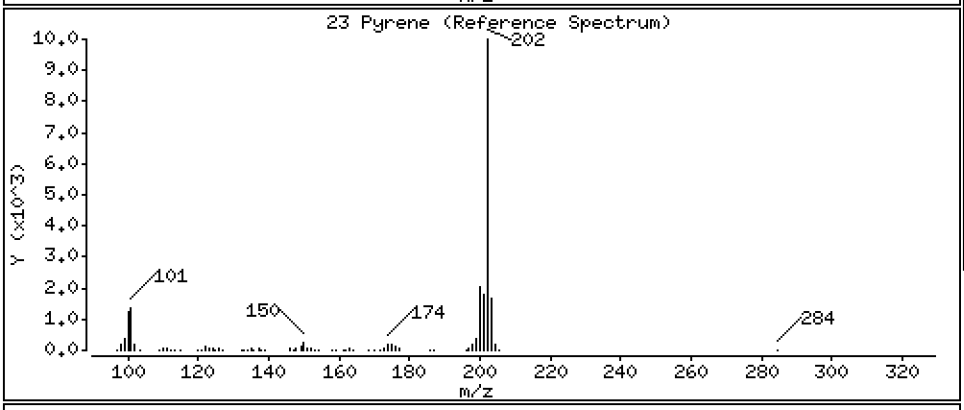
Concentration: 0.05036 ug/mL

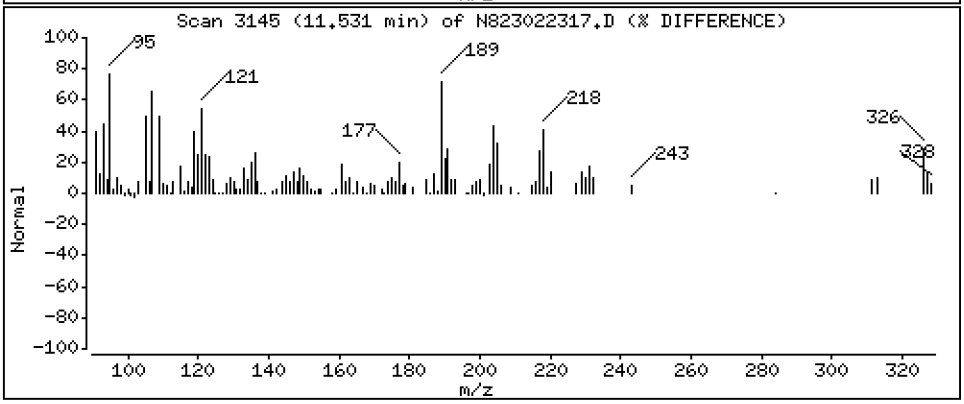












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Date : 23-FEB-2023 18:44

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-10

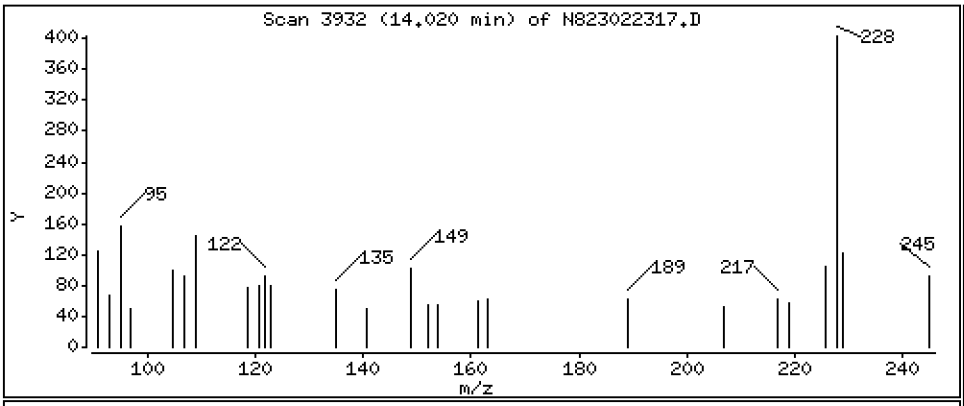
Operator: JZ

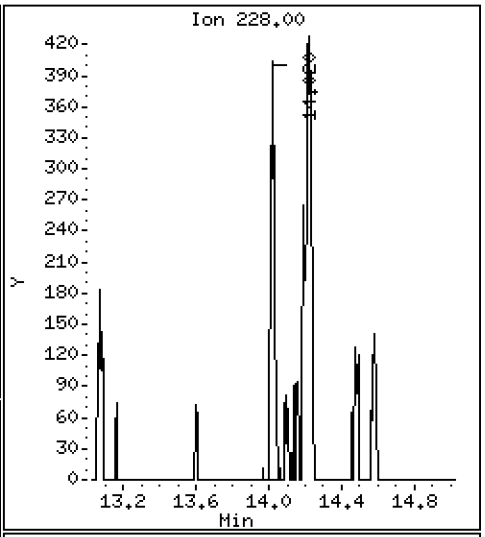
Column phase: Rxi-17sil

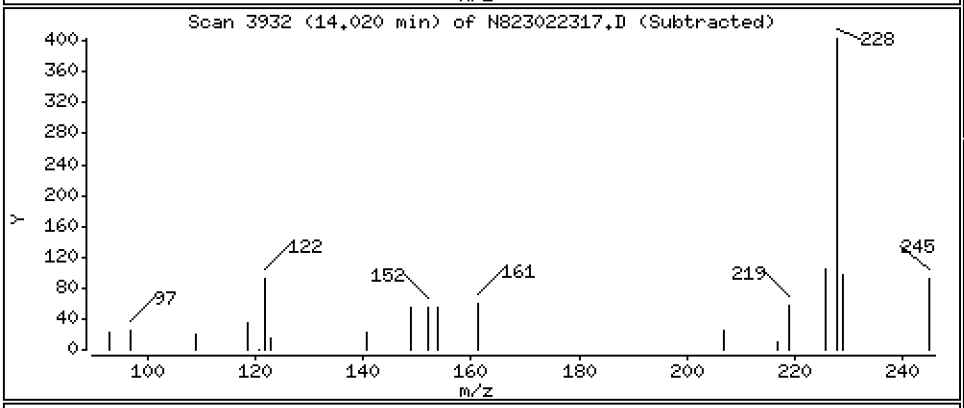
Column diameter: 0.25

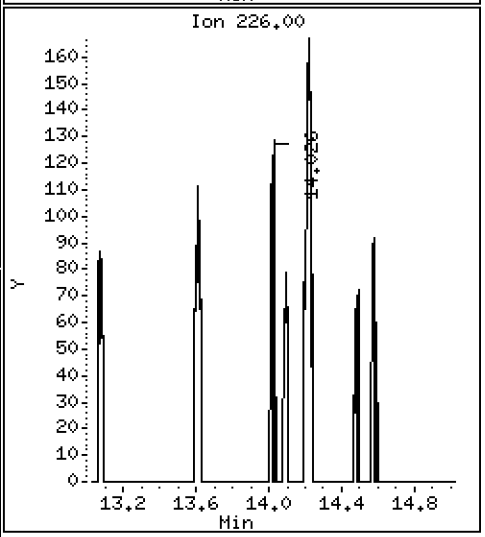
24 Benzo(a)anthracene

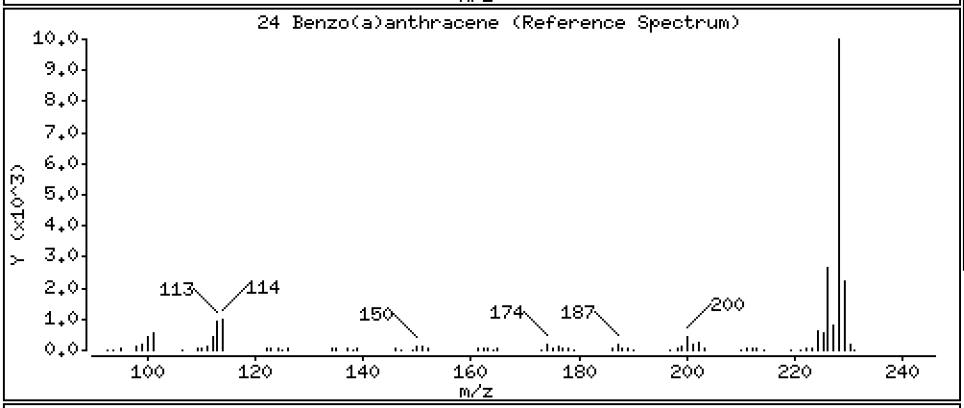
Concentration: 0.02758 ug/mL

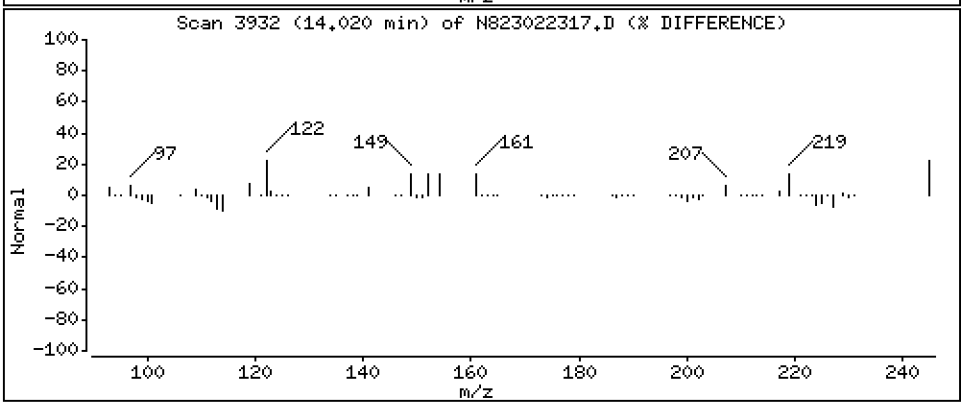












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Date : 23-FEB-2023 18:44

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-10

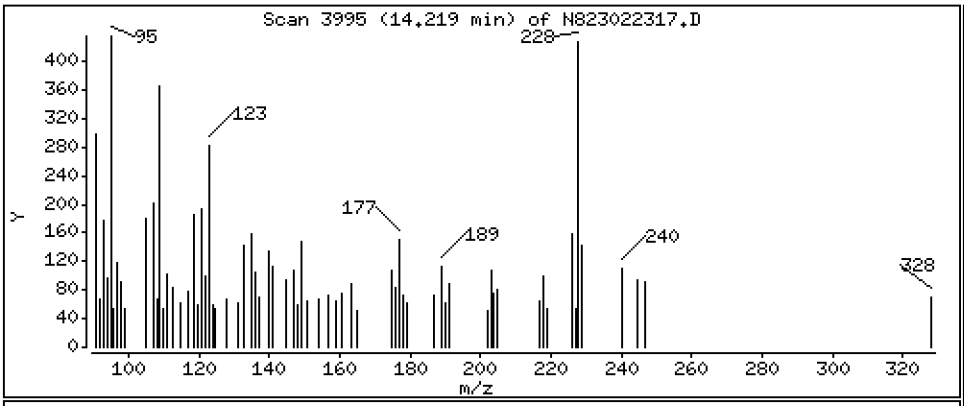
Operator: JZ

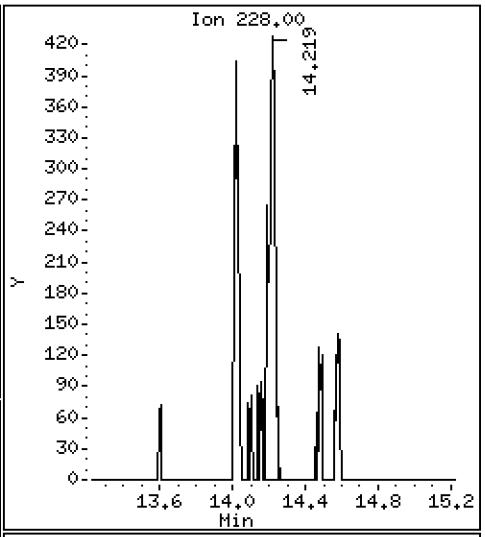
Column phase: Rxi-17sil

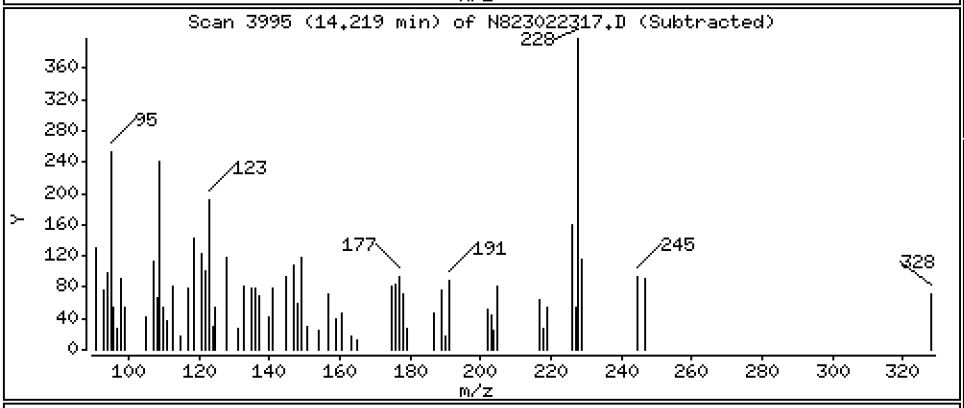
Column diameter: 0.25

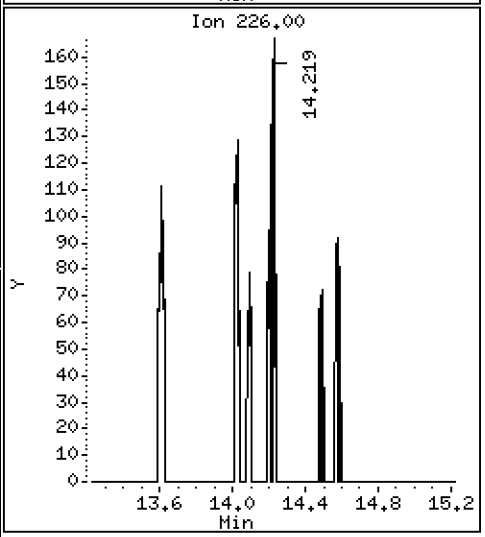
27 Chrysene

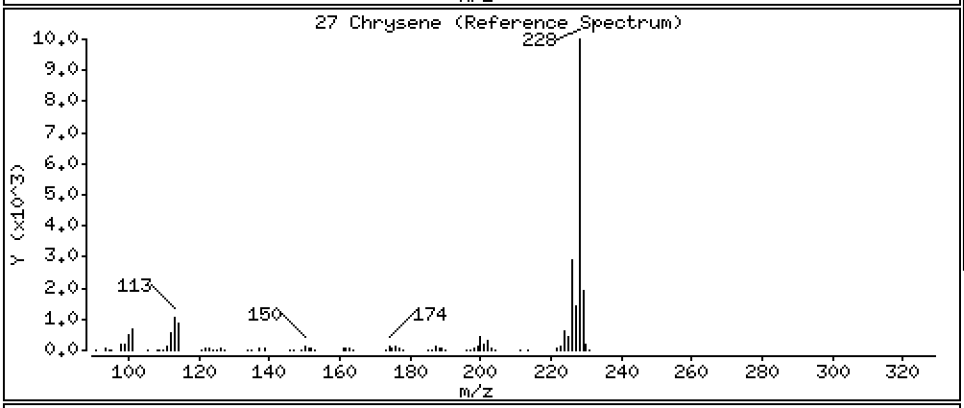
Concentration: 0.04436 ug/mL

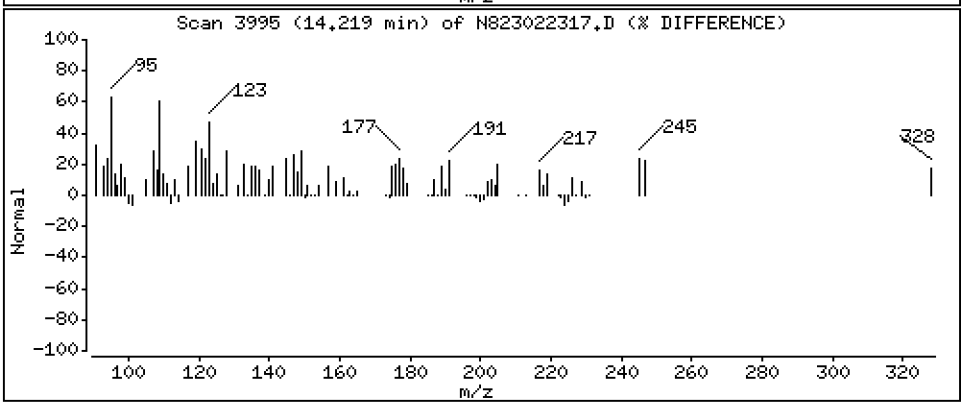












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Date : 23-FEB-2023 18:44

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-10

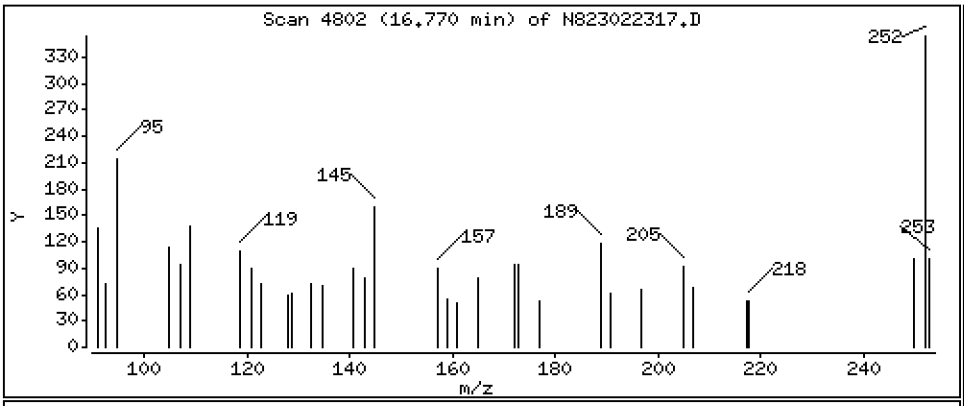
Operator: JZ

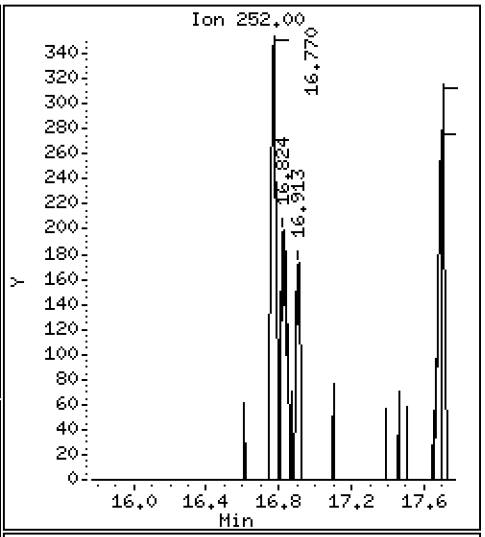
Column phase: Rxi-17sil

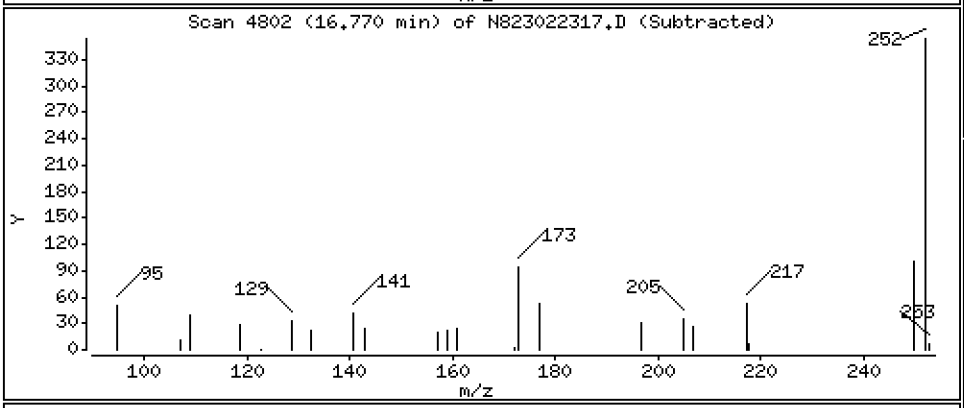
Column diameter: 0.25

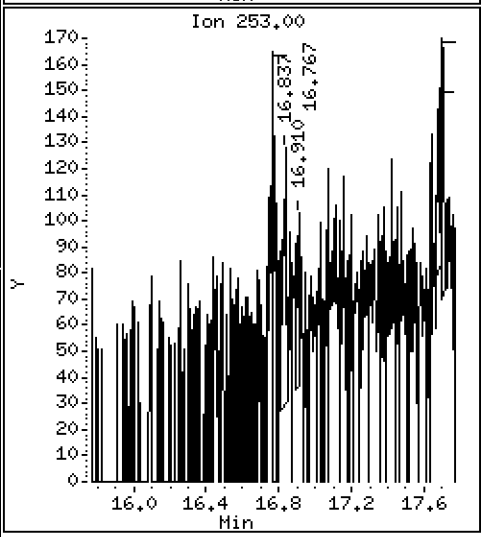
28 Benzo(b)fluoranthene

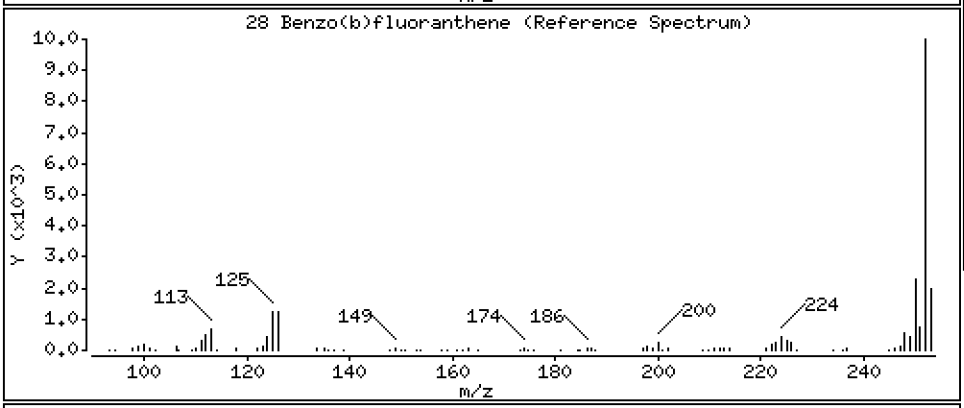
Concentration: 0.03160 ug/mL

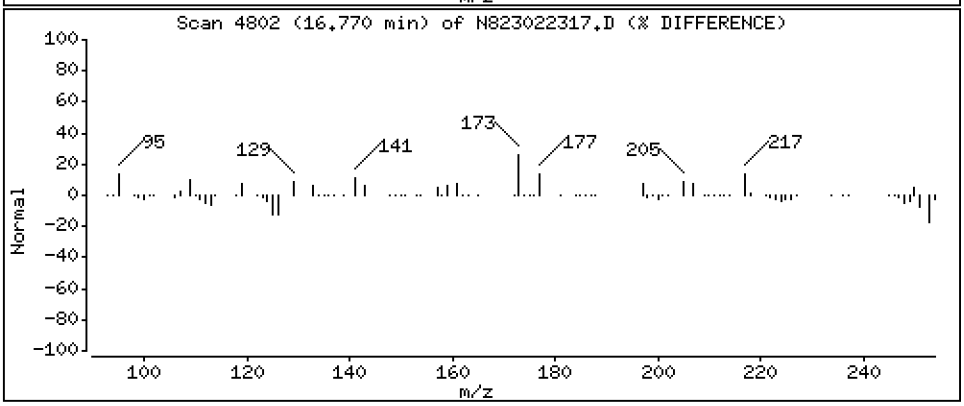












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Date : 23-FEB-2023 18:44

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-10

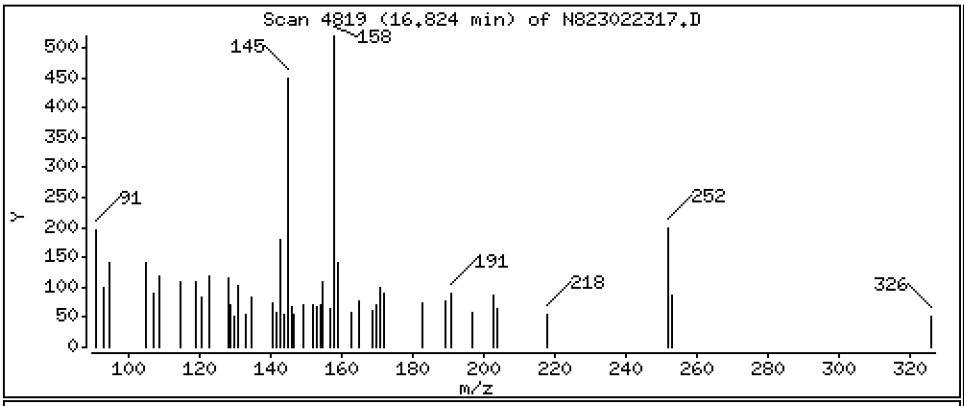
Operator: JZ

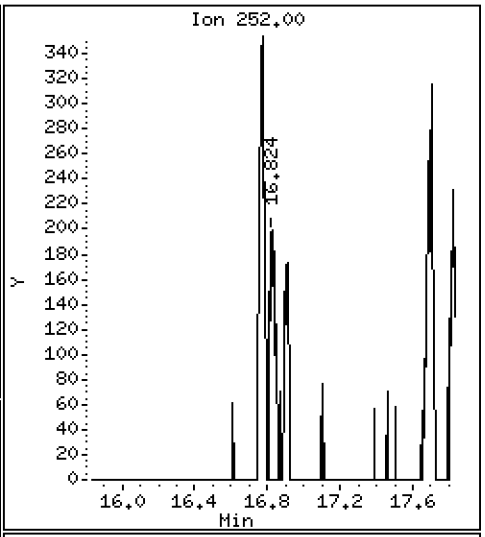
Column phase: Rxi-17sil

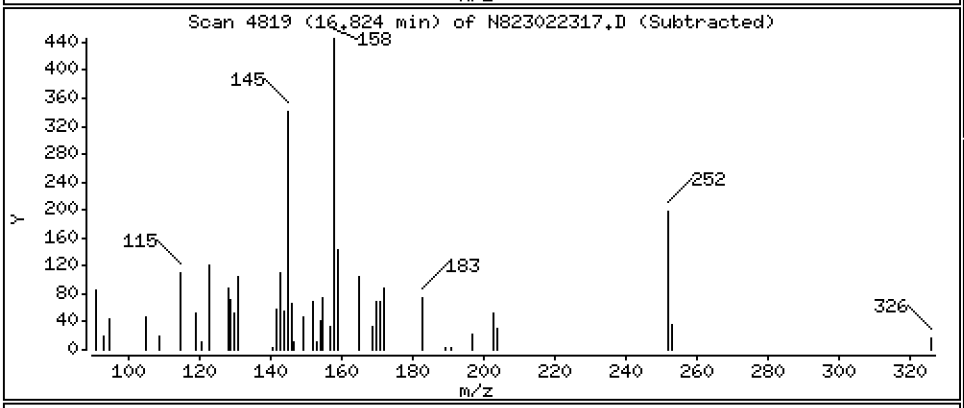
Column diameter: 0.25

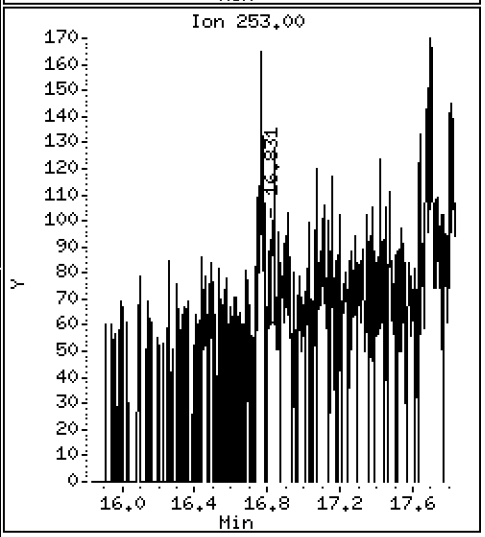
29 Benzo(k)fluoranthene

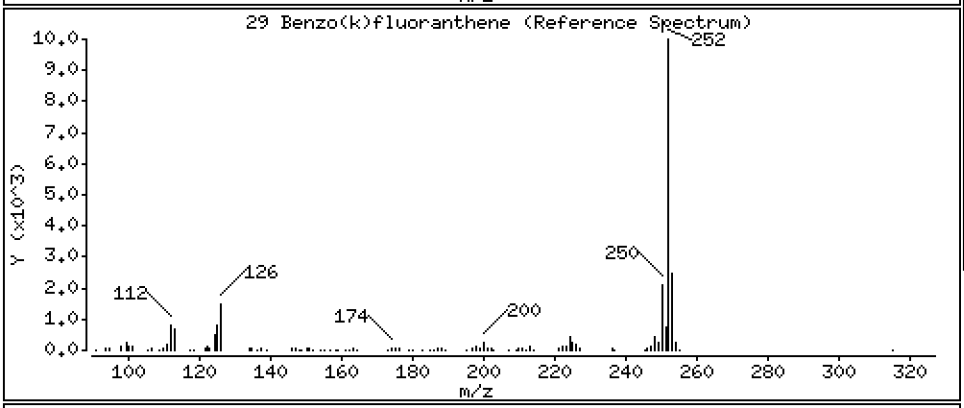
Concentration: 0.01828 ug/mL

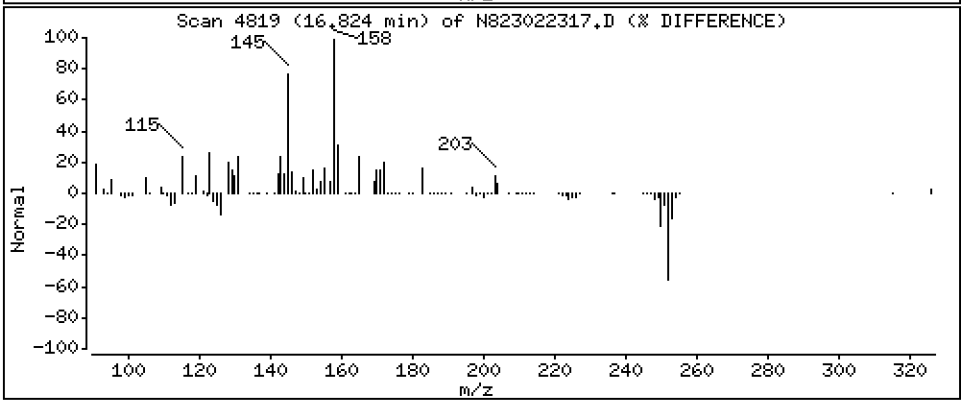












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Date : 23-FEB-2023 18:44

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-10

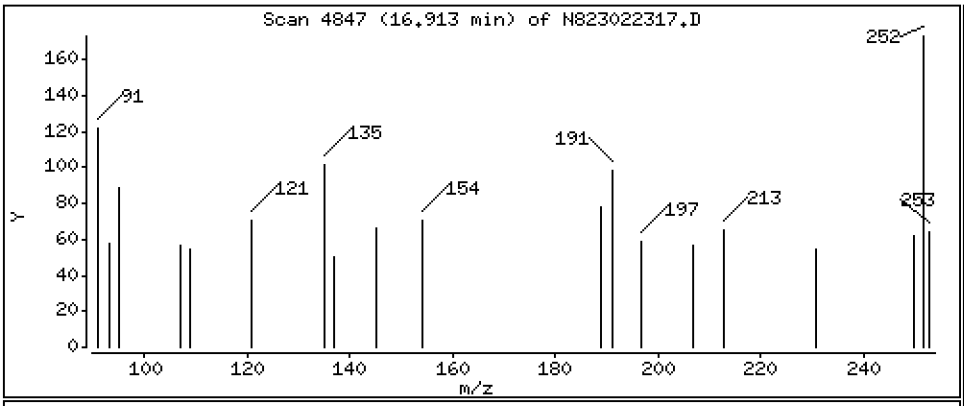
Operator: JZ

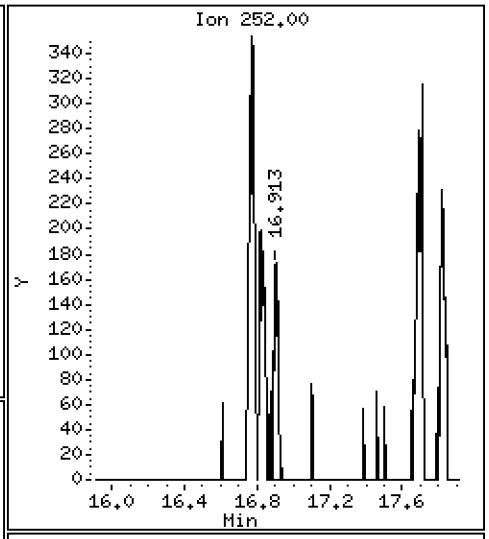
Column phase: Rxi-17sil

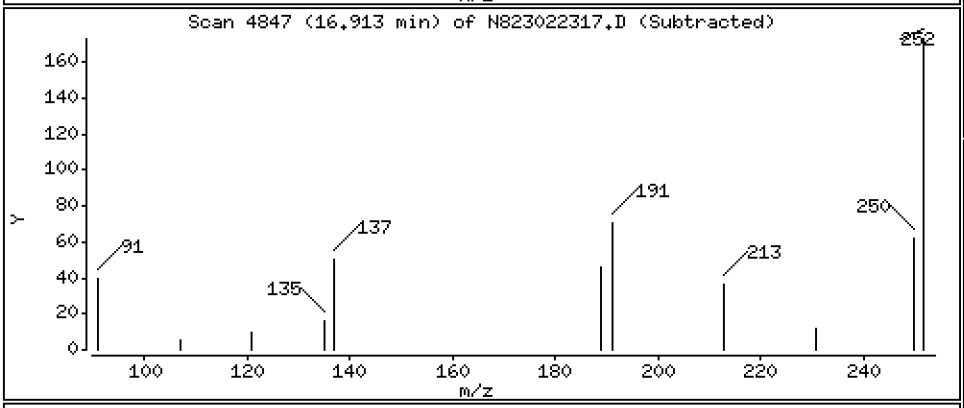
Column diameter: 0.25

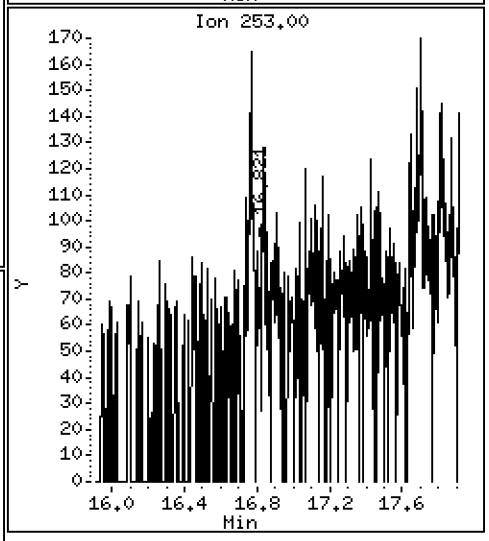
30 Benzo(j)fluoranthene

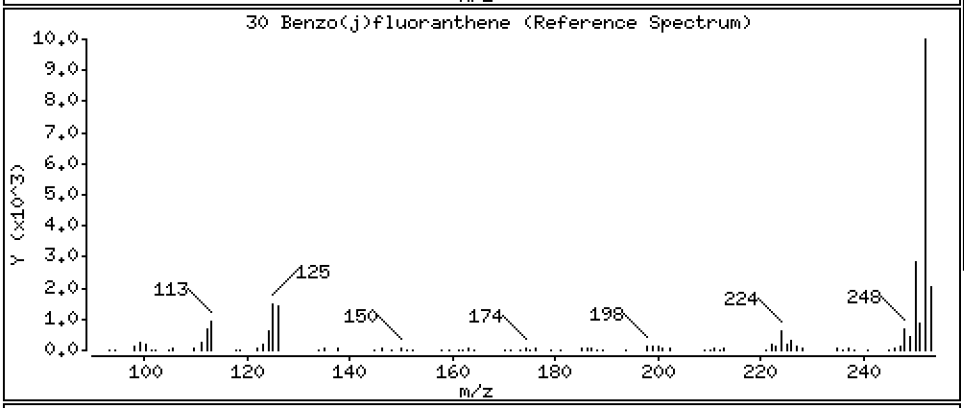
Concentration: 0.01397 ug/mL

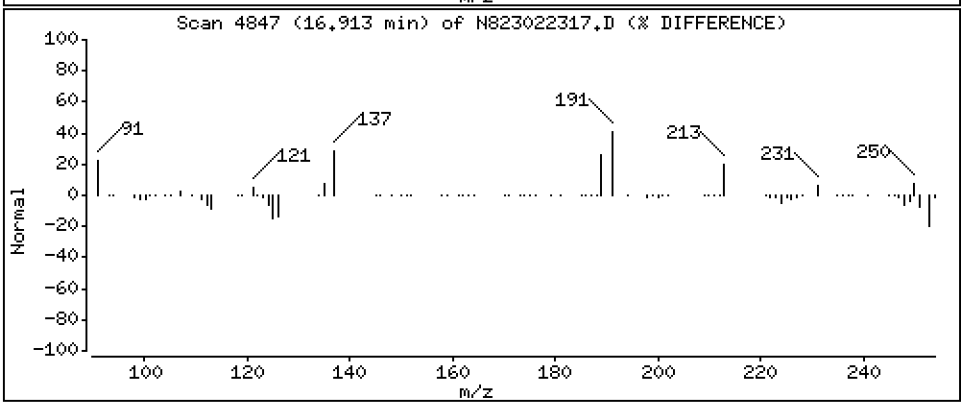












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Date : 23-FEB-2023 18:44

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-10

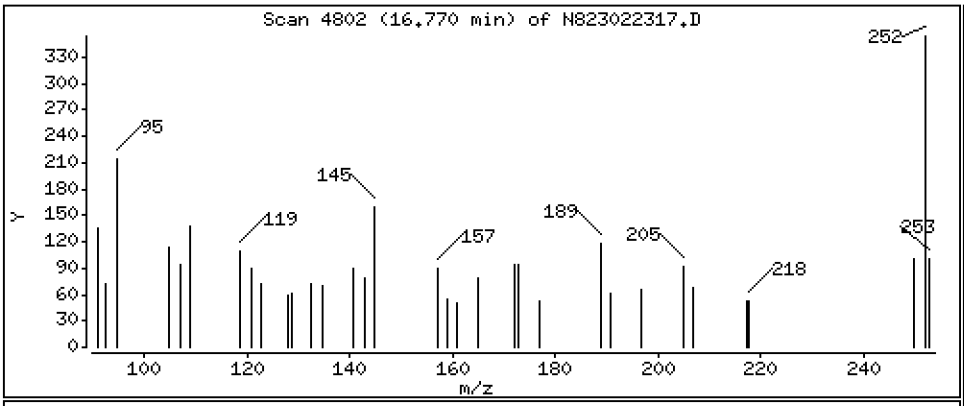
Operator: JZ

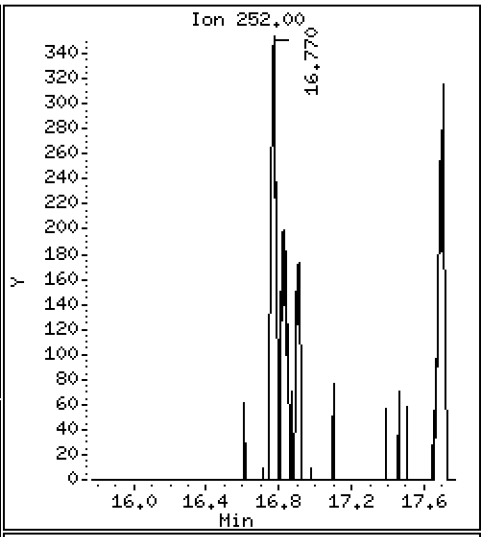
Column phase: Rxi-17sil

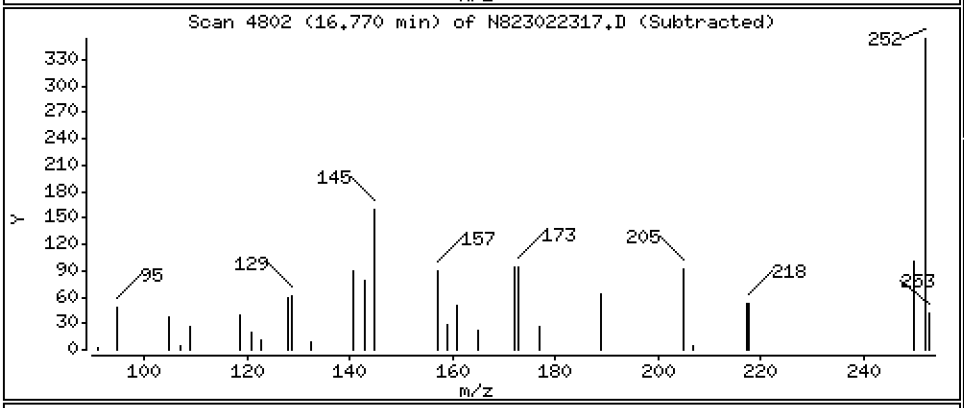
Column diameter: 0.25

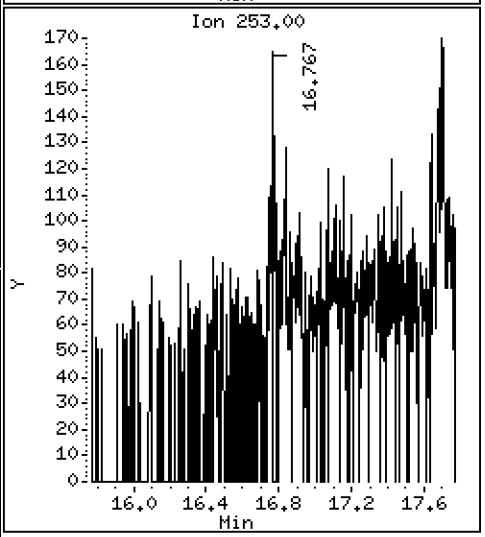
31 Total Benzofluoranthenes

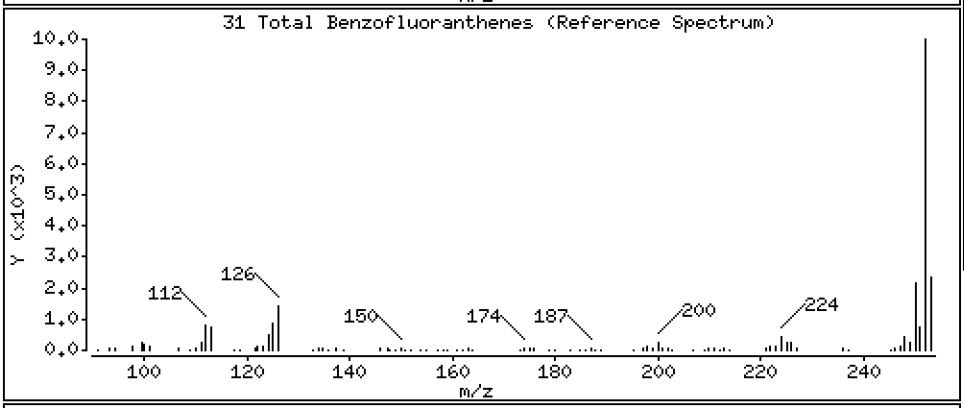
Concentration: 0.06645 ug/mL

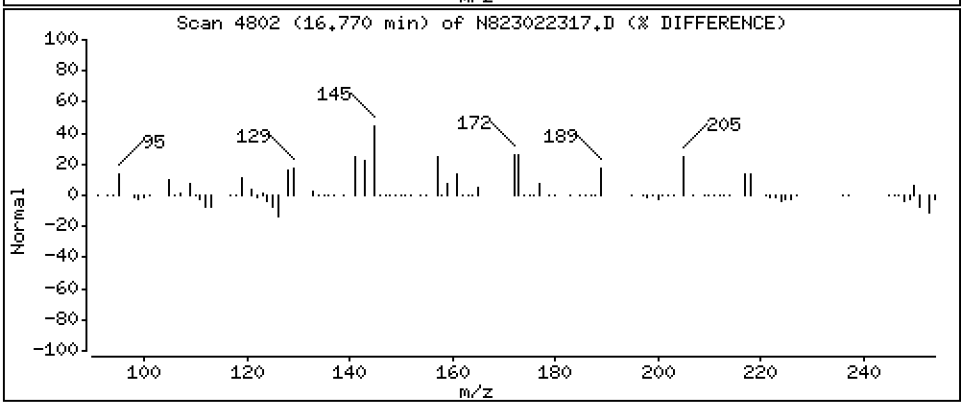












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Date : 23-FEB-2023 18:44

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-10

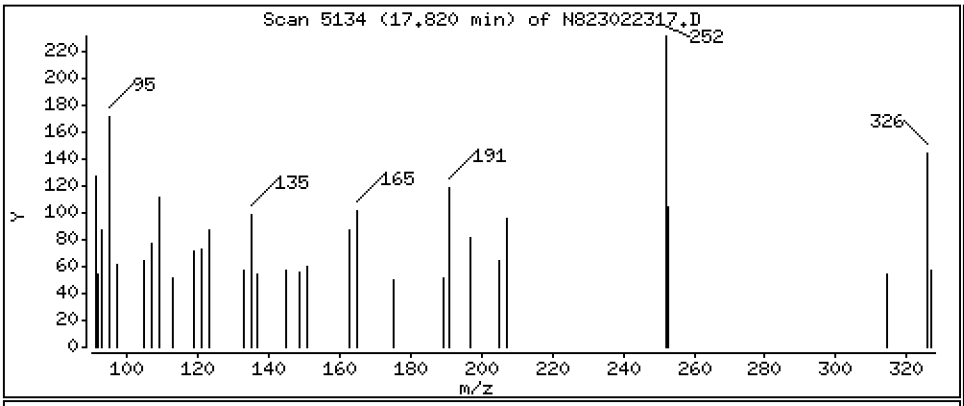
Operator: JZ

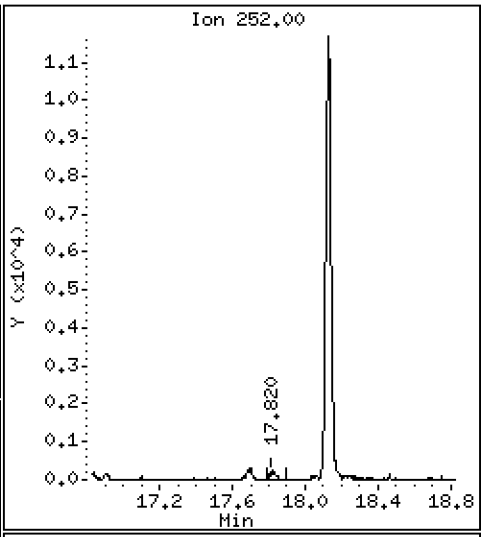
Column phase: Rxi-17sil

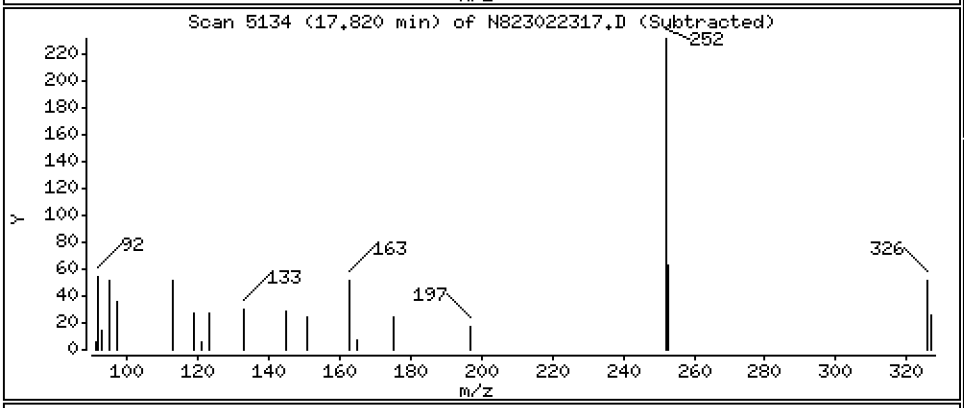
Column diameter: 0.25

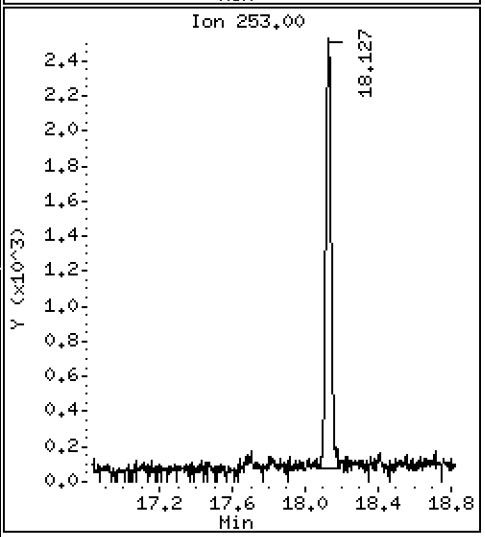
32 Benzo(a)pyrene

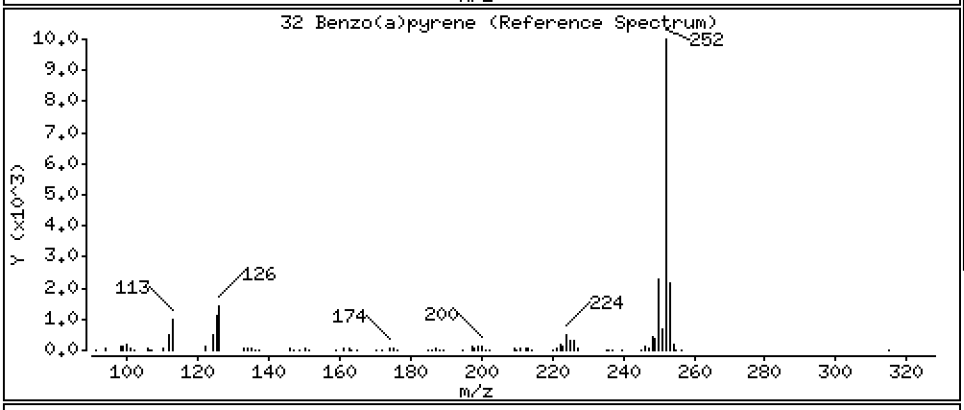
Concentration: 0.02415 ug/mL

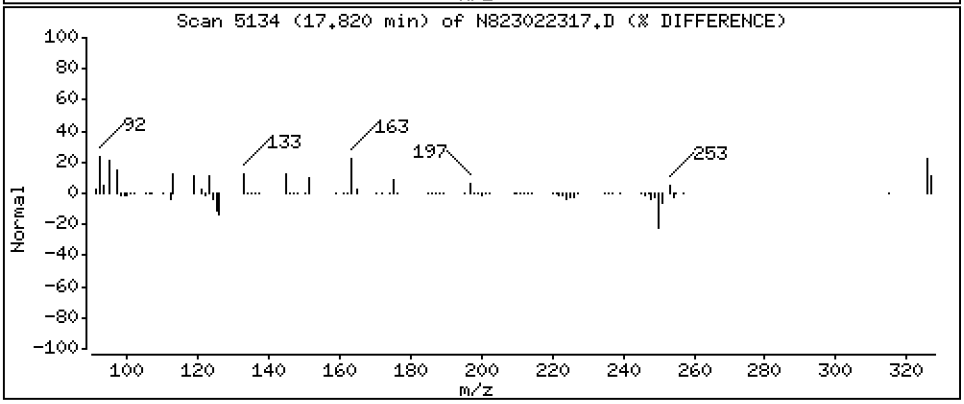












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Date : 23-FEB-2023 18:44

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-10

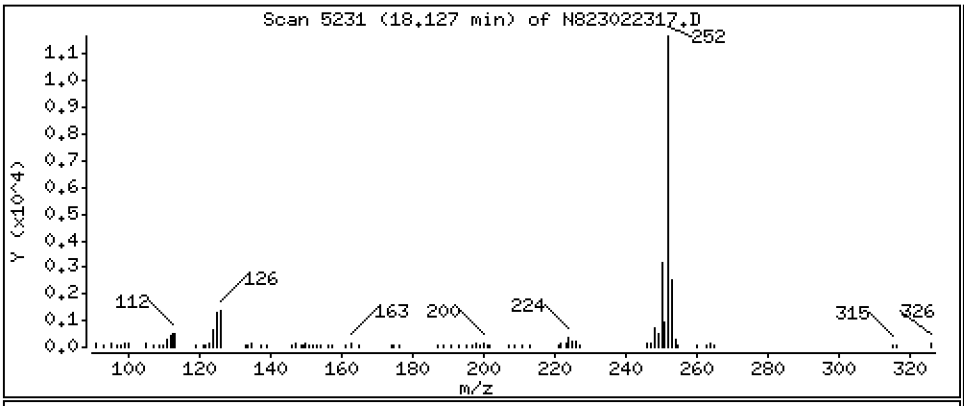
Operator: JZ

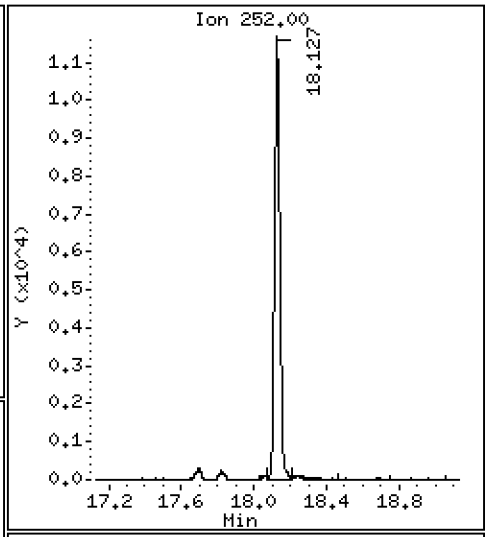
Column phase: Rxi-17sil

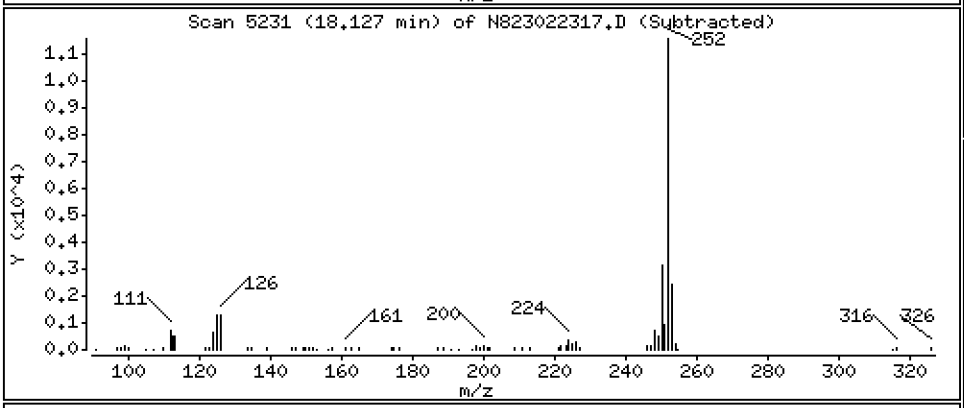
Column diameter: 0.25

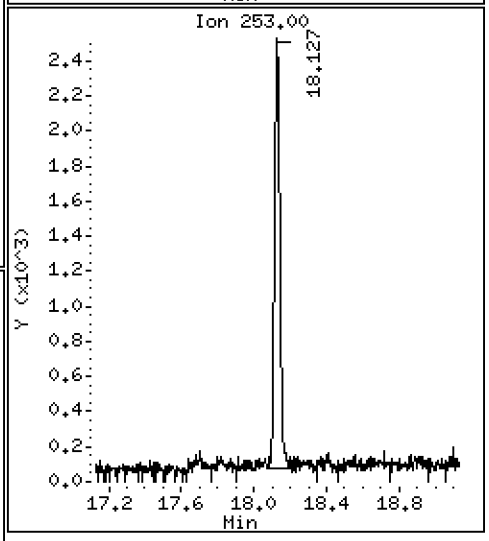
35 Perylene

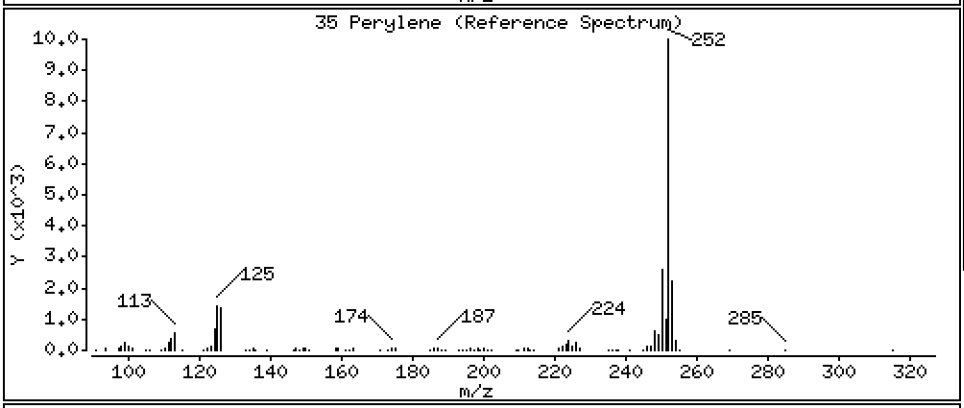
Concentration: 1.149 ug/mL

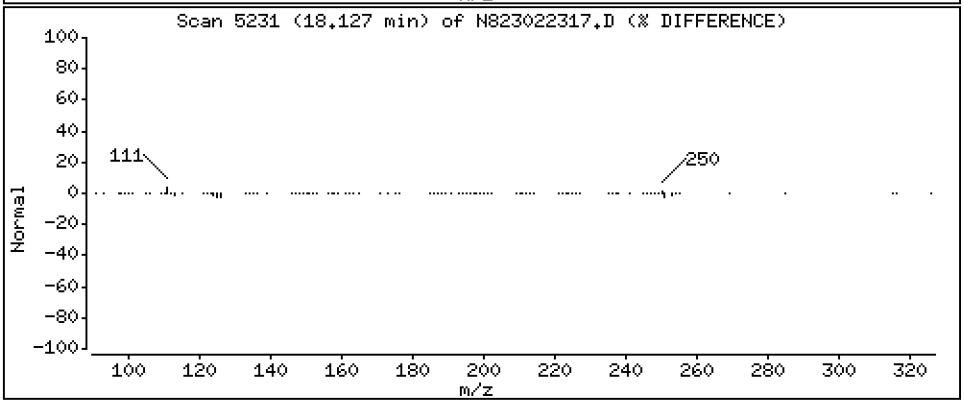












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Date : 23-FEB-2023 18:44

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-10

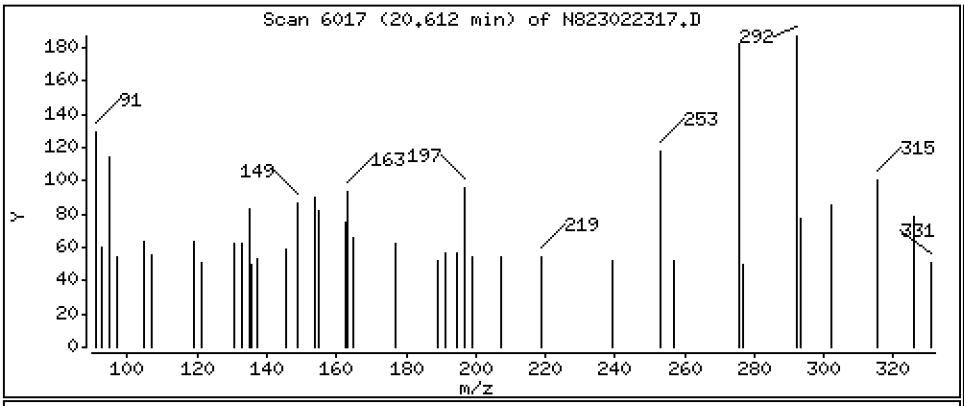
Operator: JZ

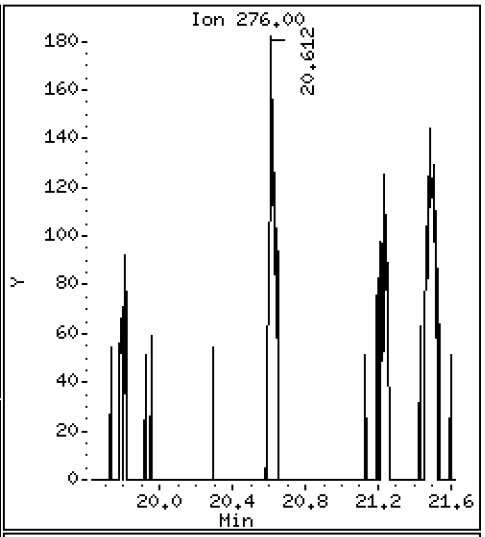
Column phase: Rxi-17sil

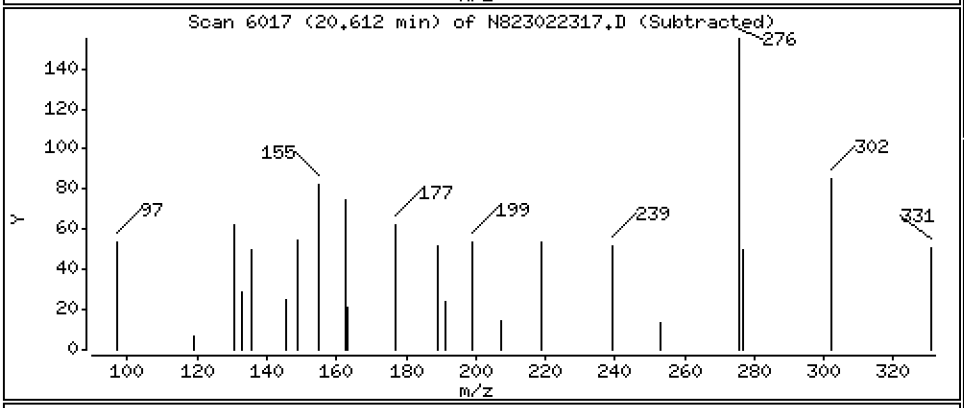
Column diameter: 0.25

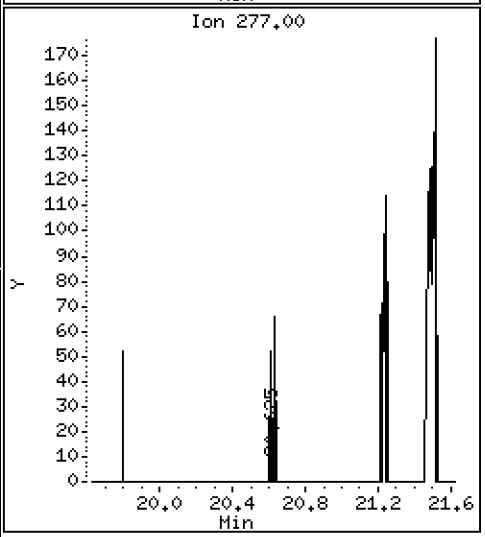
37 Indeno(1,2,3-cd)pyrene

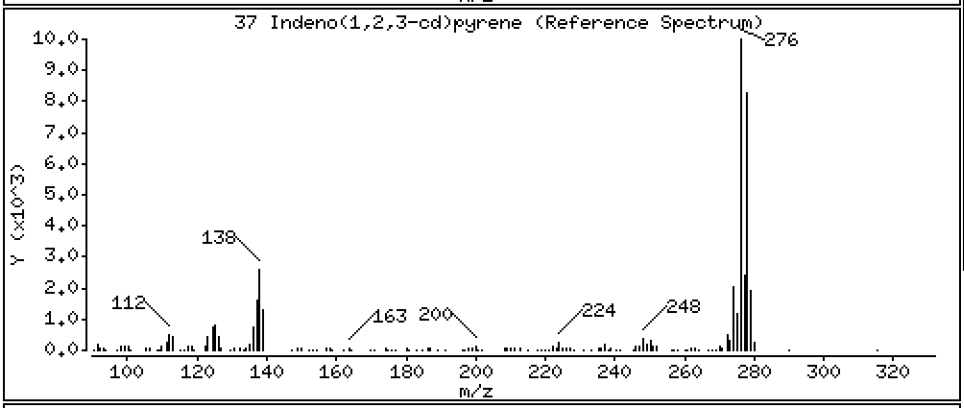
Concentration: 0.01722 ug/mL

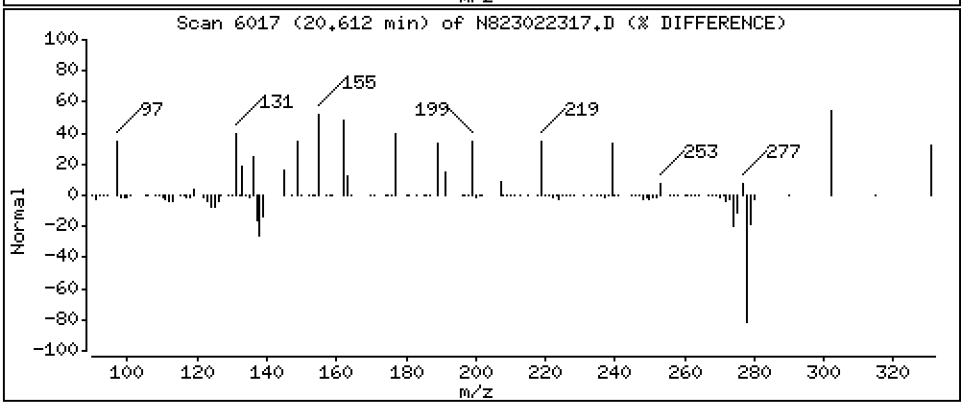












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Date : 23-FEB-2023 18:44

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-10

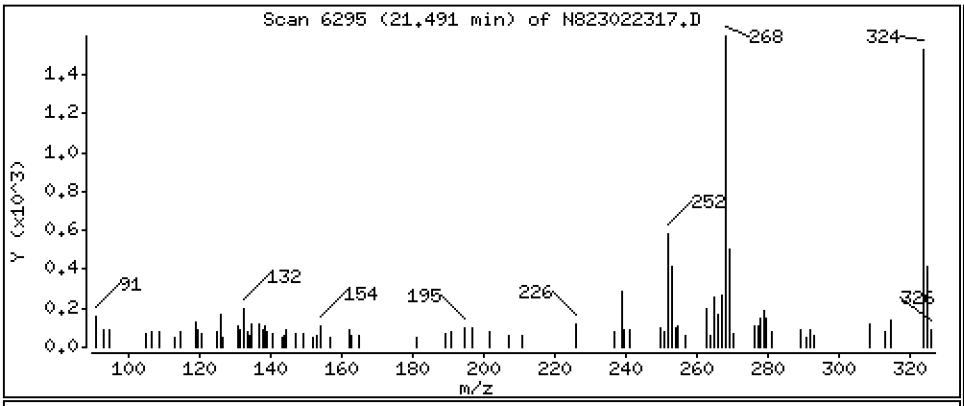
Operator: JZ

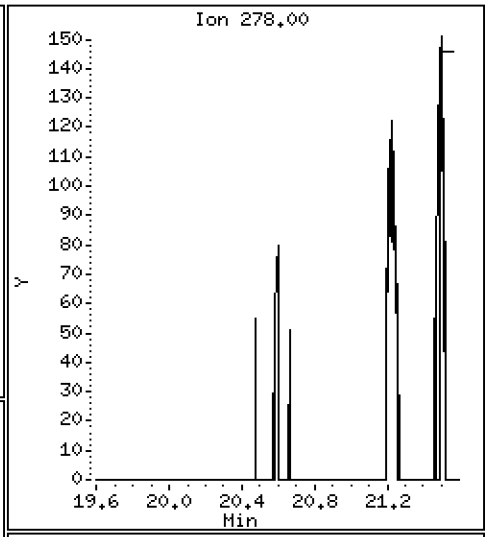
Column phase: Rxi-17sil

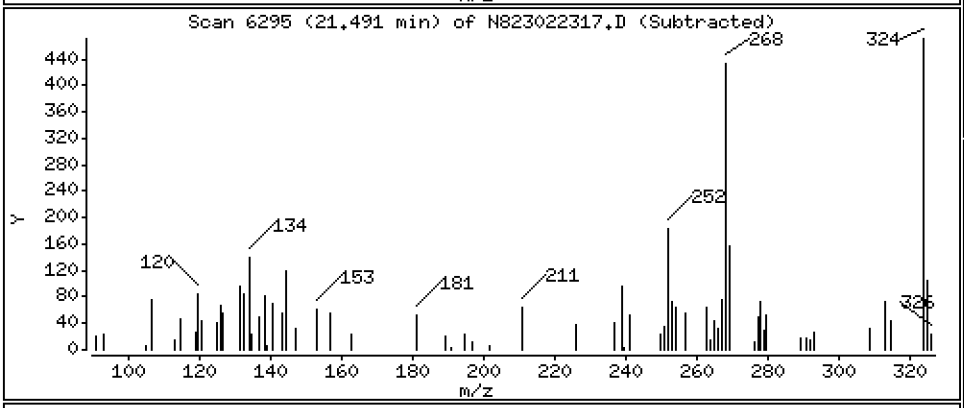
Column diameter: 0.25

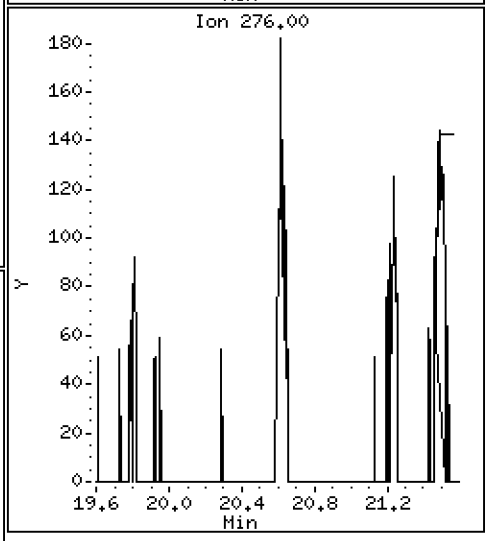
38 Dibenzo(a,h)anthracene

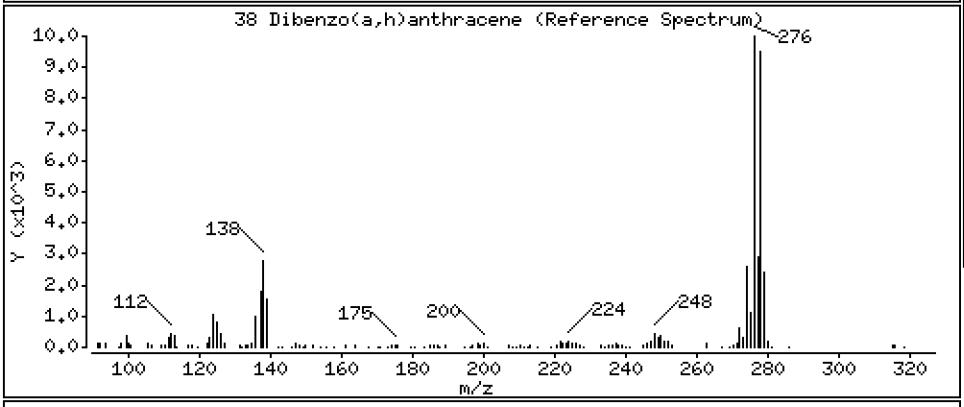
Concentration: 0.009449 ug/mL

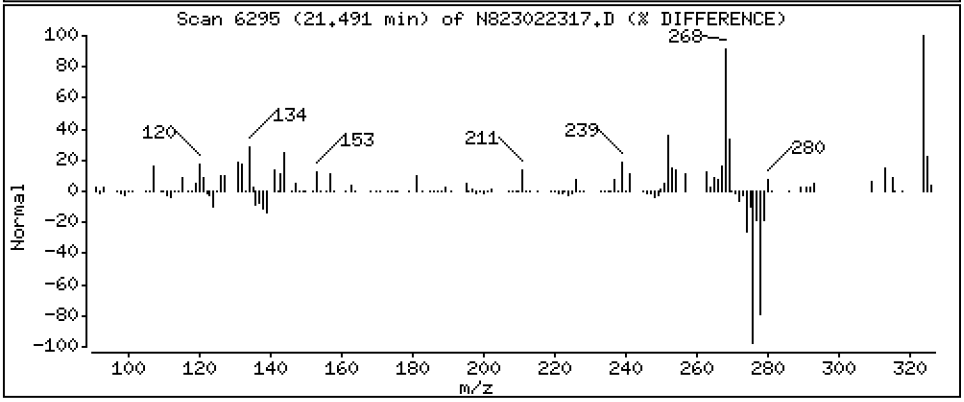












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022317.D

Date : 23-FEB-2023 18:44

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-10

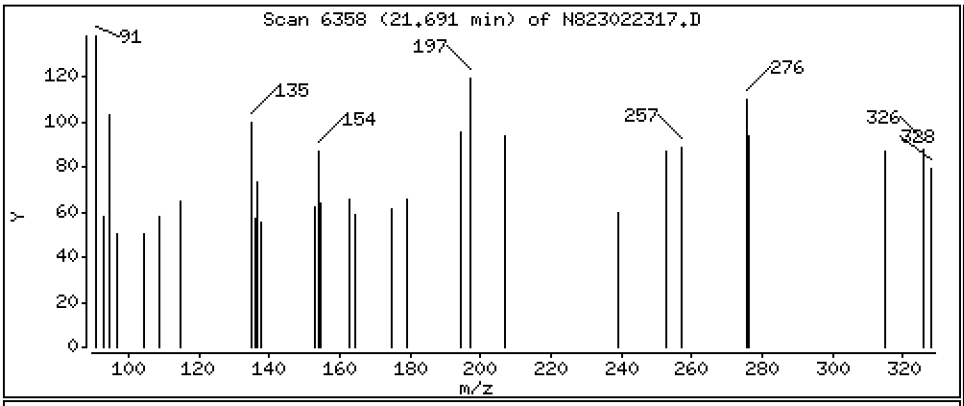
Operator: JZ

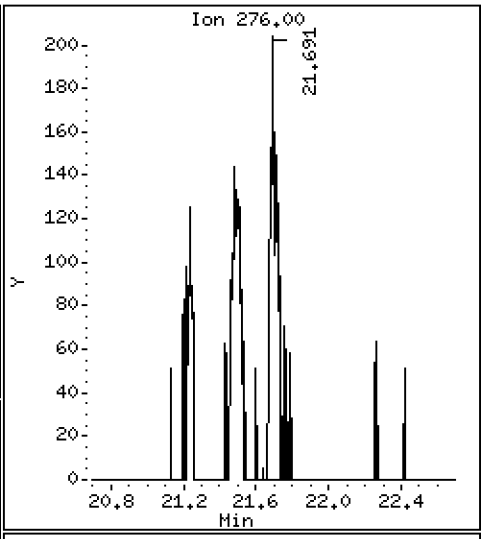
Column phase: Rxi-17sil

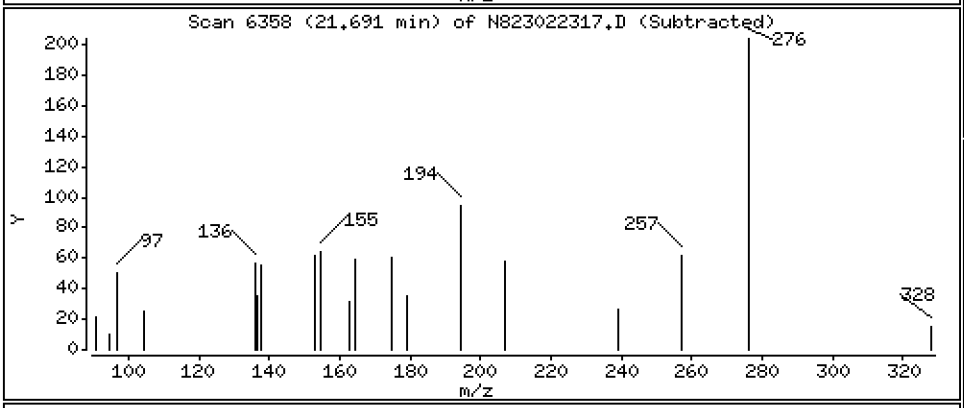
Column diameter: 0.25

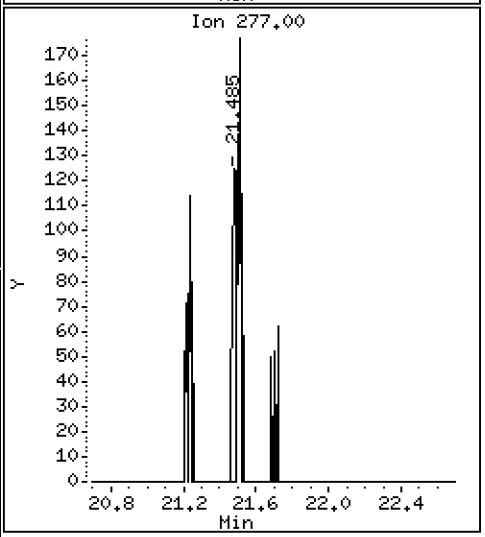
39 Benzo(g,h,i)perylene

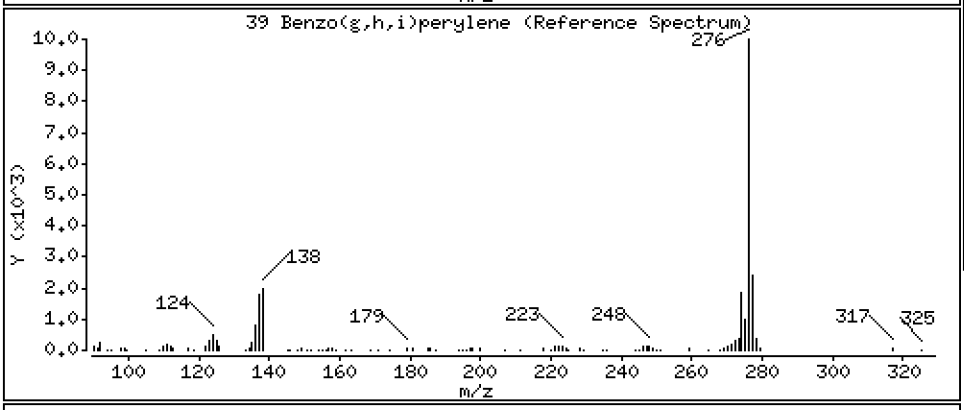
Concentration: 0.02526 ug/mL

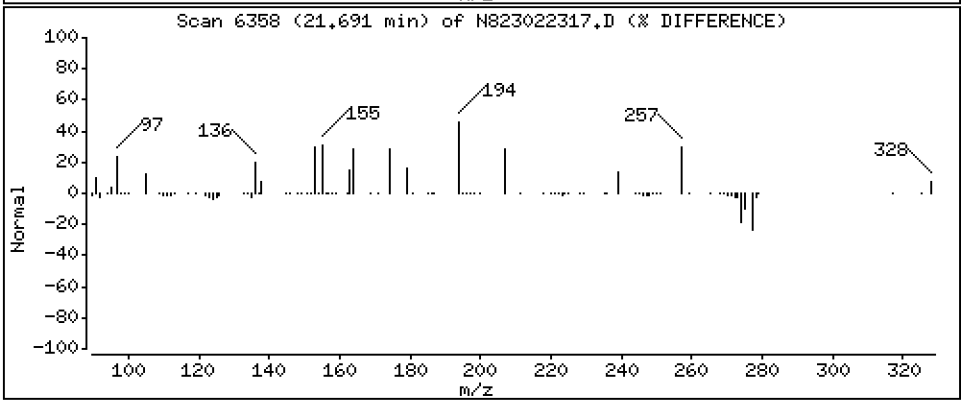












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230223.b\N823022317.D
Lab Smp Id: 23A0418-10
Inj Date : 23-FEB-2023 18:44
Operator : JZ Inst ID: nt8.i
Smp Info : 23A0418-10
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Meth Date : 26-Feb-2023 12:40 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PNAXEMDL.sub
Target Version: 4.14
Processing Host: JIANQING-202105

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.862	4.871	(1.000)	38644	2.00000	
	2 Naphthalene	128	4.894	4.903	(1.007)	668	0.03718	0.03718
$	3 2-Methylnaphthalene-d10	152	5.599	5.605	(1.152)	29623	2.81075	2.811
	4 2-Methylnaphthalene	141	5.646	5.652	(1.161)	471	0.04766	0.04766
	5 1-methylnaphthalene	141	5.842	5.849	(1.202)	457	0.04556	0.04556
	9 Acenaphthylene	152	7.047	7.050	(0.985)	242	0.01317	0.01317
*	10 Acenaphthene-d10	164	7.154	7.158	(1.000)	24337	2.00000	
	11 Acenaphthene	153	7.205	7.208	(1.007)	201	0.01632	0.01632
	12 Dibenzofuran	168	7.360	7.360	(1.029)	353	0.01887	0.01887
	14 Fluorene	166	7.837	7.837	(1.095)	176	0.01212	0.01212
*	15 Phenanthrene-d10	188	9.197	9.197	(1.000)	46427	2.00000	
	16 Phenanthrene	178	9.232	9.235	(1.004)	1985	0.08753	0.08753(M)
	17 Anthracene	178	9.276	9.276	(1.009)	374	0.01815	0.01815(M)
	19 Carbazole	167	9.792	9.791	(1.065)	217	0.01149	0.01149
	22 Fluoranthene	202	11.009	11.009	(1.197)	2010	0.08142	0.08142(M)
$	21 Fluoranthene-d10	212	10.971	10.971	(1.193)	67011	3.27148	3.271
	23 Pyrene	202	11.531	11.527	(0.815)	1239	0.05036	0.05036(M)
	24 Benzo(a)anthracene	228	14.019	14.025	(0.991)	615	0.02758	0.02758(M)
*	25 Chrysene-d12	240	14.149	14.152	(1.000)	39684	2.00000	
	27 Chrysene	228	14.218	14.225	(1.005)	1053	0.04436	0.04436(M)
	28 Benzo(b)fluoranthene	252	16.770	16.770	(0.929)	690	0.03160	0.03160
	29 Benzo(k)fluoranthene	252	16.824	16.833	(0.932)	391	0.01828	0.01828(M)
	30 Benzo(j)fluoranthene	252	16.912	16.912	(0.937)	269	0.01397	0.01397(M)
	31 Total Benzofluoranthenes	252	16.770	16.770	(0.929)	1374	0.06645	0.06645(M)
	34 Benzo(e)pyrene	252	Compound Not Detected.					
	32 Benzo(a)pyrene	252	17.820	17.826	(0.987)	464	0.02415	0.02415(M)
*	33 Perylene-d12	264	18.054	18.057	(1.000)	37490	2.00000	
	35 Perylene	252	18.126	18.130	(1.004)	23699	1.14939	1.149
$	36 Dibenzo(a,h)anthracene-d14	292	20.479	20.485	(1.134)	48096	3.27420	3.274
	37 Indeno(1,2,3-cd)pyrene	276	20.612	20.624	(1.142)	377	0.01722	0.01722(M)
	38 Dibenzo(a,h)anthracene	278	21.491	20.596	(1.190)	178	0.00945	0.009449
	39 Benzo(g,h,i)perylene	276	21.690	21.696	(1.201)	501	0.02526	0.02526(M)

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823022317.D
Lab Smp Id: 23A0418-10
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 23-FEB-2023
Calibration Time: 11:46
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	37022	18511	74044	38644	4.38
10 Acenaphthene-d10	22454	11227	44908	24337	8.39
15 Phenanthrene-d10	43277	21639	86554	46427	7.28
25 Chrysene-d12	38907	19454	77814	39684	2.00
33 Perylene-d12	39582	19791	79164	37490	-5.29

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.87	4.37	5.37	4.86	-0.19
10 Acenaphthene-d10	7.16	6.66	7.66	7.15	-0.04
15 Phenanthrene-d10	9.20	8.70	9.70	9.20	0.00
25 Chrysene-d12	14.15	13.65	14.65	14.15	-0.02
33 Perylene-d12	18.06	17.56	18.56	18.05	-0.02

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

REVIEW SUMMARY FOR FILE - N823022317.D

Lab ID: 23A0418-10
nt8.i, 20230223.b\FSIMPNA230119.m,   23-FEB-2023 18:44

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

No RRT check performed

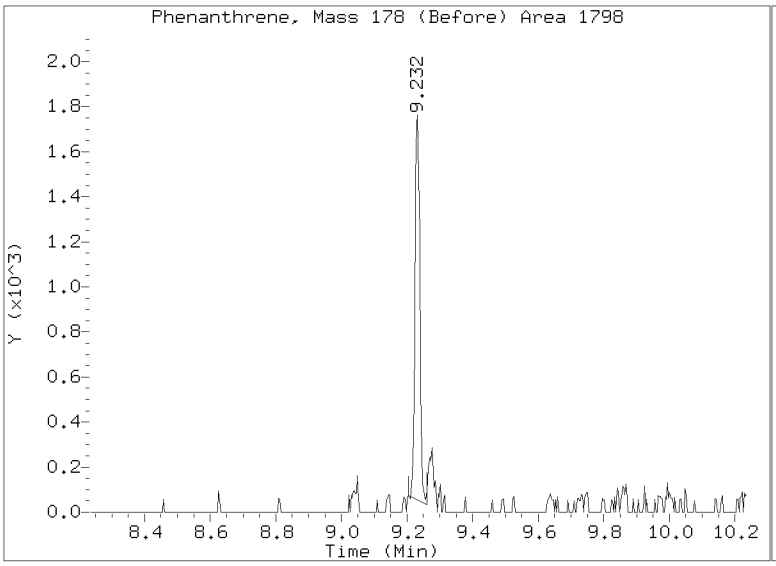
On Column LOD for nt8.i, 20230223.b\FSIMPNA230119.m, PNAXEMDL.sub = 0.0080

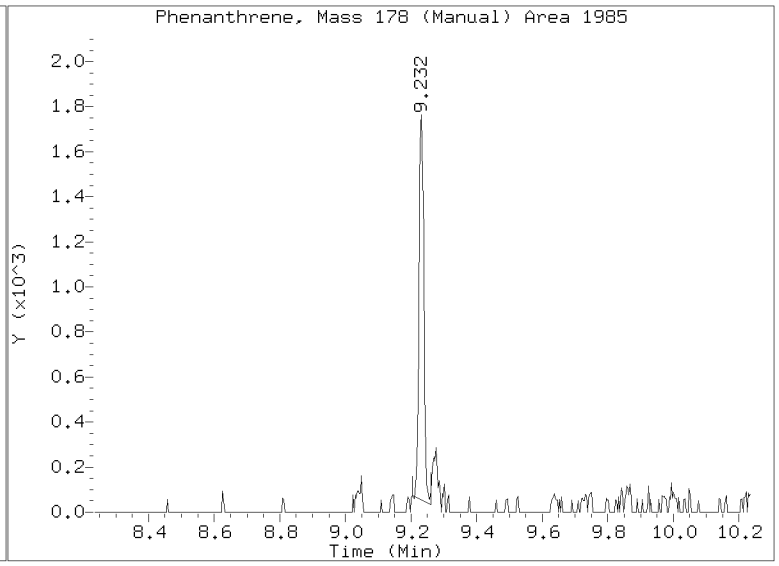
Exception: Benzo(e)pyrene 0.0800

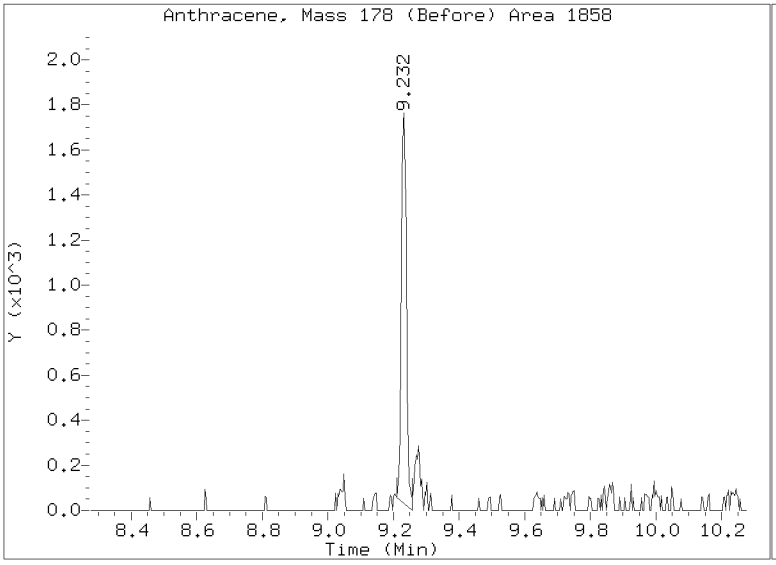
* Only compounds listed in the work order have been verified by the analyst *

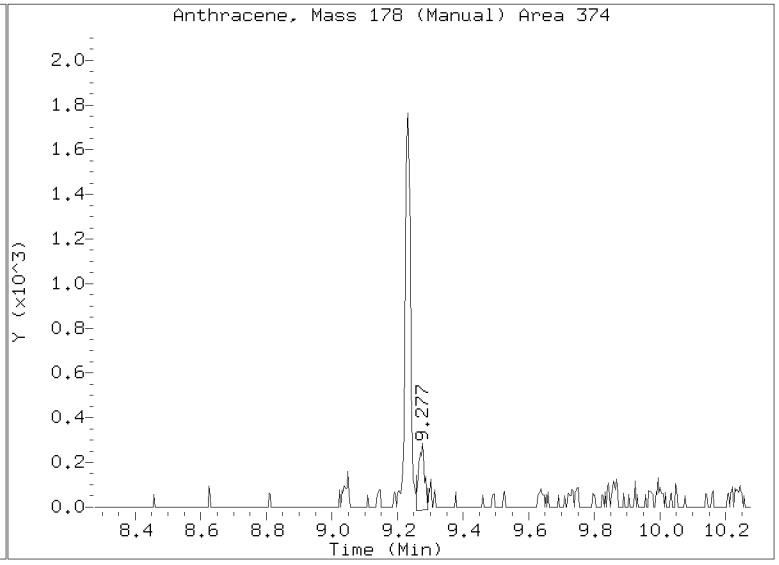
Quant Ion Manual Peak Adjustment Report

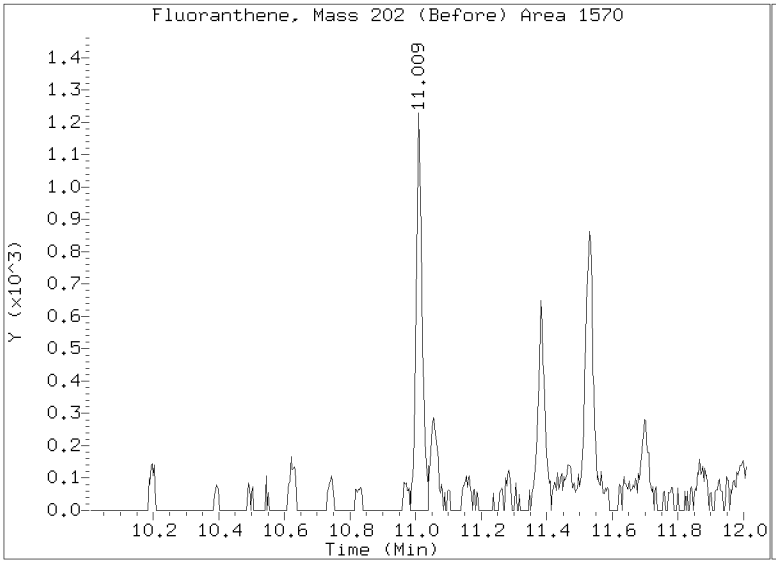
Datafile: //target/share/chem3/nt8.i/20230223.b/N823022317.D
Injection Date: 23-FEB-2023 18:44
Lab ID:23A0418-10 Client ID:
Report Date: 02/26/2023 14:18

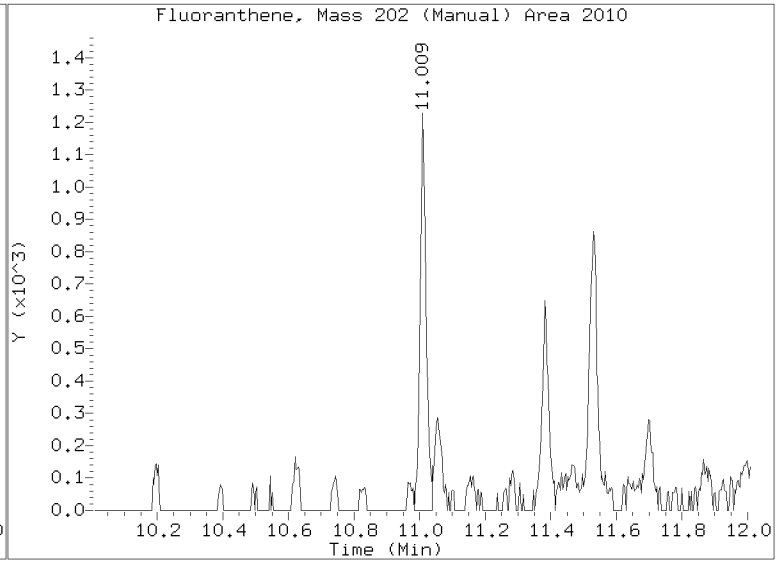






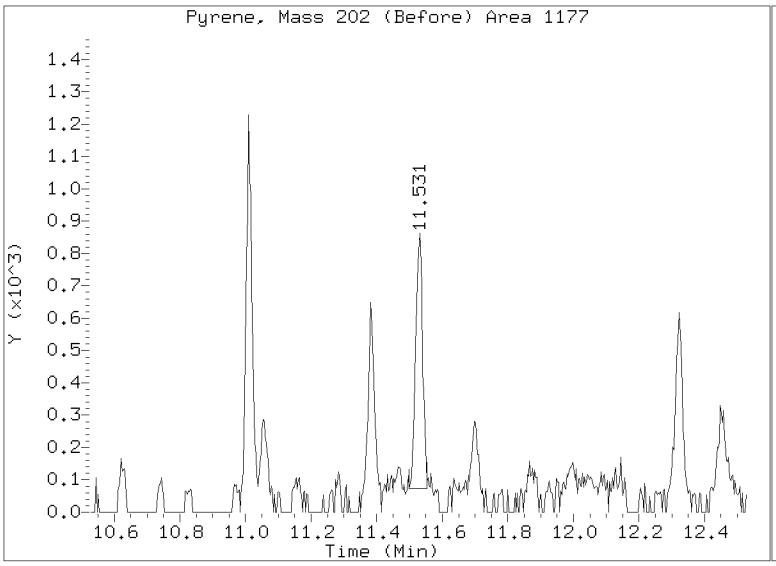


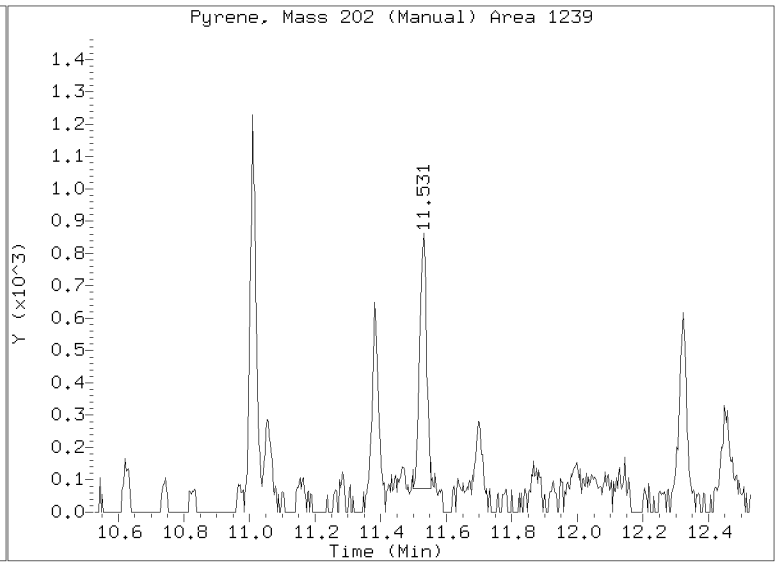


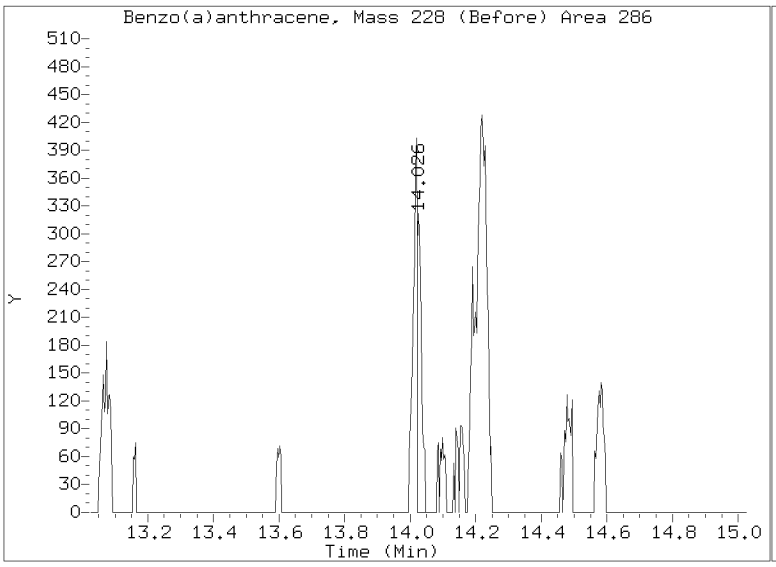


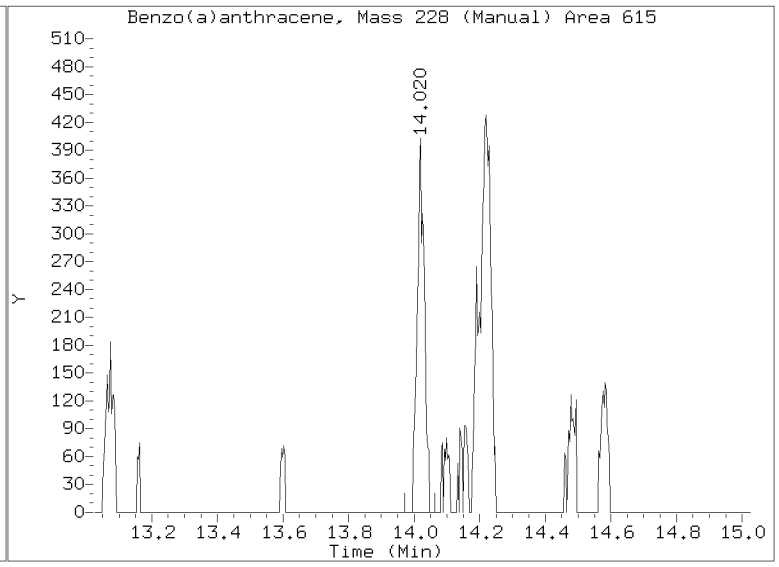
Quant Ion Manual Peak Adjustment Report

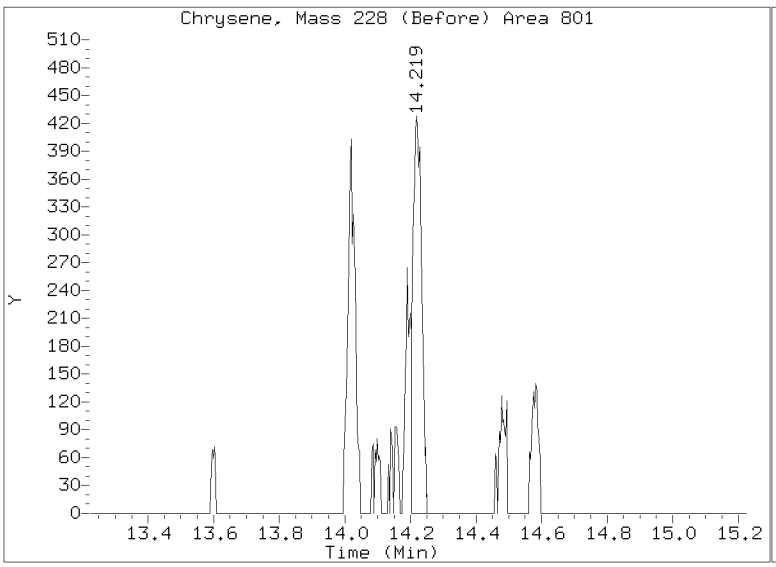
Datafile: //target/share/chem3/nt8.i/20230223.b/N823022317.D
Injection Date: 23-FEB-2023 18:44
Lab ID:23A0418-10 Client ID:
Report Date: 02/26/2023 14:18

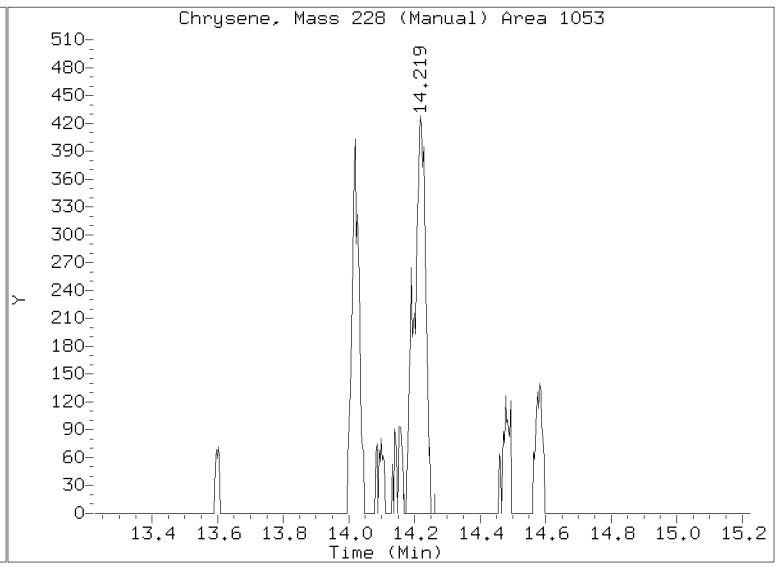












Quant Ion Manual Peak Adjustment Report

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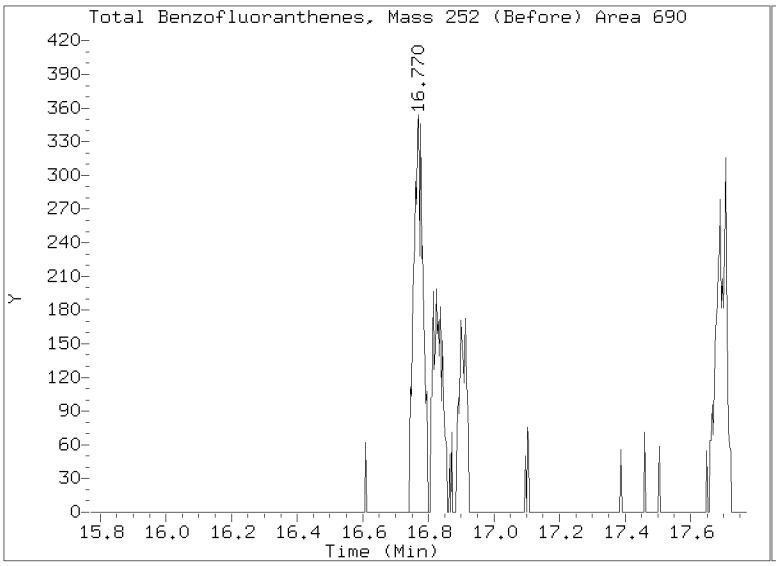
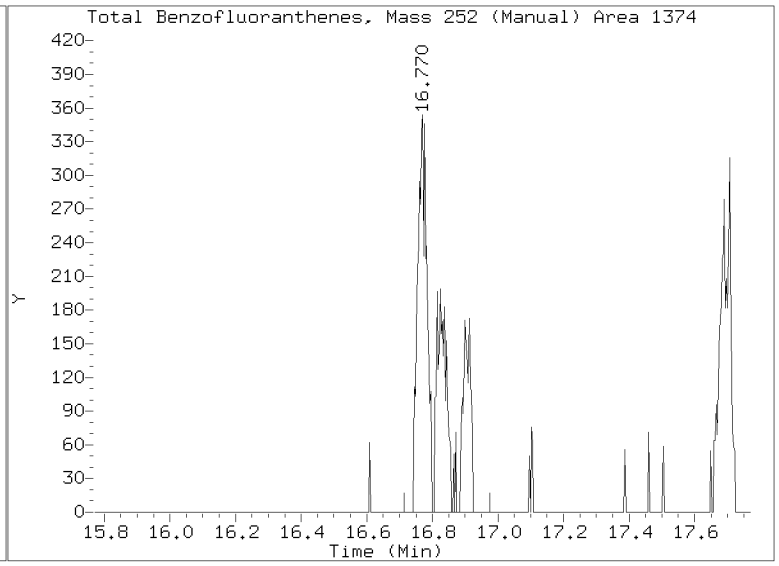
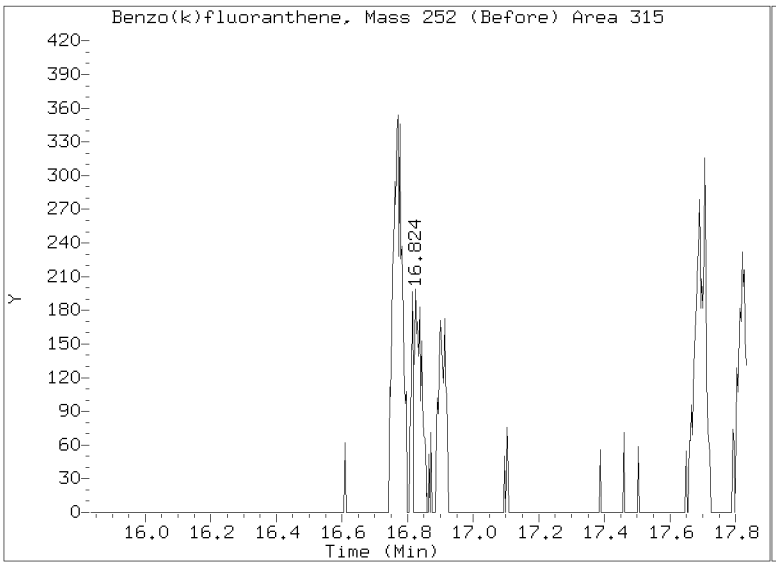
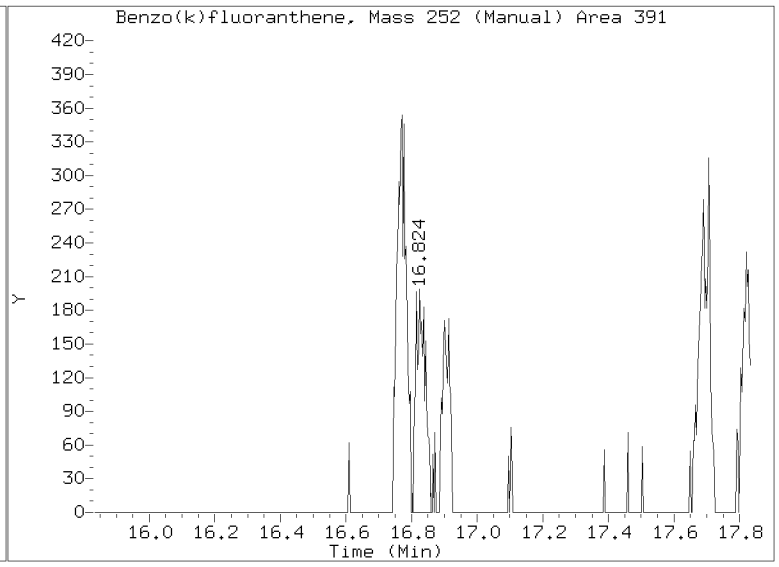
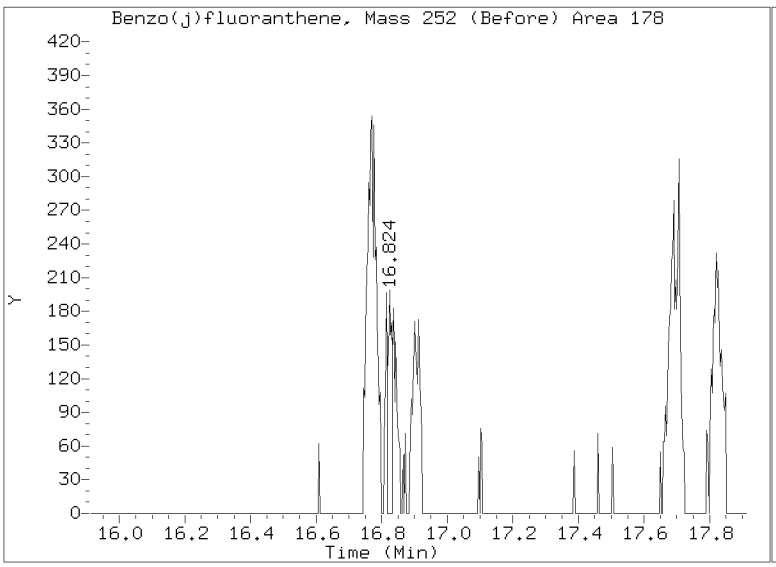
Injection Date: 23-FEB-2023 18:44
Lab ID:23A0418-10 Client ID:
Report Date: 02/26/2023 14:18

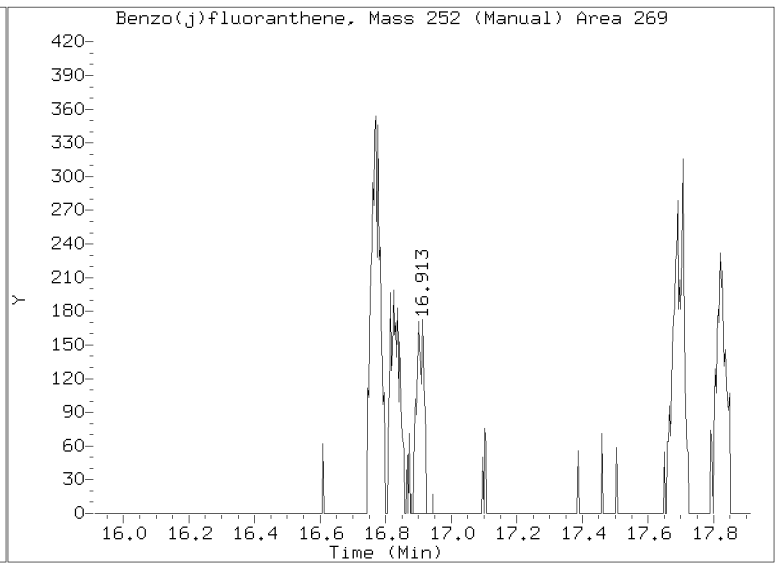






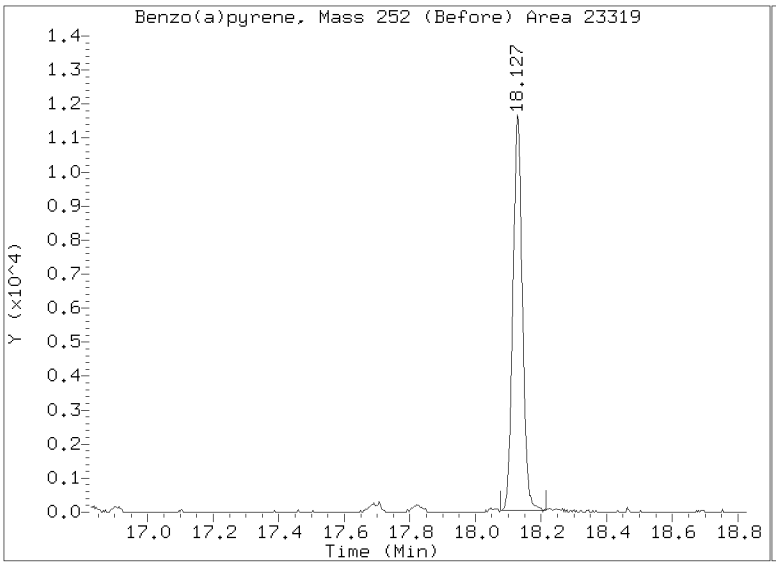


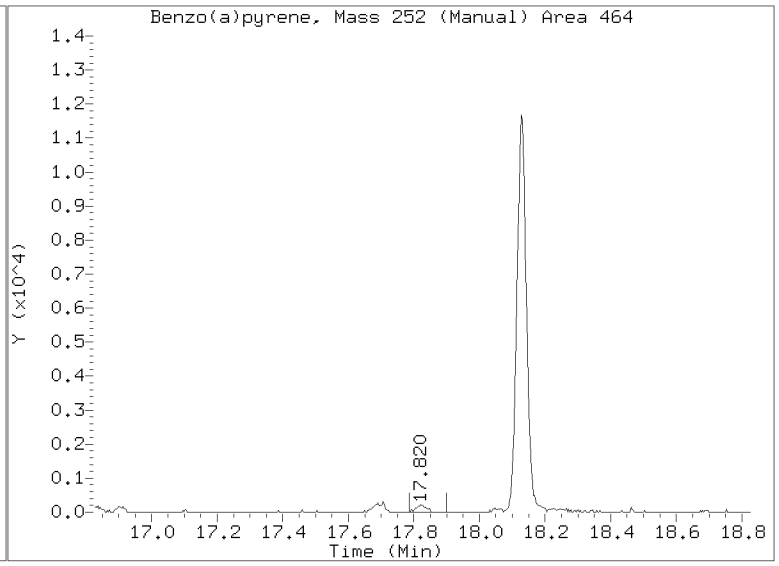


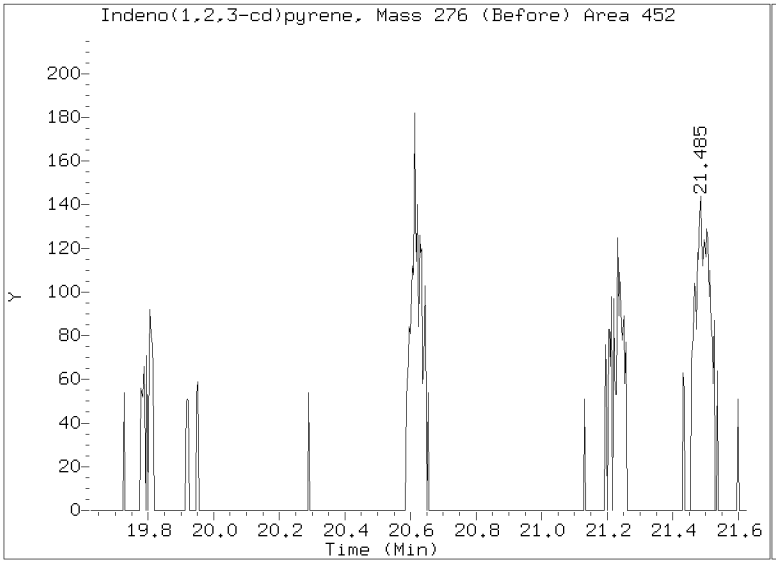


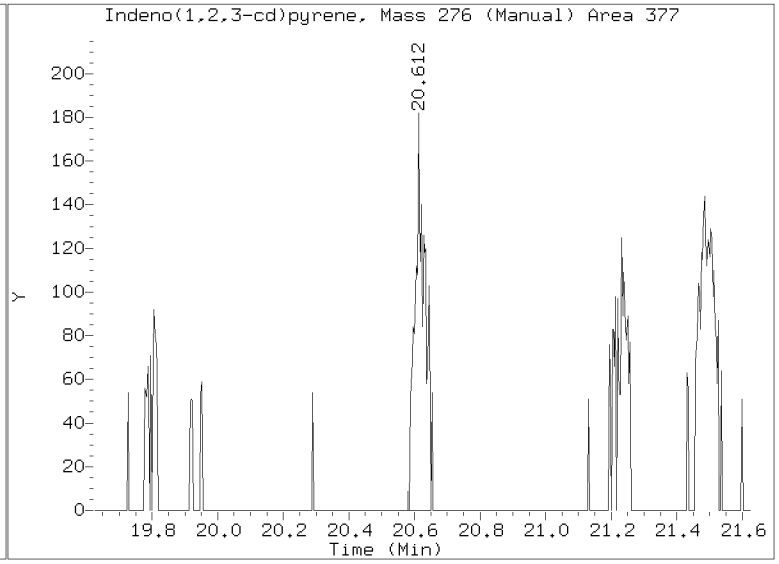
Quant Ion Manual Peak Adjustment Report

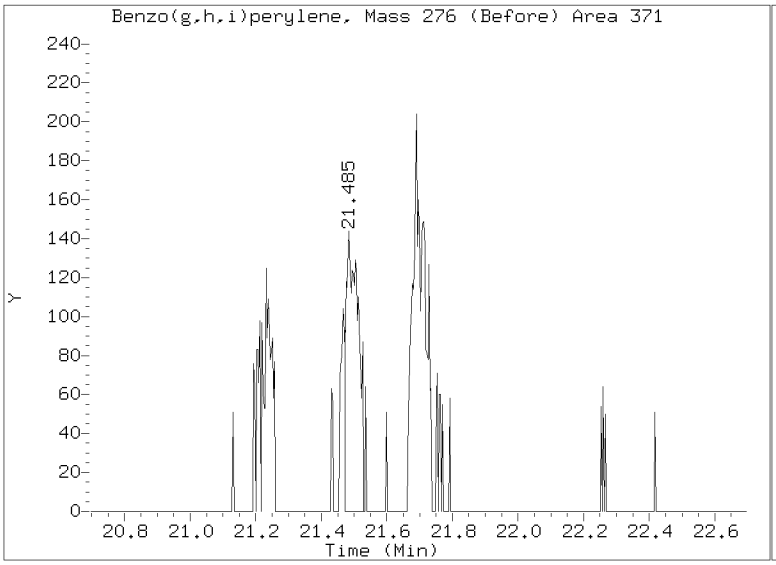
Datafile: //target/share/chem3/nt8.i/20230223.b/N823022317.D
Injection Date: 23-FEB-2023 18:44
Lab ID:23A0418-10 Client ID:
Report Date: 02/26/2023 14:18

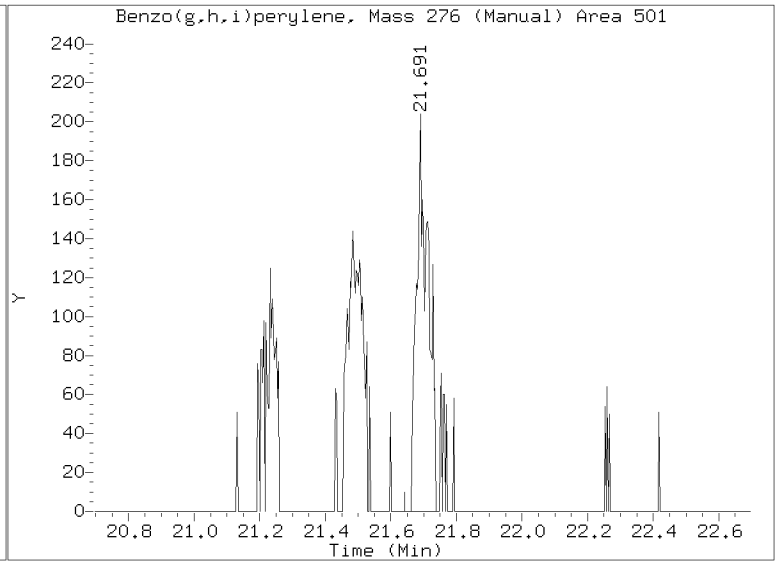












Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270E-SIM
Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-11 A	SDG:	23A0418
Sampled:	01/18/23 14:47	Prepared:	02/16/23 14:32	File ID:	N823022318.D
% Solids:	73.74	Preparation:	EPA 3546 (Microwave)	Analyzed:	02/23/23 19:11
Batch:	BLB0386	Sequence:	SLB0310	Initial/Final:	13.85 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	GA00050
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	17.5		0.81	4.90
218-01-9	Chrysene	1	26.3		1.03	4.90
205-99-2	Benzo(b)fluoranthene	1	24.4		1.34	4.90
207-08-9	Benzo(k)fluoranthene	1	12.2		0.74	4.90
50-32-8	Benzo(a)pyrene	1	20.0		0.60	4.90
193-39-5	Indeno(1,2,3-cd)pyrene	1	15.3		1.03	4.90
53-70-3	Dibenzo(a,h)anthracene	1	4.76	J	0.87	4.90

SURROGATES	ADDED: (ug/kg dry)	FOUND: (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	146.87	148	101	32 - 120	
Dibenzo[a,h]anthracene-d14	146.87	200	136	21 - 133	*
Fluoranthene-d10	146.87	168	114	36 - 134	

Data File: \\target\share\chem3\nt8.i\20230223.b\N823022318.D

Date : 23-FEB-2023 19:11

Client ID:

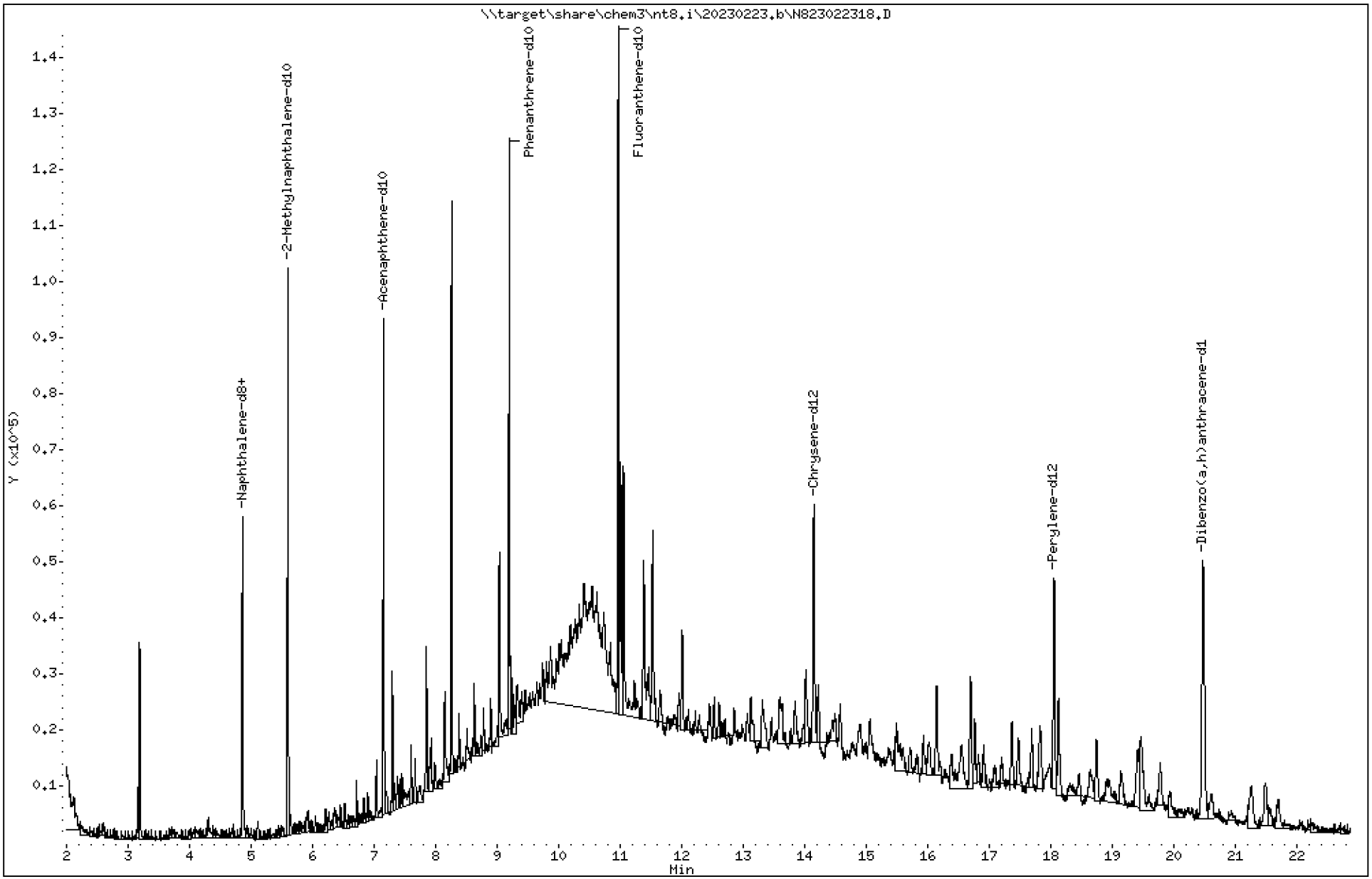
Instrument: nt8.i

Sample Info: 23A0418-11

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



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Date : 23-FEB-2023 19:11

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-11

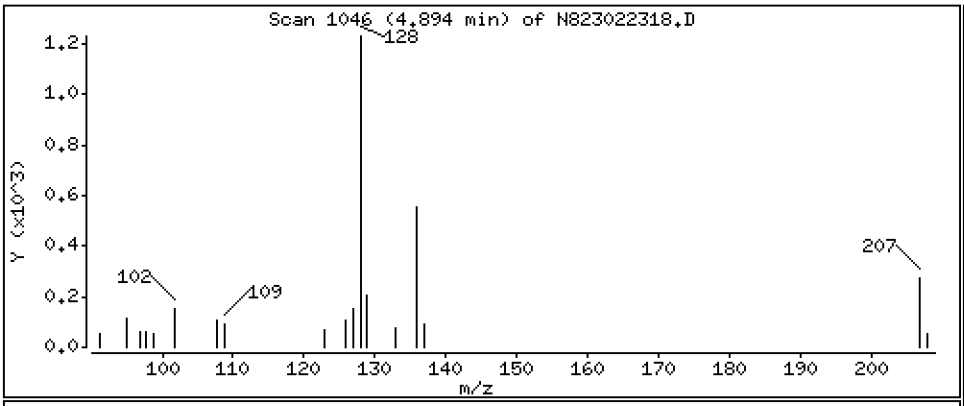
Operator: JZ

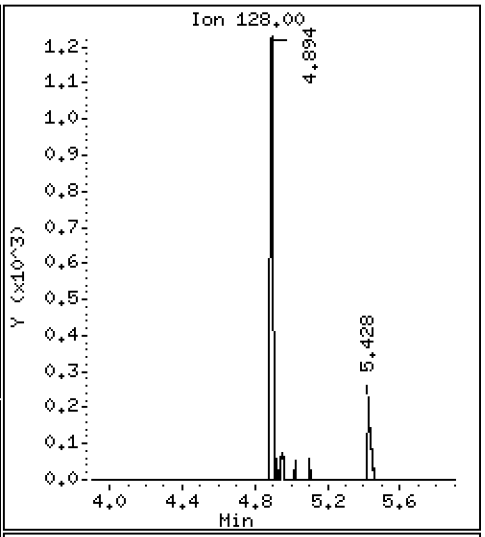
Column phase: Rxi-17sil

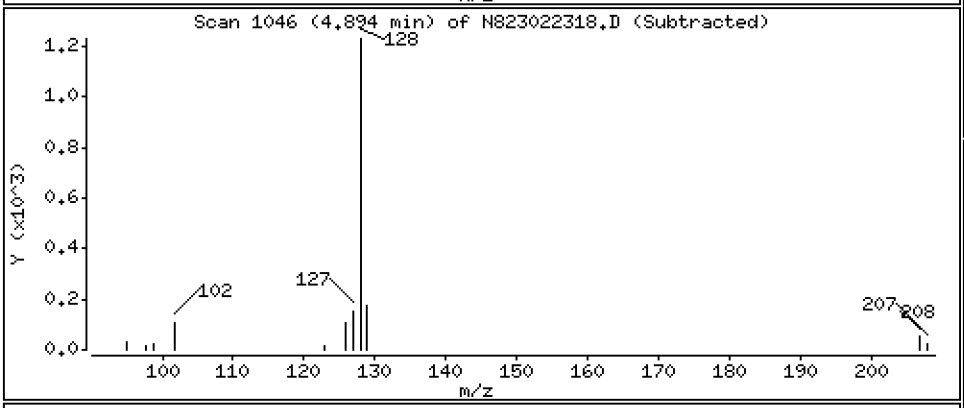
Column diameter: 0.25

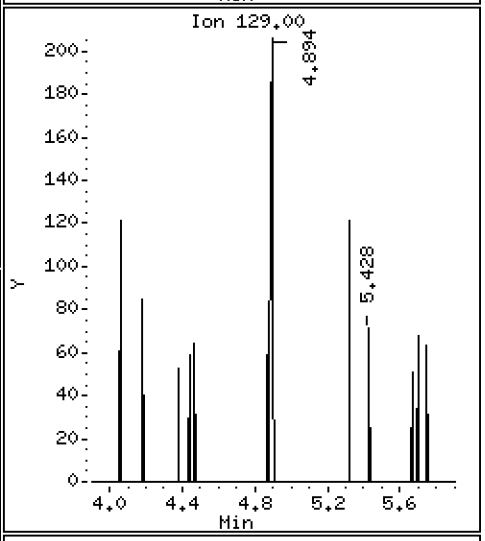
2 Naphthalene

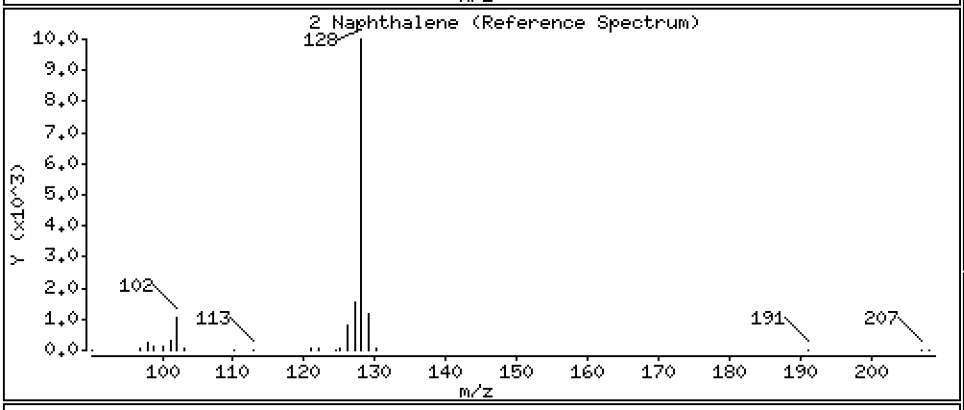
Concentration: 0.06930 ug/mL

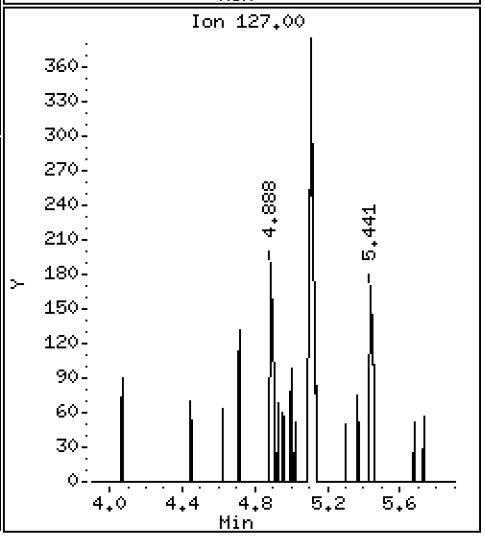


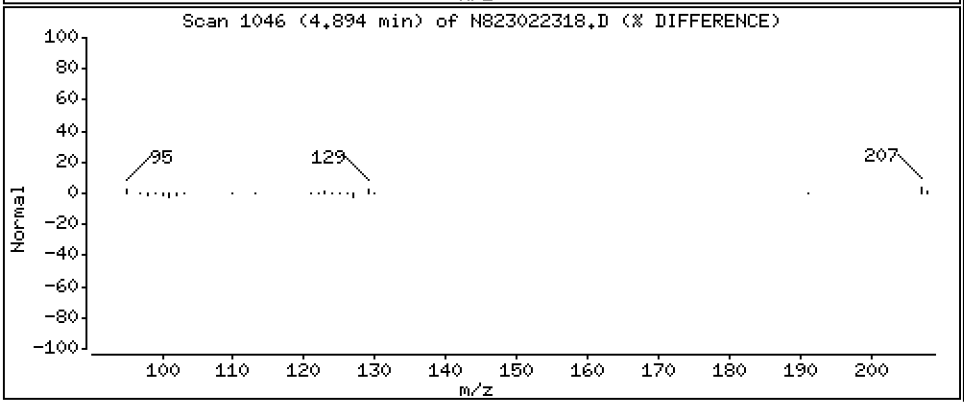












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Date : 23-FEB-2023 19:11

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-11

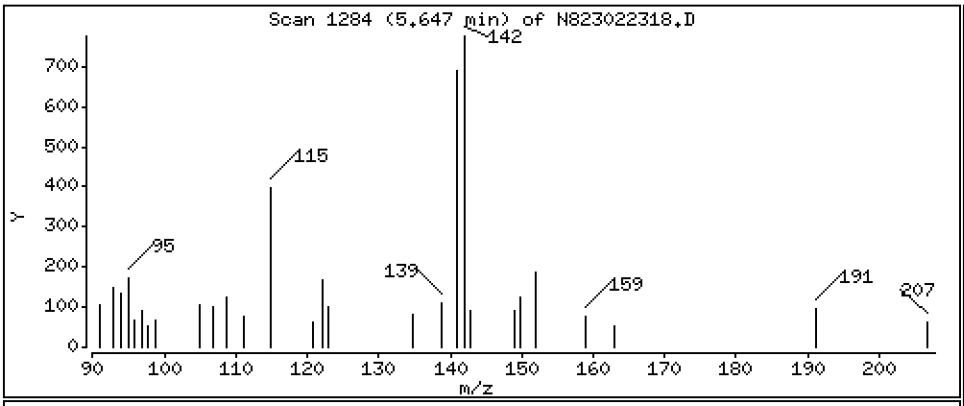
Operator: JZ

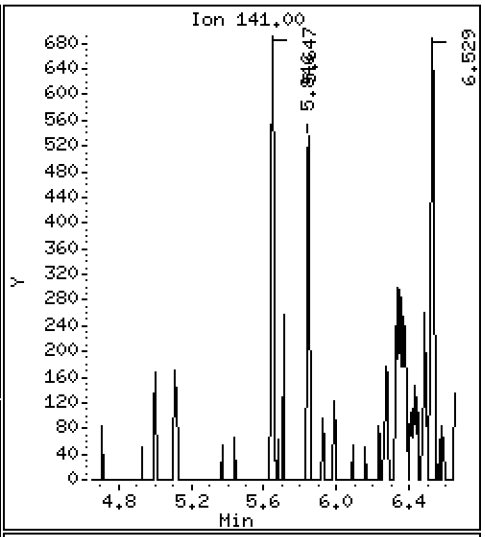
Column phase: Rxi-17sil

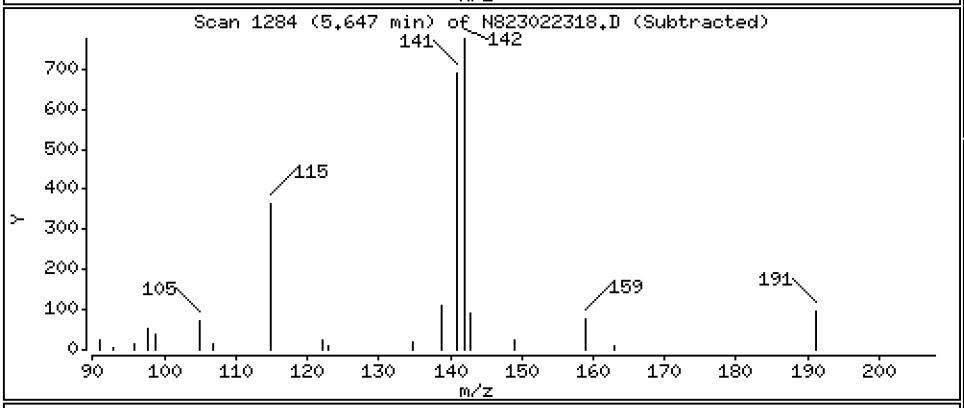
Column diameter: 0.25

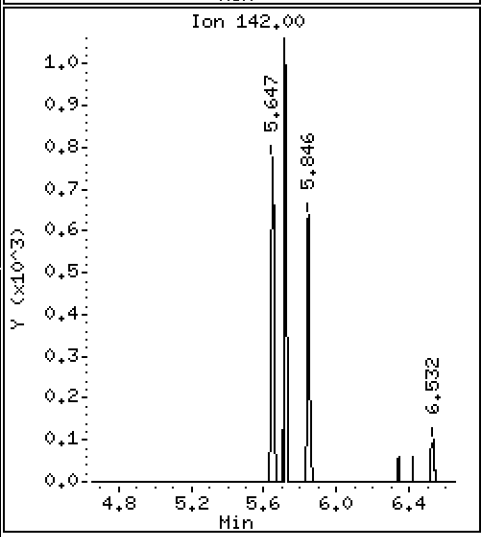
4 2-Methylnaphthalene

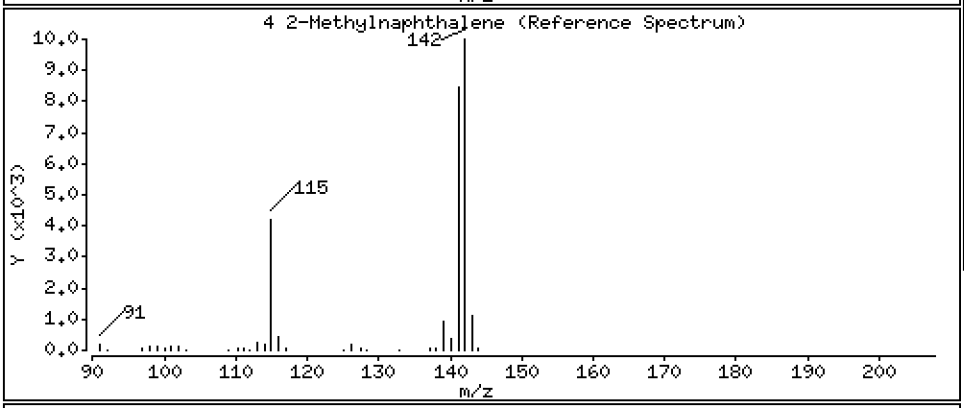
Concentration: 0.06927 ug/mL

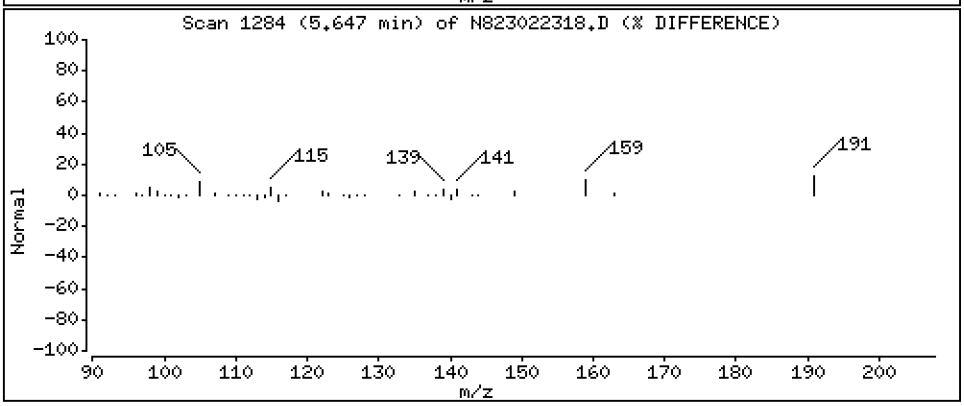












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Date : 23-FEB-2023 19:11

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-11

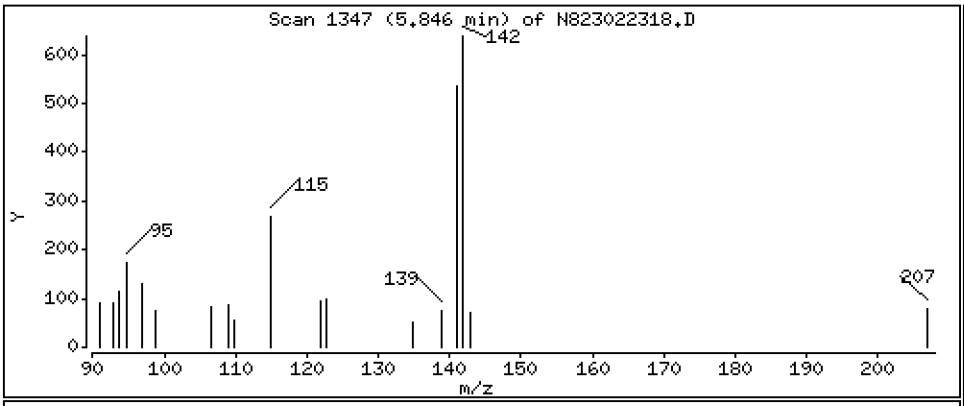
Operator: JZ

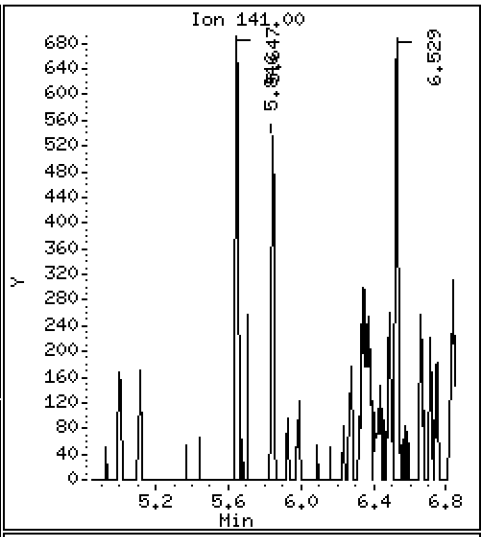
Column phase: Rxi-17sil

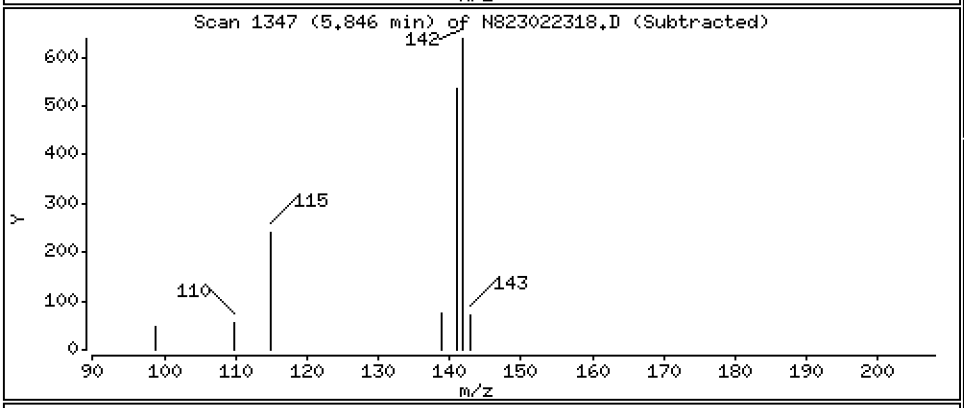
Column diameter: 0.25

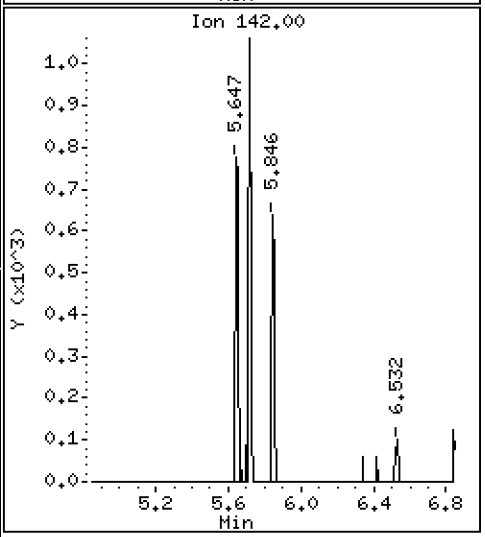
5 1-methylnaphthalene

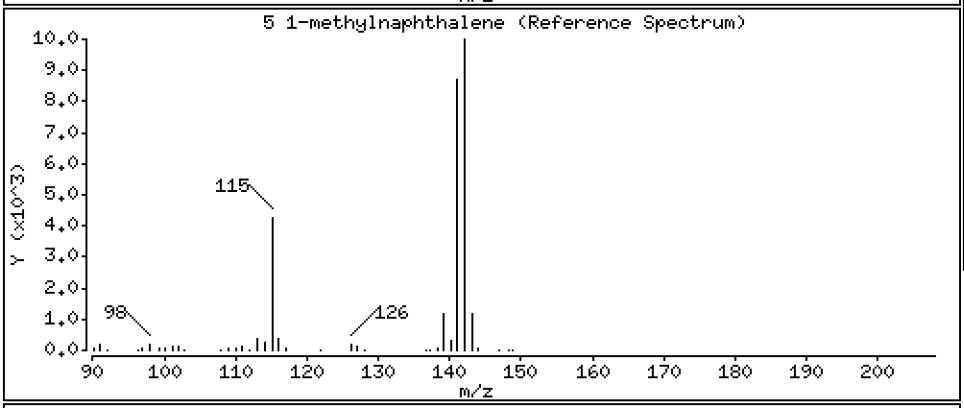
Concentration: 0.05198 ug/mL

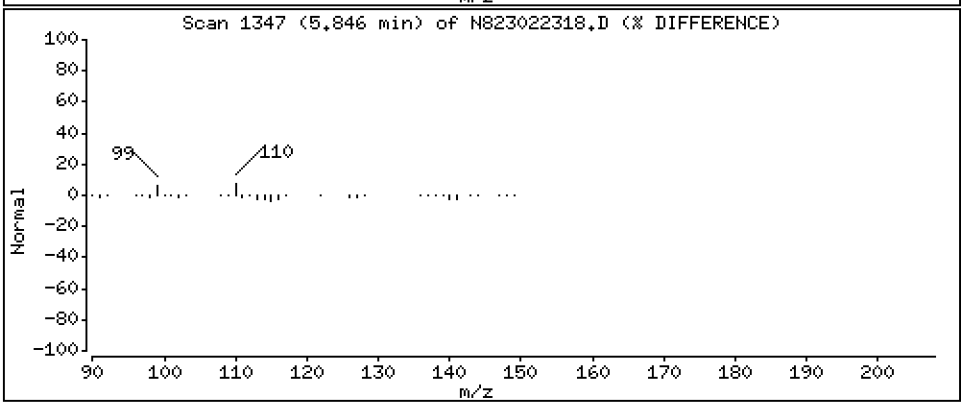












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Date : 23-FEB-2023 19:11

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-11

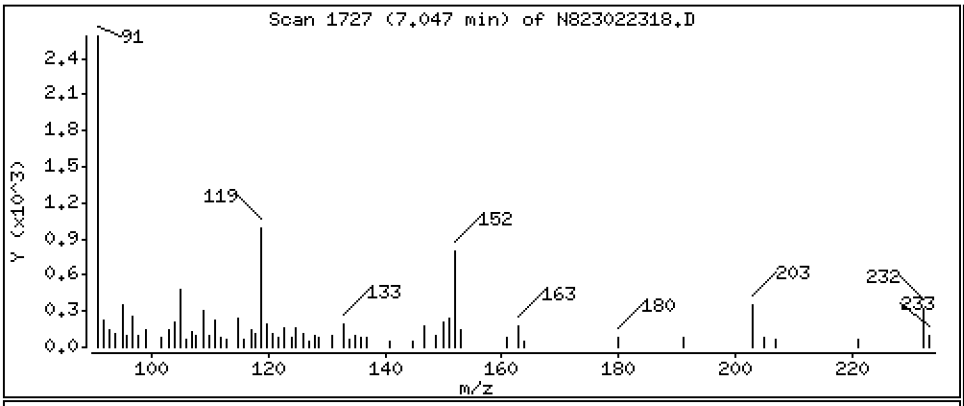
Operator: JZ

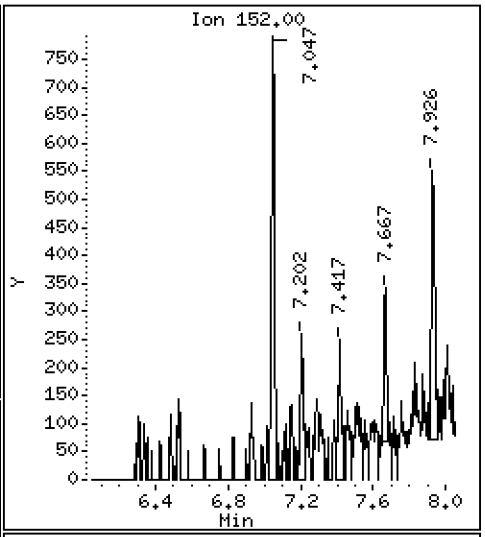
Column phase: Rxi-17sil

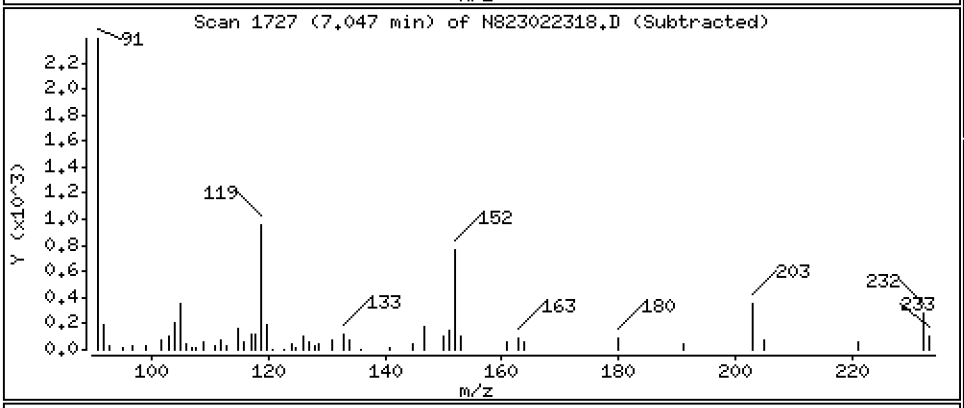
Column diameter: 0.25

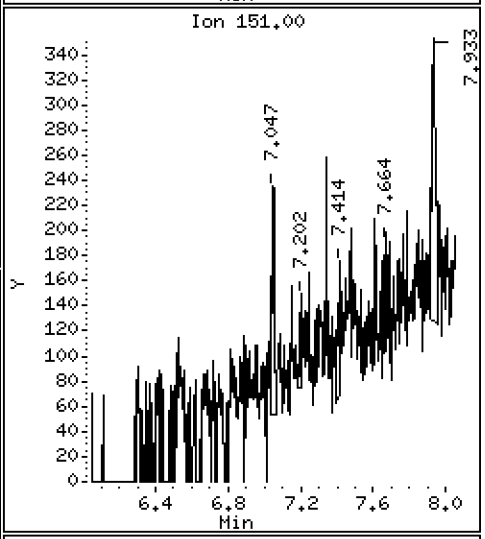
9 Acenaphthylene

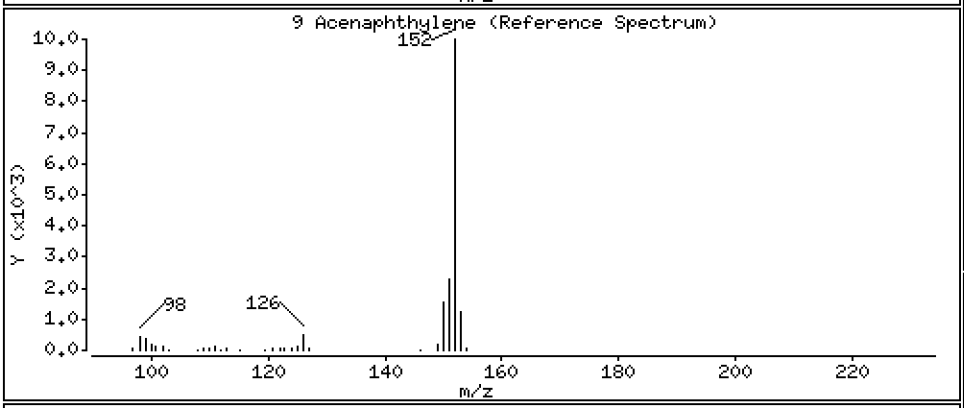
Concentration: 0.04851 ug/mL

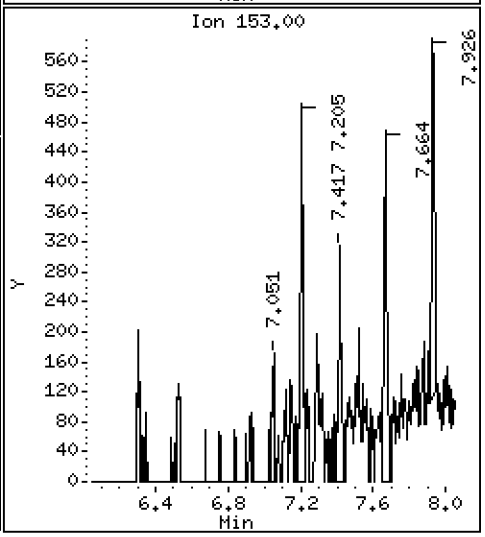


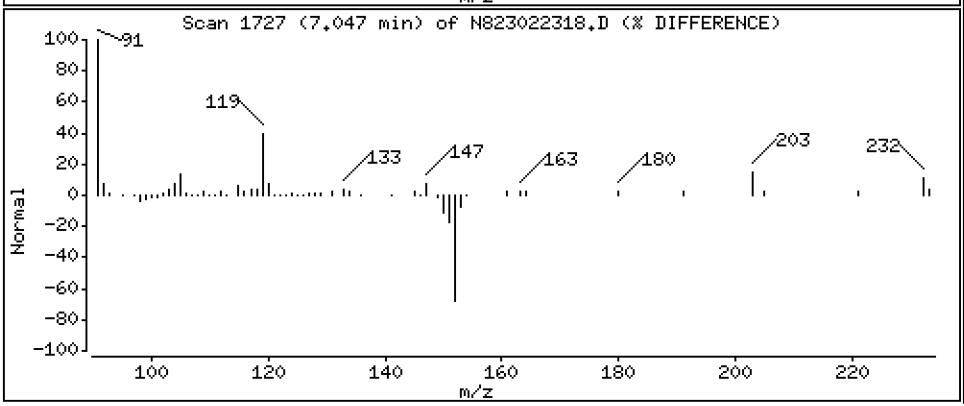












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Date : 23-FEB-2023 19:11

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-11

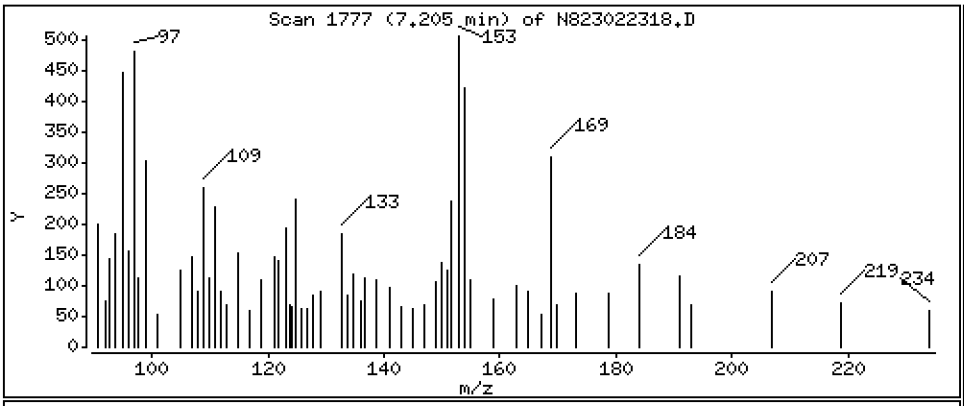
Operator: JZ

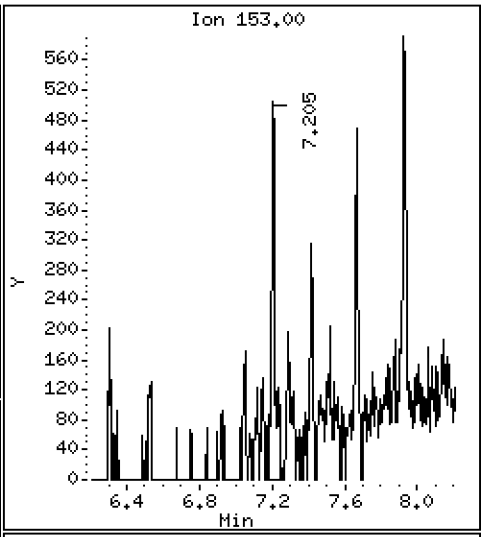
Column phase: Rxi-17sil

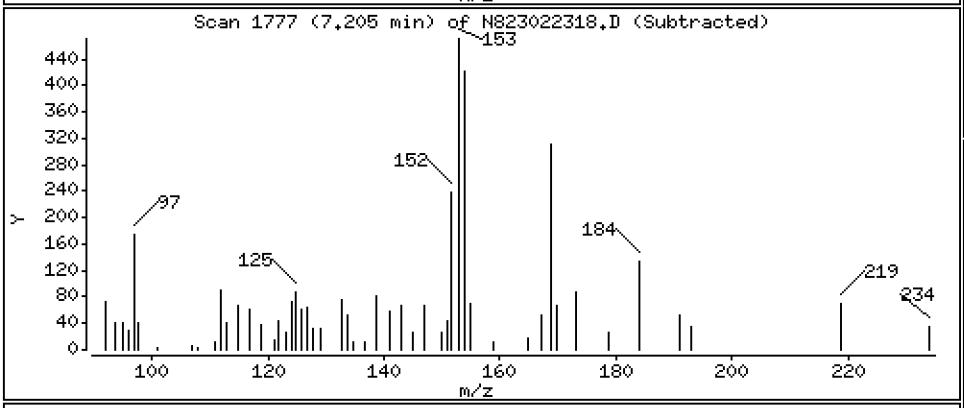
Column diameter: 0.25

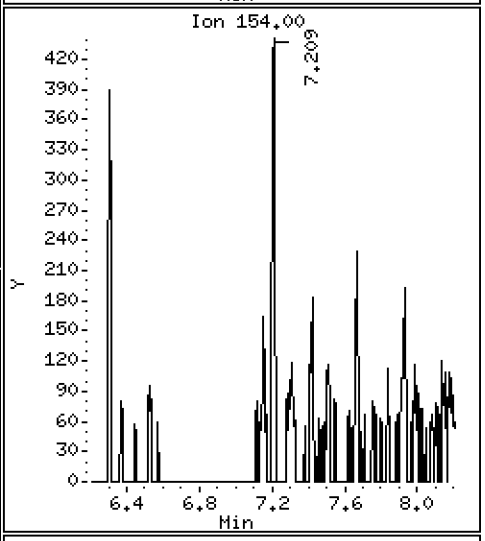
11 Acenaphthene

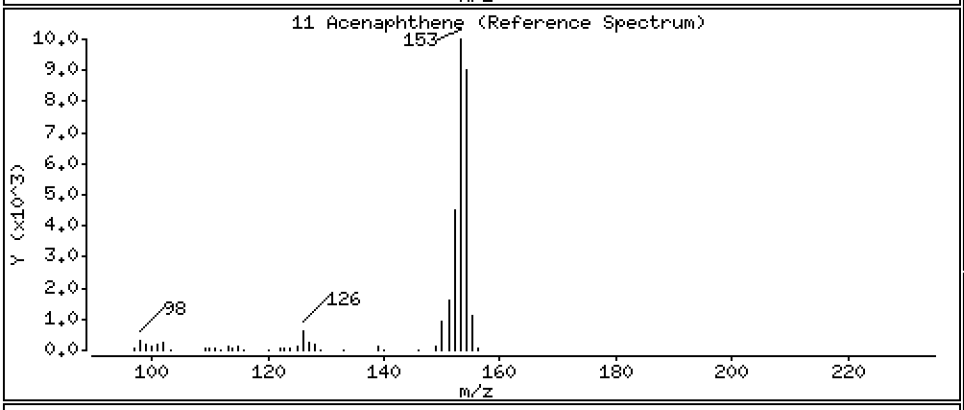
Concentration: 0.05230 ug/mL

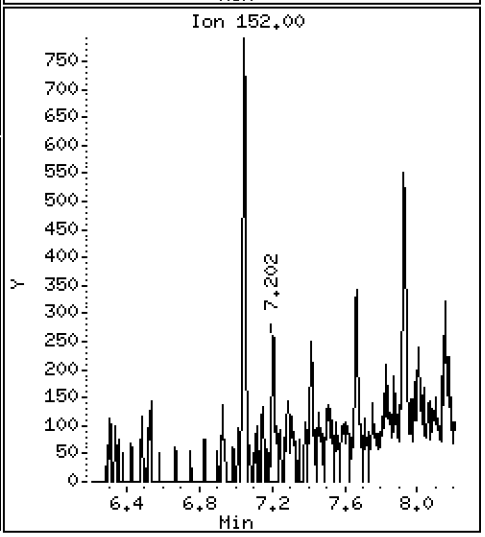


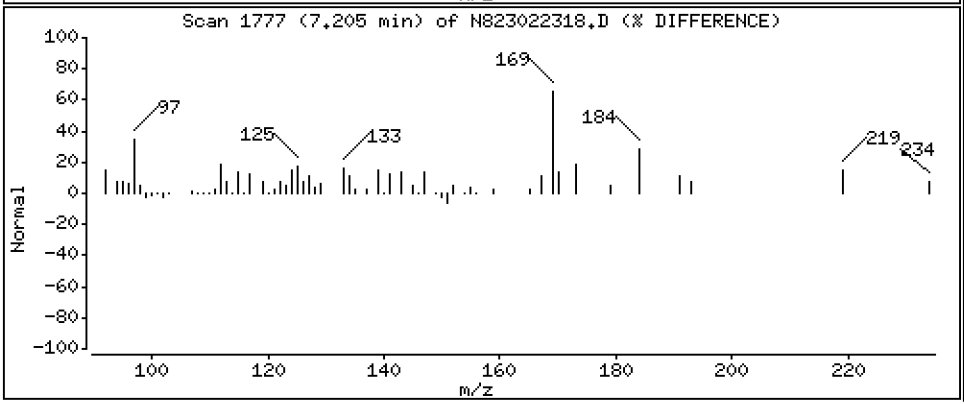












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Date : 23-FEB-2023 19:11

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-11

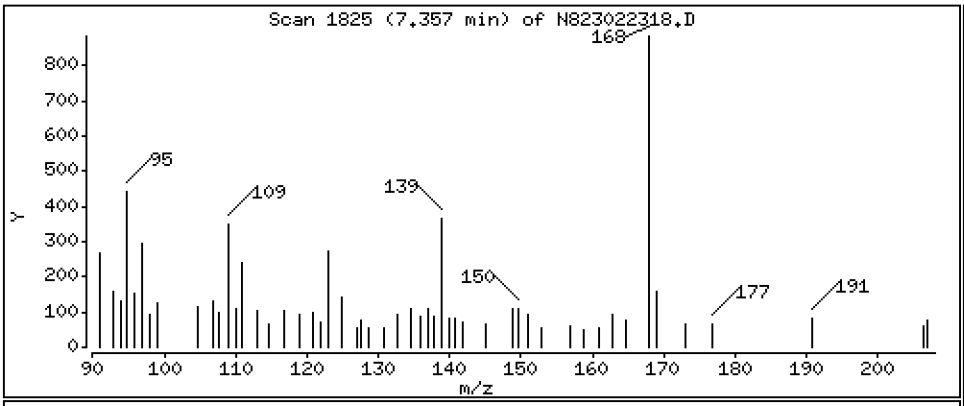
Operator: JZ

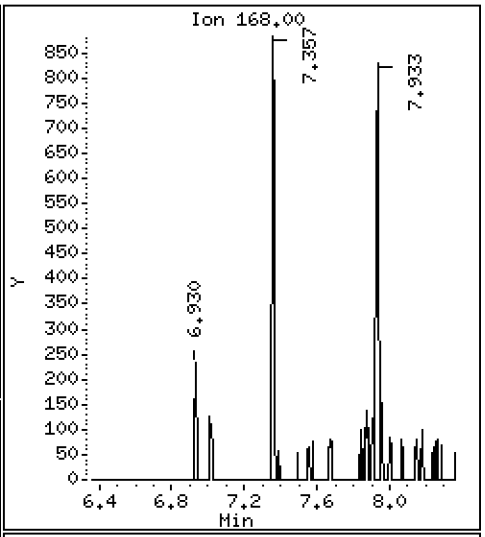
Column phase: Rxi-17sil

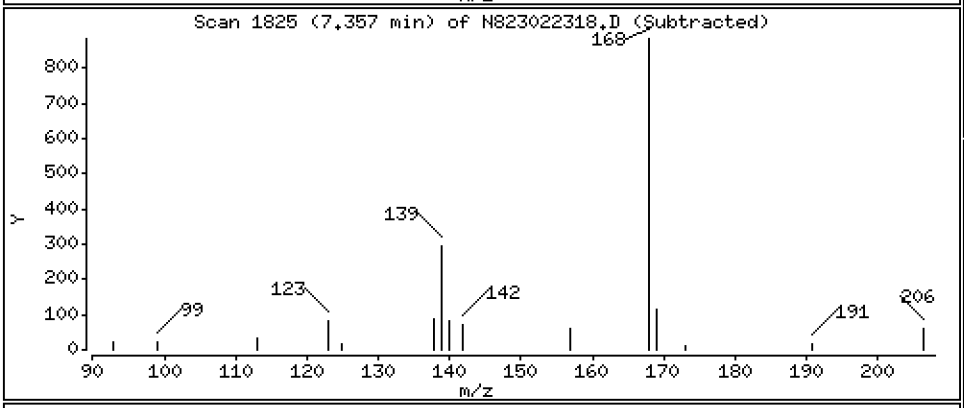
Column diameter: 0.25

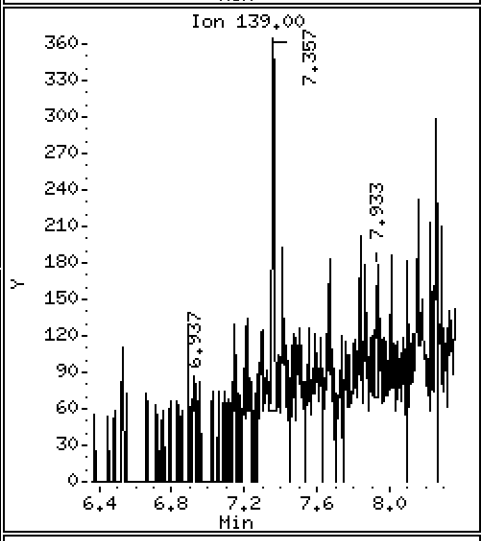
12 Dibenzofuran

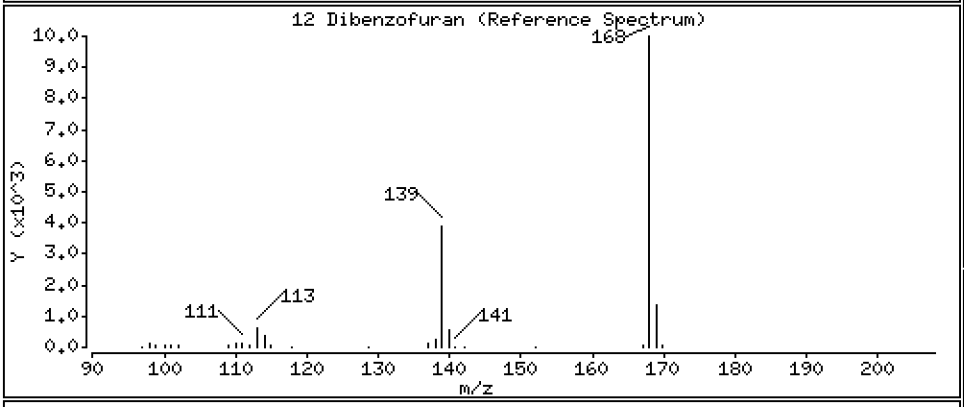
Concentration: 0.03893 ug/mL

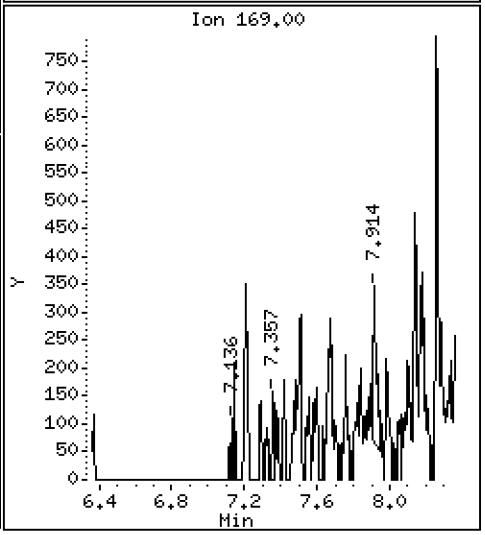


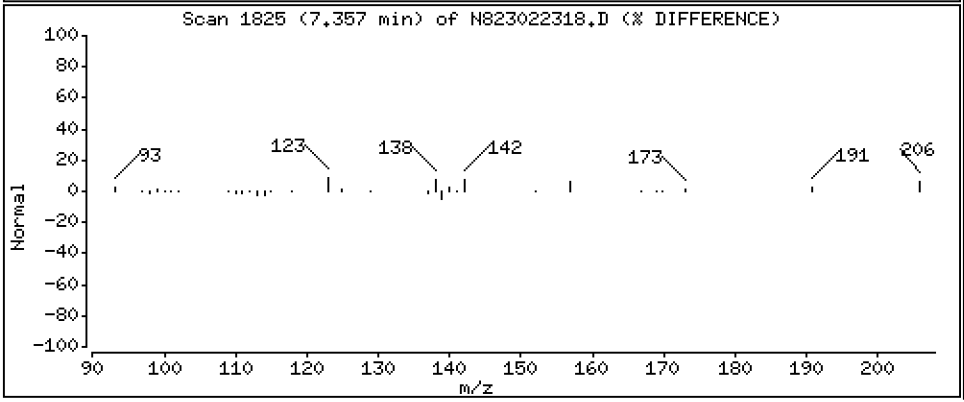












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Date : 23-FEB-2023 19:11

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-11

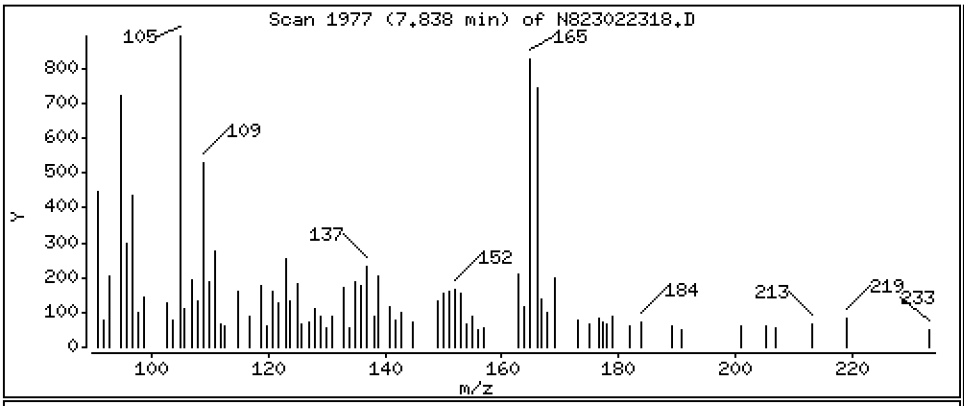
Operator: JZ

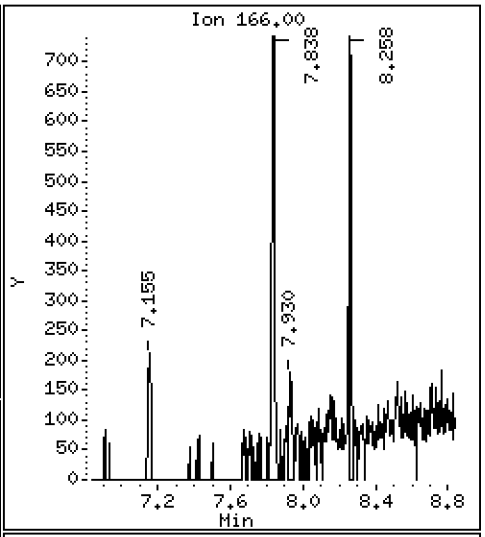
Column phase: Rxi-17sil

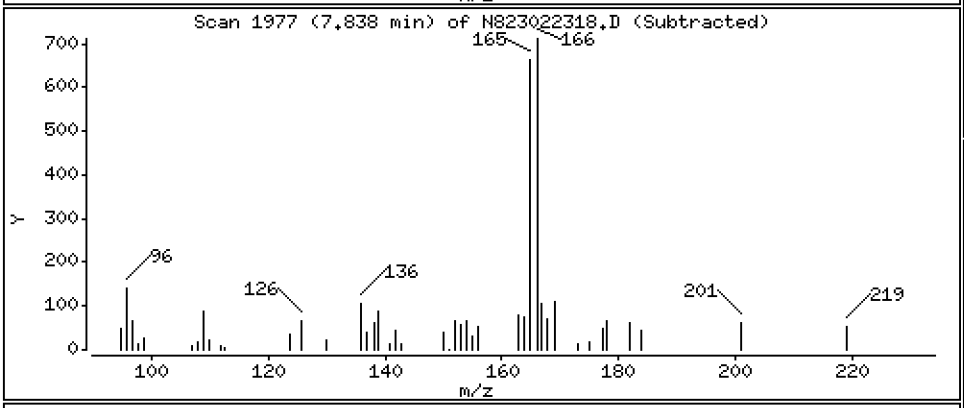
Column diameter: 0.25

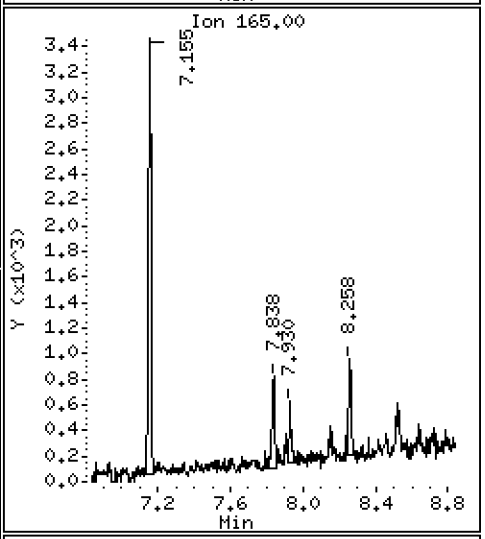
14 Fluorene

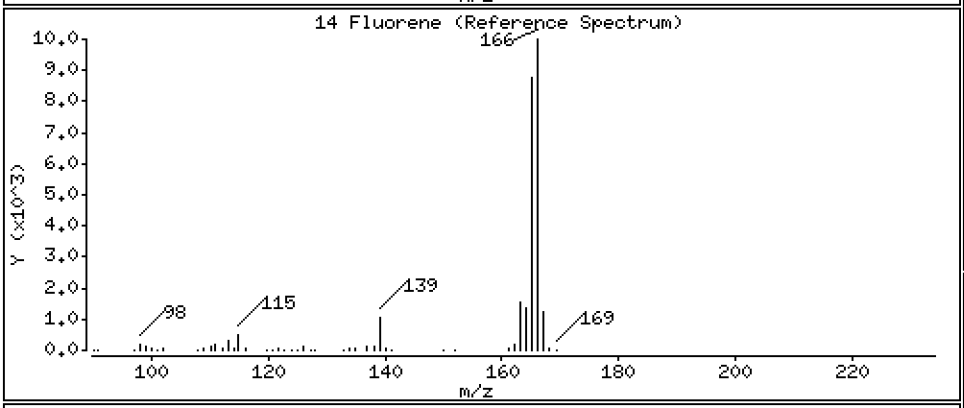
Concentration: 0.05687 ug/mL

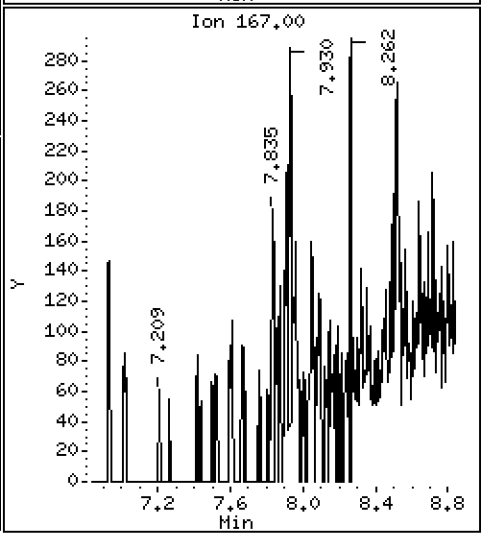


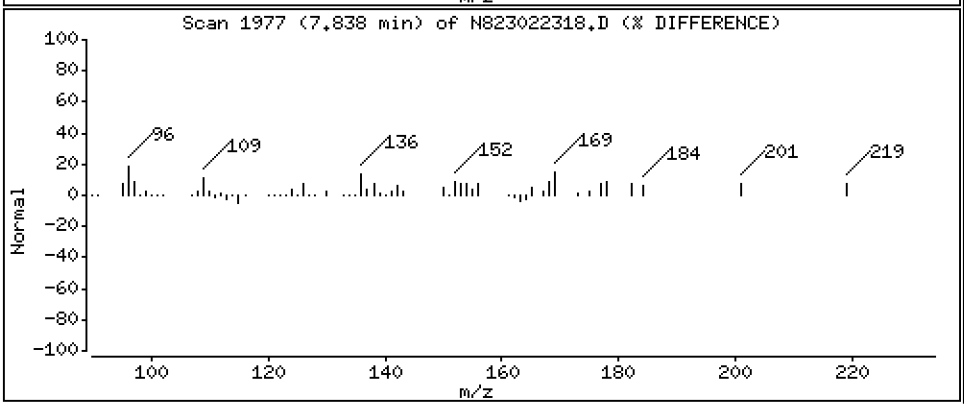












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Date : 23-FEB-2023 19:11

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-11

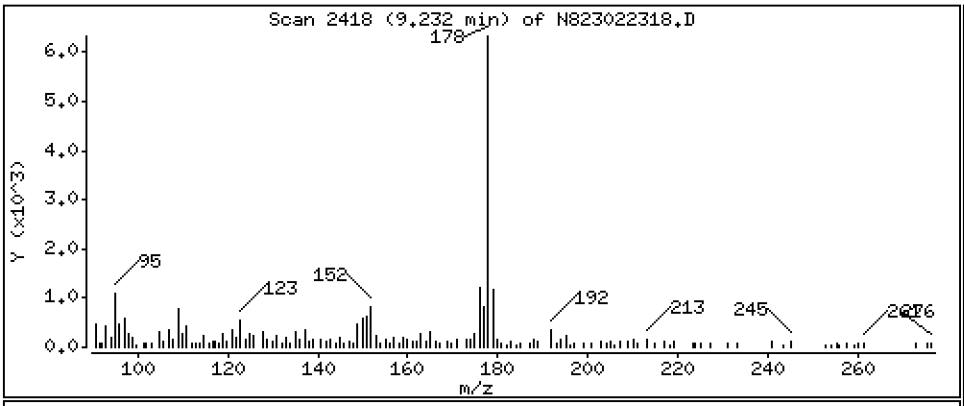
Operator: JZ

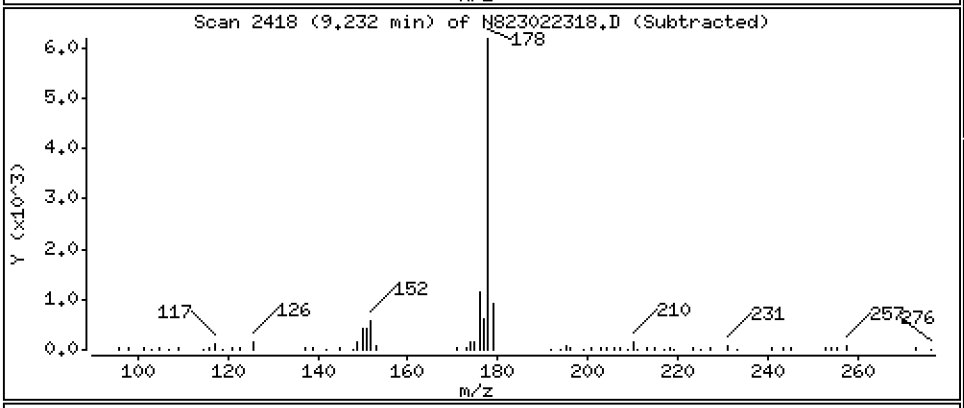
Column phase: Rxi-17sil

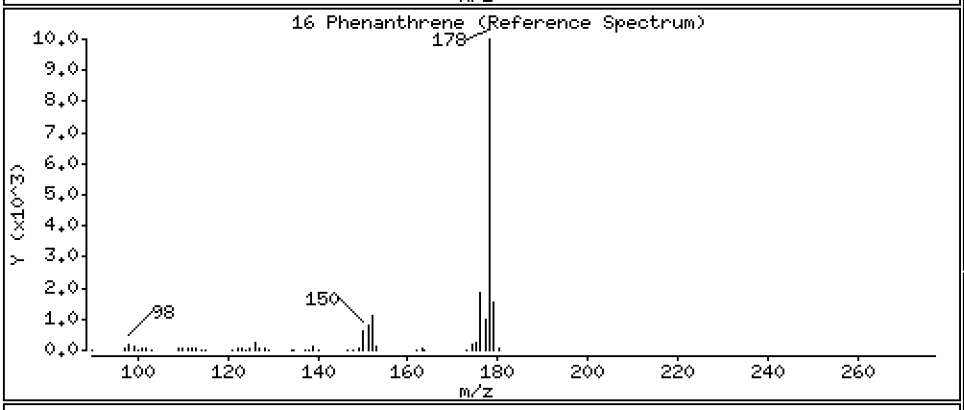
Column diameter: 0.25

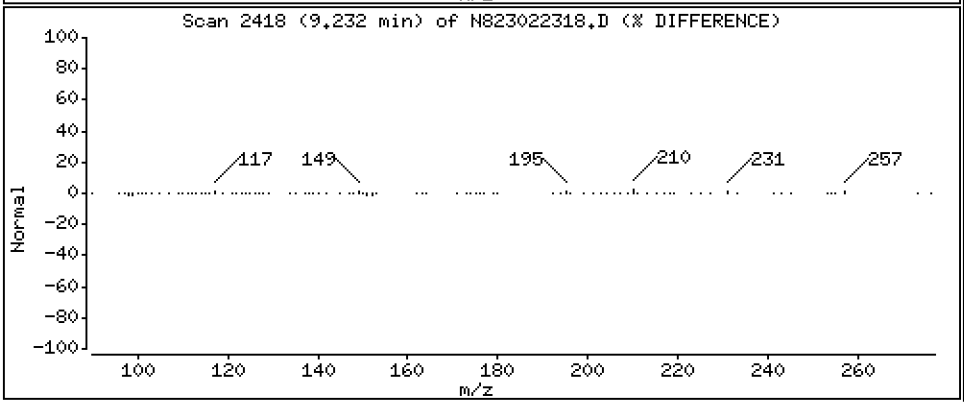
16 Phenanthrene

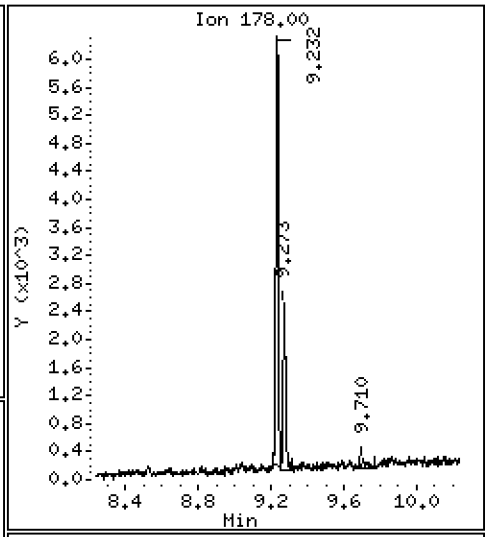
Concentration: 0.2604 ug/mL

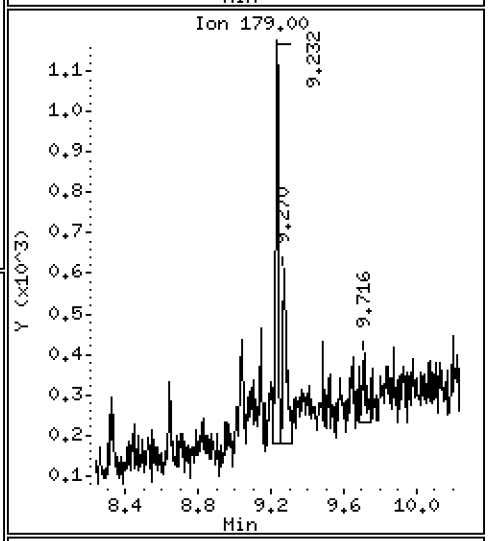


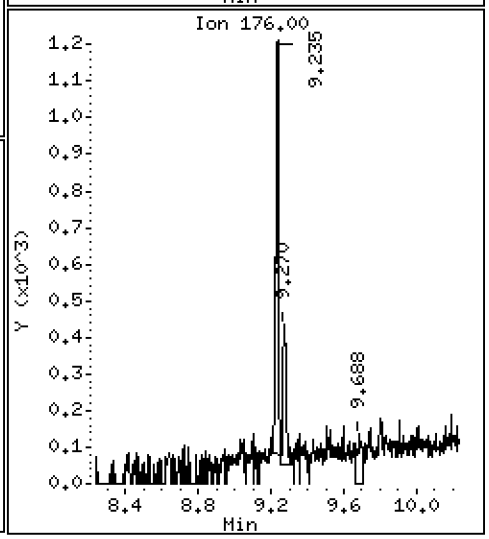












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Date : 23-FEB-2023 19:11

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-11

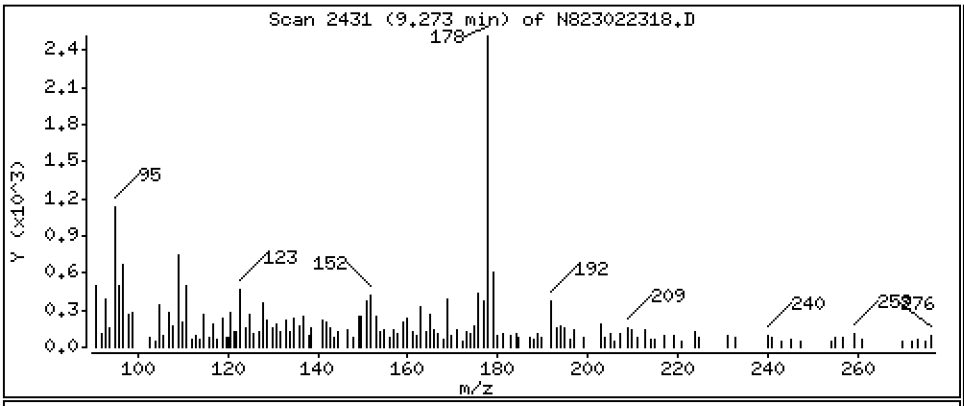
Operator: JZ

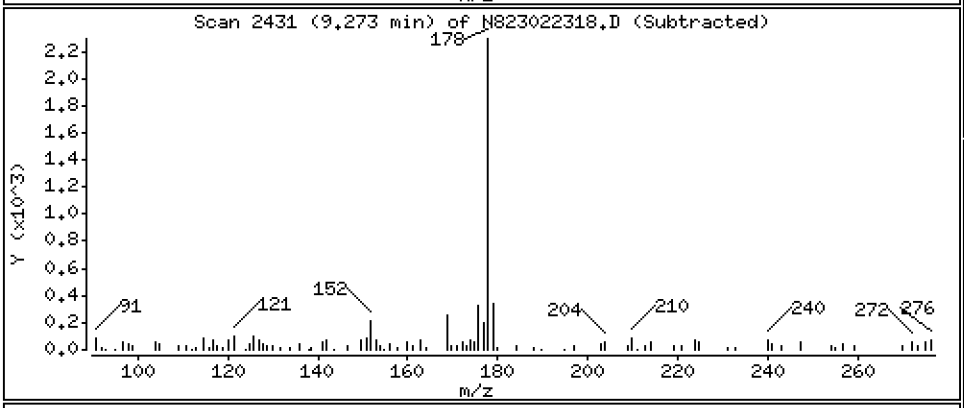
Column phase: Rxi-17sil

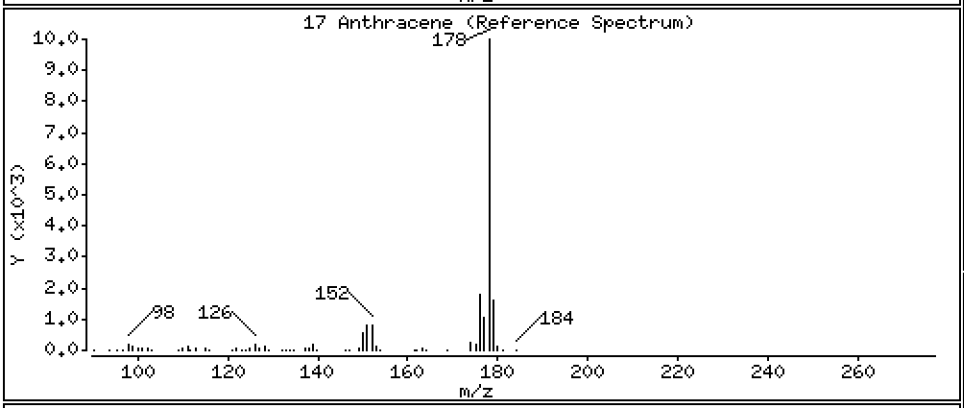
Column diameter: 0.25

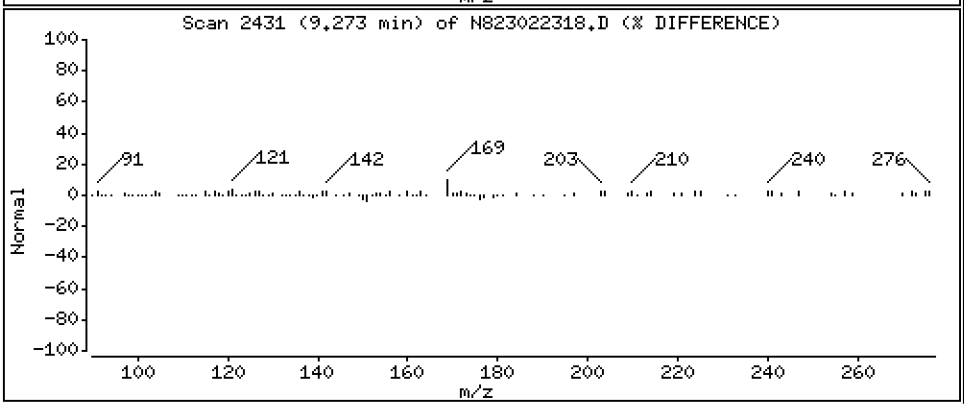
17 Anthracene

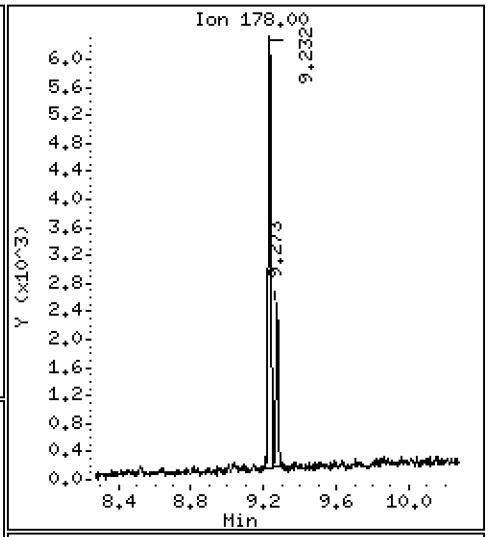
Concentration: 0.1006 ug/mL

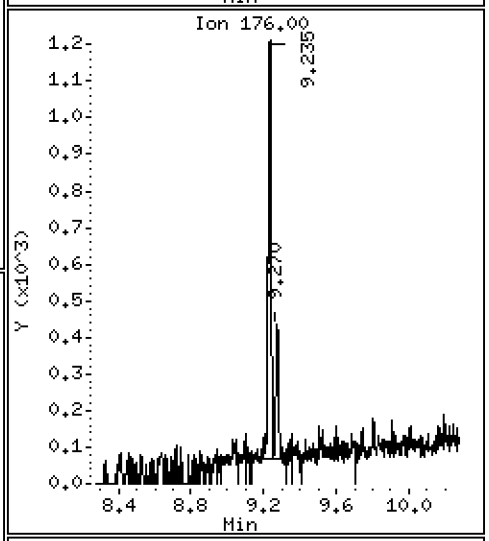


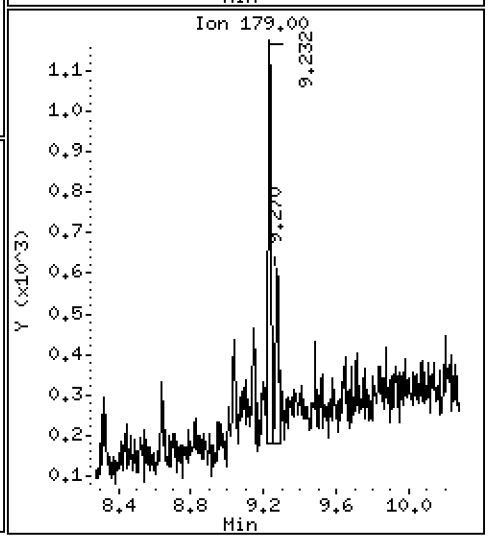












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022318.D

Date : 23-FEB-2023 19:11

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-11

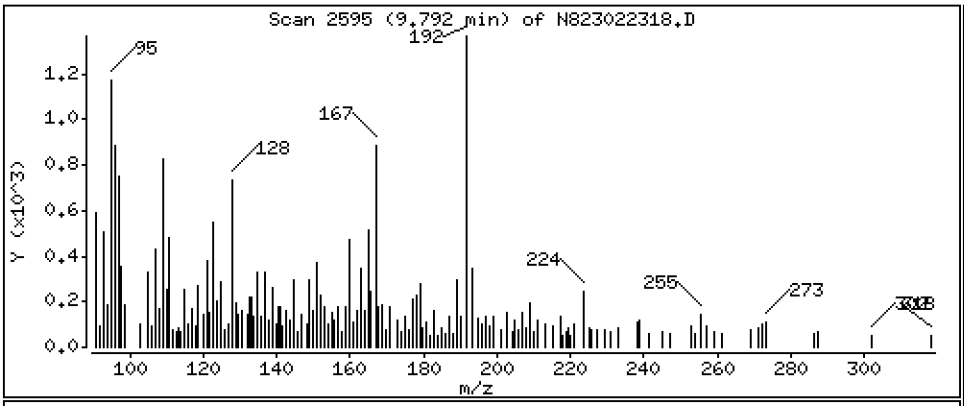
Operator: JZ

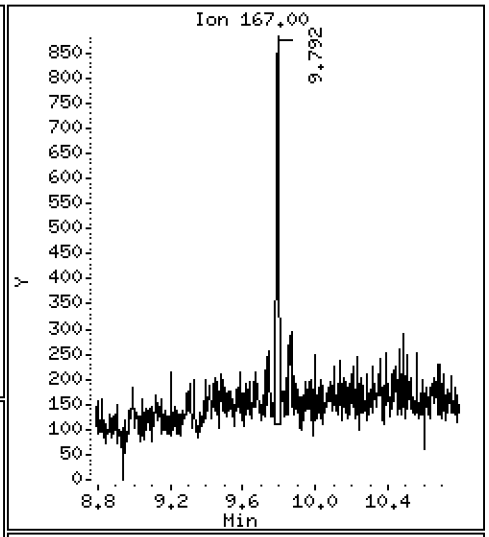
Column phase: Rxi-17sil

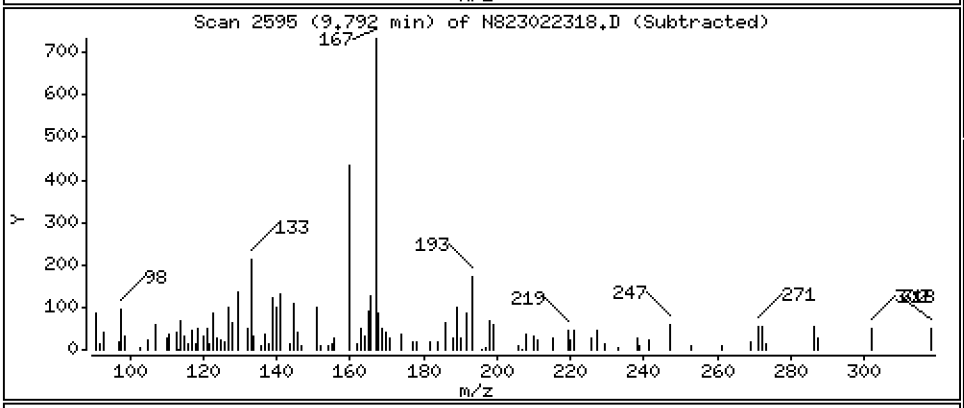
Column diameter: 0.25

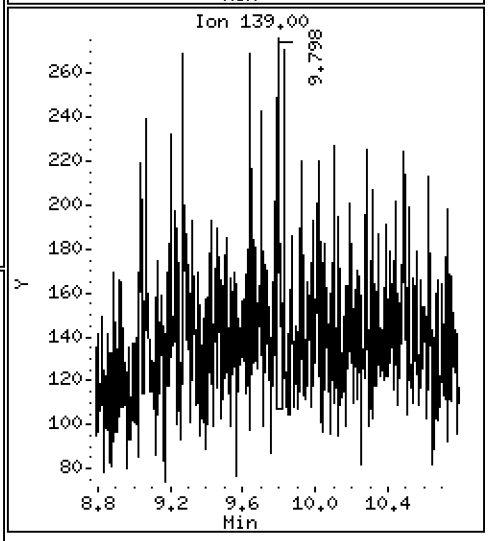
19 Carbazole

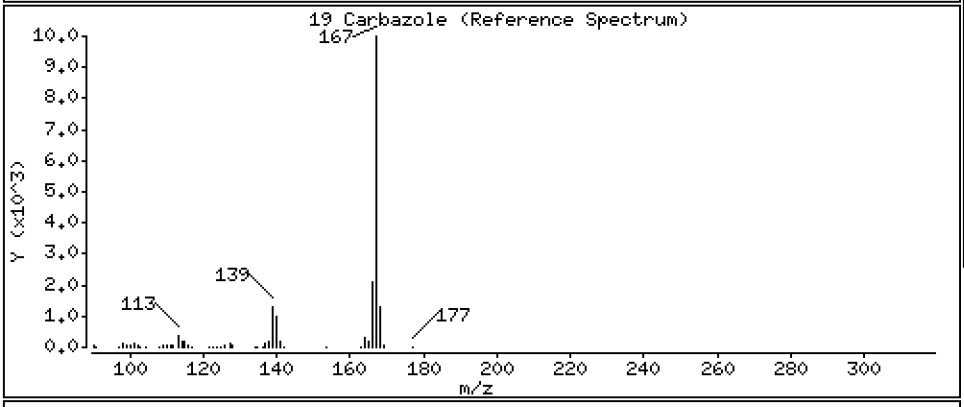
Concentration: 0.04398 ug/mL

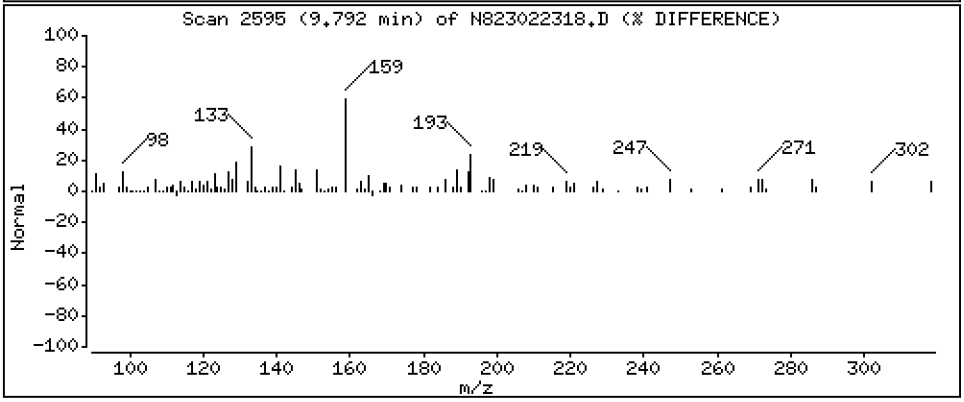












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Date : 23-FEB-2023 19:11

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-11

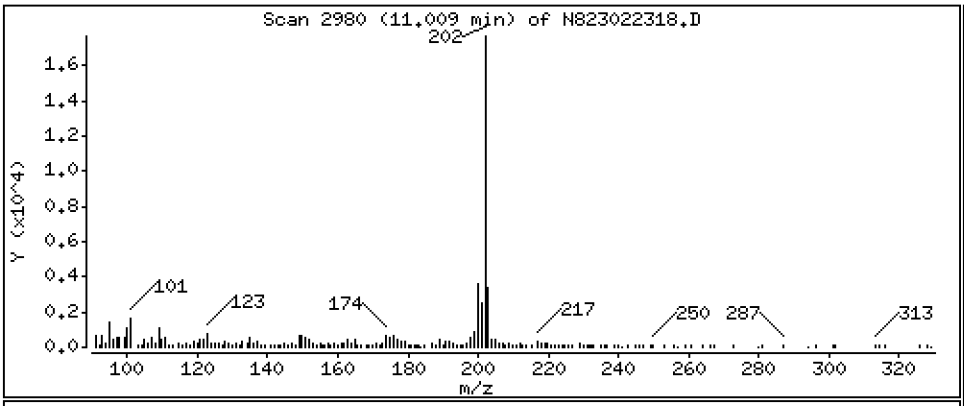
Operator: JZ

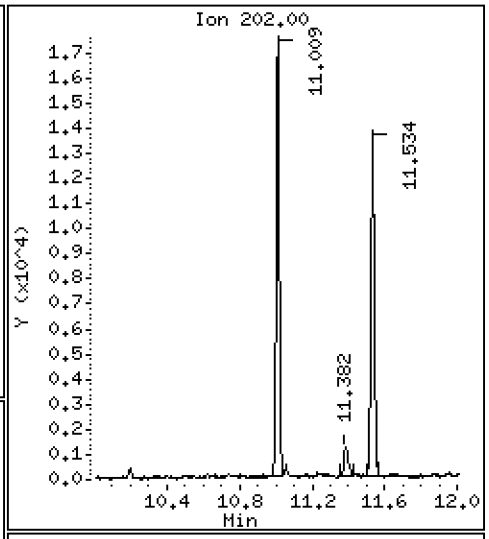
Column phase: Rxi-17sil

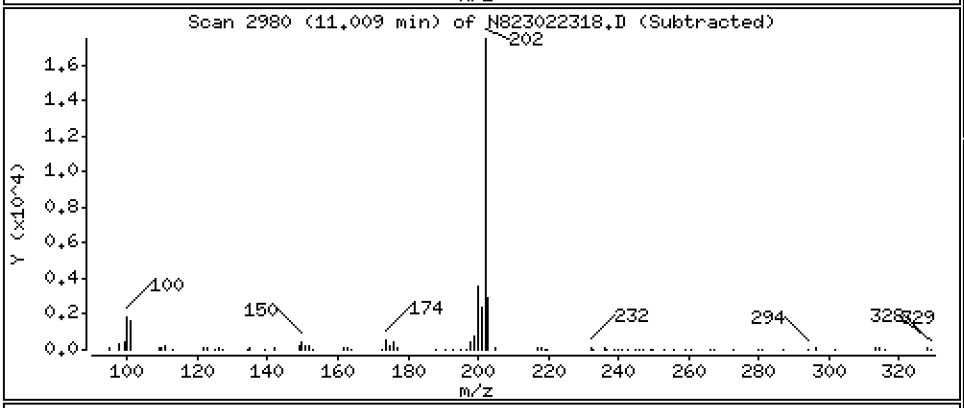
Column diameter: 0.25

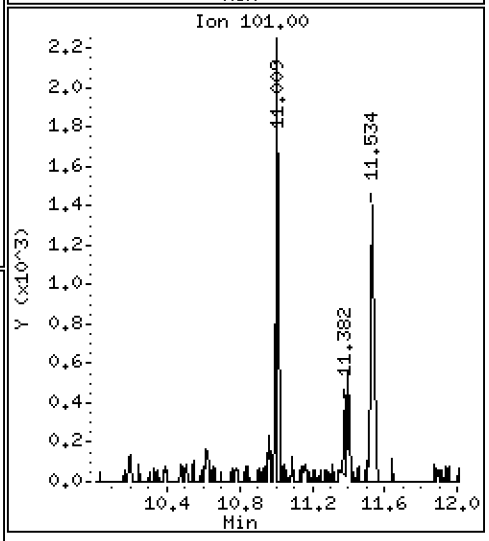
22 Fluoranthene

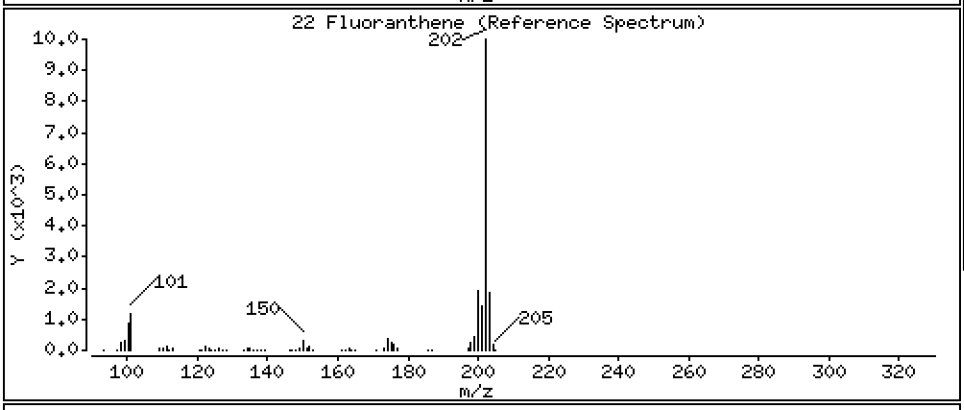
Concentration: 0.8694 ug/mL

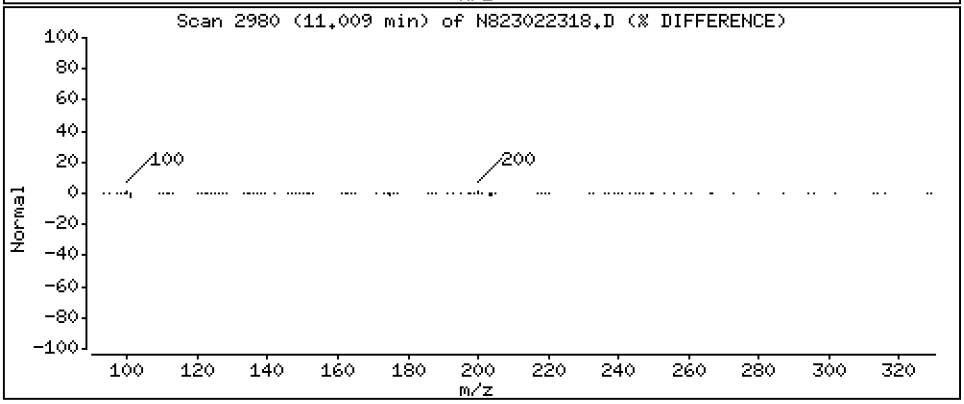












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Date : 23-FEB-2023 19:11

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-11

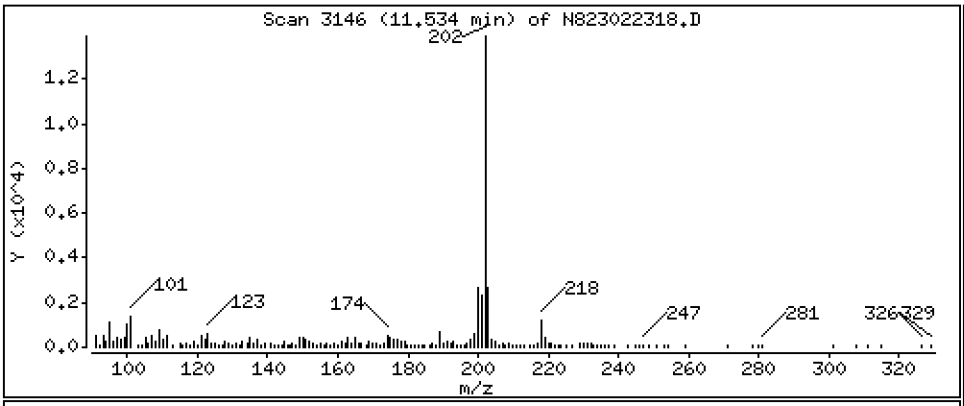
Operator: JZ

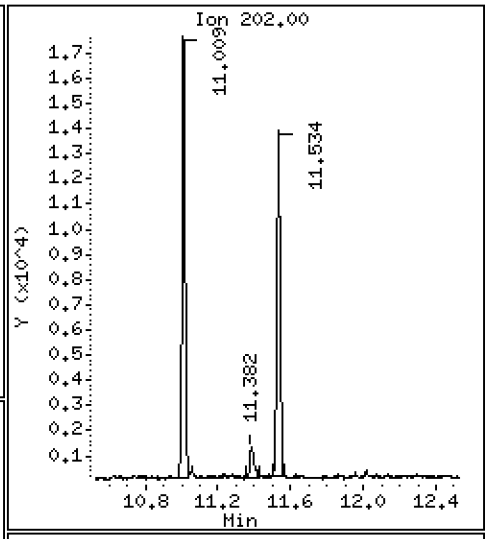
Column phase: Rxi-17sil

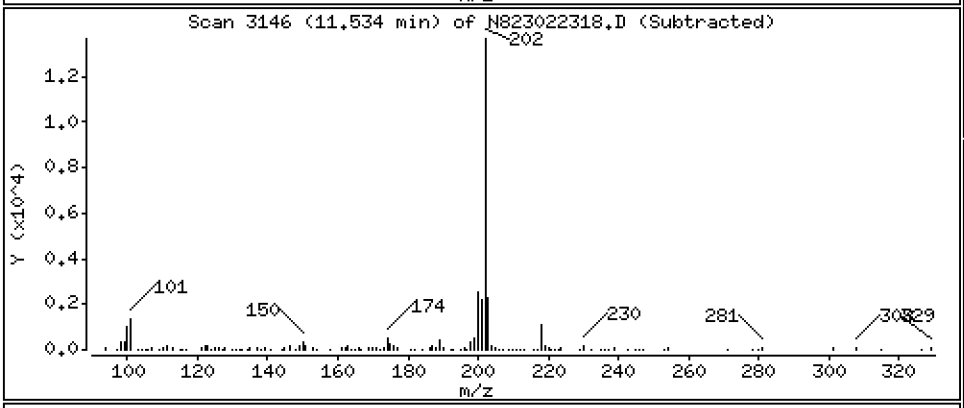
Column diameter: 0.25

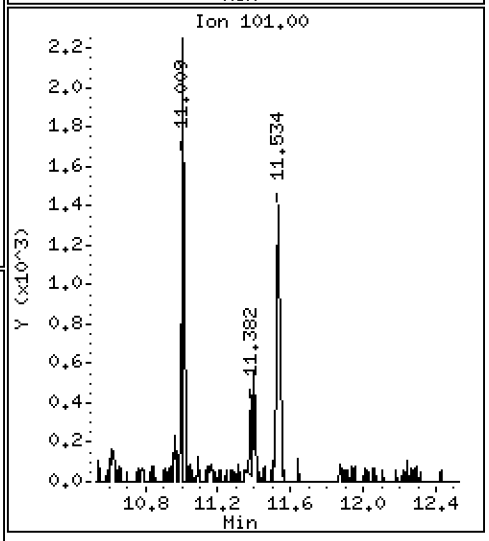
23 Pyrene

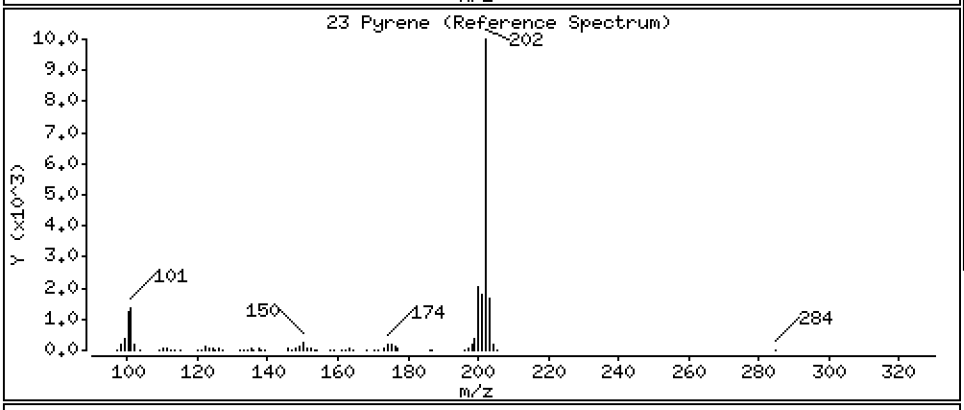
Concentration: 1.067 ug/mL

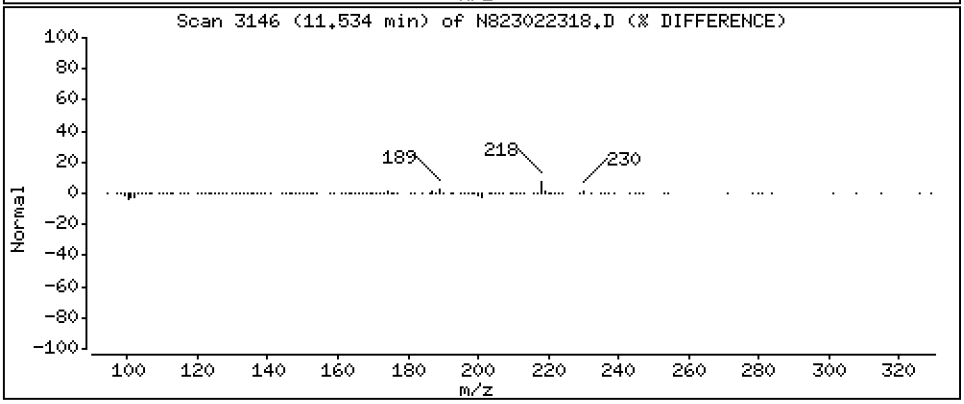












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Date : 23-FEB-2023 19:11

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-11

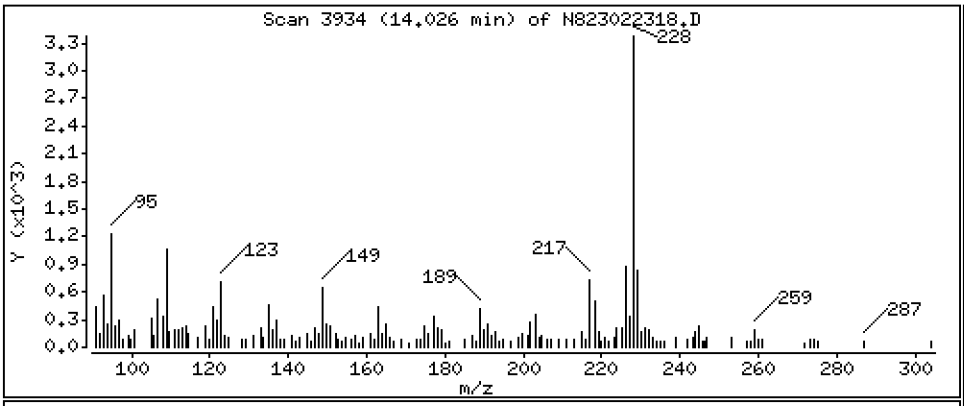
Operator: JZ

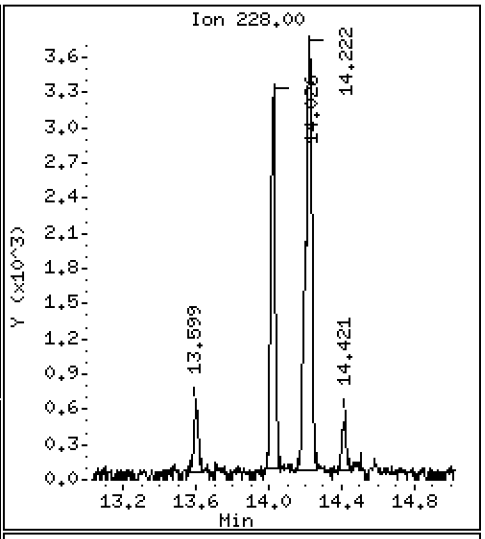
Column phase: Rxi-17sil

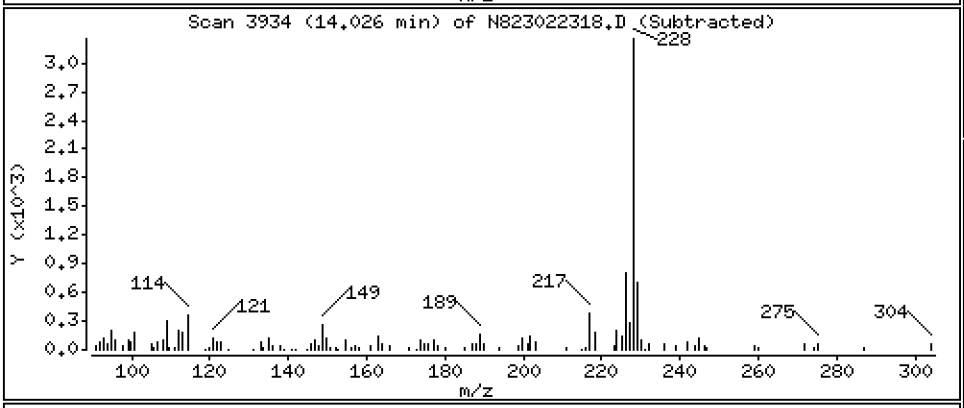
Column diameter: 0.25

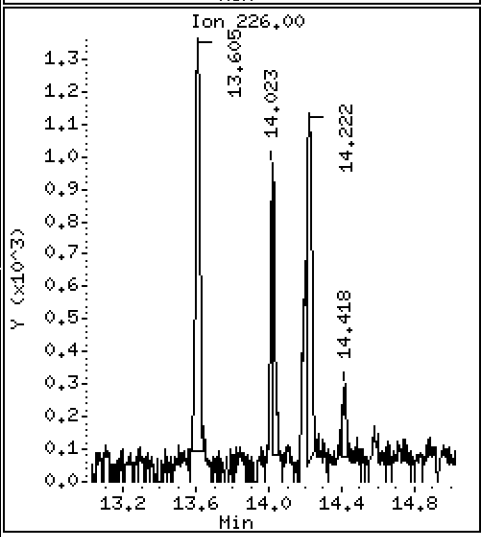
24 Benzo(a)anthracene

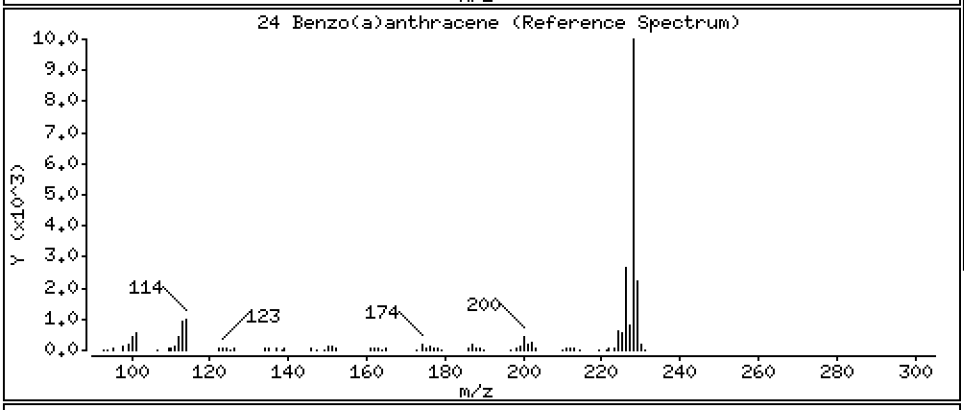
Concentration: 0.3573 ug/mL

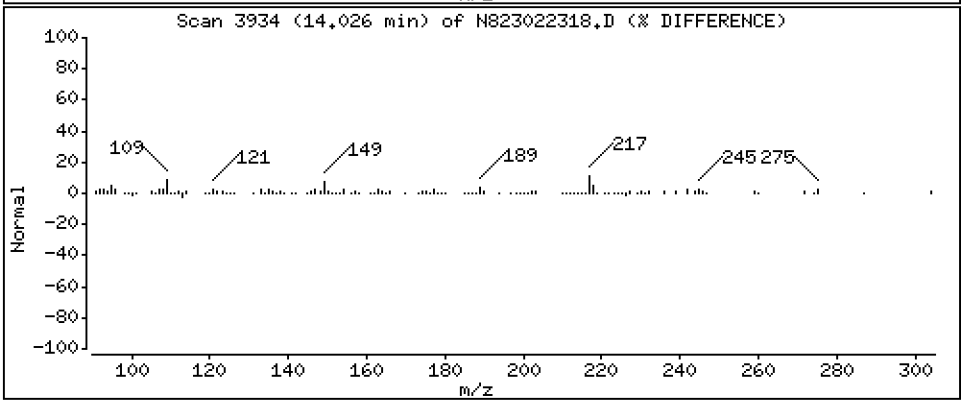












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Date : 23-FEB-2023 19:11

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-11

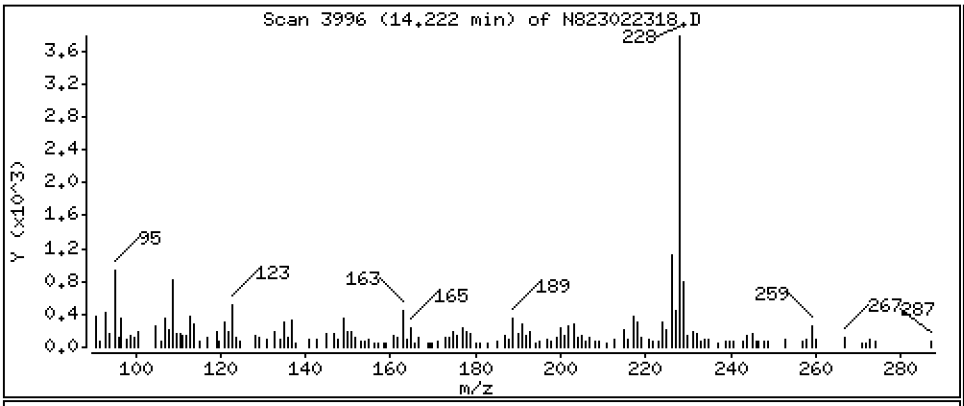
Operator: JZ

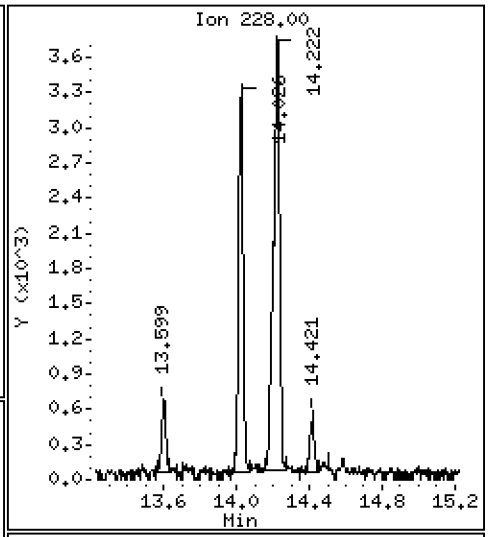
Column phase: Rxi-17sil

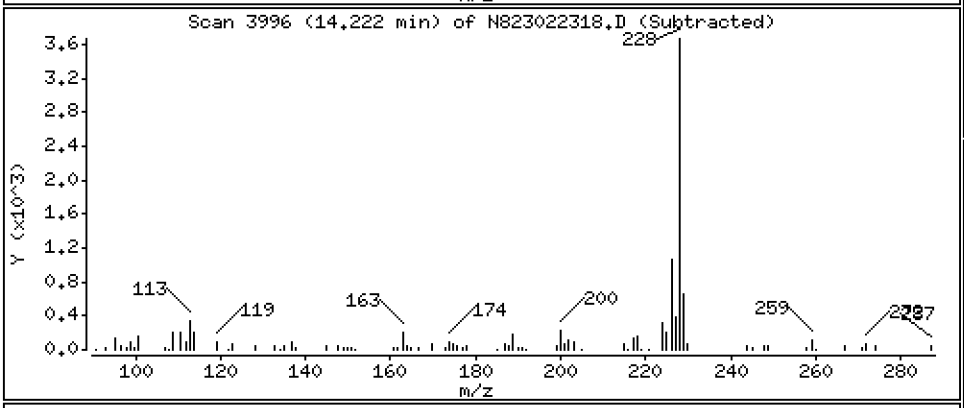
Column diameter: 0.25

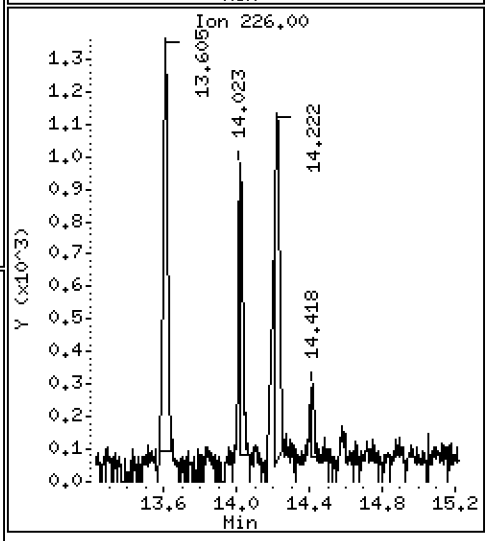
27 Chrysene

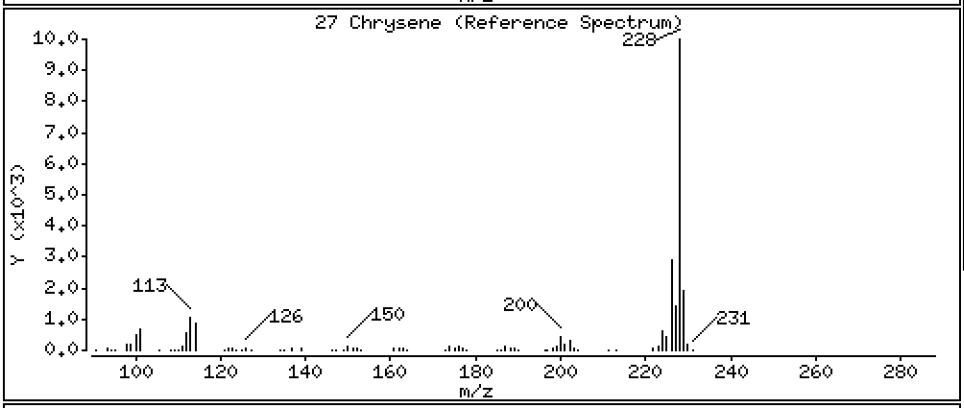
Concentration: 0.5372 ug/mL

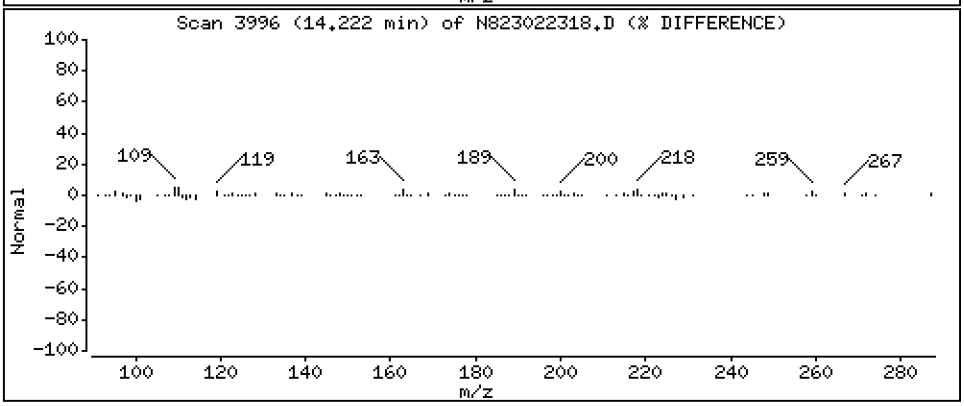












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Date : 23-FEB-2023 19:11

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-11

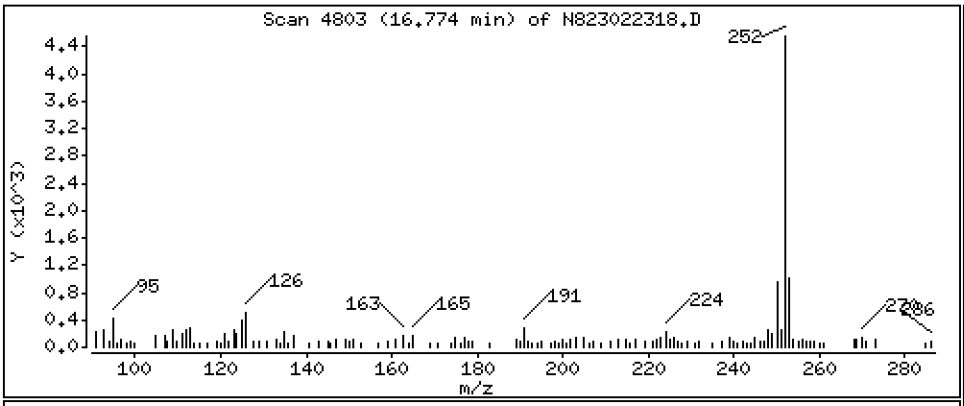
Operator: JZ

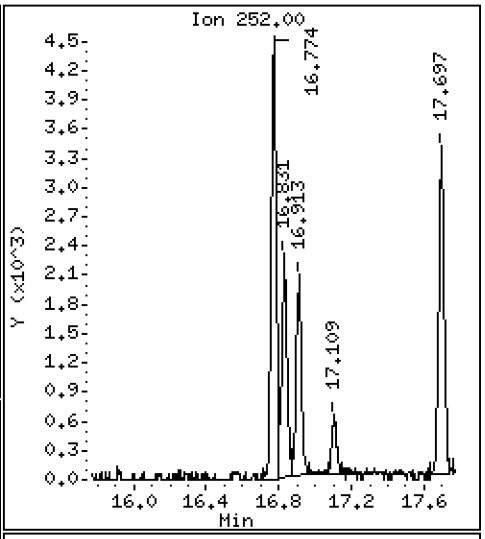
Column phase: Rxi-17sil

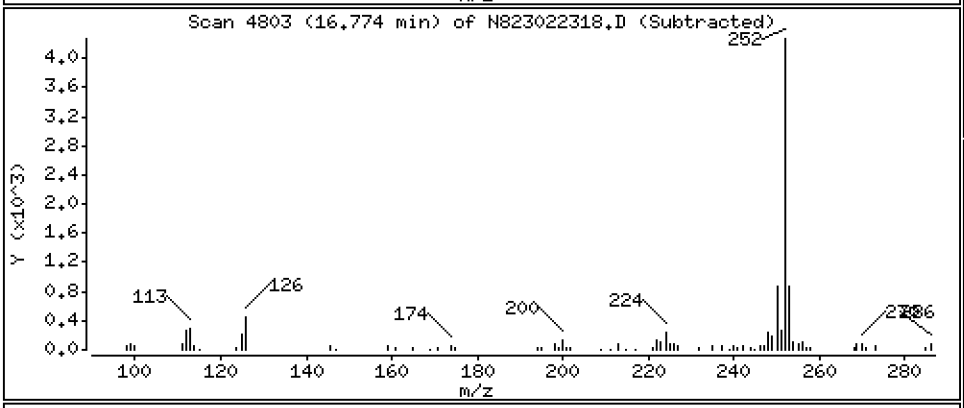
Column diameter: 0.25

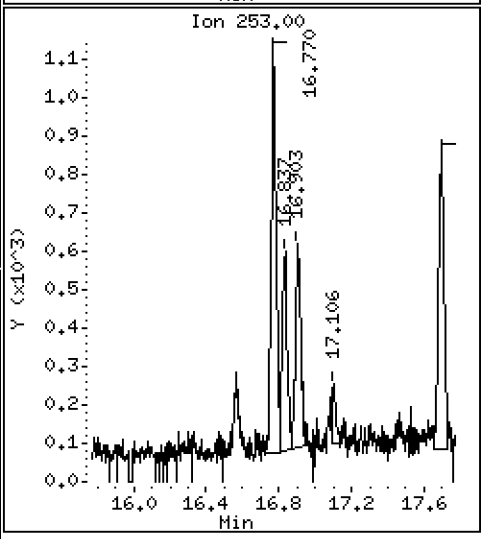
28 Benzo(b)fluoranthene

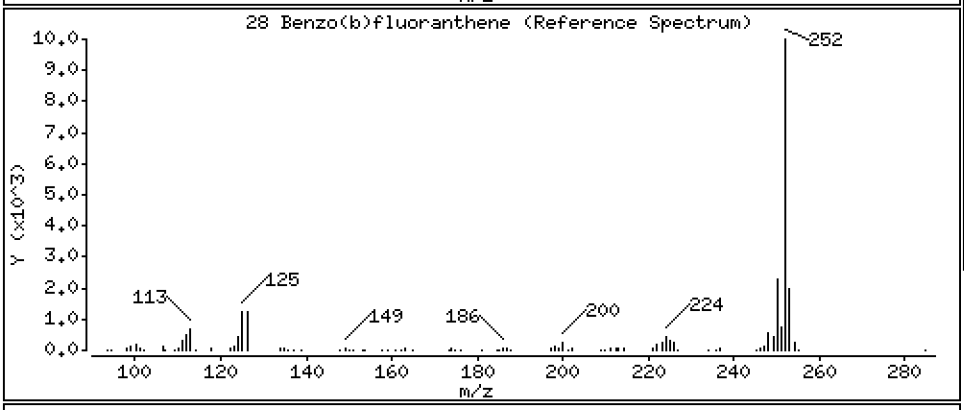
Concentration: 0.4987 ug/mL

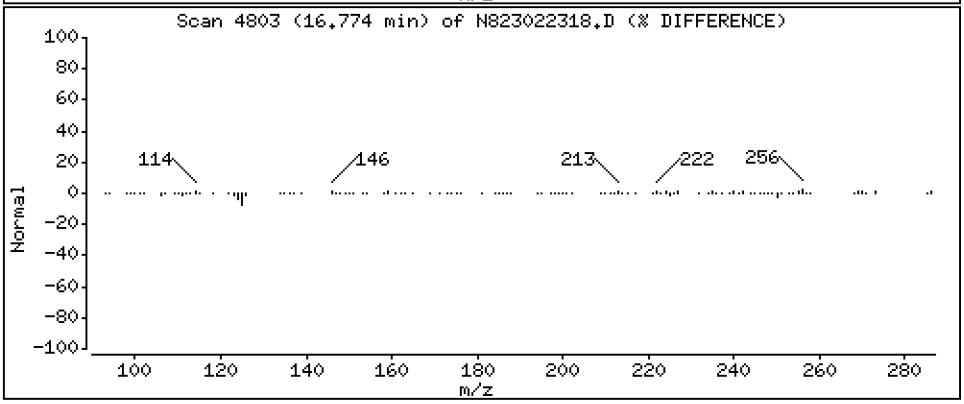












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Date : 23-FEB-2023 19:11

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-11

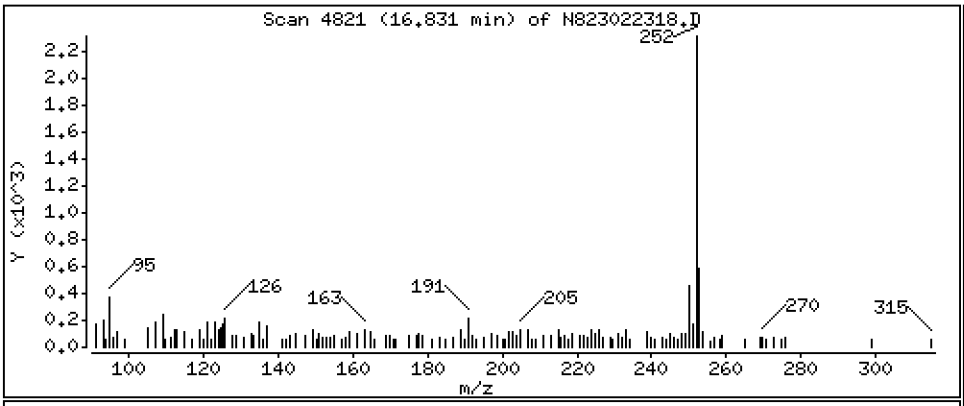
Operator: JZ

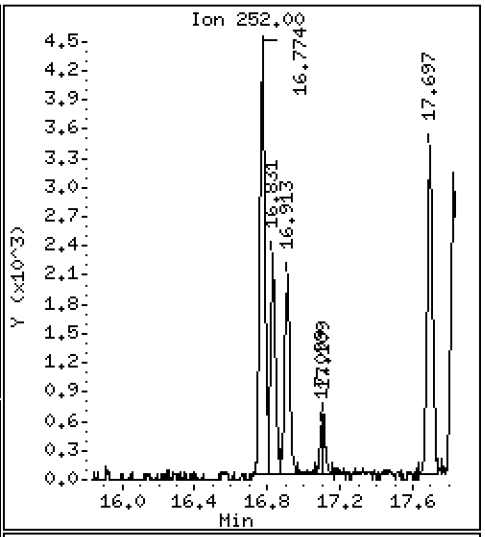
Column phase: Rxi-17sil

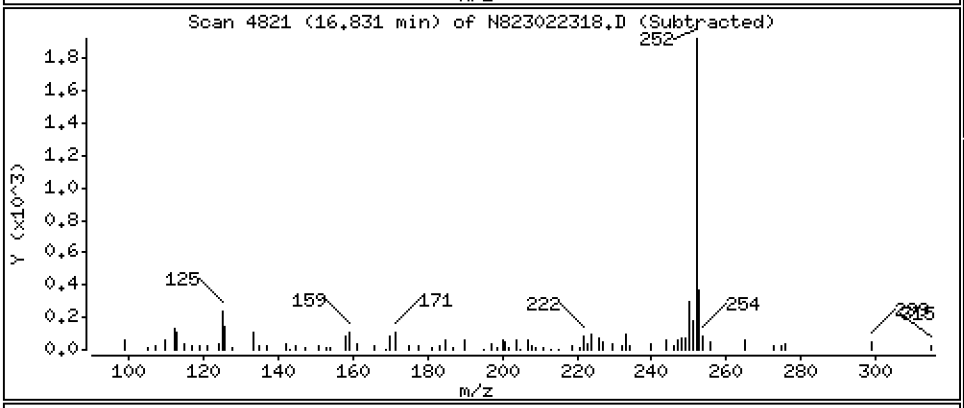
Column diameter: 0.25

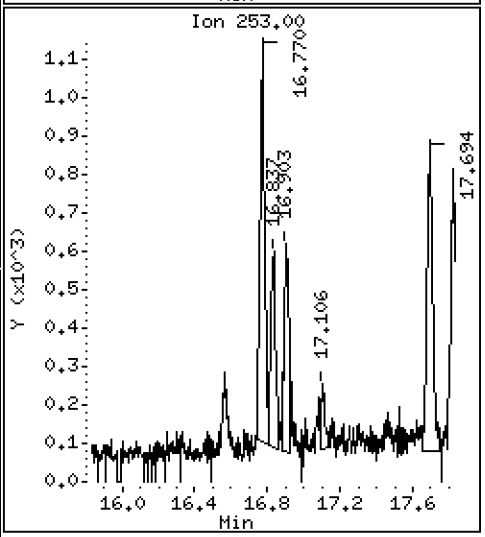
29 Benzo(k)fluoranthene

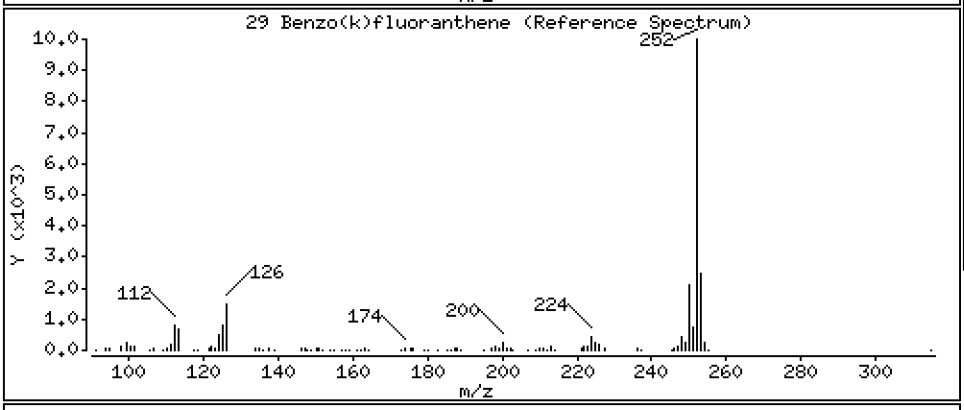
Concentration: 0.2502 ug/mL

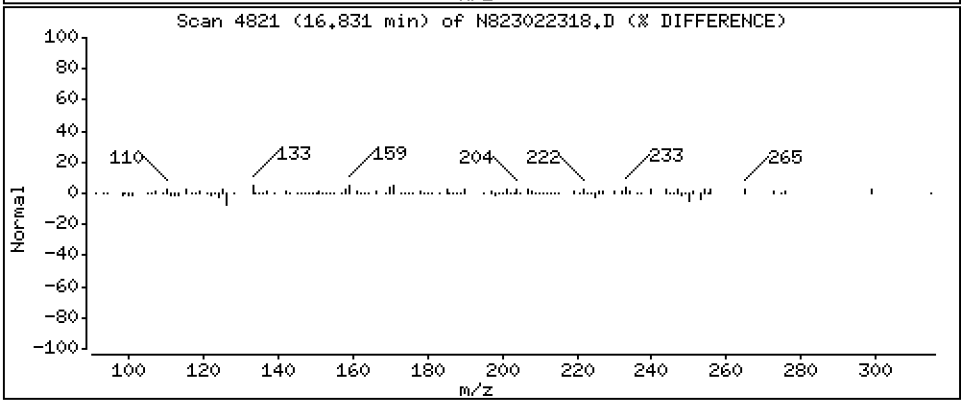












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Date : 23-FEB-2023 19:11

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-11

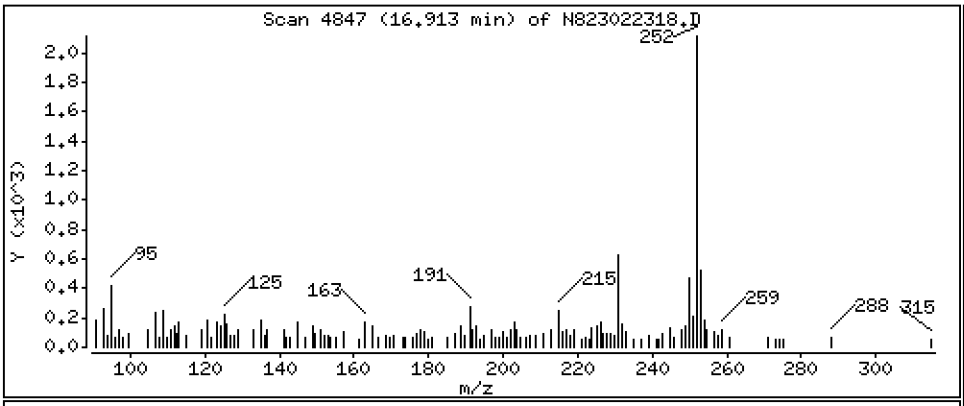
Operator: JZ

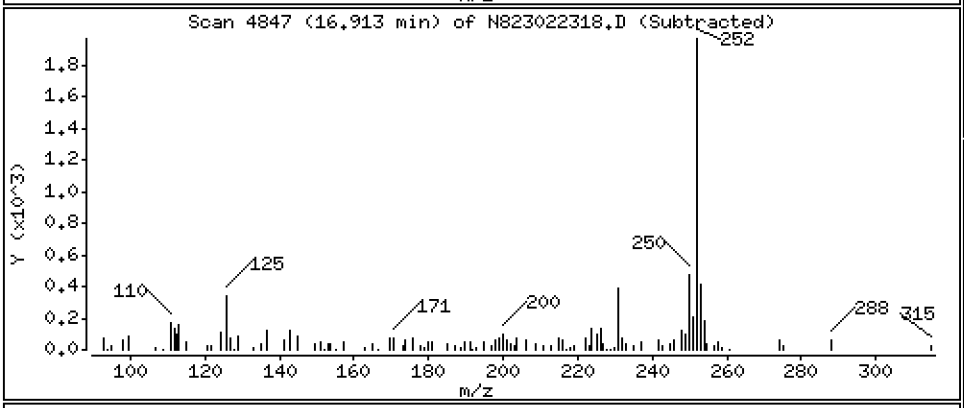
Column phase: Rxi-17sil

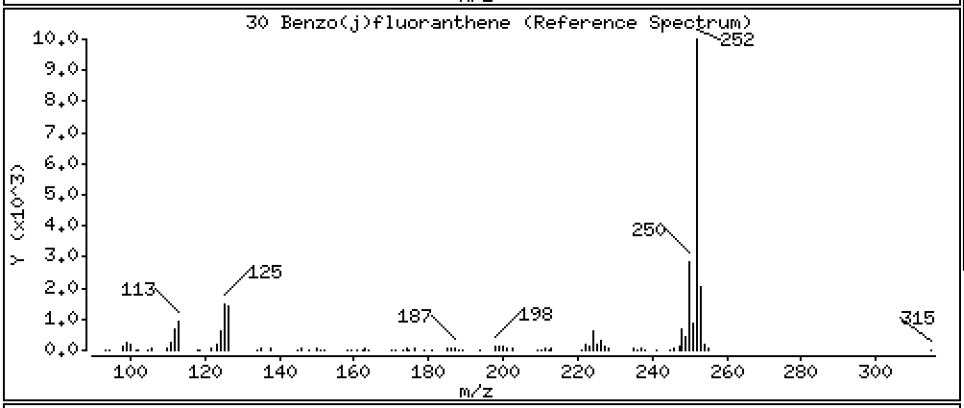
Column diameter: 0.25

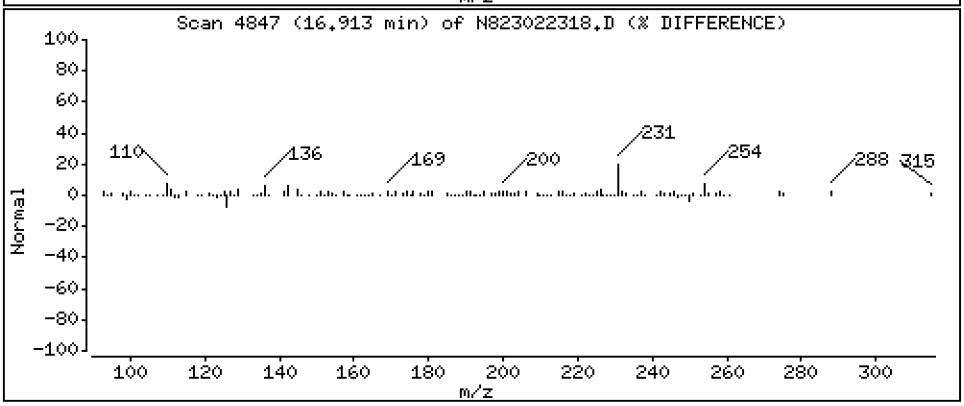
30 Benzo(j)fluoranthene

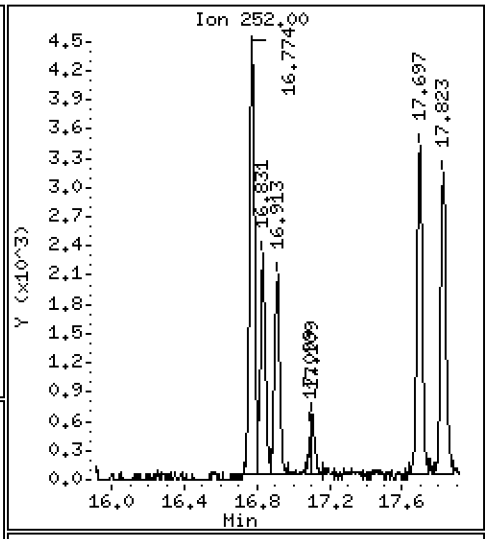
Concentration: 0.2604 ug/mL

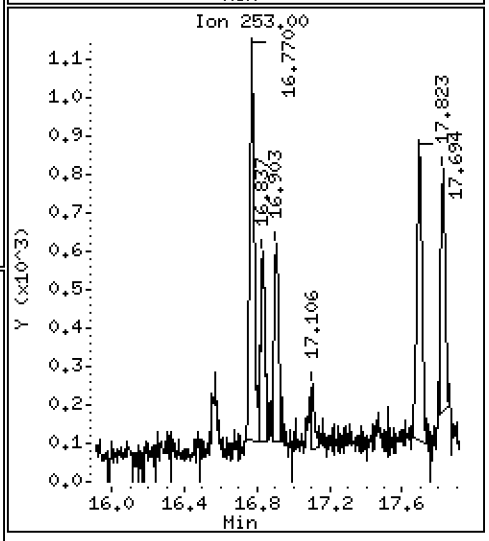












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Date : 23-FEB-2023 19:11

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-11

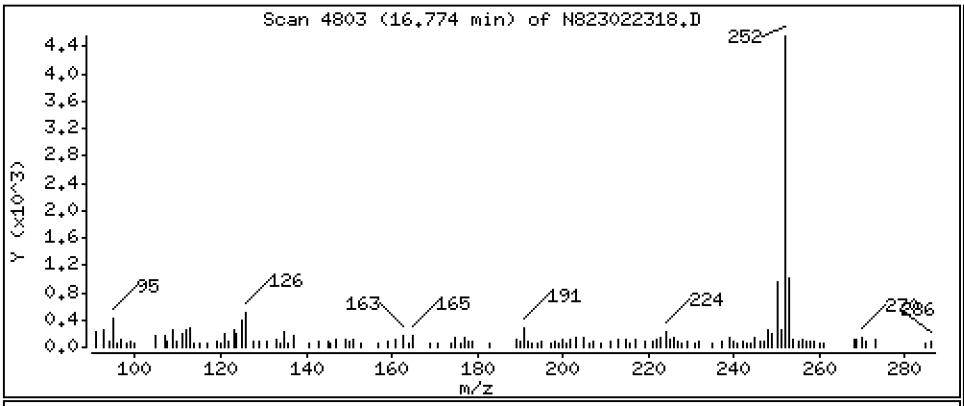
Operator: JZ

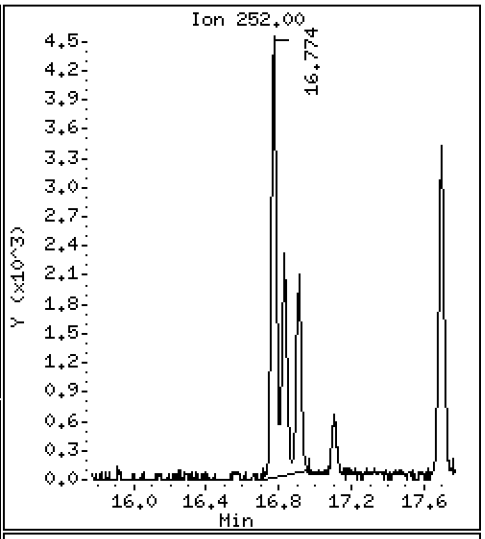
Column phase: Rxi-17sil

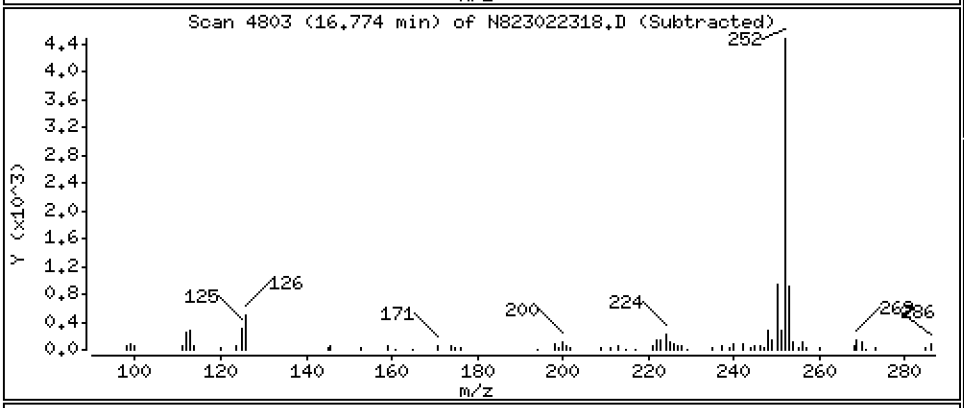
Column diameter: 0.25

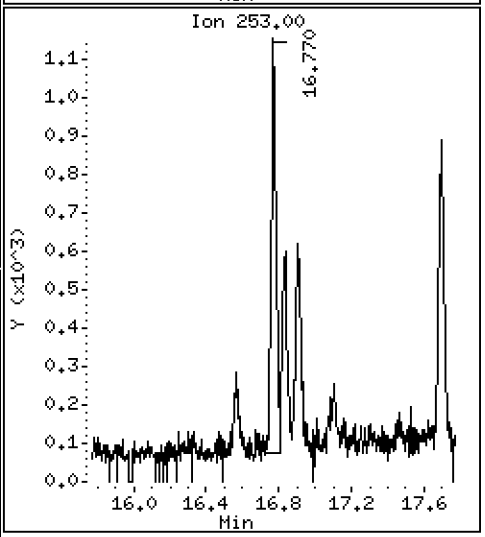
31 Total Benzofluoranthenes

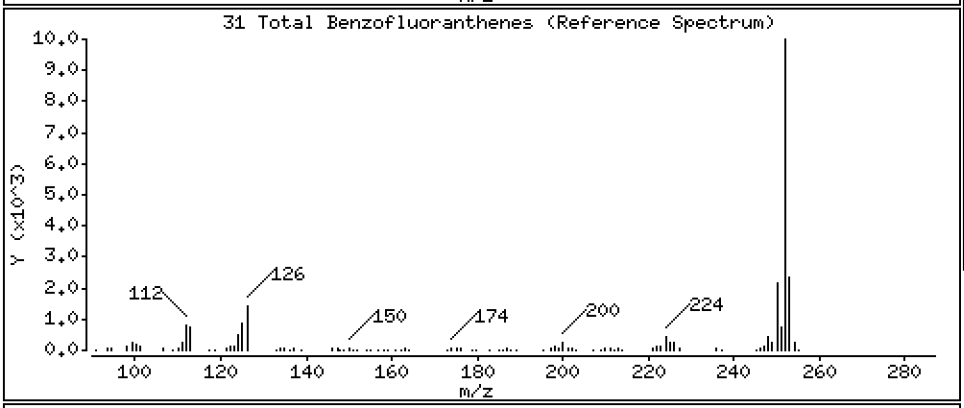
Concentration: 1.015 ug/mL

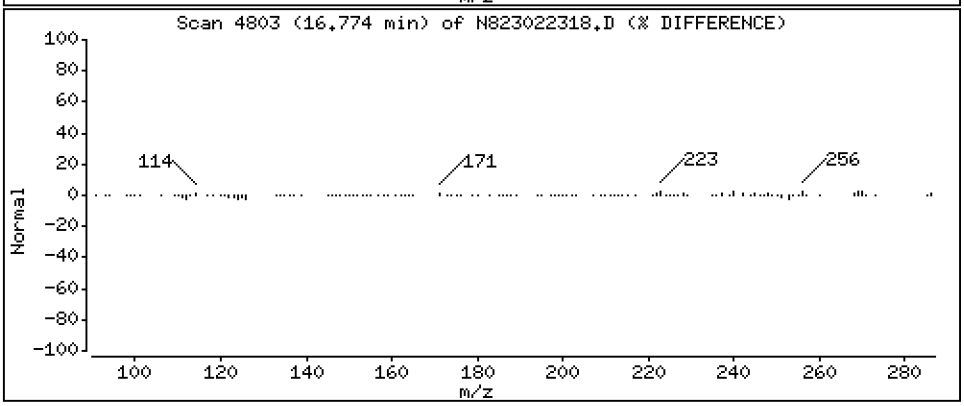












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Date : 23-FEB-2023 19:11

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-11

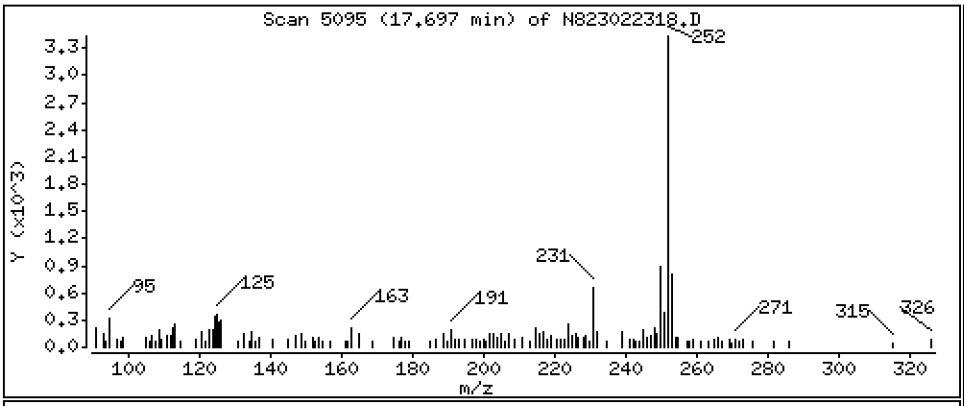
Operator: JZ

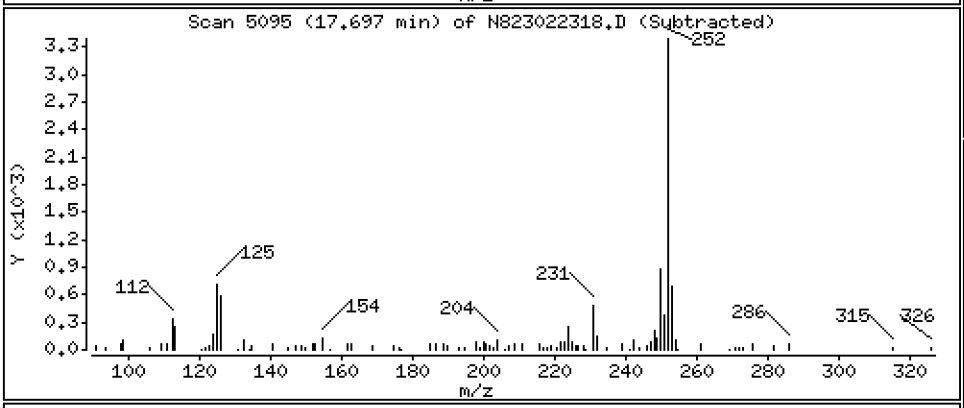
Column phase: Rxi-17sil

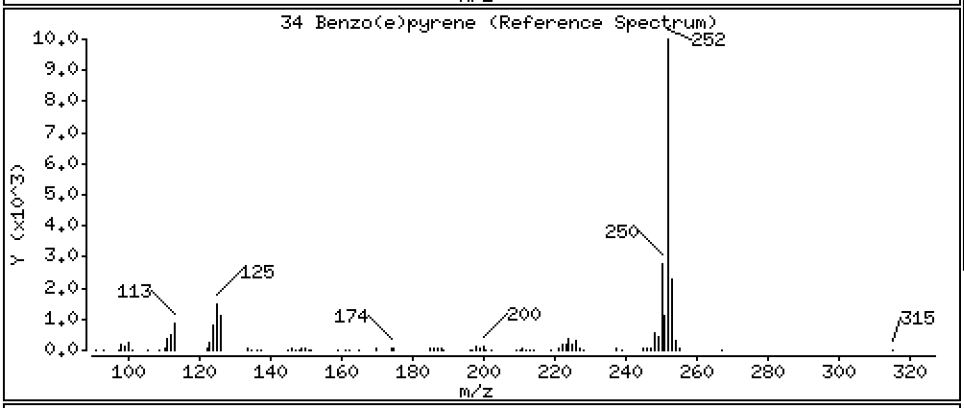
Column diameter: 0.25

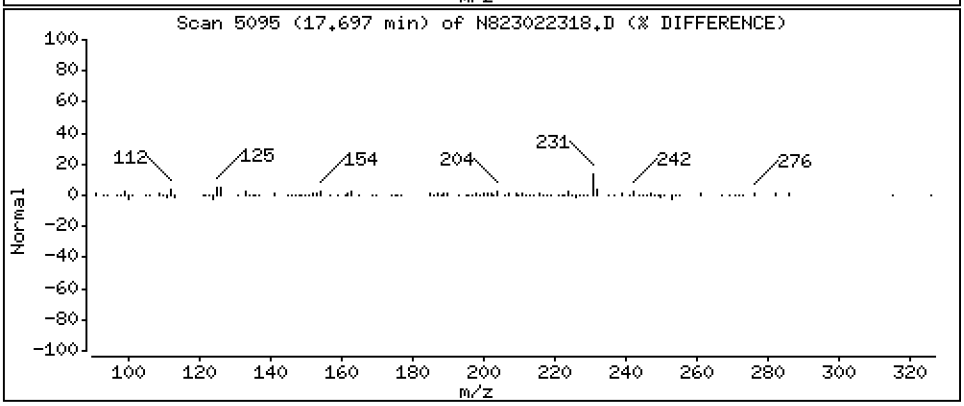
34 Benzo(e)pyrene

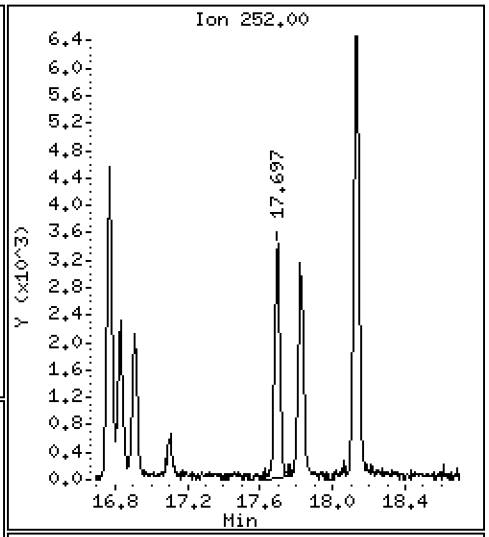
Concentration: 0.4076 ug/mL

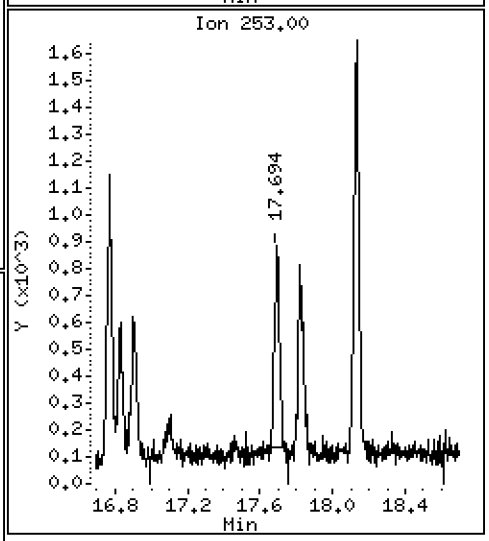












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Date : 23-FEB-2023 19:11

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-11

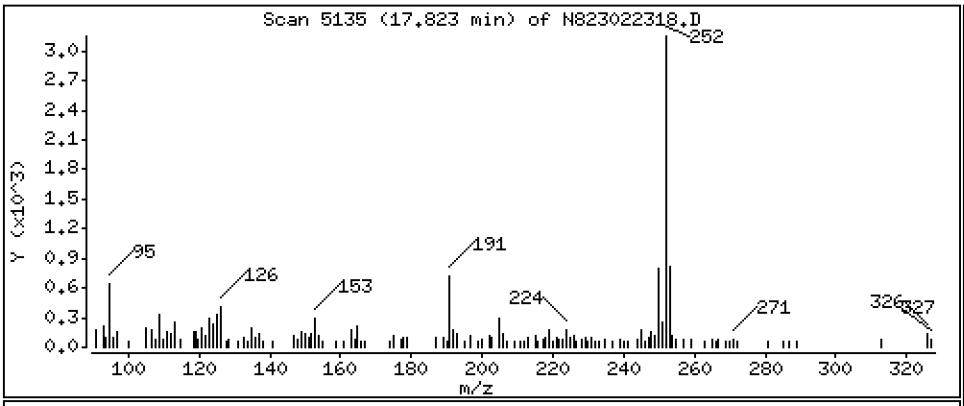
Operator: JZ

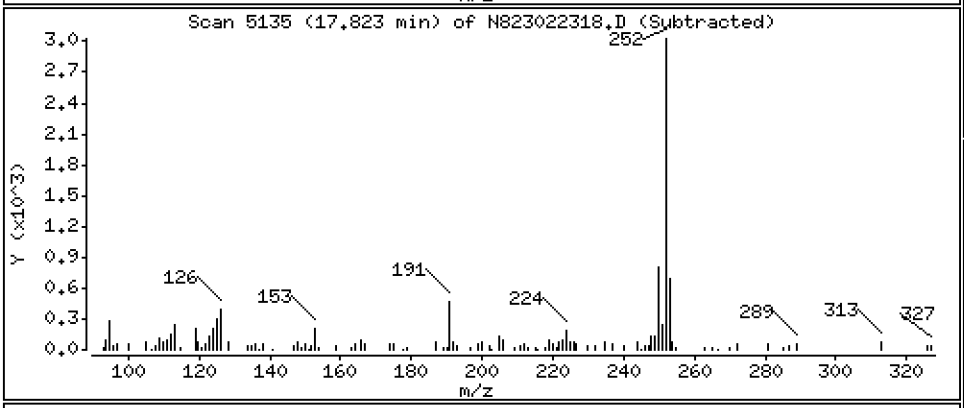
Column phase: Rxi-17sil

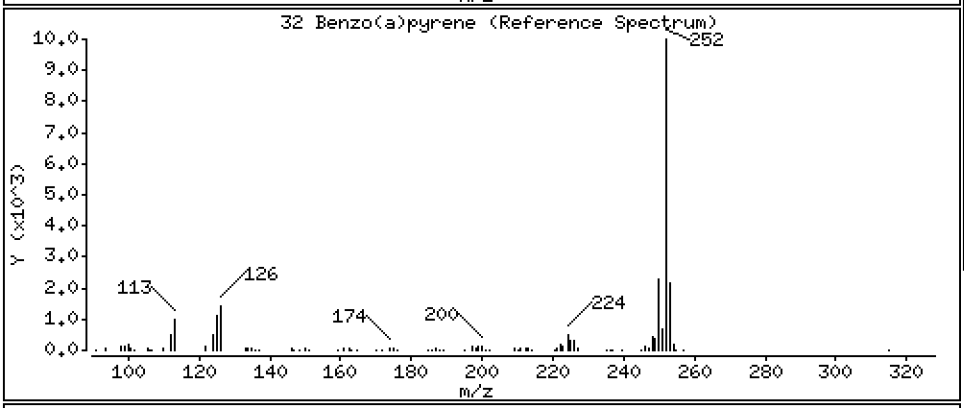
Column diameter: 0.25

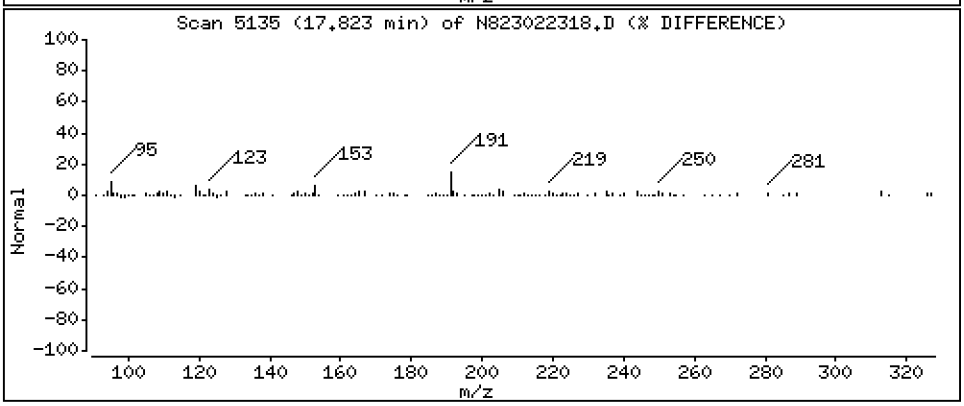
32 Benzo(a)pyrene

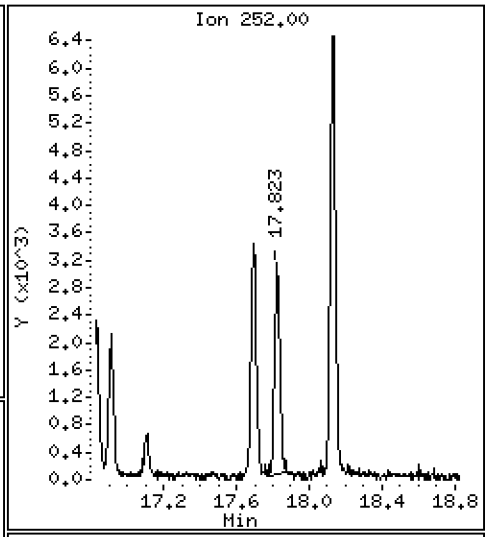
Concentration: 0.4094 ug/mL

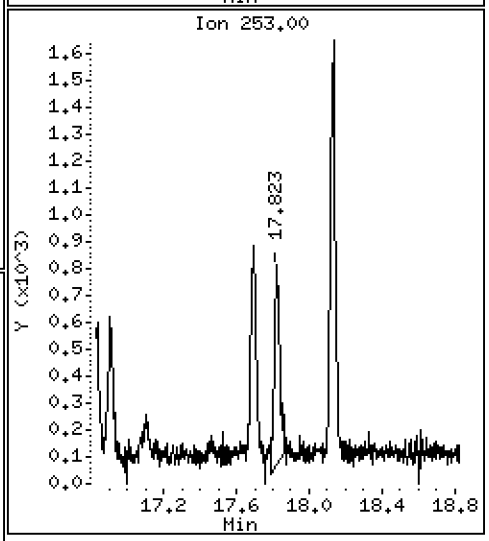












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Date : 23-FEB-2023 19:11

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-11

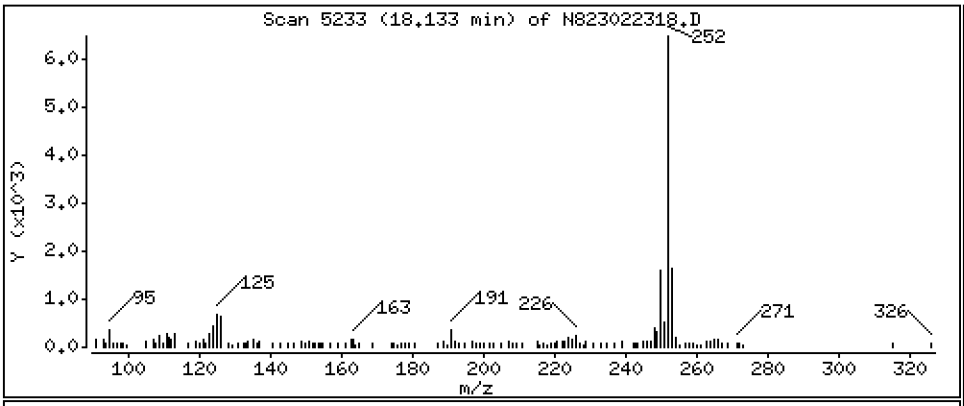
Operator: JZ

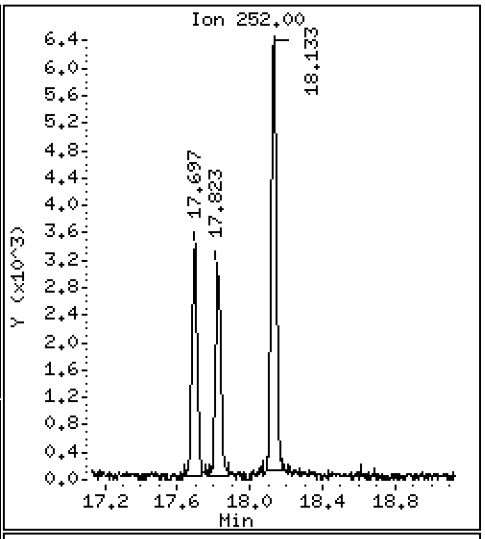
Column phase: Rxi-17sil

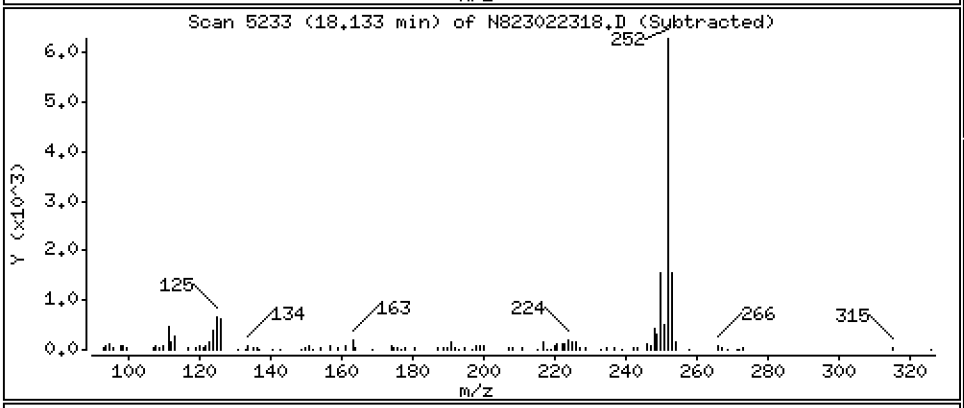
Column diameter: 0.25

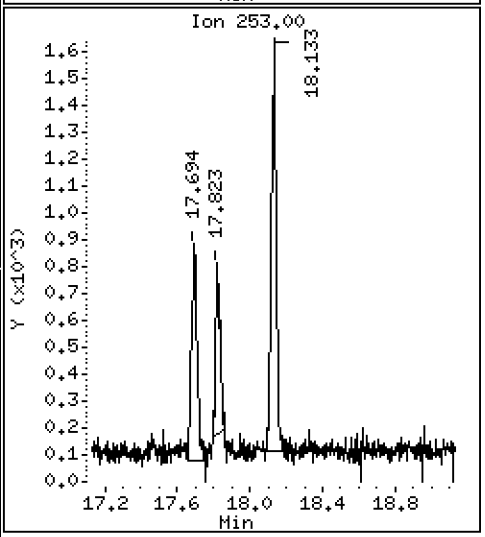
35 Perylene

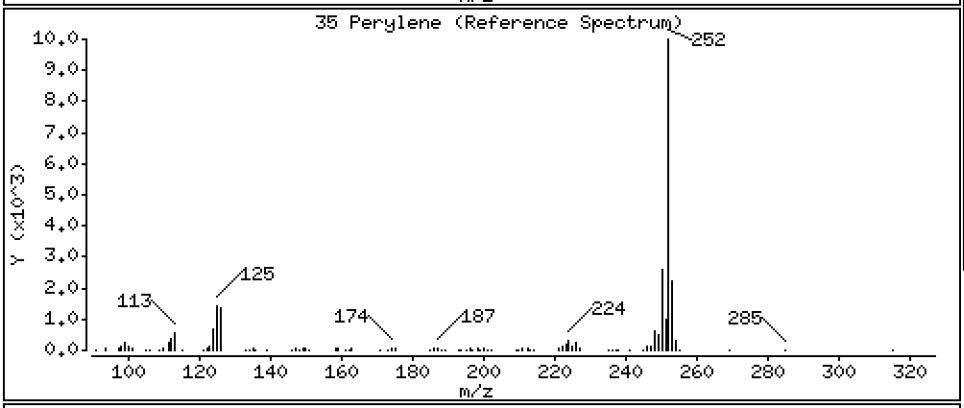
Concentration: 0.7718 ug/mL

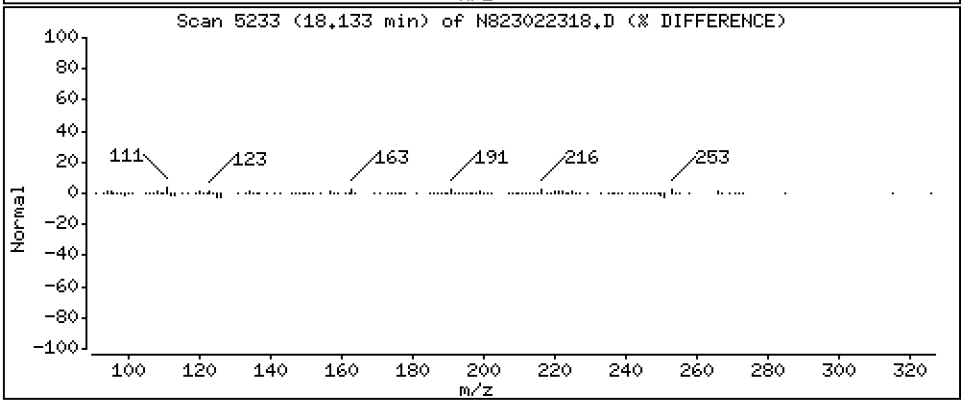












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Date : 23-FEB-2023 19:11

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-11

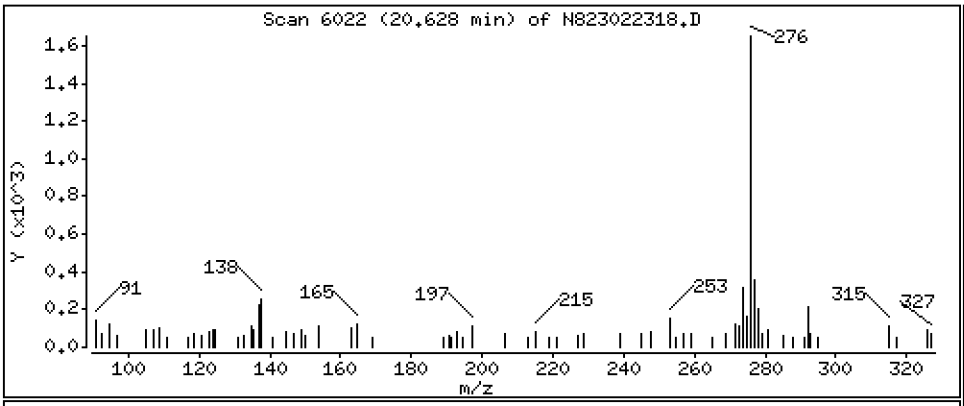
Operator: JZ

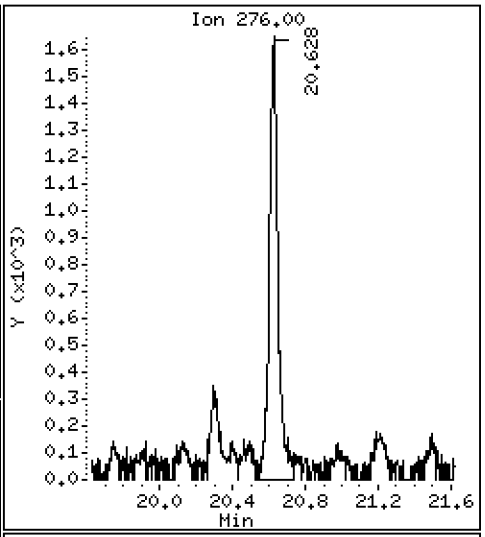
Column phase: Rxi-17sil

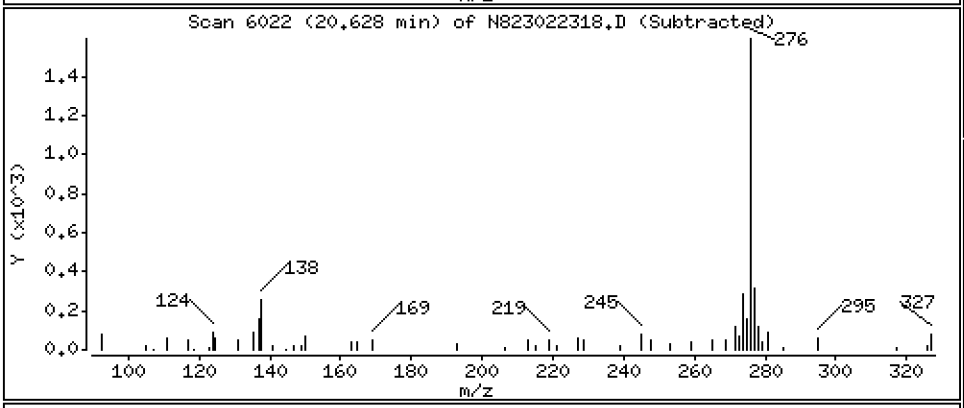
Column diameter: 0.25

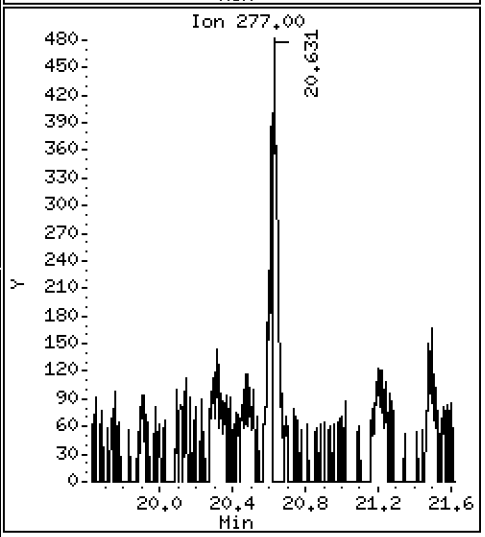
37 Indeno(1,2,3-cd)pyrene

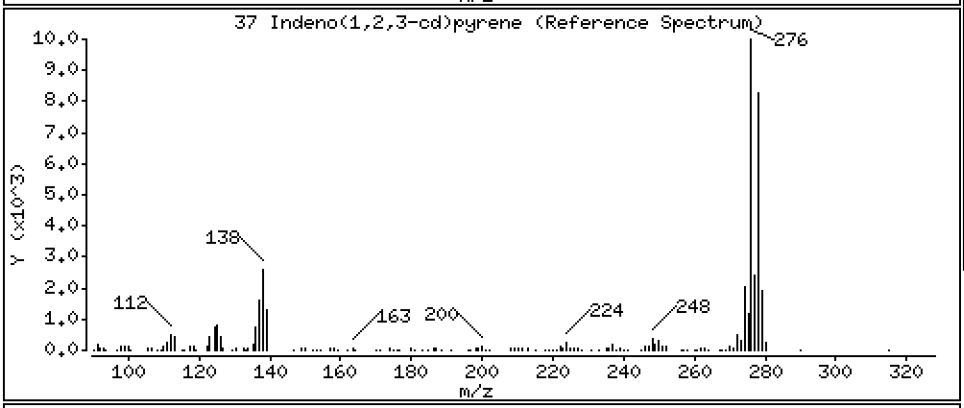
Concentration: 0.3128 ug/mL

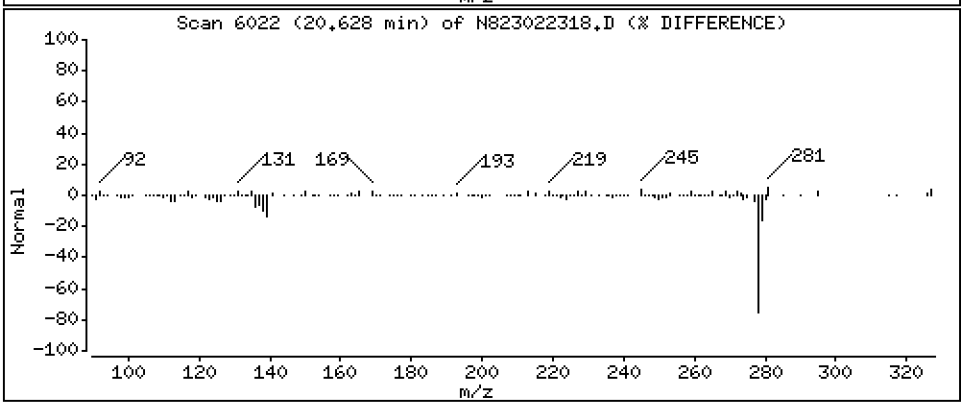












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Date : 23-FEB-2023 19:11

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-11

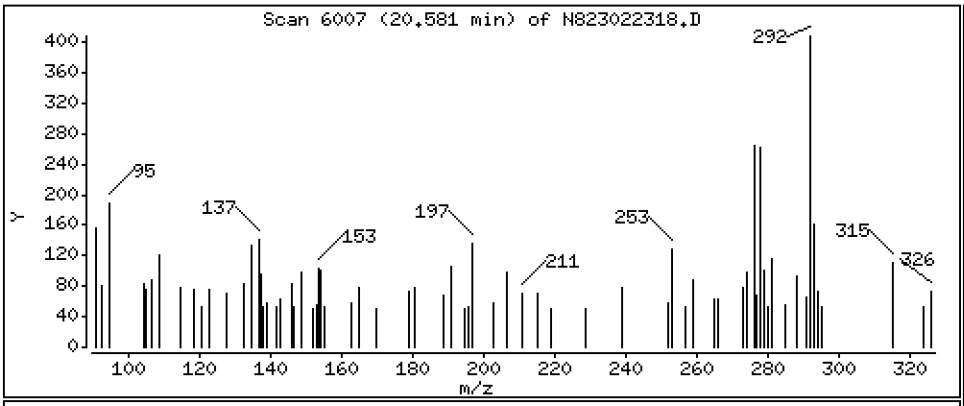
Operator: JZ

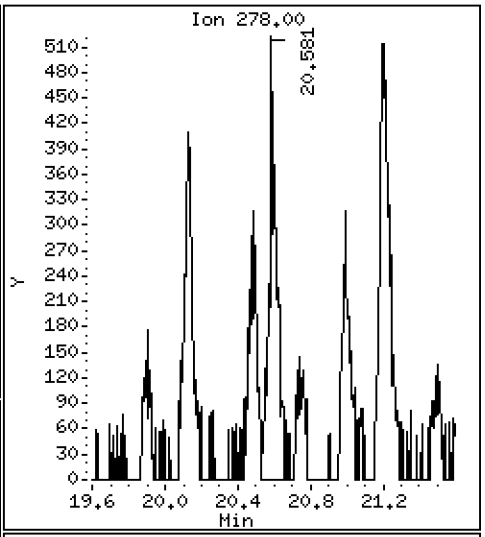
Column phase: Rxi-17sil

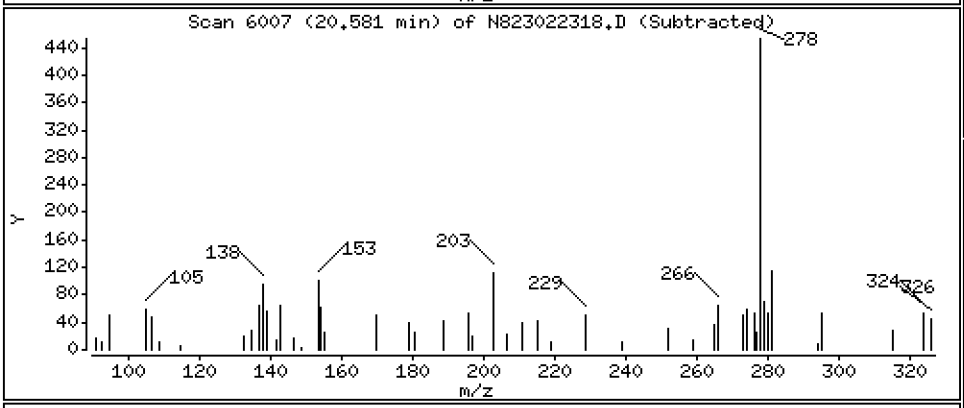
Column diameter: 0.25

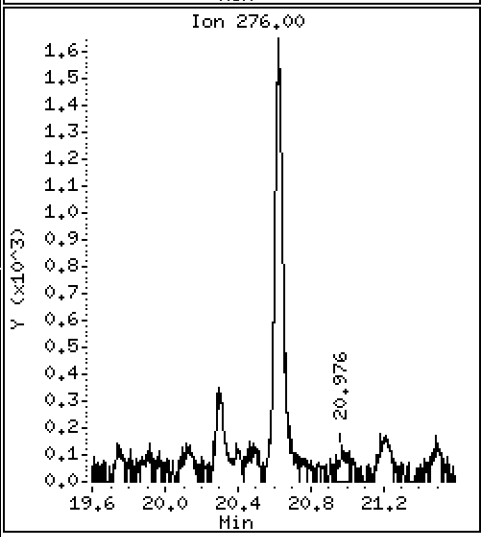
38 Dibenzo(a,h)anthracene

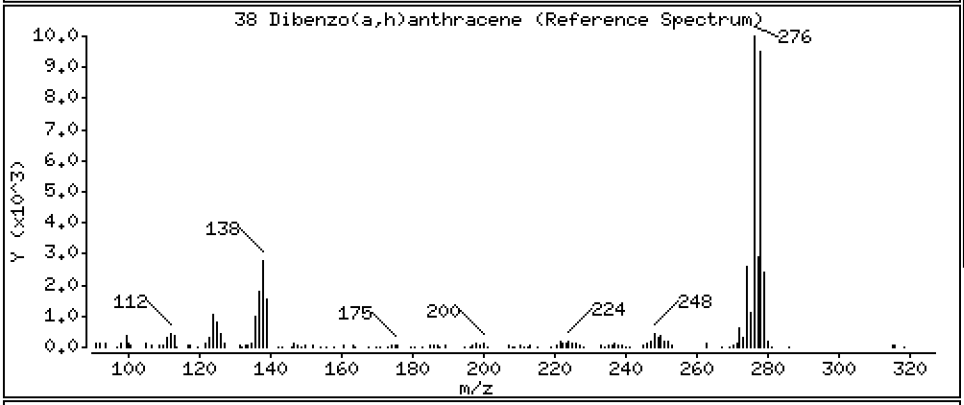
Concentration: 0.09725 ug/mL

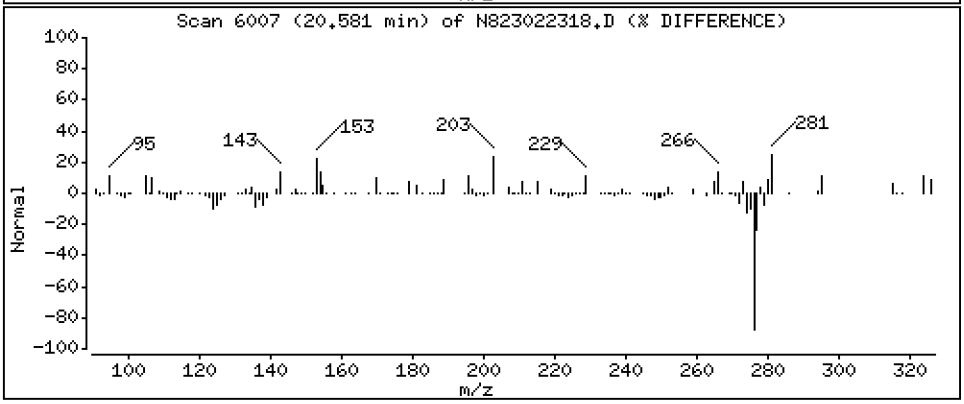












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Date : 23-FEB-2023 19:11

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-11

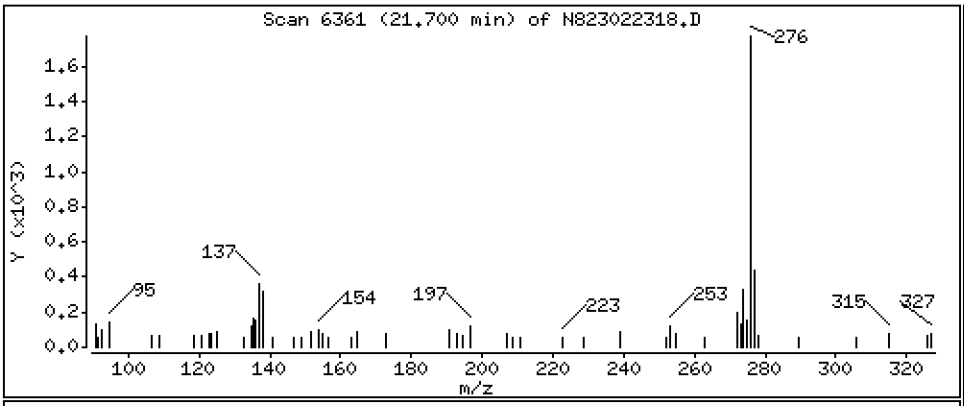
Operator: JZ

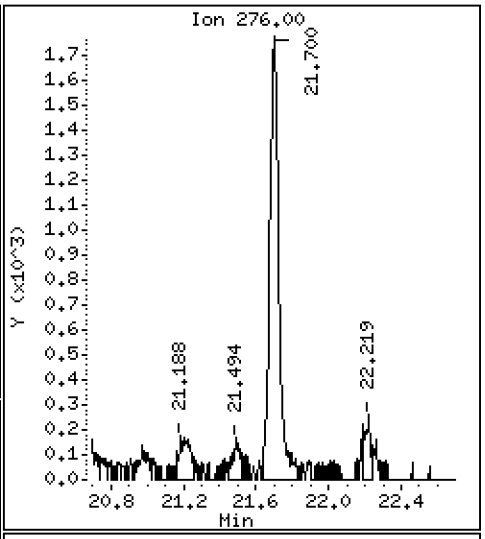
Column phase: Rxi-17sil

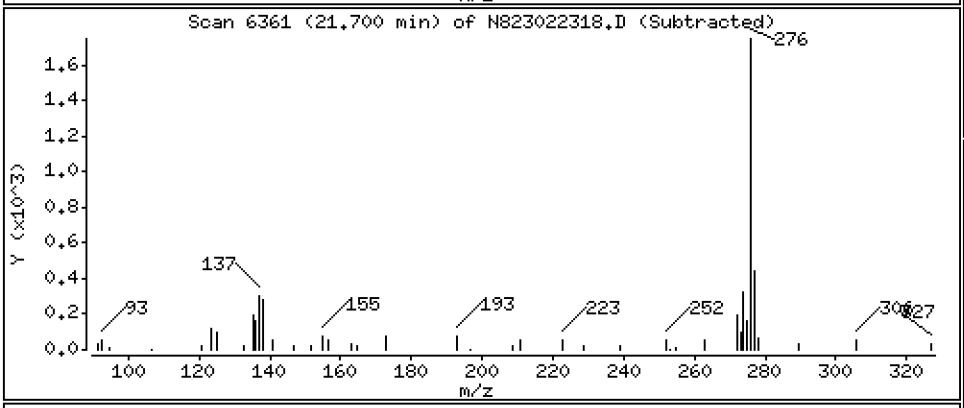
Column diameter: 0.25

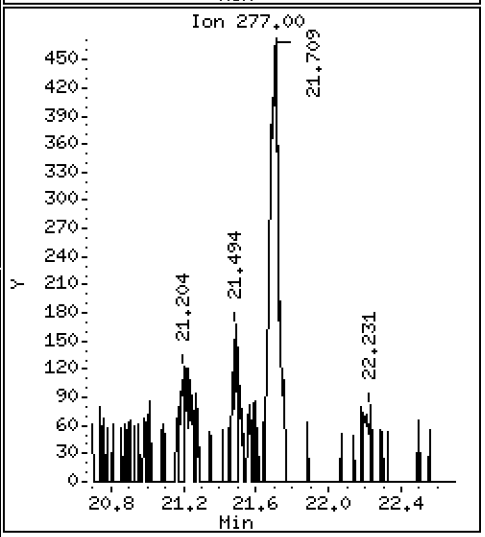
39 Benzo(g,h,i)perylene

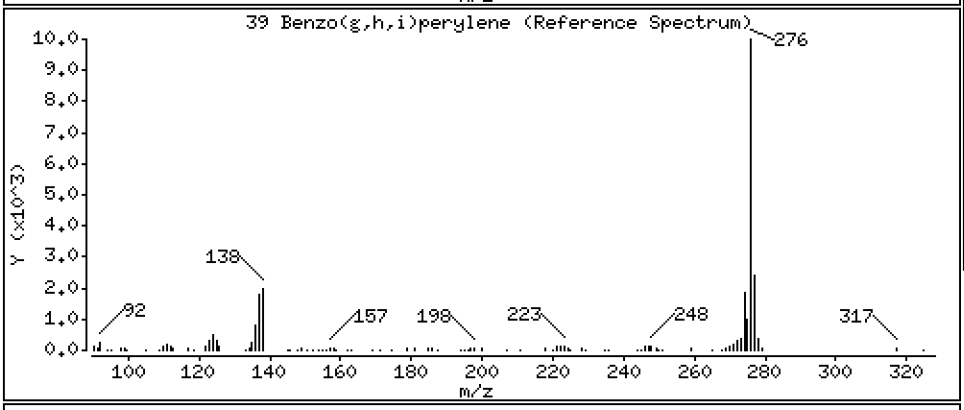
Concentration: 0.3964 ug/mL

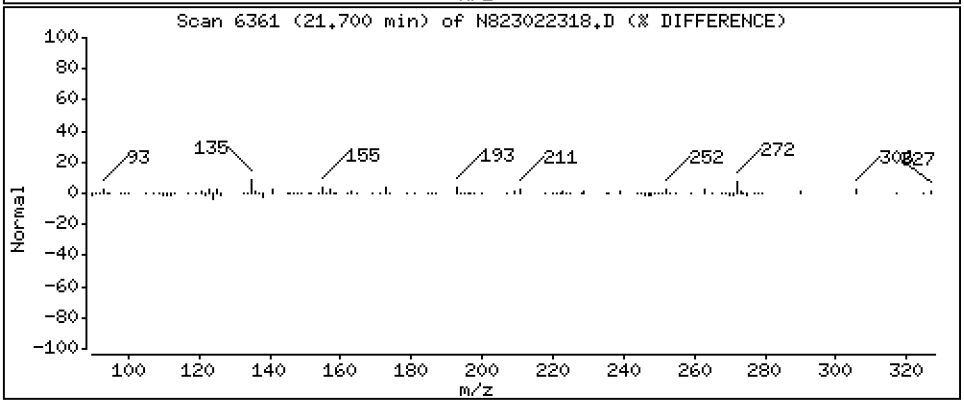












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230223.b\N823022318.D
Lab Smp Id: 23A0418-11
Inj Date : 23-FEB-2023 19:11
Operator : JZ Inst ID: nt8.i
Smp Info : 23A0418-11
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Meth Date : 26-Feb-2023 12:40 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PNAXEMDL.sub
Target Version: 4.14
Processing Host: JIANQING-202105

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.862	4.871	(1.000)	40470	2.00000	
	2 Naphthalene	128	4.894	4.903	(1.007)	1304	0.06930	0.06930
$	3 2-Methylnaphthalene-d10	152	5.599	5.605	(1.152)	33362	3.02269	3.023
	4 2-Methylnaphthalene	141	5.646	5.652	(1.161)	717	0.06927	0.06927
	5 1-methylnaphthalene	141	5.845	5.849	(1.202)	546	0.05198	0.05198
	9 Acenaphthylene	152	7.047	7.050	(0.985)	911	0.04851	0.04851
*	10 Acenaphthene-d10	164	7.154	7.158	(1.000)	24867	2.00000	
	11 Acenaphthene	153	7.205	7.208	(1.007)	658	0.05230	0.05230(M)
	12 Dibenzofuran	168	7.357	7.360	(1.028)	744	0.03893	0.03893
	14 Fluorene	166	7.837	7.837	(1.095)	844	0.05687	0.05687
*	15 Phenanthrene-d10	188	9.197	9.197	(1.000)	45442	2.00000	
	16 Phenanthrene	178	9.232	9.235	(1.004)	5780	0.26039	0.2604
	17 Anthracene	178	9.273	9.276	(1.008)	2029	0.10062	0.1006
	19 Carbazole	167	9.791	9.791	(1.065)	813	0.04398	0.04398
	22 Fluoranthene	202	11.009	11.009	(1.197)	21007	0.86942	0.8694
$	21 Fluoranthene-d10	212	10.974	10.971	(1.193)	68665	3.42489	3.425
	23 Pyrene	202	11.534	11.527	(0.815)	18002	1.06668	1.067
	24 Benzo(a)anthracene	228	14.025	14.025	(0.991)	5465	0.35727	0.3573
*	25 Chrysene-d12	240	14.152	14.152	(1.000)	27221	2.00000	
	27 Chrysene	228	14.221	14.225	(1.005)	8748	0.53721	0.5372
	28 Benzo(b)fluoranthene	252	16.773	16.770	(0.929)	8797	0.49873	0.4987
	29 Benzo(k)fluoranthene	252	16.830	16.833	(0.932)	4322	0.25016	0.2502
	30 Benzo(j)fluoranthene	252	16.912	16.912	(0.937)	4050	0.26039	0.2604
	31 Total Benzofluoranthenes	252	16.773	16.770	(0.929)	16952	1.01480	1.015(M)
	34 Benzo(e)pyrene	252	17.696	17.696	(0.980)	7169	0.40758	0.4076(M)
	32 Benzo(a)pyrene	252	17.823	17.826	(0.987)	6354	0.40935	0.4094(M)
*	33 Perylene-d12	264	18.057	18.057	(1.000)	30286	2.00000	
	35 Perylene	252	18.133	18.130	(1.004)	12856	0.77182	0.7718
$	36 Dibenzo(a,h)anthracene-d14	292	20.482	20.485	(1.134)	48360	4.07527	4.075
	37 Indeno(1,2,3-cd)pyrene	276	20.628	20.624	(1.142)	5532	0.31284	0.3128(M)
	38 Dibenzo(a,h)anthracene	278	20.580	20.596	(1.140)	1480	0.09725	0.09725(M)
	39 Benzo(g,h,i)perylene	276	21.699	21.696	(1.202)	6351	0.39641	0.3964

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823022318.D
Lab Smp Id: 23A0418-11
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 23-FEB-2023
Calibration Time: 11:46
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	37022	18511	74044	40470	9.31
10 Acenaphthene-d10	22454	11227	44908	24867	10.75
15 Phenanthrene-d10	43277	21639	86554	45442	5.00
25 Chrysene-d12	38907	19454	77814	27221	-30.04
33 Perylene-d12	39582	19791	79164	30286	-23.49

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.87	4.37	5.37	4.86	-0.19
10 Acenaphthene-d10	7.16	6.66	7.66	7.15	-0.04
15 Phenanthrene-d10	9.20	8.70	9.70	9.20	0.00
25 Chrysene-d12	14.15	13.65	14.65	14.15	0.00
33 Perylene-d12	18.06	17.56	18.56	18.06	0.00

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

REVIEW SUMMARY FOR FILE - N823022318.D

Lab ID: 23A0418-11
nt8.i, 20230223.b\FSIMPNA230119.m,   23-FEB-2023 19:11

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

No RRT check performed

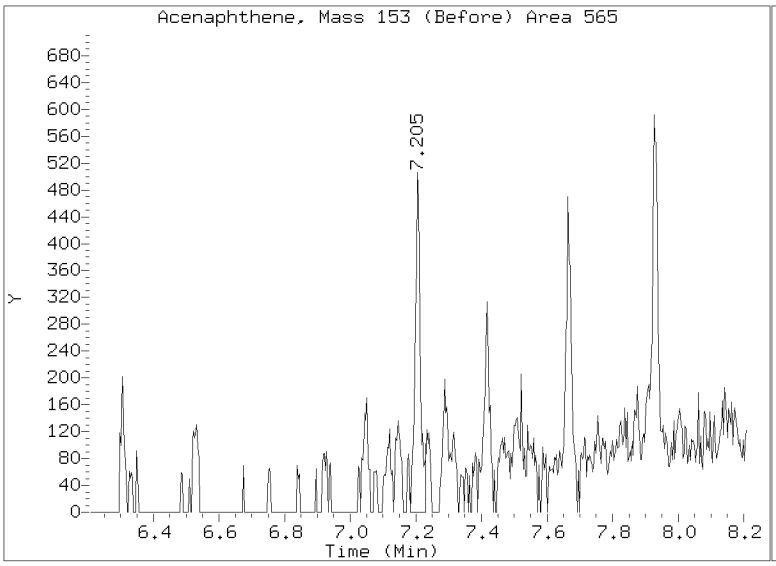
On Column LOD for nt8.i, 20230223.b\FSIMPNA230119.m, PNAXEMDL.sub = 0.0080

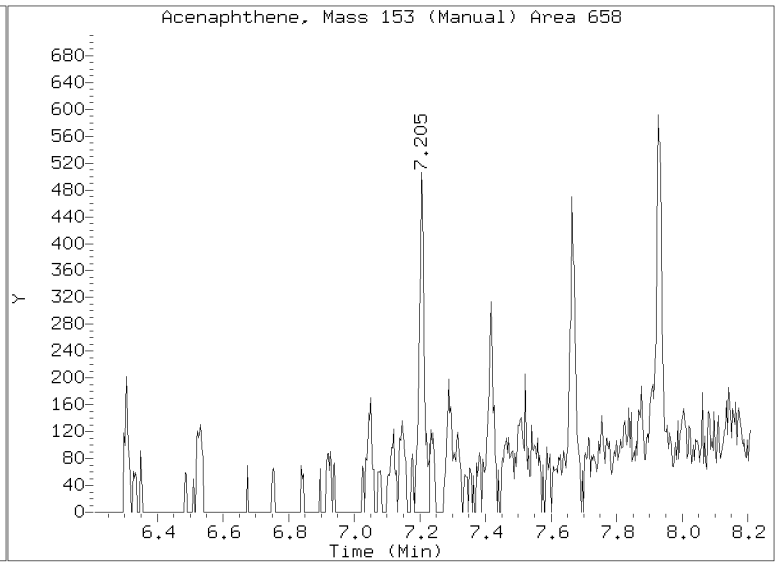
Exception: Benzo(e)pyrene 0.0800

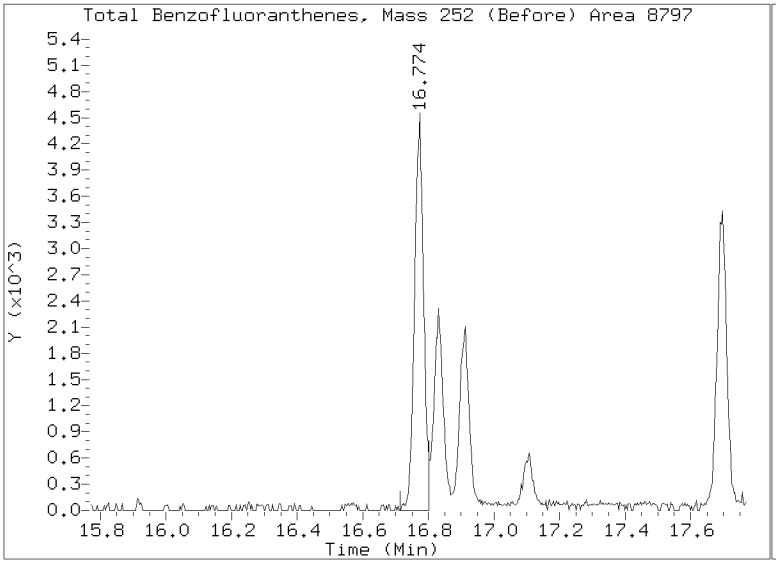
* Only compounds listed in the work order have been verified by the analyst *

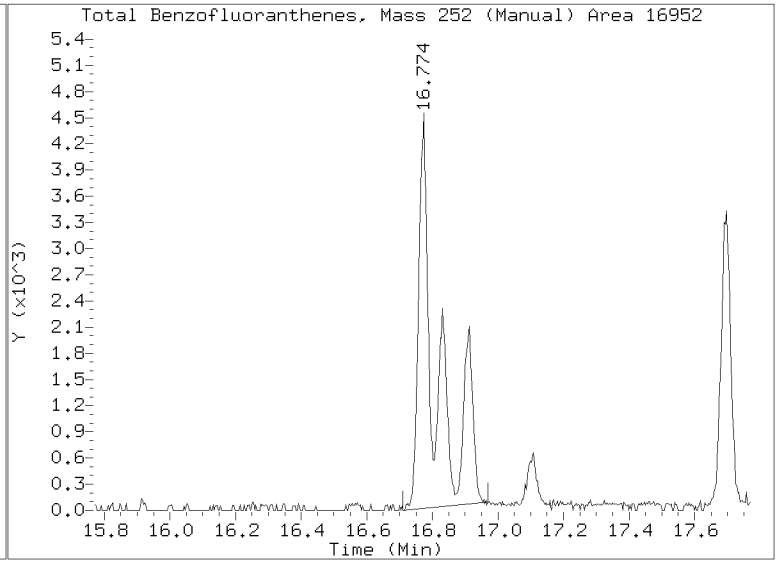
Quant Ion Manual Peak Adjustment Report

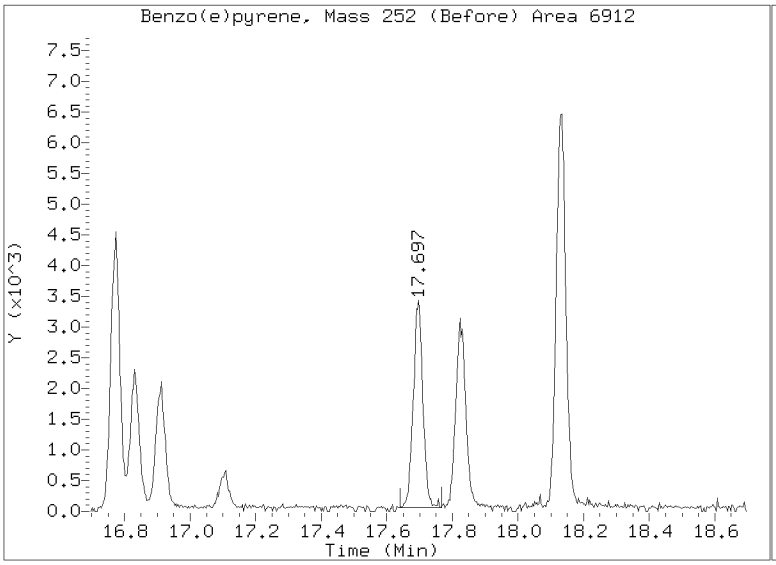
Datafile: //target/share/chem3/nt8.i/20230223.b/N823022318.D
Injection Date: 23-FEB-2023 19:11
Lab ID:23A0418-11 Client ID:
Report Date: 02/26/2023 14:18

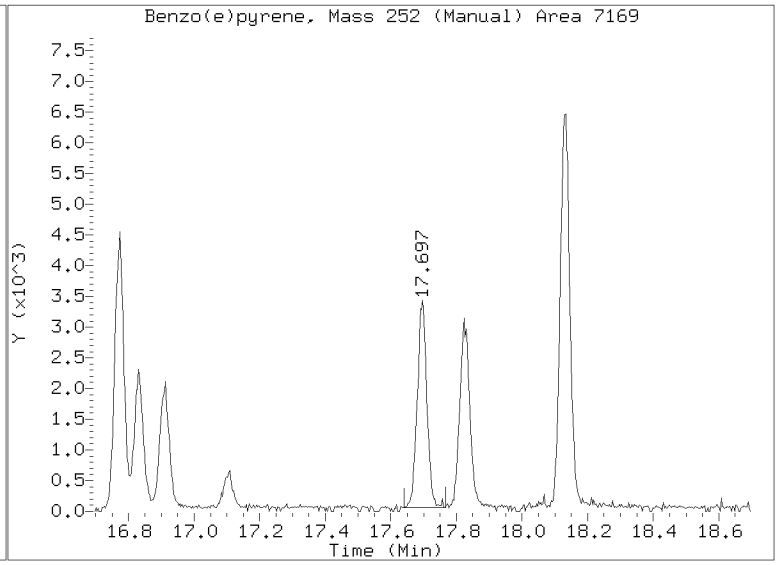






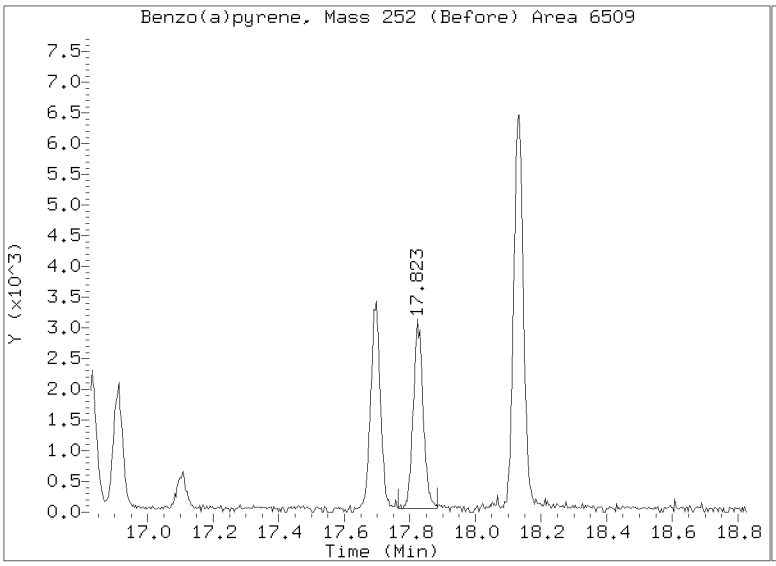


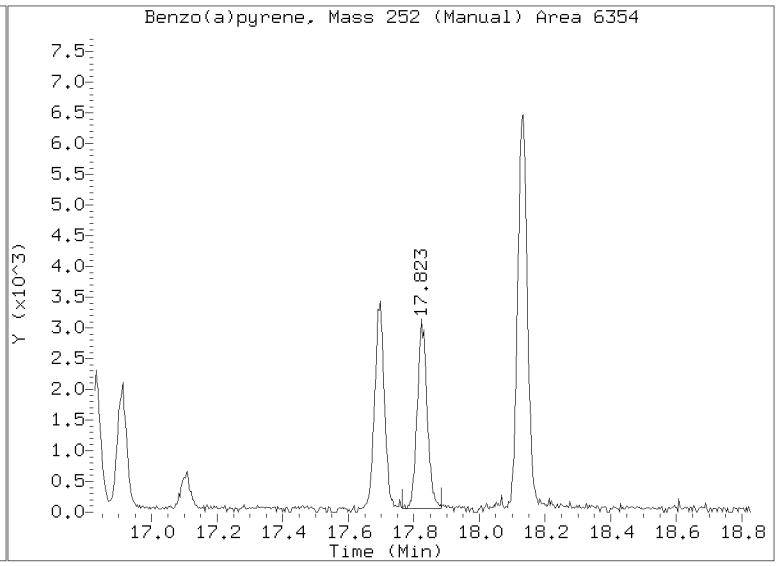


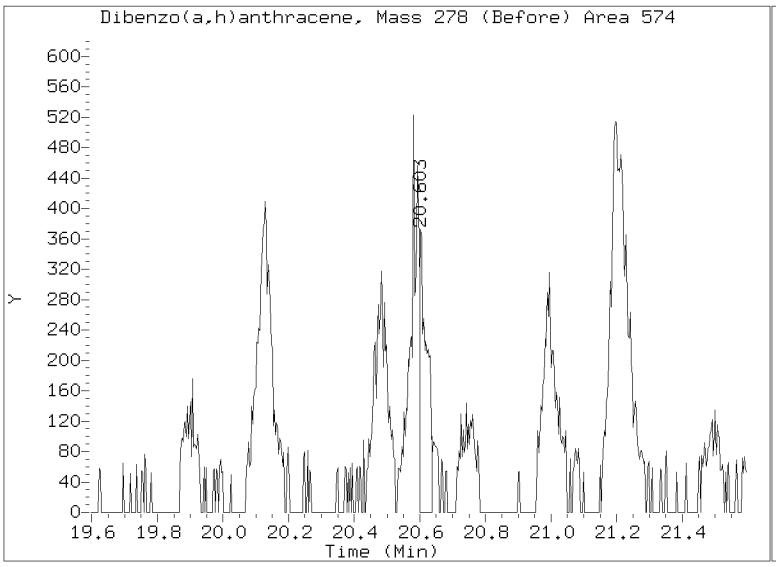


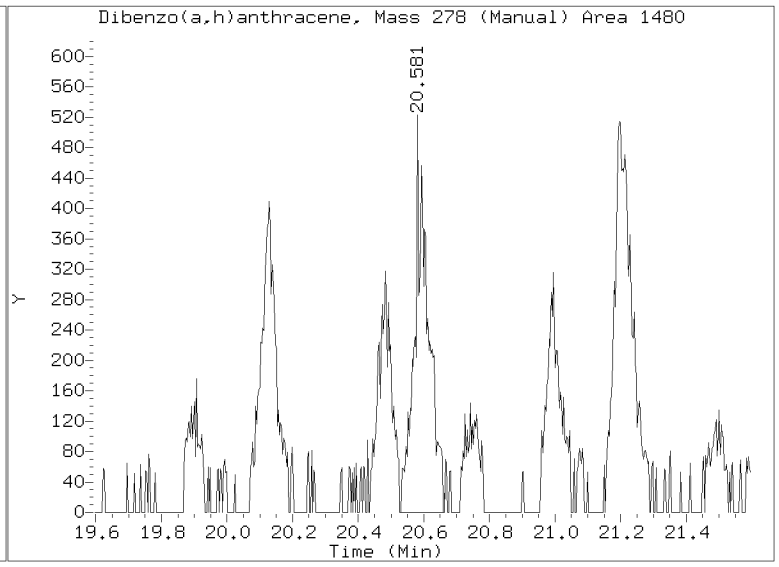
Quant Ion Manual Peak Adjustment Report

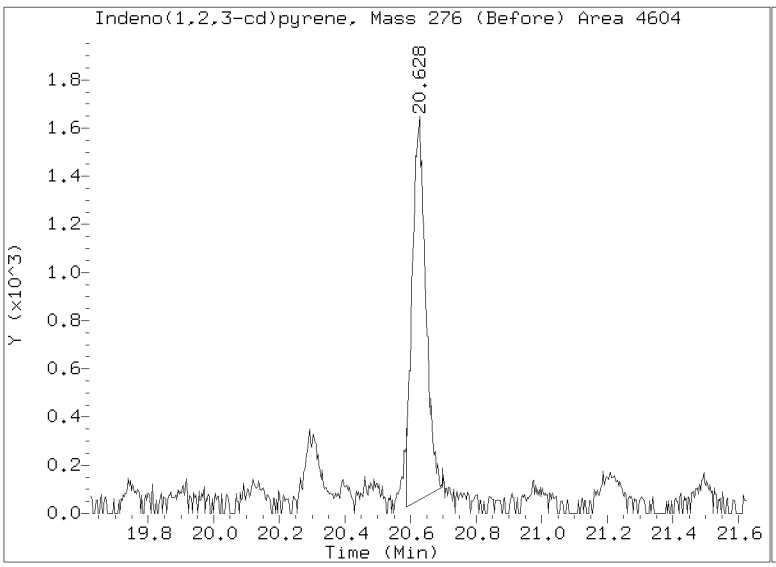
Datafile: //target/share/chem3/nt8.i/20230223.b/N823022318.D
Injection Date: 23-FEB-2023 19:11
Lab ID:23A0418-11 Client ID:
Report Date: 02/26/2023 14:18

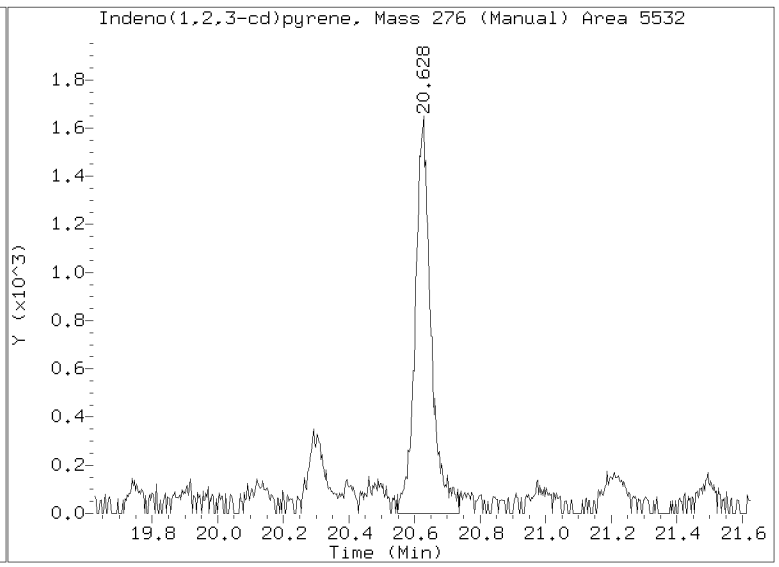












Analytical Resources, LLC
Analytical Chemists and Consultants

LDW23-IT1275

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270E-SIM

Polynuclear Aromatic Hydrocarbons

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-12 A	SDG:	23A0418
Sampled:	01/18/23 15:09	Prepared:	02/16/23 14:32	File ID:	N823022319.D
% Solids:	79.58	Preparation:	EPA 3546 (Microwave)	Analyzed:	02/23/23 19:38
Batch:	BLB0386	Sequence:	SLB0310	Initial/Final:	12.93 g Wet / 0.5 mL
Instrument:	NT8	Column:	RXI-17Sil ms	Calibration:	GA00050
Cleanups:	GPC, Silica Gel				

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg dry)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	1.29	J	0.80	4.86
218-01-9	Chrysene	1	2.11	J	1.02	4.86
205-99-2	Benzo(b)fluoranthene	1	1.72	J	1.33	4.86
207-08-9	Benzo(k)fluoranthene	1	0.98	J	0.74	4.86
50-32-8	Benzo(a)pyrene	1	1.60	J	0.60	4.86
193-39-5	Indeno(1,2,3-cd)pyrene	1	1.25	J	1.02	4.86
53-70-3	Dibenzo(a,h)anthracene	1	4.86	U	0.87	4.86

SURROGATES	ADDED: (ug/kg dry)	FOUND: (ug/kg dry)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	145.78	125	85.4	32 - 120	
Dibenzo[a,h]anthracene-d14	145.78	157	108	21 - 133	
Fluoranthene-d10	145.78	152	104	36 - 134	

Data File: \\target\share\chem3\nt8.i\20230223.b\N823022319.D

Date : 23-FEB-2023 19:38

Client ID:

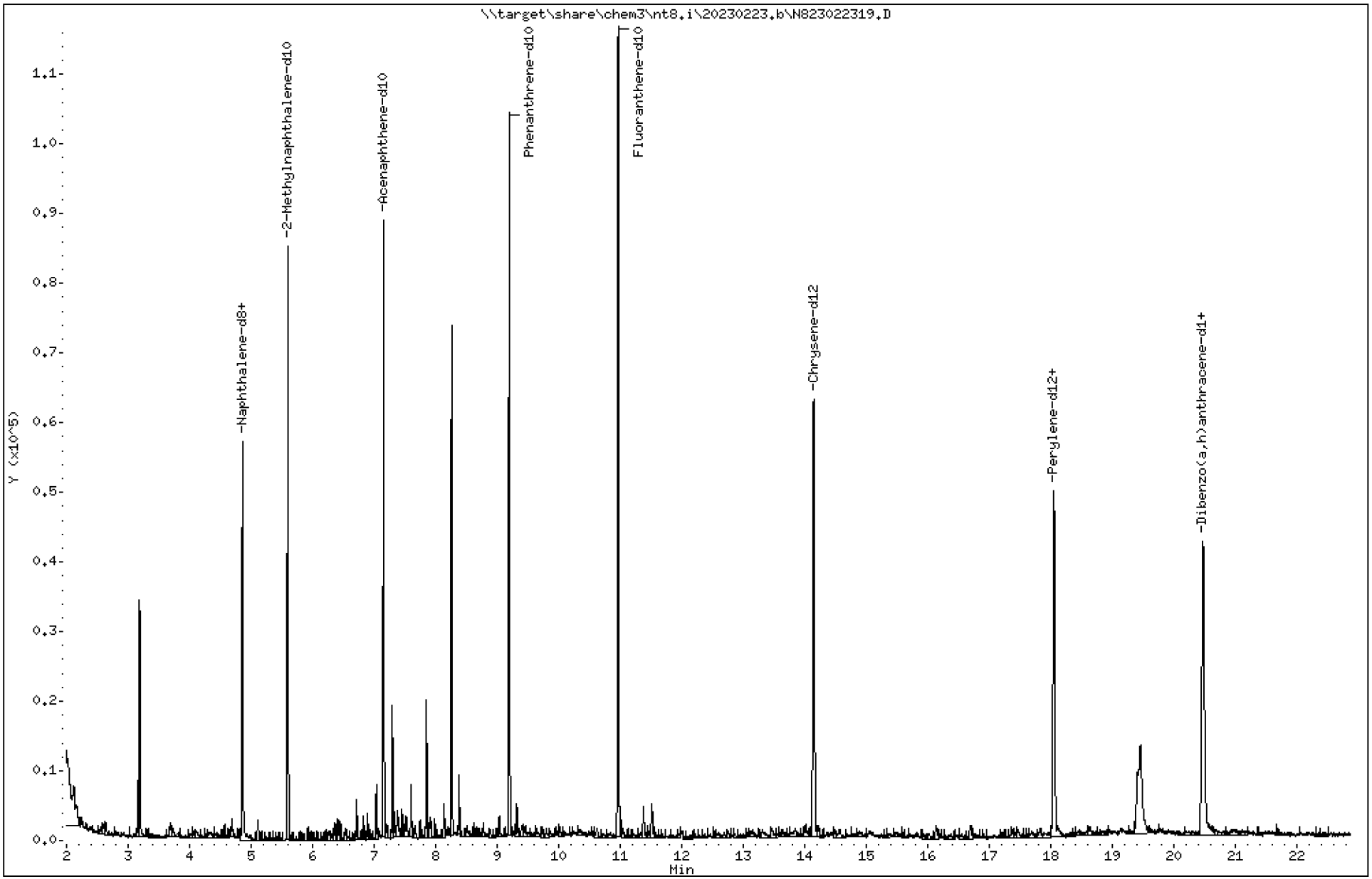
Instrument: nt8.i

Sample Info: 23A0418-12

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



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Date : 23-FEB-2023 19:38

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-12

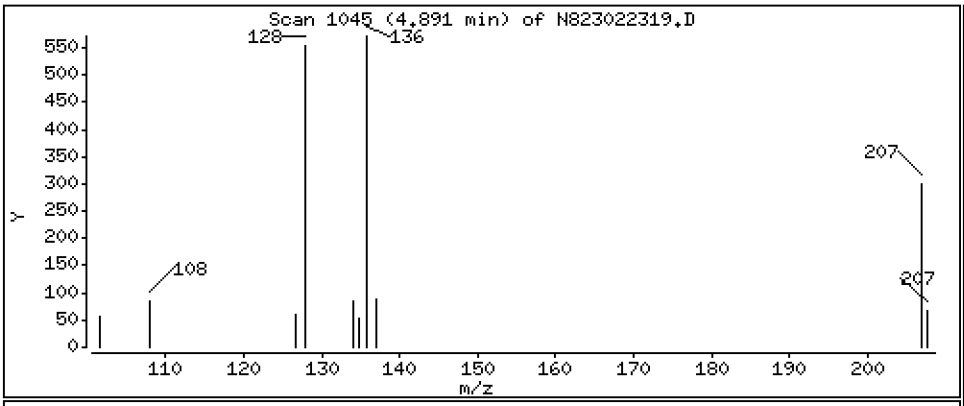
Operator: JZ

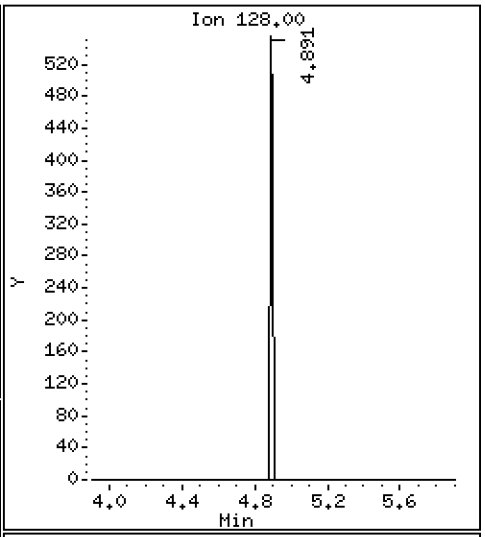
Column phase: Rxi-17sil

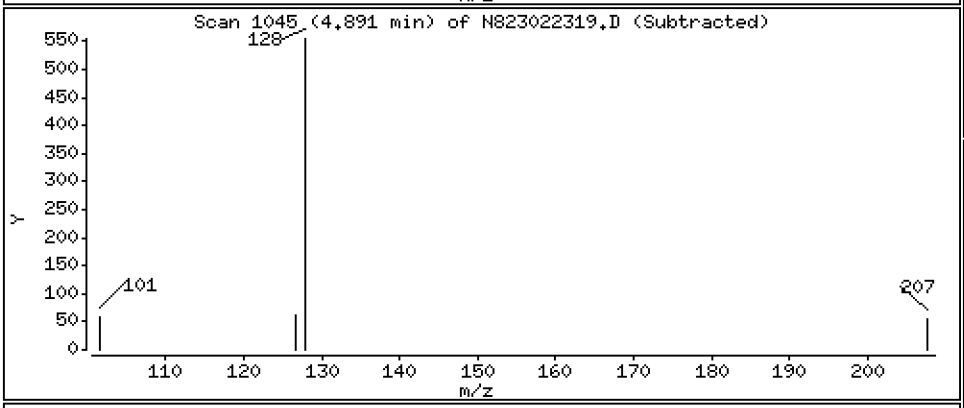
Column diameter: 0.25

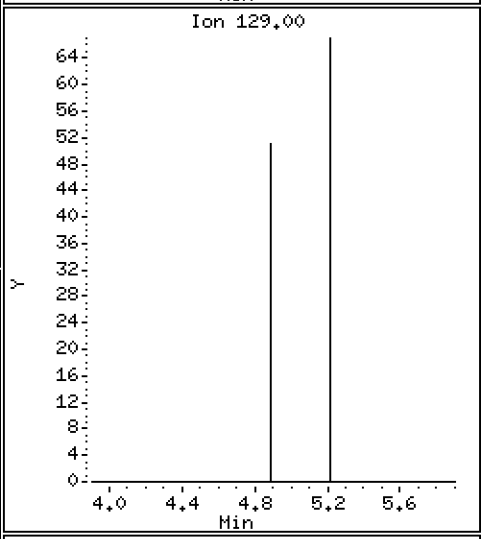
2 Naphthalene

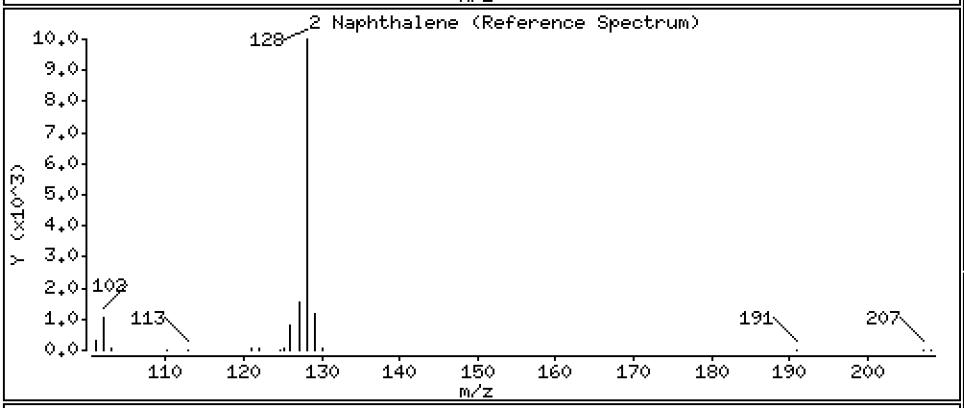
Concentration: 0.02885 ug/mL

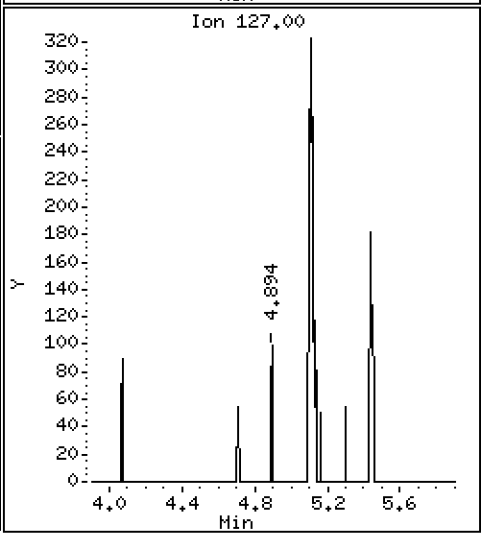


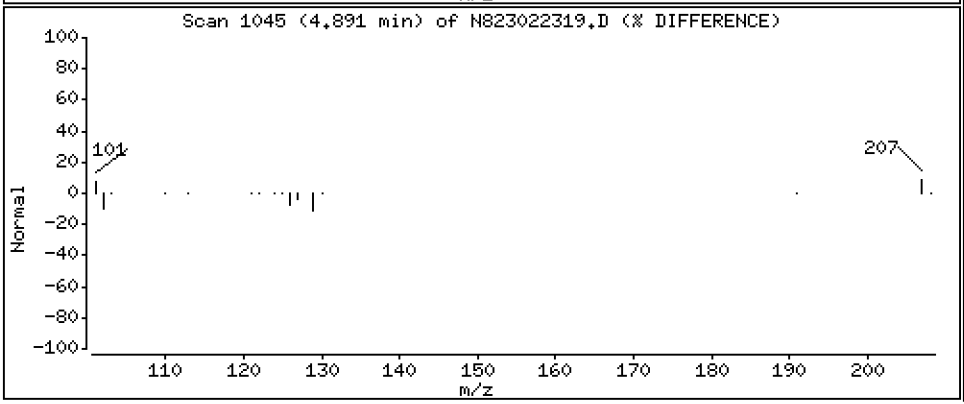












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Date : 23-FEB-2023 19:38

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-12

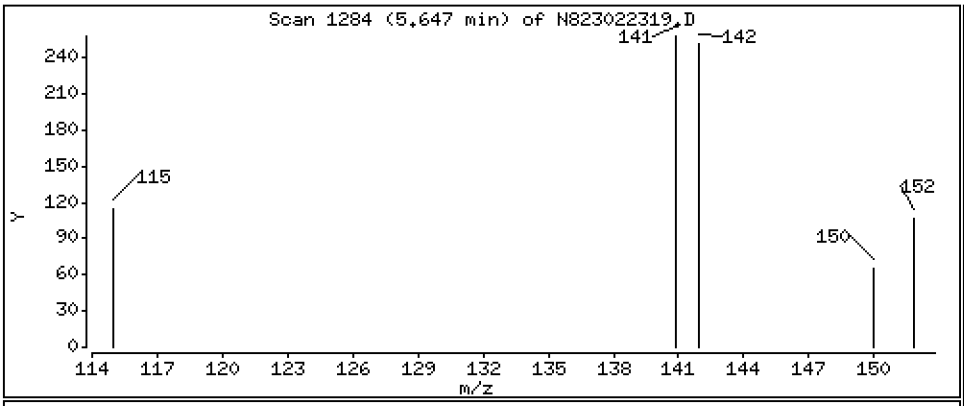
Operator: JZ

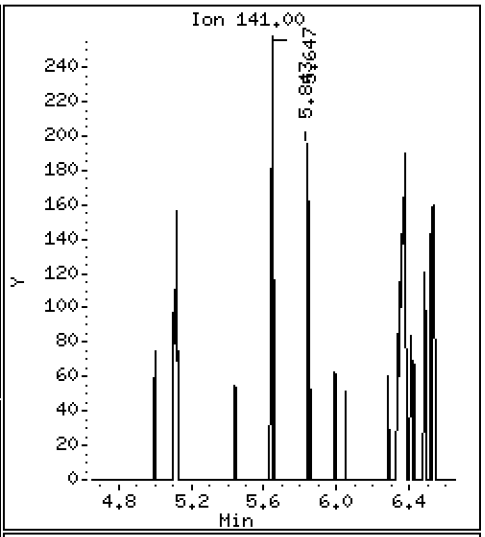
Column phase: Rxi-17sil

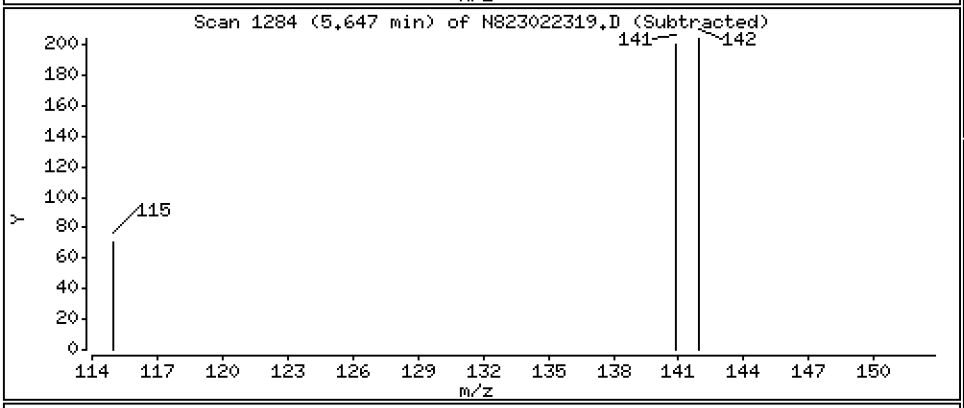
Column diameter: 0.25

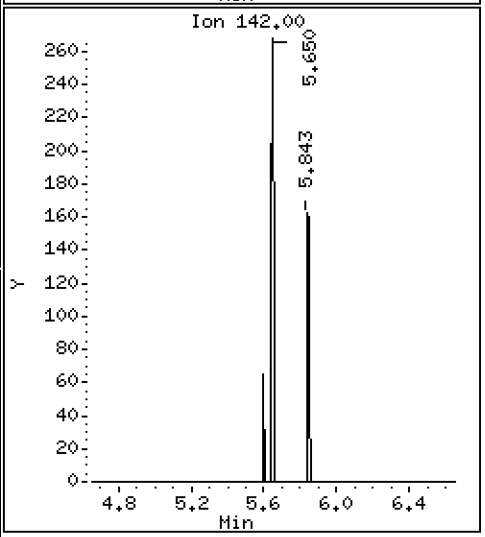
4 2-Methylnaphthalene

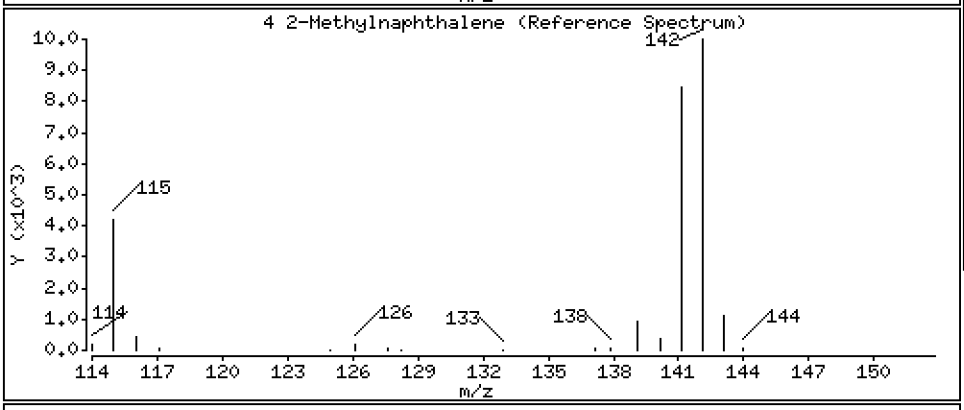
Concentration: 0.01394 ug/mL

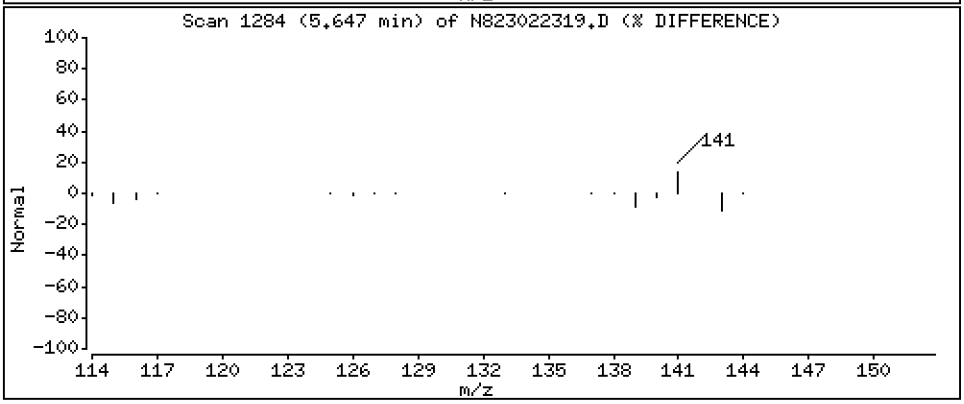












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Date : 23-FEB-2023 19:38

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-12

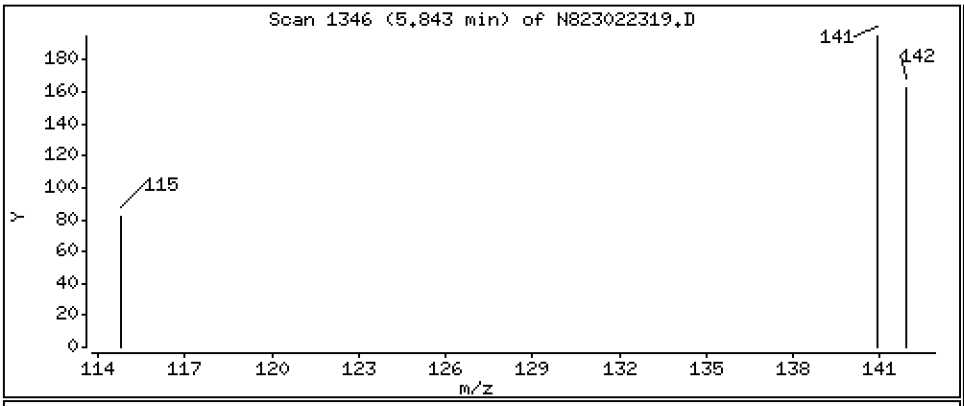
Operator: JZ

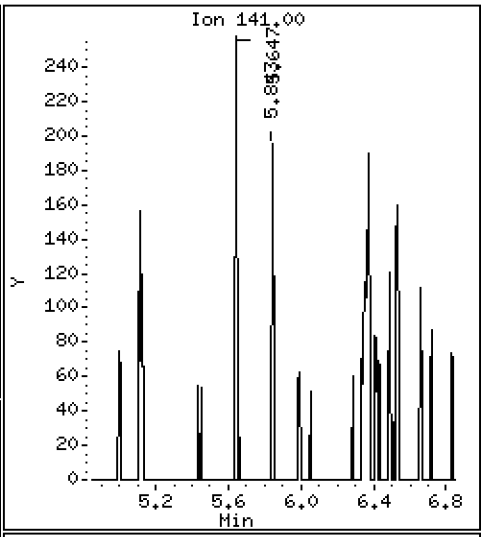
Column phase: Rxi-17sil

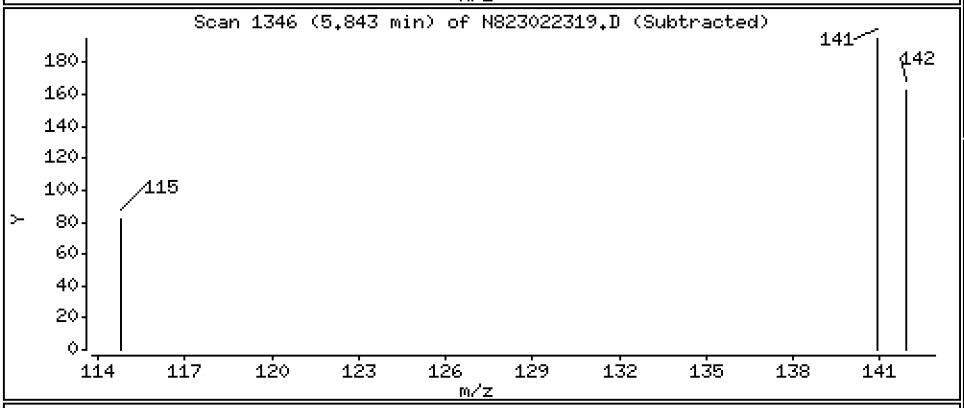
Column diameter: 0.25

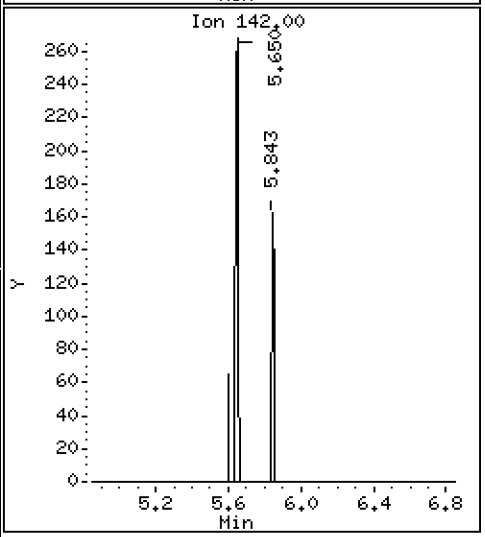
5 1-methylnaphthalene

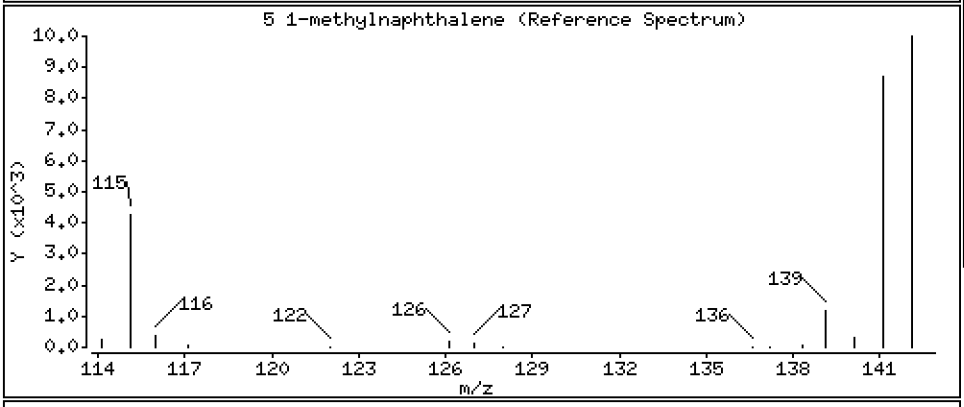
Concentration: 0.01306 ug/mL

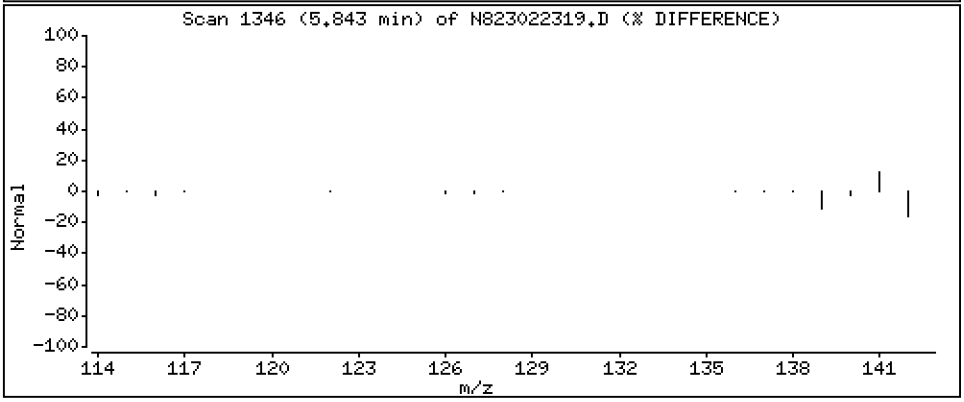












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Date : 23-FEB-2023 19:38

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-12

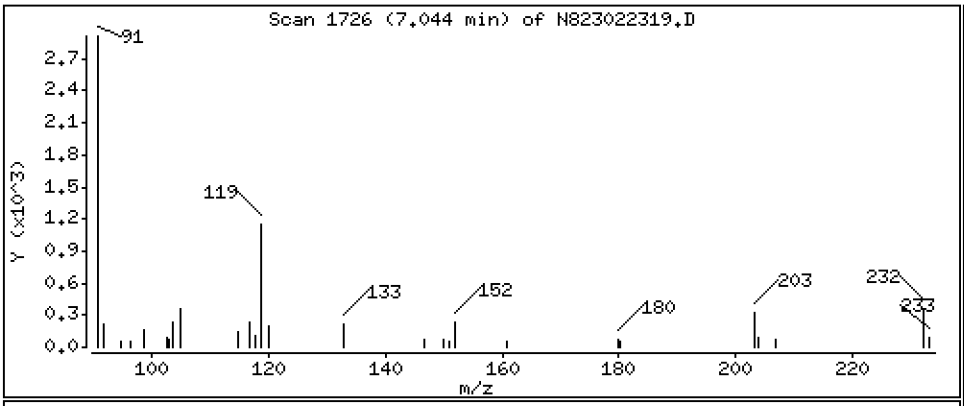
Operator: JZ

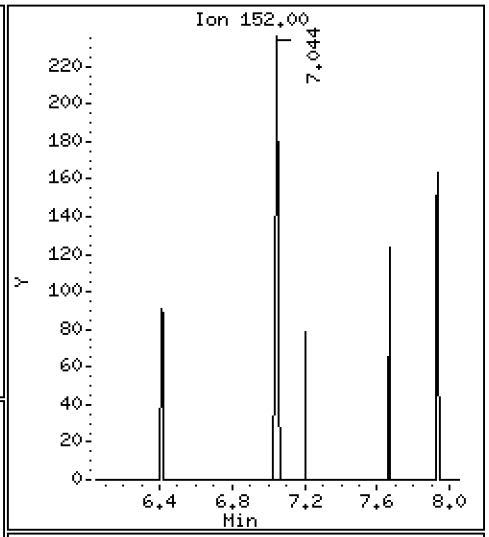
Column phase: Rxi-17sil

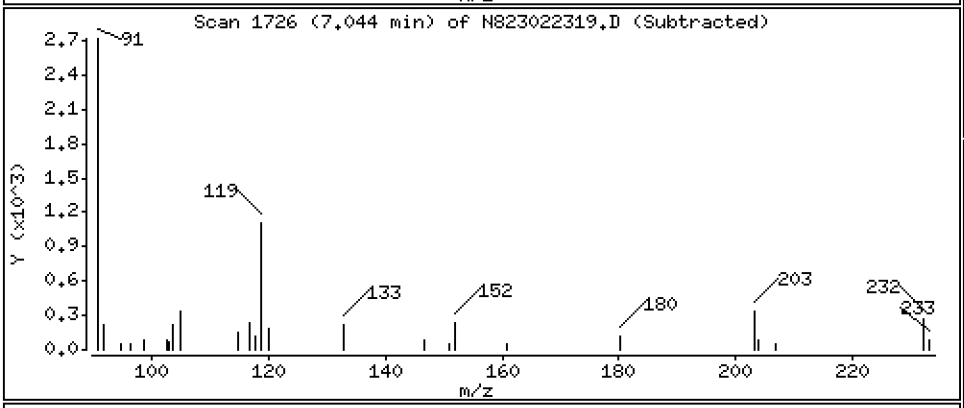
Column diameter: 0.25

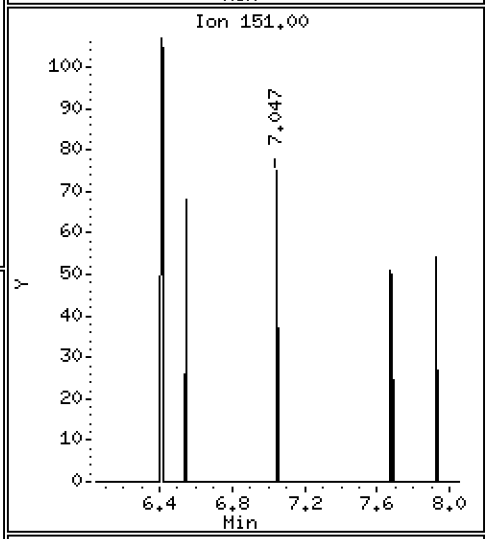
9 Acenaphthylene

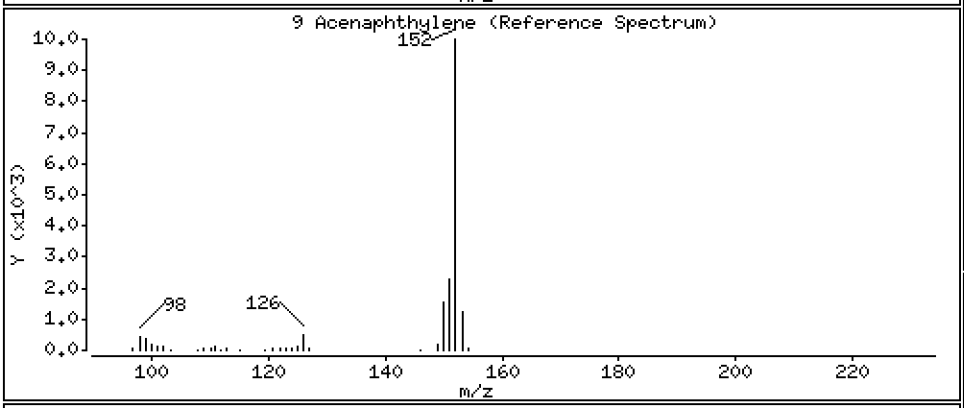
Concentration: 0.01345 ug/mL

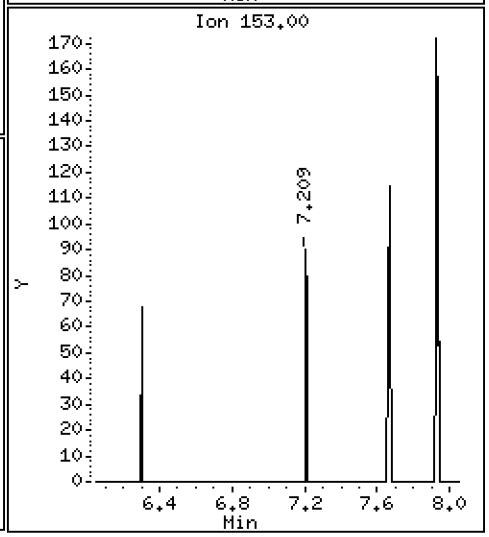


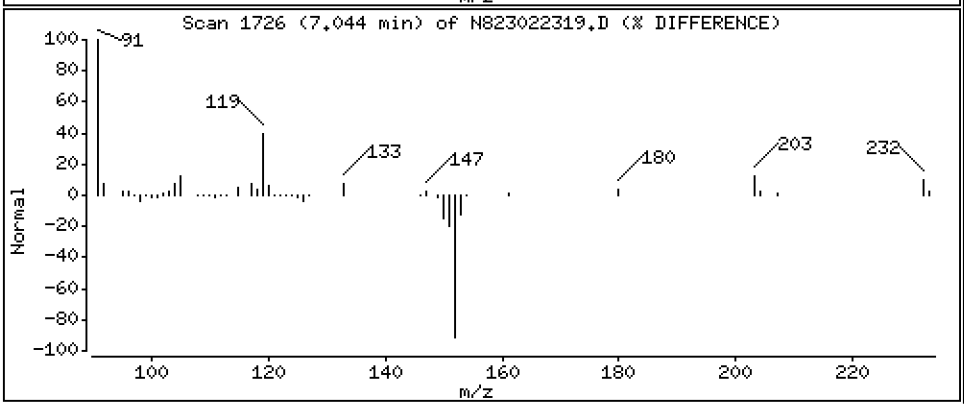












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Date : 23-FEB-2023 19:38

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-12

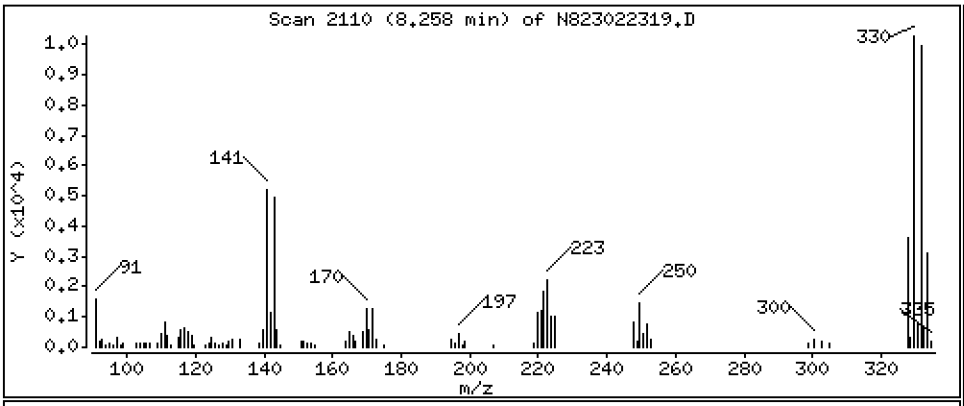
Operator: JZ

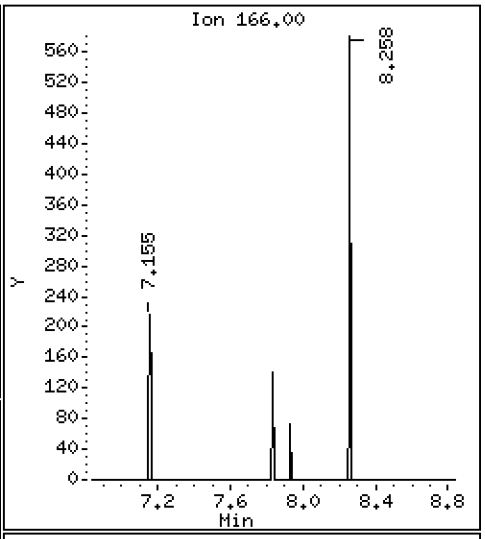
Column phase: Rxi-17sil

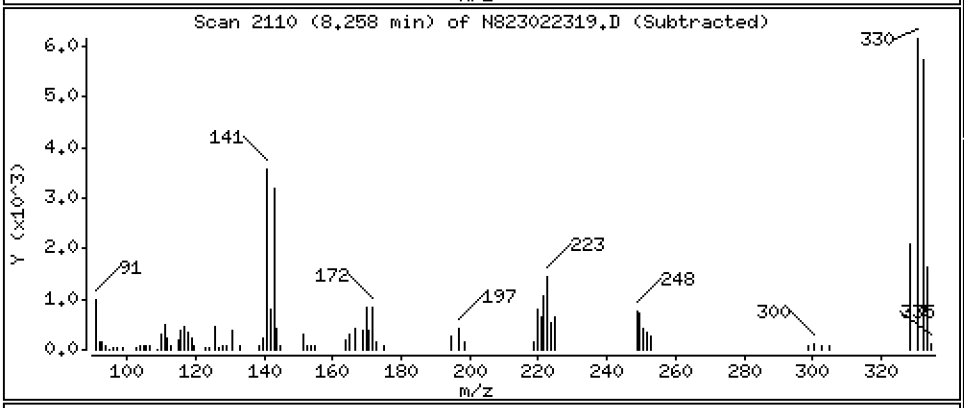
Column diameter: 0.25

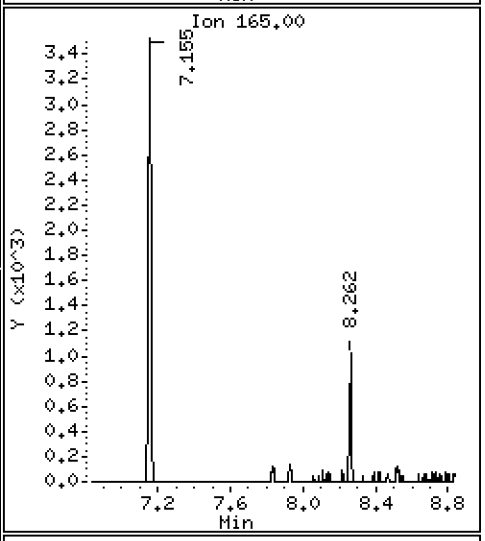
14 Fluorene

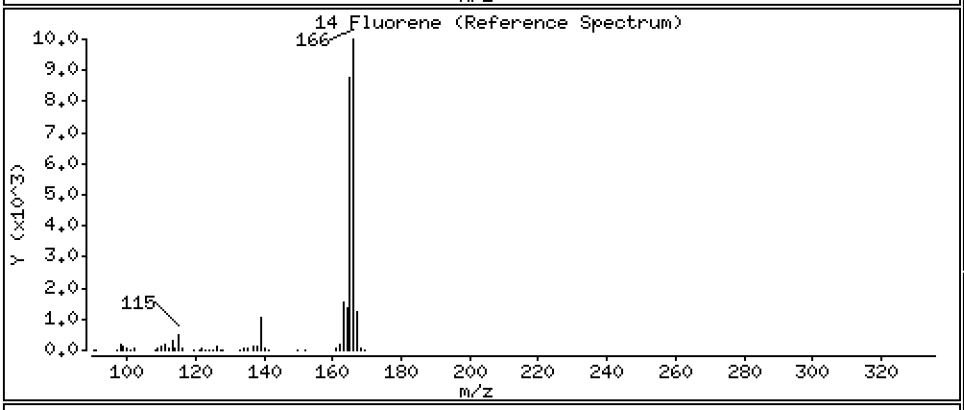
Concentration: 0.01408 ug/mL

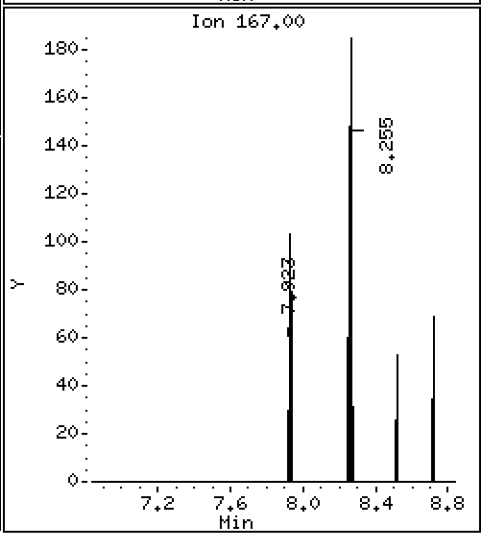


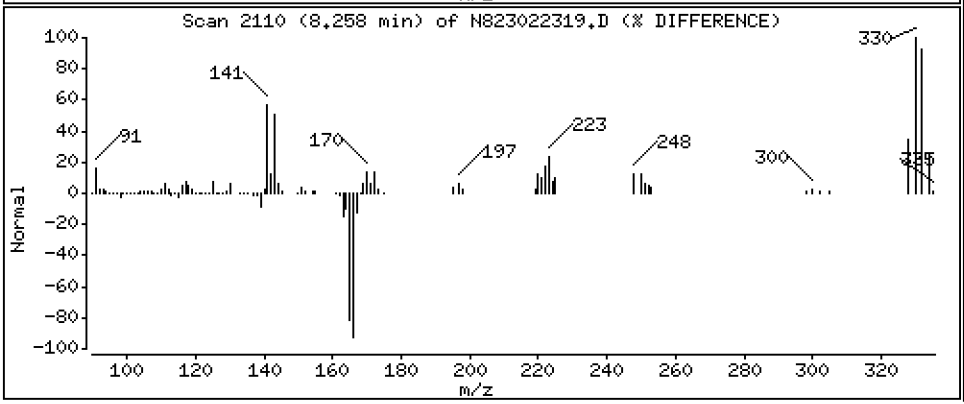












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022319.D

Date : 23-FEB-2023 19:38

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-12

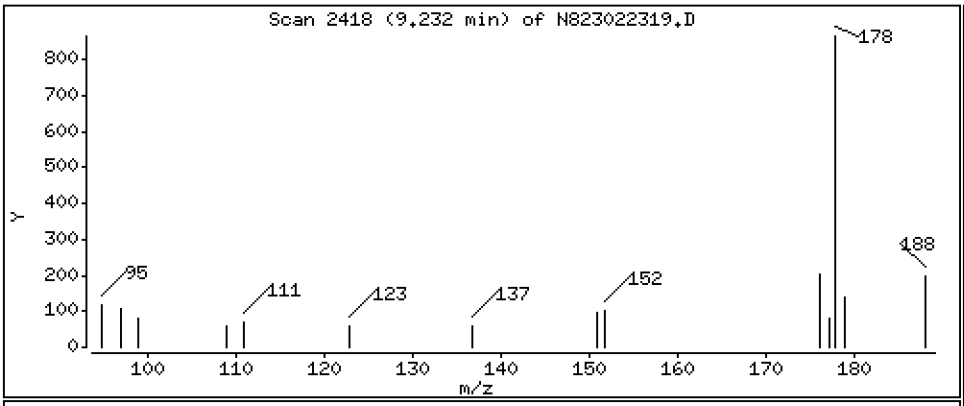
Operator: JZ

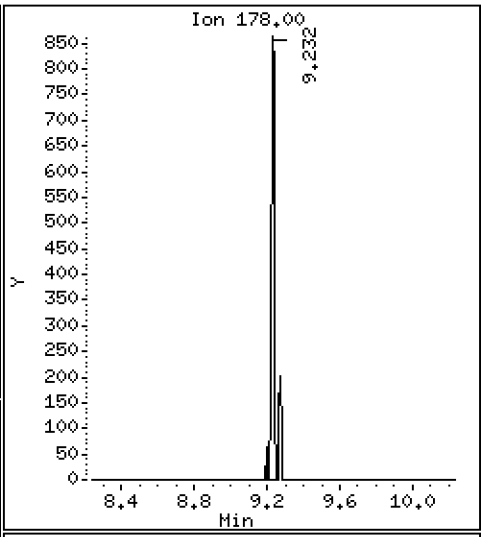
Column phase: Rxi-17sil

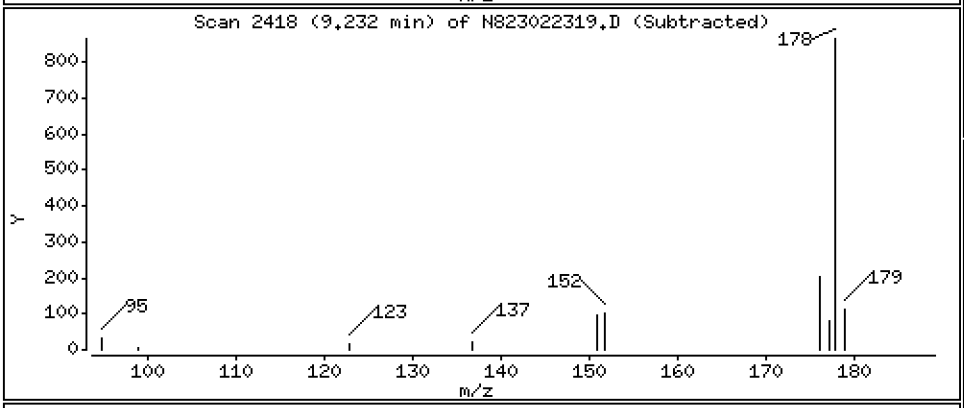
Column diameter: 0.25

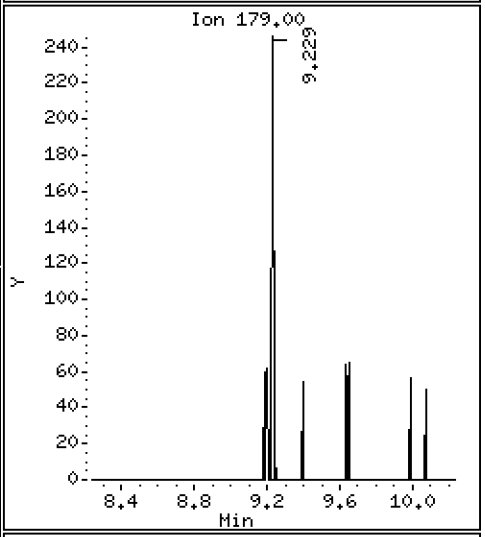
16 Phenanthrene

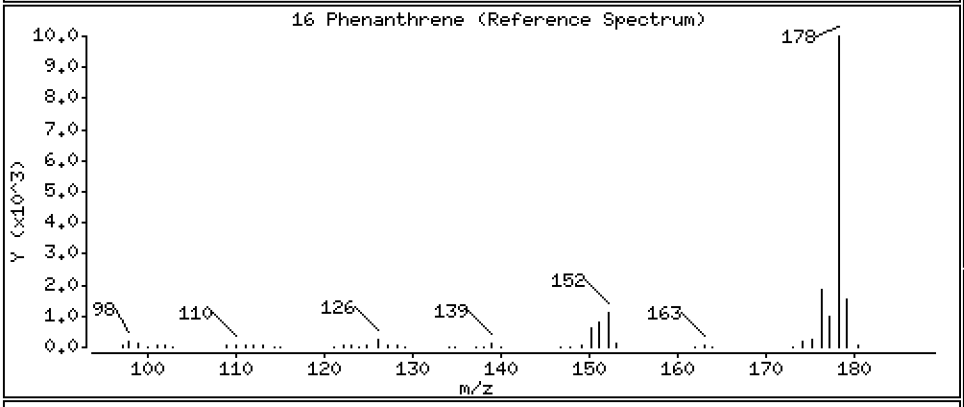
Concentration: 0.03930 ug/mL

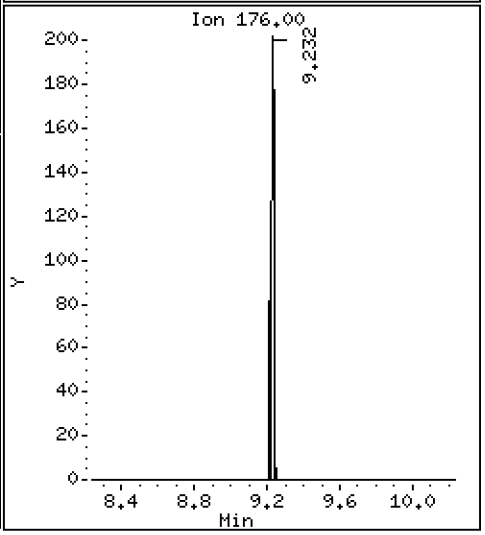


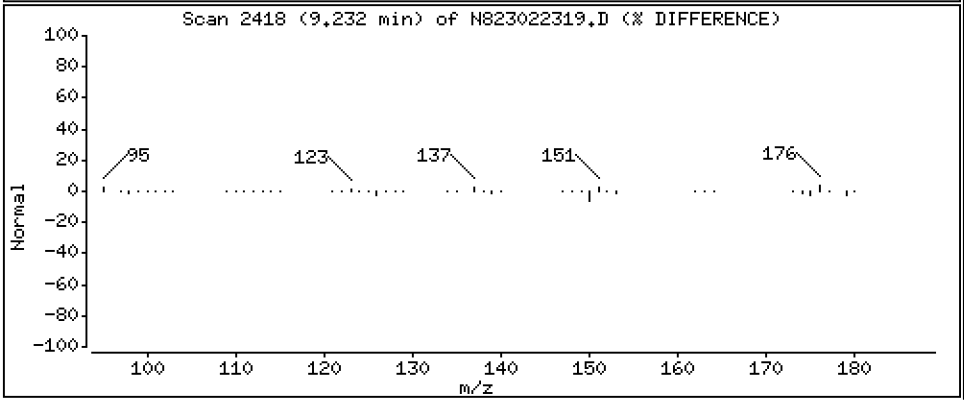












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Date : 23-FEB-2023 19:38

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-12

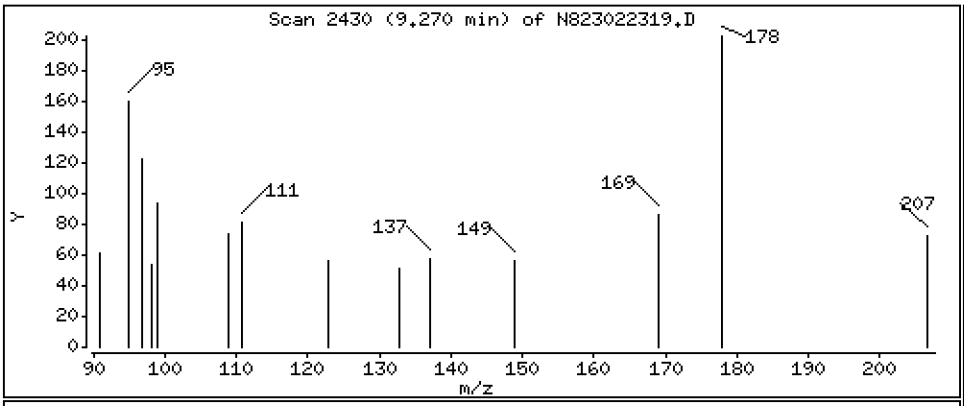
Operator: JZ

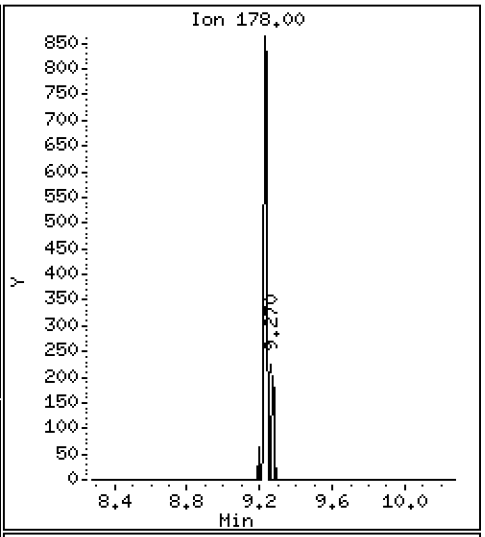
Column phase: Rxi-17sil

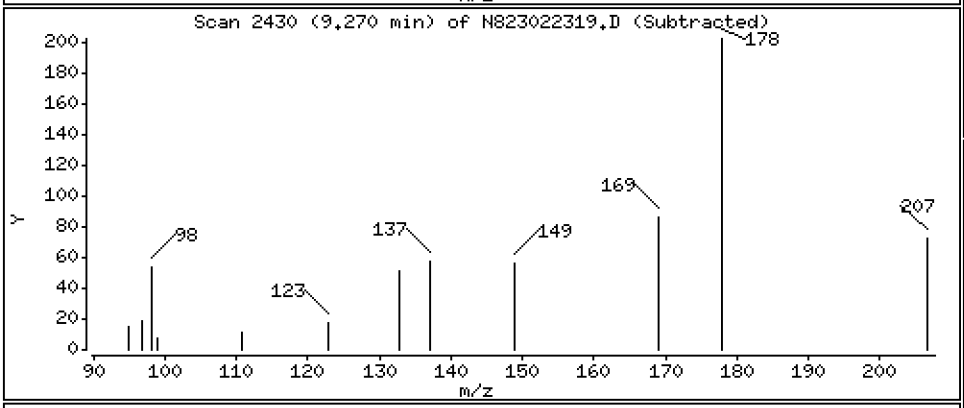
Column diameter: 0.25

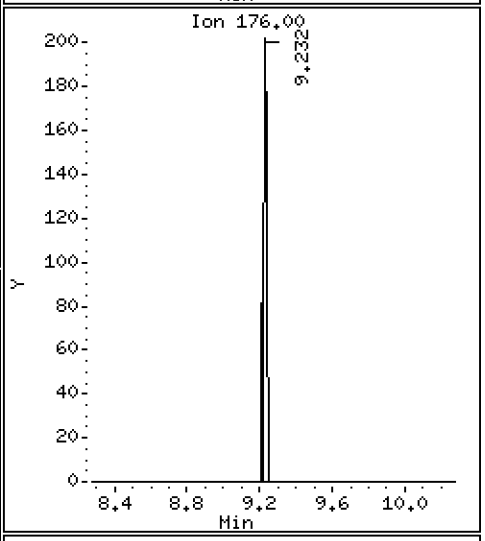
17 Anthracene

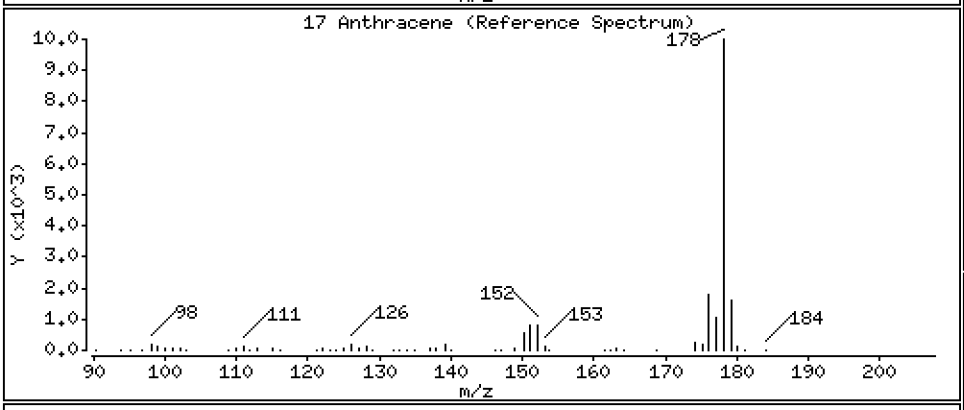
Concentration: 0.008360 ug/mL

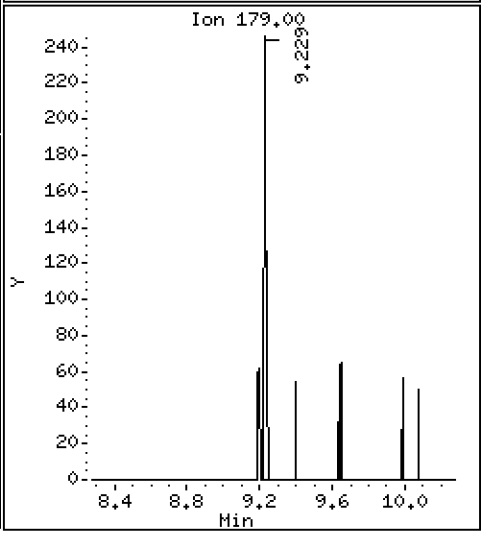


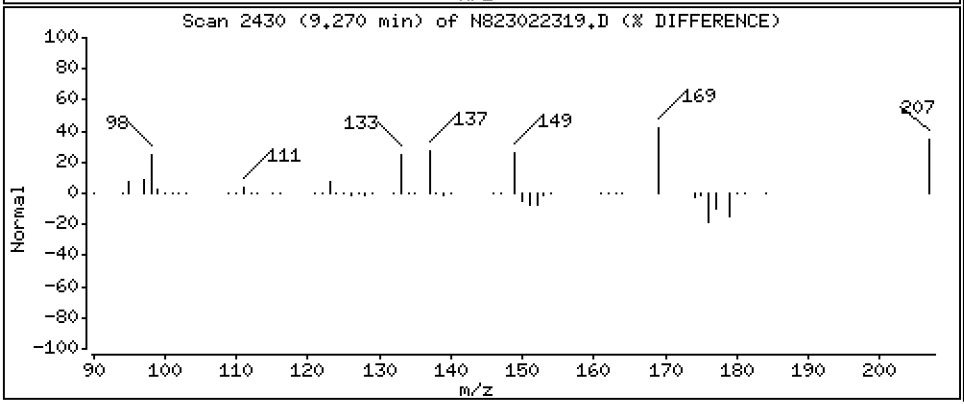












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Date : 23-FEB-2023 19:38

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-12

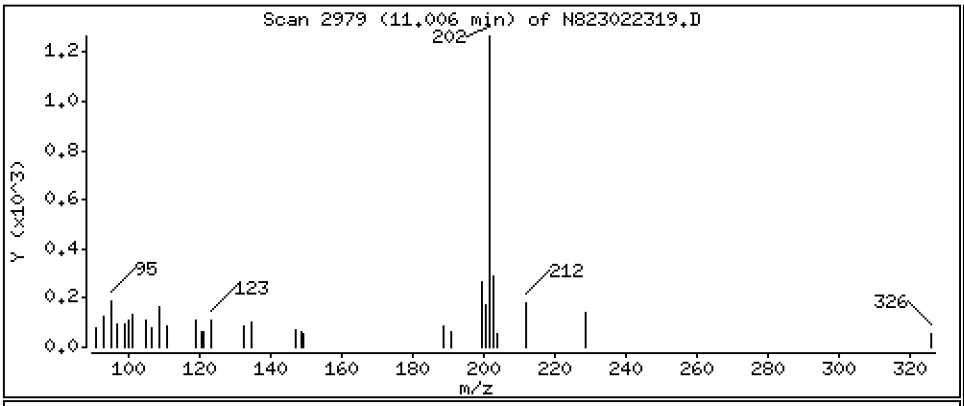
Operator: JZ

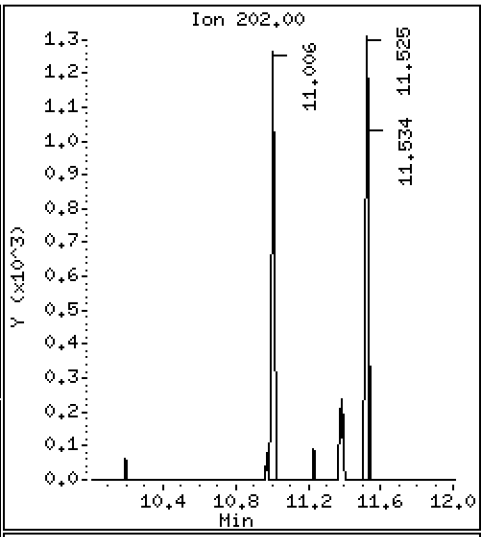
Column phase: Rxi-17sil

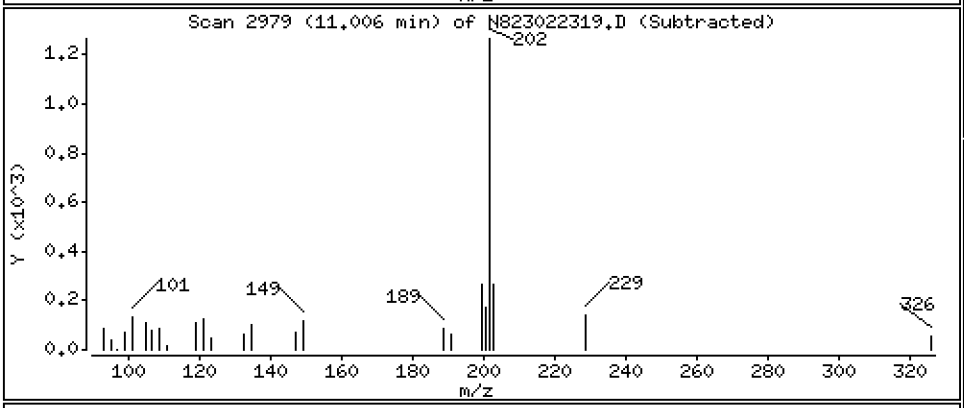
Column diameter: 0.25

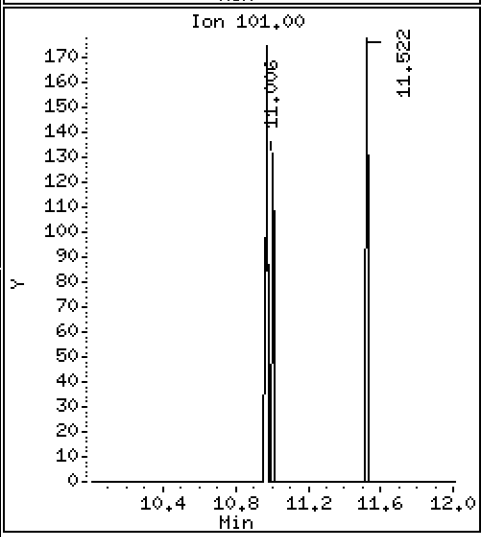
22 Fluoranthene

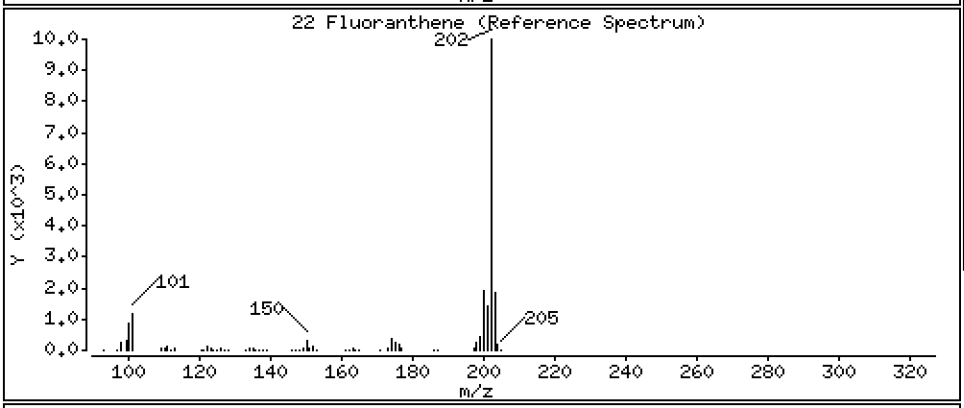
Concentration: 0.05724 ug/mL

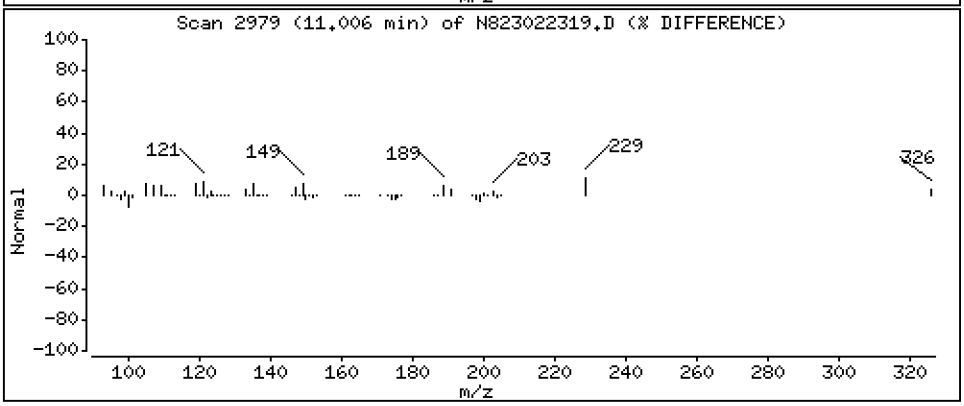












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Date : 23-FEB-2023 19:38

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-12

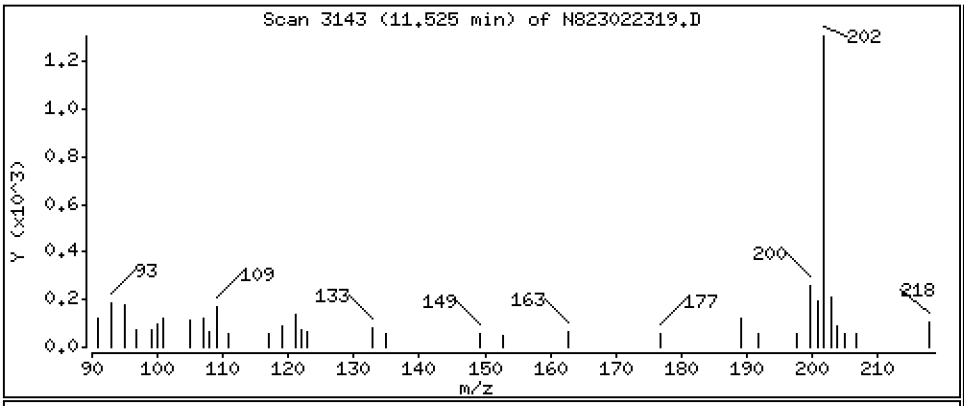
Operator: JZ

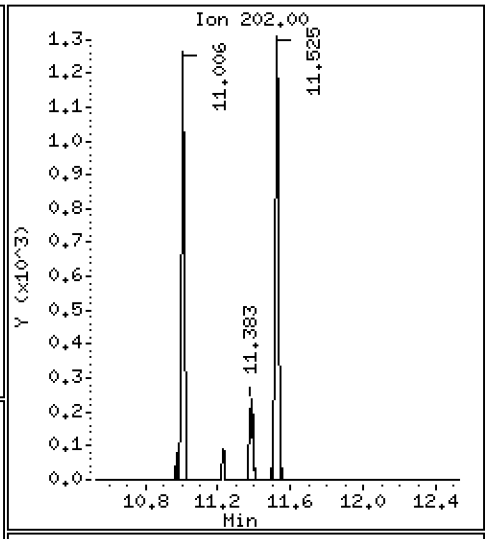
Column phase: Rxi-17sil

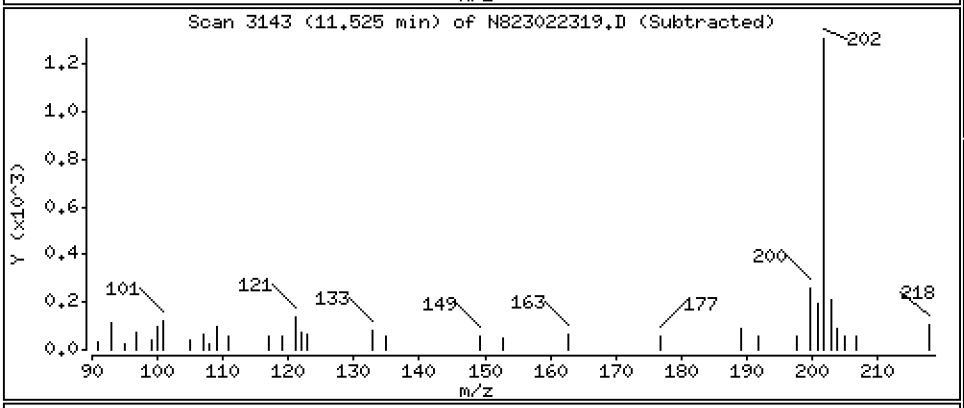
Column diameter: 0.25

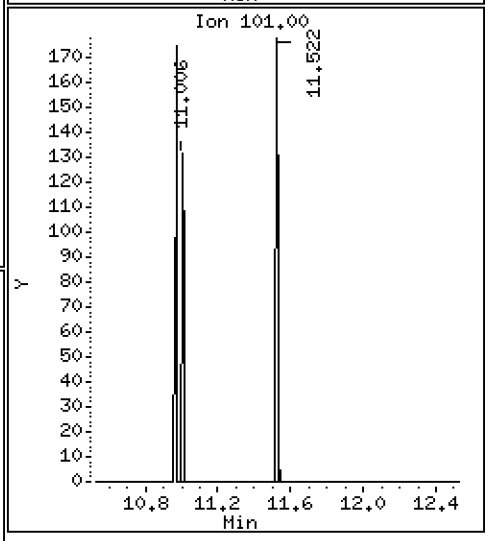
23 Pyrene

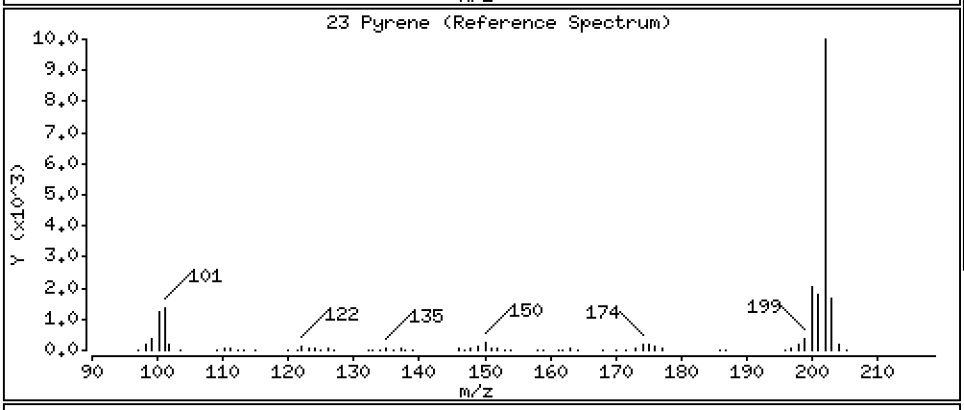
Concentration: 0.06547 ug/mL

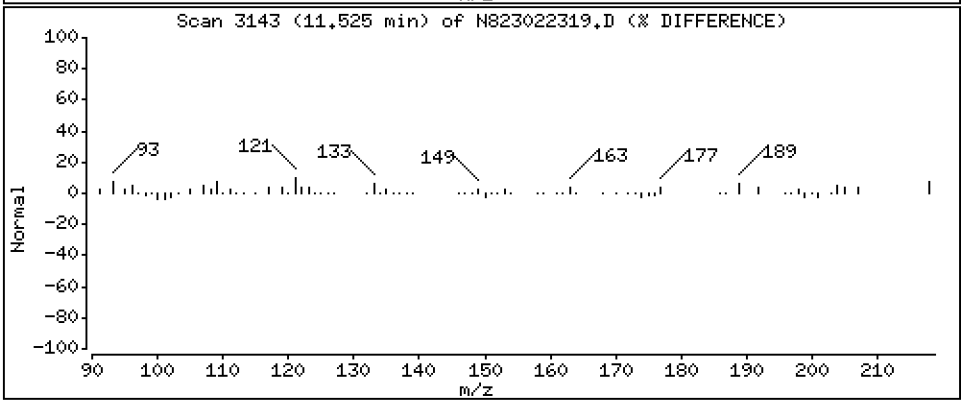












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Date : 23-FEB-2023 19:38

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-12

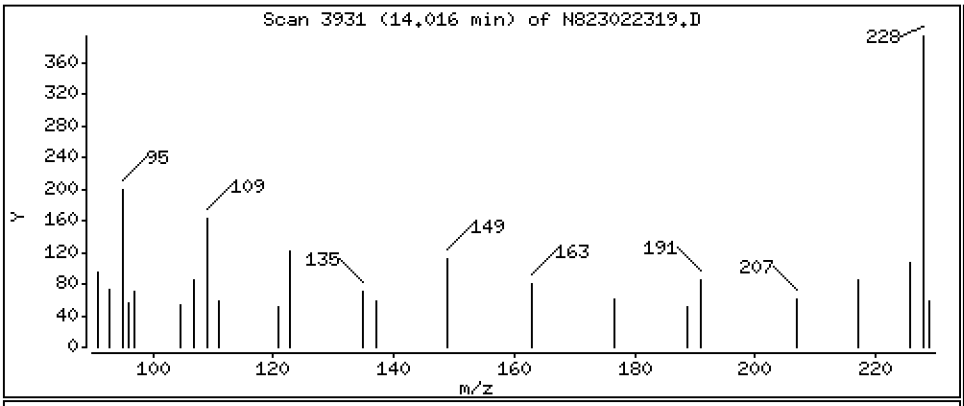
Operator: JZ

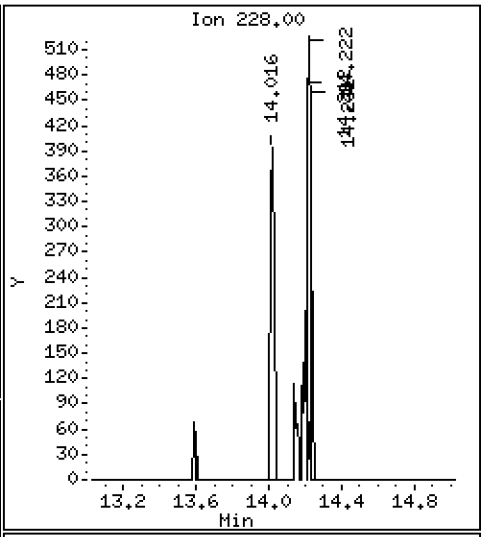
Column phase: Rxi-17sil

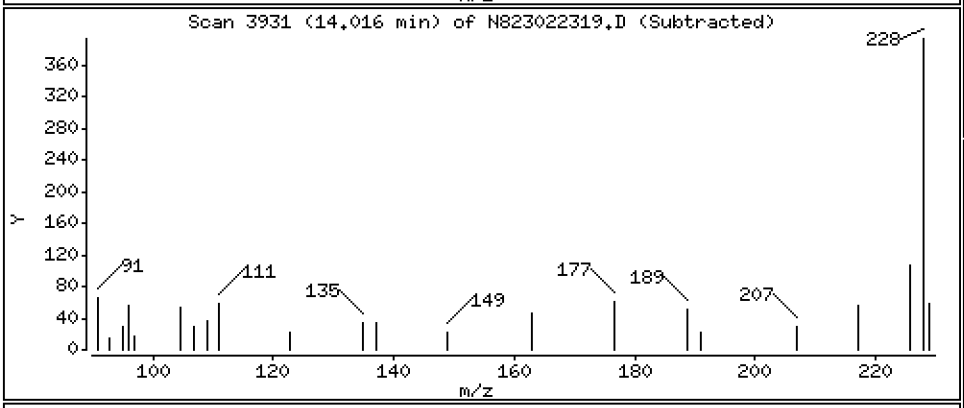
Column diameter: 0.25

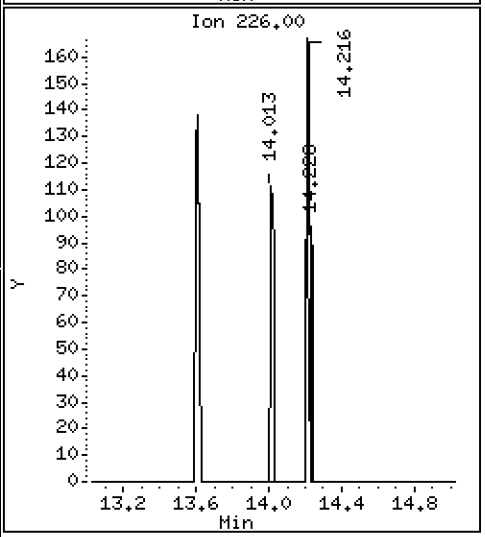
24 Benzo(a)anthracene

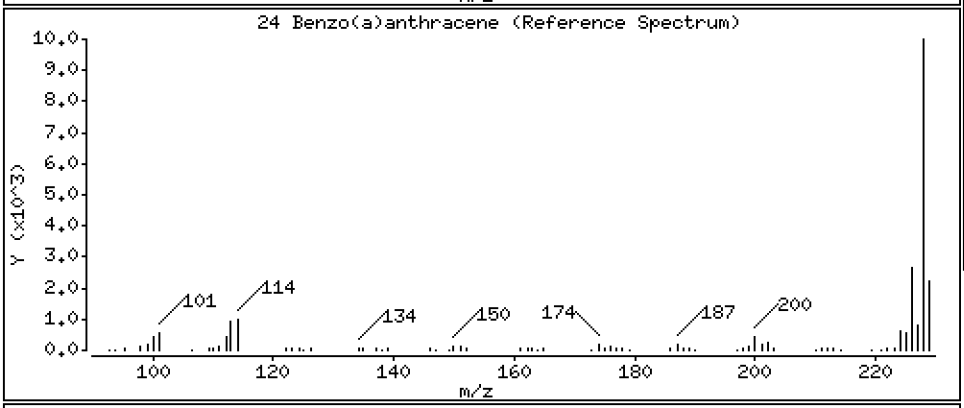
Concentration: 0.02653 ug/mL

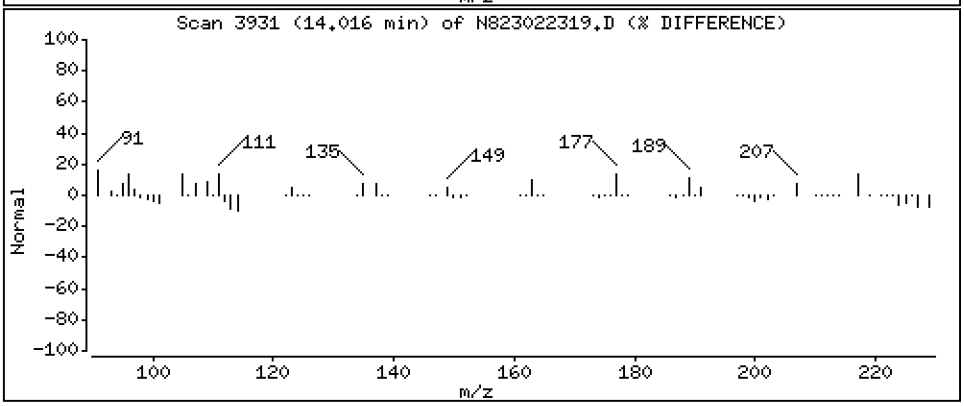












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Date : 23-FEB-2023 19:38

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-12

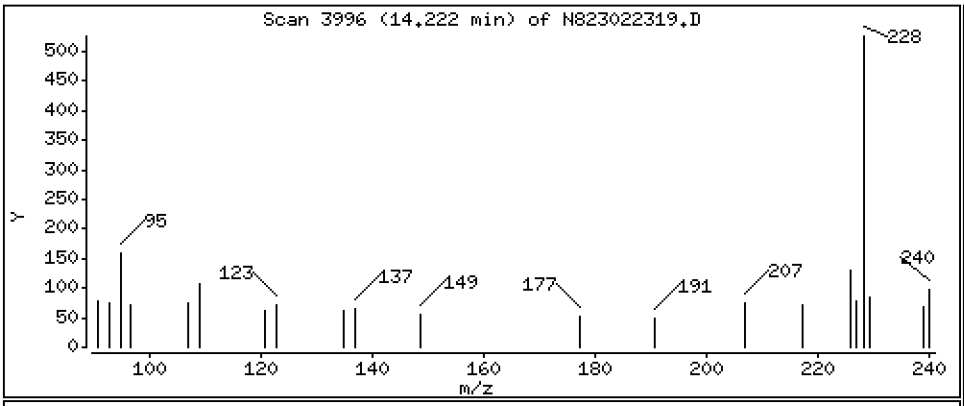
Operator: JZ

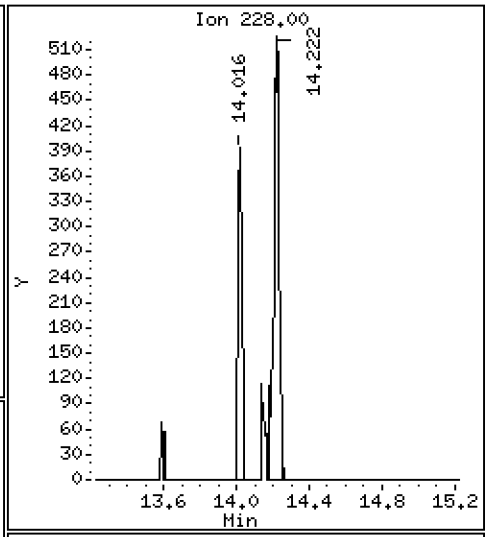
Column phase: Rxi-17sil

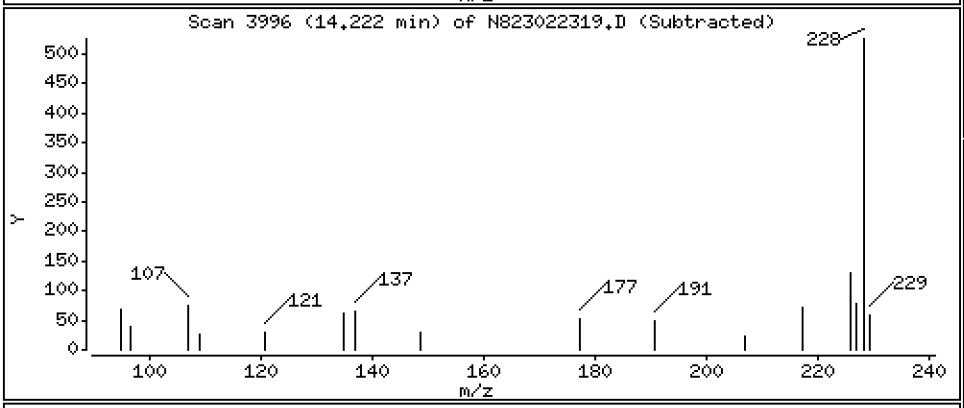
Column diameter: 0.25

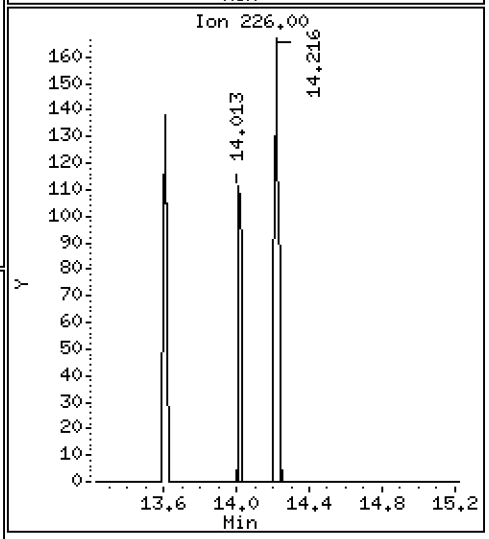
27 Chrysene

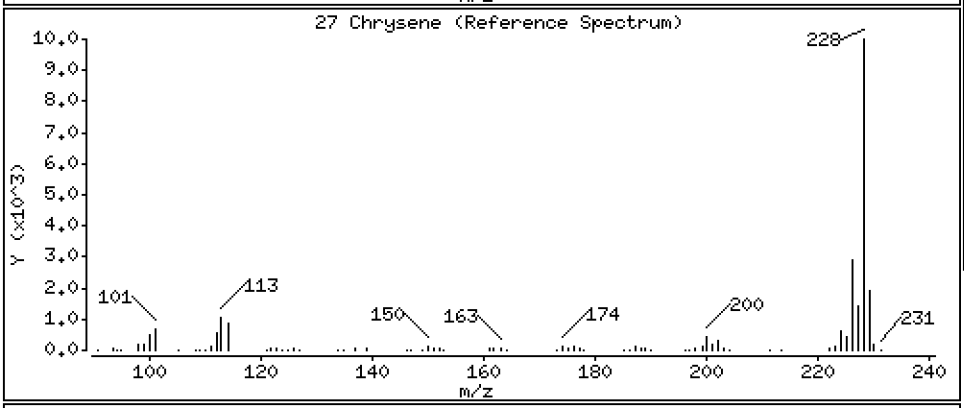
Concentration: 0.04344 ug/mL

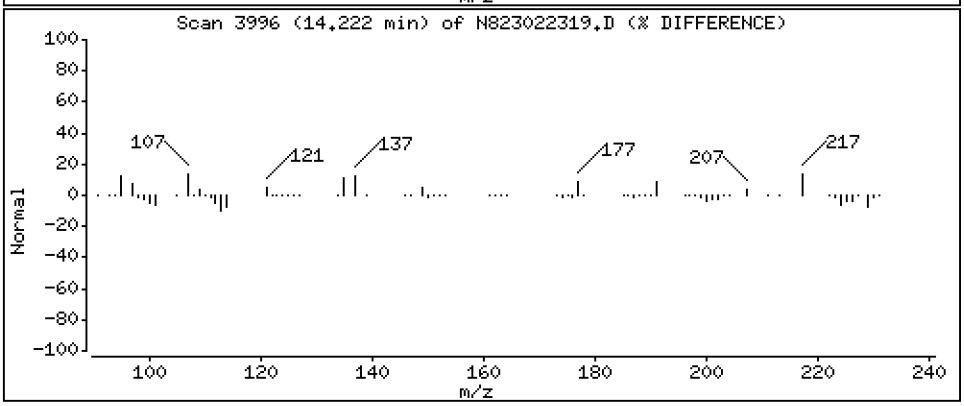












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Date : 23-FEB-2023 19:38

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-12

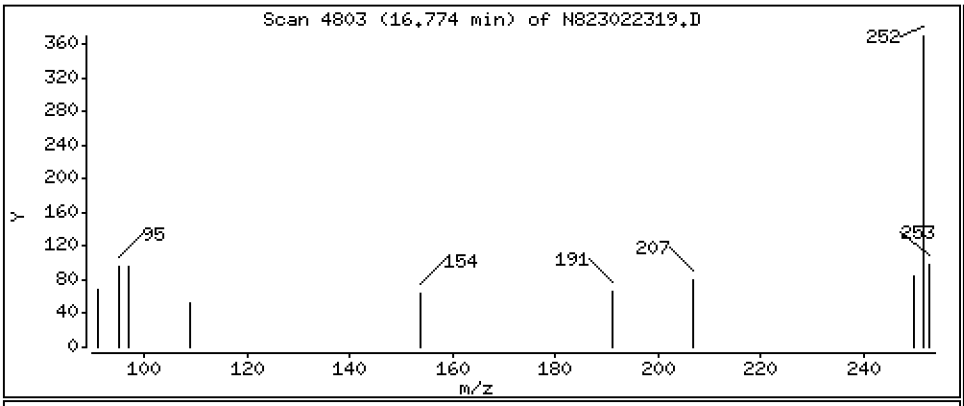
Operator: JZ

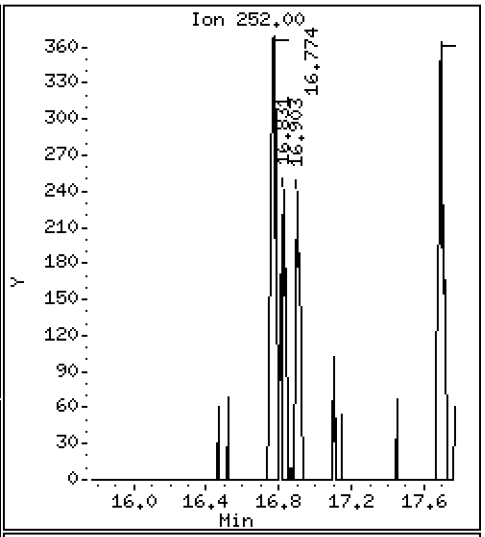
Column phase: Rxi-17sil

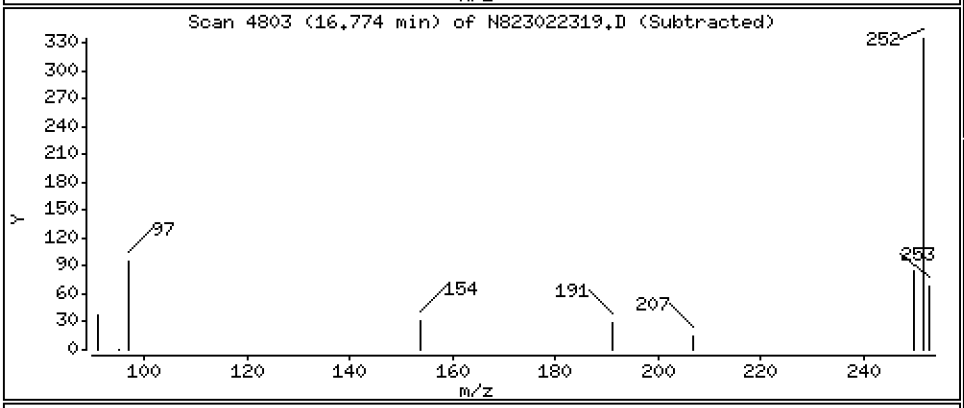
Column diameter: 0.25

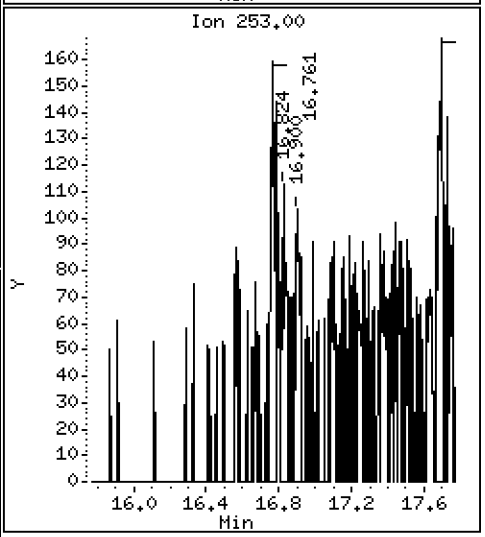
28 Benzo(b)fluoranthene

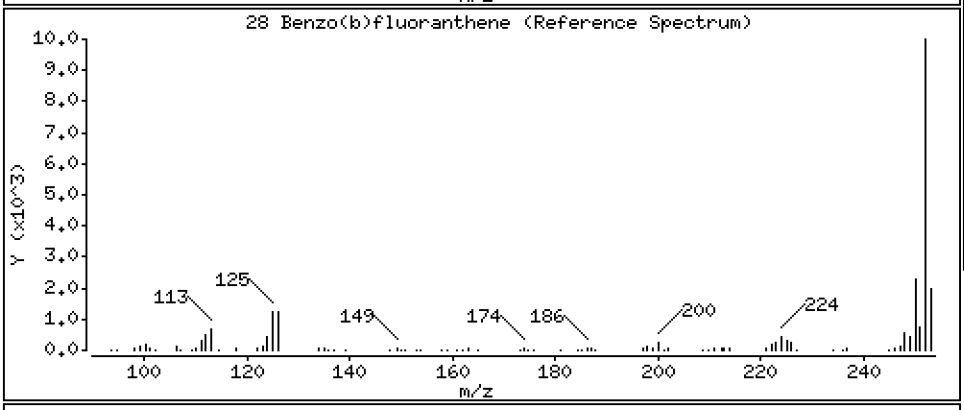
Concentration: 0.03531 ug/mL

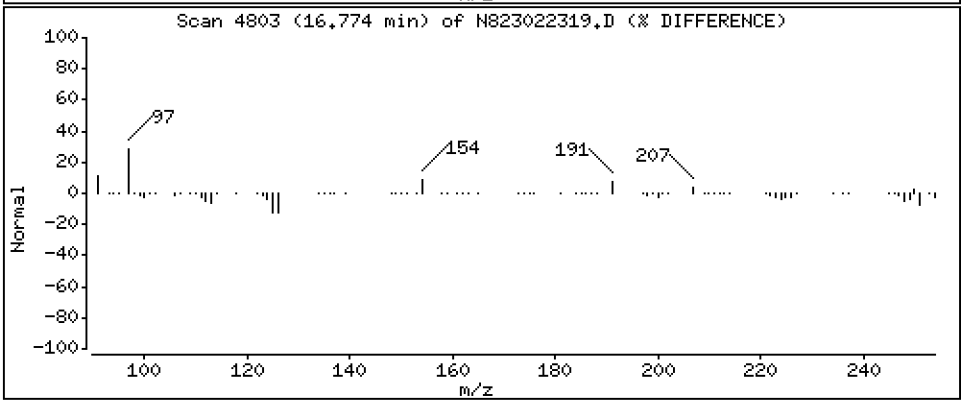












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Date : 23-FEB-2023 19:38

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-12

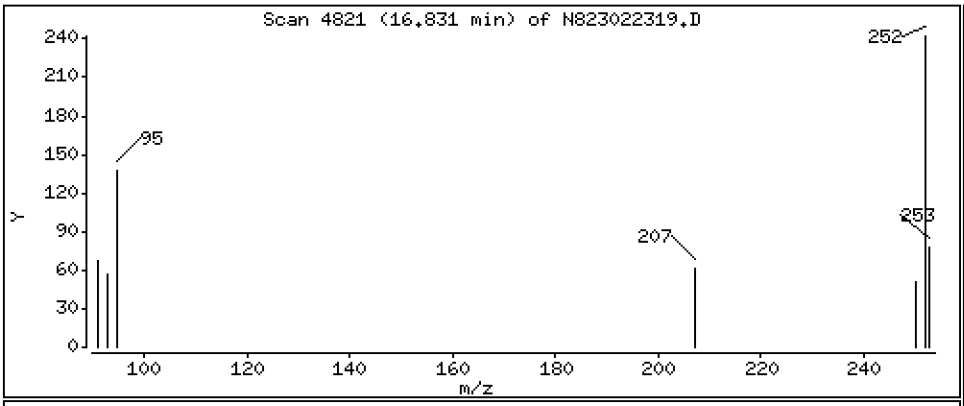
Operator: JZ

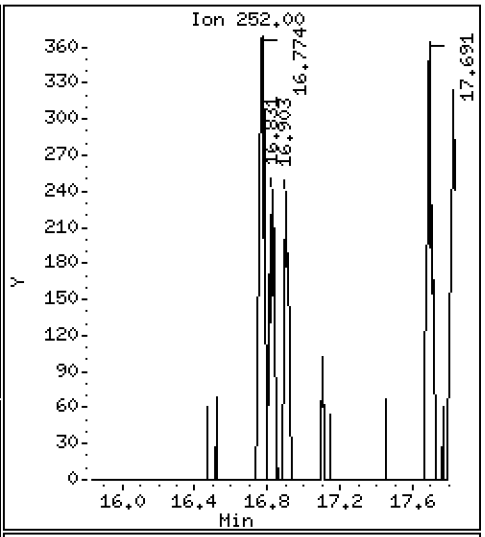
Column phase: Rxi-17sil

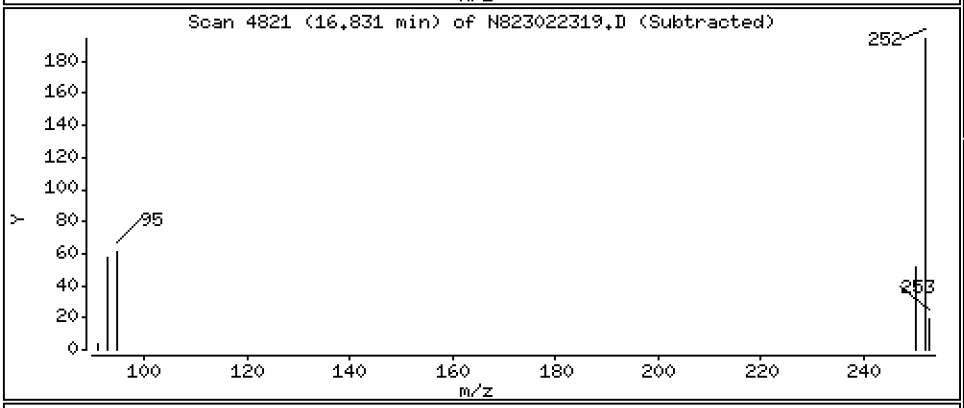
Column diameter: 0.25

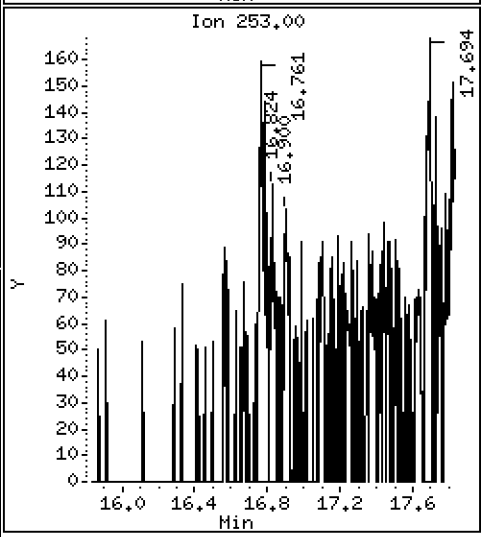
29 Benzo(k)fluoranthene

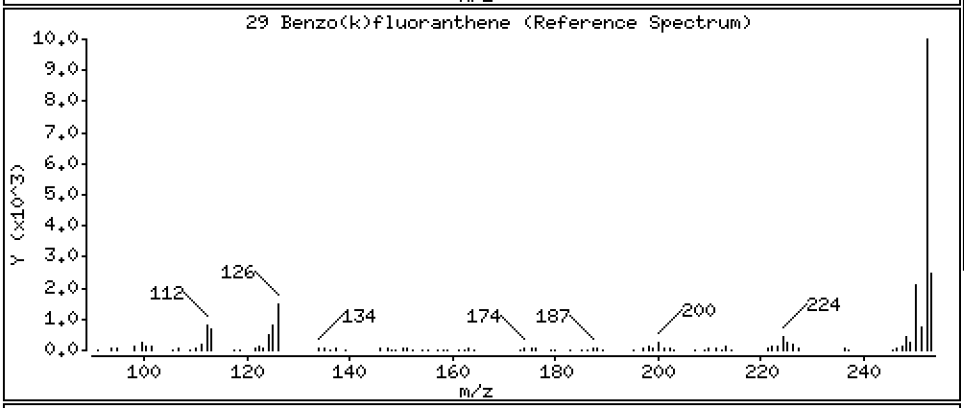
Concentration: 0.02013 ug/mL

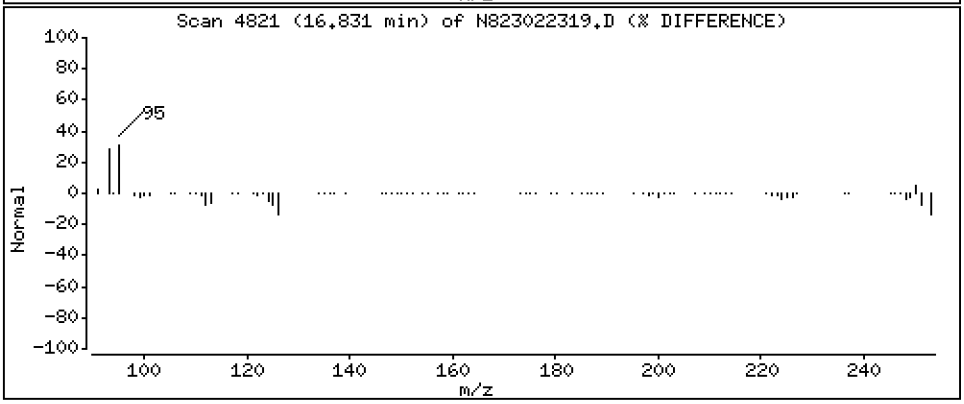












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Date : 23-FEB-2023 19:38

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-12

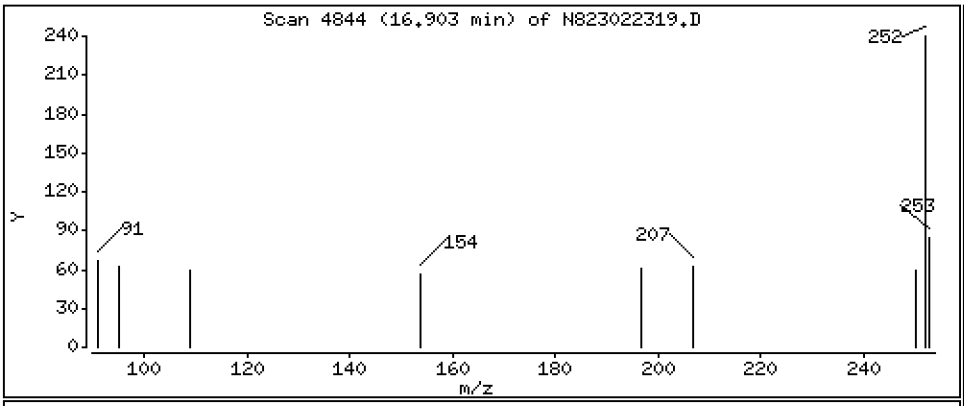
Operator: JZ

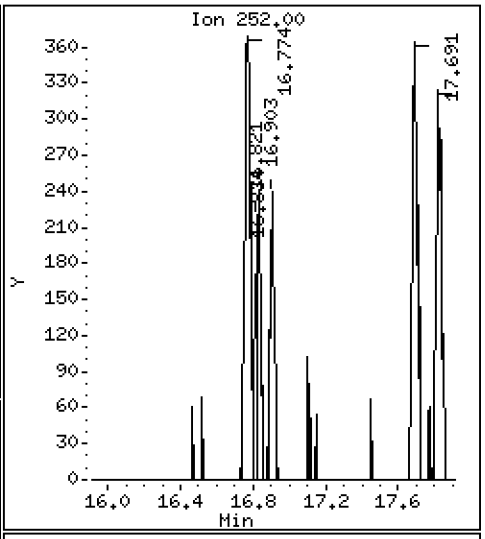
Column phase: Rxi-17sil

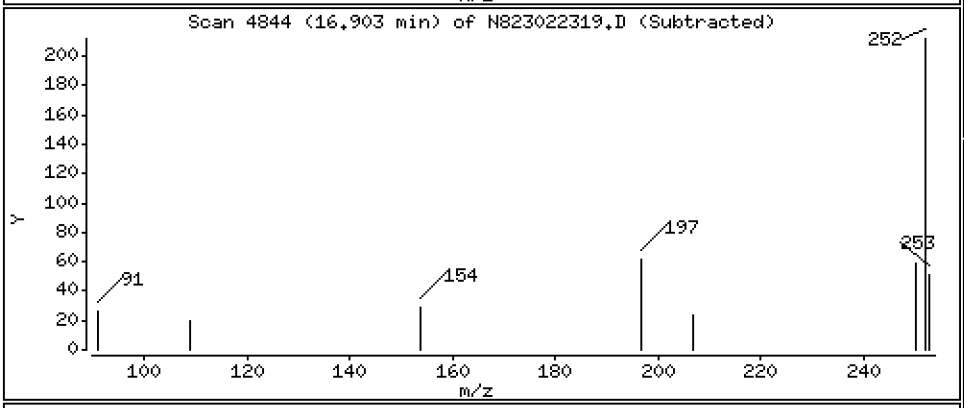
Column diameter: 0.25

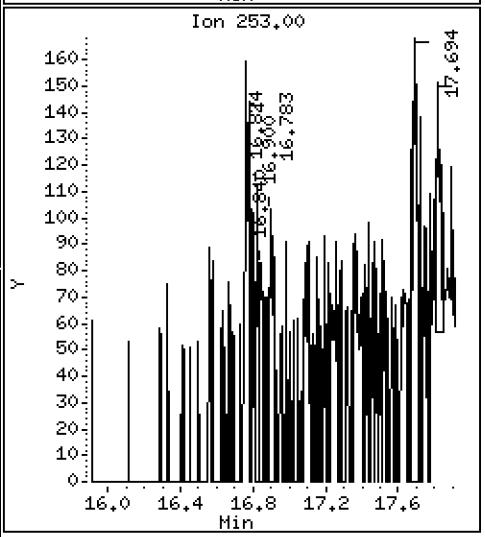
30 Benzo(j)fluoranthene

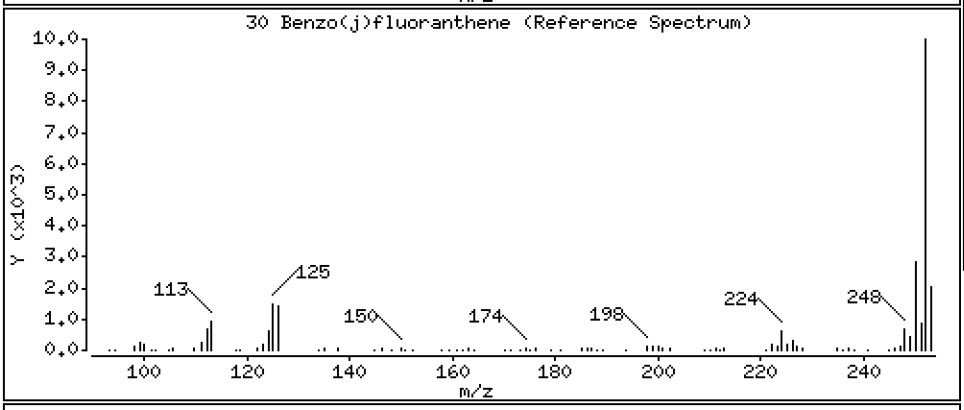
Concentration: 0.01984 ug/mL

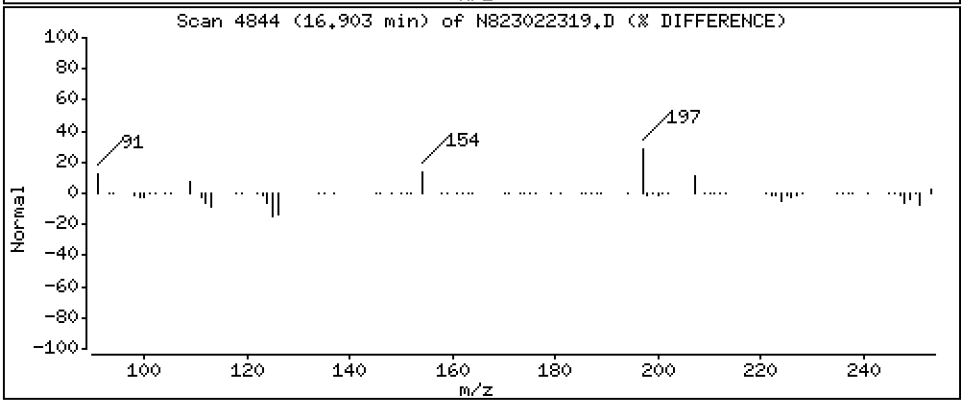












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022319.D

Date : 23-FEB-2023 19:38

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-12

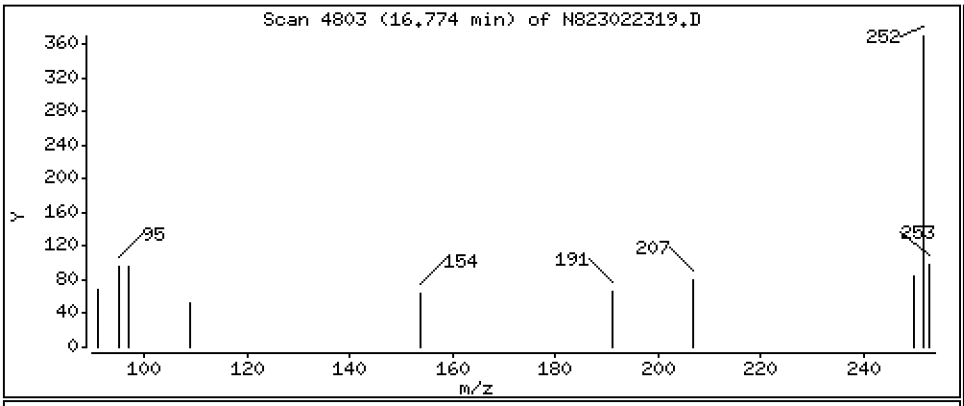
Operator: JZ

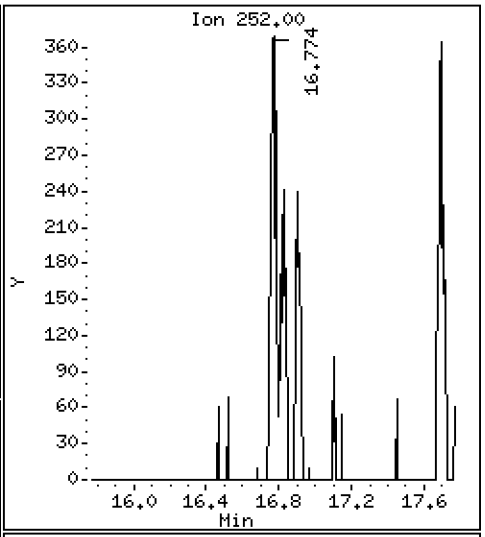
Column phase: Rxi-17sil

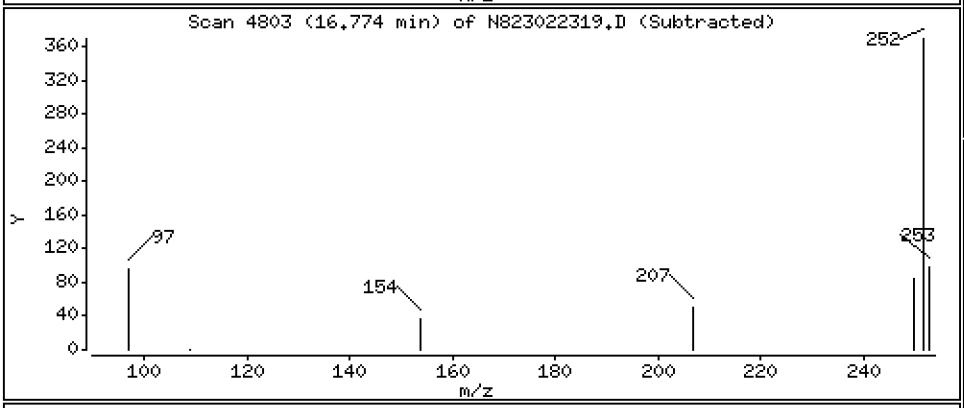
Column diameter: 0.25

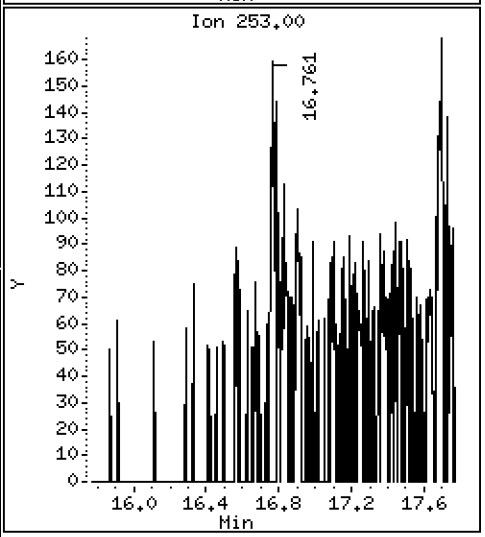
31 Total Benzofluoranthenes

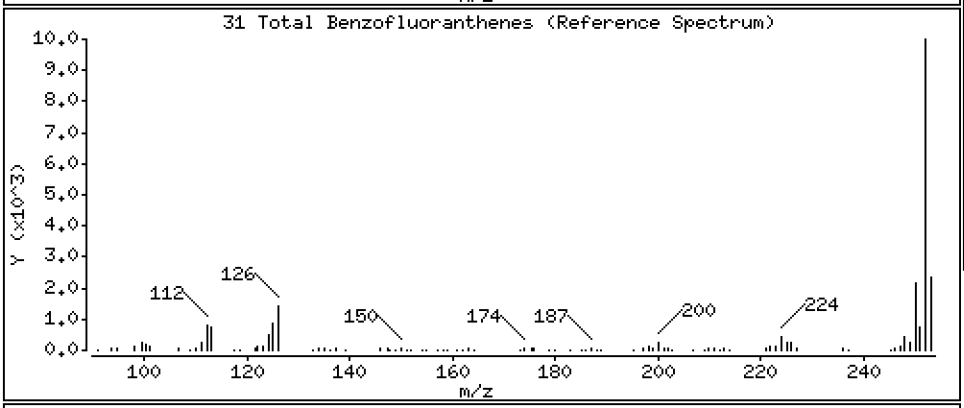
Concentration: 0.07667 ug/mL

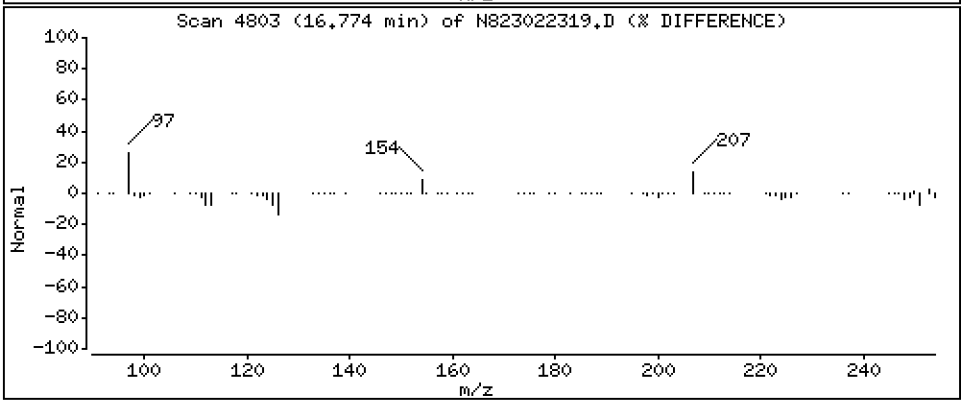












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Date : 23-FEB-2023 19:38

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-12

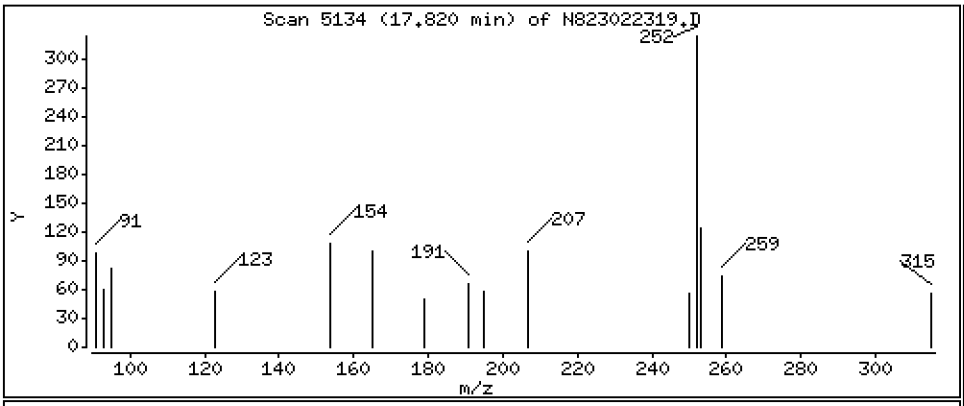
Operator: JZ

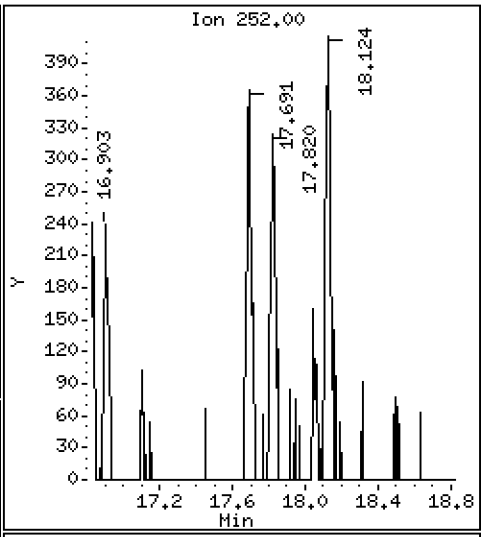
Column phase: Rxi-17sil

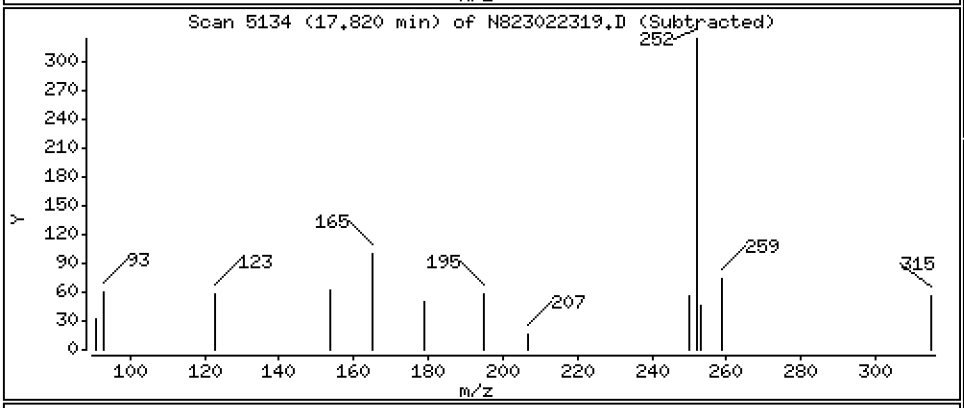
Column diameter: 0.25

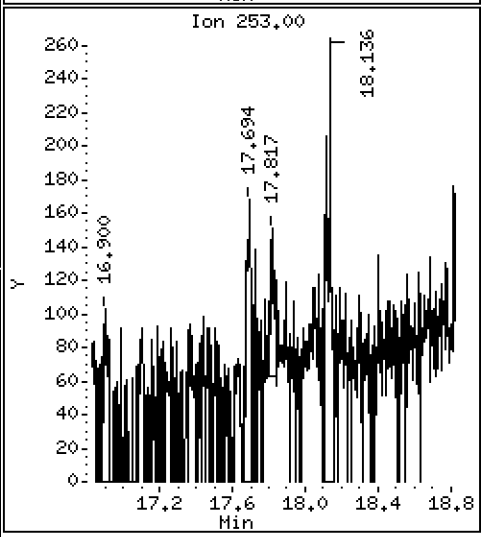
32 Benzo(a)pyrene

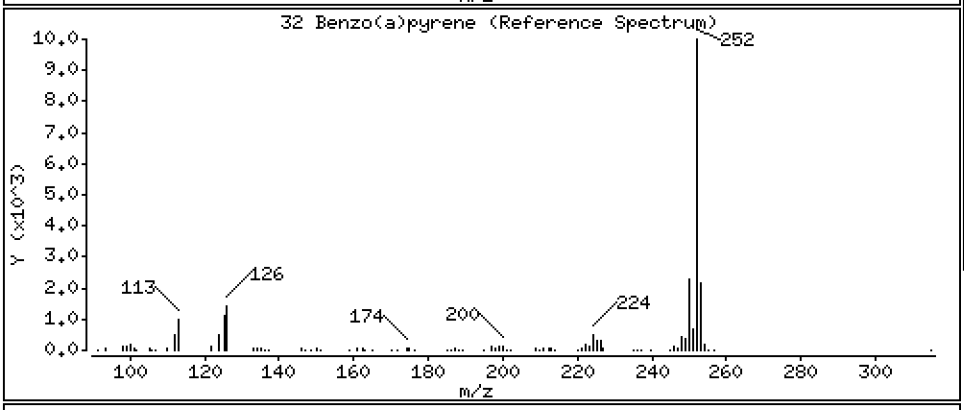
Concentration: 0.03285 ug/mL

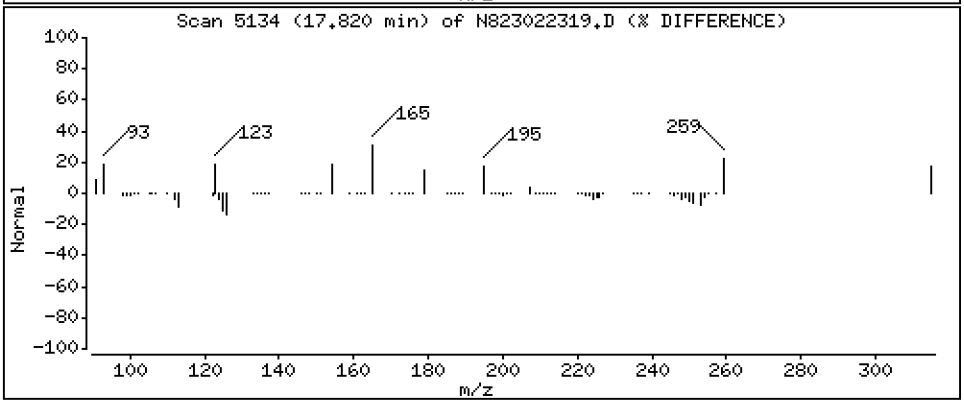












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Date : 23-FEB-2023 19:38

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-12

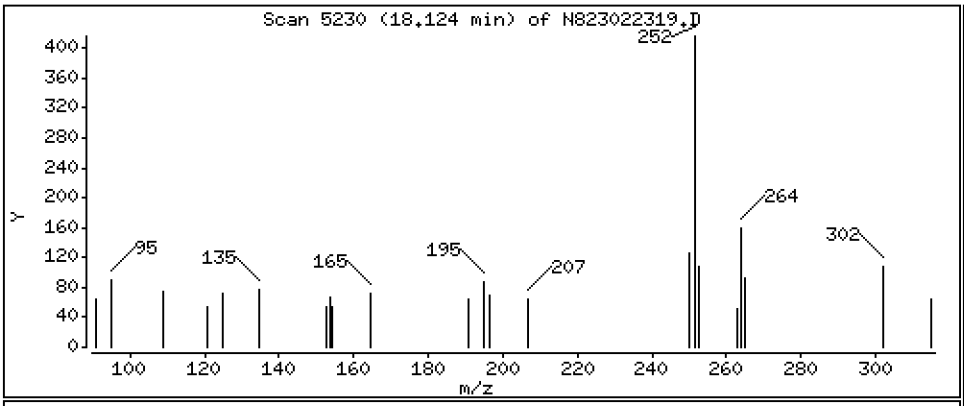
Operator: JZ

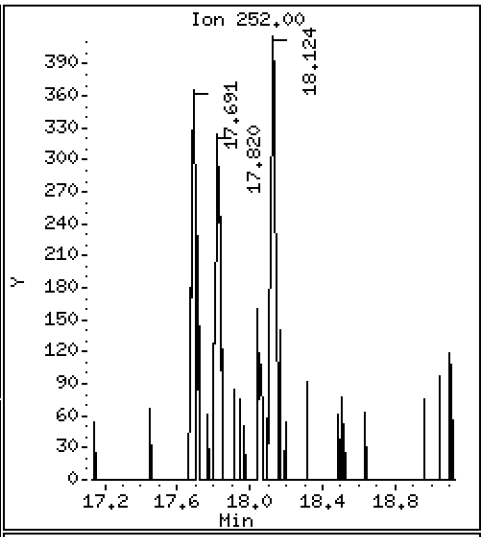
Column phase: Rxi-17sil

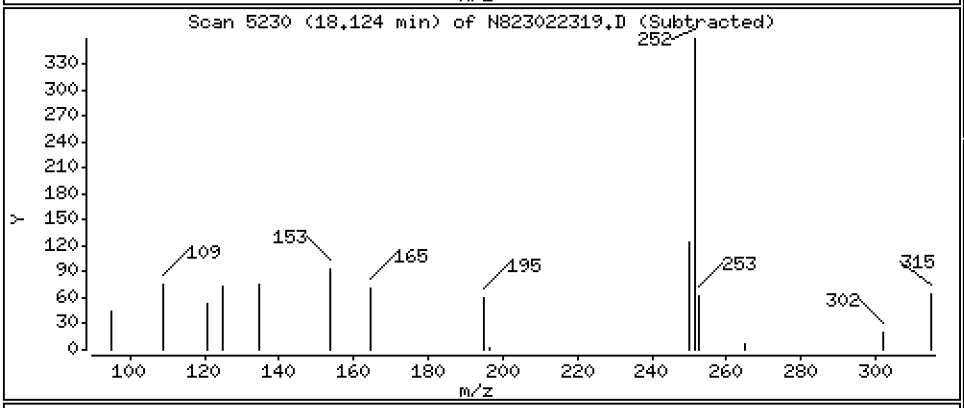
Column diameter: 0.25

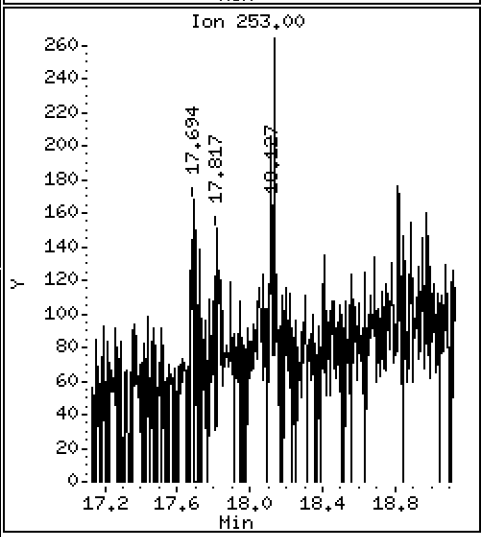
35 Perylene

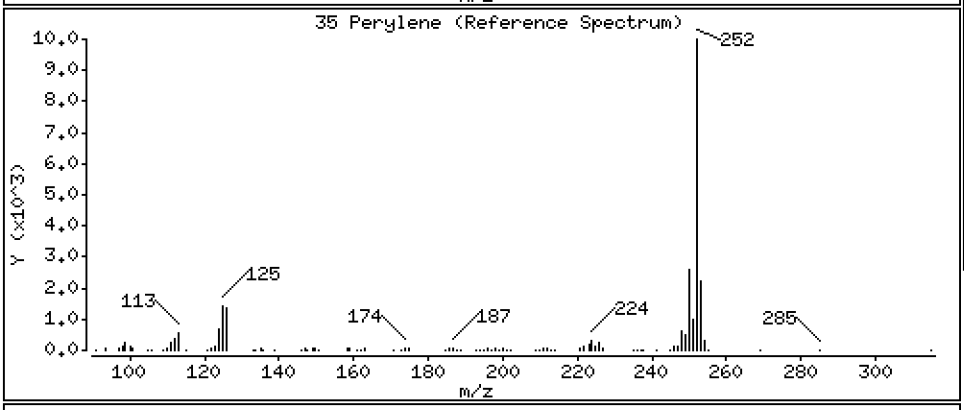
Concentration: 0.03744 ug/mL

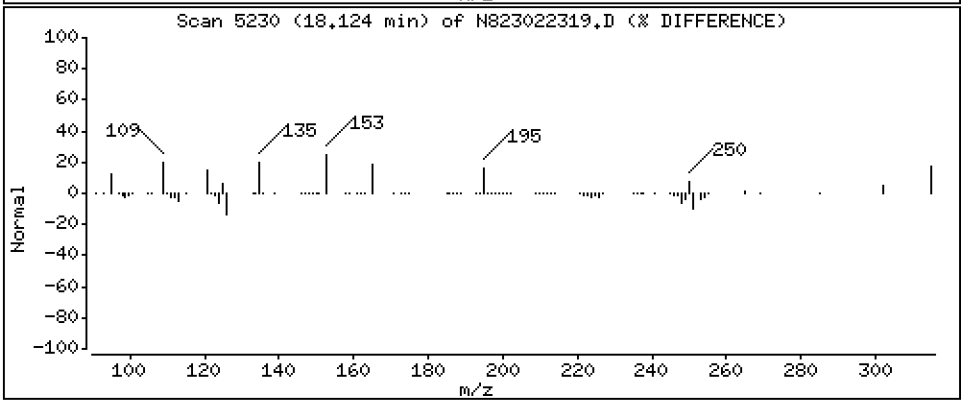












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Date : 23-FEB-2023 19:38

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-12

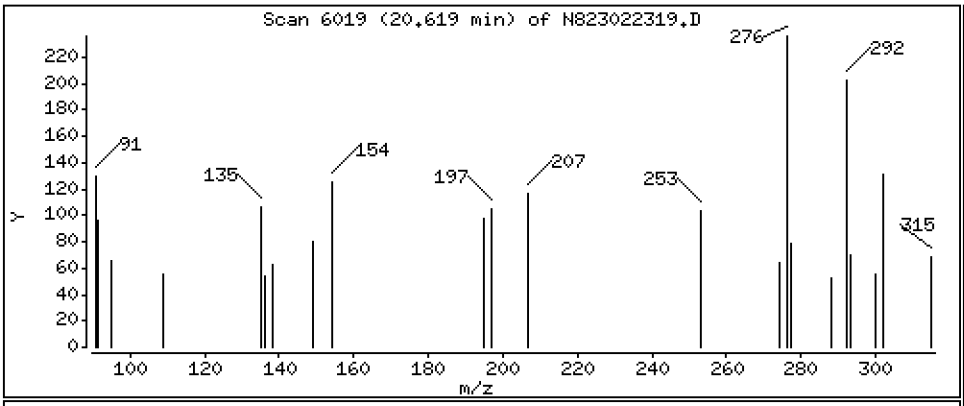
Operator: JZ

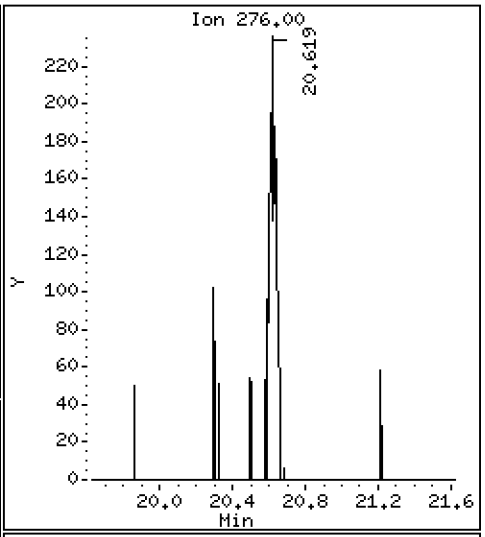
Column phase: Rxi-17sil

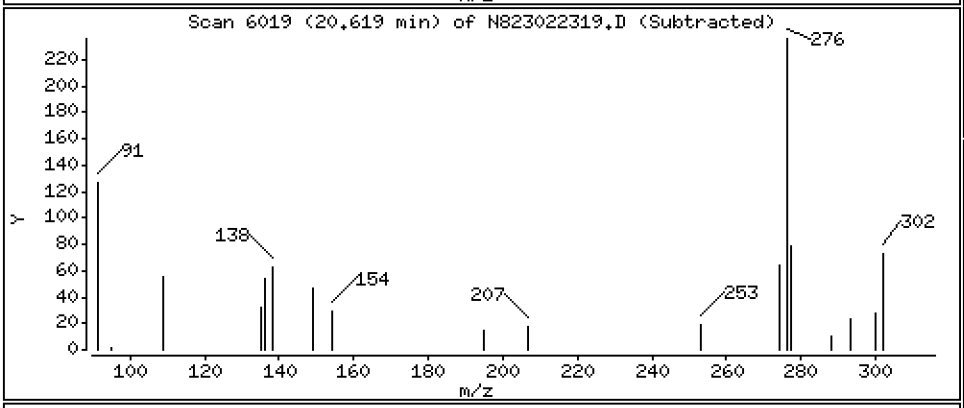
Column diameter: 0.25

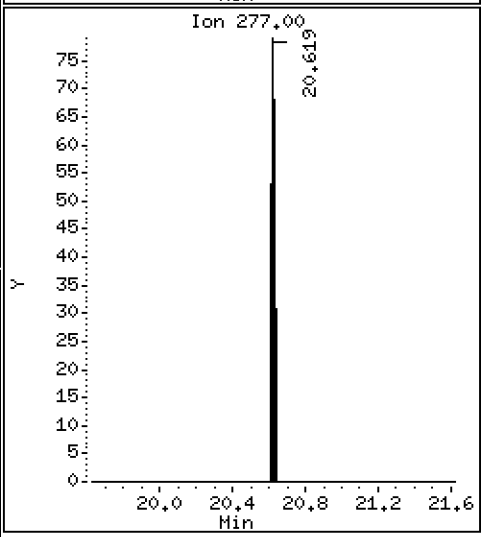
37 Indeno(1,2,3-cd)pyrene

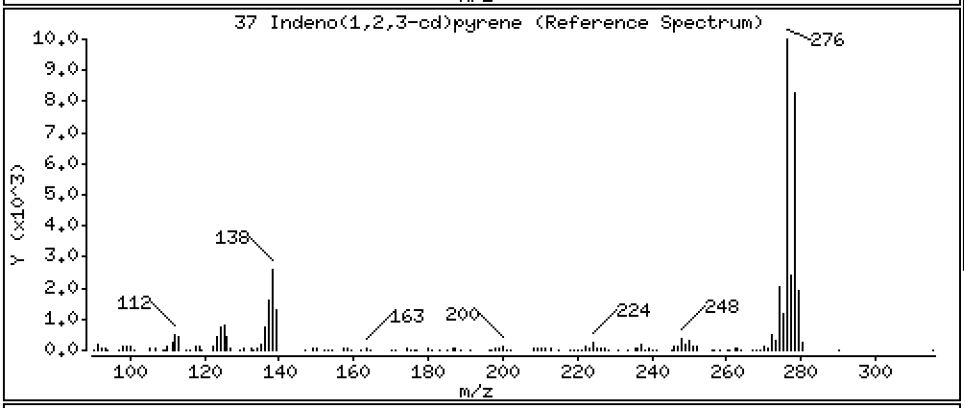
Concentration: 0.02565 ug/mL

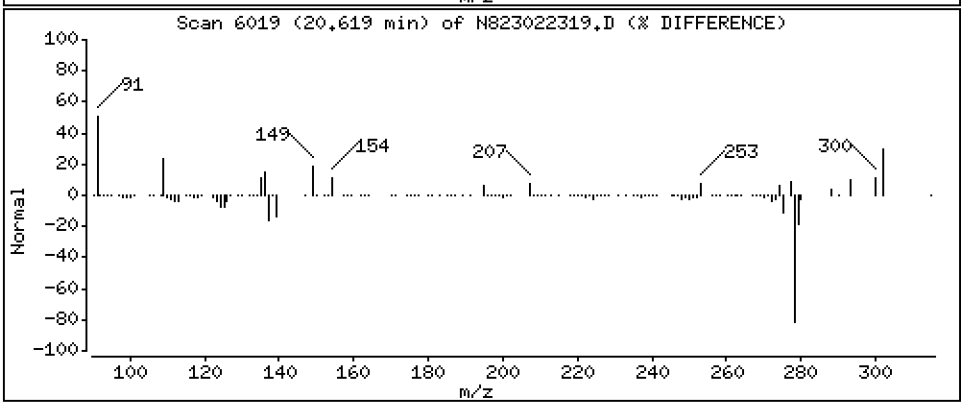












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Date : 23-FEB-2023 19:38

Client ID:

Instrument: nt8.i

Sample Info: 23A0418-12

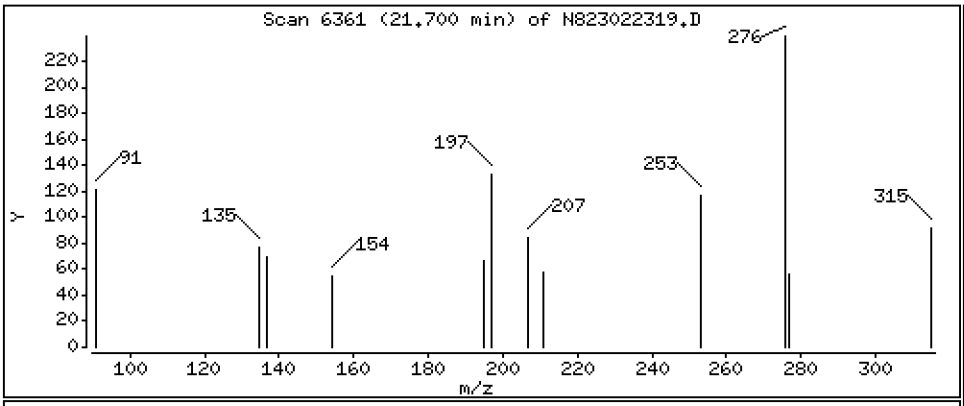
Operator: JZ

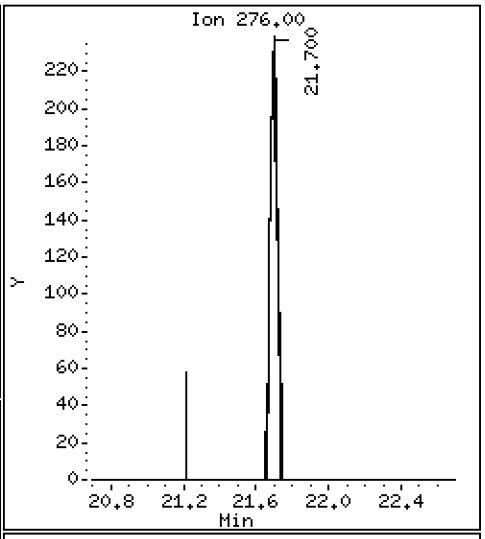
Column phase: Rxi-17sil

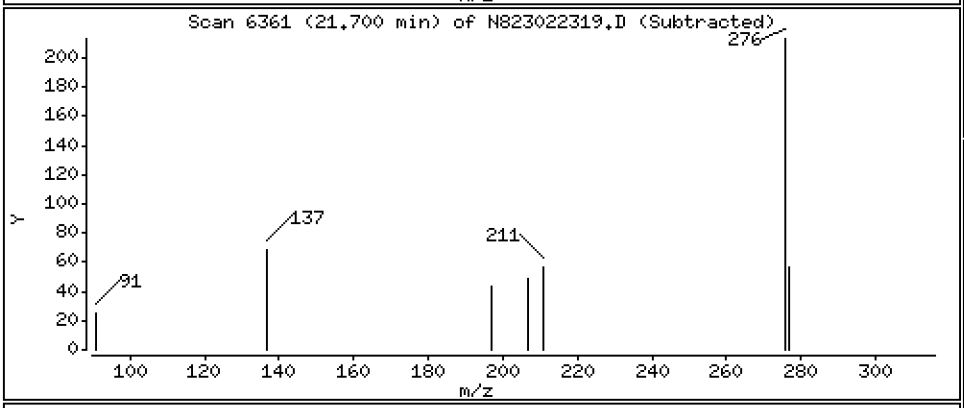
Column diameter: 0.25

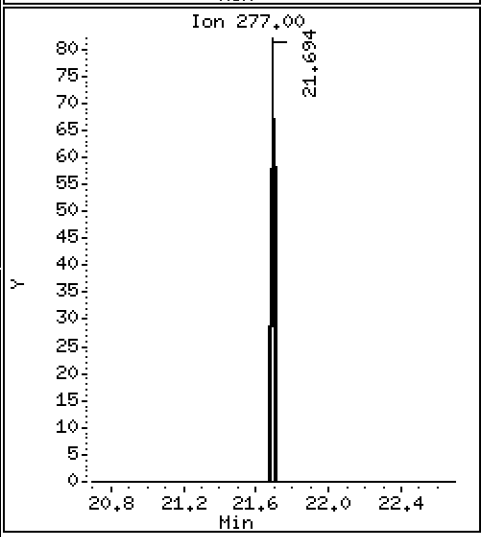
39 Benzo(g,h,i)perylene

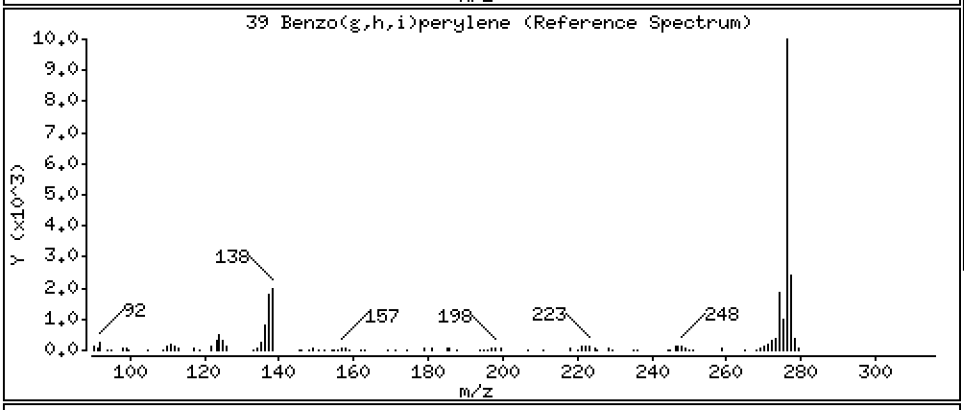
Concentration: 0.03227 ug/mL

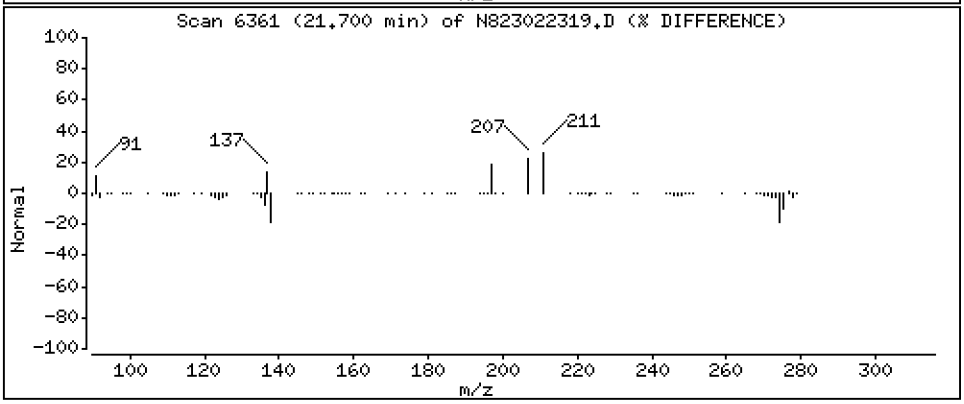












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230223.b\N823022319.D
Lab Smp Id: 23A0418-12
Inj Date : 23-FEB-2023 19:38
Operator : JZ Inst ID: nt8.i
Smp Info : 23A0418-12
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Meth Date : 26-Feb-2023 12:40 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 19
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PNAXEMDL.sub
Target Version: 4.14
Processing Host: JIANQING-202105

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.862	4.871	(1.000)	40111	2.00000	
	2 Naphthalene	128	4.890	4.903	(1.006)	538	0.02885	0.02885
$	3 2-Methylnaphthalene-d10	152	5.599	5.605	(1.152)	28032	2.56251	2.563
	4 2-Methylnaphthalene	141	5.646	5.652	(1.161)	143	0.01394	0.01394
	5 1-methylnaphthalene	141	5.842	5.849	(1.202)	136	0.01306	0.01306
	9 Acenaphthylene	152	7.044	7.050	(0.985)	249	0.01345	0.01345
*	10 Acenaphthene-d10	164	7.154	7.158	(1.000)	24513	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	8.258	7.837	(1.154)	206	0.01408	0.01408
*	15 Phenanthrene-d10	188	9.197	9.197	(1.000)	47710	2.00000	
	16 Phenanthrene	178	9.232	9.235	(1.004)	916	0.03930	0.03930
	17 Anthracene	178	9.270	9.276	(1.008)	177	0.00836	0.008360(M)
	19 Carbazole	167	Compound Not Detected.					
	22 Fluoranthene	202	11.006	11.009	(1.197)	1452	0.05724	0.05724
$	21 Fluoranthene-d10	212	10.971	10.971	(1.193)	65792	3.12559	3.126
	23 Pyrene	202	11.524	11.527	(0.815)	1729	0.06547	0.06547
	24 Benzo(a)anthracene	228	14.016	14.025	(0.991)	635	0.02653	0.02653
*	25 Chrysene-d12	240	14.149	14.152	(1.000)	42597	2.00000	
	27 Chrysene	228	14.221	14.225	(1.005)	1107	0.04344	0.04344
	28 Benzo(b)fluoranthene	252	16.773	16.770	(0.929)	795	0.03531	0.03531
	29 Benzo(k)fluoranthene	252	16.830	16.833	(0.932)	444	0.02013	0.02013
	30 Benzo(j)fluoranthene	252	16.903	16.912	(0.936)	394	0.01984	0.01984
	31 Total Benzofluoranthenes	252	16.773	16.770	(0.929)	1635	0.07667	0.07667(M)
	34 Benzo(e)pyrene	252	Compound Not Detected.					
	32 Benzo(a)pyrene	252	17.820	17.826	(0.987)	651	0.03285	0.03285
*	33 Perylene-d12	264	18.054	18.057	(1.000)	38662	2.00000	
	35 Perylene	252	18.123	18.130	(1.004)	796	0.03744	0.03744
$	36 Dibenzo(a,h)anthracene-d14	292	20.482	20.485	(1.135)	49021	3.23601	3.236
	37 Indeno(1,2,3-cd)pyrene	276	20.618	20.624	(1.142)	579	0.02565	0.02565(M)
	38 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	39 Benzo(g,h,i)perylene	276	21.700	21.696	(1.202)	660	0.03227	0.03227(M)

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823022319.D
Lab Smp Id: 23A0418-12
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 23-FEB-2023
Calibration Time: 11:46
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	37022	18511	74044	40111	8.34
10 Acenaphthene-d10	22454	11227	44908	24513	9.17
15 Phenanthrene-d10	43277	21639	86554	47710	10.24
25 Chrysene-d12	38907	19454	77814	42597	9.48
33 Perylene-d12	39582	19791	79164	38662	-2.32

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.87	4.37	5.37	4.86	-0.19
10 Acenaphthene-d10	7.16	6.66	7.66	7.15	-0.04
15 Phenanthrene-d10	9.20	8.70	9.70	9.20	0.00
25 Chrysene-d12	14.15	13.65	14.65	14.15	-0.02
33 Perylene-d12	18.06	17.56	18.56	18.05	-0.02

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

REVIEW SUMMARY FOR FILE - N823022319.D

Lab ID: 23A0418-12
nt8.i, 20230223.b\FSIMPNA230119.m,   23-FEB-2023 19:38

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

No RRT check performed

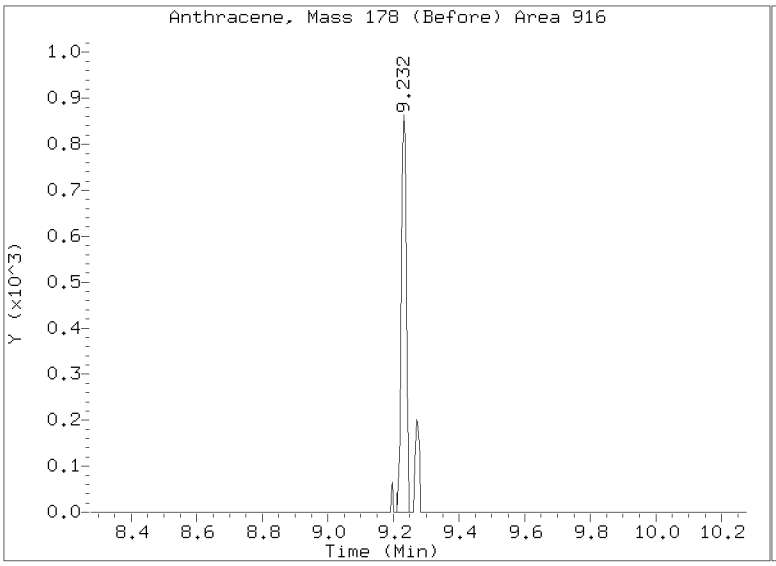
On Column LOD for nt8.i, 20230223.b\FSIMPNA230119.m, PNAXEMDL.sub = 0.0080

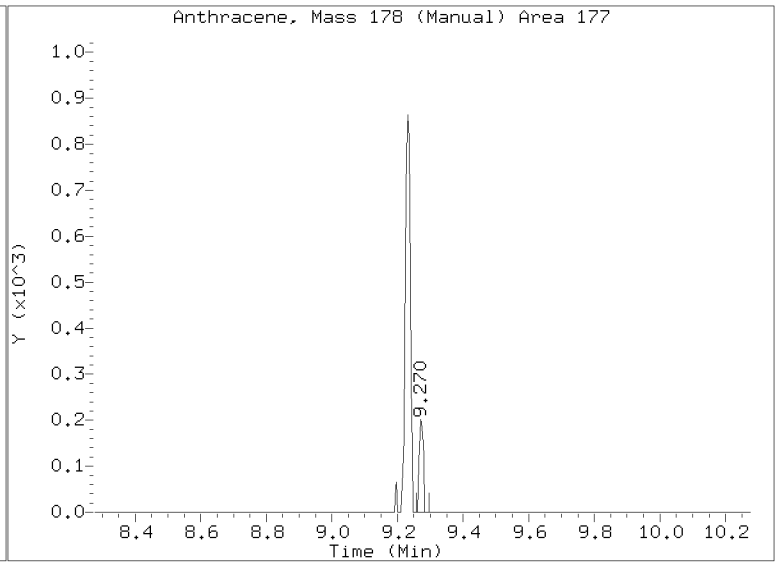
Exception: Benzo(e)pyrene 0.0800

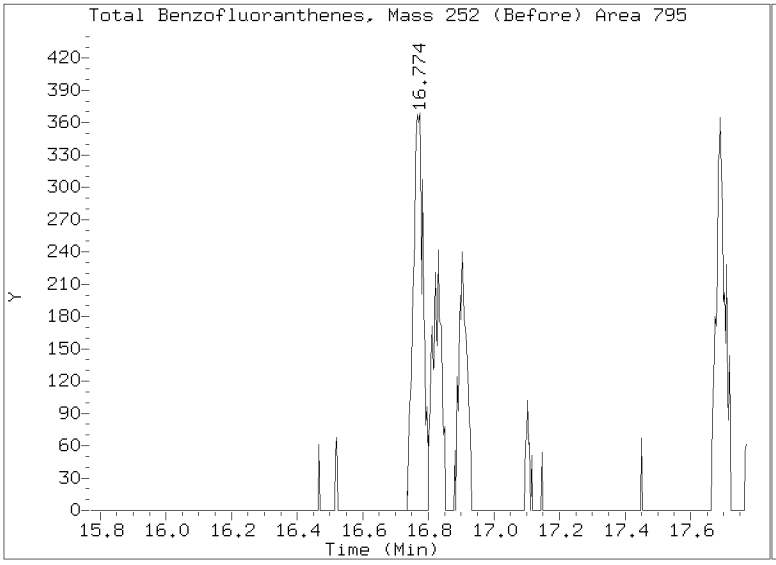
* Only compounds listed in the work order have been verified by the analyst *

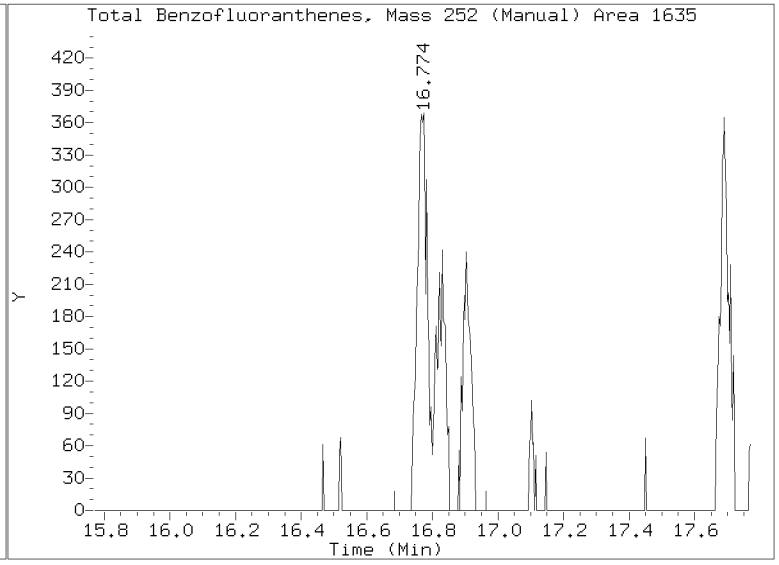
Quant Ion Manual Peak Adjustment Report

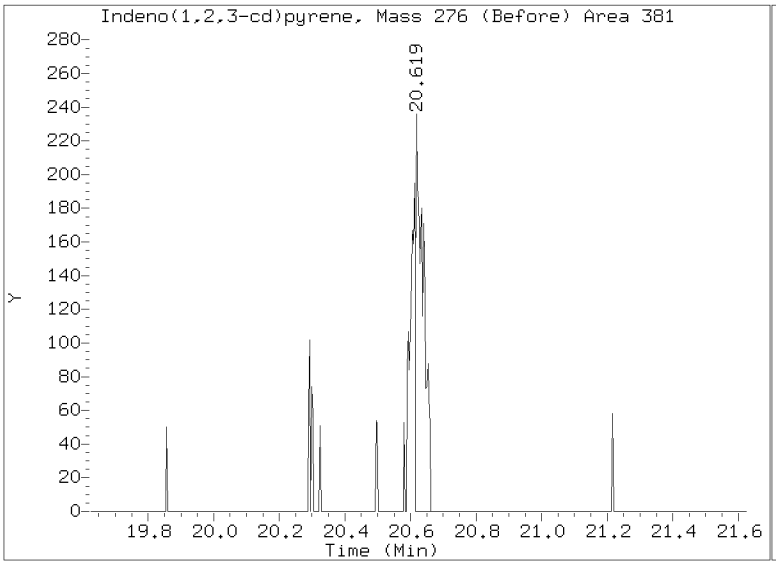
Datafile: //target/share/chem3/nt8.i/20230223.b/N823022319.D
Injection Date: 23-FEB-2023 19:38
Lab ID:23A0418-12 Client ID:
Report Date: 02/26/2023 14:18

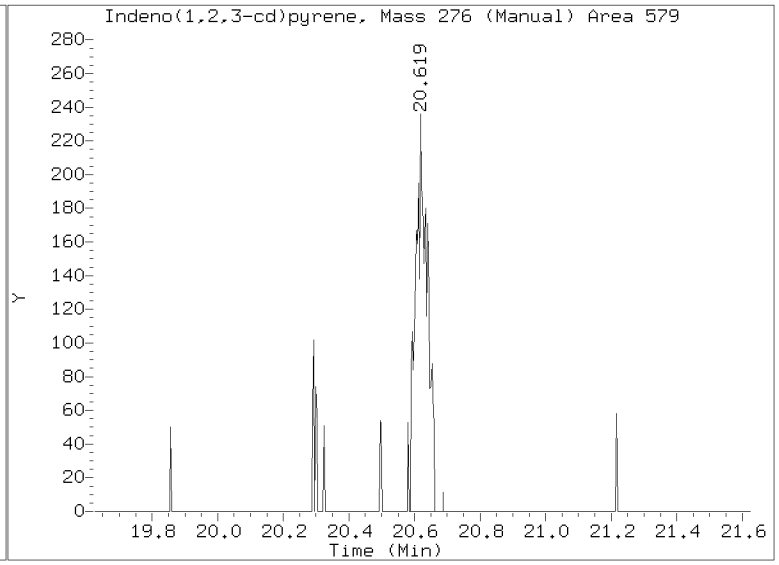






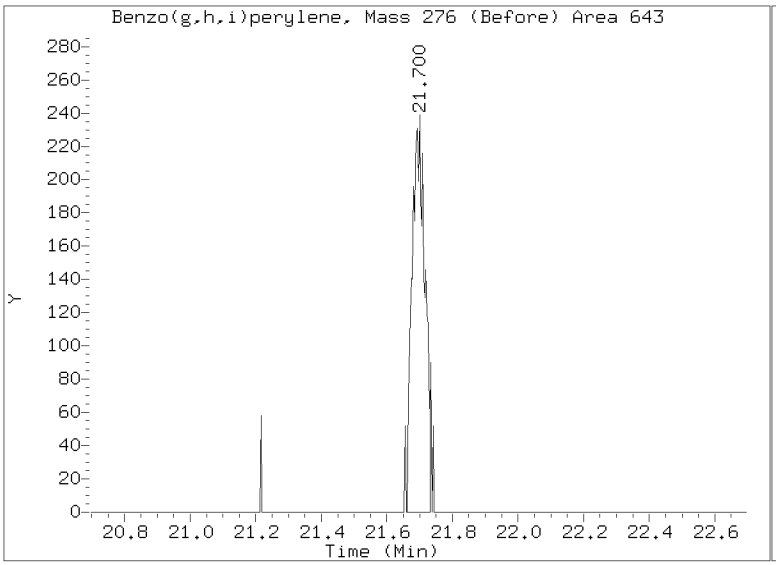


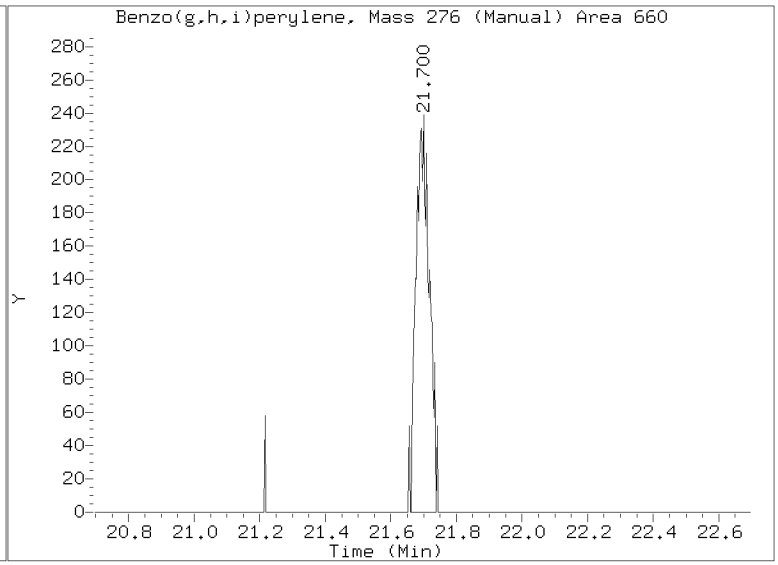




Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20230223.b/N823022319.D
Injection Date: 23-FEB-2023 19:38
Lab ID:23A0418-12 Client ID:
Report Date: 02/26/2023 14:18





PREPARATION BATCH SUMMARY

EPA 8270E-SIM

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Batch: BLB0386 Batch Matrix: Solid
Preparation: EPA 3546 (Microwave)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-IT1136	23A0418-01	N823022307.D	02/16/23 14:32	
LDW23-IT1142	23A0418-02	N823022308.D	02/16/23 14:32	
LDW23-IT1141	23A0418-04	N823022309.D	02/16/23 14:32	
LDW23-IT1133	23A0418-05	N823022310.D	02/16/23 14:32	
LDW23-IT1133-FD	23A0418-06	N823022311.D	02/16/23 14:32	
LDW23-IT1180	23A0418-07	N823022312.D	02/16/23 14:32	
LDW23-IT1218	23A0418-08	N823022313.D	02/16/23 14:32	
LDW23-IT1216	23A0418-09	N823022316.D	02/16/23 14:32	
LDW23-IT1135	23A0418-10	N823022317.D	02/16/23 14:32	
LDW23-IT1140	23A0418-11	N823022318.D	02/16/23 14:32	
LDW23-IT1275	23A0418-12	N823022319.D	02/16/23 14:32	
Blank	BLB0386-BLK1	N823022303.D	02/16/23 14:32	
LCS	BLB0386-BS1	N823022304.D	02/16/23 14:32	
LCS Dup	BLB0386-BSD1	N823022305.D	02/16/23 14:32	
LDW23-IT1218	BLB0386-MS1	N823022314.D	02/16/23 14:32	
LDW23-IT1218	BLB0386-MSD1	N823022315.D	02/16/23 14:32	
Reference	BLB0386-SRM1	N823022306.D	02/16/23 14:32	

Analytical Resources, LLC
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BLB0386

Prepared using: EPA 3546 (Microwave)

8270E-SIM PAH (0.1ug/L or 5ug/kg) in Solid (Version:AOC4 cPAH)

Matrix: Solid Date Prepared: 2/16/23 Balance ID: B159298002 Set Up By: GO 2/15/23

WO Comments

23A0418: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

23A0420: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

The following standards may be missing from this batch!

Designator	Description
QLS 4	QLS 4

Analysis: 8270E-SIM PAH (0.1ug/L or 5ug/kg)

Lab Number & Container	% Solids	Initial (g) Target Dry: 10 (Wet)	Actual	(REQ/Opt) GPC C/U (1:1) 1 2 3	(REQ/Opt) Sulfur C/U (1:1) Y/N (Transfer Rinse)	(REQ/Opt) Silica Gel C/U (1:1) Y/N	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
23A0418-01 A	81.2	(12.32)	12.88	(1:1) Y/N	(1:1) Y/N	(1:1) Y/N	0.5	0.5	
23A0418-02 A	75.4	(13.26)	13.54	(1:1) Y/N	(1:1) Y/N	(1:1) Y/N	0.5	0.5	
23A0418-04 A	58.6	(17.07)	17.89	(1:1) Y/N	(1:1) Y/N	(1:1) Y/N	0.5	0.5	
23A0418-05 A	71.6	(13.97)	13.98	(1:1) Y/N	(1:1) Y/N	(1:1) Y/N	0.5	0.5	
23A0418-06 A	74.8	(13.37)	13.57	(1:1) Y/N	(1:1) Y/N	(1:1) Y/N	0.5	0.5	
23A0418-07 A	79.9	(12.52)	12.82	(1:1) Y/N	(1:1) Y/N	(1:1) Y/N	0.5	0.5	
23A0418-08 A	59.0	(16.96)	16.96	(1:1) Y/N	(1:1) Y/N	(1:1) Y/N	0.5	0.5	
23A0418-09 A	79.5	(12.59)	12.86	(1:1) Y/N	(1:1) Y/N	(1:1) Y/N	0.5	0.5	
23A0418-10 A	68.4	(14.62)	14.75	(1:1) Y/N	(1:1) Y/N	(1:1) Y/N	0.5	0.5	
23A0418-11 A	73.7	(13.56)	13.85	(1:1) Y/N	(1:1) Y/N	(1:1) Y/N	0.5	0.5	
23A0418-12 A	79.6	(12.57)	12.93	(1:1) Y/N	(1:1) Y/N	(1:1) Y/N	0.5	0.5	
23A0420-04 A	70.5	(14.18)	14.20	(1:1) Y/N	(1:1) Y/N	(1:1) Y/N	0.5	0.5	

Batch QC

Lab Number	% Solids	Initial (g) Target Dry: 10 (Wet)	Actual	(REQ/Opt) GPC C/U (1:1) 1 2 3	(REQ/Opt) Sulfur C/U (1:1) Y/N (Transfer Rinse)	(REQ/Opt) Silica Gel C/U (1:1) Y/N	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
BLB0386-BLK1	100.0	(10.00)	10.00	(1:1) Y/N	(1:1) Y/N	(1:1) Y/N	0.5	0.5	
BLB0386-BS1	100.0	(10.00)	10.00	(1:1) Y/N	(1:1) Y/N	(1:1) Y/N	0.5	0.5	
BLB0386-BSD1	100.0	(10.00)	10.00	(1:1) Y/N	(1:1) Y/N	(1:1) Y/N	0.5	0.5	
BLB0386-MS1	59.0	(16.96)	16.96	(1:1) Y/N	(1:1) Y/N	(1:1) Y/N	0.5	0.5	Use 23A0418-08
BLB0386-MSD1	59.0	(16.96)	16.96	(1:1) Y/N	(1:1) Y/N	(1:1) Y/N	0.5	0.5	Use 23A0418-08
BLB0386-SRM1	100.0	~~(10.00)~~ (5.00)	5.00	(1:1) Y/N	(1:1) Y/N	(1:1) Y/N	0.5	0.5	Use ~~J007238~~ L000097

+1g DI WATER

GO 2/16/23

CR 2/16/23 — Client ID verified By / Date

ZH 2/22/23 — Preparation Reviewed By / Date

2/16/23 14:32 — Extraction Date and Time

Printed: 2/15/2023 1:32:42PM

Analytical Resources, LLC
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BLB0386

Prepared using: EPA 3546 (Microwave)

8270E-SIM PAH (0.1ug/L or 5ug/kg) in Solid (Version:AOC4 cPAH)

WO Comments

23A0418: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

23A0420: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

Prep Steps	Reagents Used	
Microwave (1) 2 3 CR 2/16 Analyst/Date	**Station/Reagent**	**Standard ID**
	Microwave **Analyst:** CR **Date:** 2/16/23	
	Anhydrous Sodium Sulfate	L001285
	1:1 Methylene Chloride/Acetone	L001416
	Methylene Chloride	L000808
Pre-GPC KD 100°C (No Exchange) (0) 1 2 3 (4) (5) 6 LO 2-17 Analyst/Date	Pre-Deactivated Glass Wool	L000252
	Pre GPC KD **Analyst:** LO **Date:** 2-17-23	
	Hexane	
Pre GPC TurboVap 1 2 3 (4) TWC 2/17/23 Analyst/Date	Methylene Chloride	~~L000808~~
	GPC Filter Prep **Analyst:** TWC **Date:** 2/17/23	
	Methylene Chloride	L000808
GPC 1 2 (3) TWC 2/18/23 Analyst/Date	GPC Filter	
	GPC **Analyst:** TWC **Date:** 2/18/23	
	Methylene Chloride	CLA0486-GK1 (V)
Post-GPC KD 80°C Hexane Exchange 2 x 20 mL 100°C (0) (1) 2 4 (5) (6) AV 02/20 Analyst/Date	GPC Calibration File	K005941
	Post GPC KD **Analyst:** AV **Date:** 02/20/2023	
	Methylene Chloride	K005941
	Hexane	L000889
Pre-Cleanup TurboVap 1 2 3 (4) ZH 7/22/23 Analyst/Date	**Vialing** **Analyst:** ZH **Date:** 7/22/23	
	~~Methylene Chloride~~	
	Silica Gel (SPE) darts	L001084
Post-Cleanup TurboVap 1 (2) (3) 4 ZH 7/22/23 Analyst/Date	~~Sodium Sulfite~~	
	Tetrabutylammonium hydrogensulfate (TBAS)	
	Hexane	L000889
Vialing		

Surrogates & Spike Standards Used

Type	Vial ID / Standard ID		Vol uL	Analyst	Witness
Surrogate	**B**	K009860	100µL	CR	✓
15/75µg/mL	Exp Date: 7/28/23				
Spike	**15**	K009081	200µL	CR	✓
15/75µg/mL	Exp Date: 8/4/23				

MANUALLY ENTER EXPIRATION DATES!

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

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

ORGANICS PREPARATION BENCH SHEET

Batch: BLB0386

Prepared using: EPA 3546 (Microwave)

8270E-SIM PAH (0.1ug/L or 5ug/kg) in Solid (Version:AOC4 cPAH)

WO Comments

23A0418: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

23A0420: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

ZH 2/15/23
Analyst/Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

Extraction Parameter: SIM PAH Extraction Batch BLB0386

Total Solids Batch: BLB0452 Work Order(s): 23A0418

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
[X] No Anomalies (standard soil/wet sediment/sand/gravel)= 01-12	CR 2/8/23
[ ] Standing Water Decanted (Not shared)=	
[ ] Standing Water Homogenized (Shared samples)=	
[ ] Clay/Clumps (Difficult to homogenize)=	
[ ] Rocks (%+size)?	
[ ] Organics (Leaves/sticks/grass)=	
[ ] Oily, obvious fuel/sulfur odors=	
[ ] Received in 32oz jar(s)=Homogenized in Pyrex dish=	
[X] Previously Frozen = 01-12	CR 2/8/23
[ ] Other (Details)=	
Aqueous:	
[ ] No Anomalies	
[ ] Turbid/Color=	
[ ] Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
[ ] Emulsions (%)=	
[ ] Oily, obvious fuel/sulfur odors=	
[ ] Other (Details)=	
[ ] Received in 1.0L Bottle(s)=No Bottle Rinse=	
[ ] Other Notes/Comments= (Note problems, concerns, corrective actions).	
[X] Share Samples Y / (N)	CR 2/8/23
[X] Multiple Jars Y / (N)	CR 2/8/23
[ ] Sample Pre-Screens indicate analyte activity=	
[ ] Sample weights/volumes reduced based on Pre-Screen=	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

Extraction Parameter: SVMPAH Extraction Batch: BLB0158

Total Solids Batch: BLB0154 Work Order(s): 23A0420

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☐ No Anomalies (standard soil/wet sediment/sand/gravel)=	
☒ Standing Water Decanted (Not shared)= ϕ1 – ϕ9.	✓ ϕ2/14/23
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☐ Rocks (%+size)?	
☐ Organics (Leaves/sticks/grass)=	
☒ Oily, obvious fuel/sulfur odors= ϕ1 – ϕ9.	✓ ϕ2/14/23
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☐ Previously Frozen =	
☐ Other (Details)=	
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☐ Other Notes/Comments= (Note problems, concerns, corrective actions).	
☒ Share Samples Y (N)	✓ ϕ2/14/23
☒ Multiple Jars Y (N)	✓ ϕ2/14/23
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Cleanup Batch:	CLB0192	Cleanup Type:	GPC
Cleanup Method:	EPA 3640A GPC Cleanup 1:1	Analysis:	EPA 8270E-SIM

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-IT1275	23A0418-12	N823022319.D	02/22/2023	
LDW23-IT1135	23A0418-10	N823022317.D	02/22/2023	
LDW23-IT1133-FD	23A0418-06	N823022311.D	02/22/2023	
LDW23-IT1180	23A0418-07	N823022312.D	02/22/2023	
LDW23-IT1140	23A0418-11	N823022318.D	02/22/2023	
LDW23-IT1133	23A0418-05	N823022310.D	02/22/2023	
LDW23-IT1141	23A0418-04	N823022309.D	02/22/2023	
LDW23-IT1136	23A0418-01	N823022307.D	02/22/2023	
LDW23-IT1216	23A0418-09	N823022316.D	02/22/2023	
LDW23-IT1218	23A0418-08	N823022313.D	02/22/2023	
Reference	BLB0386-SRM1	N823022306.D	02/22/2023	
Blank	BLB0386-BLK1	N823022303.D	02/22/2023	
LCS	BLB0386-BS1	N823022304.D	02/22/2023	
LCS Dup	BLB0386-BSD1	N823022305.D	02/22/2023	
Matrix Spike	BLB0386-MS1	N823022314.D	02/22/2023	
Matrix Spike Dup	BLB0386-MSD1	N823022315.D	02/22/2023	
LDW23-IT1142	23A0418-02	N823022308.D	02/22/2023	

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CLB0192

Matrix: Solid **Cleanup using: Organics - EPA 3640A GPC Cleanup 1:1** **Check Standard: CLA0086-GPC1** **Printed: 2/22/2023 2:13:09PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
23A0418-01	A	LDW23-IT1136	A 01	0.5	0.5	8270E-SIM PAH (0.1ug/L or 5ug/kg)	2/22/2023	ZH	
23A0418-02	A	LDW23-IT1142	A 02	0.5	0.5	8270E-SIM PAH (0.1ug/L or 5ug/kg)	2/22/2023	ZH	
23A0418-04	A	LDW23-IT1141	A 02	0.5	0.5	8270E-SIM PAH (0.1ug/L or 5ug/kg)	2/22/2023	ZH	
23A0418-05	A	LDW23-IT1133	A 02	0.5	0.5	8270E-SIM PAH (0.1ug/L or 5ug/kg)	2/22/2023	ZH	
23A0418-06	A	LDW23-IT1133-FD	A 02	0.5	0.5	8270E-SIM PAH (0.1ug/L or 5ug/kg)	2/22/2023	ZH	
23A0418-07	A	LDW23-IT1180	A 02	0.5	0.5	8270E-SIM PAH (0.1ug/L or 5ug/kg)	2/22/2023	ZH	
23A0418-08	A	LDW23-IT1218	A 02	0.5	0.5	8270E-SIM PAH (0.1ug/L or 5ug/kg)	2/22/2023	ZH	
23A0418-09	A	LDW23-IT1216	A 02	0.5	0.5	8270E-SIM PAH (0.1ug/L or 5ug/kg)	2/22/2023	ZH	
23A0418-10	A	LDW23-IT1135	A 02	0.5	0.5	8270E-SIM PAH (0.1ug/L or 5ug/kg)	2/22/2023	ZH	
23A0418-11	A	LDW23-IT1140	A 02	0.5	0.5	8270E-SIM PAH (0.1ug/L or 5ug/kg)	2/22/2023	ZH	
23A0418-12	A	LDW23-IT1275	A 02	0.5	0.5	8270E-SIM PAH (0.1ug/L or 5ug/kg)	2/22/2023	ZH	
23A0420-04	A	LDW23-IT1051	A 02	0.5	0.5	8270E-SIM PAH (0.1ug/L or 5ug/kg)	2/22/2023	ZH	
BLB0386-BLK1	-	Blank	-	0.5	0.5	-	2/22/2023	ZH	
BLB0386-BS1	-	LCS	-	0.5	0.5	-	2/22/2023	ZH	
BLB0386-BSD1	-	LCS Dup	-	0.5	0.5	-	2/22/2023	ZH	
BLB0386-MS1	-	Matrix Spike	-	0.5	0.5	-	2/22/2023	ZH	
BLB0386-MSD1	-	Matrix Spike Dup	-	0.5	0.5	-	2/22/2023	ZH	
BLB0386-SRM1	-	Reference	-	0.5	0.5	-	2/22/2023	ZH	

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Cleanup Batch:	CLB0193	Cleanup Type:	Silica Gel
Cleanup Method:	EPA 3630C Silica Gel Cleanup - uL	Analysis:	EPA 8270E-SIM

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-IT1218	23A0418-08	N823022313.D	02/22/2023	
LDW23-IT1216	23A0418-09	N823022316.D	02/22/2023	
LDW23-IT1140	23A0418-11	N823022318.D	02/22/2023	
Blank	BLB0386-BLK1	N823022303.D	02/22/2023	
Matrix Spike Dup	BLB0386-MSD1	N823022315.D	02/22/2023	
LCS	BLB0386-BS1	N823022304.D	02/22/2023	
LDW23-IT1133	23A0418-05	N823022310.D	02/22/2023	
LDW23-IT1142	23A0418-02	N823022308.D	02/22/2023	
Reference	BLB0386-SRM1	N823022306.D	02/22/2023	
LDW23-IT1275	23A0418-12	N823022319.D	02/22/2023	
LDW23-IT1180	23A0418-07	N823022312.D	02/22/2023	
Matrix Spike	BLB0386-MS1	N823022314.D	02/22/2023	
LDW23-IT1141	23A0418-04	N823022309.D	02/22/2023	
LDW23-IT1136	23A0418-01	N823022307.D	02/22/2023	
LDW23-IT1135	23A0418-10	N823022317.D	02/22/2023	
LDW23-IT1133-FD	23A0418-06	N823022311.D	02/22/2023	
LCS Dup	BLB0386-BSD1	N823022305.D	02/22/2023	

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CLB0193

Matrix: Solid **Cleanup using: Organics - EPA 3630C Silica Gel Cleanup - uL** **Printed: 2/22/2023 2:13:49PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
23A0418-01	A	LDW23-IT1136	A 01	0.5	0.5	8270E-SIM PAH (0.1ug/L or 5ug/kg)	2/22/2023	ZH	
23A0418-02	A	LDW23-IT1142	A 02	0.5	0.5	8270E-SIM PAH (0.1ug/L or 5ug/kg)	2/22/2023	ZH	
23A0418-04	A	LDW23-IT1141	A 02	0.5	0.5	8270E-SIM PAH (0.1ug/L or 5ug/kg)	2/22/2023	ZH	
23A0418-05	A	LDW23-IT1133	A 02	0.5	0.5	8270E-SIM PAH (0.1ug/L or 5ug/kg)	2/22/2023	ZH	
23A0418-06	A	LDW23-IT1133-FD	A 02	0.5	0.5	8270E-SIM PAH (0.1ug/L or 5ug/kg)	2/22/2023	ZH	
23A0418-07	A	LDW23-IT1180	A 02	0.5	0.5	8270E-SIM PAH (0.1ug/L or 5ug/kg)	2/22/2023	ZH	
23A0418-08	A	LDW23-IT1218	A 02	0.5	0.5	8270E-SIM PAH (0.1ug/L or 5ug/kg)	2/22/2023	ZH	
23A0418-09	A	LDW23-IT1216	A 02	0.5	0.5	8270E-SIM PAH (0.1ug/L or 5ug/kg)	2/22/2023	ZH	
23A0418-10	A	LDW23-IT1135	A 02	0.5	0.5	8270E-SIM PAH (0.1ug/L or 5ug/kg)	2/22/2023	ZH	
23A0418-11	A	LDW23-IT1140	A 02	0.5	0.5	8270E-SIM PAH (0.1ug/L or 5ug/kg)	2/22/2023	ZH	
23A0418-12	A	LDW23-IT1275	A 02	0.5	0.5	8270E-SIM PAH (0.1ug/L or 5ug/kg)	2/22/2023	ZH	
23A0420-04	A	LDW23-IT1051	A 02	0.5	0.5	8270E-SIM PAH (0.1ug/L or 5ug/kg)	2/22/2023	ZH	
BLB0386-BLK1	-	Blank	-	0.5	0.5	-	2/22/2023	ZH	
BLB0386-BS1	-	LCS	-	0.5	0.5	-	2/22/2023	ZH	
BLB0386-BSD1	-	LCS Dup	-	0.5	0.5	-	2/22/2023	ZH	
BLB0386-MS1	-	Matrix Spike	-	0.5	0.5	-	2/22/2023	ZH	
BLB0386-MSD1	-	Matrix Spike Dup	-	0.5	0.5	-	2/22/2023	ZH	
BLB0386-SRM1	-	Reference	-	0.5	0.5	-	2/22/2023	ZH	

Form I

METHOD BLANK DATA SHEET

EPA 8270E-SIM

Blank

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Solid	Laboratory ID:	BLB0386-BLK1	File ID:	N823022303.D
Sampled:	N/A	Prepared:	02/16/23 14:32	Analyzed:	02/23/23 12:28
Solids:		Preparation:	EPA 3546 (Microwave)	Initial/Final:	10 g / 0.5 mL
Batch:	BLB0386	Sequence:	SLB0310	Calibration:	GA00050
Instrument:	NT8	Column:	RXI-17Sil ms	Cleanups:	GPC, Silica Gel

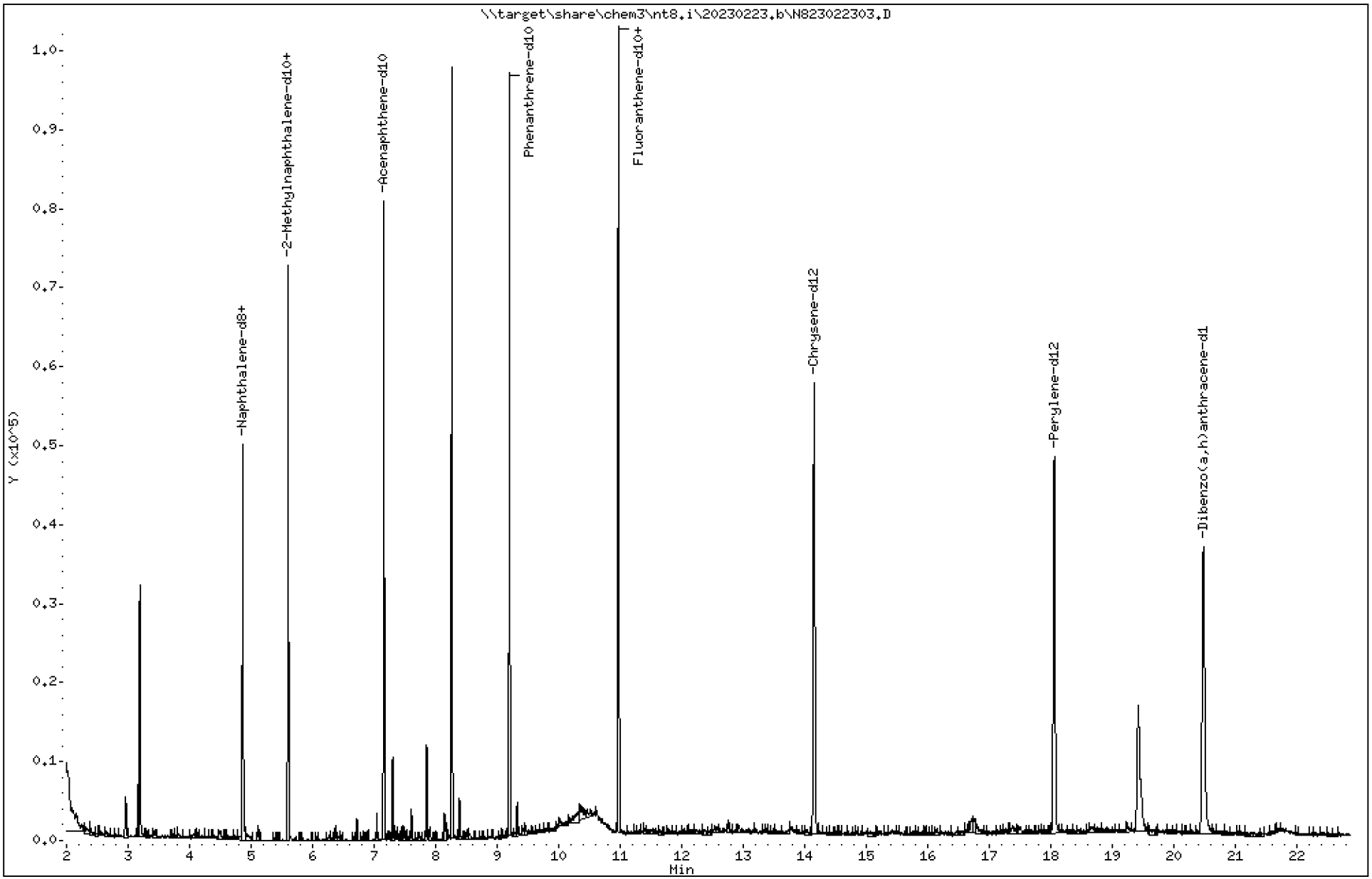
CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg wet)	Q	DL	RL
56-55-3	Benzo(a)anthracene	1	5.00	U	0.82	5.00
218-01-9	Chrysene	1	5.00	U	1.05	5.00
205-99-2	Benzo(b)fluoranthene	1	5.00	U	1.37	5.00
207-08-9	Benzo(k)fluoranthene	1	5.00	U	0.76	5.00
50-32-8	Benzo(a)pyrene	1	5.00	U	0.61	5.00
193-39-5	Indeno(1,2,3-cd)pyrene	1	5.00	U	1.05	5.00
53-70-3	Dibenzo(a,h)anthracene	1	5.00	U	0.89	5.00

SURROGATES	ADDED: (ug/kg wet)	FOUND: (ug/kg wet)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	150.00	121	80.5	32 - 120	
Dibenzo[a,h]anthracene-d14	150.00	146	97.2	21 - 133	
Fluoranthene-d10	150.00	149	99.3	36 - 134	

Data File: \\target\share\chem3\nt8.i\20230223.b\N823022303.D
Date : 23-FEB-2023 12:28
Client ID:
Sample Info: BLB0386-BLK1,

Instrument: nt8.i
Operator: JZ
Column diameter: 0.25

Column phase: Rxi-17sil



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Date : 23-FEB-2023 12:28

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BLK1,

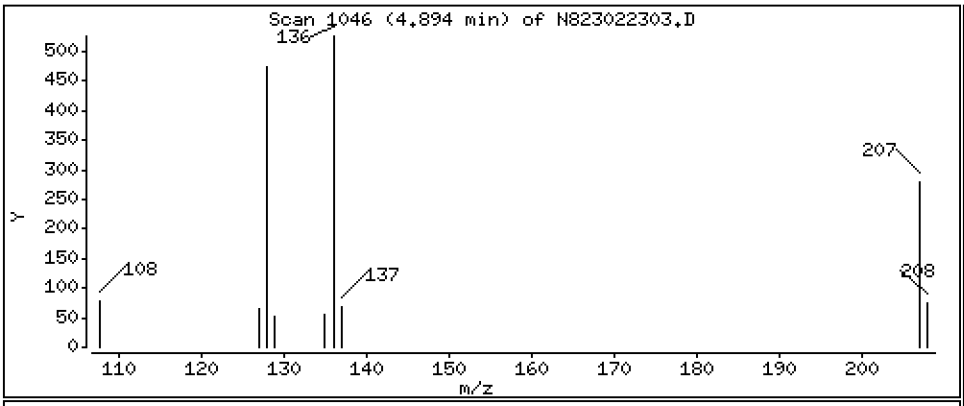
Operator: JZ

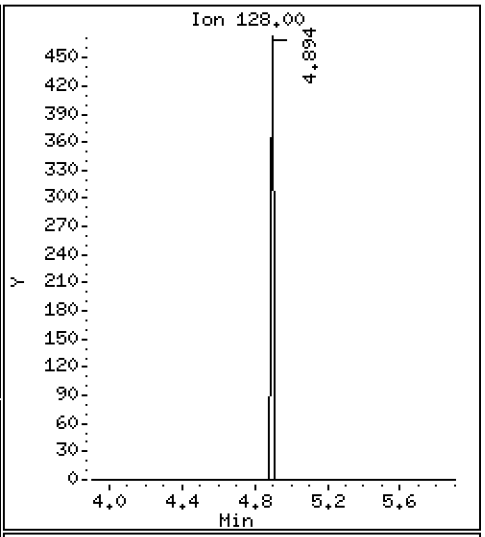
Column phase: Rxi-17sil

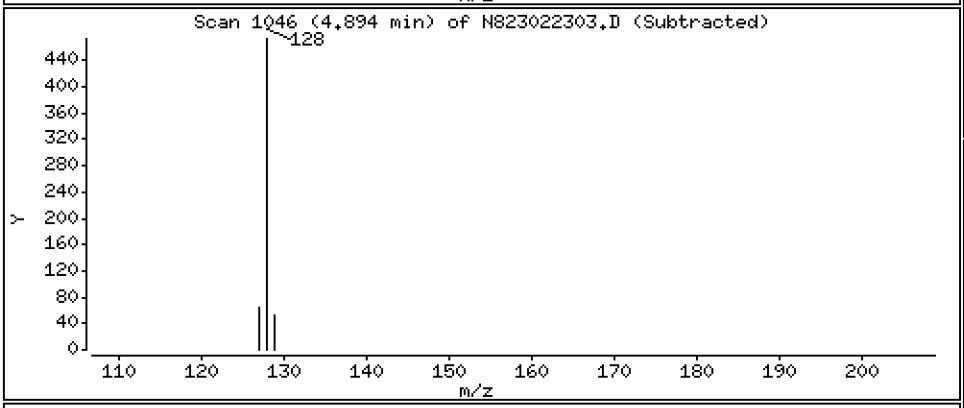
Column diameter: 0.25

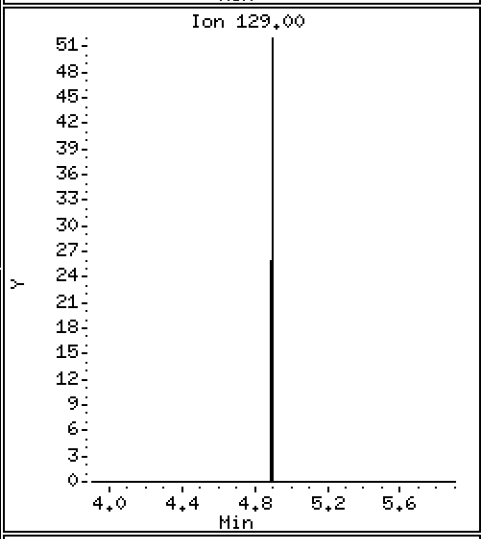
2 Naphthalene

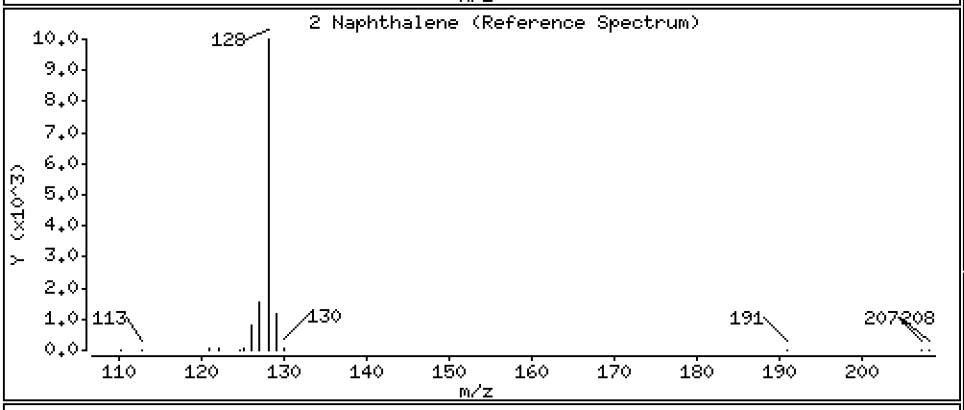
Concentration: 0.02657 ug/mL

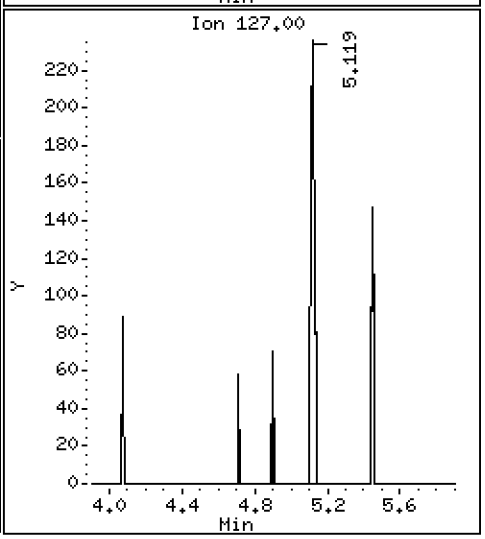


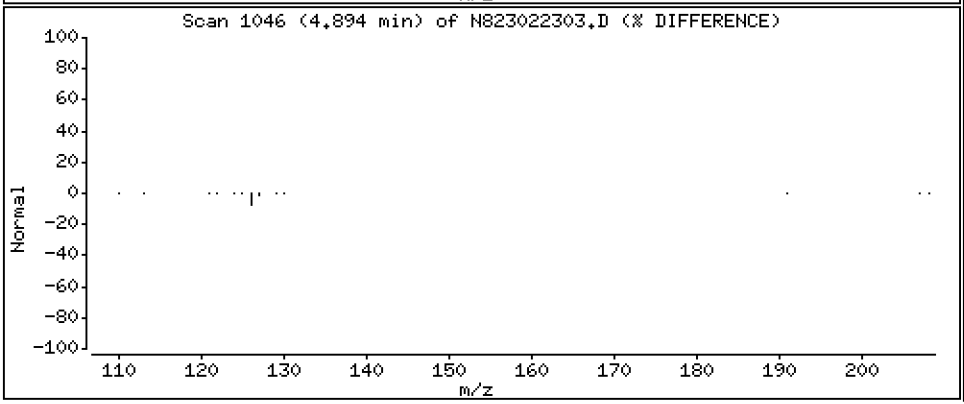












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Date : 23-FEB-2023 12:28

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BLK1,

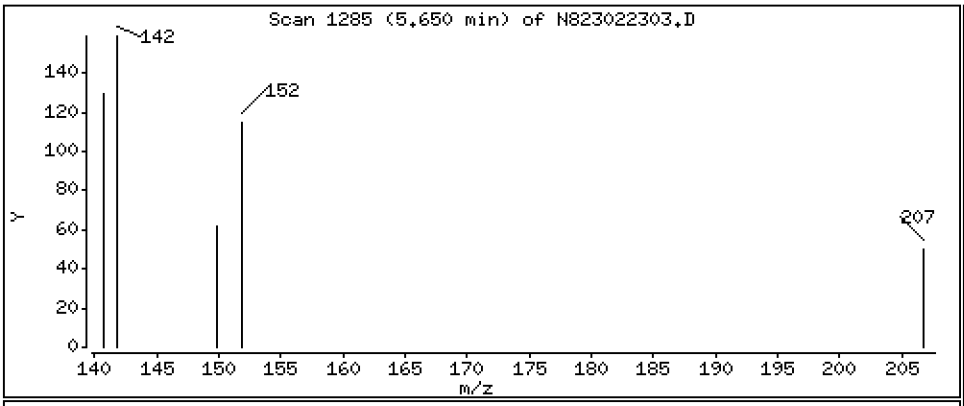
Operator: JZ

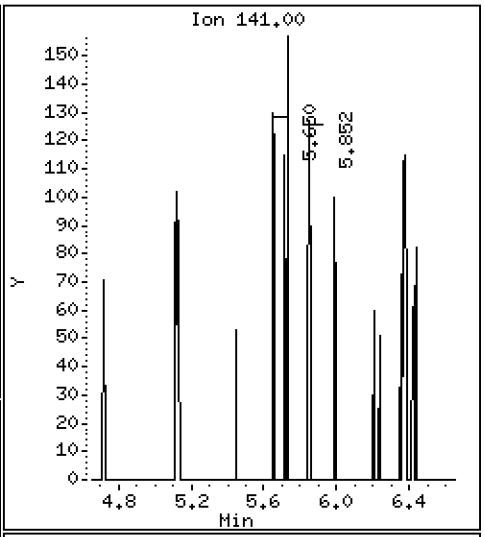
Column phase: Rxi-17sil

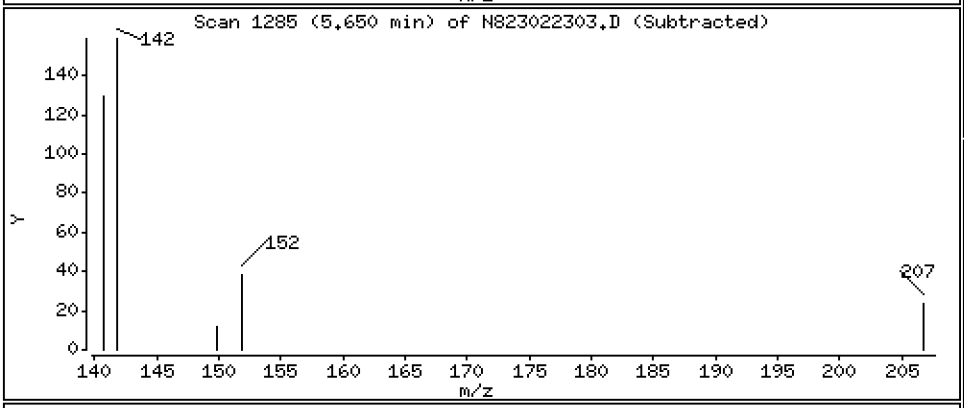
Column diameter: 0.25

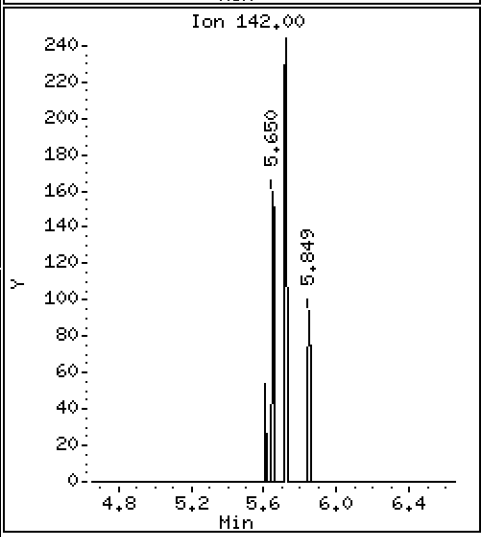
4 2-Methylnaphthalene

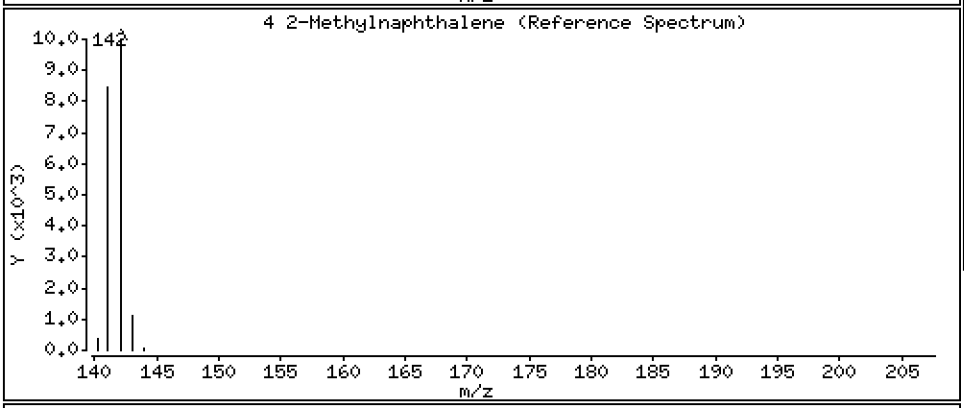
Concentration: 0.01037 ug/mL

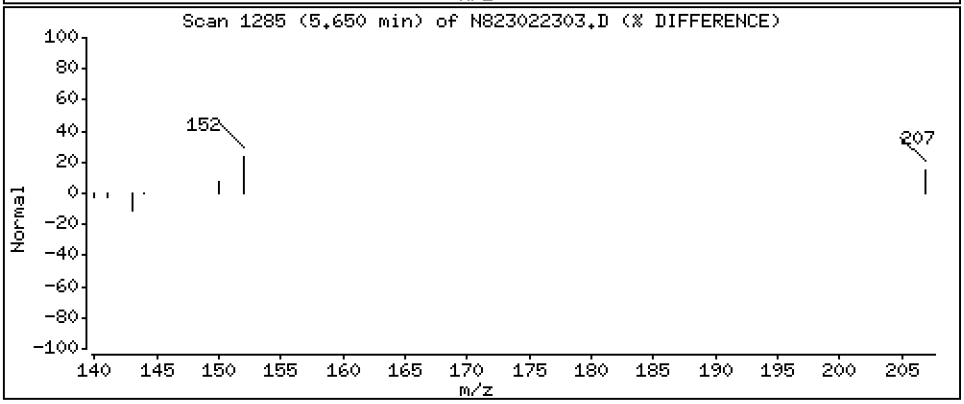












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Date : 23-FEB-2023 12:28

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BLK1,

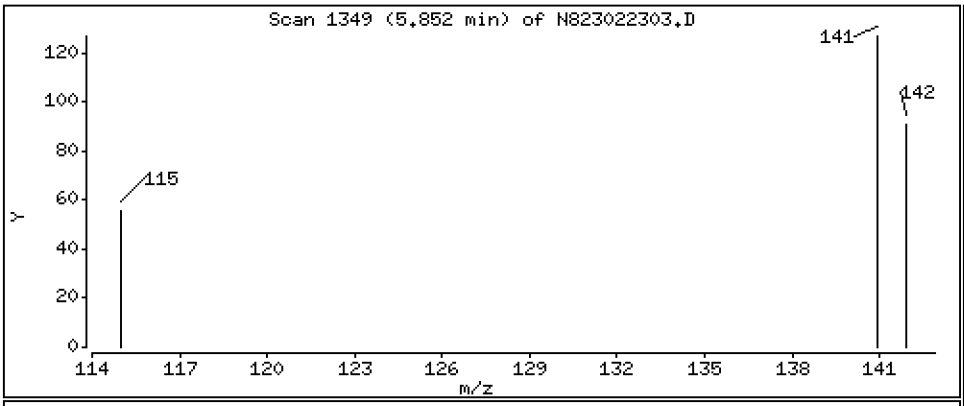
Operator: JZ

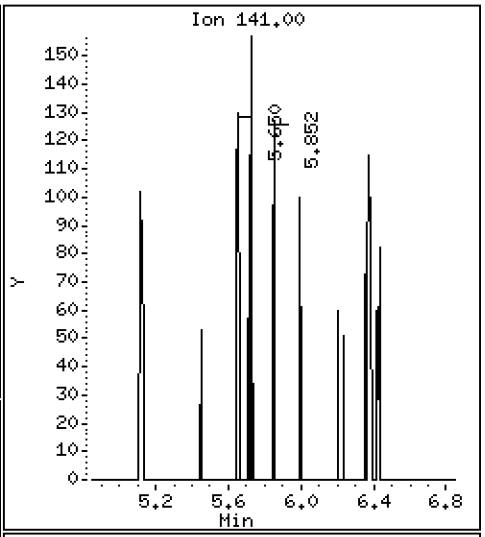
Column phase: Rxi-17sil

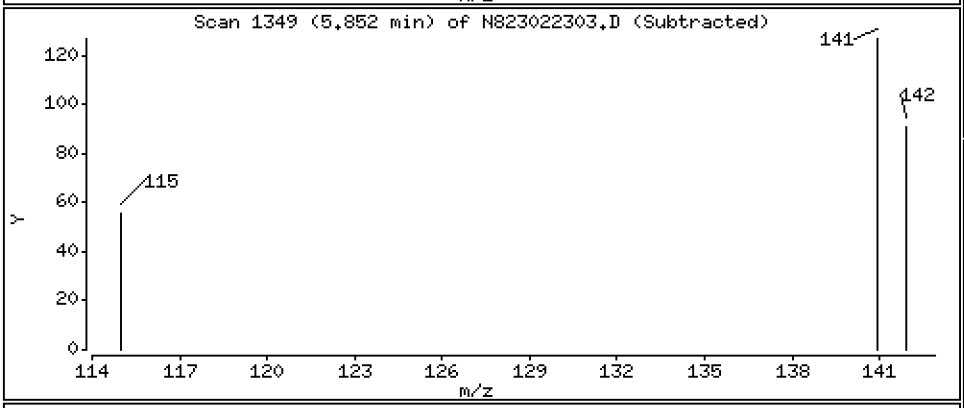
Column diameter: 0.25

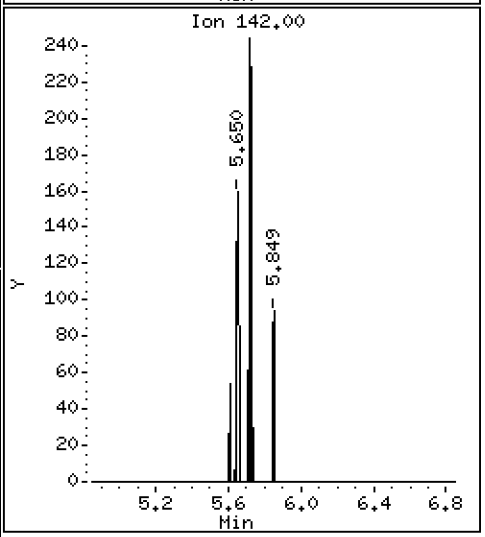
5 1-methylnaphthalene

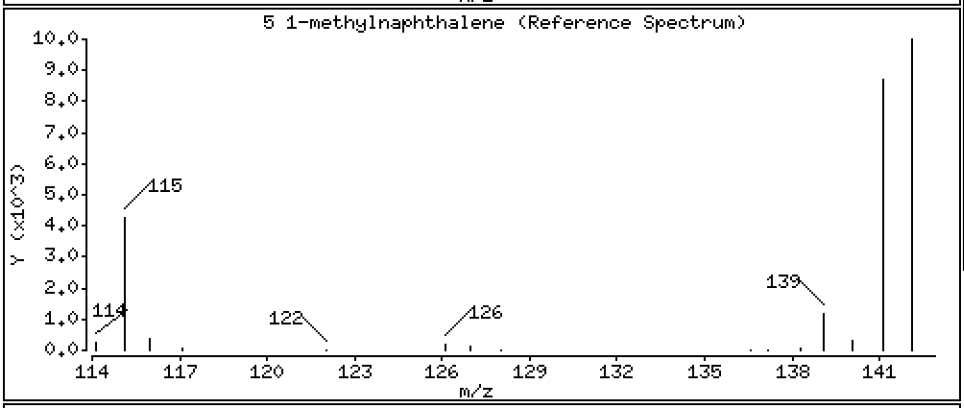
Concentration: 0.008845 ug/mL

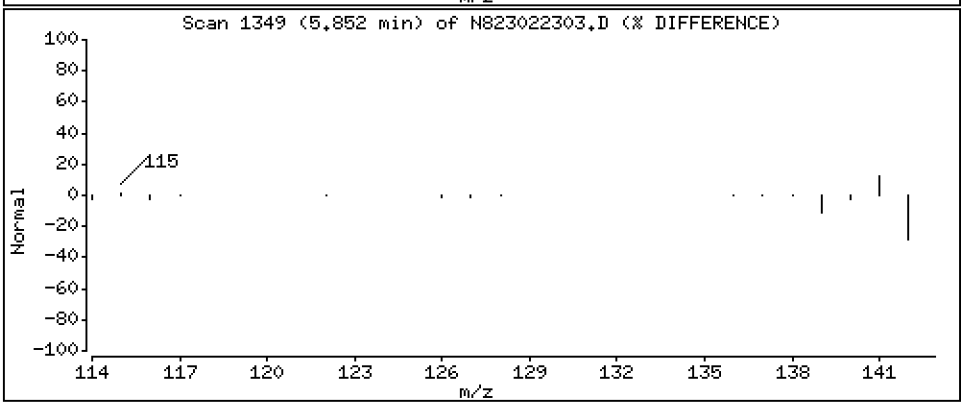












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Date : 23-FEB-2023 12:28

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BLK1,

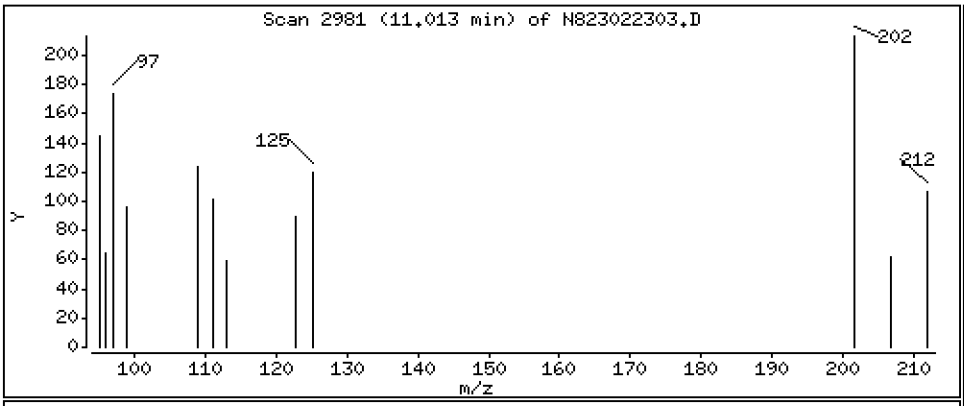
Operator: JZ

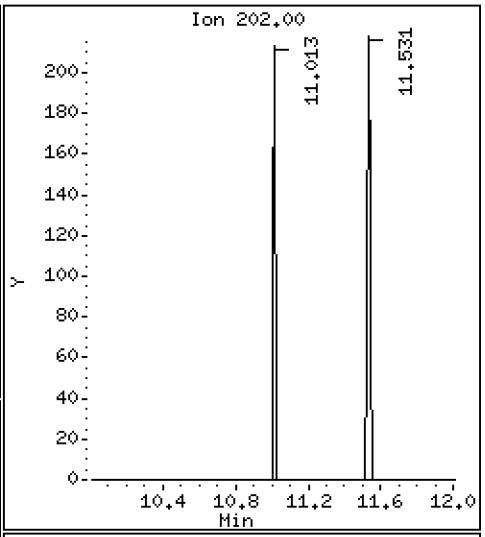
Column phase: Rxi-17sil

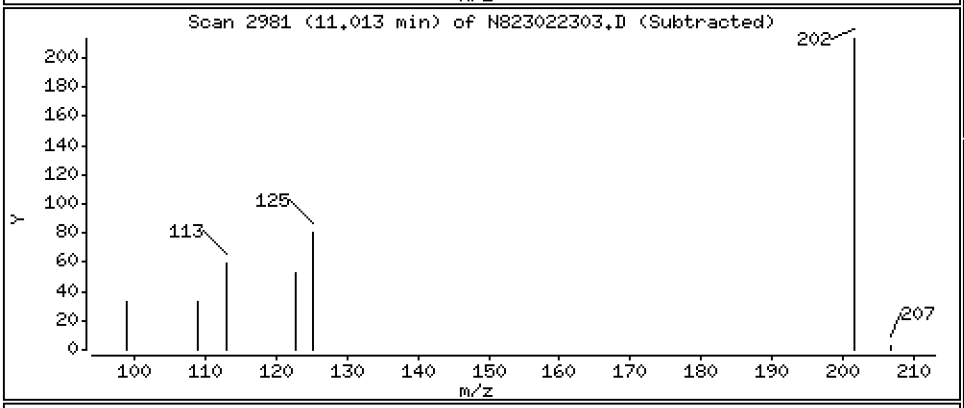
Column diameter: 0.25

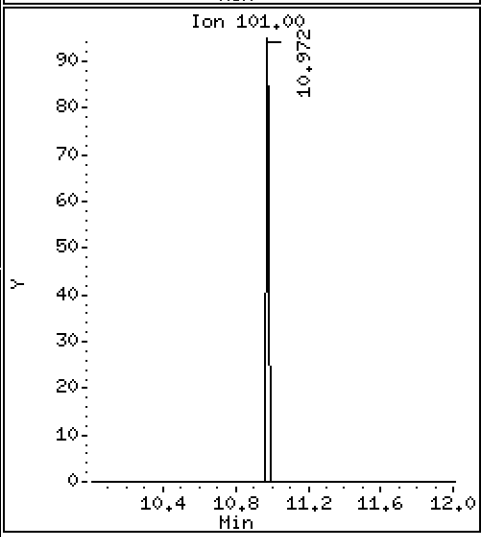
22 Fluoranthene

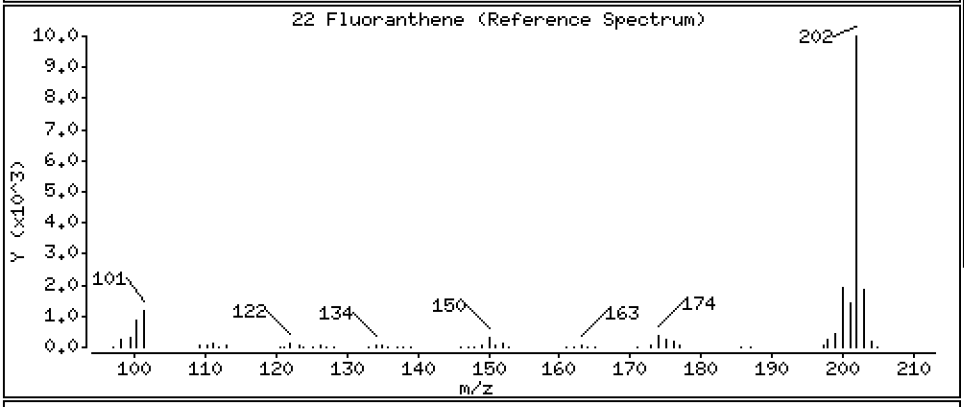
Concentration: 0.008933 ug/mL

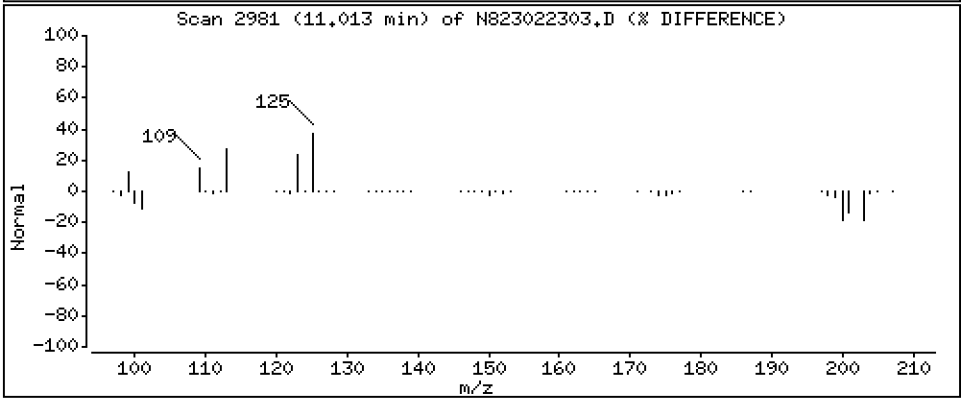












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Date : 23-FEB-2023 12:28

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BLK1,

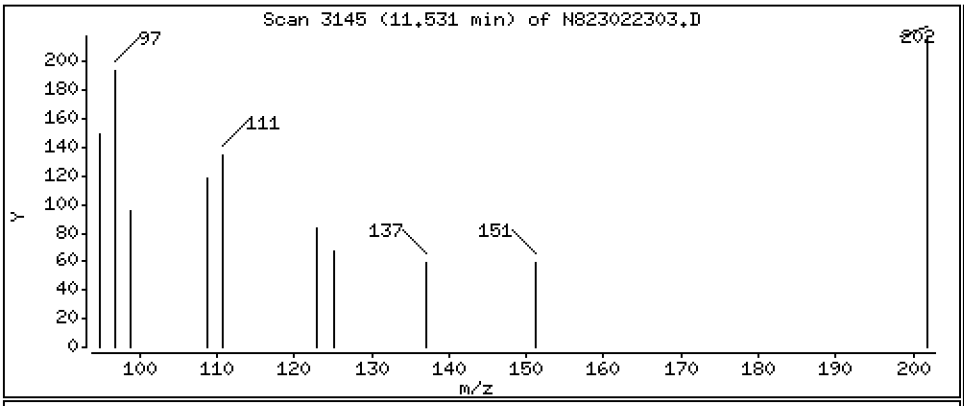
Operator: JZ

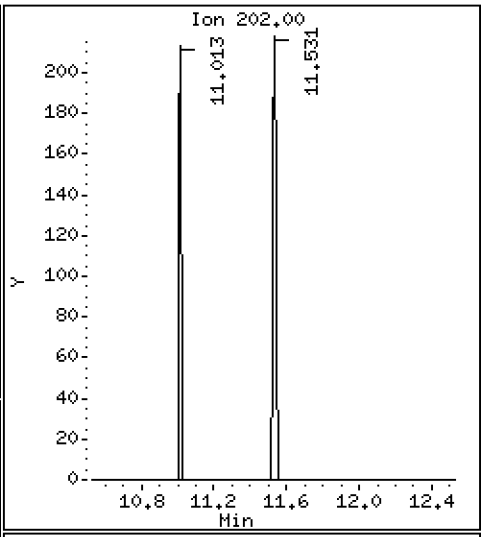
Column phase: Rxi-17sil

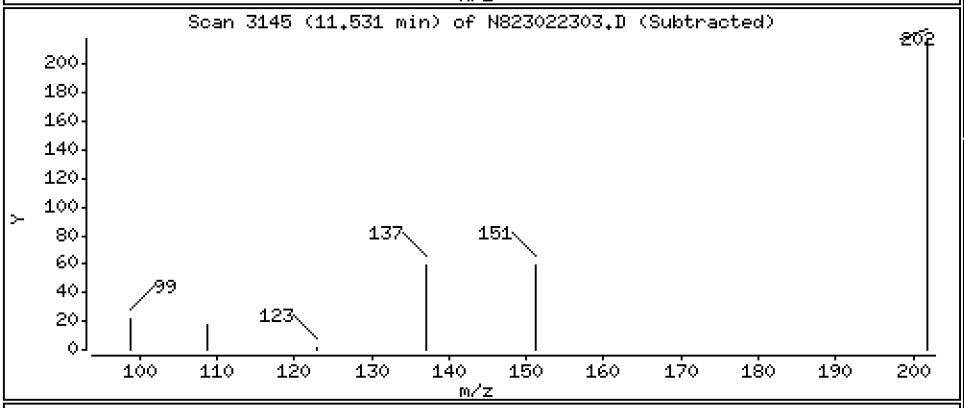
Column diameter: 0.25

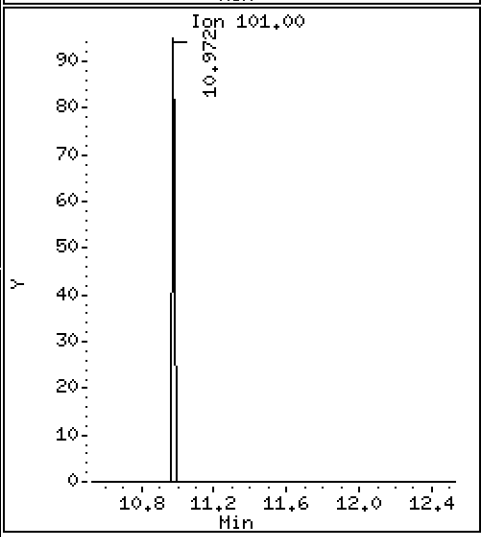
23 Pyrene

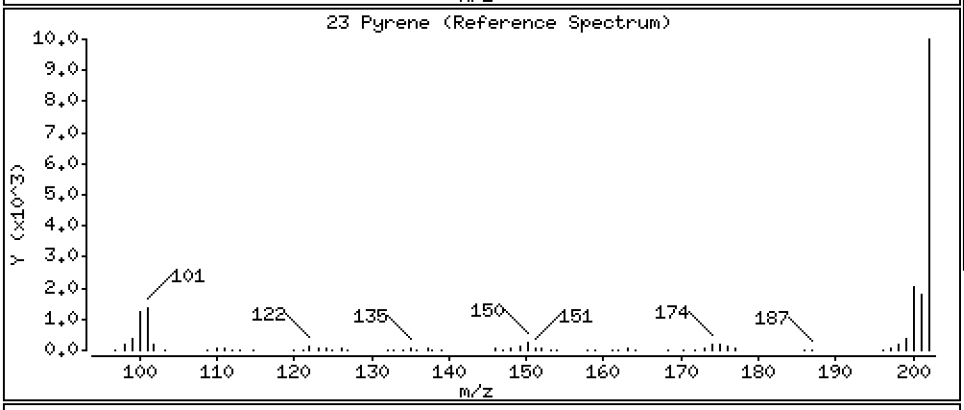
Concentration: 0.01126 ug/mL

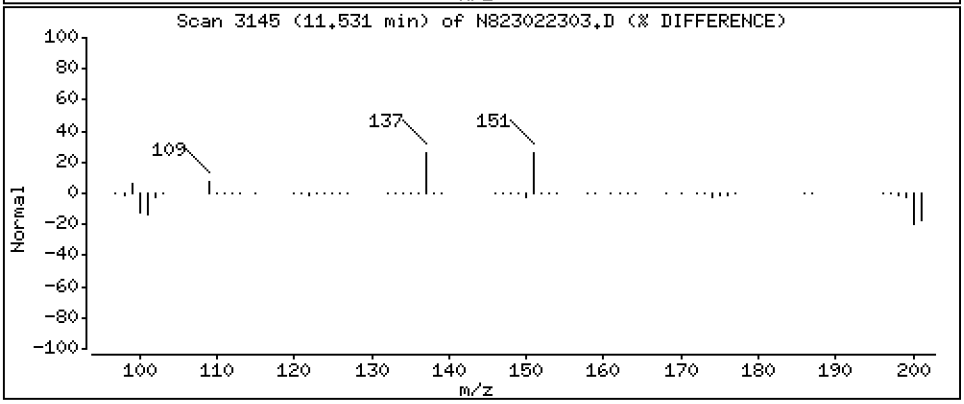












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230223.b\N823022303.D
Lab Smp Id: BLB0386-BLK1
Inj Date : 23-FEB-2023 12:28
Operator : JZ Inst ID: nt8.i
Smp Info : BLB0386-BLK1,
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Meth Date : 26-Feb-2023 11:43 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PNAXEMDL.sub
Target Version: 4.14
Processing Host: JIANQING-202105

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.865	4.871	(1.000)	36588	2.00000	
	2 Naphthalene	128	4.894	4.903	(1.006)	452	0.02657	0.02657
$	3 2-Methylnaphthalene-d10	152	5.602	5.605	(1.151)	24106	2.41580	2.416
	4 2-Methylnaphthalene	141	5.650	5.652	(1.161)	97	0.01037	0.01037
	5 1-methylnaphthalene	141	5.852	5.849	(1.203)	84	0.00884	0.008845
	9 Acenaphthylene	152	Compound Not Detected.					
*	10 Acenaphthene-d10	164	7.161	7.158	(1.000)	22657	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	14 Fluorene	166	Compound Not Detected.					
*	15 Phenanthrene-d10	188	9.200	9.197	(1.000)	43370	2.00000	
	16 Phenanthrene	178	Compound Not Detected.					
	17 Anthracene	178	Compound Not Detected.					
	19 Carbazole	167	Compound Not Detected.					
	22 Fluoranthene	202	11.012	11.009	(1.197)	206	0.00893	0.008933
$	21 Fluoranthene-d10	212	10.974	10.971	(1.193)	57014	2.97962	2.980
	23 Pyrene	202	11.531	11.527	(0.815)	262	0.01126	0.01126
	24 Benzo(a)anthracene	228	Compound Not Detected.					
*	25 Chrysene-d12	240	14.152	14.152	(1.000)	37533	2.00000	
	27 Chrysene	228	Compound Not Detected.					
	28 Benzo(b)fluoranthene	252	Compound Not Detected.					
	29 Benzo(k)fluoranthene	252	Compound Not Detected.					
	30 Benzo(j)fluoranthene	252	Compound Not Detected.					
	31 Total Benzofluoranthenes	252	Compound Not Detected.					
	34 Benzo(e)pyrene	252	Compound Not Detected.					
	32 Benzo(a)pyrene	252	Compound Not Detected.					
*	33 Perylene-d12	264	18.060	18.057	(1.000)	38522	2.00000	
	35 Perylene	252	Compound Not Detected.					
$	36 Dibenzo(a,h)anthracene-d14	292	20.486	20.485	(1.134)	43992	2.91458	2.915
	37 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
	38 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	39 Benzo(g,h,i)perylene	276	Compound Not Detected.					

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823022303.D
Lab Smp Id: BLB0386-BLK1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 23-FEB-2023
Calibration Time: 11:46
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	37022	18511	74044	36588	-1.17
10 Acenaphthene-d10	22454	11227	44908	22657	0.90
15 Phenanthrene-d10	43277	21639	86554	43370	0.21
25 Chrysene-d12	38907	19454	77814	37533	-3.53
33 Perylene-d12	39582	19791	79164	38522	-2.68

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.87	4.37	5.37	4.87	-0.12
10 Acenaphthene-d10	7.16	6.66	7.66	7.16	0.05
15 Phenanthrene-d10	9.20	8.70	9.70	9.20	0.04
25 Chrysene-d12	14.15	13.65	14.65	14.15	0.00
33 Perylene-d12	18.06	17.56	18.56	18.06	0.02

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

REVIEW SUMMARY FOR FILE - N823022303.D

Lab ID: BLB0386-BLK1
nt8.i, 20230223.b\FSIMPNA230119.m,   23-FEB-2023 12:28

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

No RRT check performed

On Column LOD for nt8.i, 20230223.b\FSIMPNA230119.m, PNAXEMDL.sub = 0.0080

Exception: Benzo(e)pyrene 0.0800

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

LCS / LCS DUPLICATE RECOVERY

EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	02/23/23 12:55
Batch:	BLB0386	Laboratory ID:	BLB0386-BS1
Preparation:	EPA 3546 (Microwave)	Sequence Name:	LCS
Initial/Final:	10 g / 0.5 mL		

COMPOUND	SPIKE ADDED (ug/kg wet)	LCS CONCENTRATION (ug/kg wet)	Q	LCS % REC. #	QC LIMITS REC.
Benzo(a)anthracene	300	268		89.5	42 - 120
Chrysene	300	245		81.7	48 - 120
Benzo(b)fluoranthene	300	316		105	52 - 137
Benzo(k)fluoranthene	300	300		100	37 - 129
Benzo(a)pyrene	300	245		81.7	36 - 120
Indeno(1,2,3-cd)pyrene	300	291		97.1	67 - 132
Dibenzo(a,h)anthracene	300	310		103	66 - 139

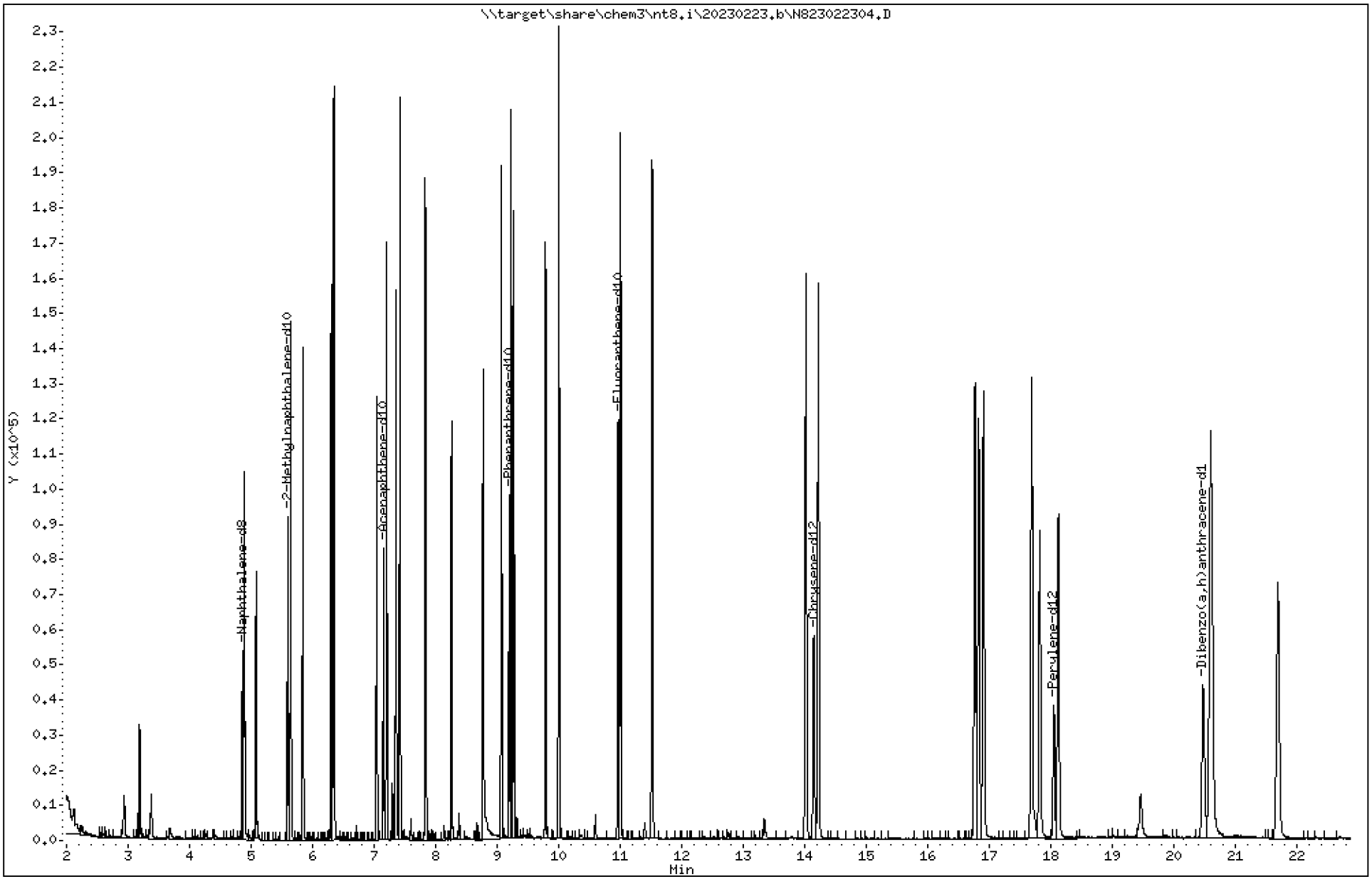
* Indicates values outside of QC limits

COMPOUND	SPIKE ADDED (ug/kg wet)	LCSD CONCENTRATION (ug/kg wet)	Q	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Benzo(a)anthracene	300	266		88.7	0.807	30	42 - 120
Chrysene	300	248		82.8	1.27	30	48 - 120
Benzo(b)fluoranthene	300	314		105	0.625	30	52 - 137
Benzo(k)fluoranthene	300	300		100	0.0298	30	37 - 129
Benzo(a)pyrene	300	232		77.2	5.68	30	36 - 120
Indeno(1,2,3-cd)pyrene	300	291		96.9	0.207	30	67 - 132
Dibenzo(a,h)anthracene	300	317		106	2.38	30	66 - 139

* Indicates values outside of QC limits

Data File: \\target\share\chem3\nt8.i\20230223.b\N823022304.D
Date : 23-FEB-2023 12:55
Client ID:
Sample Info: BLB0386-BS1,

Instrument: nt8.i
Operator: JZ
Column phase: Rxi-17sil
Column diameter: 0.25



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Date : 23-FEB-2023 12:55

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BS1,

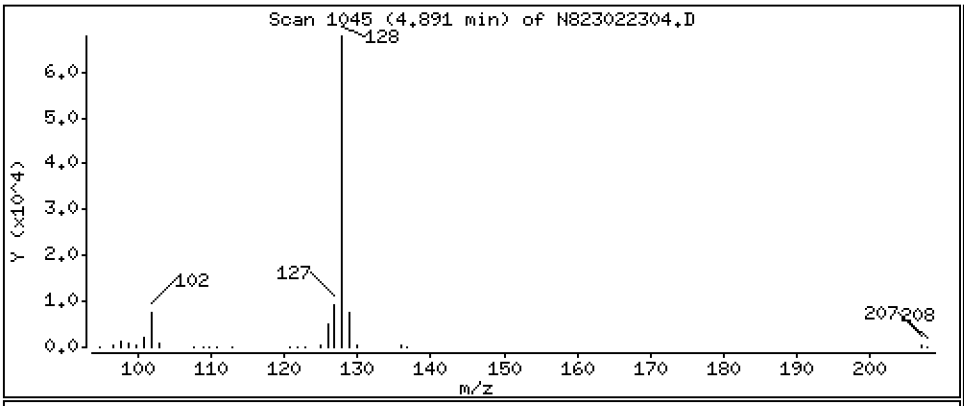
Operator: JZ

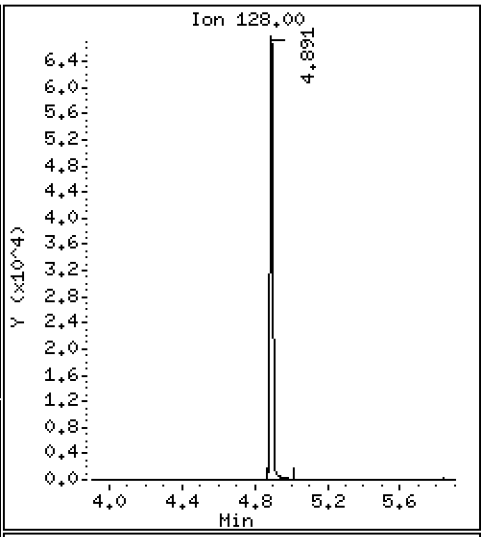
Column phase: Rxi-17sil

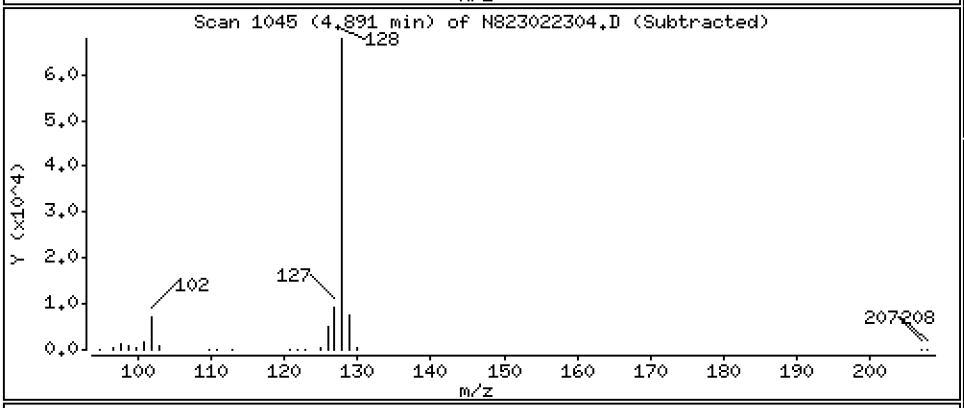
Column diameter: 0.25

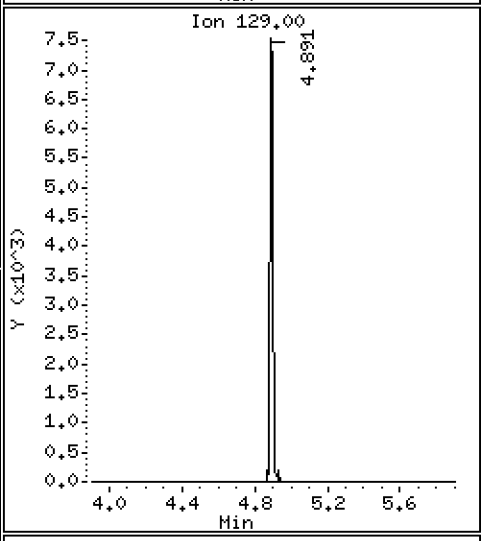
2 Naphthalene

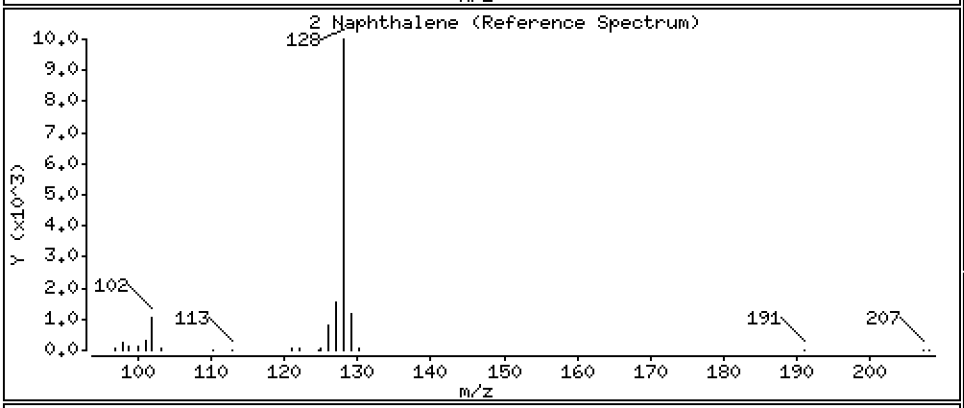
Concentration: 4.291 ug/mL

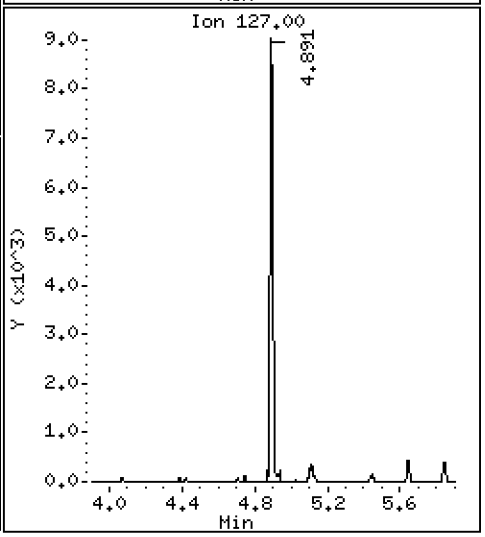


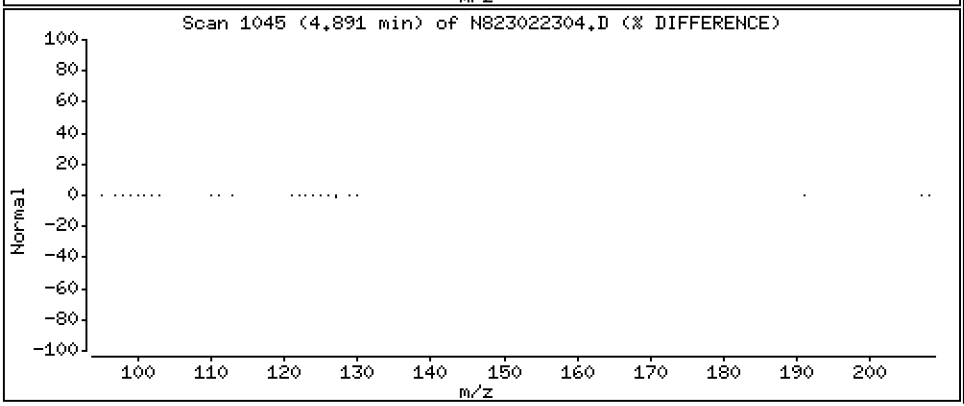












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Date : 23-FEB-2023 12:55

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BS1,

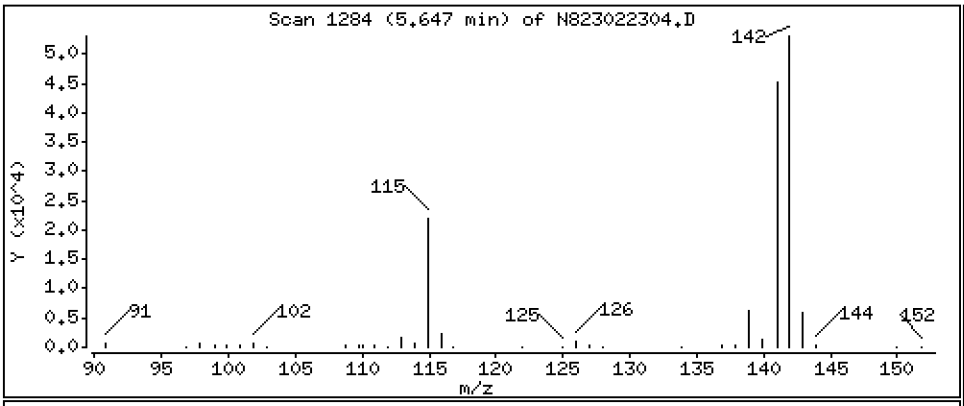
Operator: JZ

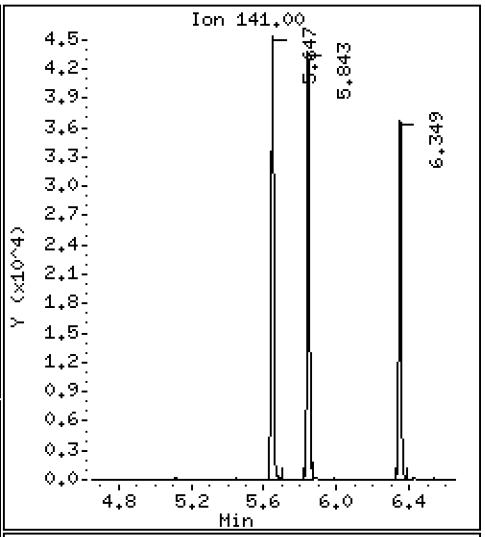
Column phase: Rxi-17sil

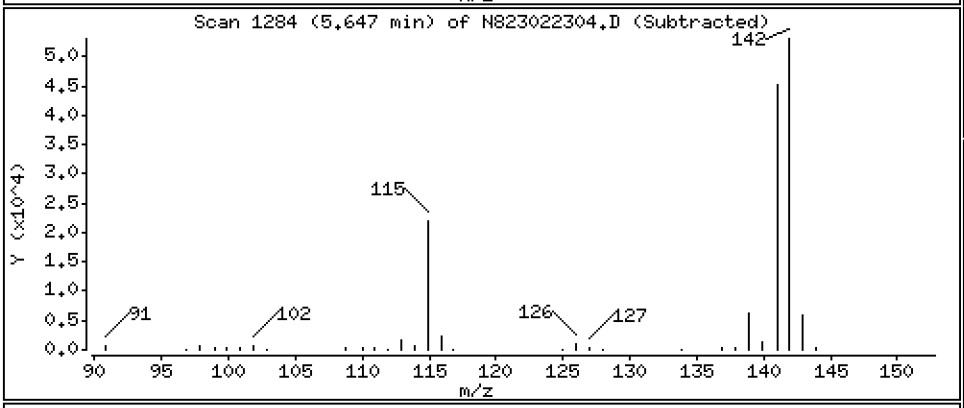
Column diameter: 0.25

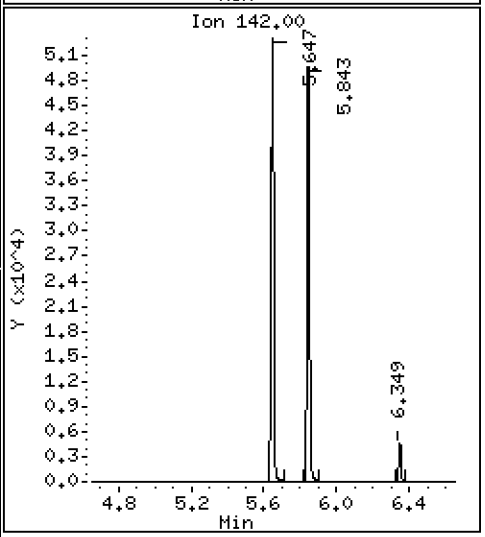
4 2-Methylnaphthalene

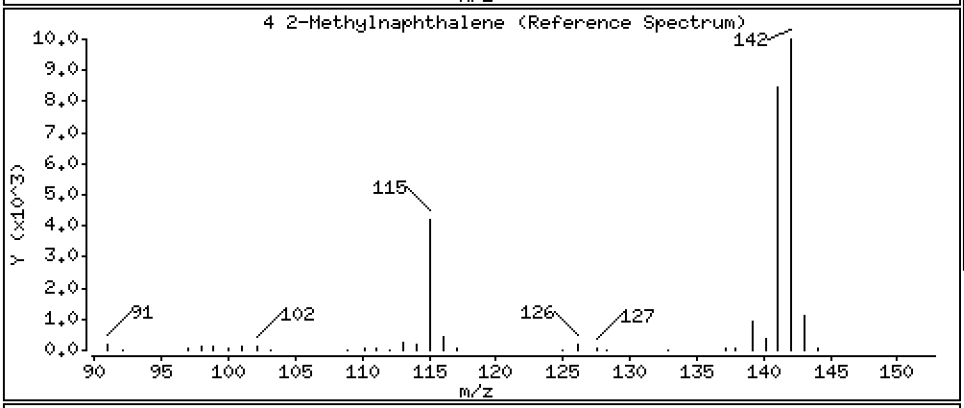
Concentration: 4.498 ug/mL

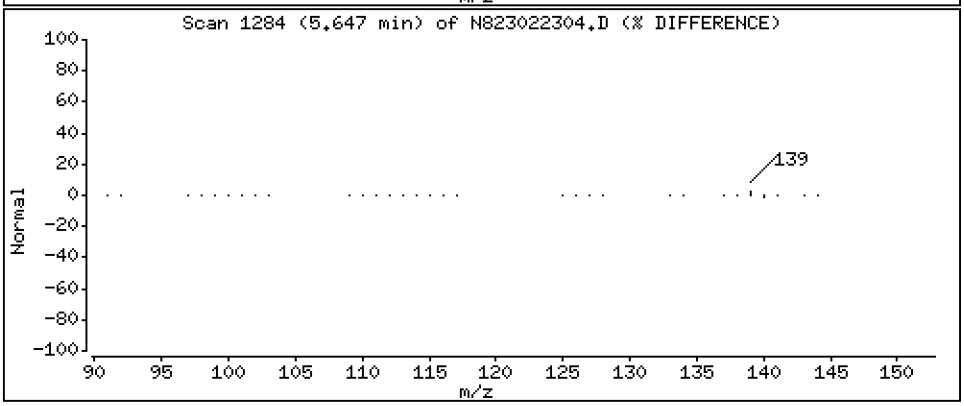












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Date : 23-FEB-2023 12:55

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BS1,

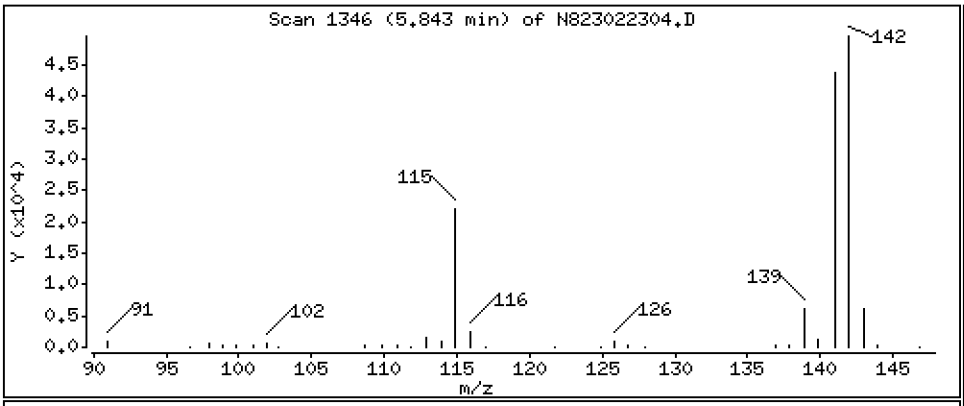
Operator: JZ

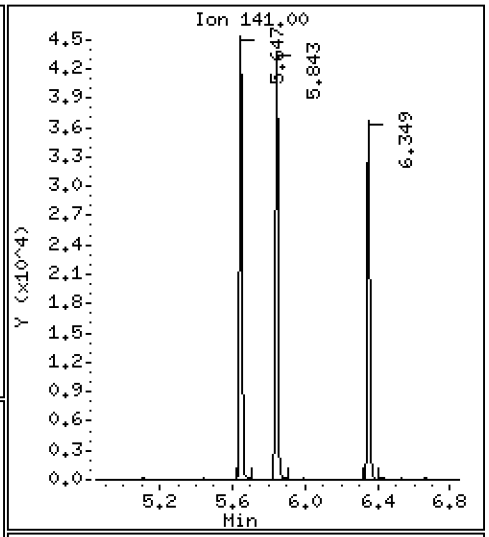
Column phase: Rxi-17sil

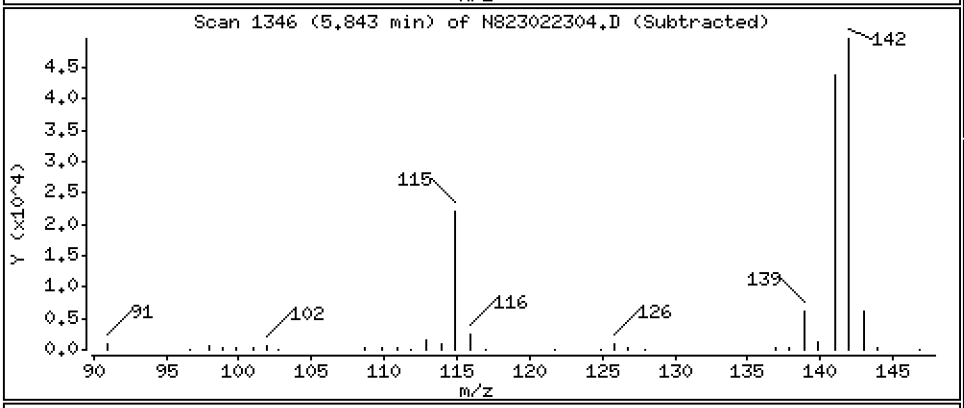
Column diameter: 0.25

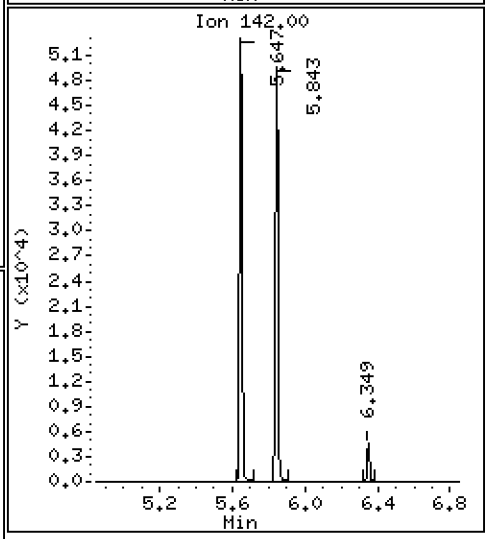
5 1-methylnaphthalene

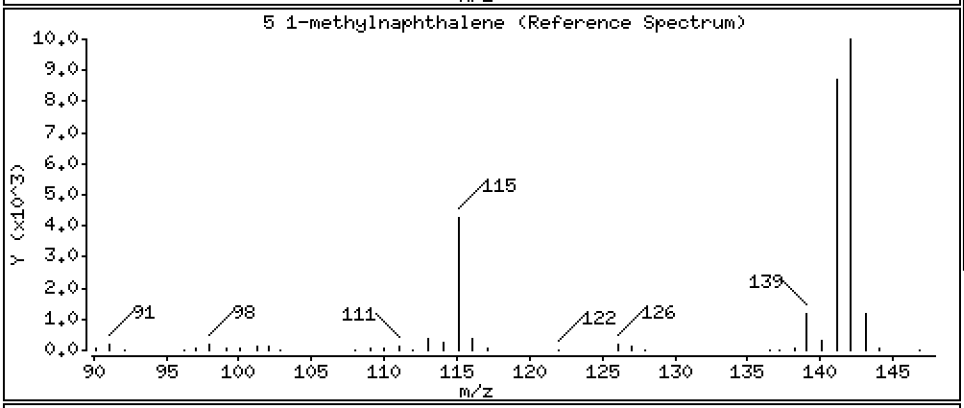
Concentration: 4.429 ug/mL

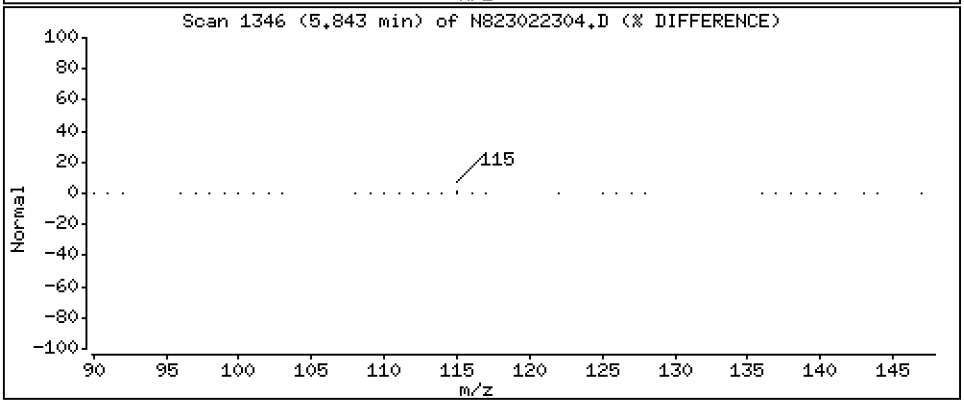












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Date : 23-FEB-2023 12:55

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BS1,

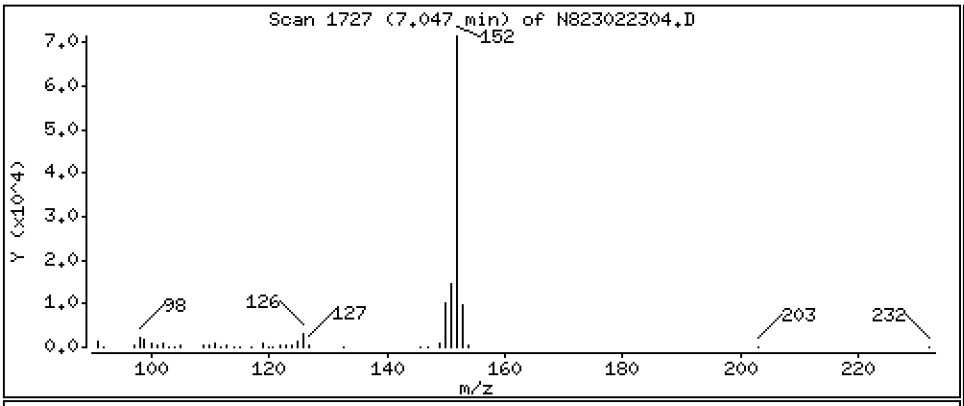
Operator: JZ

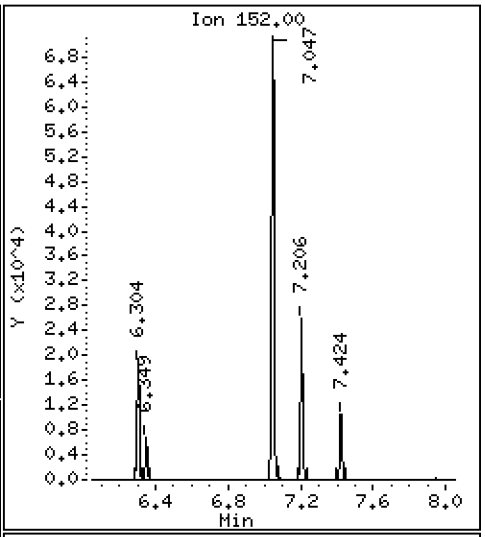
Column phase: Rxi-17sil

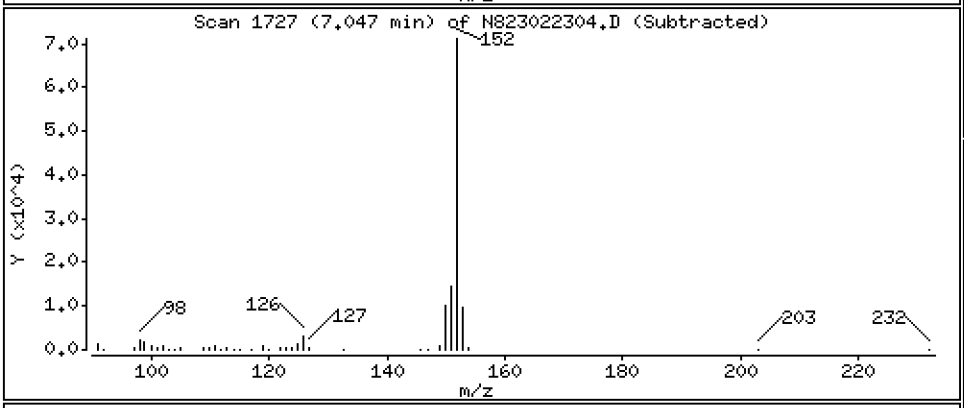
Column diameter: 0.25

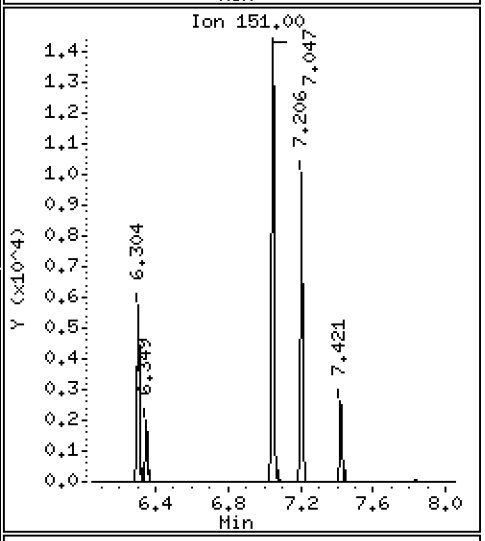
9 Acenaphthylene

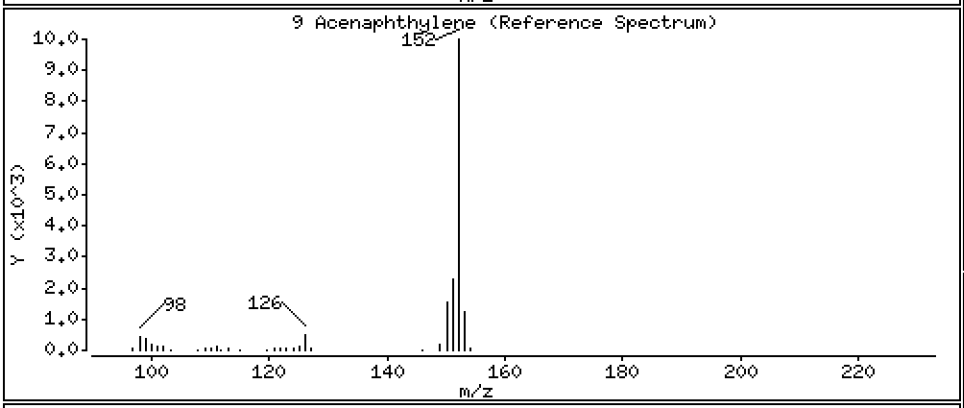
Concentration: 4.035 ug/mL

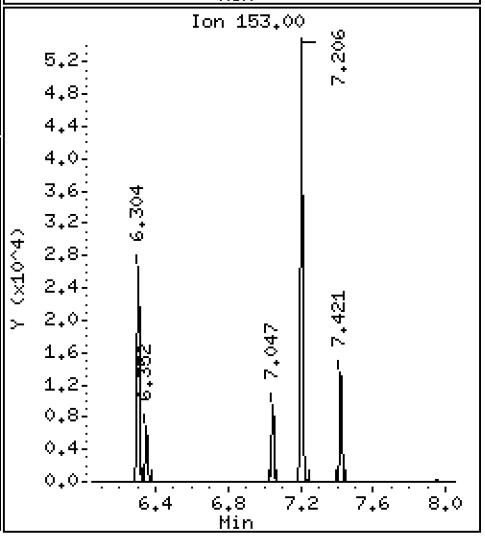


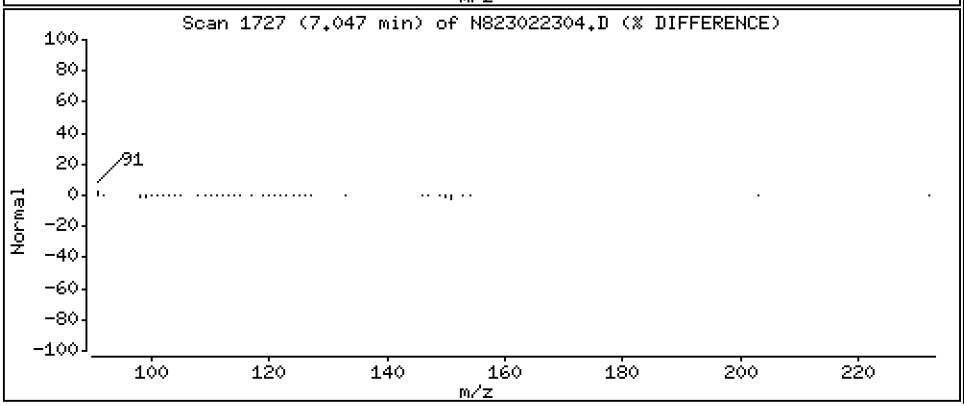












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Date : 23-FEB-2023 12:55

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BS1,

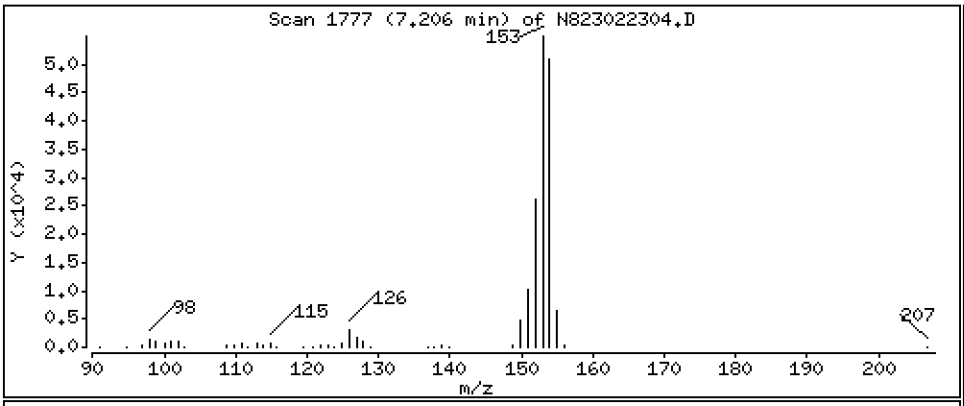
Operator: JZ

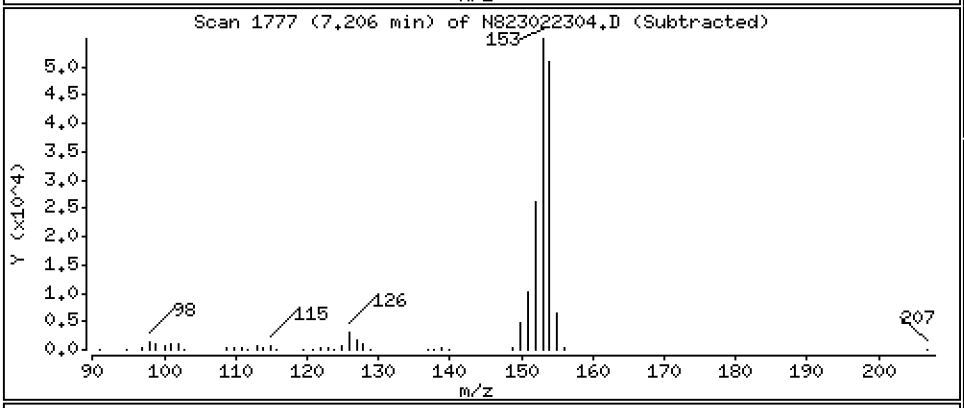
Column phase: Rxi-17sil

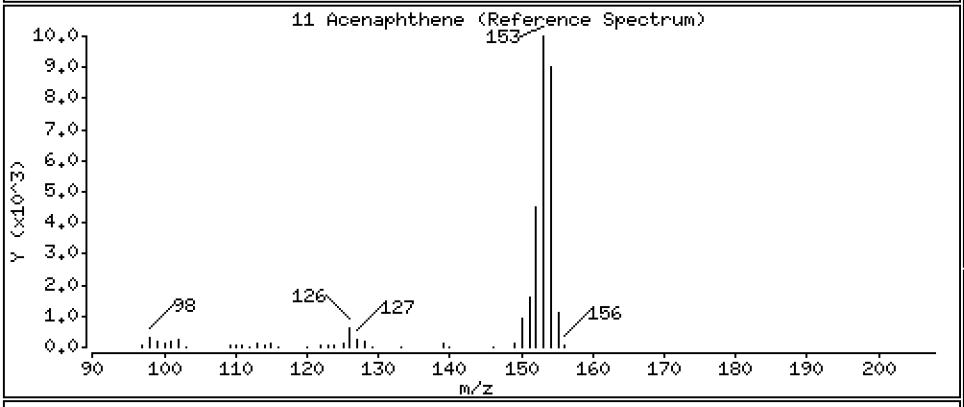
Column diameter: 0.25

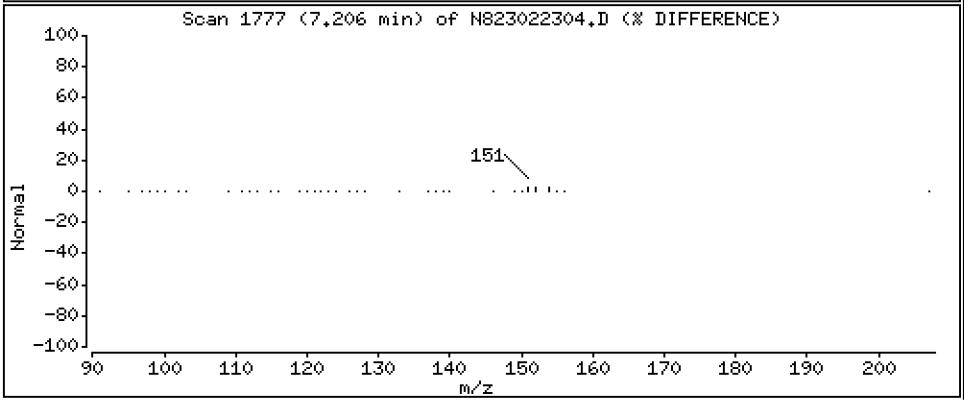
11 Acenaphthene

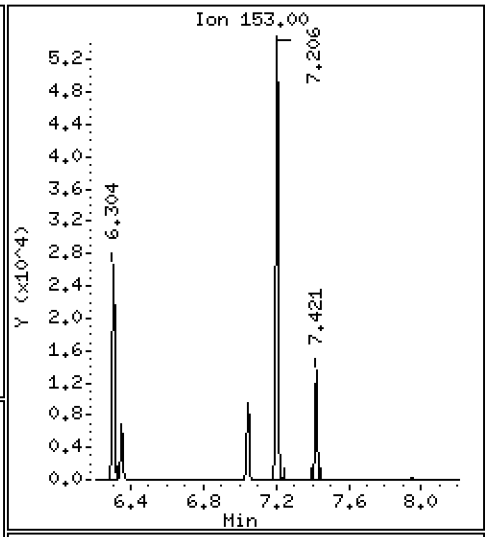
Concentration: 4.305 ug/mL

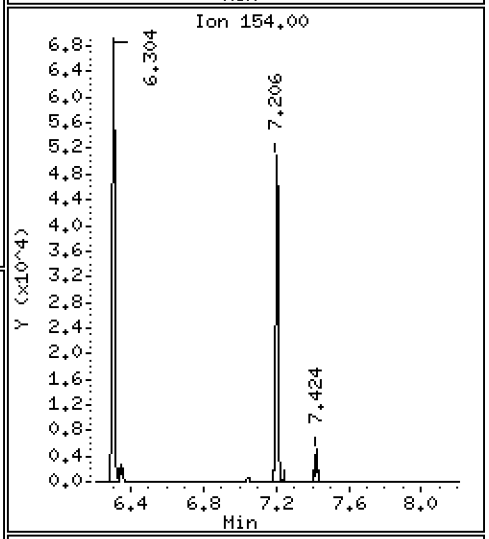


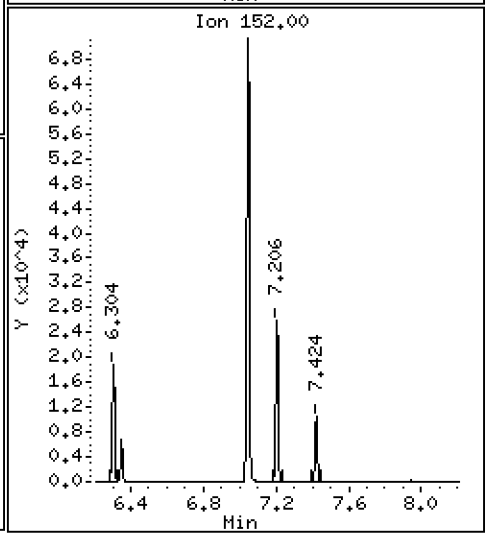












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Date : 23-FEB-2023 12:55

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BS1,

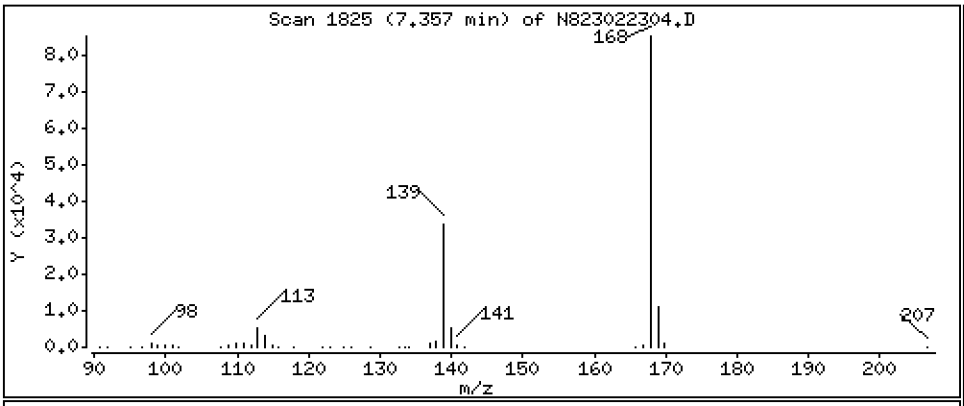
Operator: JZ

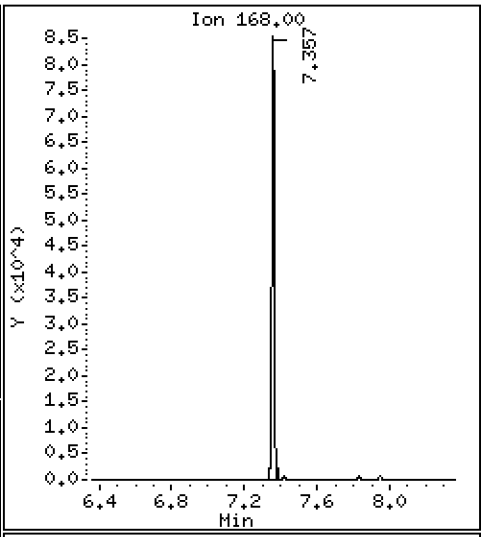
Column phase: Rxi-17sil

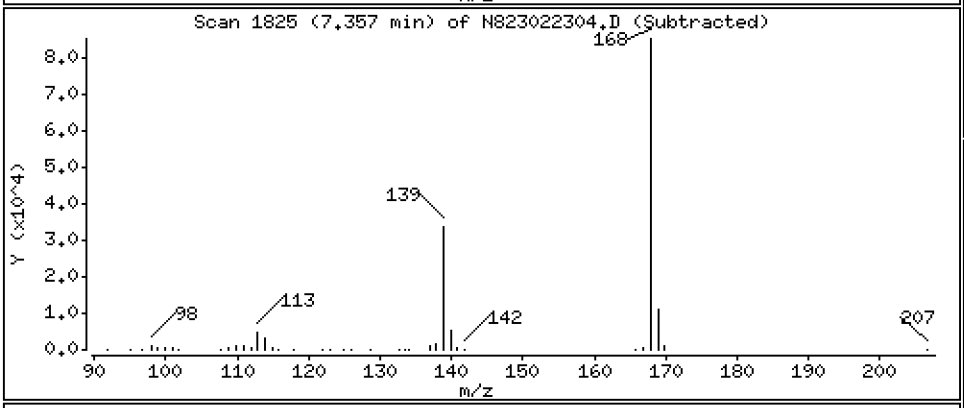
Column diameter: 0.25

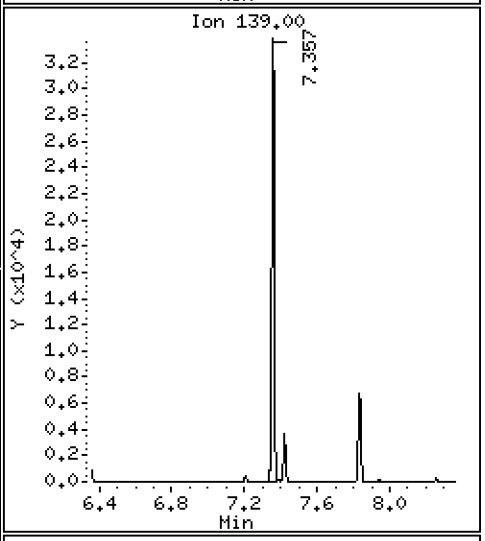
12 Dibenzofuran

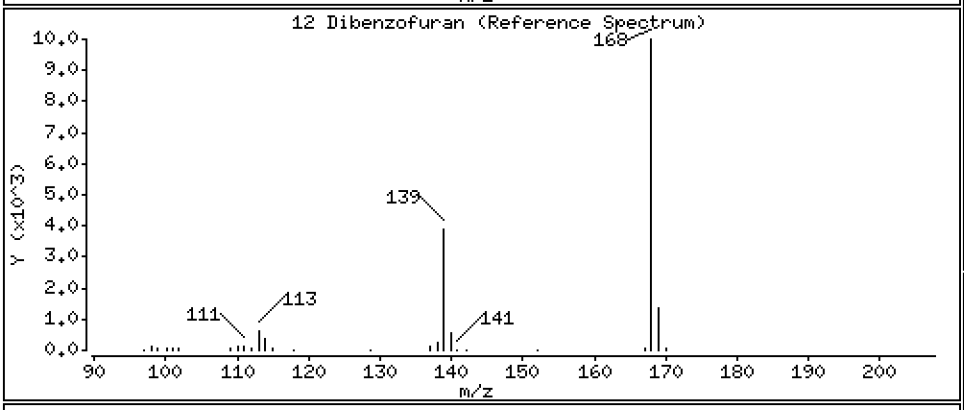
Concentration: 4.401 ug/mL

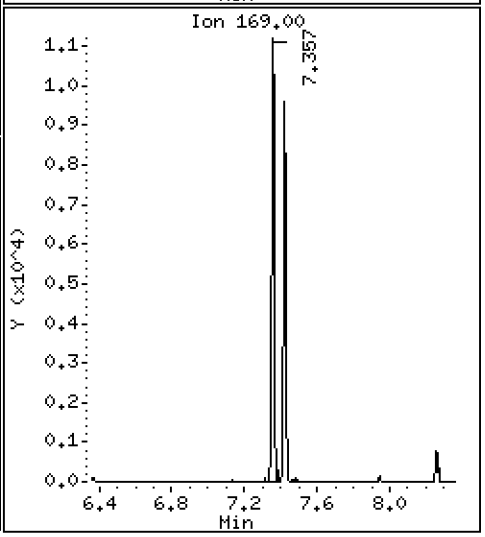


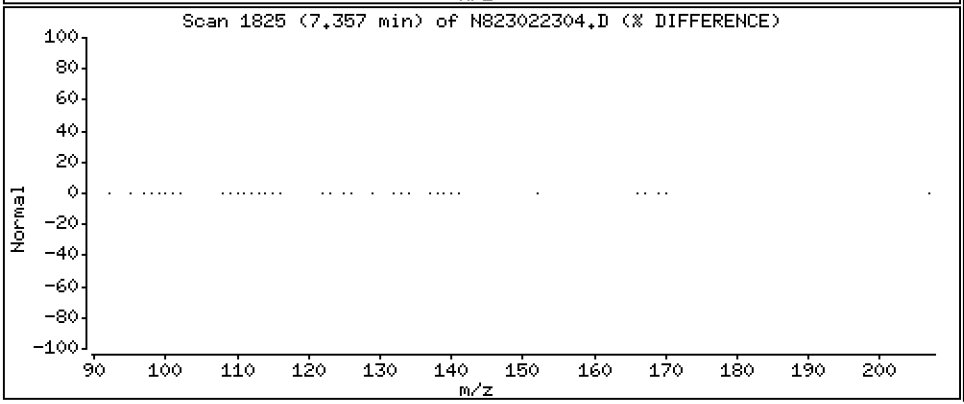












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Date : 23-FEB-2023 12:55

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BS1,

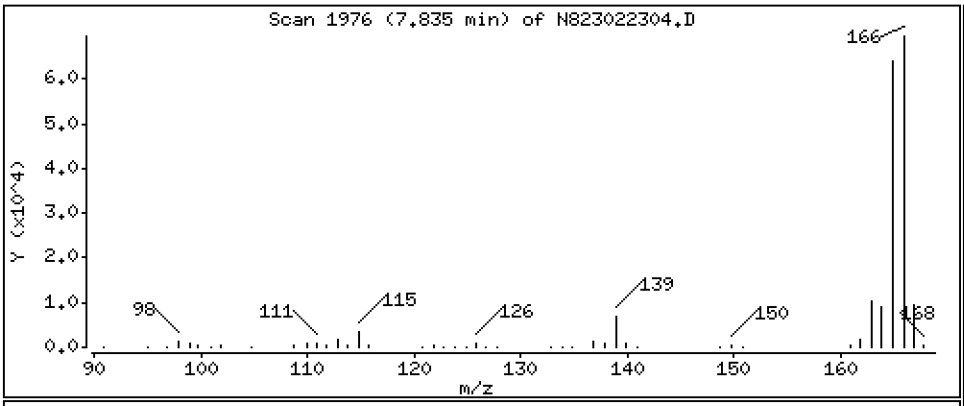
Operator: JZ

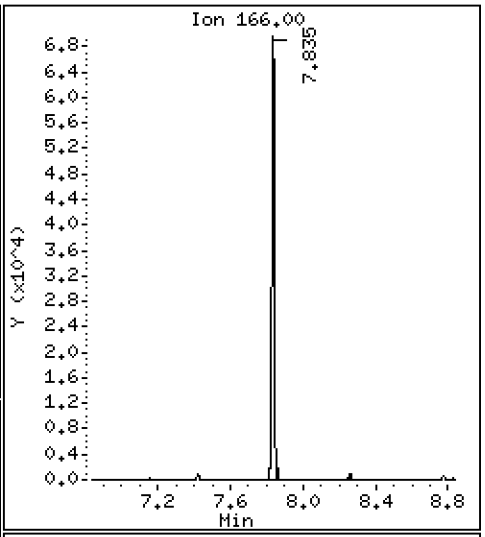
Column phase: Rxi-17sil

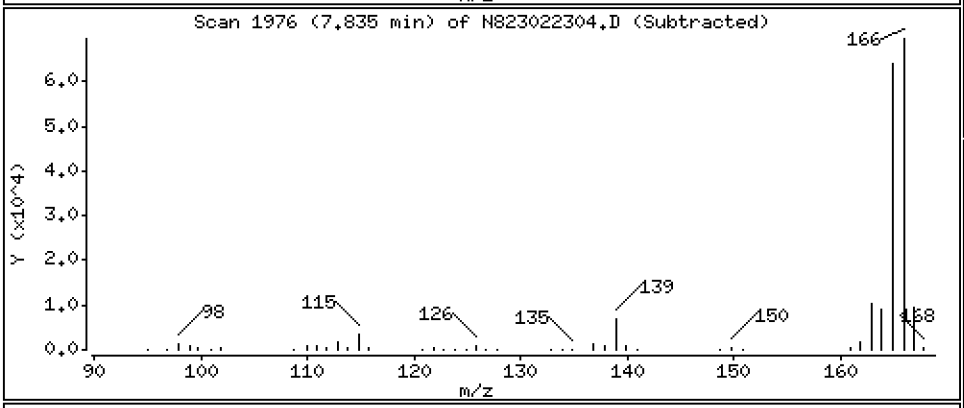
Column diameter: 0.25

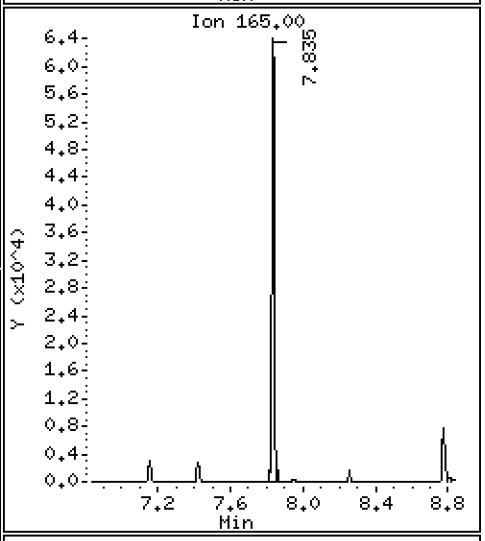
14 Fluorene

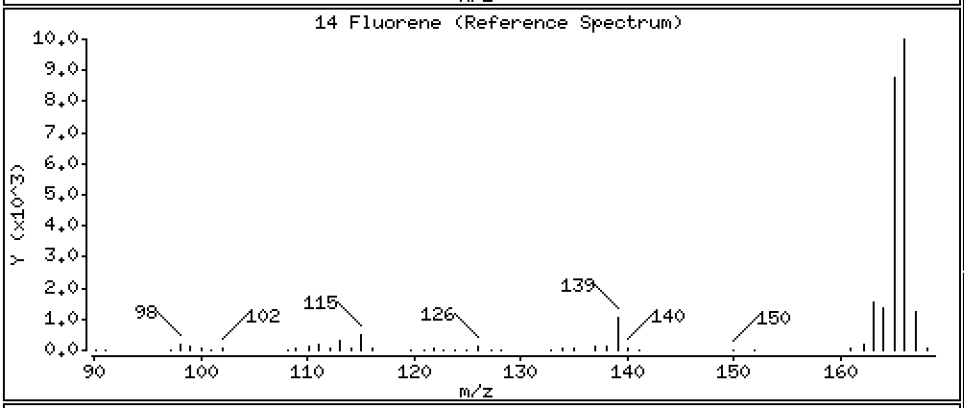
Concentration: 4.732 ug/mL

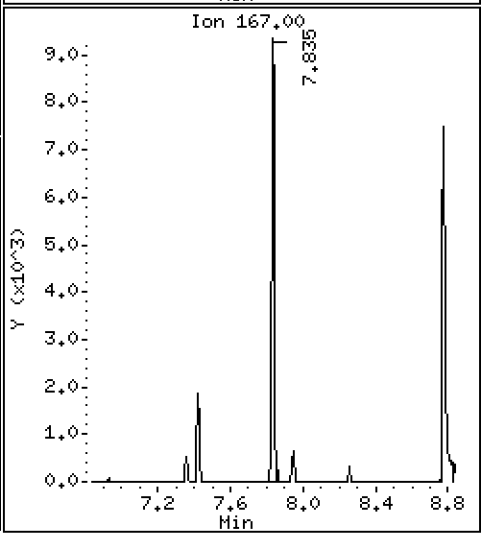


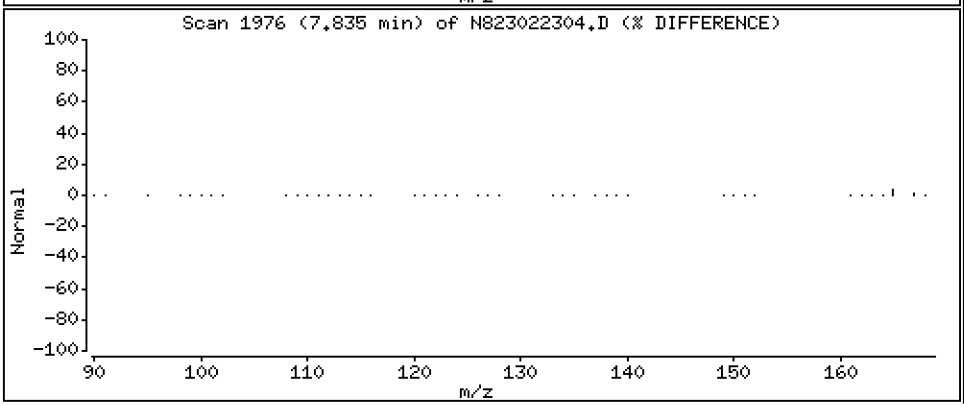












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Date : 23-FEB-2023 12:55

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BS1,

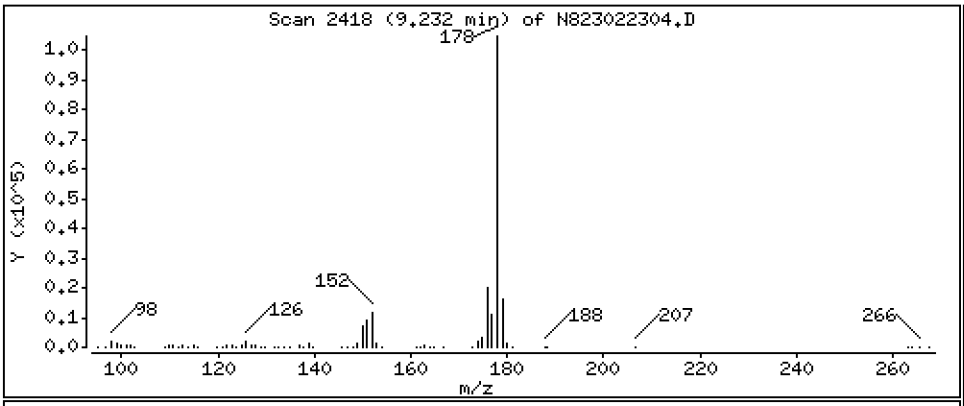
Operator: JZ

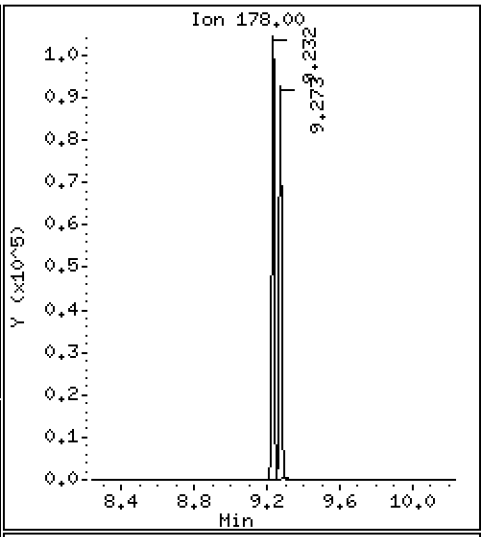
Column phase: Rxi-17sil

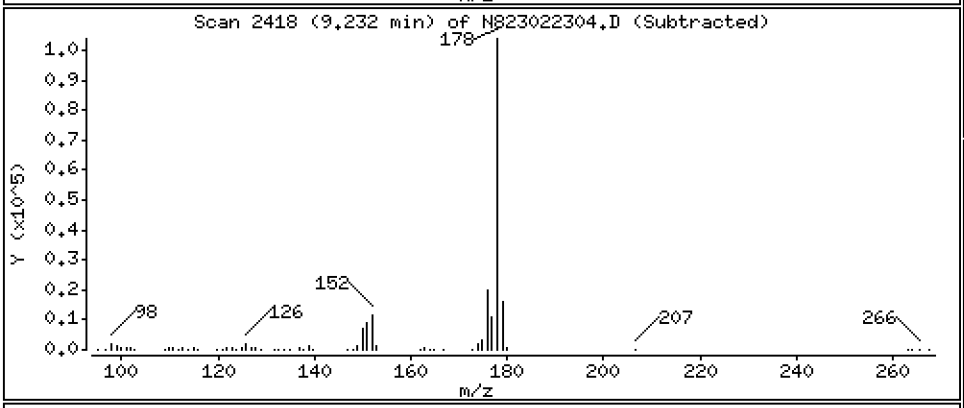
Column diameter: 0.25

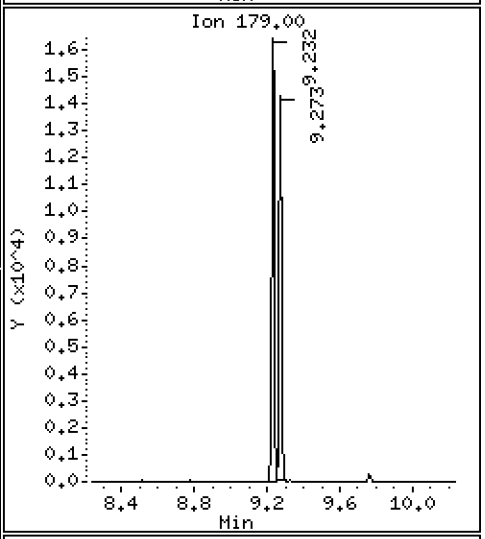
16 Phenanthrene

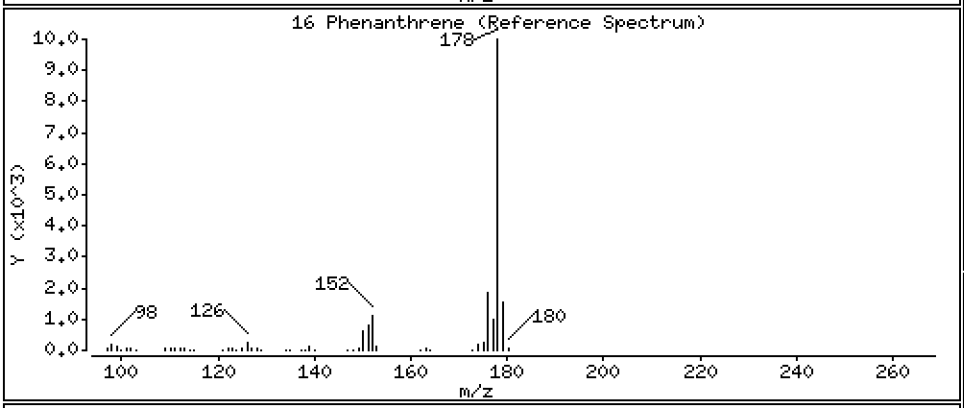
Concentration: 4.658 ug/mL

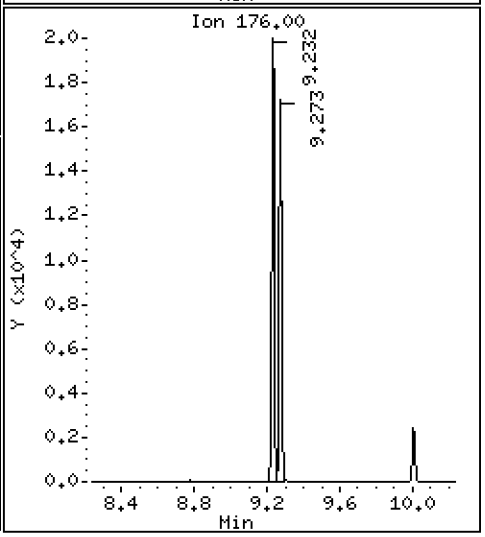


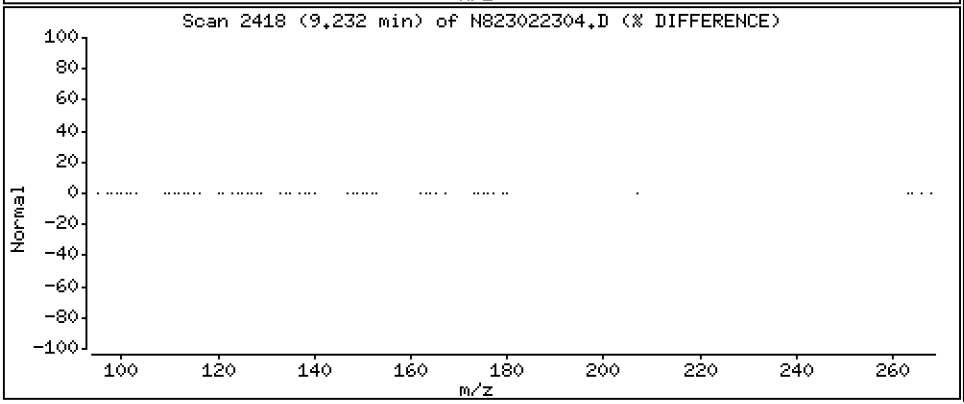












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022304.D

Date : 23-FEB-2023 12:55

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BS1,

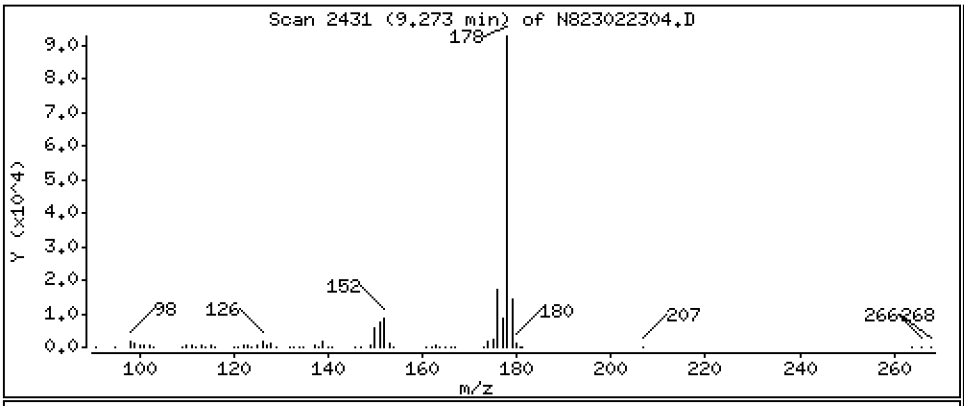
Operator: JZ

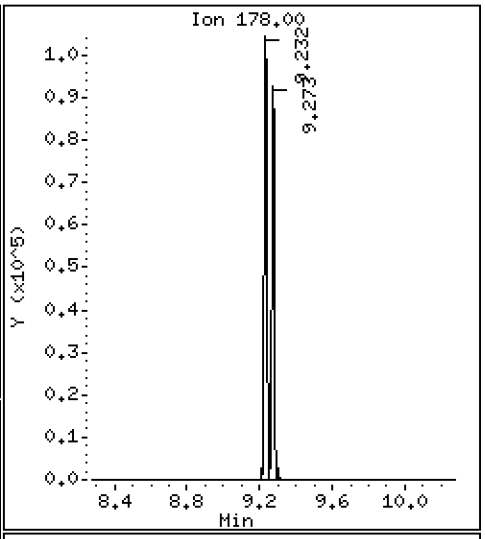
Column phase: Rxi-17sil

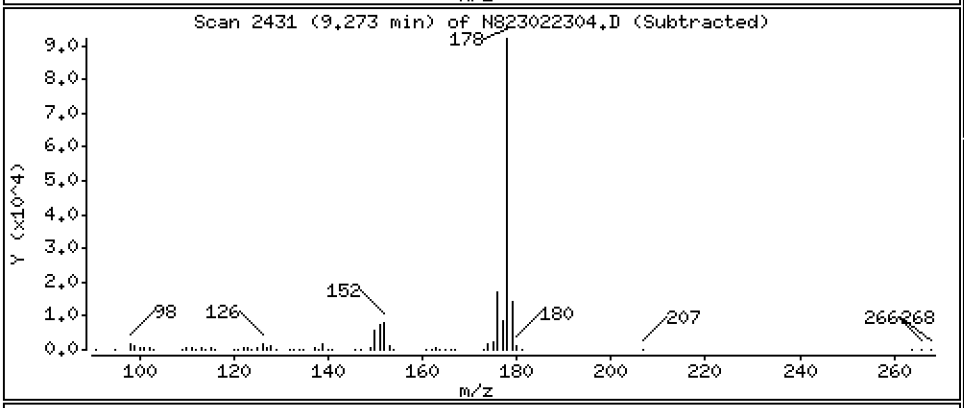
Column diameter: 0.25

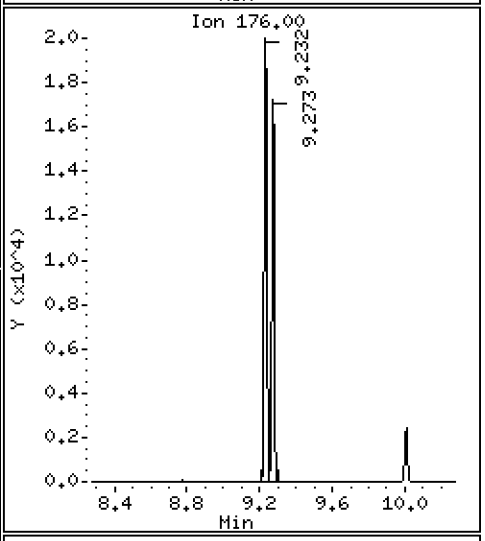
17 Anthracene

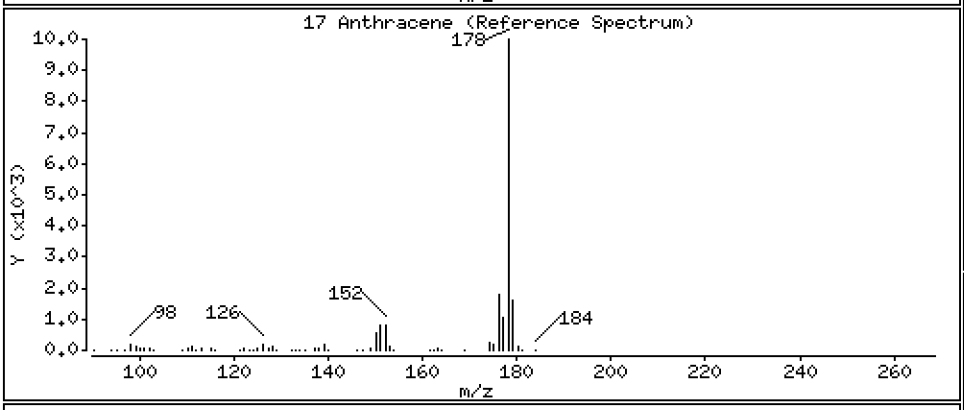
Concentration: 4.476 ug/mL

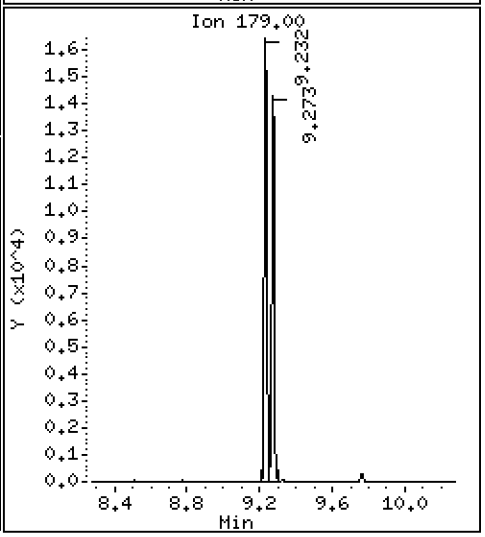


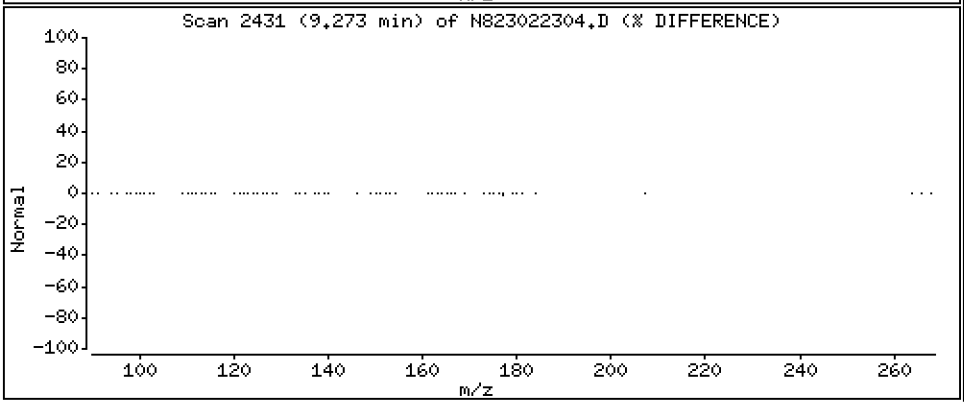












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022304.D

Date : 23-FEB-2023 12:55

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BS1,

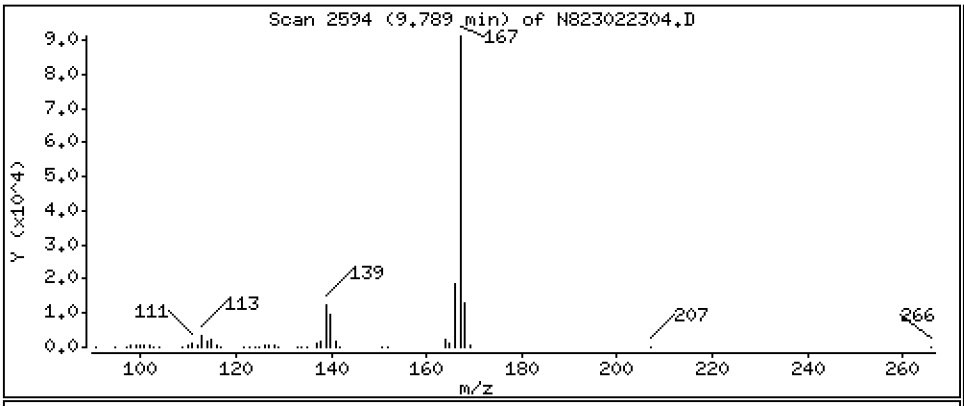
Operator: JZ

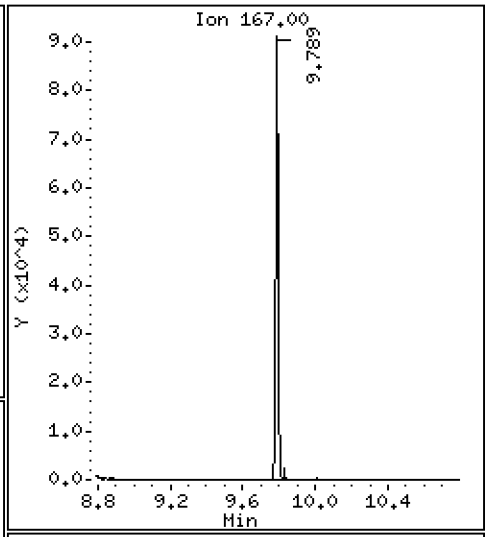
Column phase: Rxi-17sil

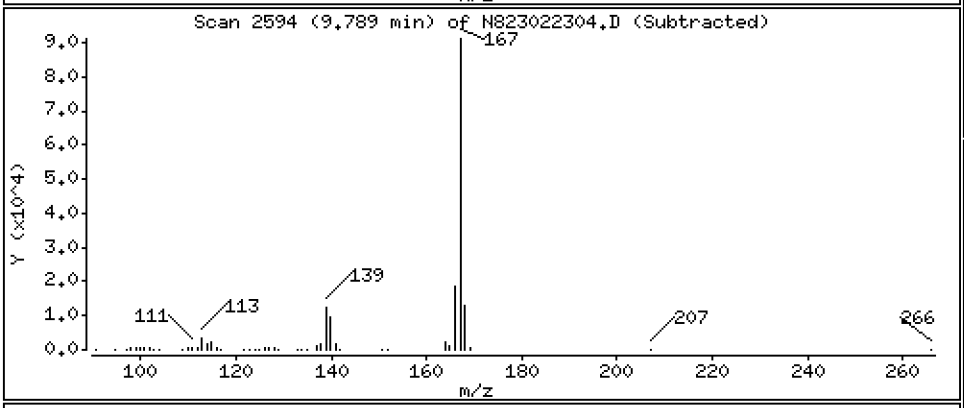
Column diameter: 0.25

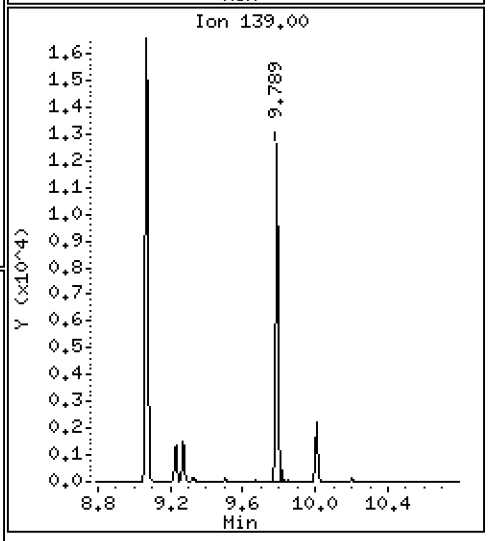
19 Carbazole

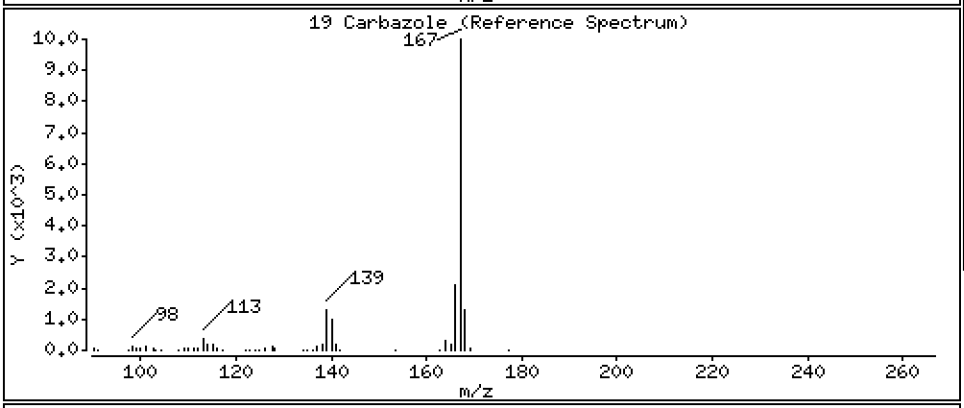
Concentration: 5.058 ug/mL

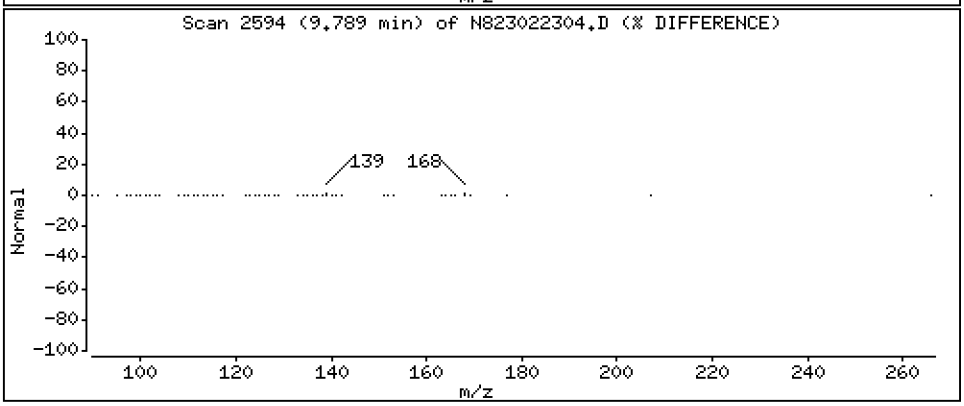












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Date : 23-FEB-2023 12:55

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BS1,

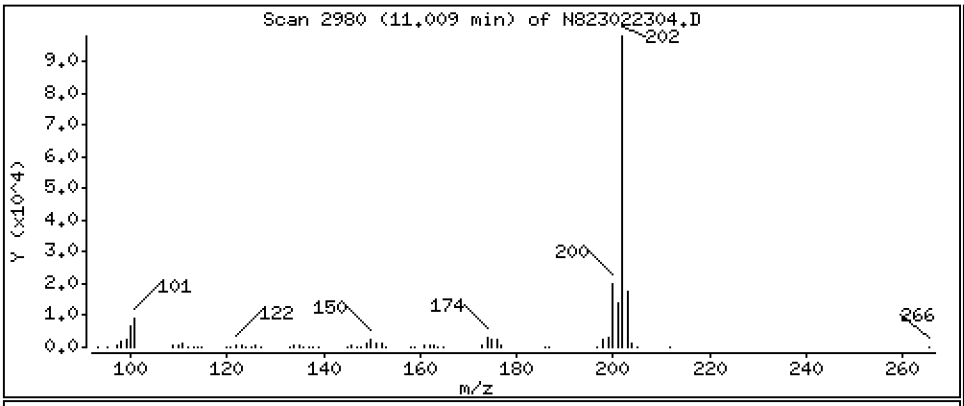
Operator: JZ

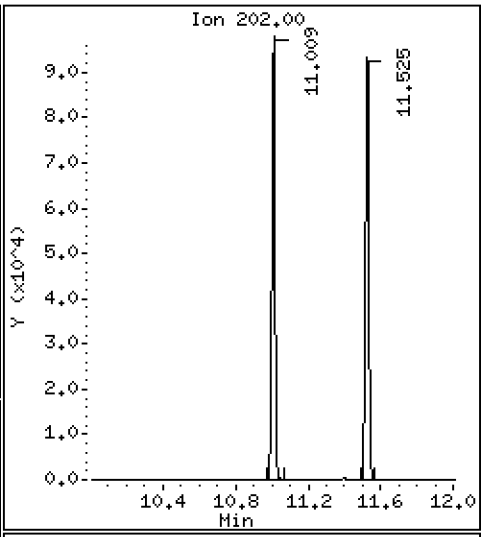
Column phase: Rxi-17sil

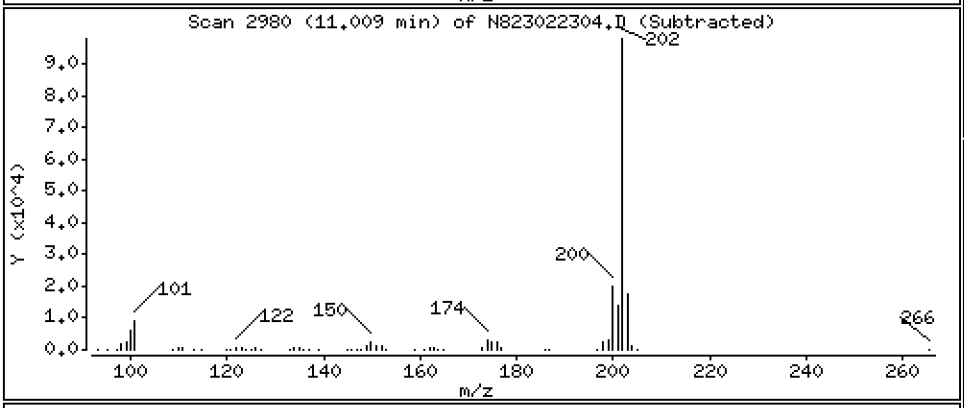
Column diameter: 0.25

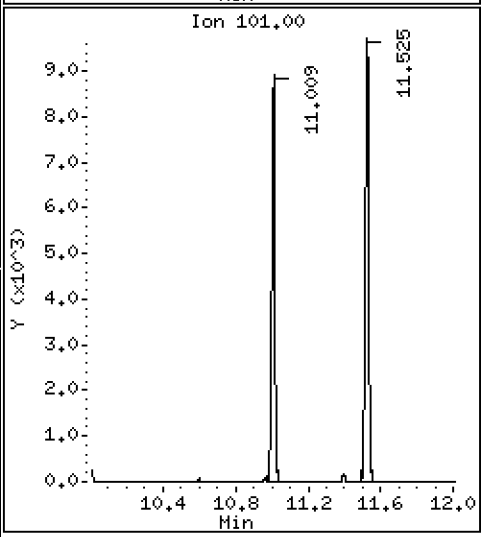
22 Fluoranthene

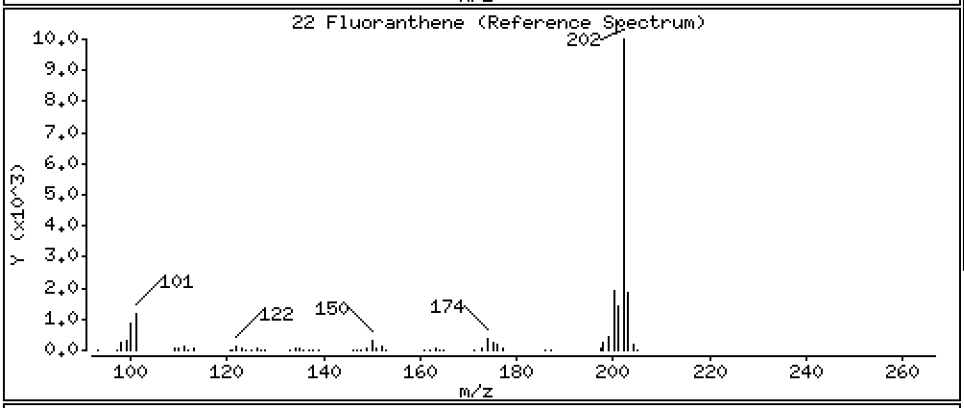
Concentration: 5.040 ug/mL

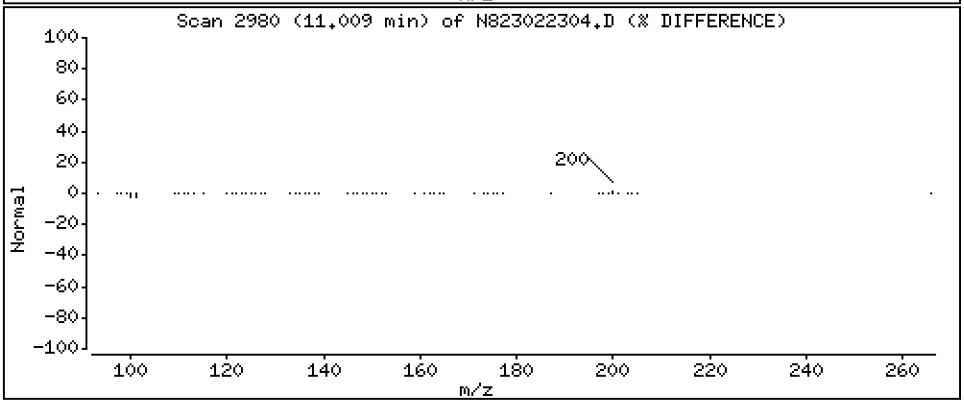












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Date : 23-FEB-2023 12:55

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BS1,

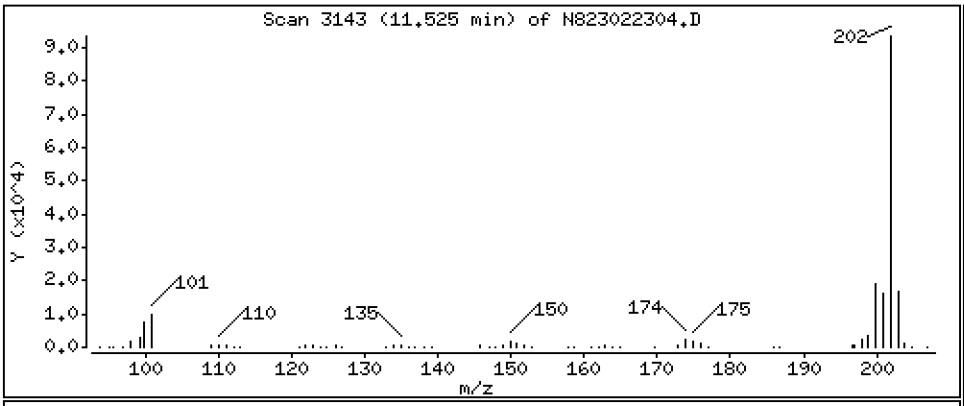
Operator: JZ

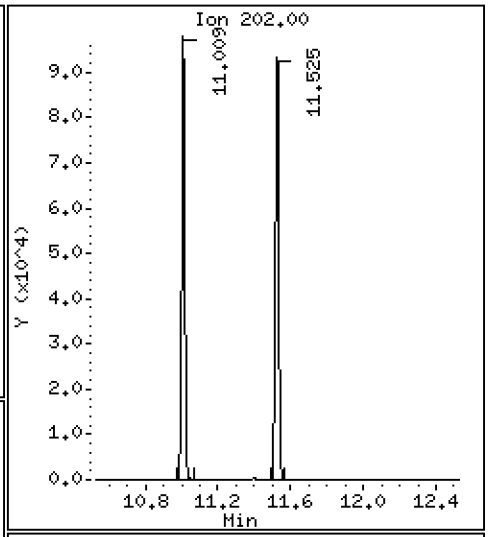
Column phase: Rxi-17sil

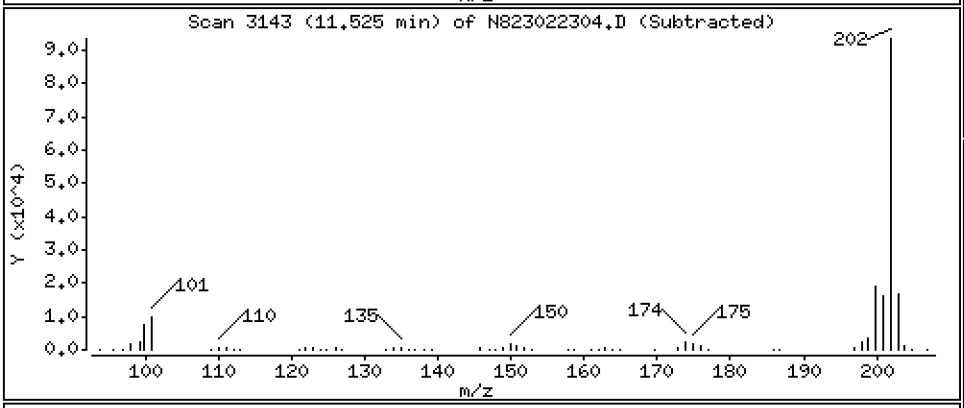
Column diameter: 0.25

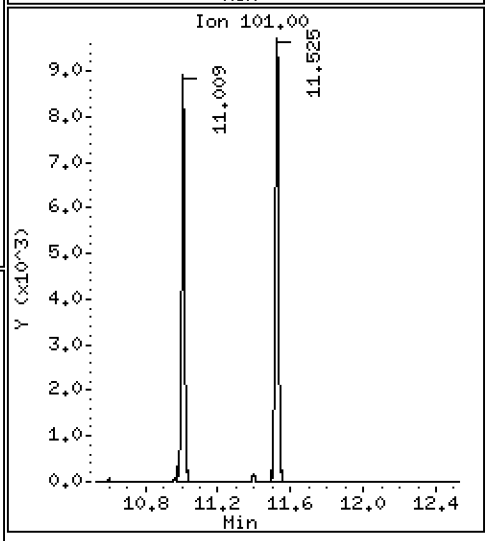
23 Pyrene

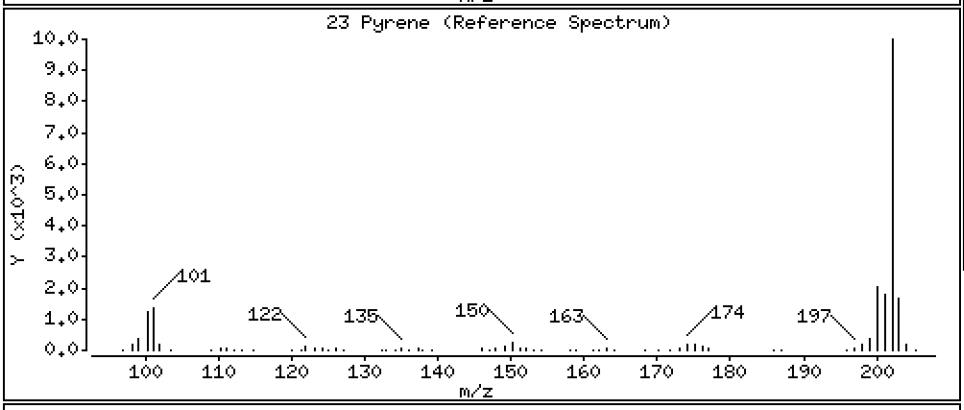
Concentration: 5.153 ug/mL

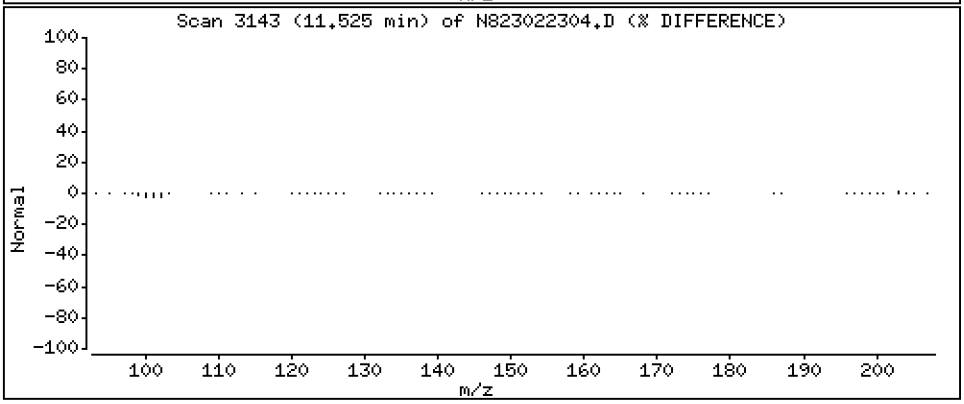












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022304.D

Date : 23-FEB-2023 12:55

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BS1,

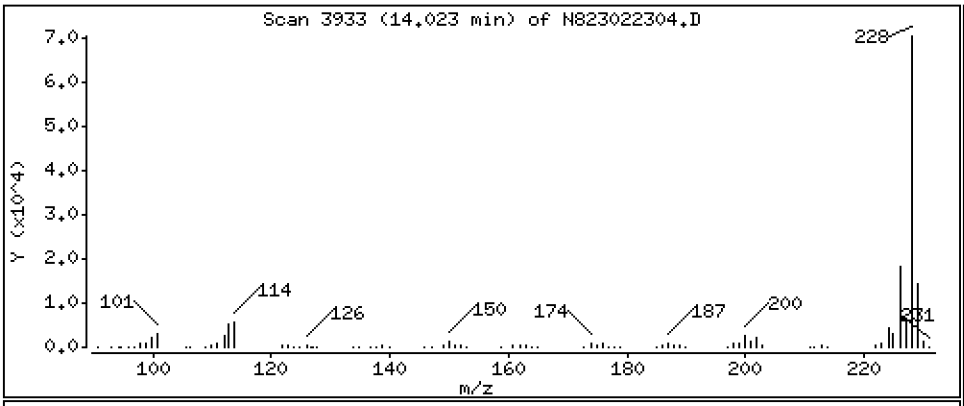
Operator: JZ

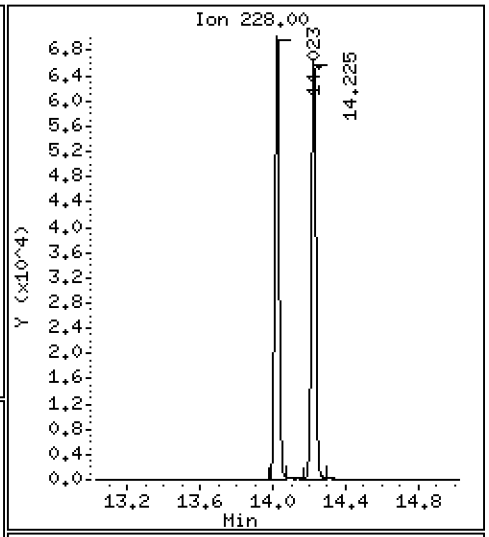
Column phase: Rxi-17sil

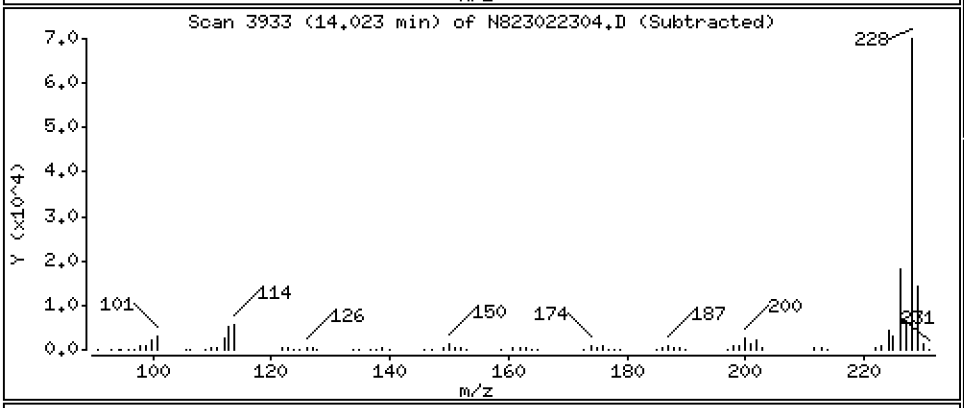
Column diameter: 0.25

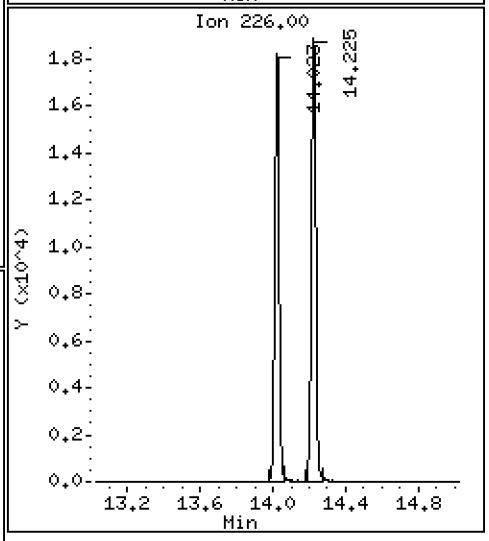
24 Benzo(a)anthracene

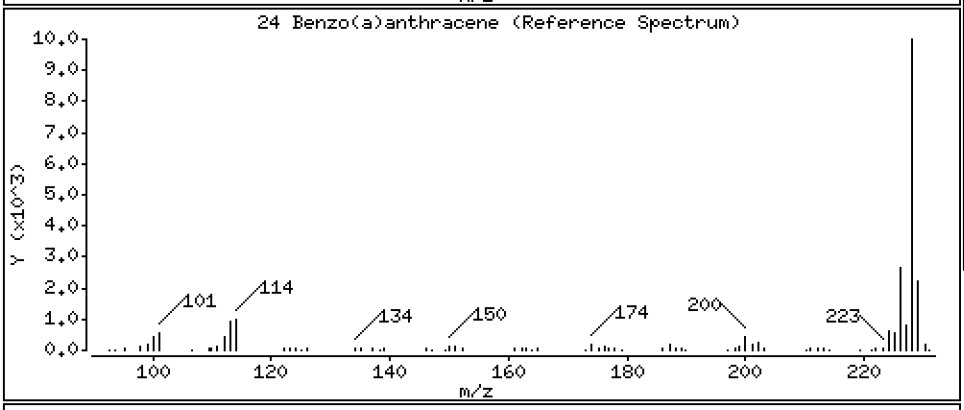
Concentration: 5.368 ug/mL

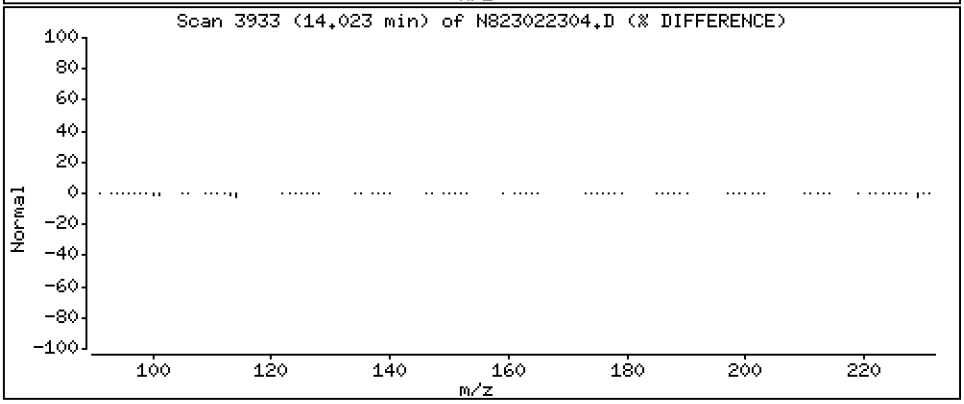












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Date : 23-FEB-2023 12:55

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BS1,

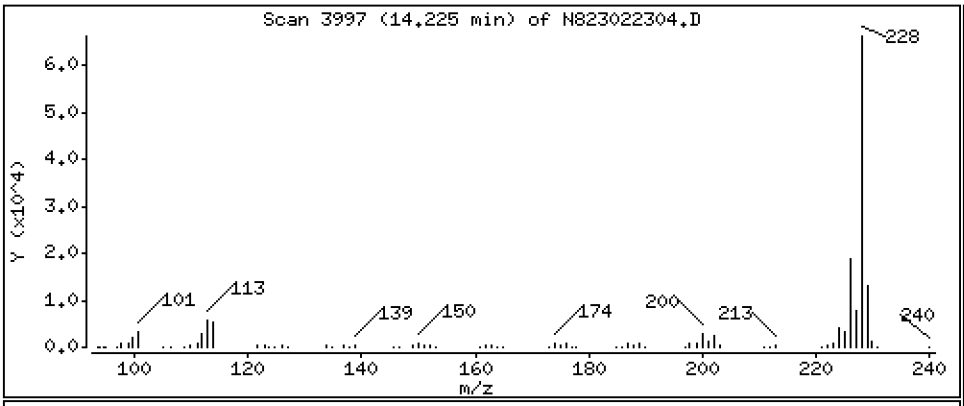
Operator: JZ

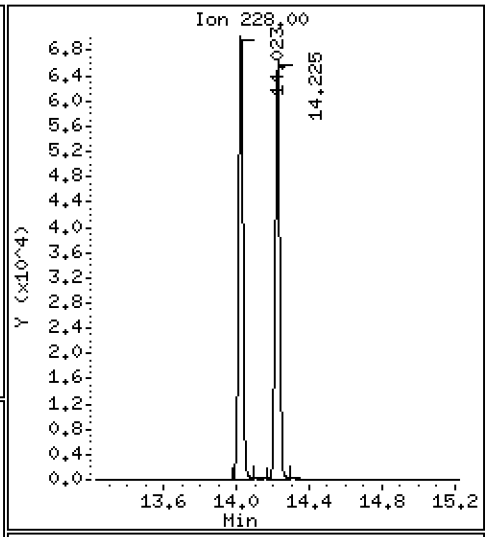
Column phase: Rxi-17sil

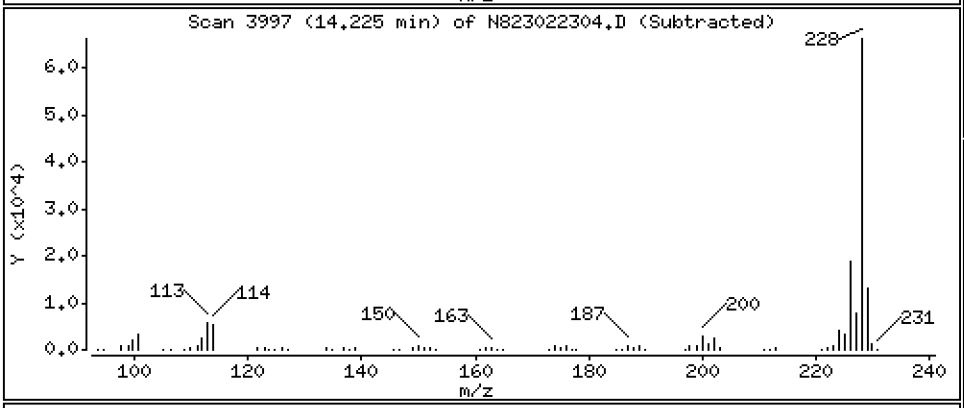
Column diameter: 0.25

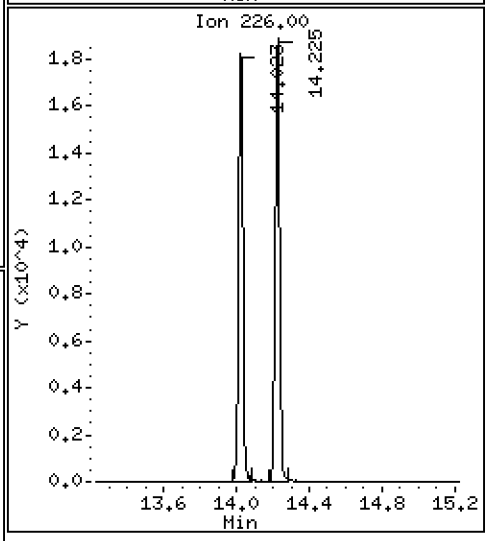
27 Chrysene

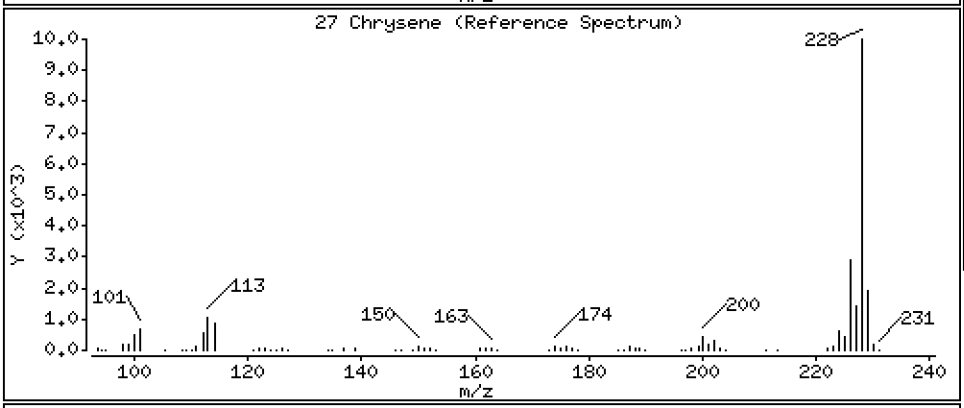
Concentration: 4.904 ug/mL

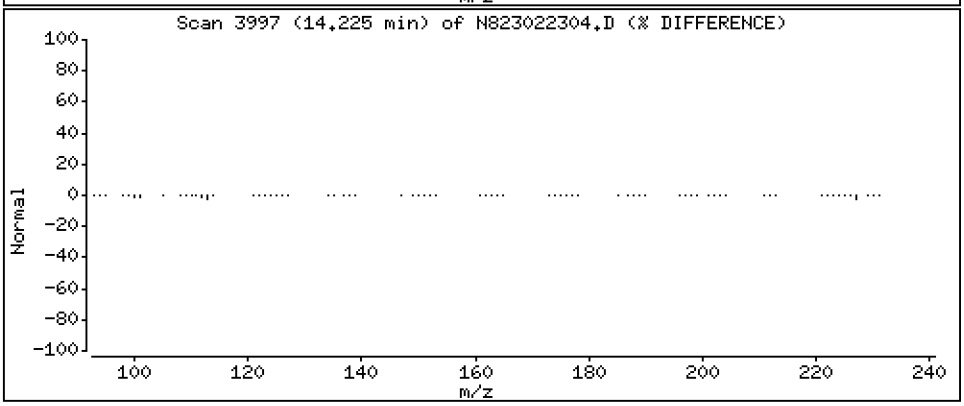












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Date : 23-FEB-2023 12:55

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BS1,

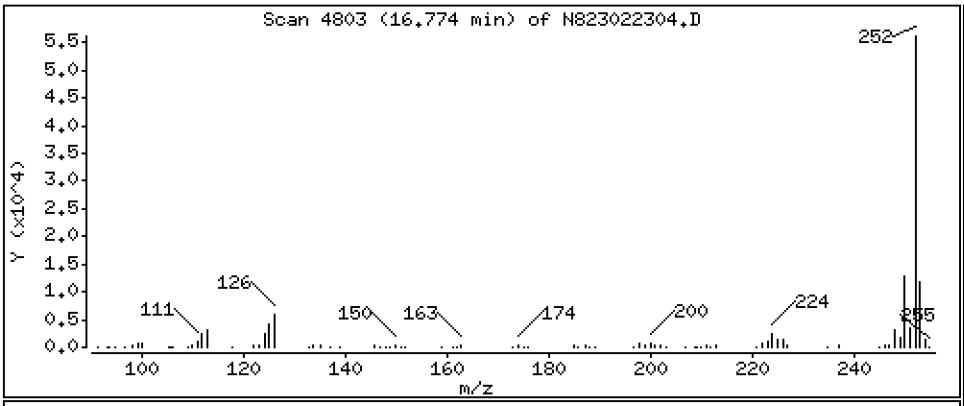
Operator: JZ

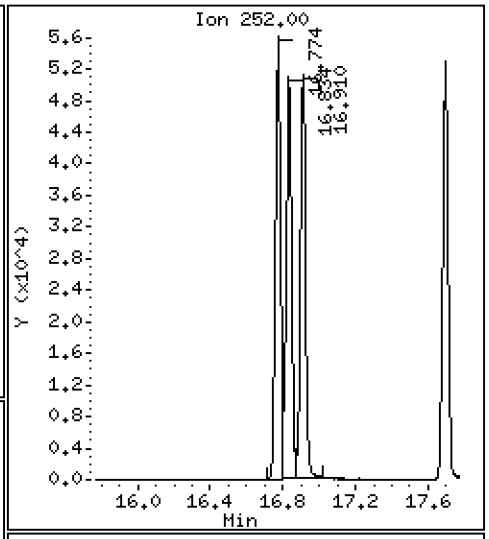
Column phase: Rxi-17sil

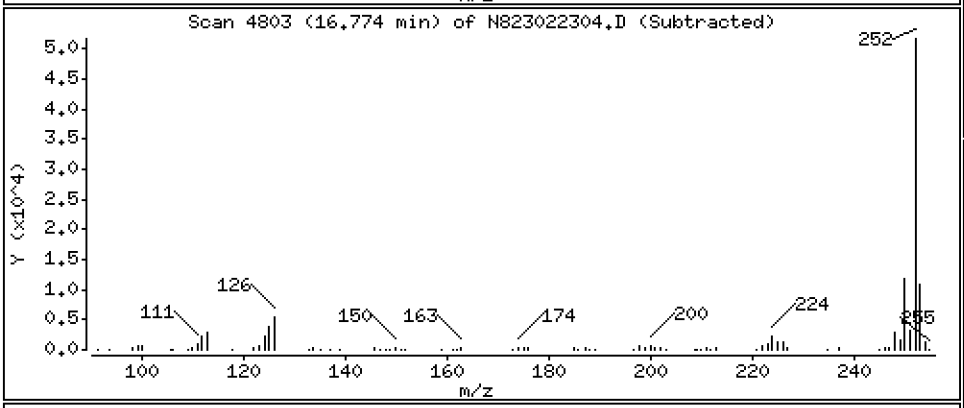
Column diameter: 0.25

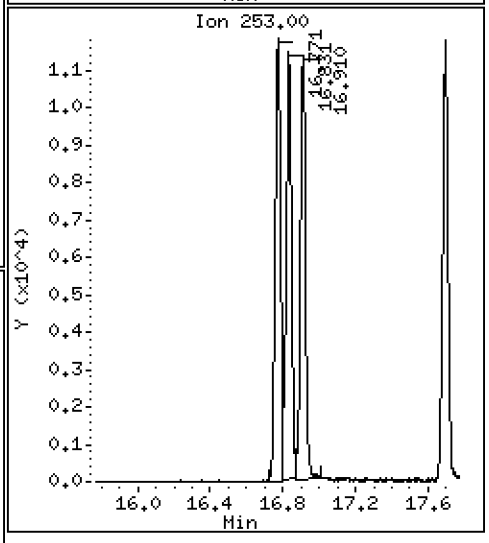
28 Benzo(b)fluoranthene

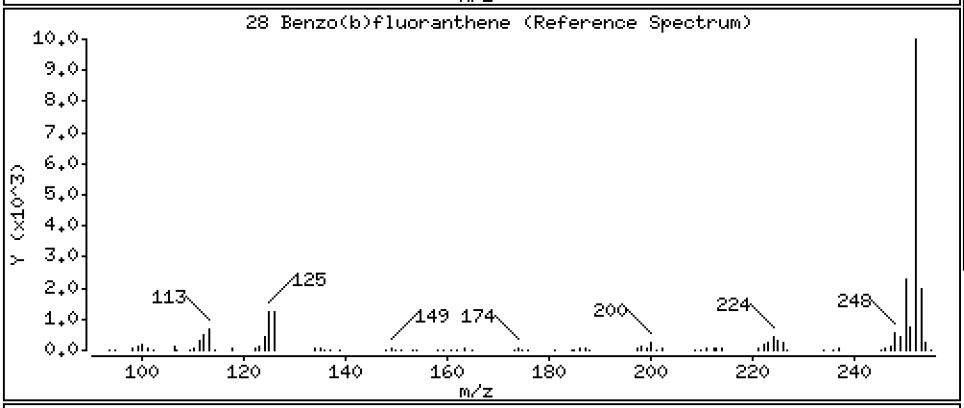
Concentration: 6.321 ug/mL

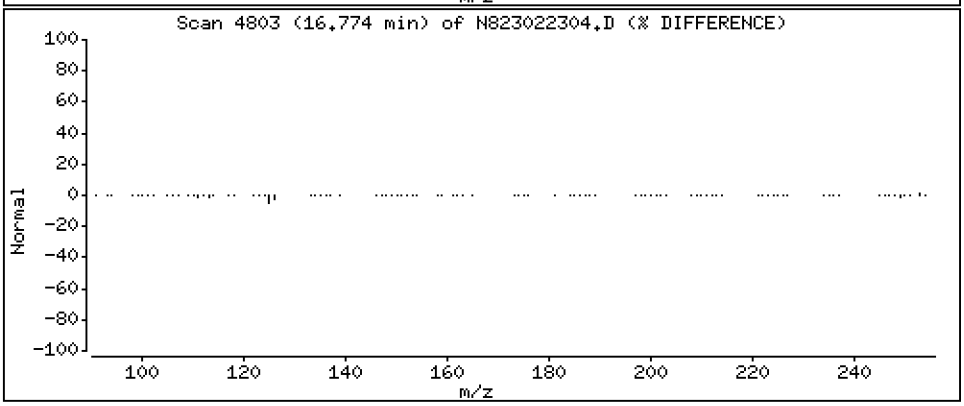












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Date : 23-FEB-2023 12:55

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BS1,

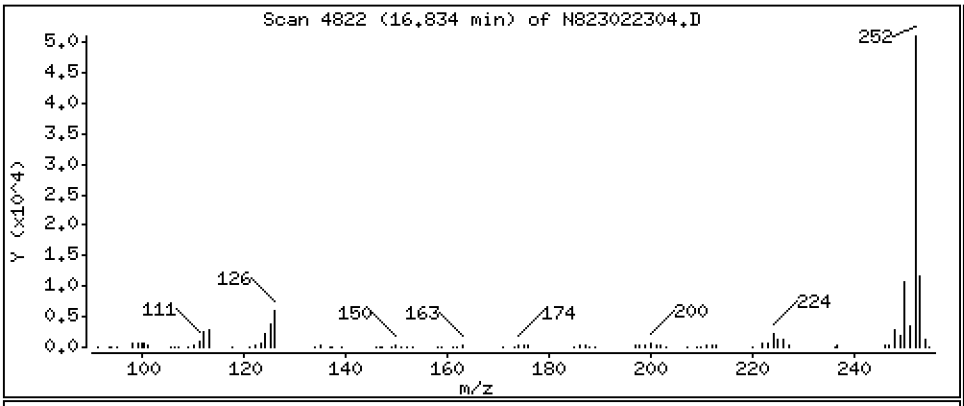
Operator: JZ

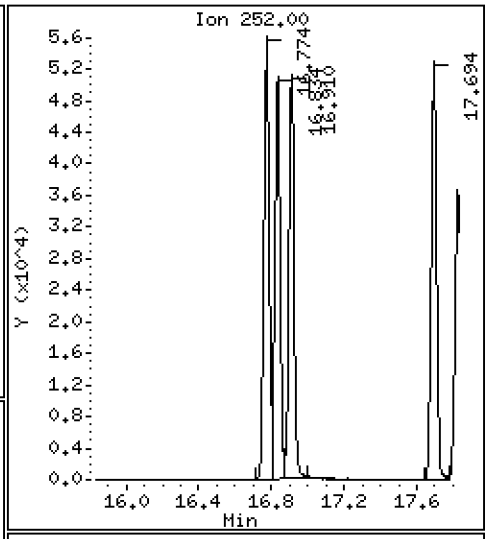
Column phase: Rxi-17sil

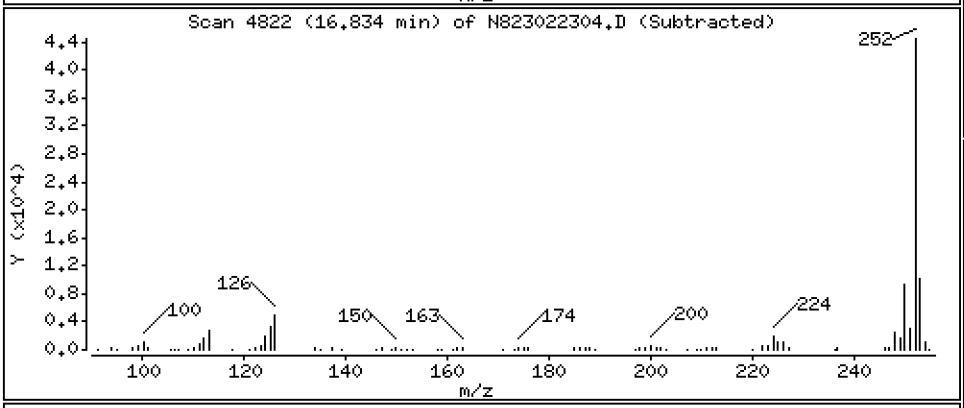
Column diameter: 0.25

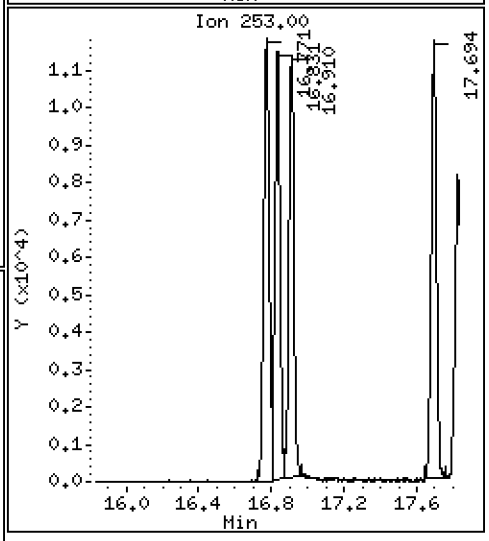
29 Benzo(k)fluoranthene

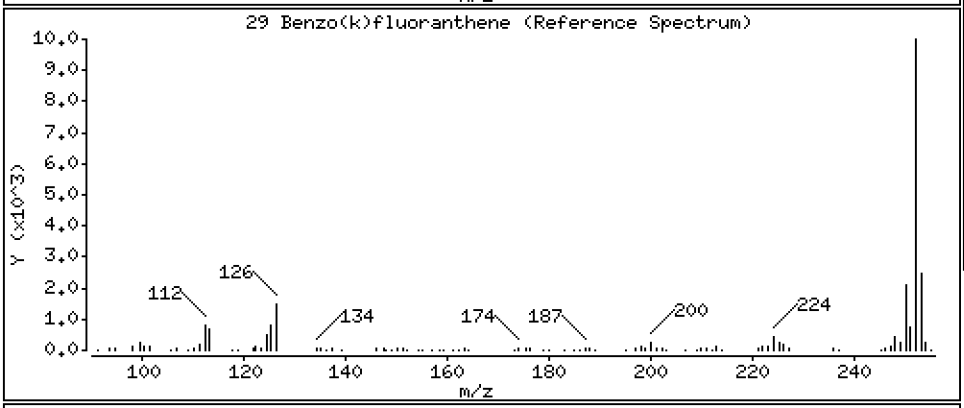
Concentration: 6.001 ug/mL

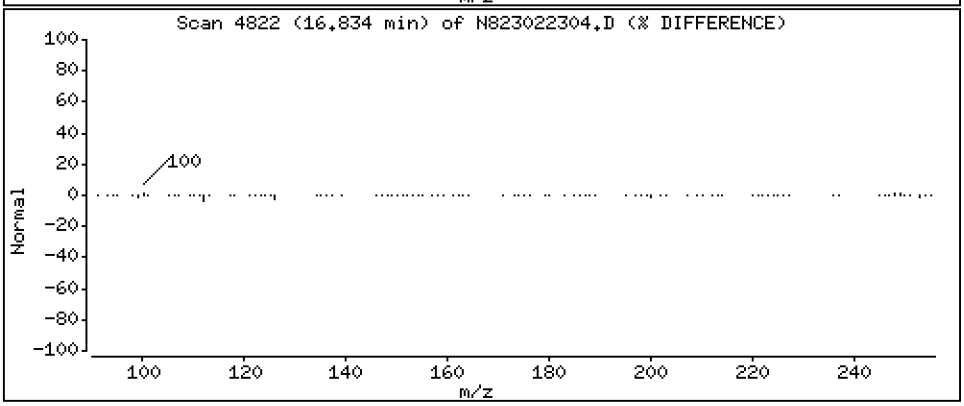












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022304.D

Date : 23-FEB-2023 12:55

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BS1,

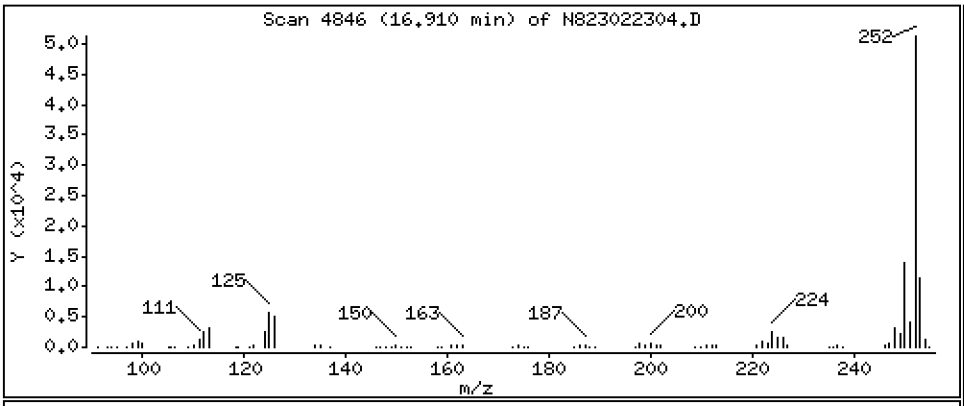
Operator: JZ

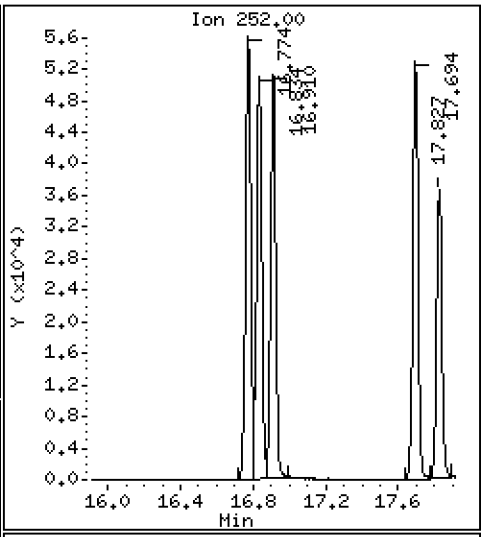
Column phase: Rxi-17sil

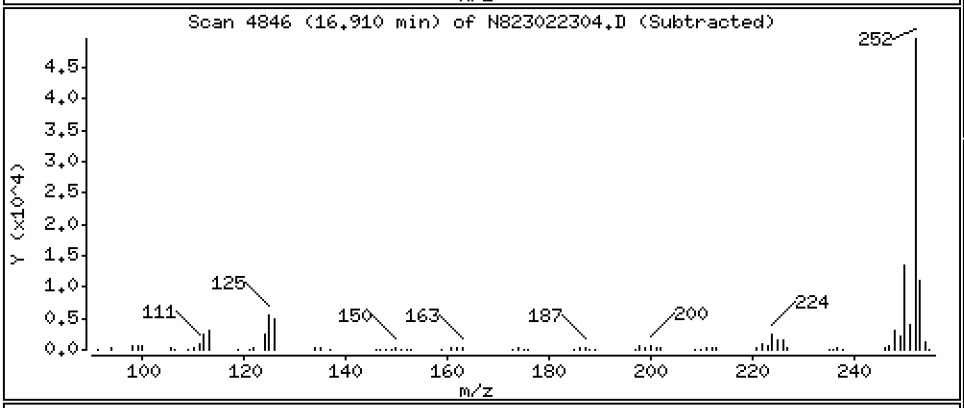
Column diameter: 0.25

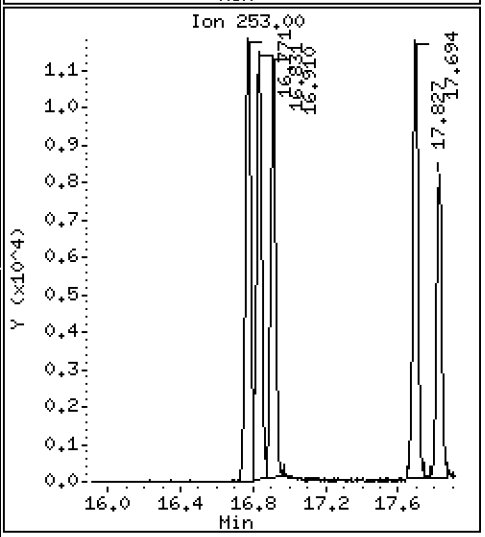
30 Benzo(j)fluoranthene

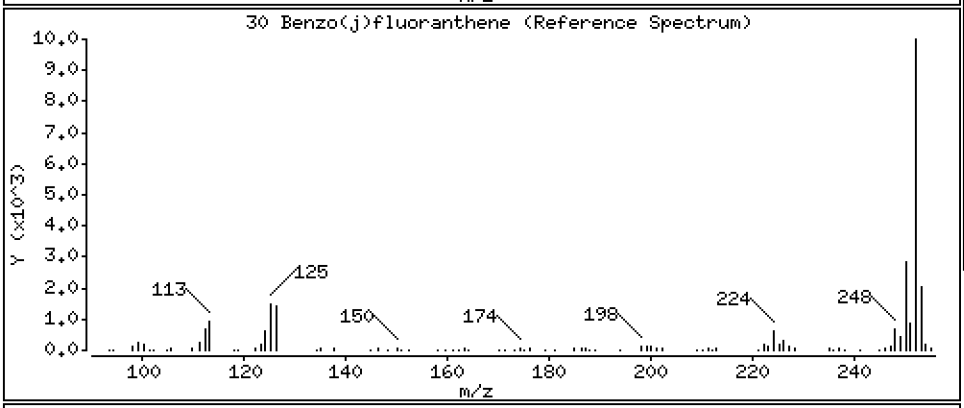
Concentration: 6.460 ug/mL

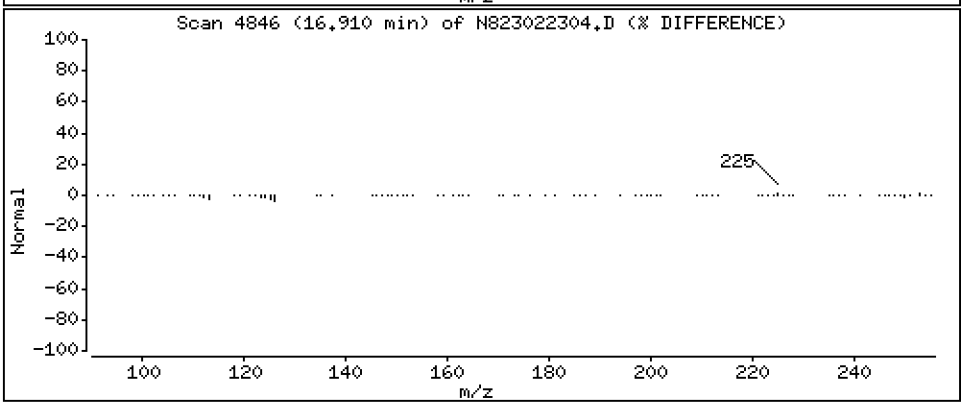












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Date : 23-FEB-2023 12:55

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BS1,

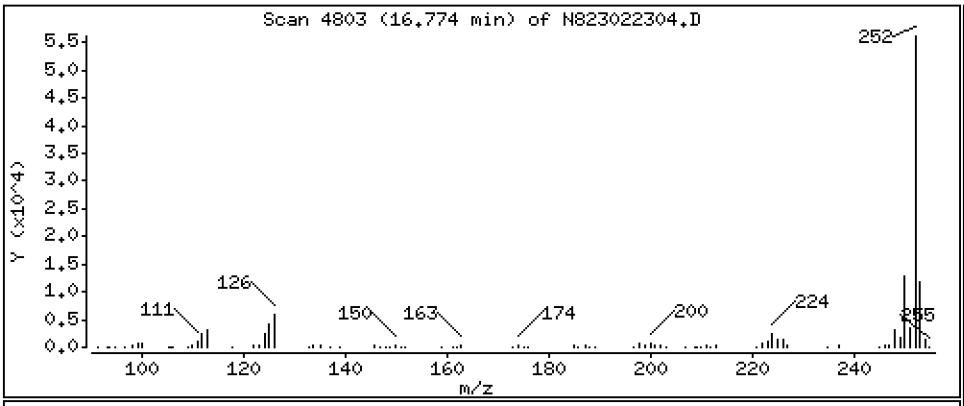
Operator: JZ

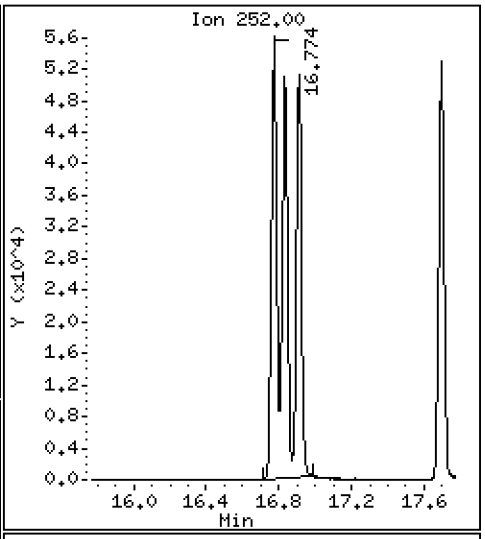
Column phase: Rxi-17sil

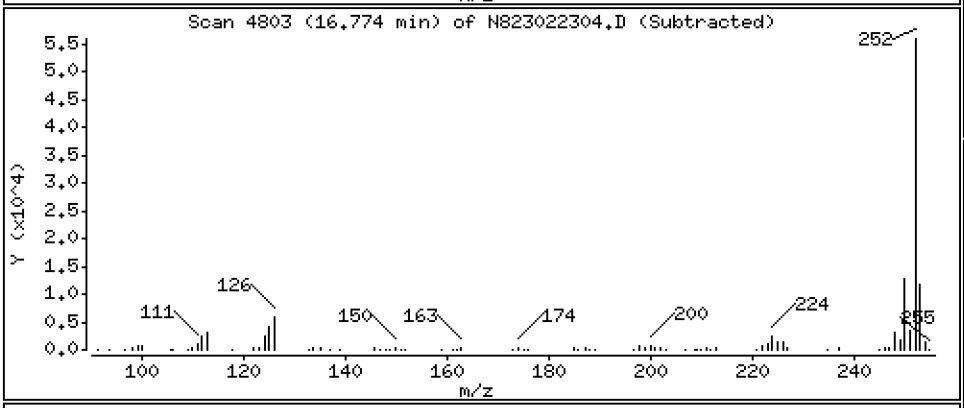
Column diameter: 0.25

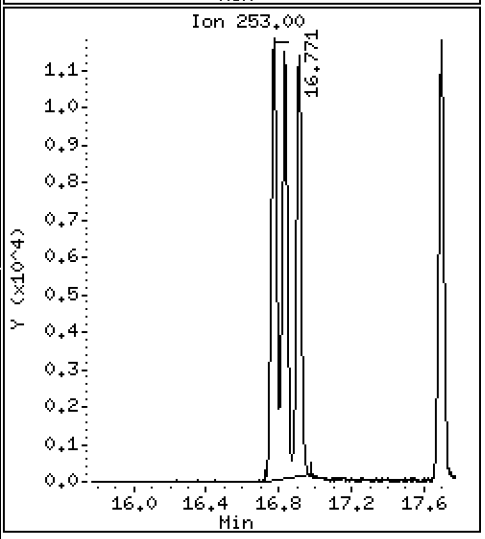
31 Total Benzofluoranthenes

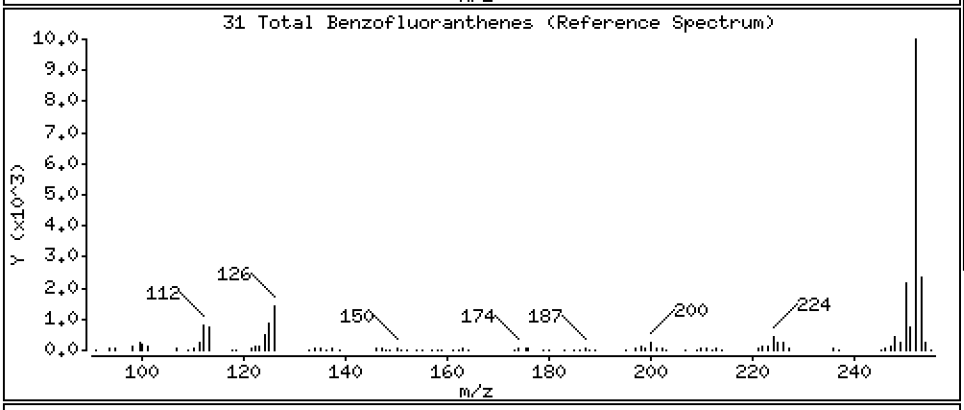
Concentration: 18.70 ug/mL

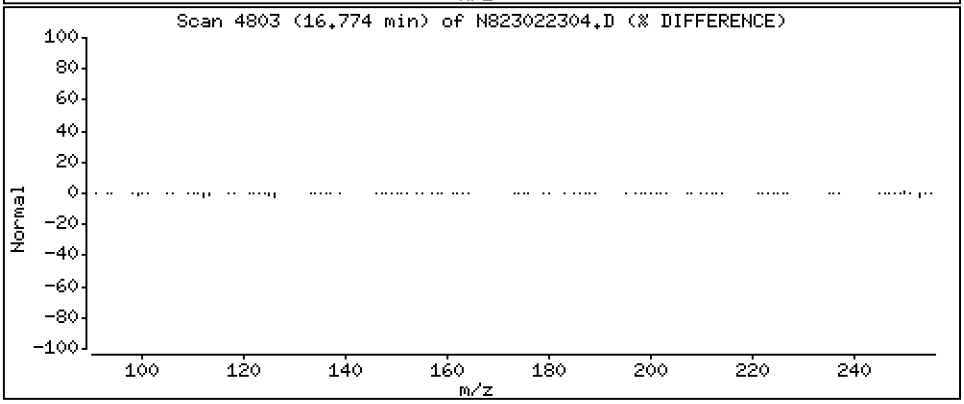












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Date : 23-FEB-2023 12:55

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BS1,

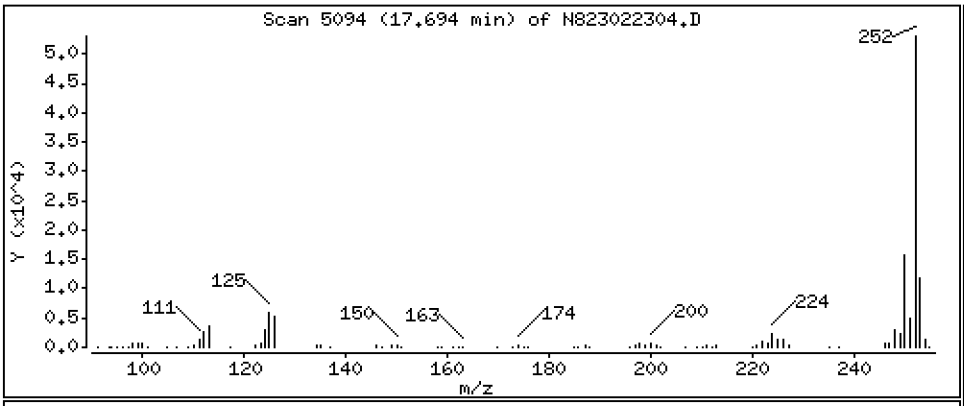
Operator: JZ

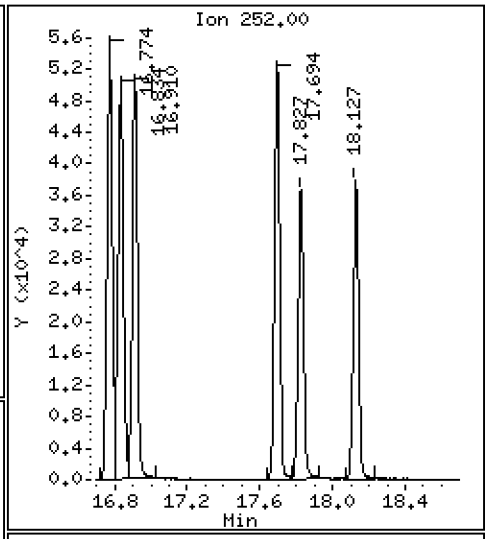
Column phase: Rxi-17sil

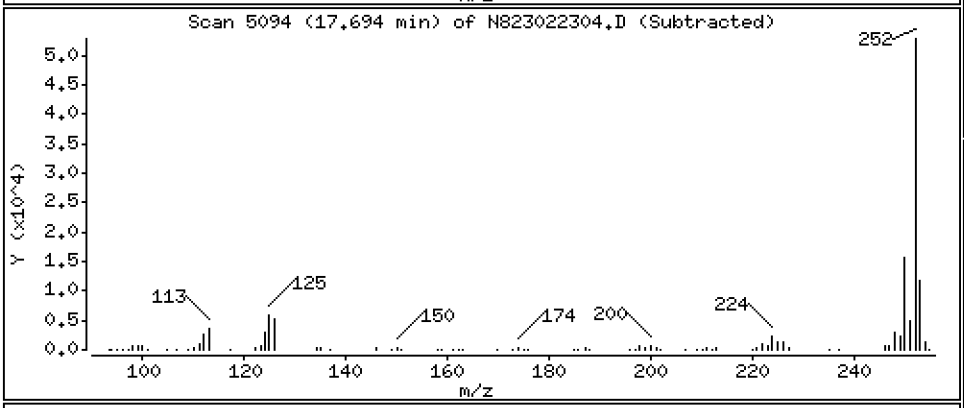
Column diameter: 0.25

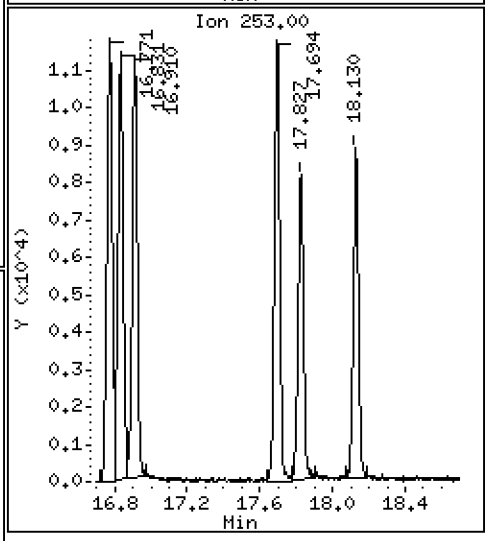
34 Benzo(e)pyrene

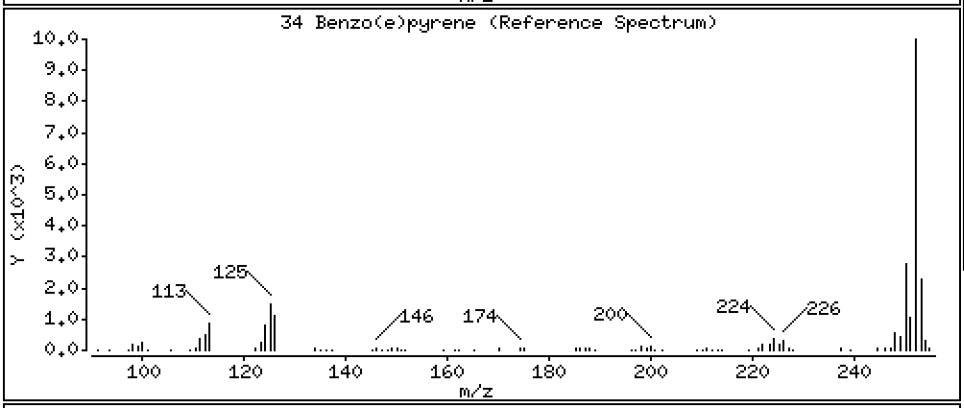
Concentration: 6.113 ug/mL

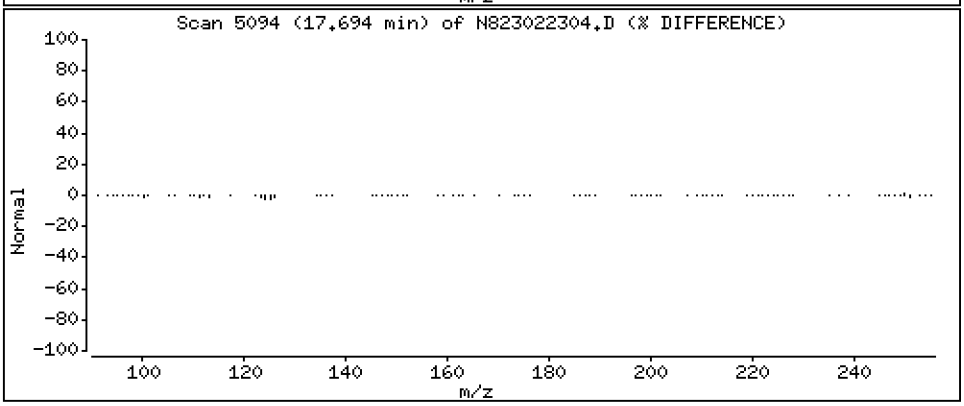












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022304.D

Date : 23-FEB-2023 12:55

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BS1,

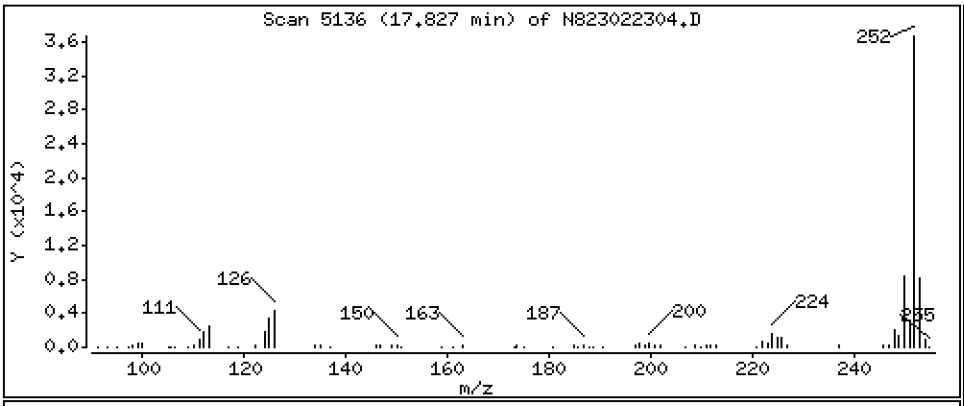
Operator: JZ

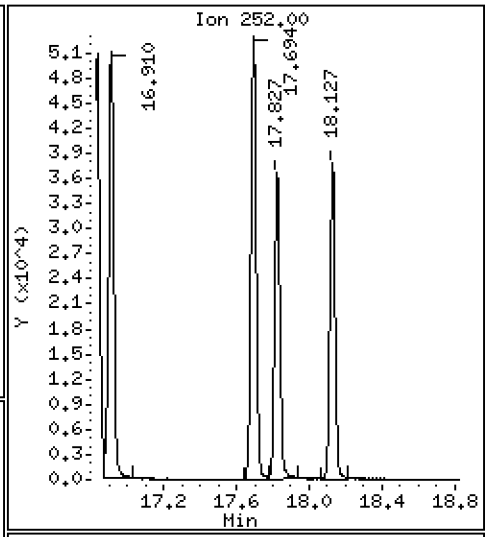
Column phase: Rxi-17sil

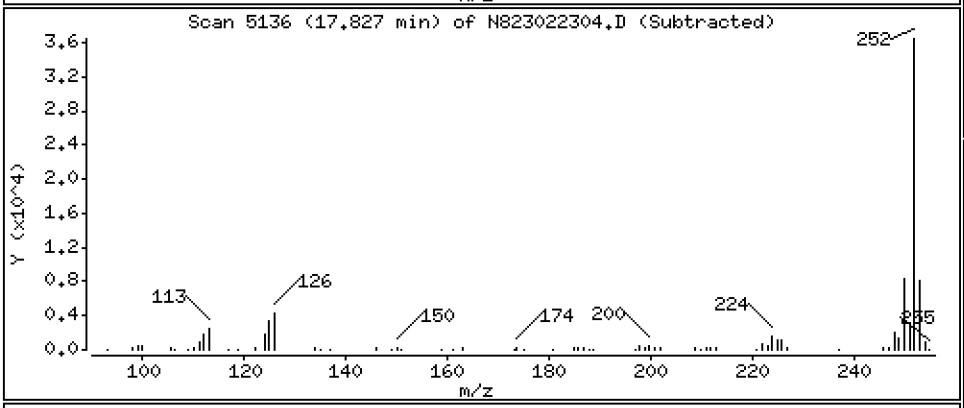
Column diameter: 0.25

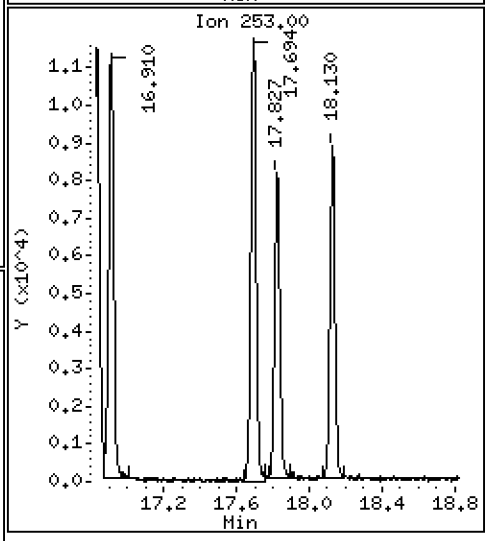
32 Benzo(a)pyrene

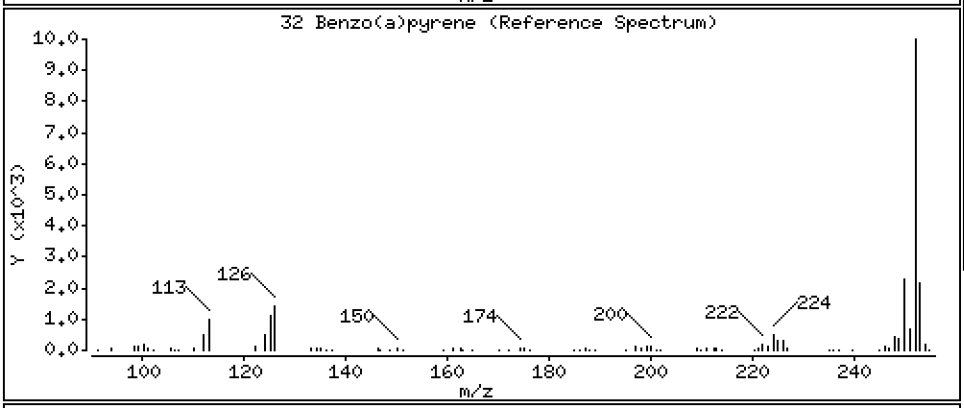
Concentration: 4.902 ug/mL

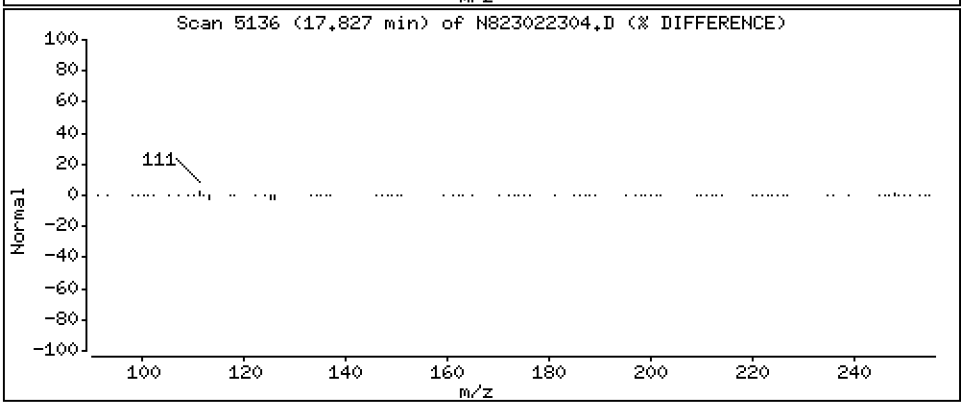












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Date : 23-FEB-2023 12:55

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BS1,

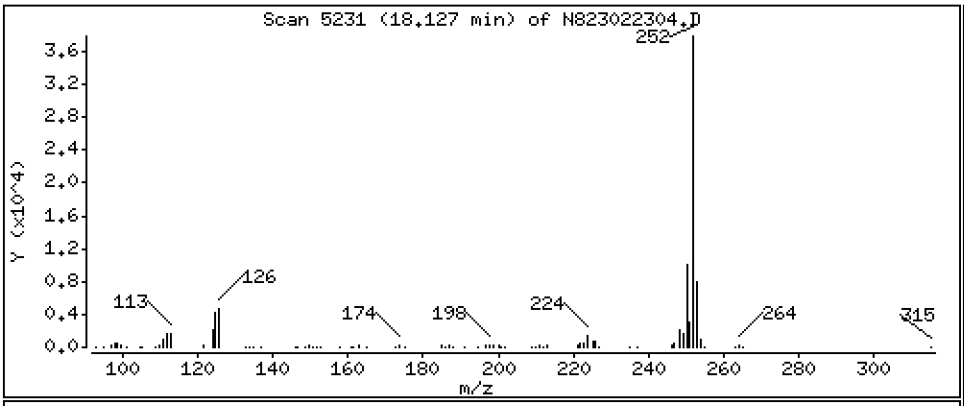
Operator: JZ

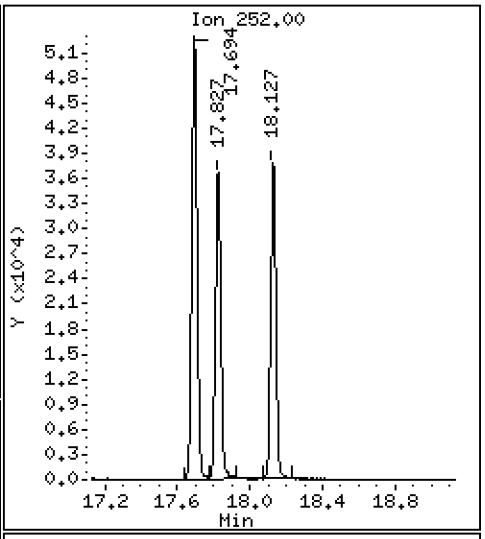
Column phase: Rxi-17sil

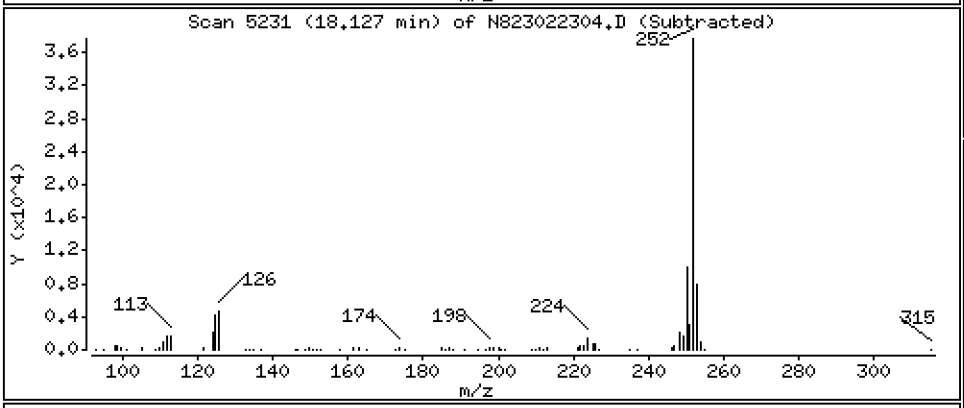
Column diameter: 0.25

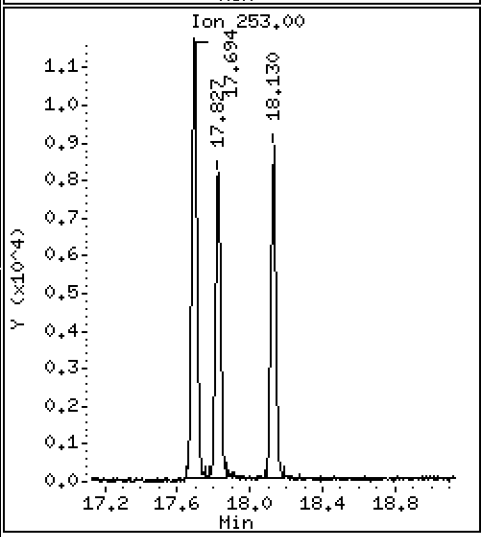
35 Perylene

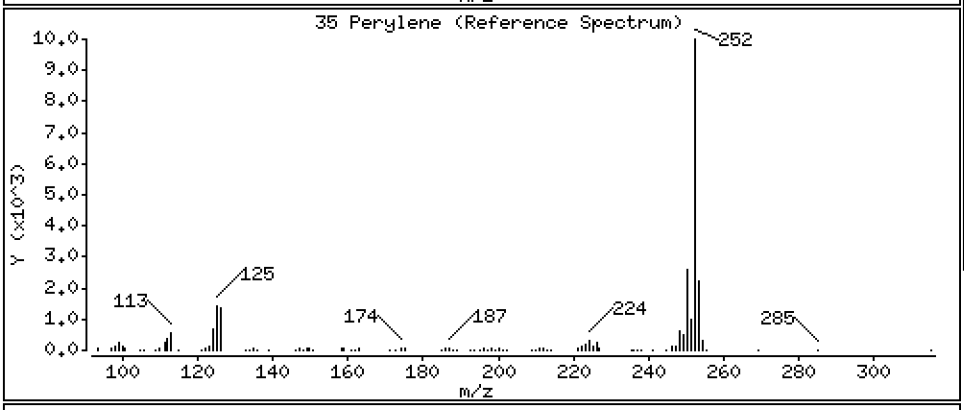
Concentration: 4.571 ug/mL

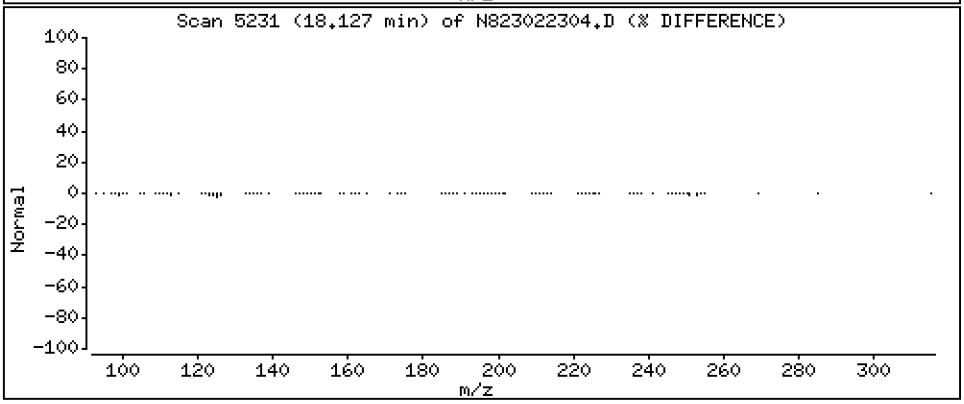












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Date : 23-FEB-2023 12:55

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BS1,

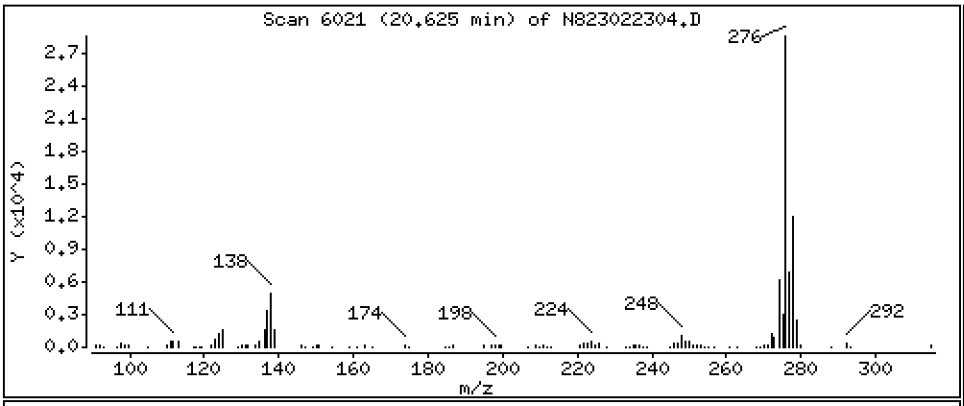
Operator: JZ

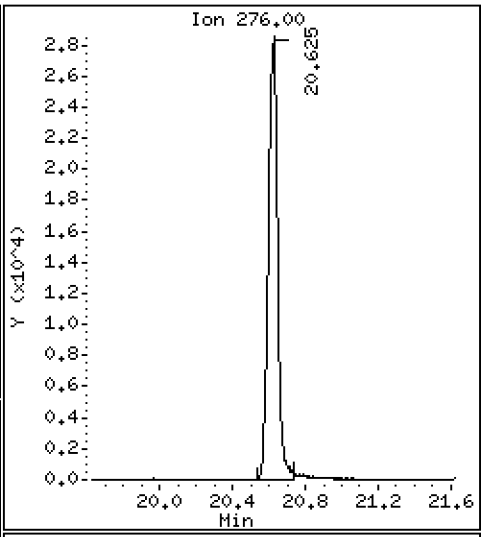
Column phase: Rxi-17sil

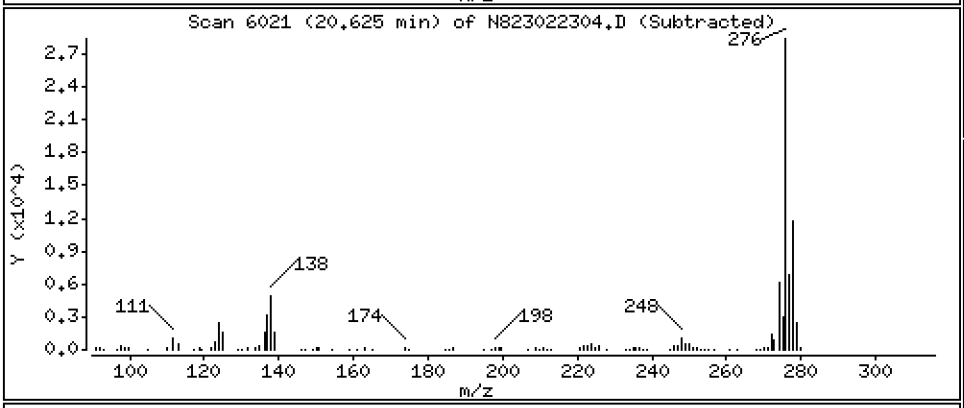
Column diameter: 0.25

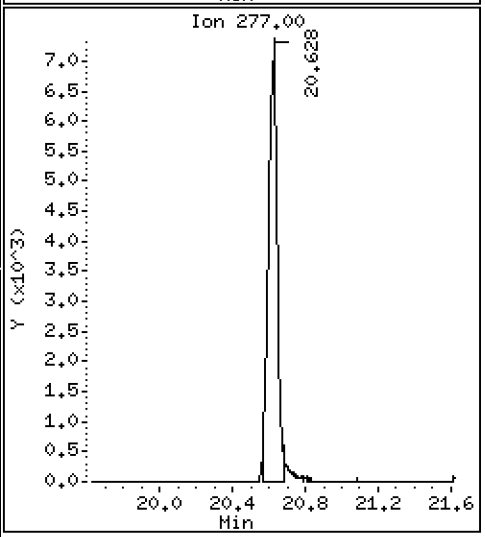
37 Indeno(1,2,3-cd)pyrene

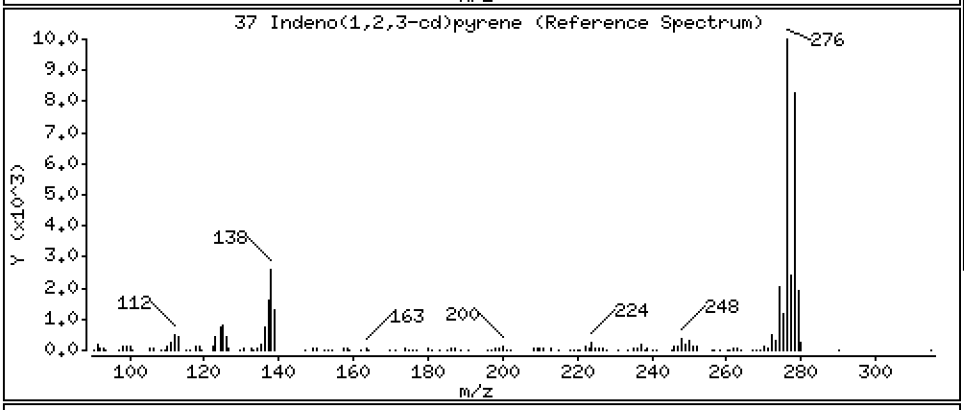
Concentration: 5.826 ug/mL

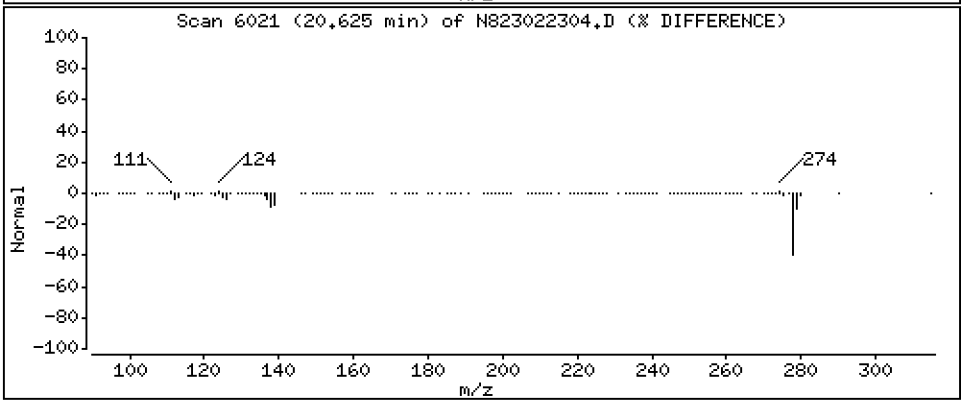












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Date : 23-FEB-2023 12:55

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BS1,

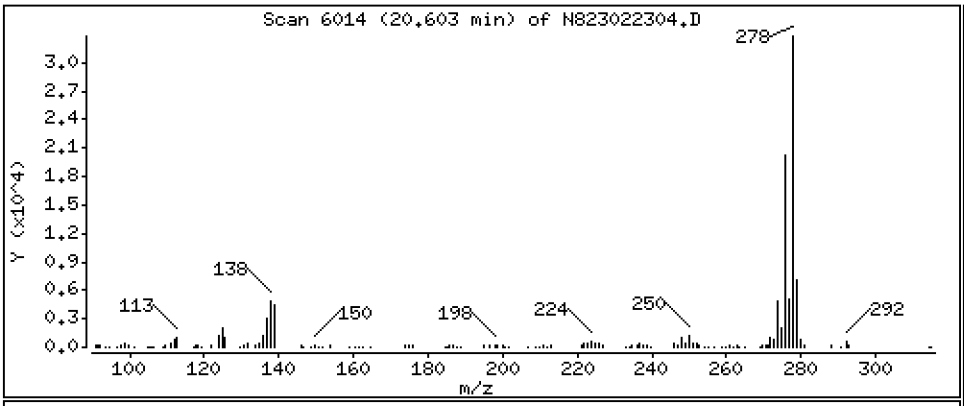
Operator: JZ

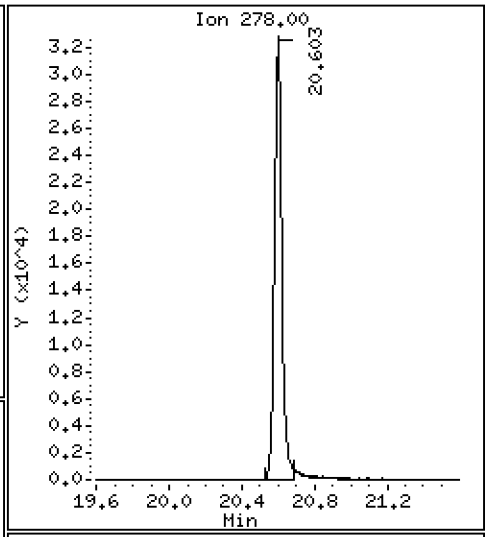
Column phase: Rxi-17sil

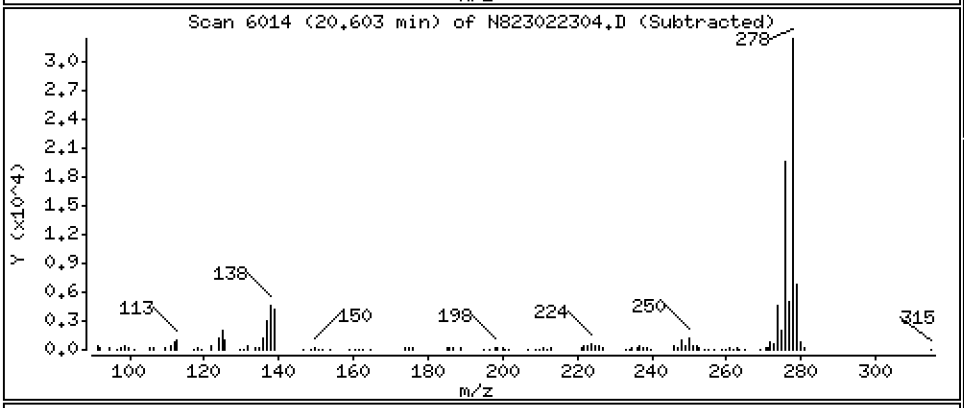
Column diameter: 0.25

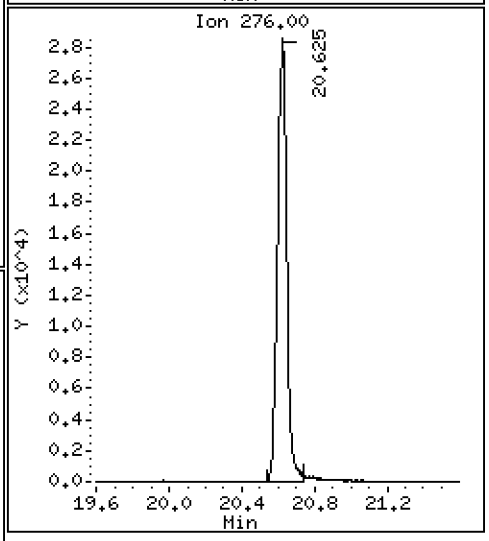
38 Dibenzo(a,h)anthracene

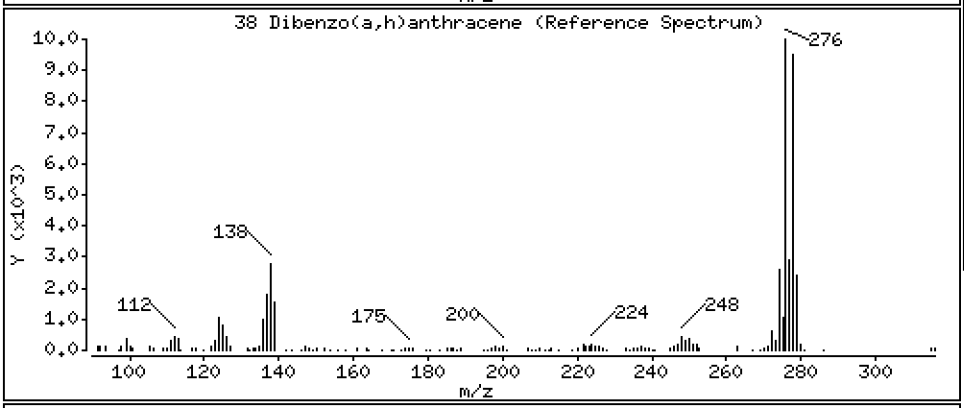
Concentration: 6.199 ug/mL

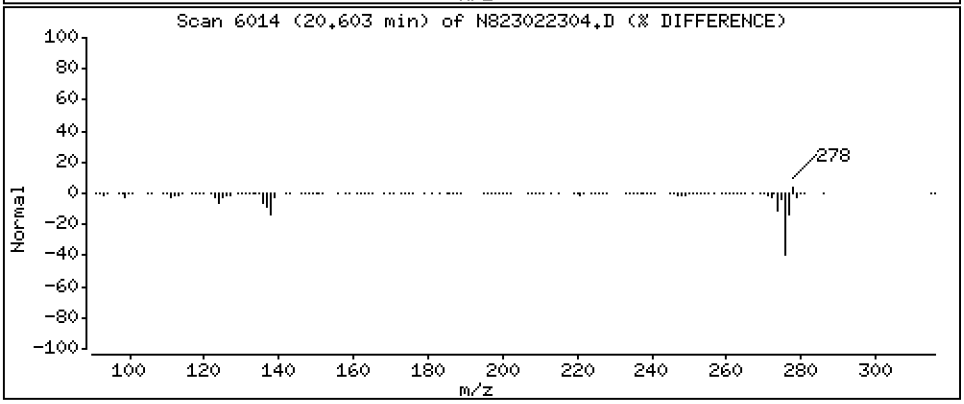












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Date : 23-FEB-2023 12:55

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BS1,

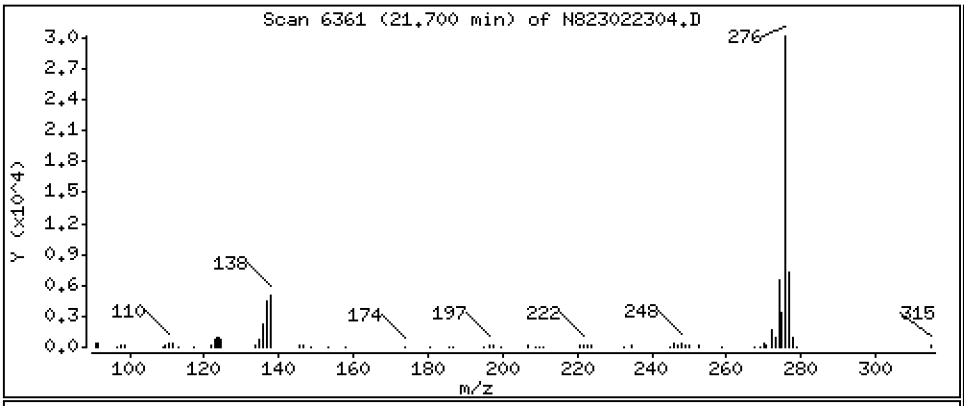
Operator: JZ

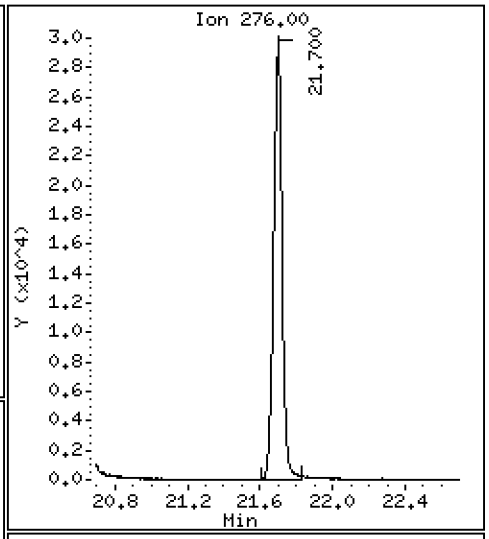
Column phase: Rxi-17sil

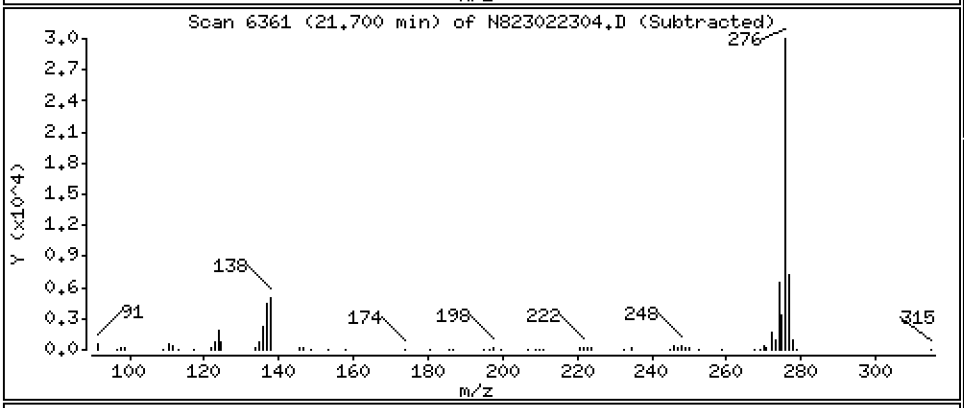
Column diameter: 0.25

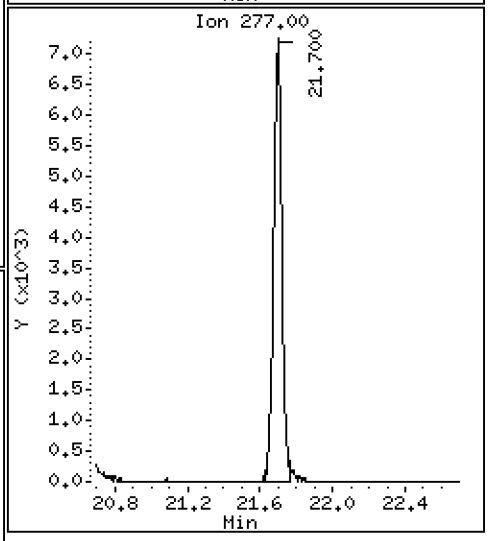
39 Benzo(g,h,i)perylene

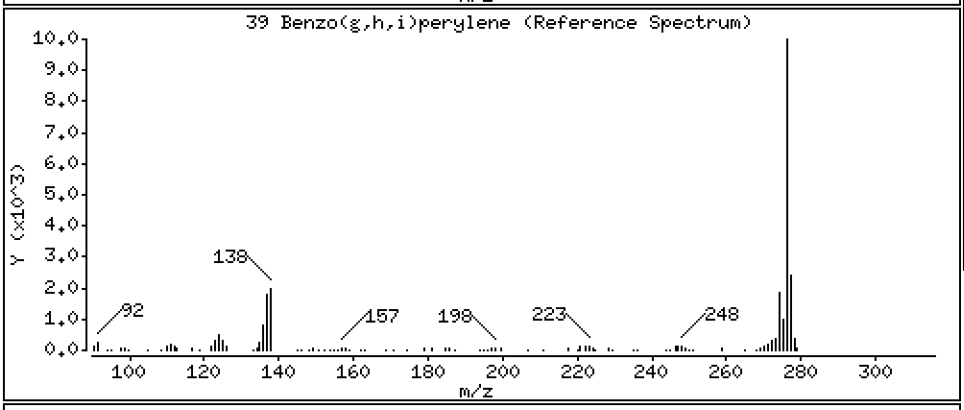
Concentration: 6.144 ug/mL

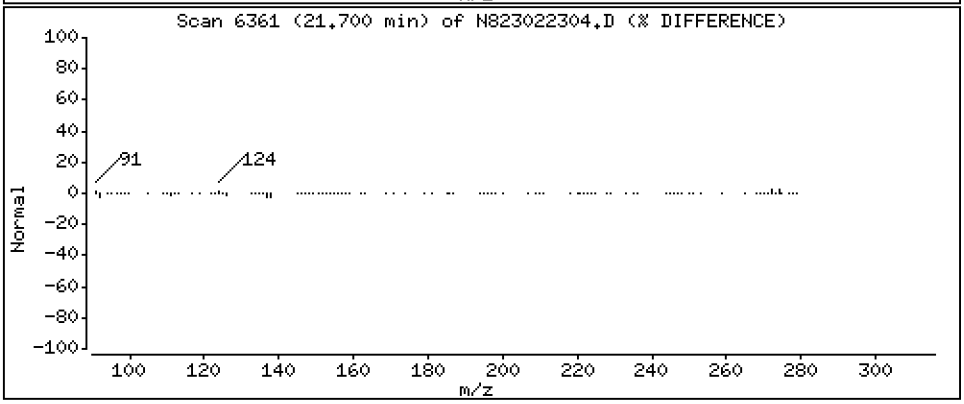












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230223.b\N823022304.D
Lab Smp Id: BLB0386-BS1
Inj Date : 23-FEB-2023 12:55
Operator : JZ Inst ID: nt8.i
Smp Info : BLB0386-BS1,
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Meth Date : 26-Feb-2023 11:43 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PNAXEMDL.sub
Target Version: 4.14
Processing Host: JIANQING-202105

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.862	4.871	(1.000)	36805	2.00000	
	2 Naphthalene	128	4.890	4.903	(1.006)	73429	4.29088	4.291
$	3 2-Methylnaphthalene-d10	152	5.599	5.605	(1.152)	30331	3.02173	3.022
	4 2-Methylnaphthalene	141	5.646	5.652	(1.161)	42340	4.49806	4.498
	5 1-methylnaphthalene	141	5.842	5.849	(1.202)	42307	4.42851	4.429
	9 Acenaphthylene	152	7.047	7.050	(0.985)	69121	4.03488	4.035
*	10 Acenaphthene-d10	164	7.154	7.158	(1.000)	22686	2.00000	
	11 Acenaphthene	153	7.205	7.208	(1.007)	49414	4.30505	4.305
	12 Dibenzofuran	168	7.357	7.360	(1.028)	76722	4.40075	4.401
	14 Fluorene	166	7.834	7.837	(1.095)	64071	4.73184	4.732
*	15 Phenanthrene-d10	188	9.197	9.197	(1.000)	43305	2.00000	
	16 Phenanthrene	178	9.232	9.235	(1.004)	98529	4.65780	4.658
	17 Anthracene	178	9.273	9.276	(1.008)	86009	4.47579	4.476
	19 Carbazole	167	9.788	9.791	(1.064)	89104	5.05793	5.058
	22 Fluoranthene	202	11.009	11.009	(1.197)	116048	5.03991	5.040
$	21 Fluoranthene-d10	212	10.968	10.971	(1.193)	70517	3.69083	3.691
	23 Pyrene	202	11.524	11.527	(0.815)	121998	5.15282	5.153
	24 Benzo(a)anthracene	228	14.022	14.025	(0.991)	115185	5.36756	5.368
*	25 Chrysene-d12	240	14.146	14.152	(1.000)	38188	2.00000	
	27 Chrysene	228	14.225	14.225	(1.006)	112033	4.90411	4.904
	28 Benzo(b)fluoranthene	252	16.773	16.770	(0.929)	111383	6.32136	6.321
	29 Benzo(k)fluoranthene	252	16.833	16.833	(0.933)	103563	6.00054	6.001
	30 Benzo(j)fluoranthene	252	16.909	16.912	(0.937)	100369	6.45995	6.460
	31 Total Benzofluoranthenes	252	16.773	16.770	(0.929)	312096	18.7028	18.70(M)
	34 Benzo(e)pyrene	252	17.693	17.696	(0.980)	107410	6.11304	6.113
	32 Benzo(a)pyrene	252	17.826	17.826	(0.988)	76015	4.90243	4.902
*	33 Perylene-d12	264	18.051	18.057	(1.000)	30254	2.00000	
	35 Perylene	252	18.127	18.130	(1.004)	76061	4.57123	4.571
$	36 Dibenzo(a,h)anthracene-d14	292	20.482	20.485	(1.135)	54626	4.60817	4.608
	37 Indeno(1,2,3-cd)pyrene	276	20.624	20.624	(1.143)	102908	5.82567	5.826
	38 Dibenzo(a,h)anthracene	278	20.602	20.596	(1.141)	94239	6.19921	6.199
	39 Benzo(g,h,i)perylene	276	21.700	21.696	(1.202)	98337	6.14432	6.144

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823022304.D
Lab Smp Id: BLB0386-BS1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 23-FEB-2023
Calibration Time: 11:46
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	37022	18511	74044	36805	-0.59
10 Acenaphthene-d10	22454	11227	44908	22686	1.03
15 Phenanthrene-d10	43277	21639	86554	43305	0.06
25 Chrysene-d12	38907	19454	77814	38188	-1.85
33 Perylene-d12	39582	19791	79164	30254	-23.57

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.87	4.37	5.37	4.86	-0.19
10 Acenaphthene-d10	7.16	6.66	7.66	7.15	-0.04
15 Phenanthrene-d10	9.20	8.70	9.70	9.20	0.00
25 Chrysene-d12	14.15	13.65	14.65	14.15	-0.04
33 Perylene-d12	18.06	17.56	18.56	18.05	-0.03

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

REVIEW SUMMARY FOR FILE - N823022304.D

Lab ID: BLB0386-BS1
nt8.i, 20230223.b\FSIMPNA230119.m,   23-FEB-2023 12:55

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

No RRT check performed

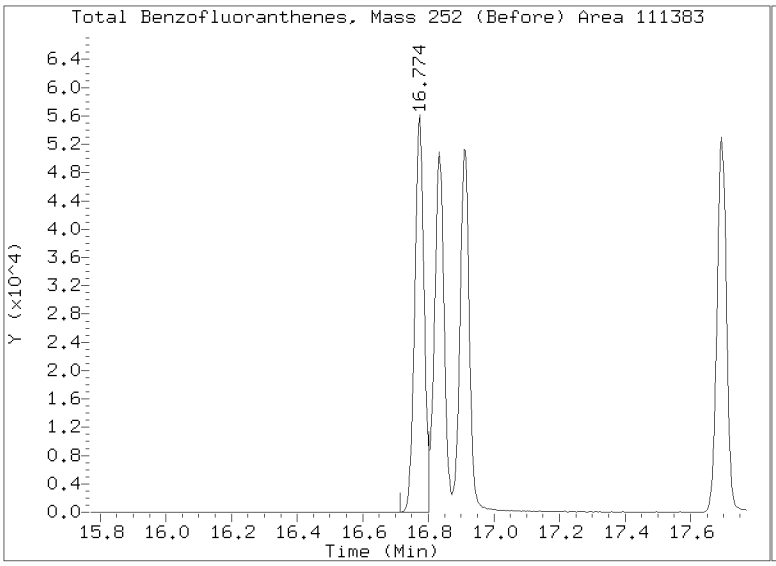
On Column LOD for nt8.i, 20230223.b\FSIMPNA230119.m, PNAXEMDL.sub = 0.0080

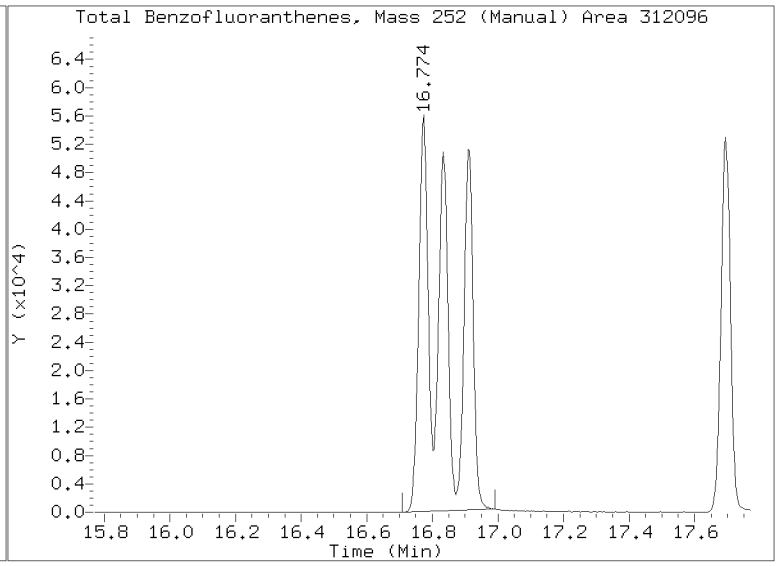
Exception: Benzo(e)pyrene 0.0800

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

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20230223.b/N823022304.D
Injection Date: 23-FEB-2023 12:55
Lab ID:BLB0386-BS1 Client ID:
Report Date: 02/26/2023 12:32





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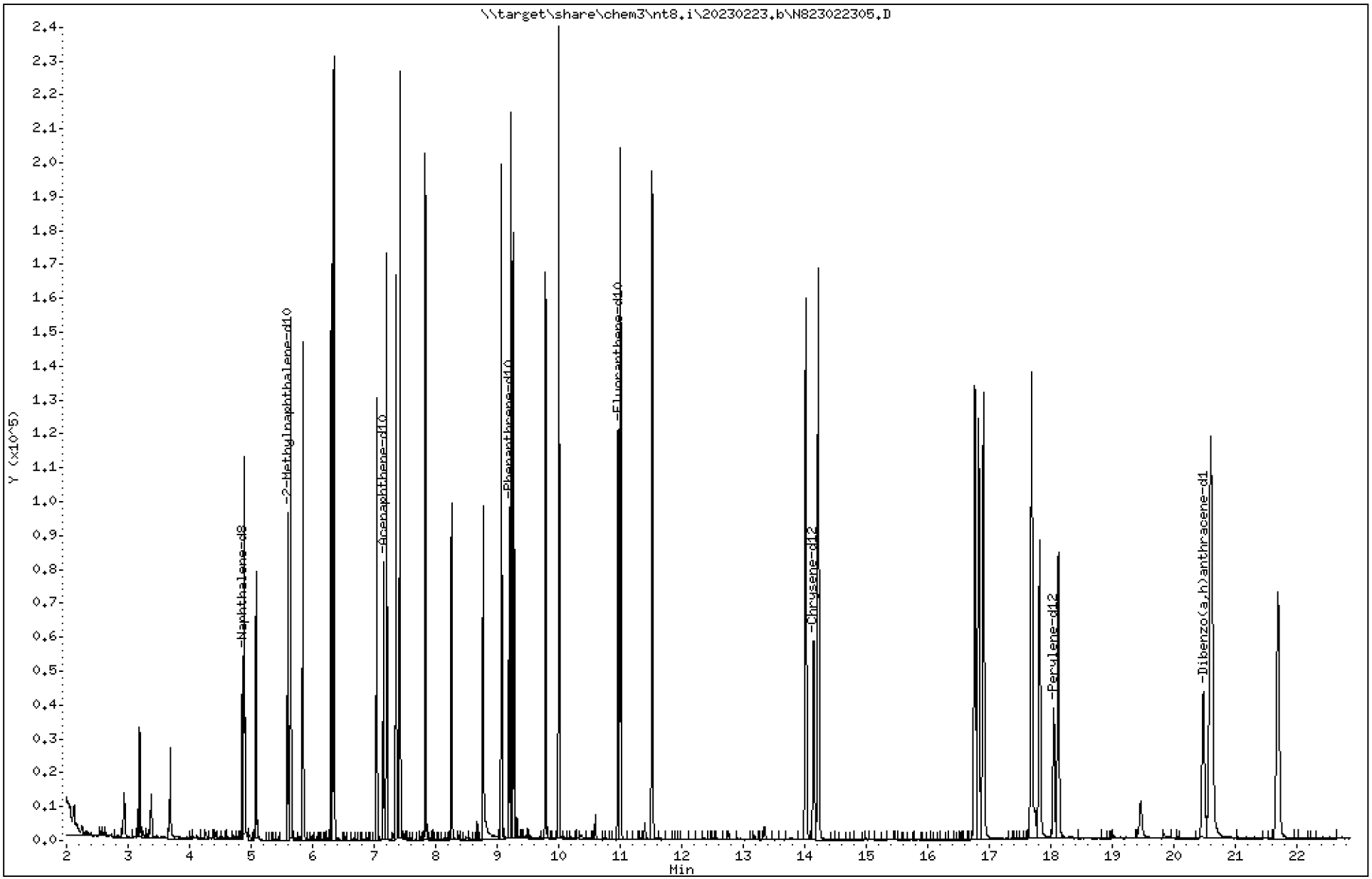
Date : 23-FEB-2023 13:21
Client ID:
Sample Info: BLB0386-BSD1,

Instrument: nt8.i
Operator: JZ
Column phase: Rxi-17sil
Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20230223.b\N823022305.D

Date : 23-FEB-2023 13:21

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BSD1,

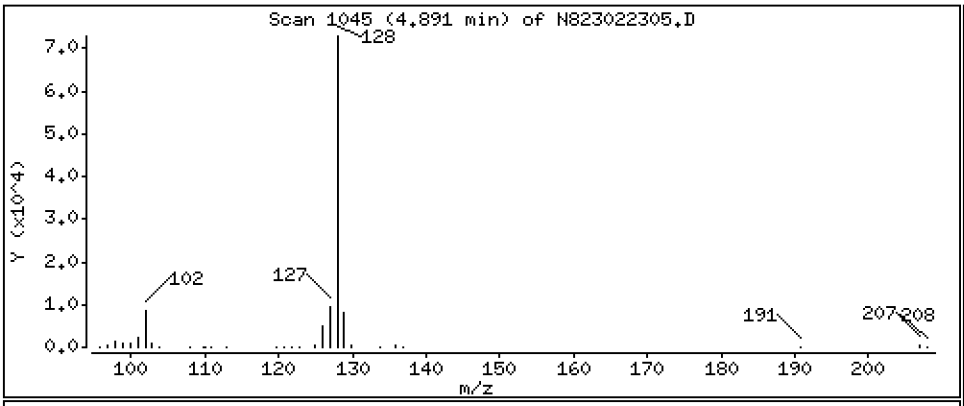
Operator: JZ

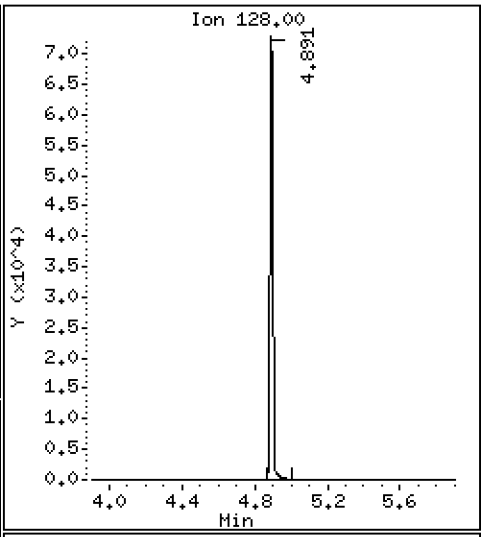
Column phase: Rxi-17sil

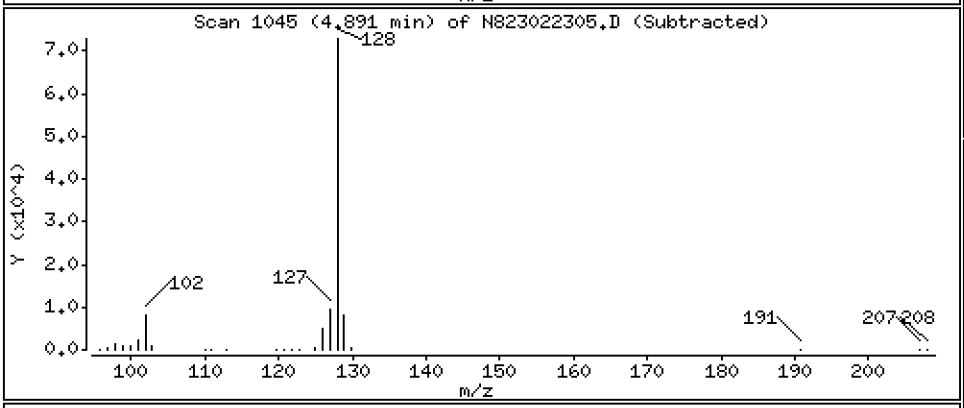
Column diameter: 0.25

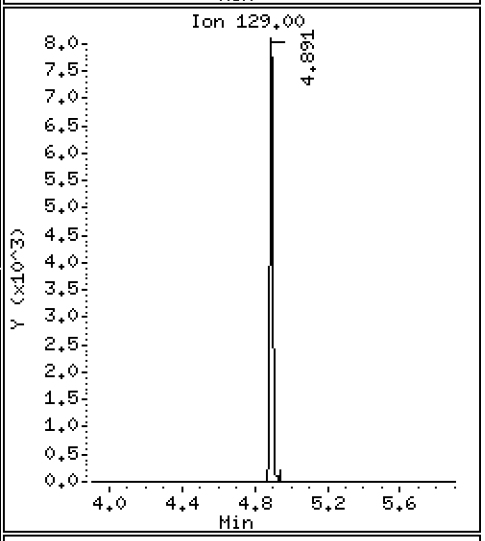
2 Naphthalene

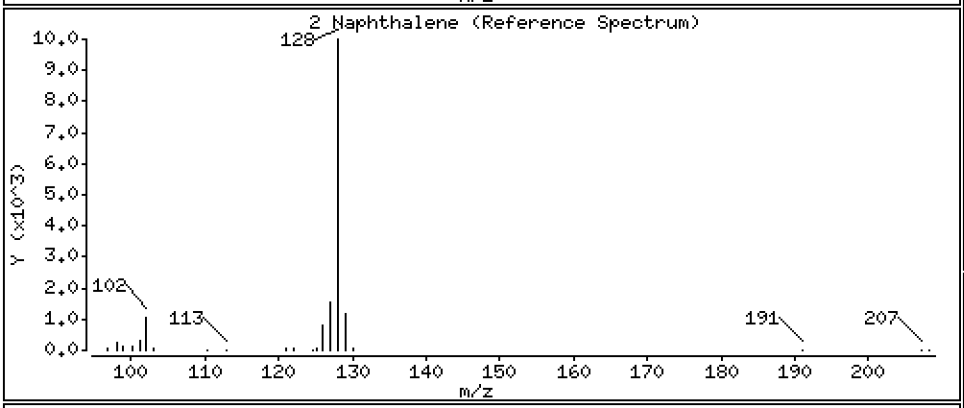
Concentration: 4.451 ug/mL

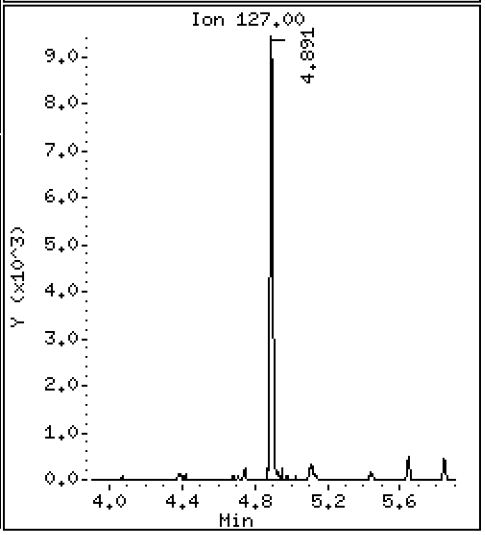


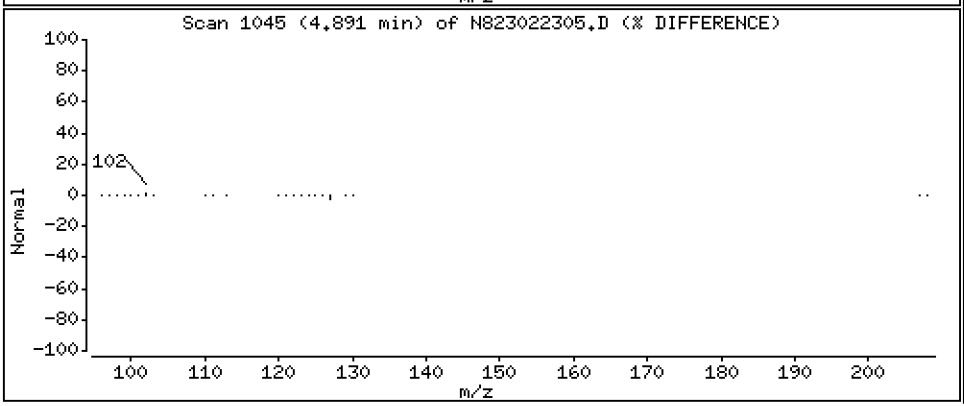












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Date : 23-FEB-2023 13:21

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BSD1,

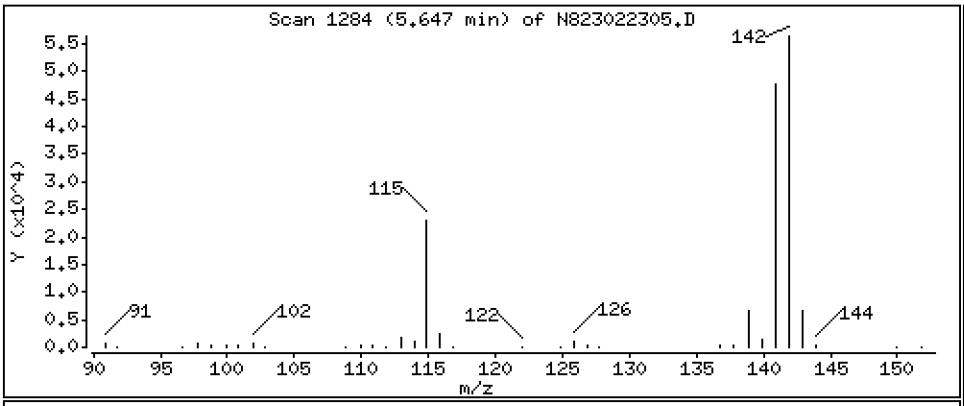
Operator: JZ

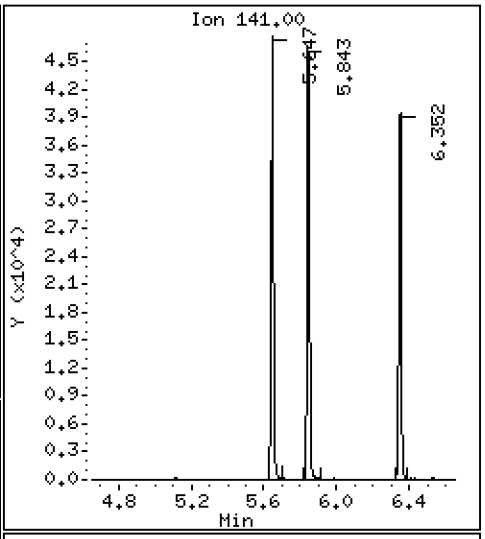
Column phase: Rxi-17sil

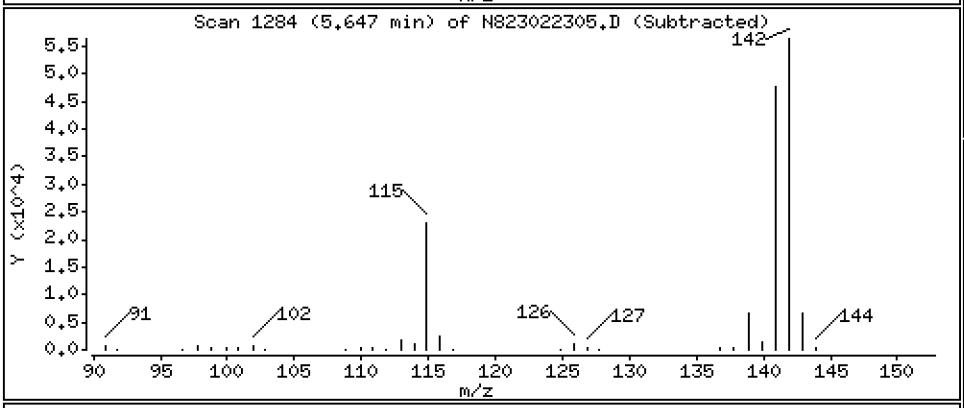
Column diameter: 0.25

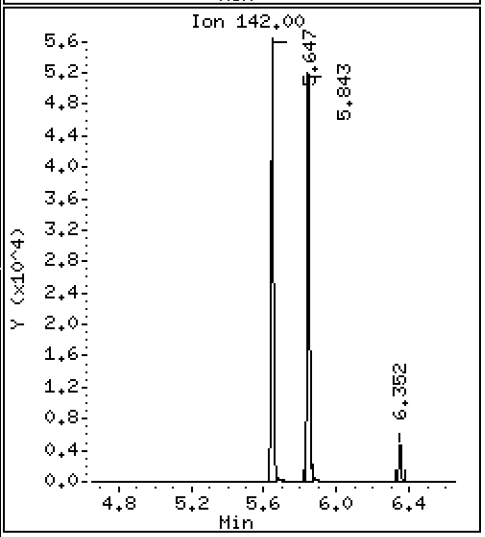
4 2-Methylnaphthalene

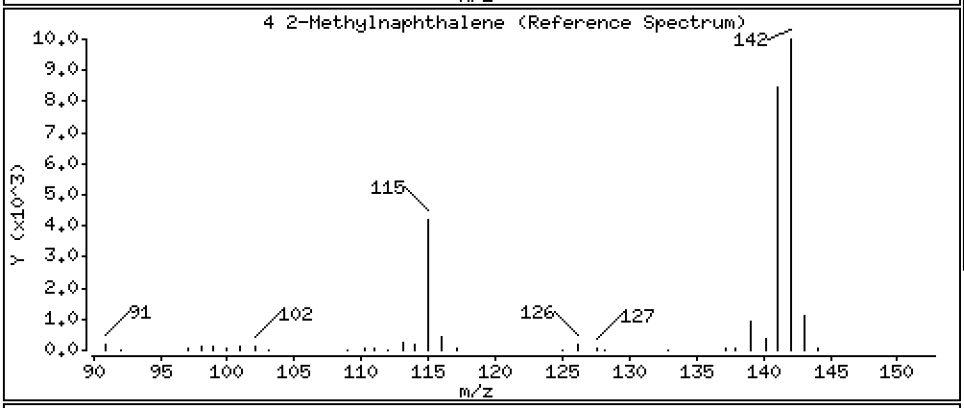
Concentration: 4.644 ug/mL

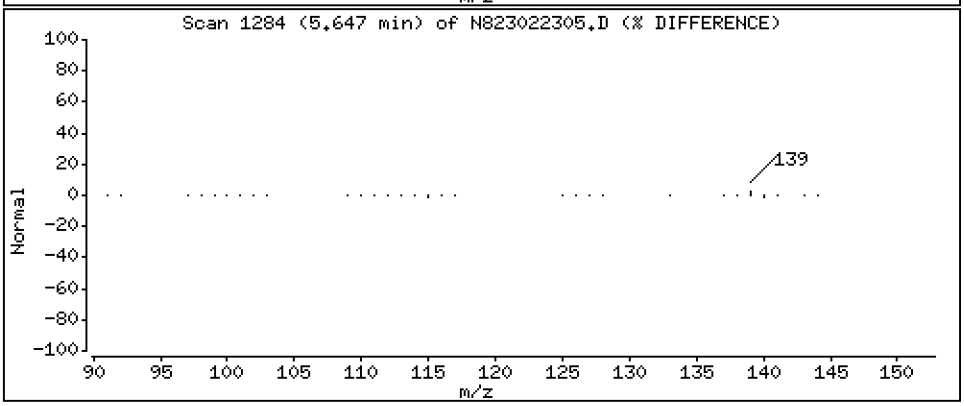












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Date : 23-FEB-2023 13:21

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BSD1,

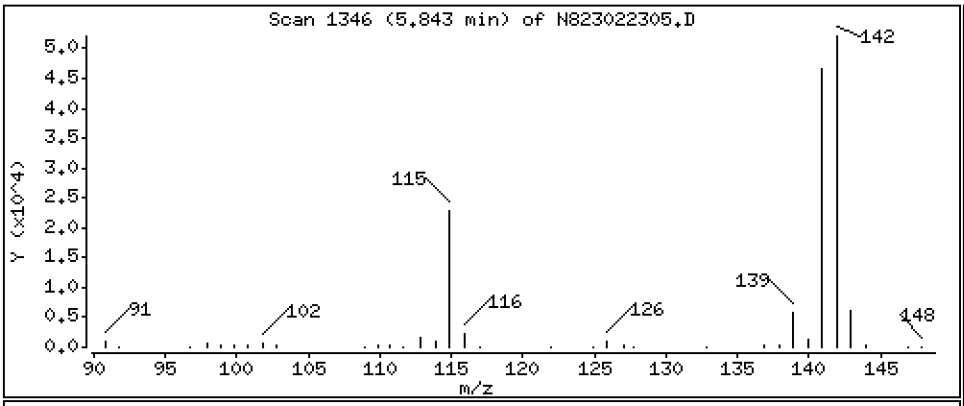
Operator: JZ

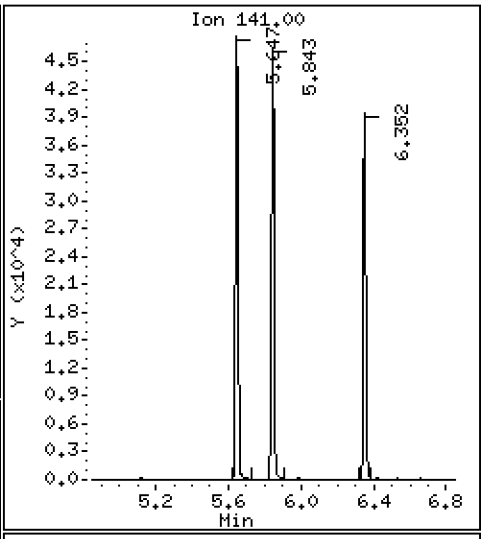
Column phase: Rxi-17sil

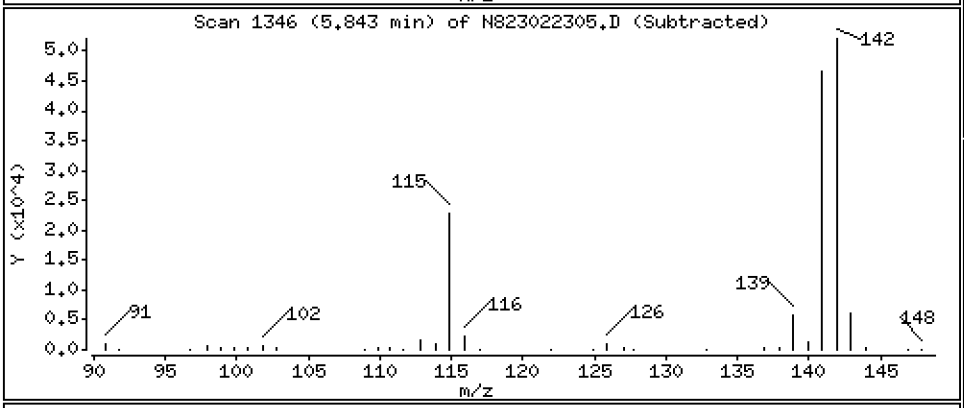
Column diameter: 0.25

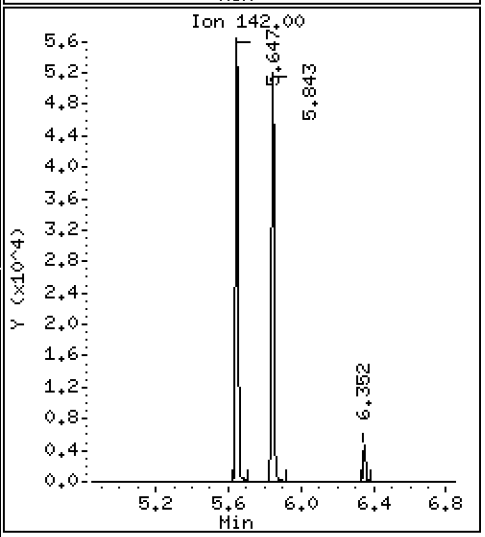
5 1-methylnaphthalene

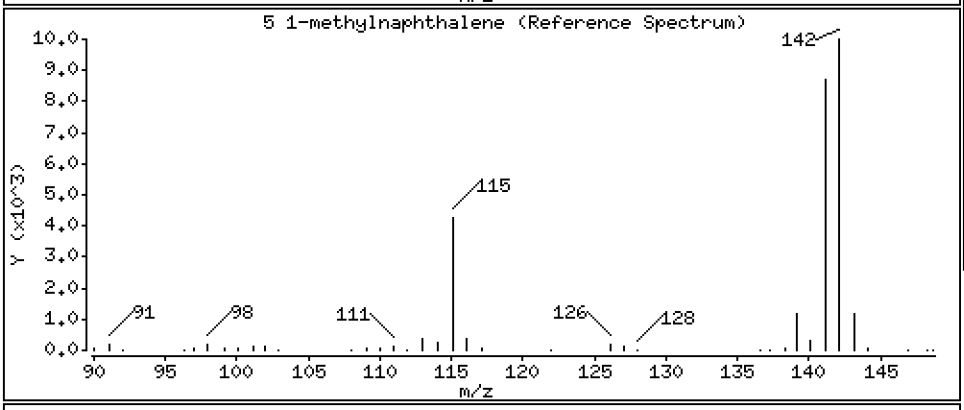
Concentration: 4.616 ug/mL

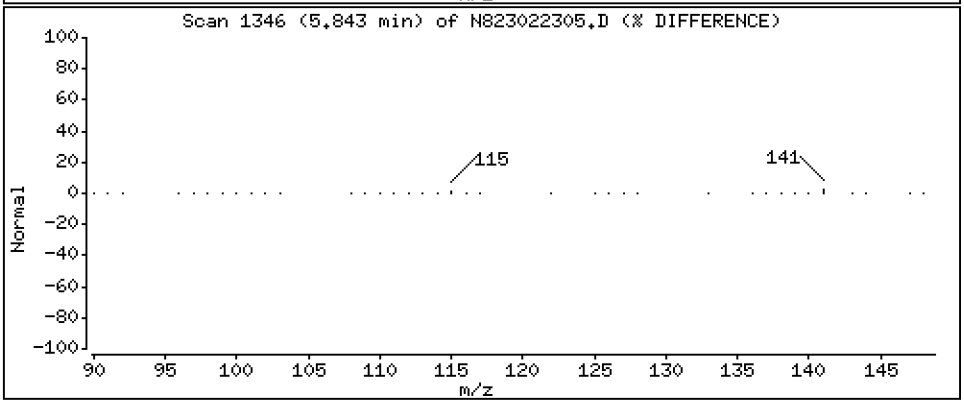












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Date : 23-FEB-2023 13:21

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BSD1,

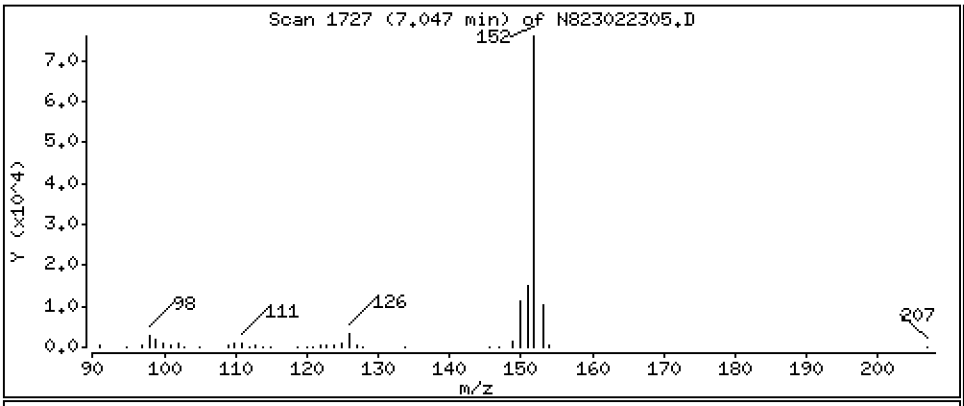
Operator: JZ

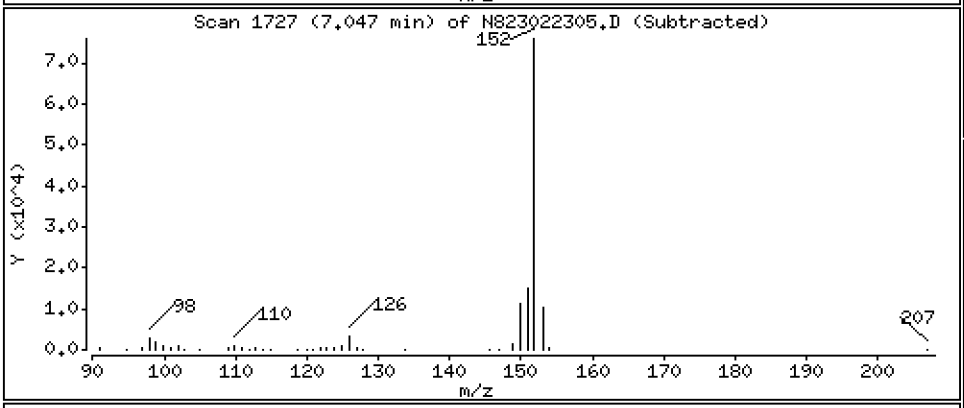
Column phase: Rxi-17sil

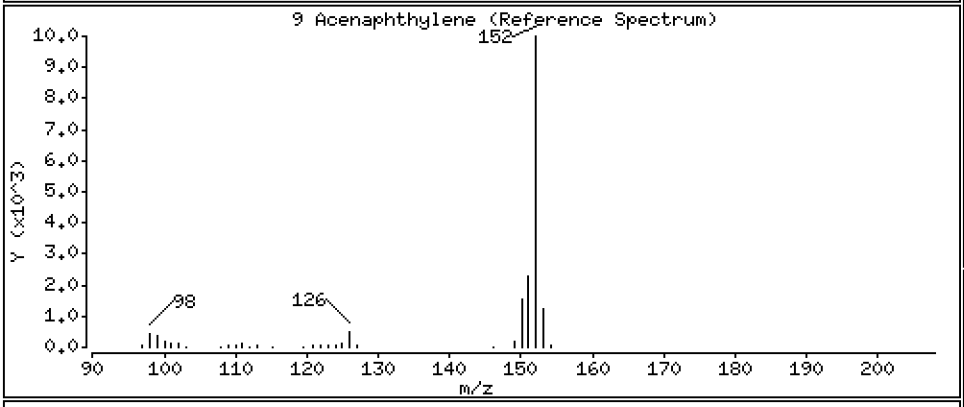
Column diameter: 0.25

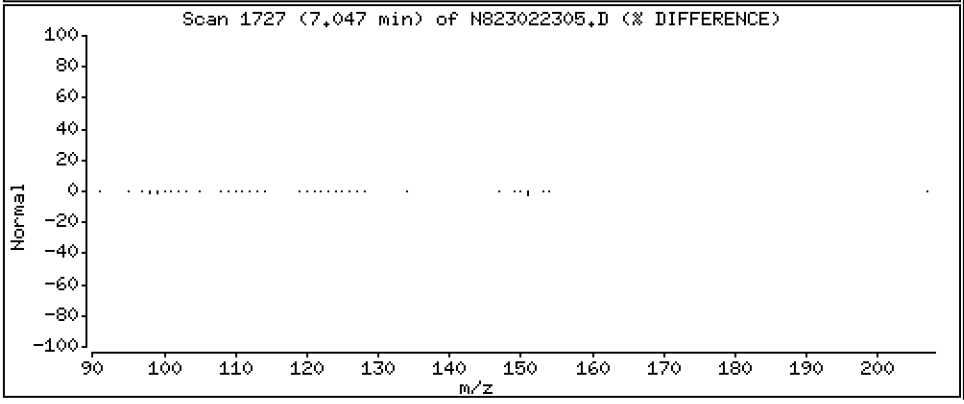
9 Acenaphthylene

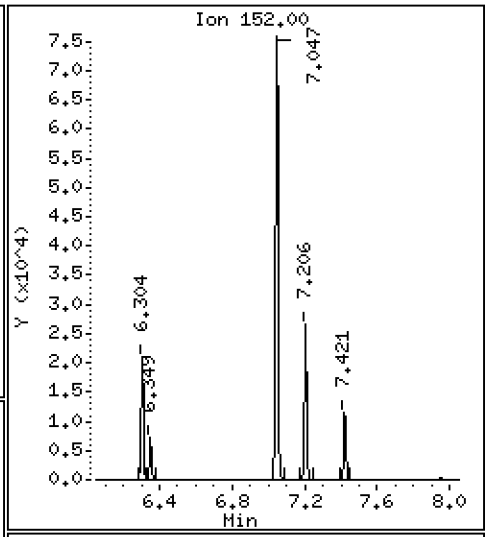
Concentration: 4.112 ug/mL

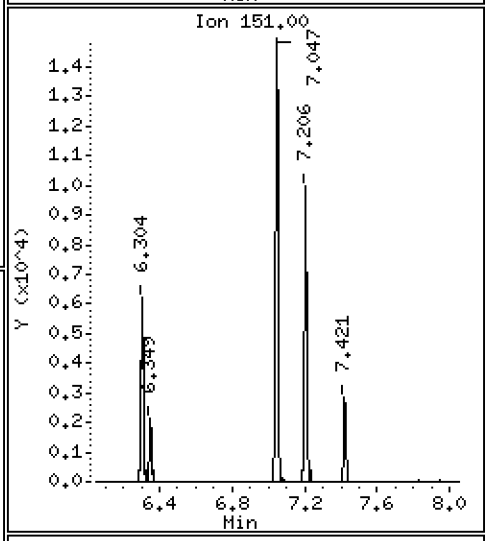


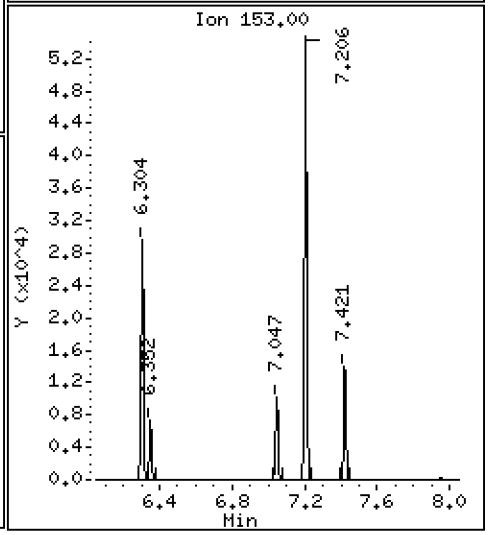












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Date : 23-FEB-2023 13:21

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BSD1,

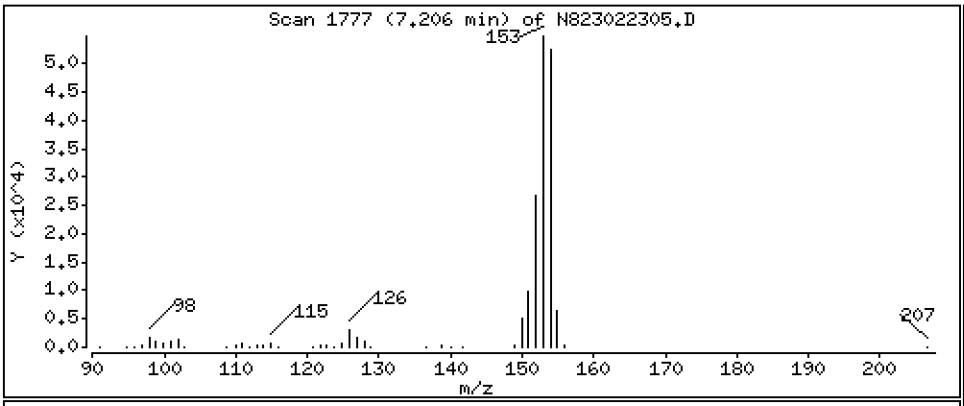
Operator: JZ

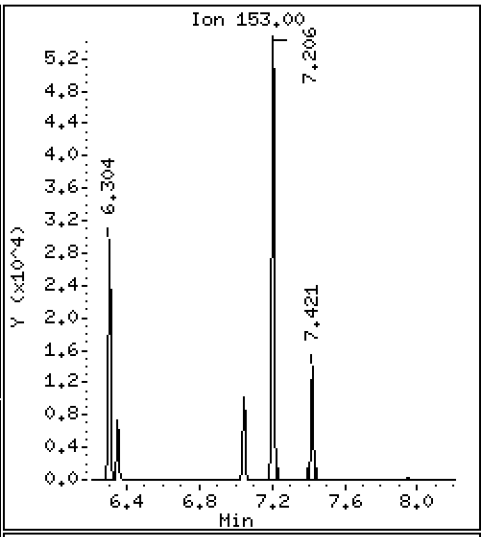
Column phase: Rxi-17sil

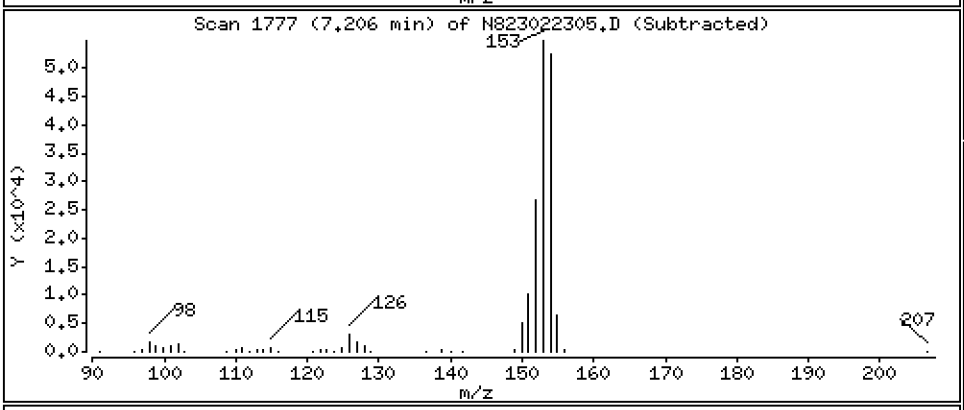
Column diameter: 0.25

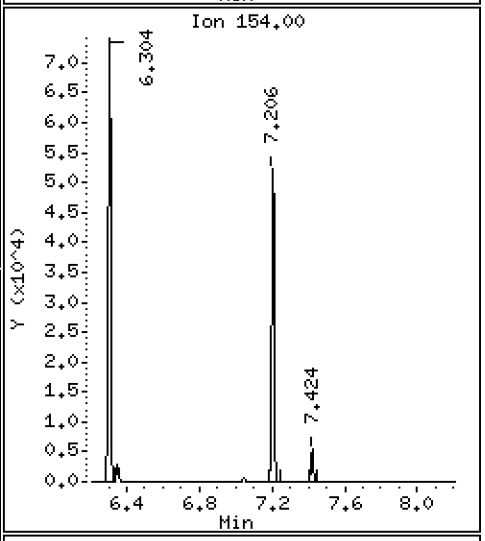
11 Acenaphthene

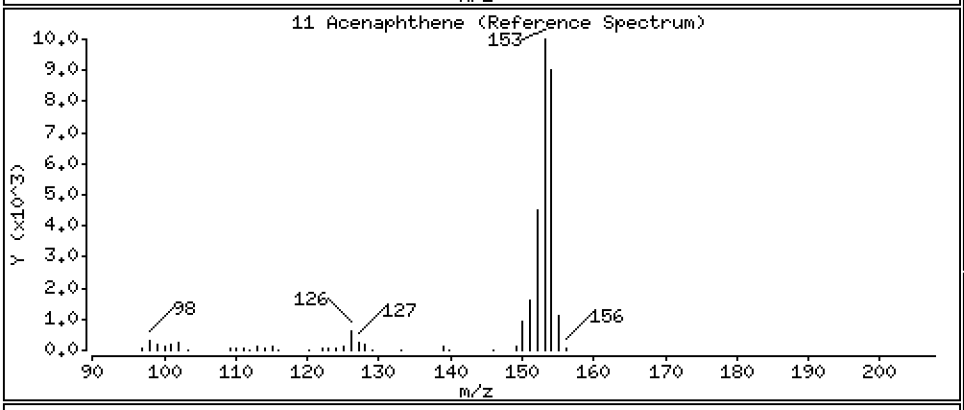
Concentration: 4.382 ug/mL

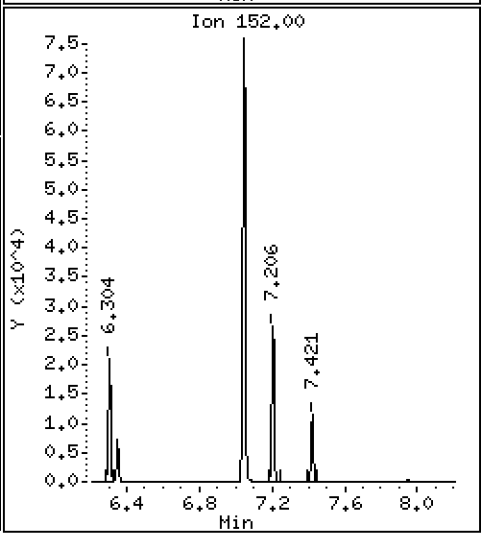


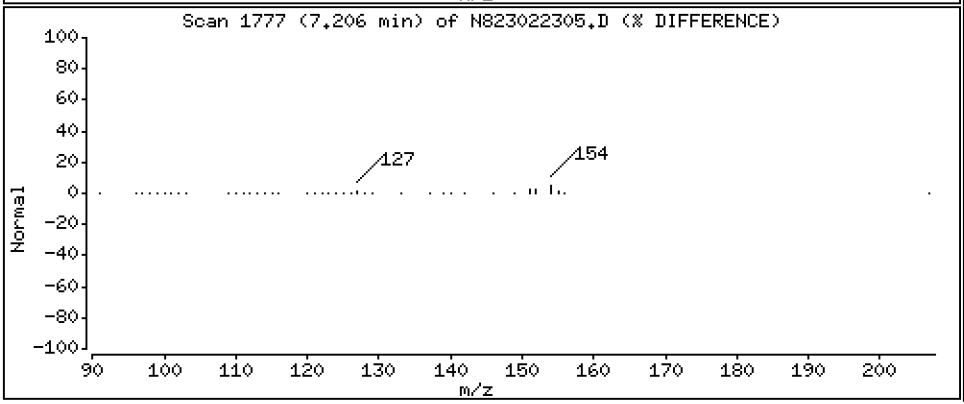












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Date : 23-FEB-2023 13:21

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BSD1,

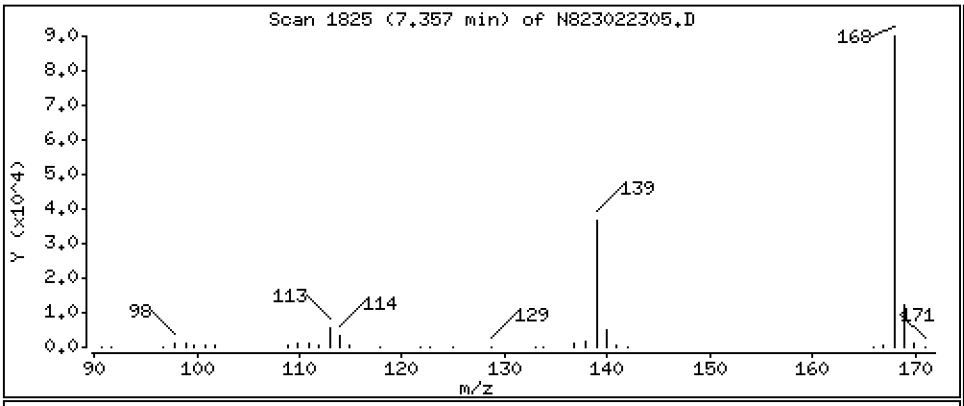
Operator: JZ

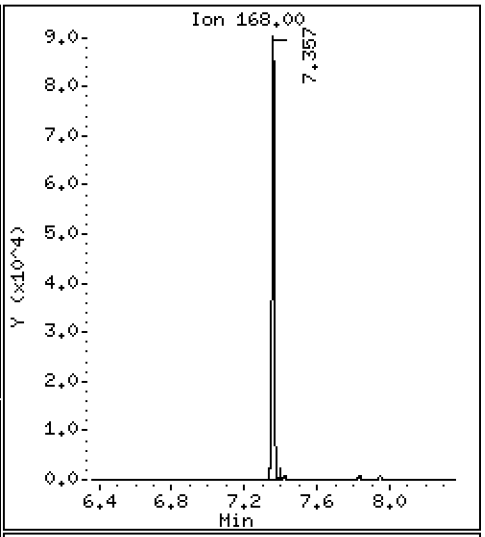
Column phase: Rxi-17sil

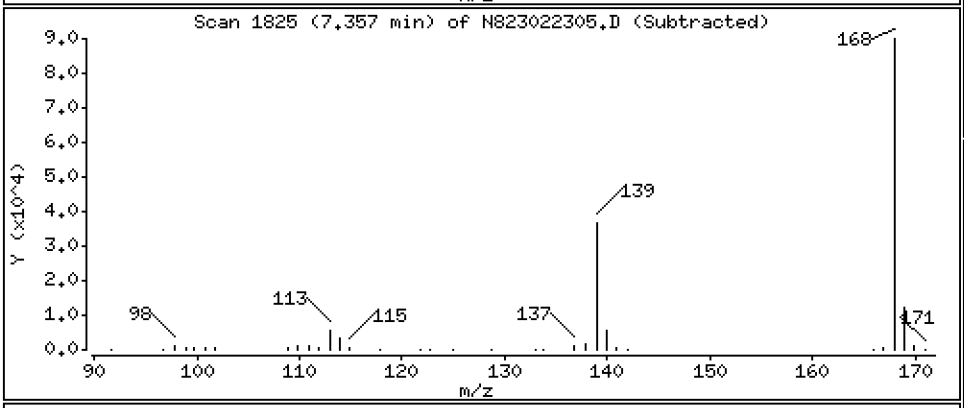
Column diameter: 0.25

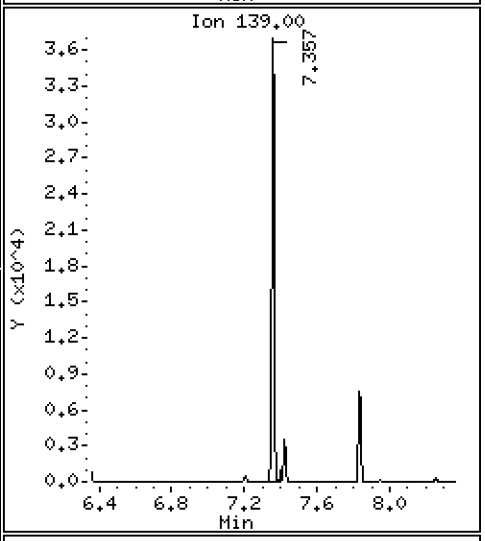
12 Dibenzofuran

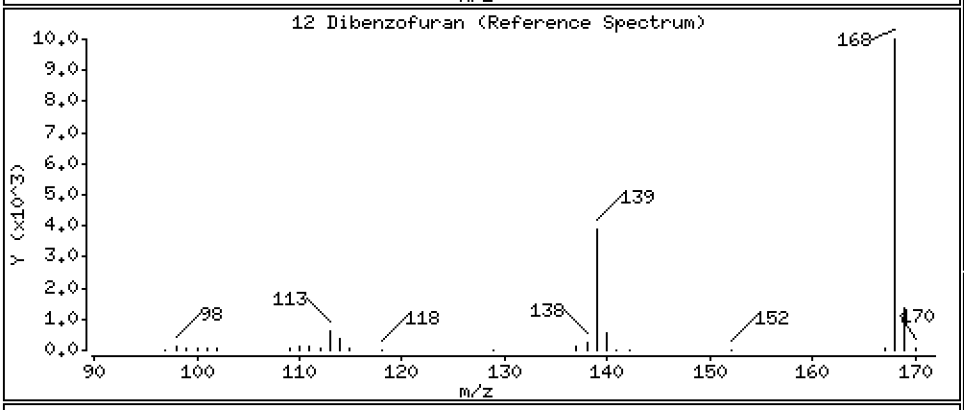
Concentration: 4.520 ug/mL

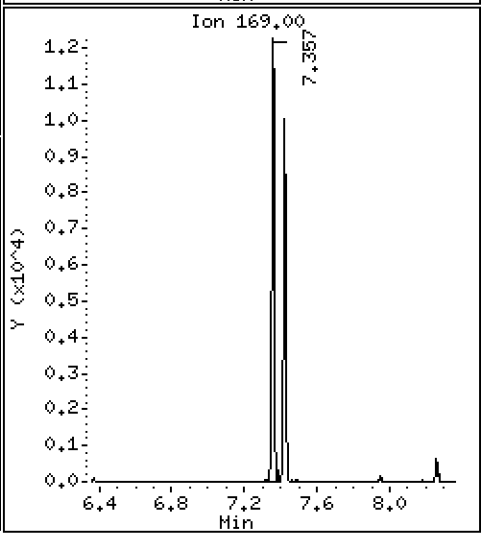


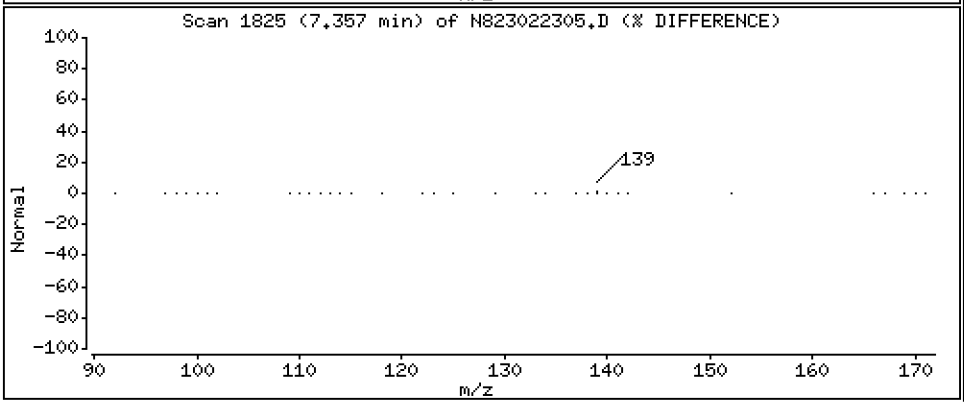












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022305.D

Date : 23-FEB-2023 13:21

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BSD1,

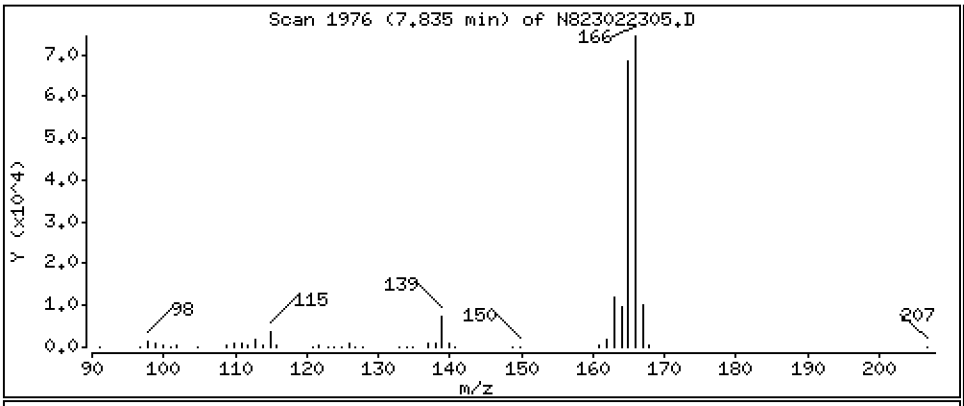
Operator: JZ

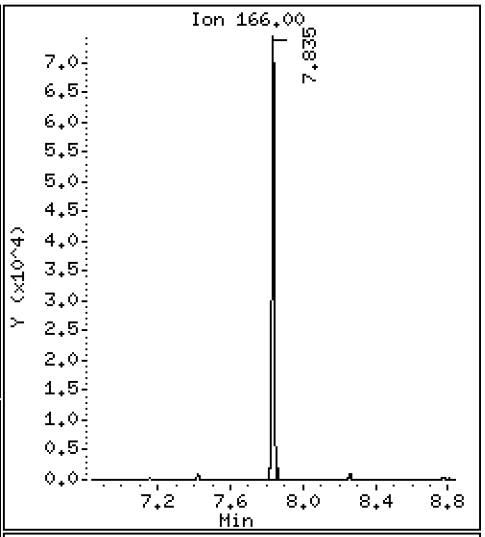
Column phase: Rxi-17sil

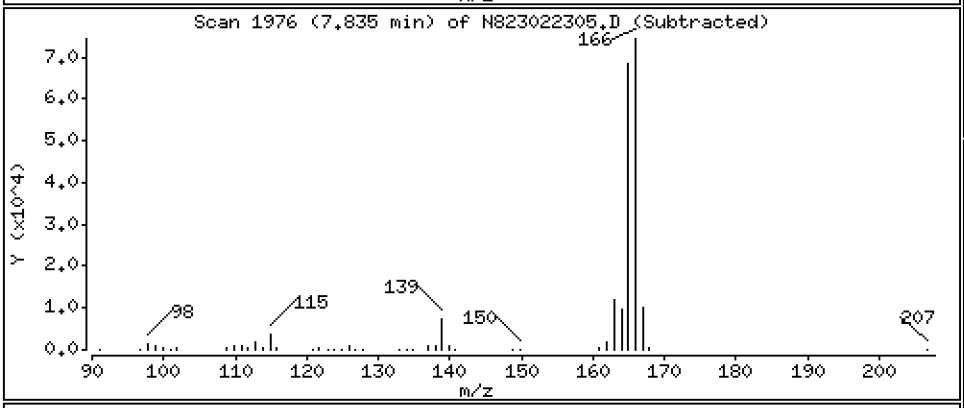
Column diameter: 0.25

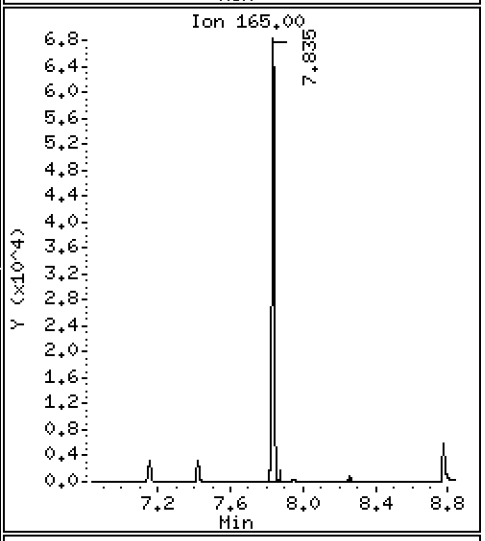
14 Fluorene

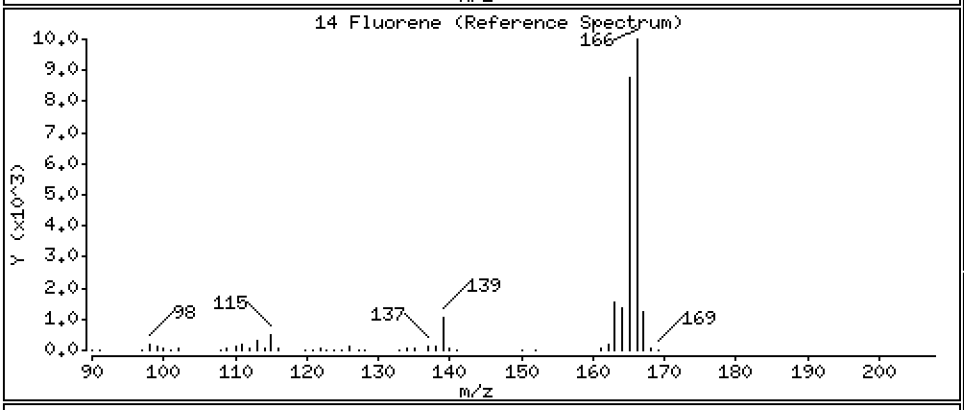
Concentration: 4.814 ug/mL

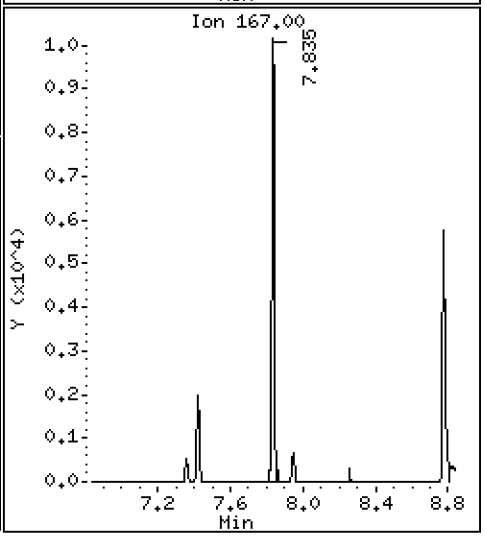


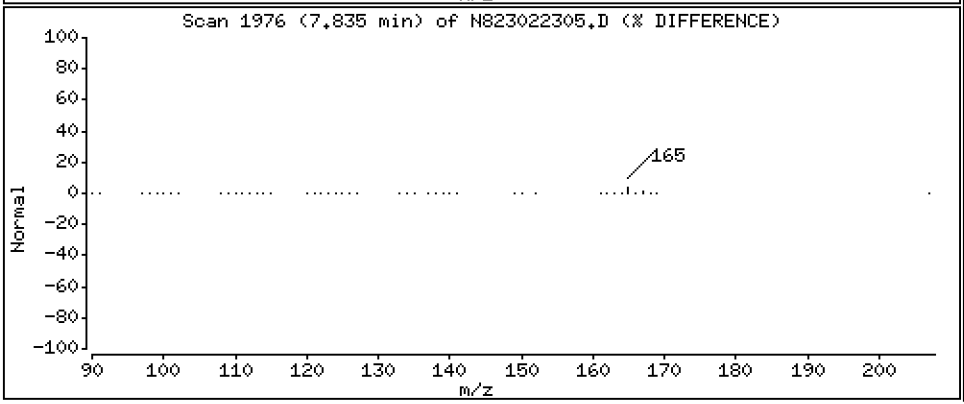












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022305.D

Date : 23-FEB-2023 13:21

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BSD1,

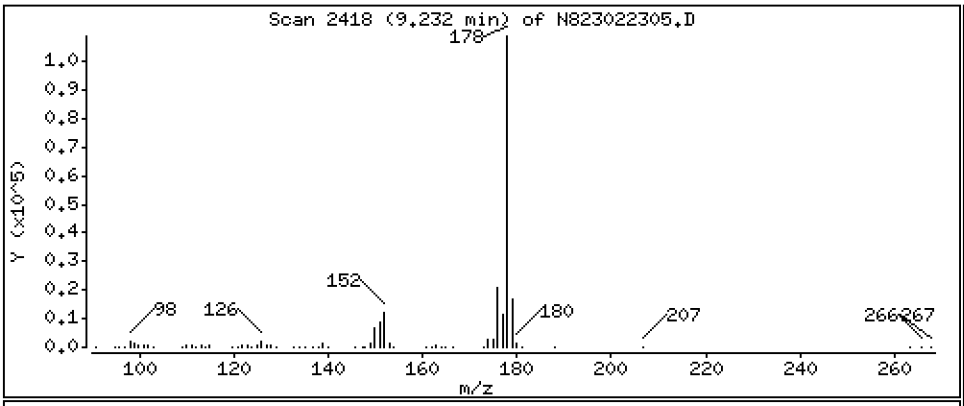
Operator: JZ

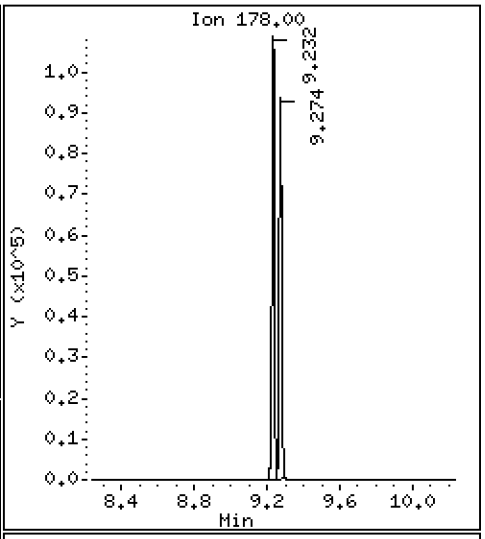
Column phase: Rxi-17sil

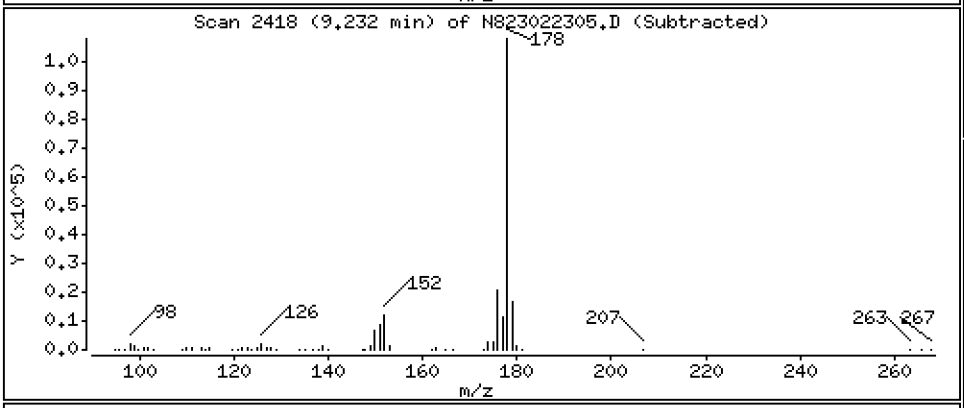
Column diameter: 0.25

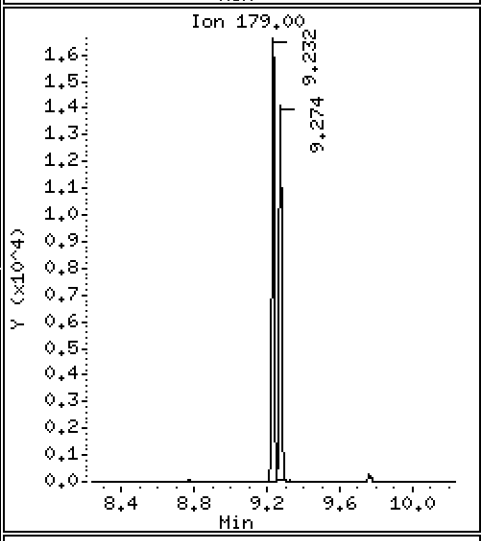
16 Phenanthrene

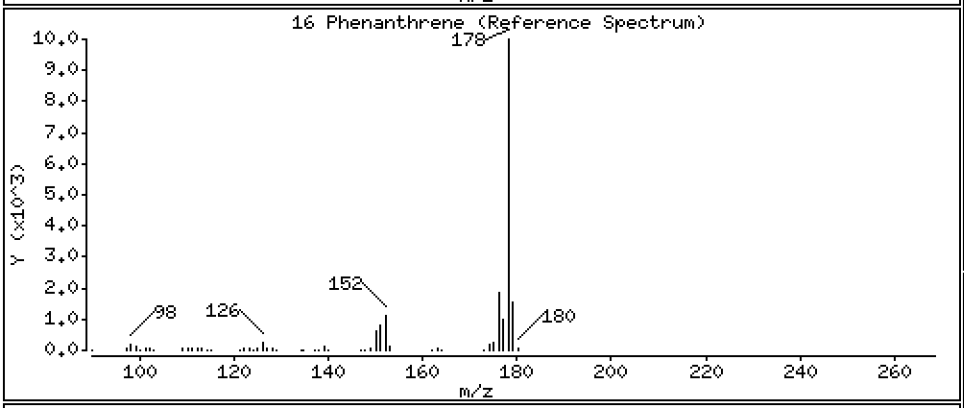
Concentration: 4.634 ug/mL

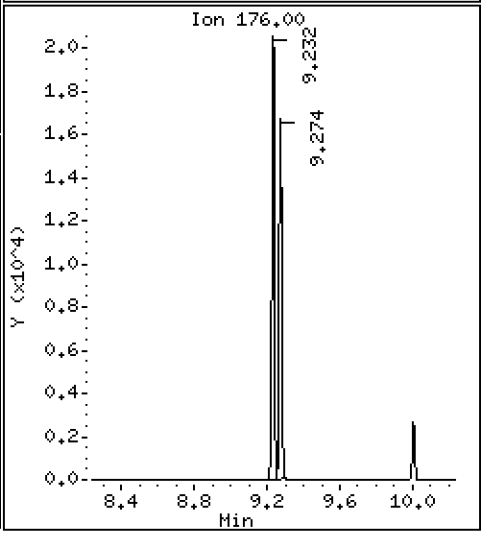


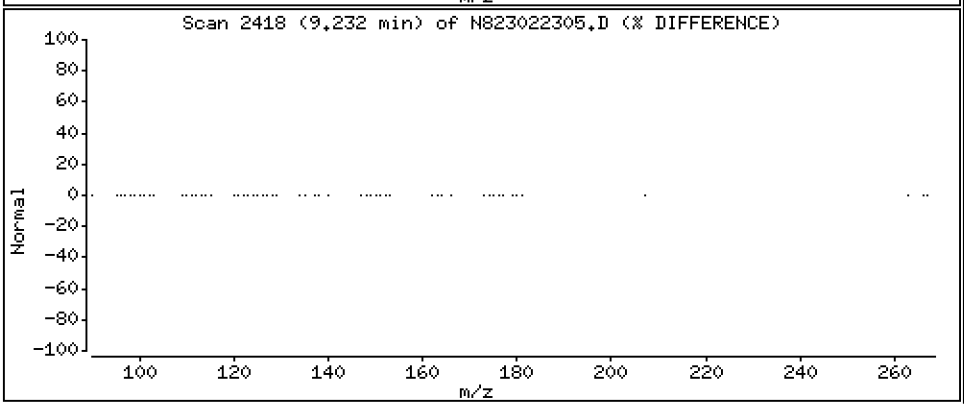












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022305.D

Date : 23-FEB-2023 13:21

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BSD1,

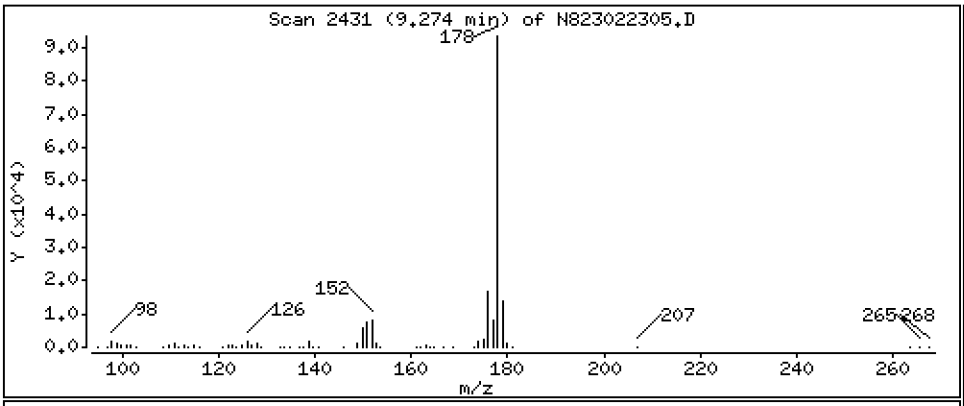
Operator: JZ

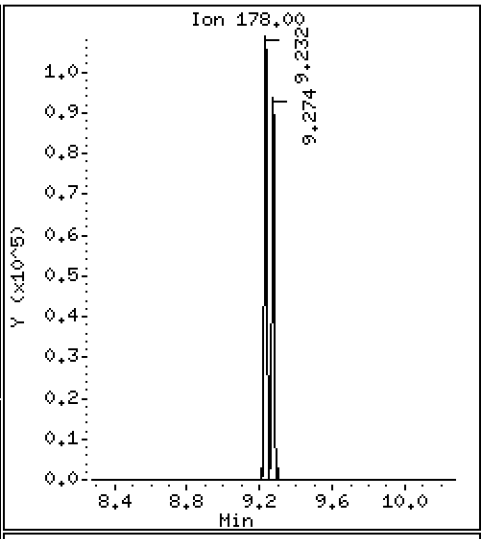
Column phase: Rxi-17sil

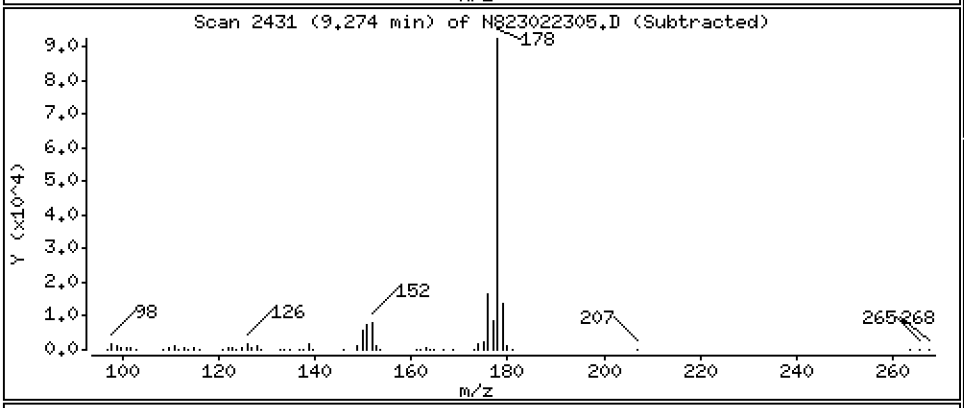
Column diameter: 0.25

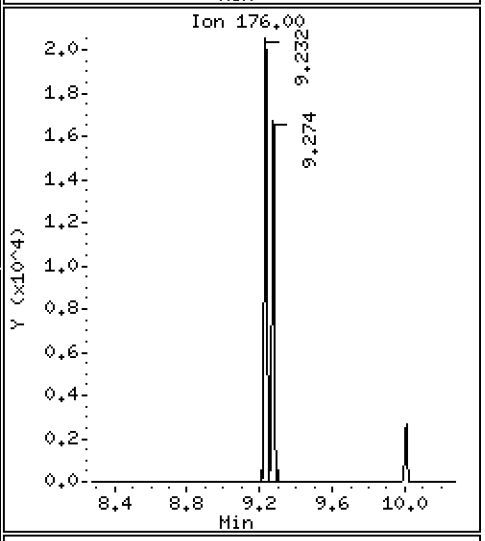
17 Anthracene

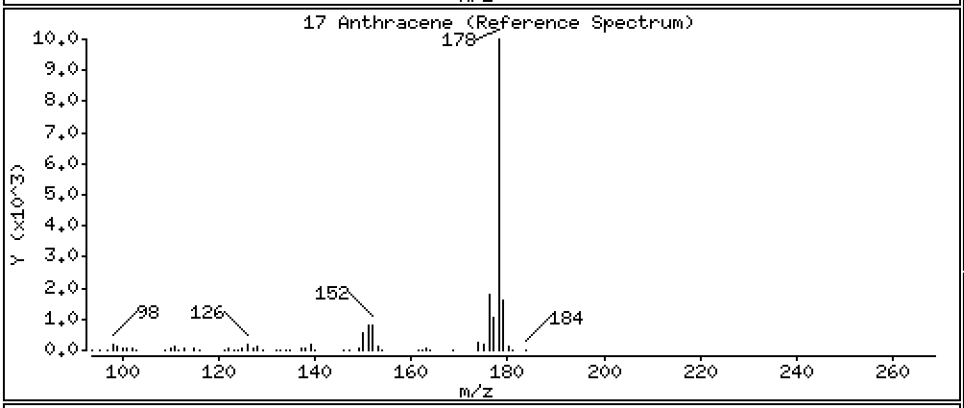
Concentration: 4.352 ug/mL

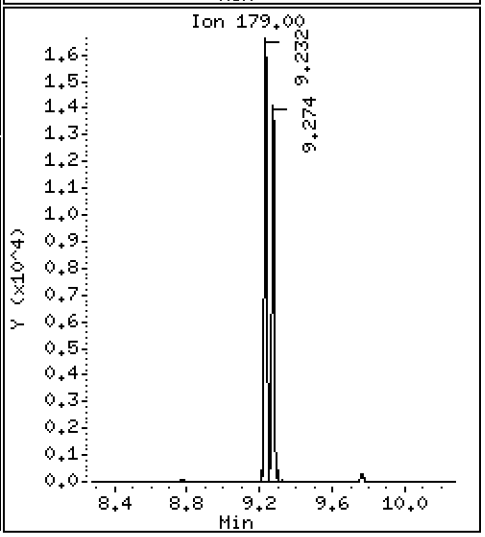


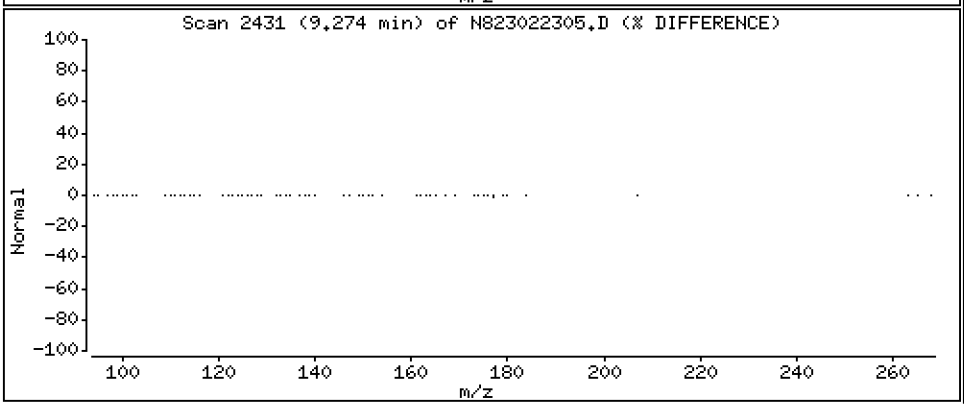












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022305.D

Date : 23-FEB-2023 13:21

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BSD1,

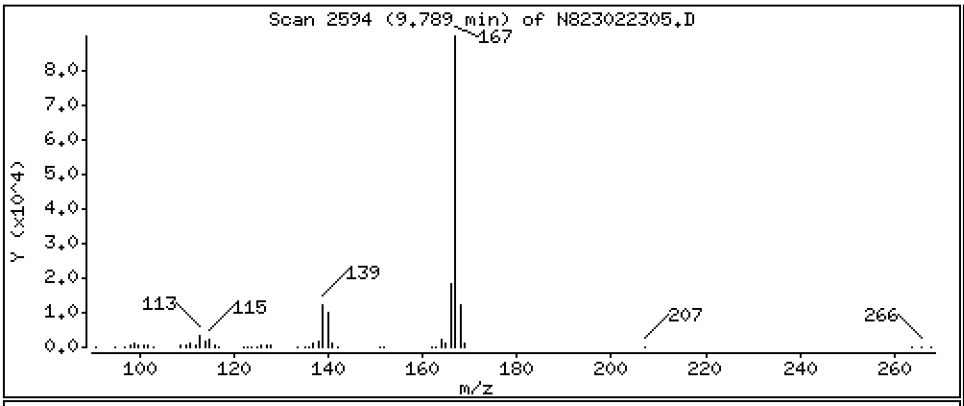
Operator: JZ

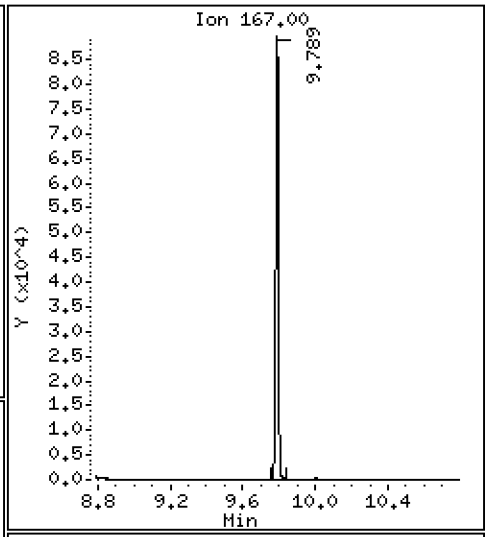
Column phase: Rxi-17sil

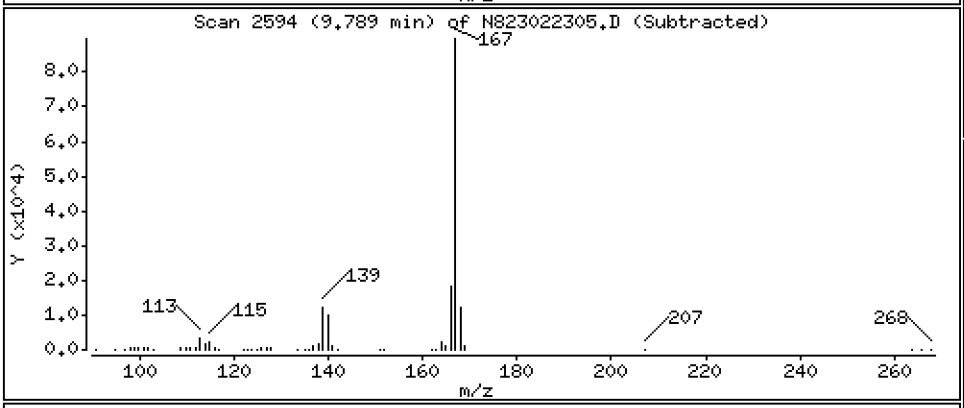
Column diameter: 0.25

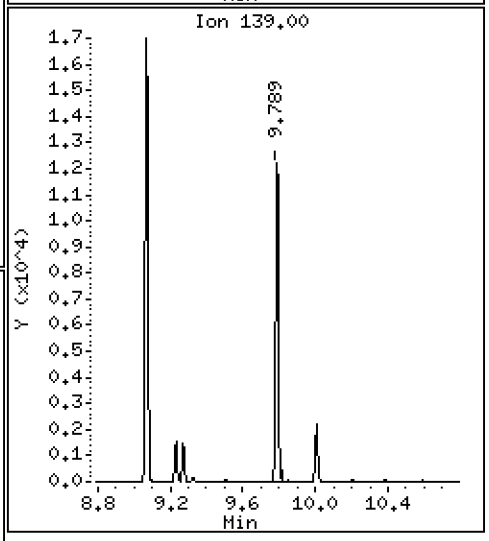
19 Carbazole

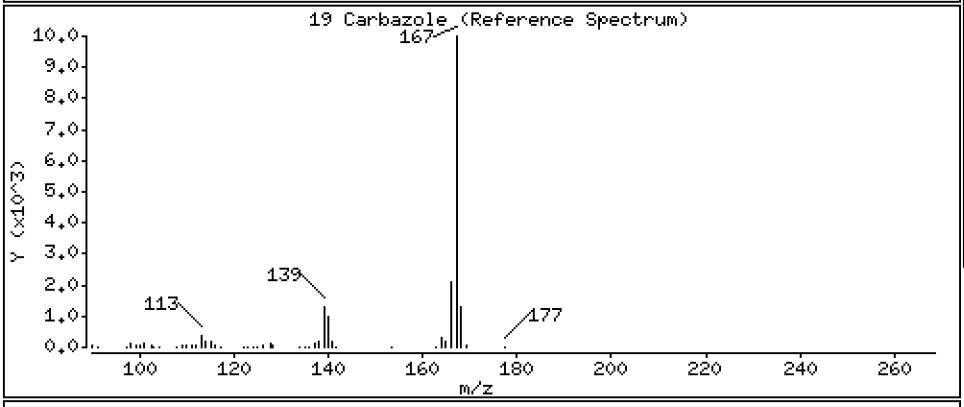
Concentration: 4.938 ug/mL

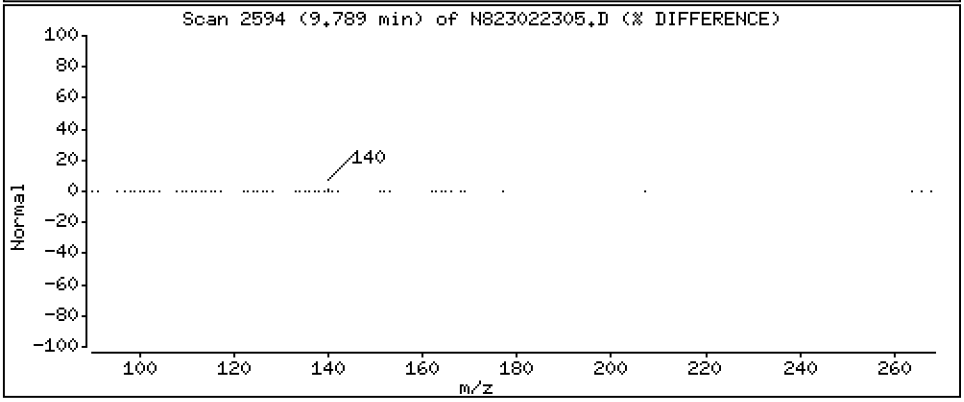












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022305.D

Date : 23-FEB-2023 13:21

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BSD1,

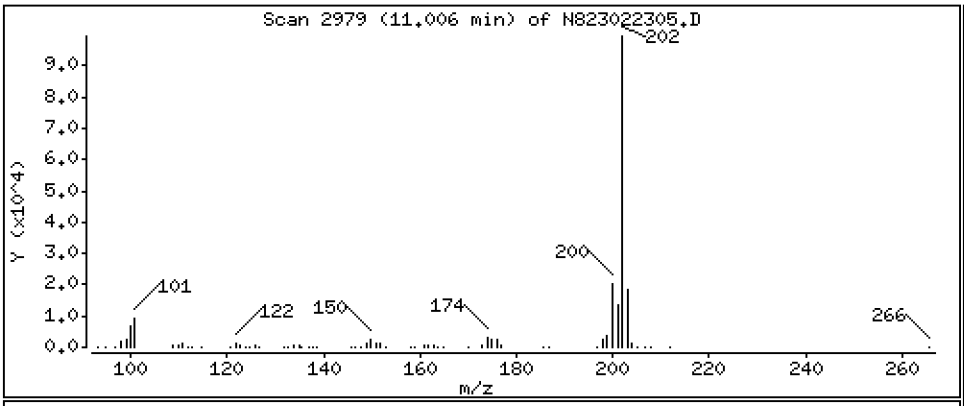
Operator: JZ

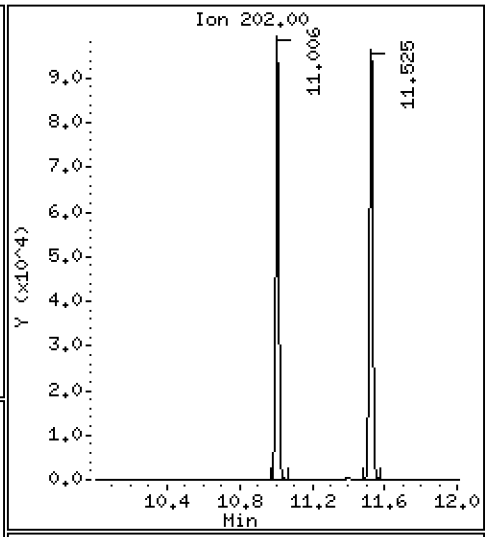
Column phase: Rxi-17sil

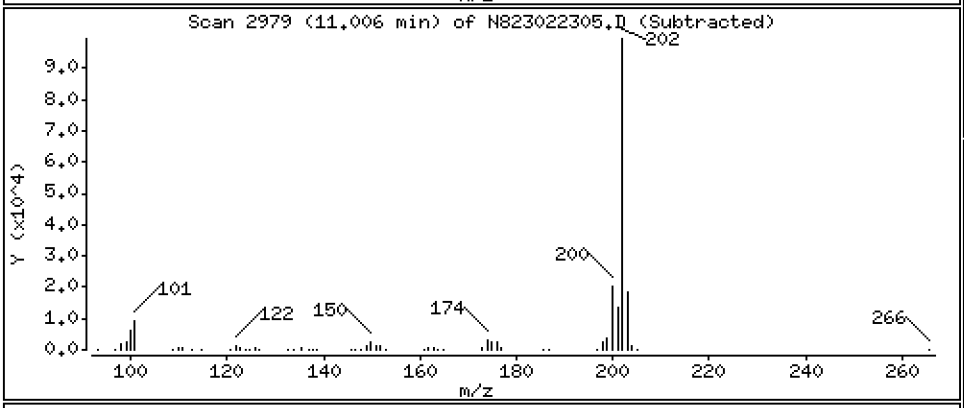
Column diameter: 0.25

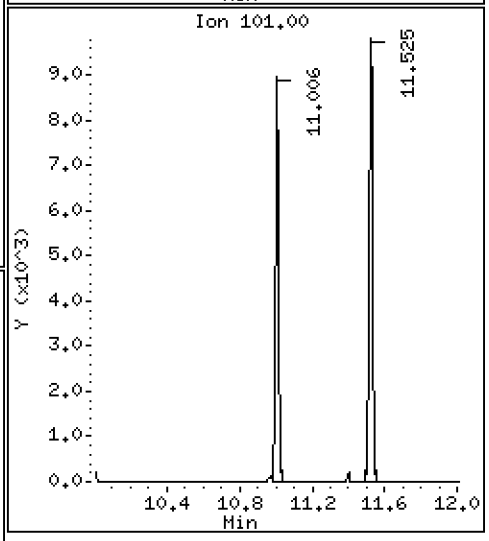
22 Fluoranthene

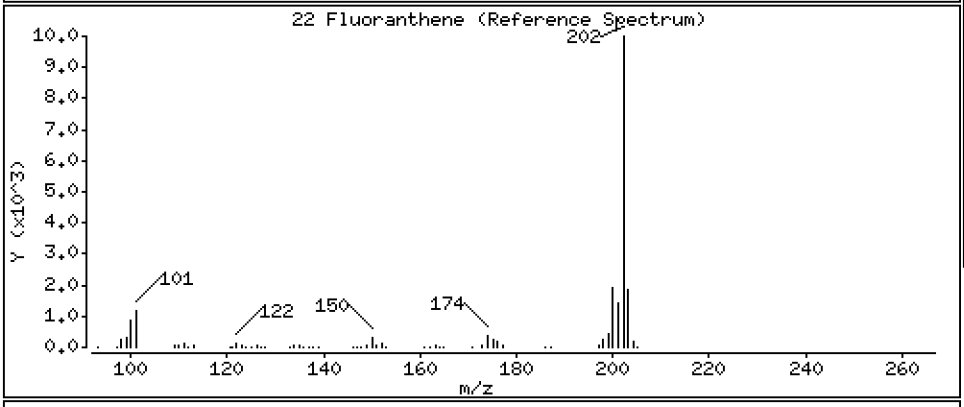
Concentration: 5.048 ug/mL

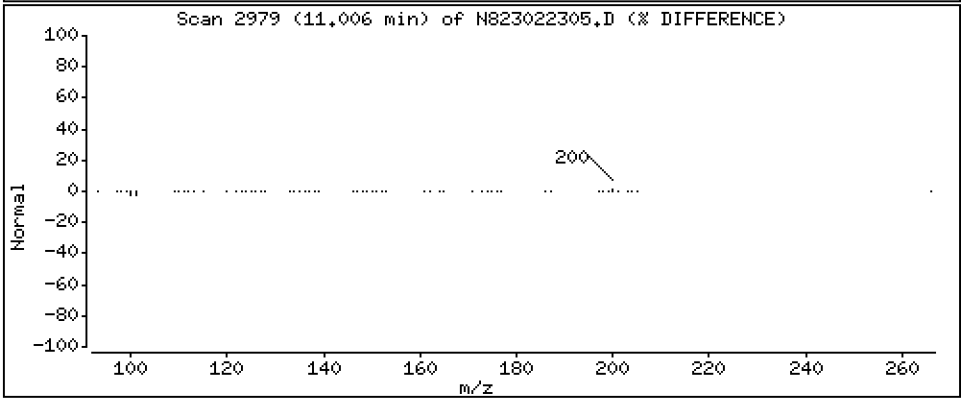












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Date : 23-FEB-2023 13:21

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BSD1,

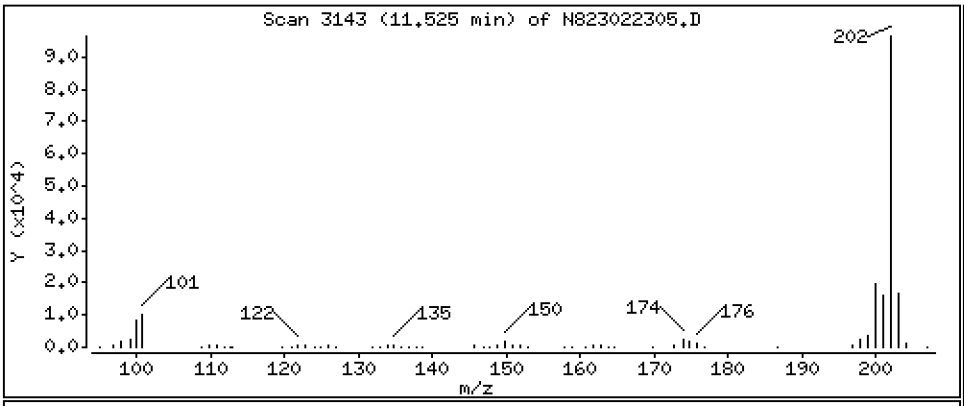
Operator: JZ

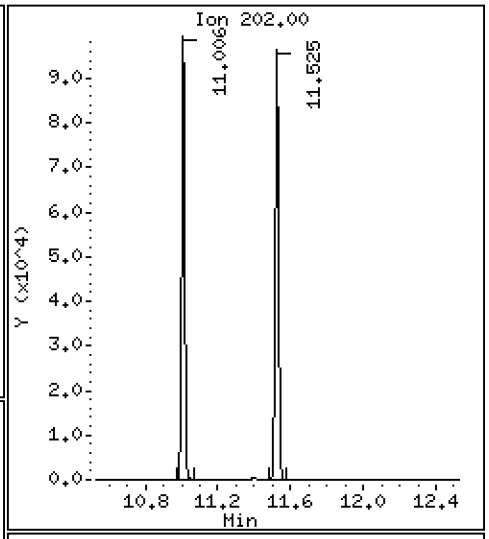
Column phase: Rxi-17sil

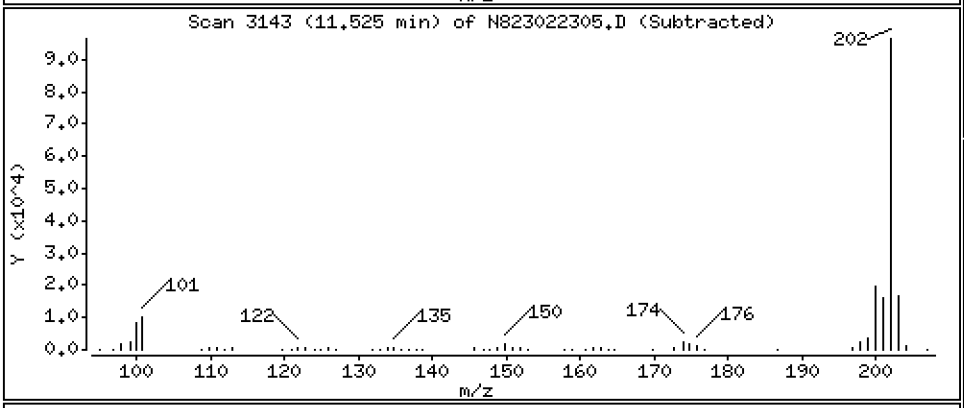
Column diameter: 0.25

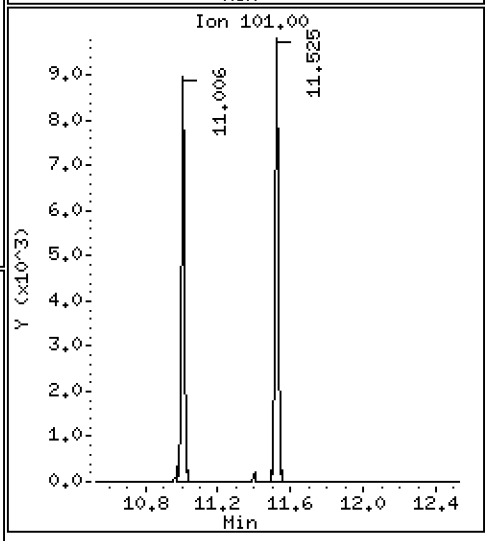
23 Pyrene

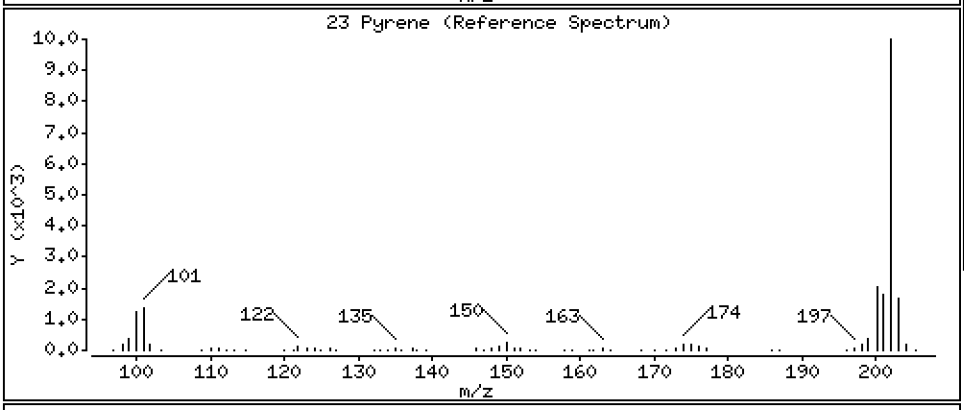
Concentration: 5.088 ug/mL

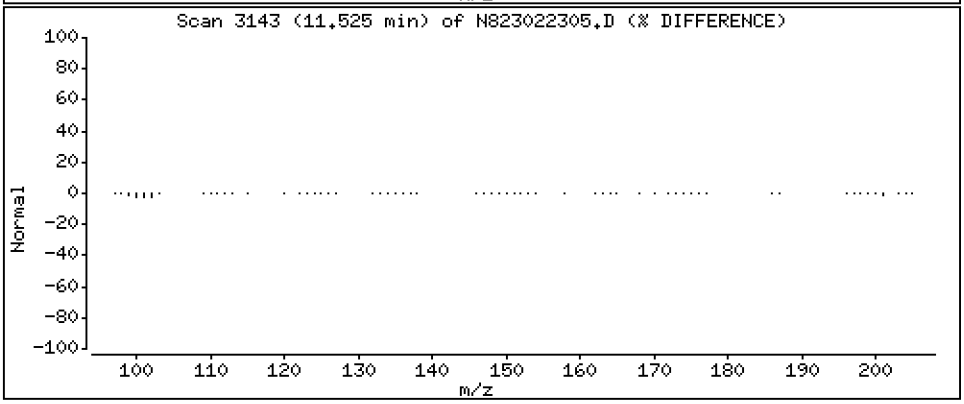












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022305.D

Date : 23-FEB-2023 13:21

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BSD1,

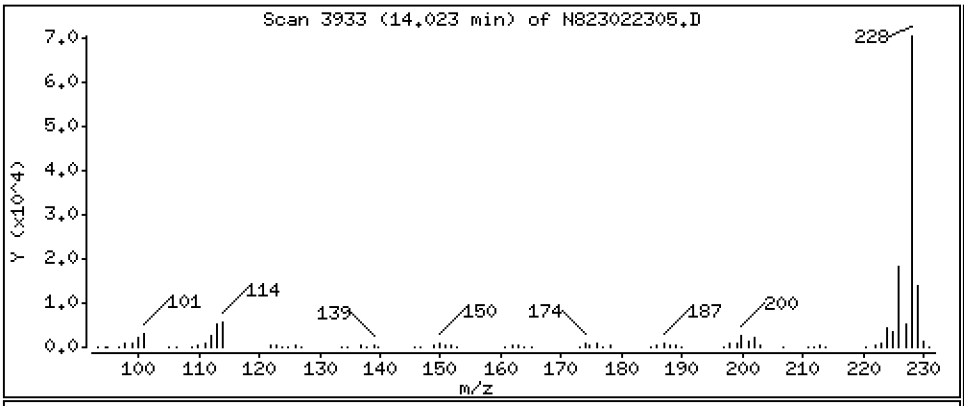
Operator: JZ

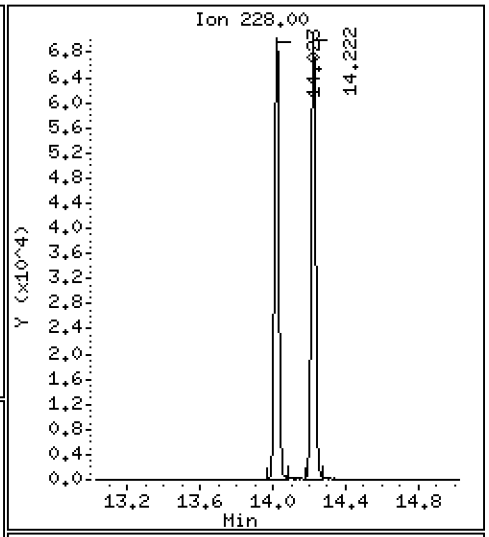
Column phase: Rxi-17sil

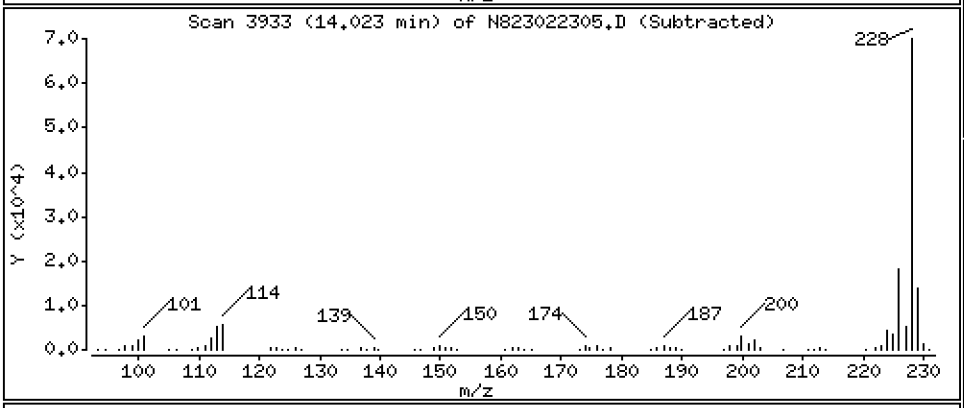
Column diameter: 0.25

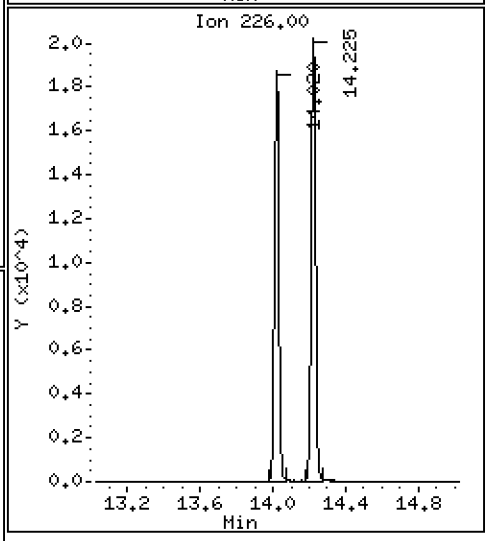
24 Benzo(a)anthracene

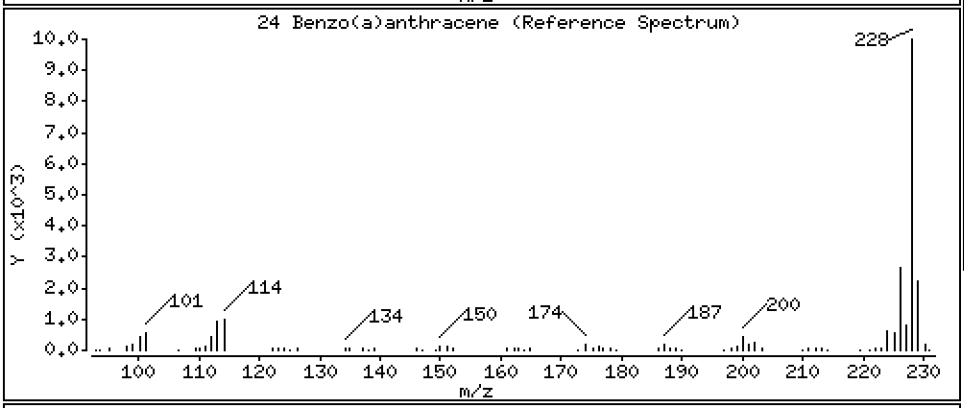
Concentration: 5.324 ug/mL

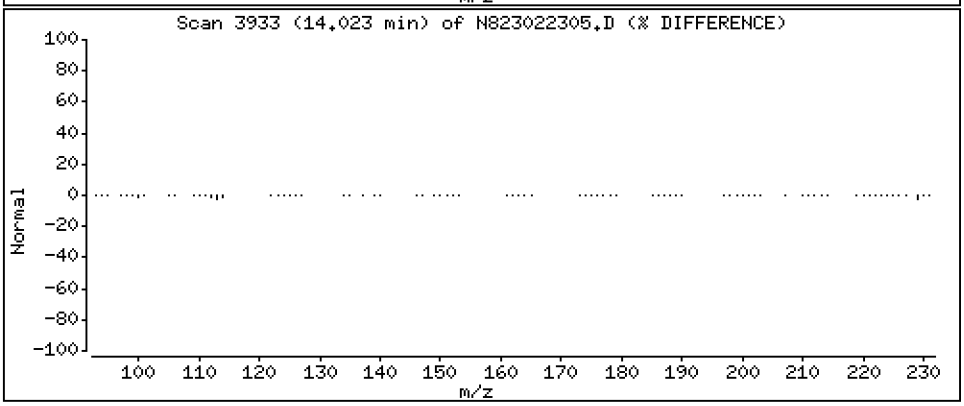












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022305.D

Date : 23-FEB-2023 13:21

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BSD1,

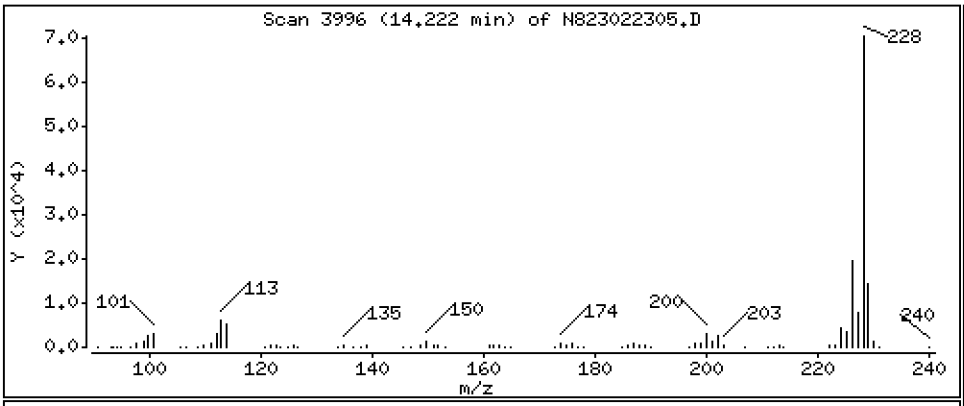
Operator: JZ

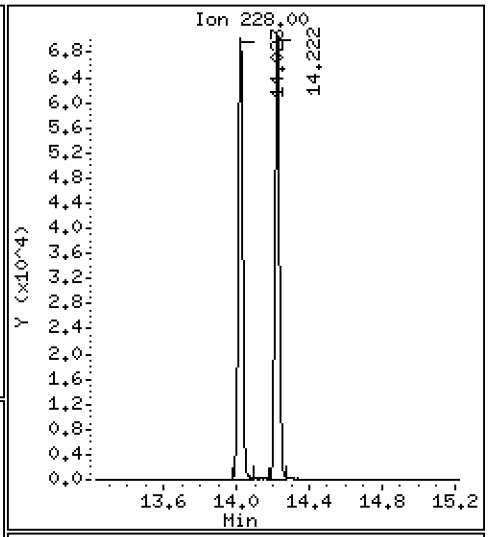
Column phase: Rxi-17sil

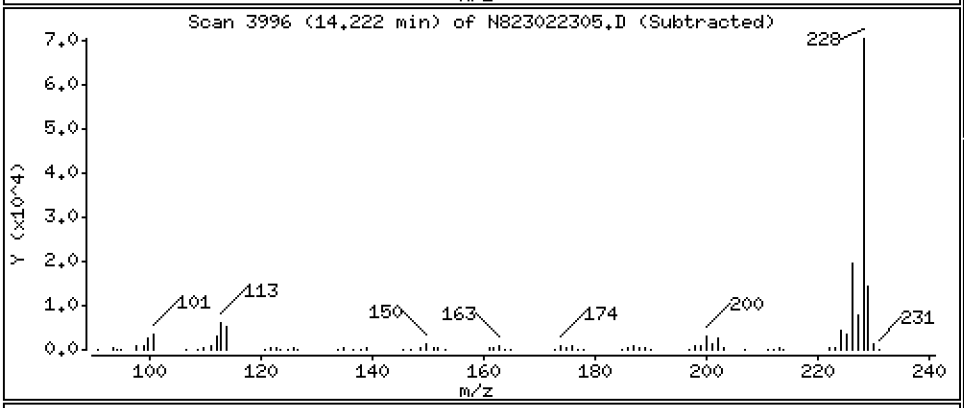
Column diameter: 0.25

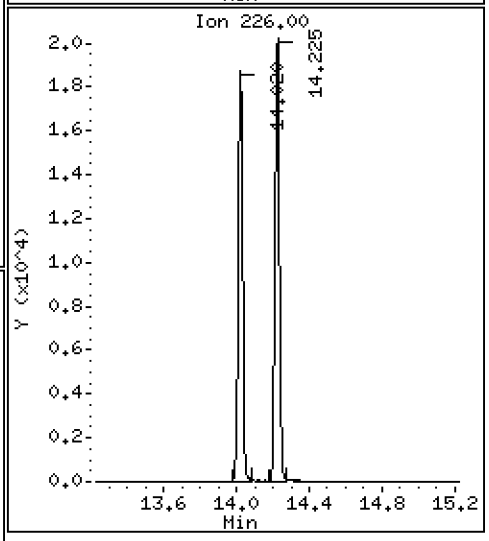
27 Chrysene

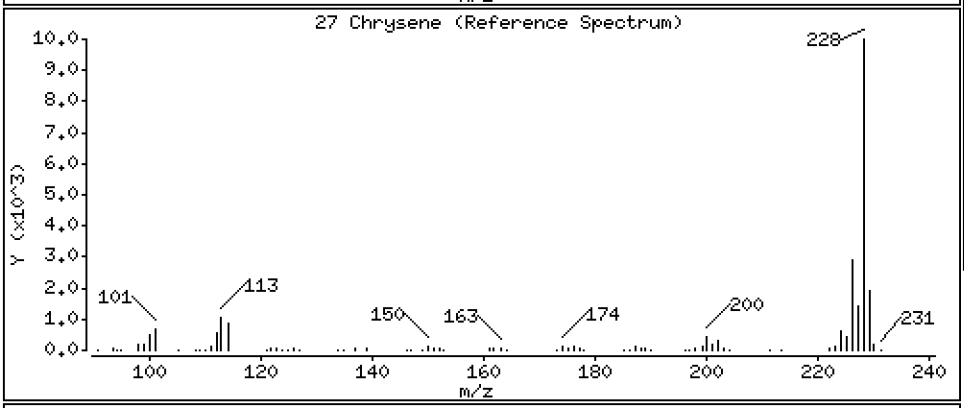
Concentration: 4.967 ug/mL

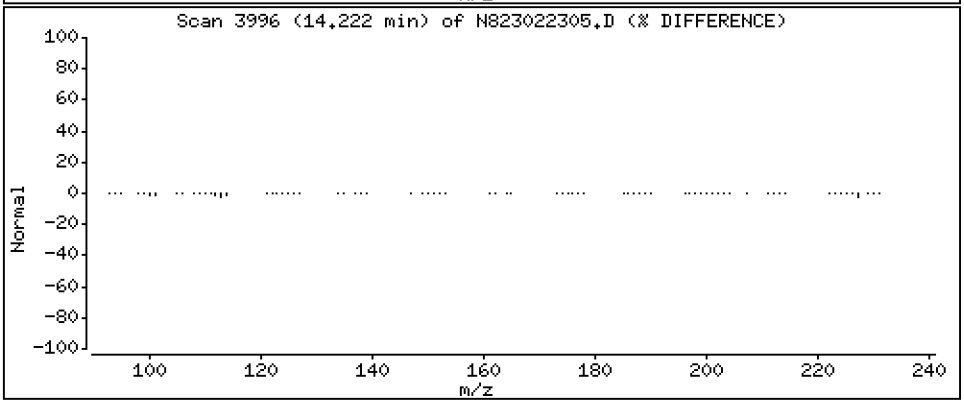












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022305.D

Date : 23-FEB-2023 13:21

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BSD1,

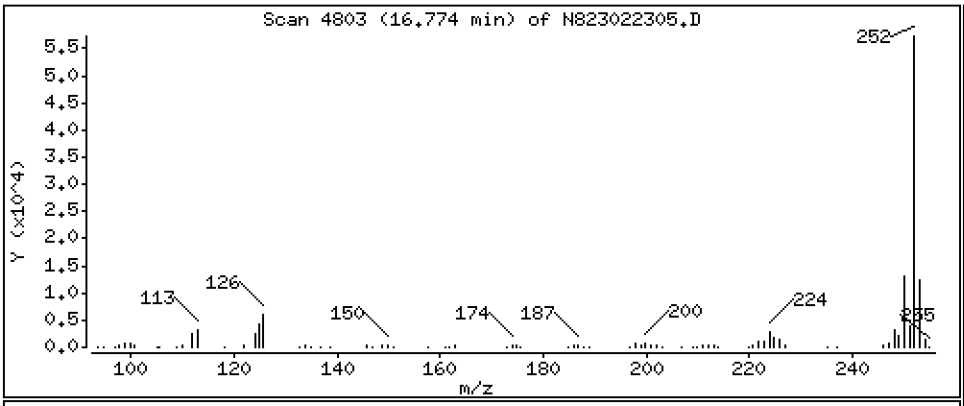
Operator: JZ

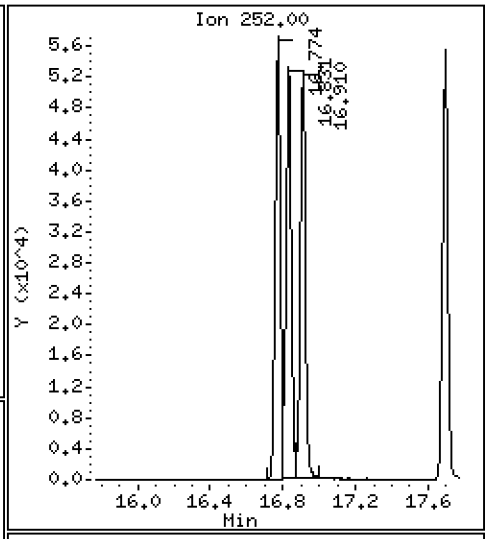
Column phase: Rxi-17sil

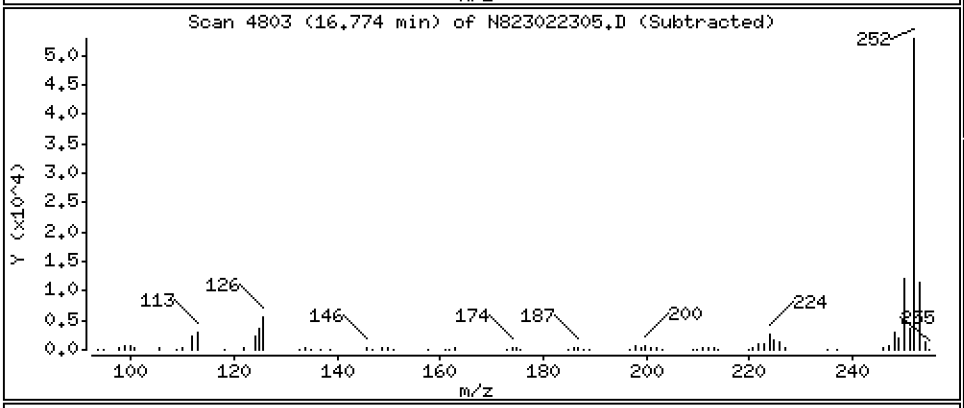
Column diameter: 0.25

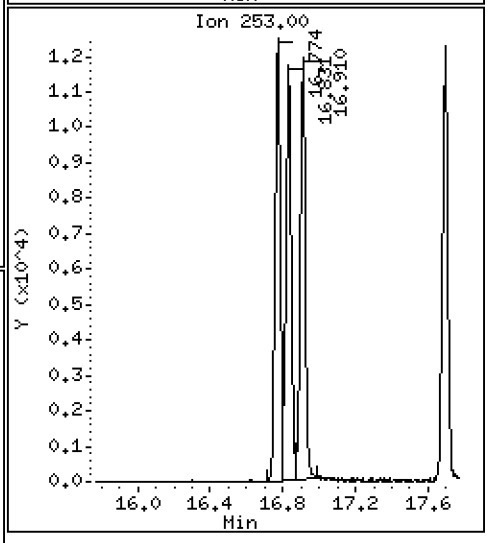
28 Benzo(b)fluoranthene

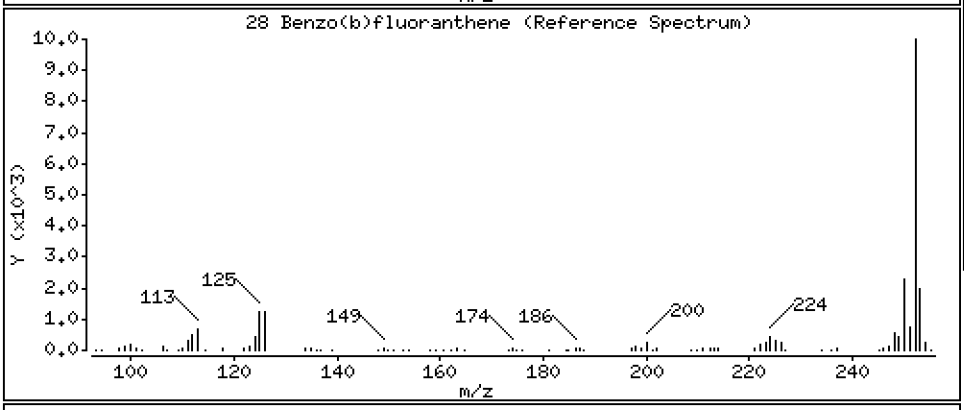
Concentration: 6.282 ug/mL

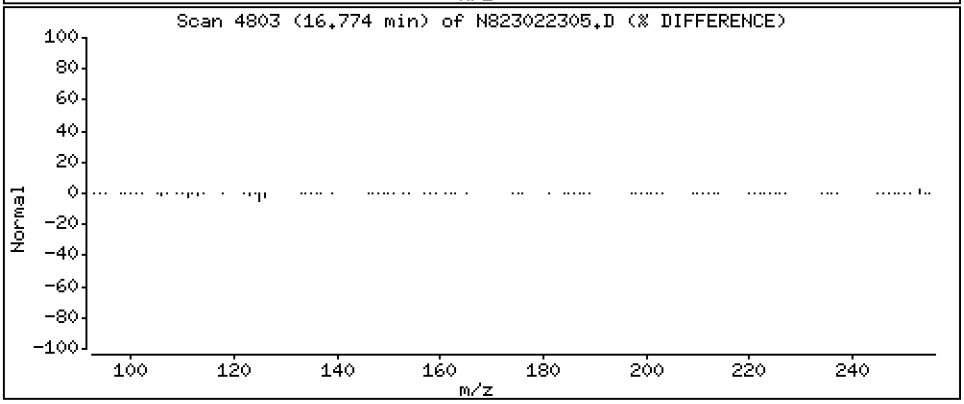












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Date : 23-FEB-2023 13:21

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BSD1,

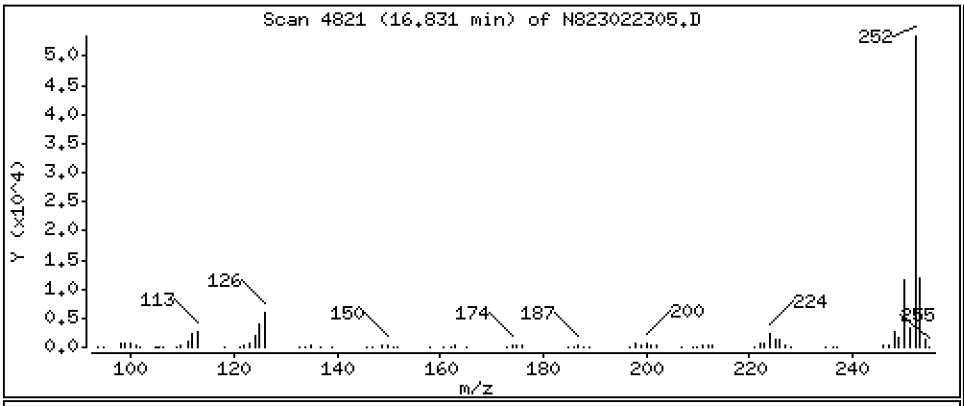
Operator: JZ

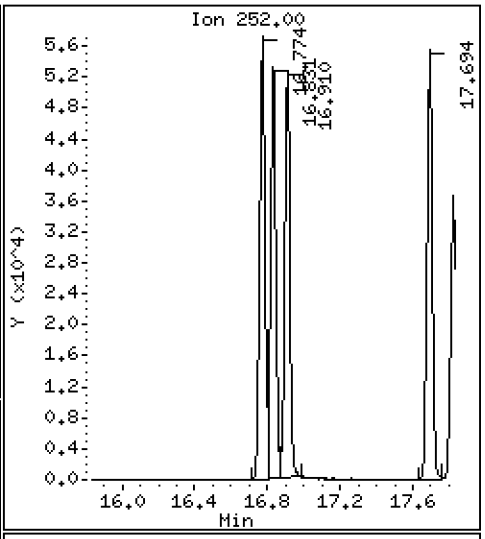
Column phase: Rxi-17sil

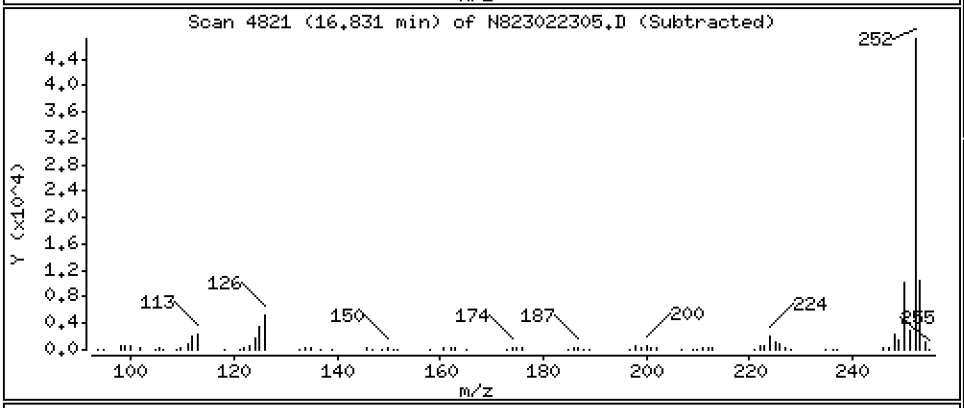
Column diameter: 0.25

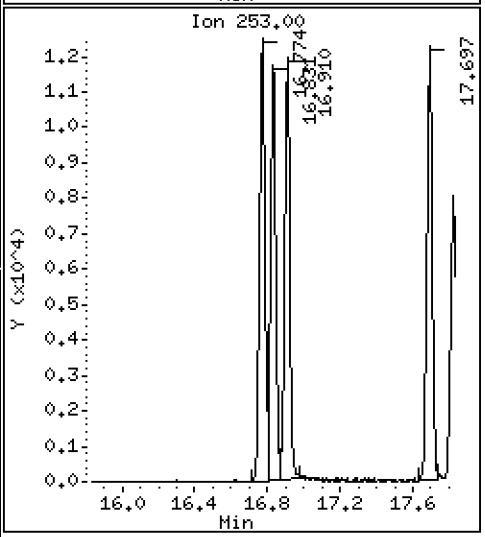
29 Benzo(k)fluoranthene

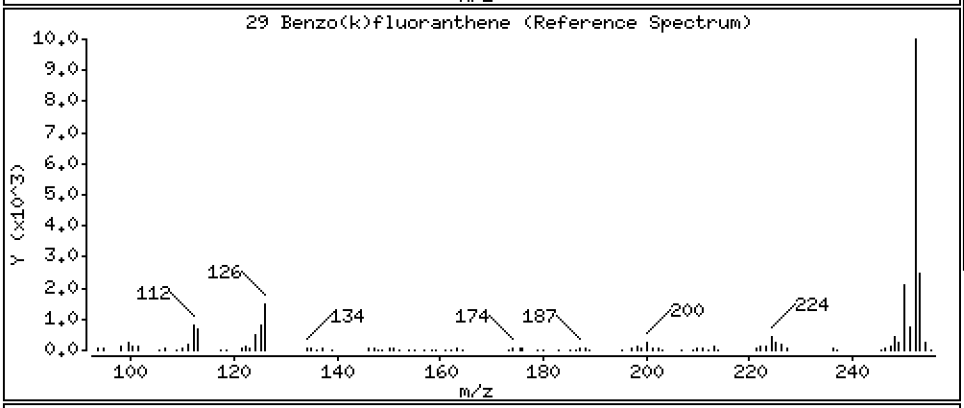
Concentration: 5.999 ug/mL

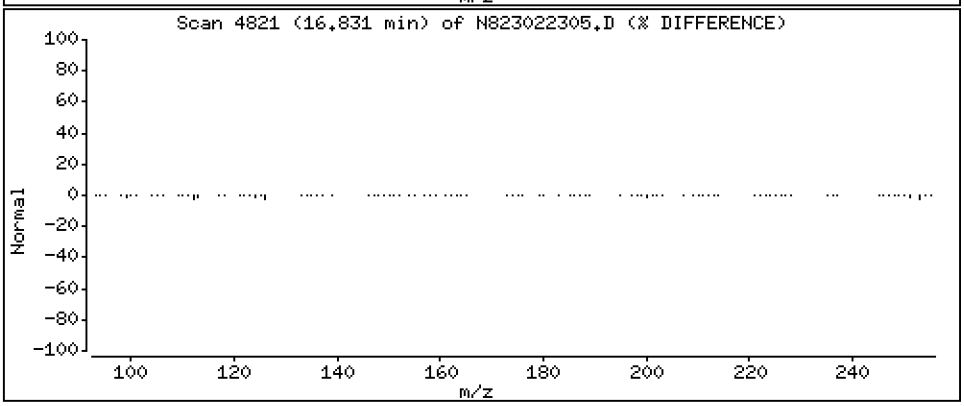












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Date : 23-FEB-2023 13:21

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BSD1,

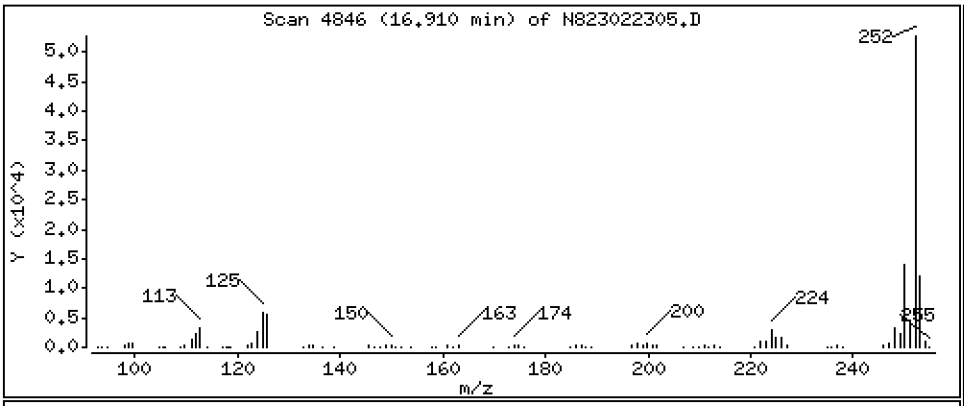
Operator: JZ

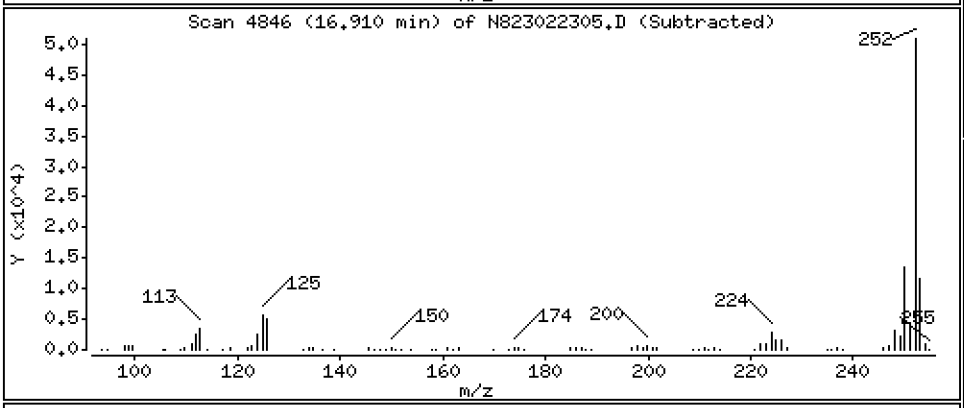
Column phase: Rxi-17sil

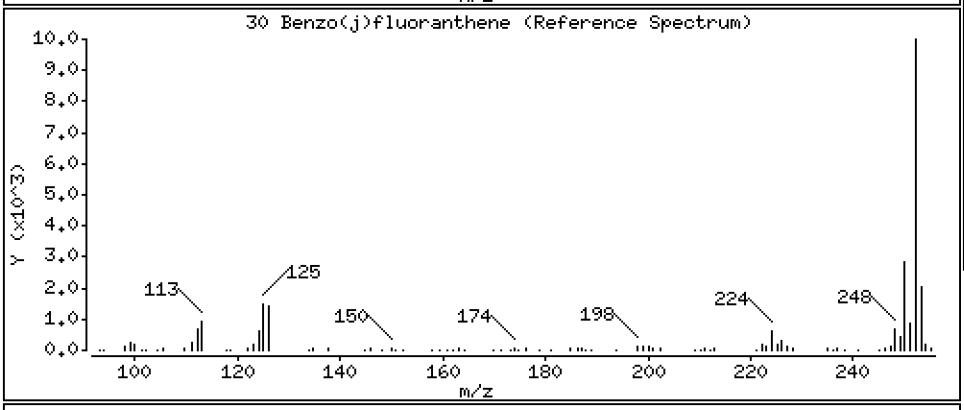
Column diameter: 0.25

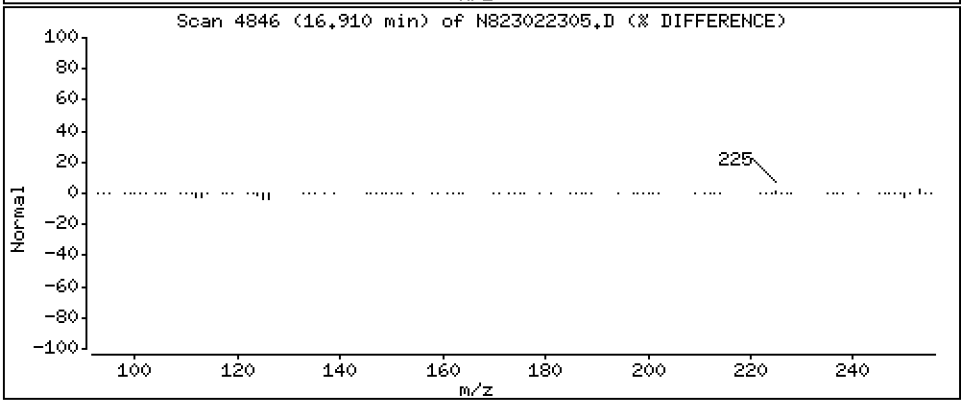
30 Benzo(j)fluoranthene

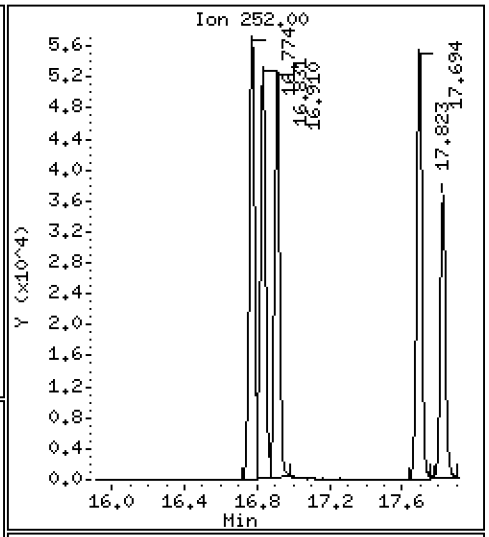
Concentration: 6.405 ug/mL

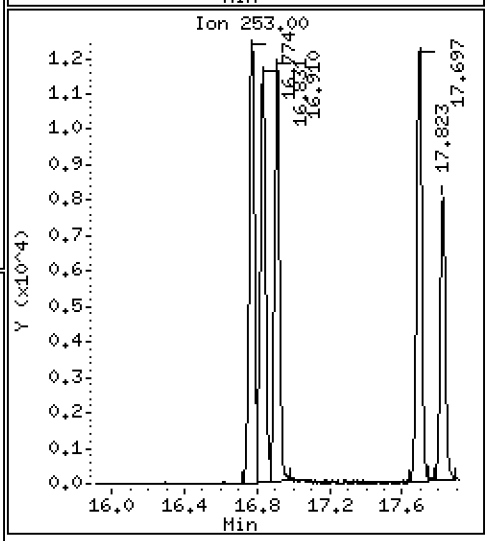












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Date : 23-FEB-2023 13:21

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BSD1,

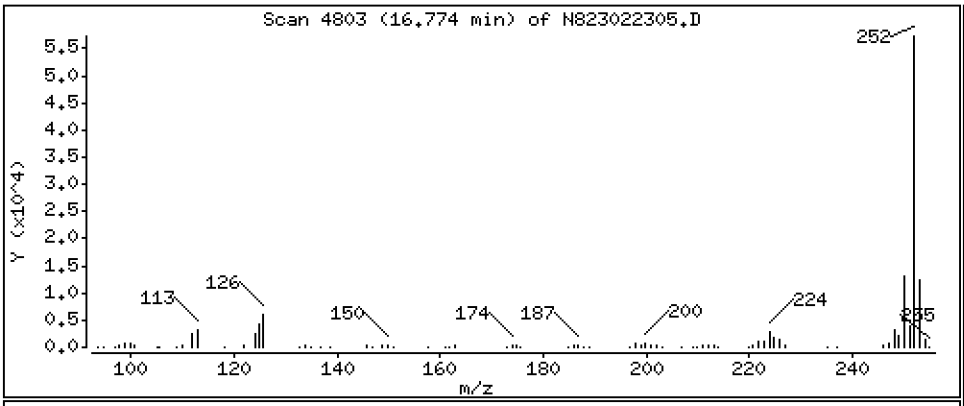
Operator: JZ

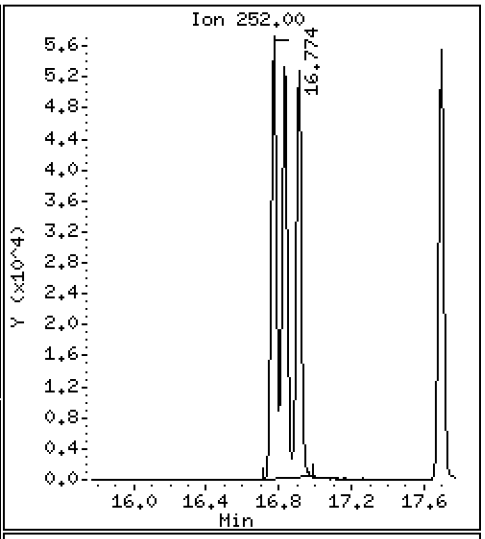
Column phase: Rxi-17sil

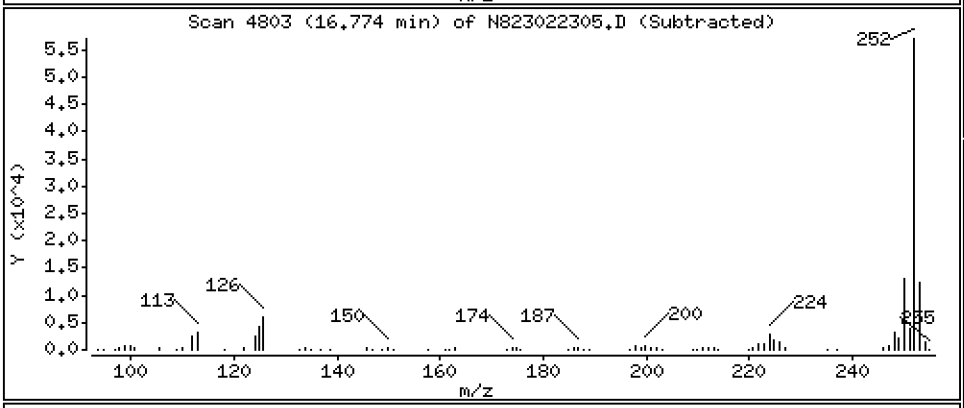
Column diameter: 0.25

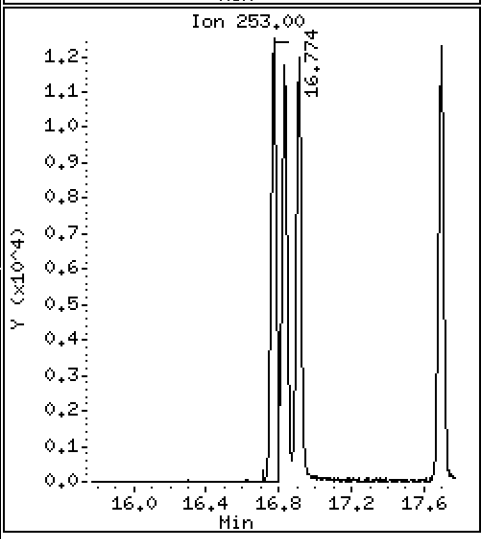
31 Total Benzofluoranthenes

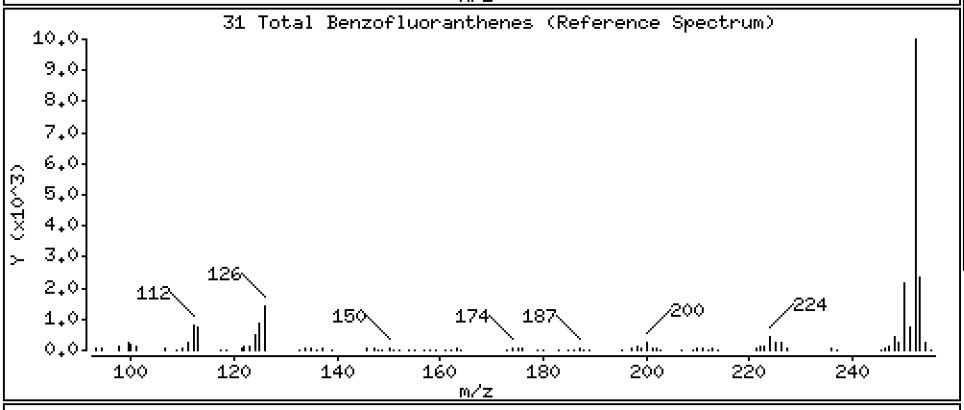
Concentration: 18.75 ug/mL

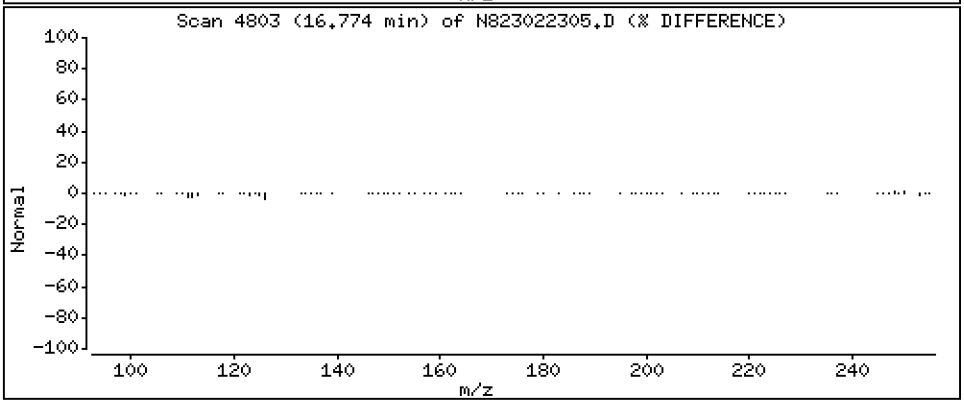












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Date : 23-FEB-2023 13:21

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BSD1,

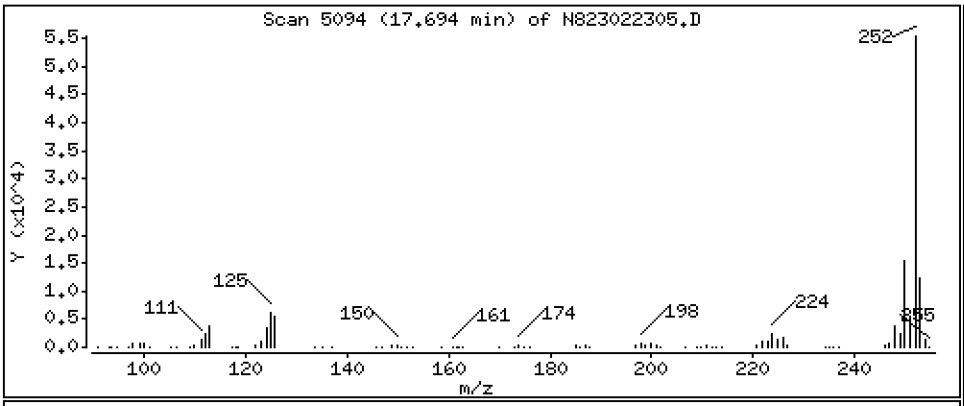
Operator: JZ

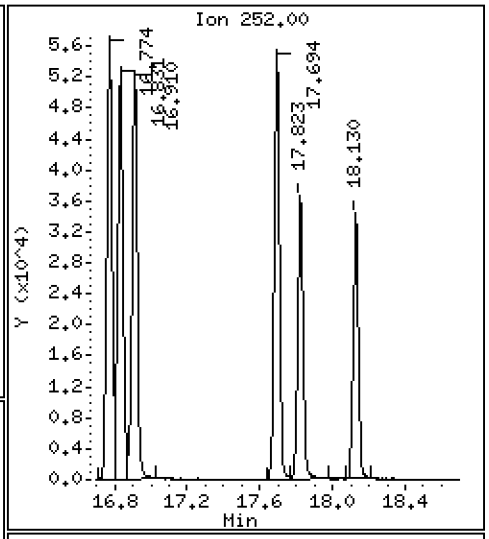
Column phase: Rxi-17sil

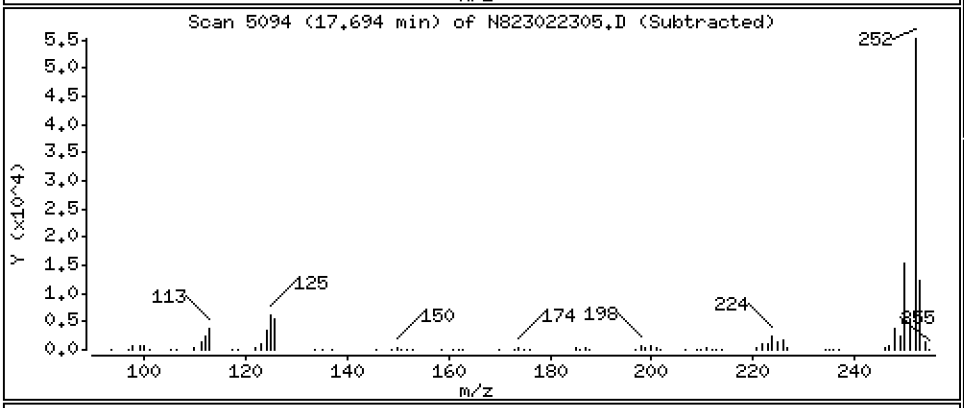
Column diameter: 0.25

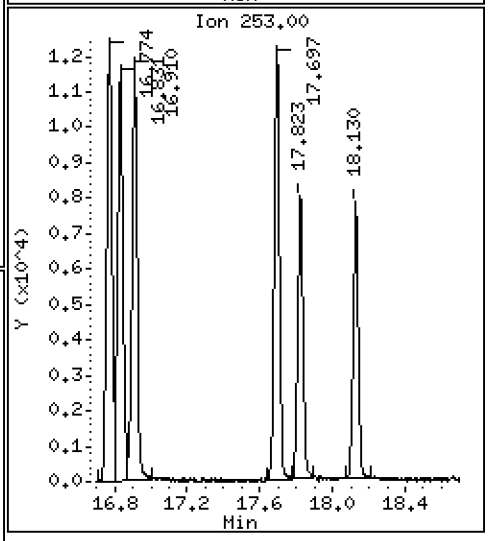
34 Benzo(e)pyrene

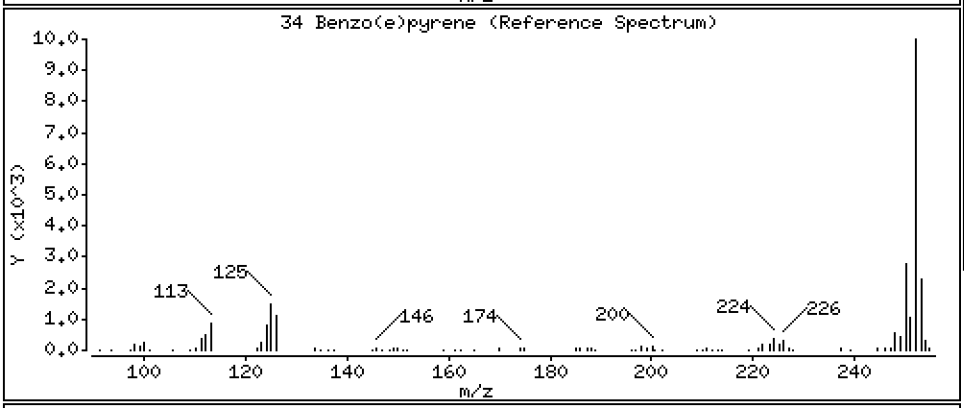
Concentration: 6.193 ug/mL

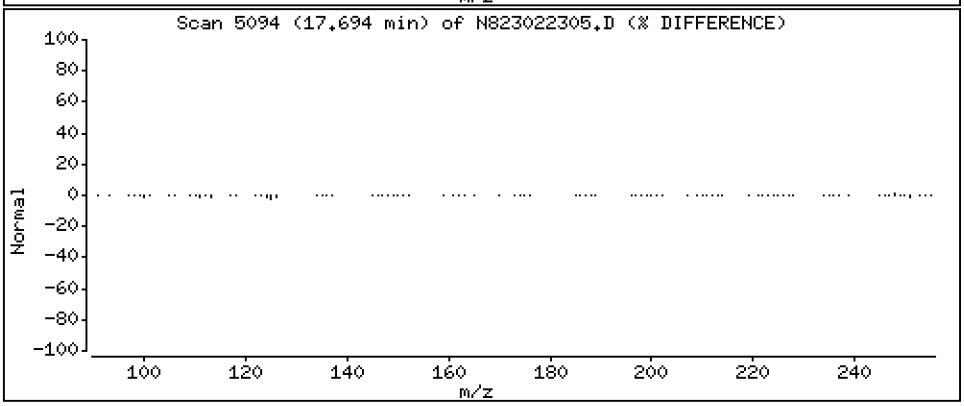












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Date : 23-FEB-2023 13:21

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BSD1,

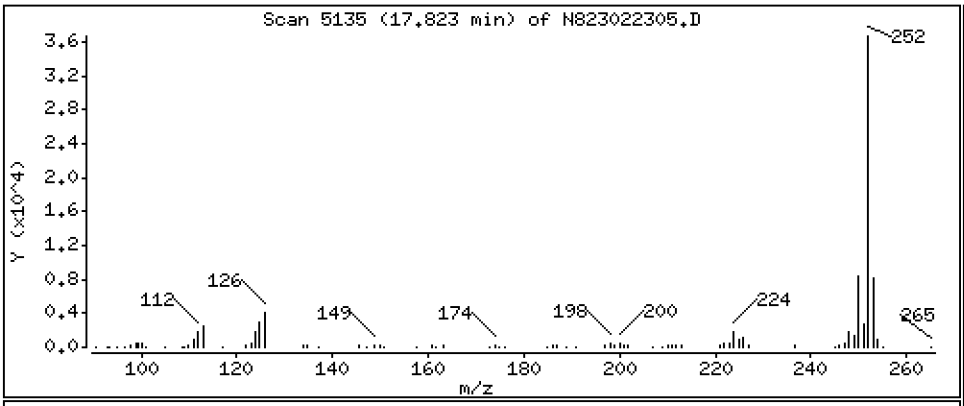
Operator: JZ

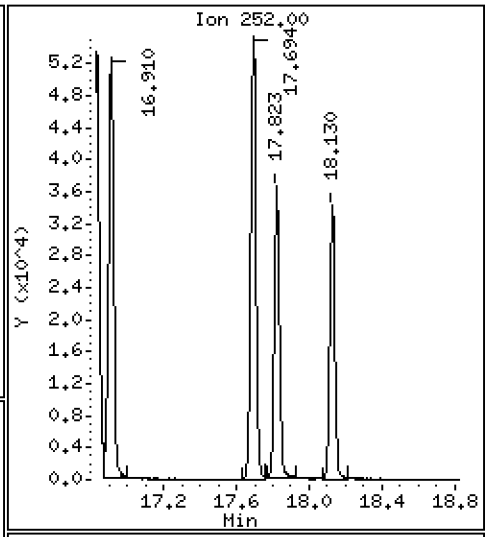
Column phase: Rxi-17sil

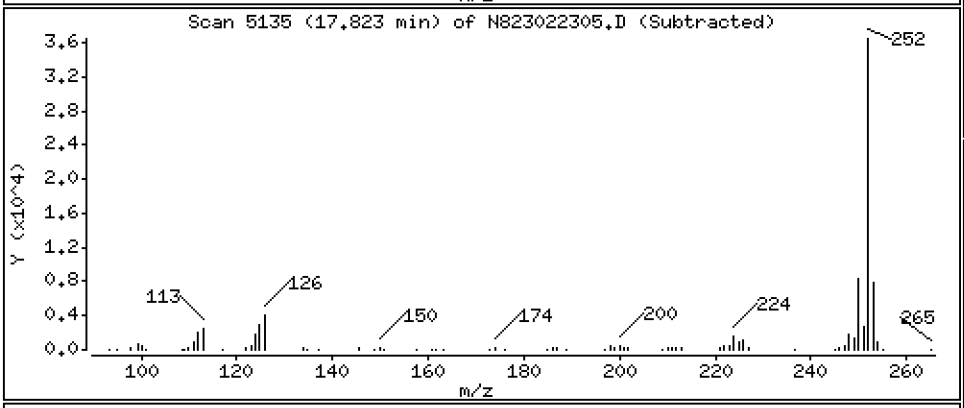
Column diameter: 0.25

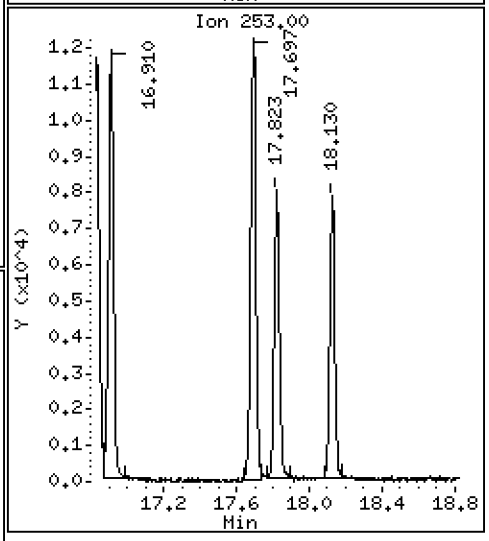
32 Benzo(a)pyrene

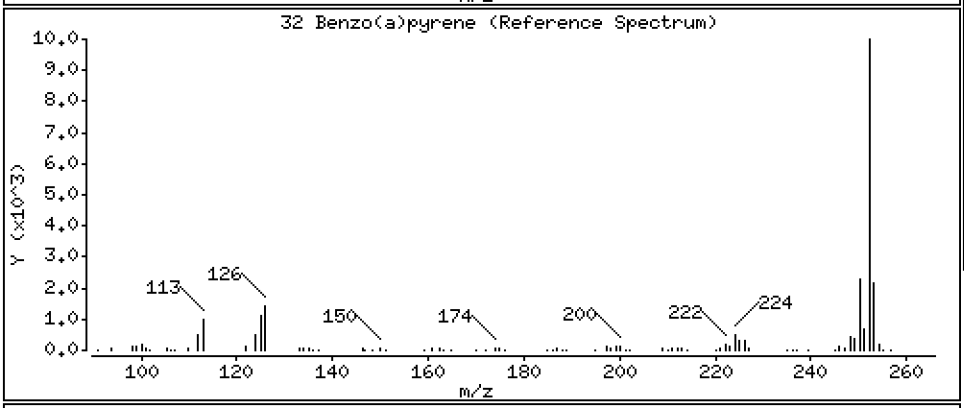
Concentration: 4.632 ug/mL

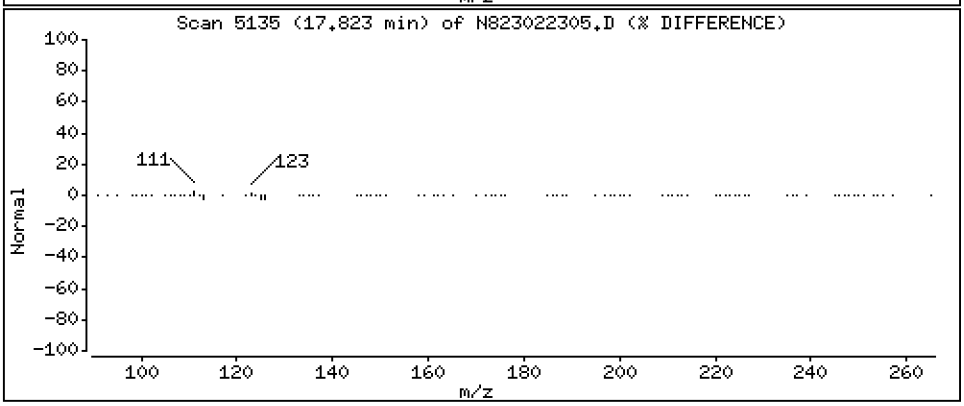












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Date : 23-FEB-2023 13:21

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BSD1,

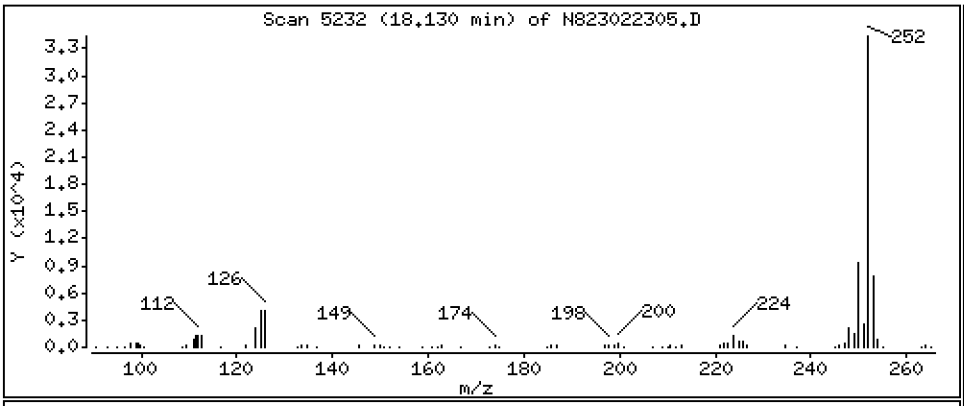
Operator: JZ

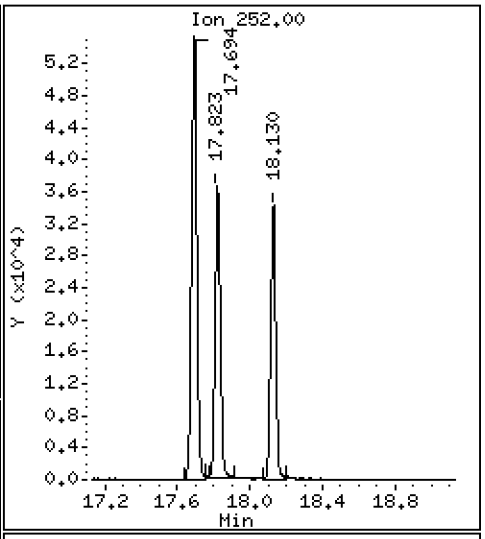
Column phase: Rxi-17sil

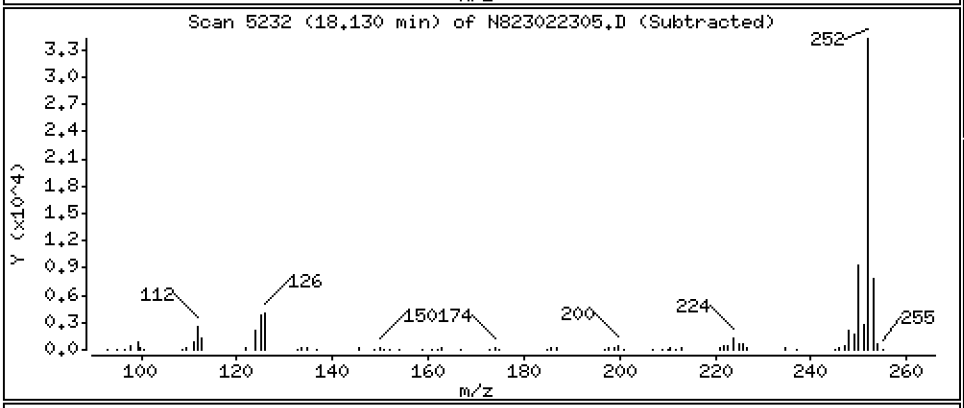
Column diameter: 0.25

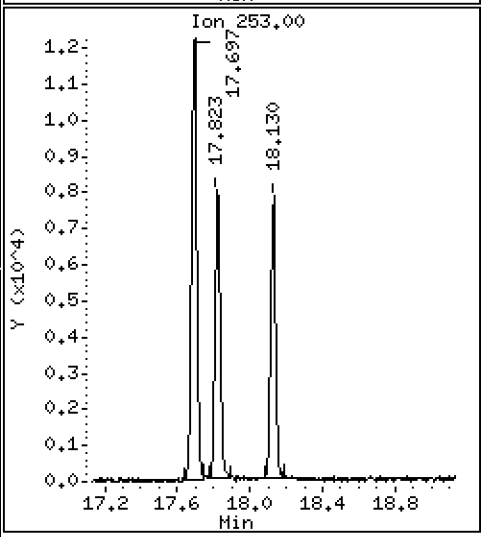
35 Perylene

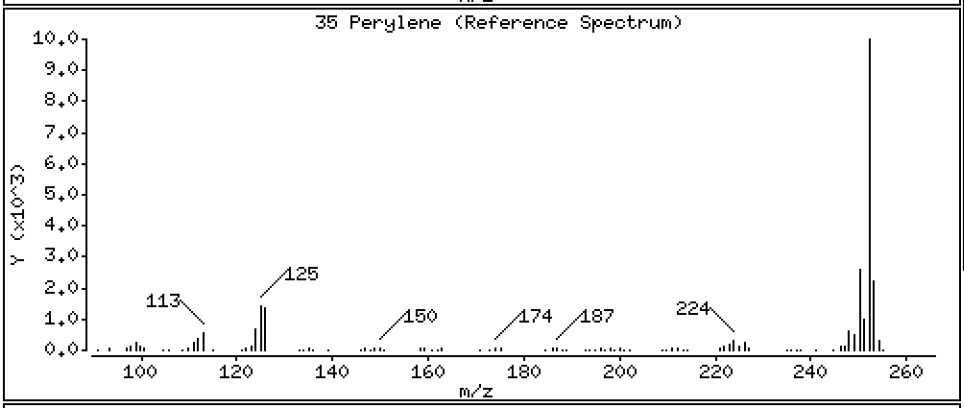
Concentration: 3.898 ug/mL

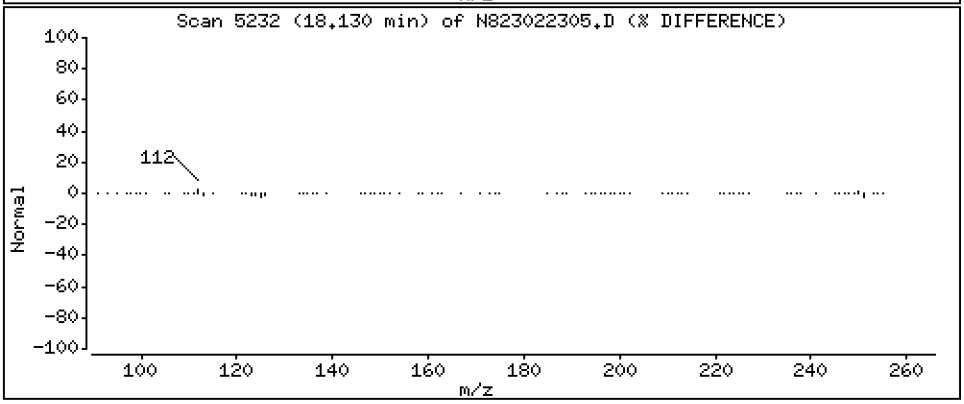












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Date : 23-FEB-2023 13:21

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BSD1,

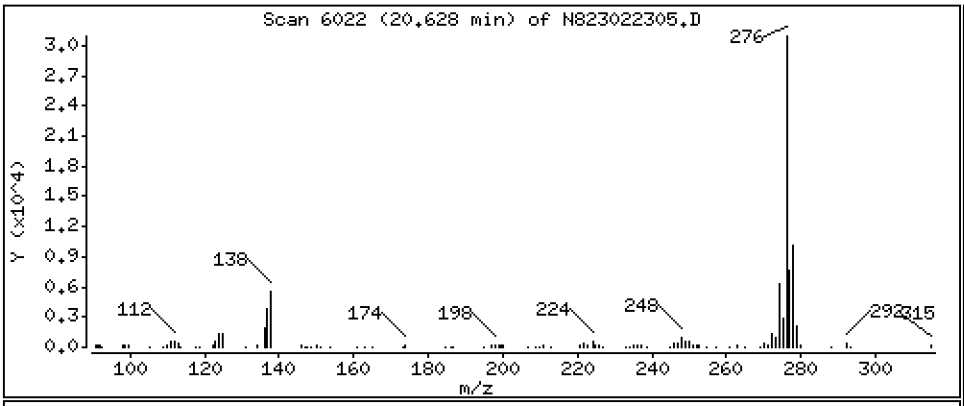
Operator: JZ

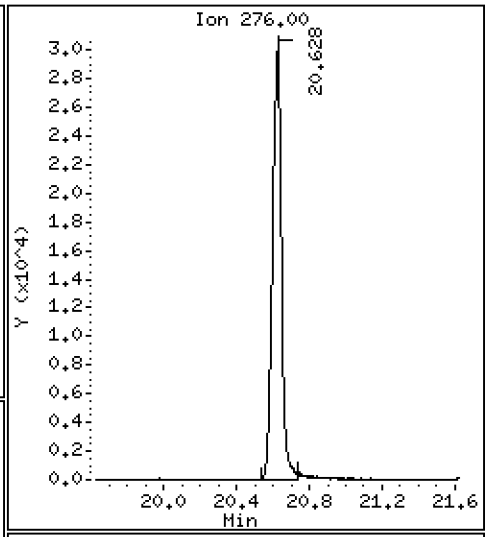
Column phase: Rxi-17sil

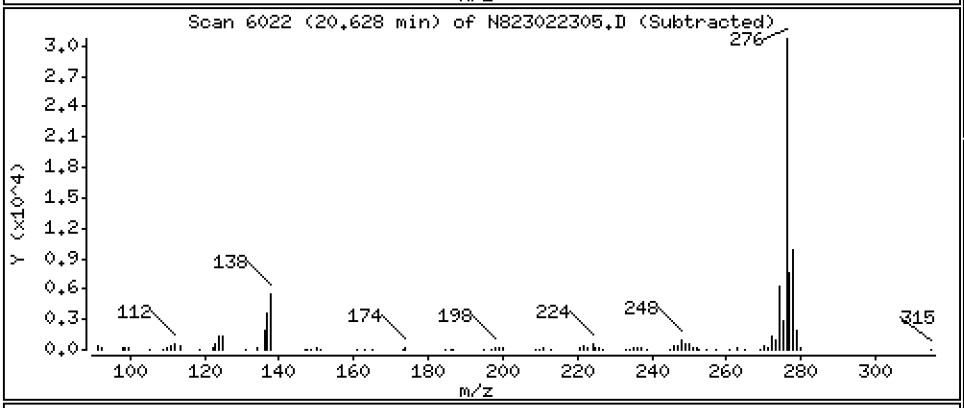
Column diameter: 0.25

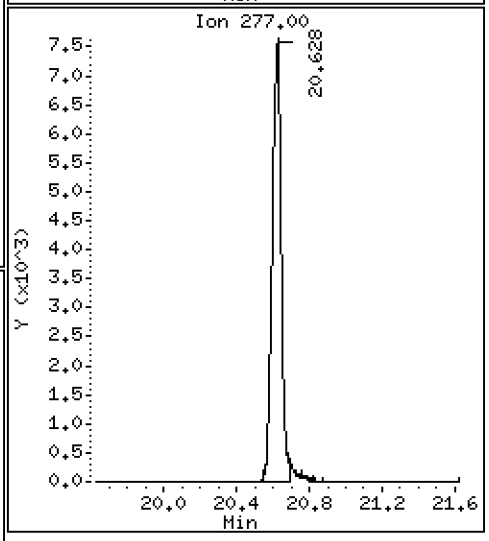
37 Indeno(1,2,3-cd)pyrene

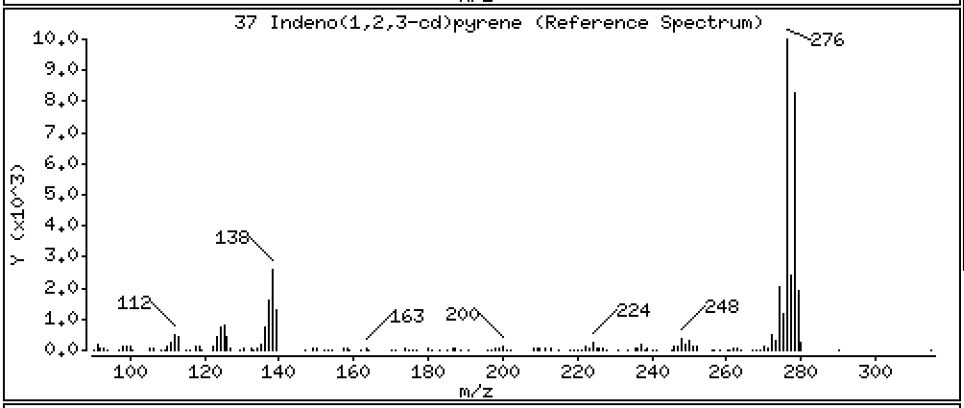
Concentration: 5.814 ug/mL

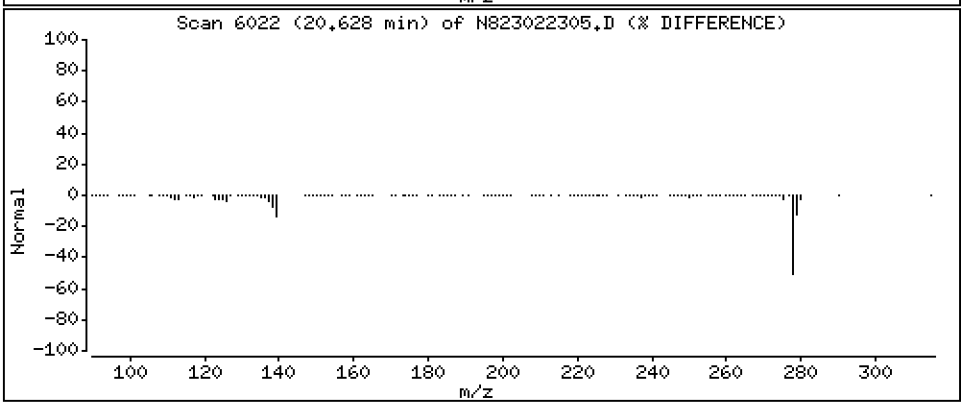












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022305.D

Date : 23-FEB-2023 13:21

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BSD1,

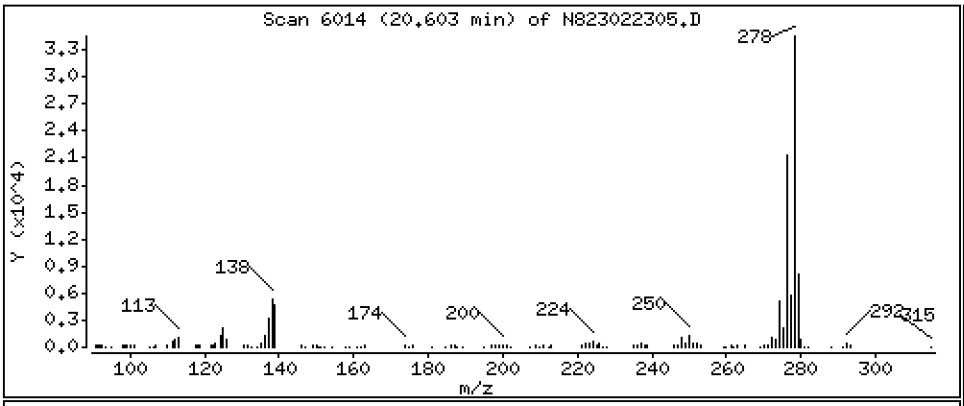
Operator: JZ

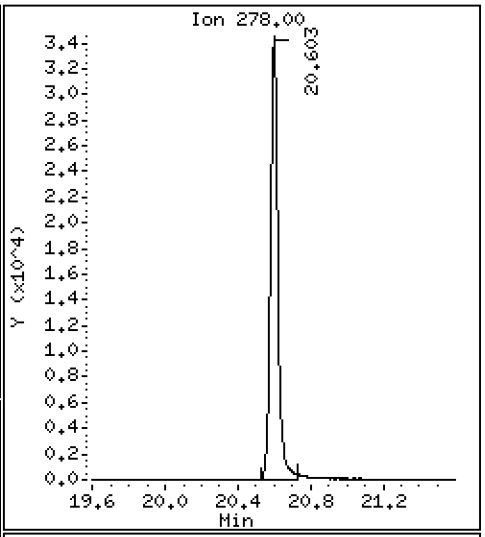
Column phase: Rxi-17sil

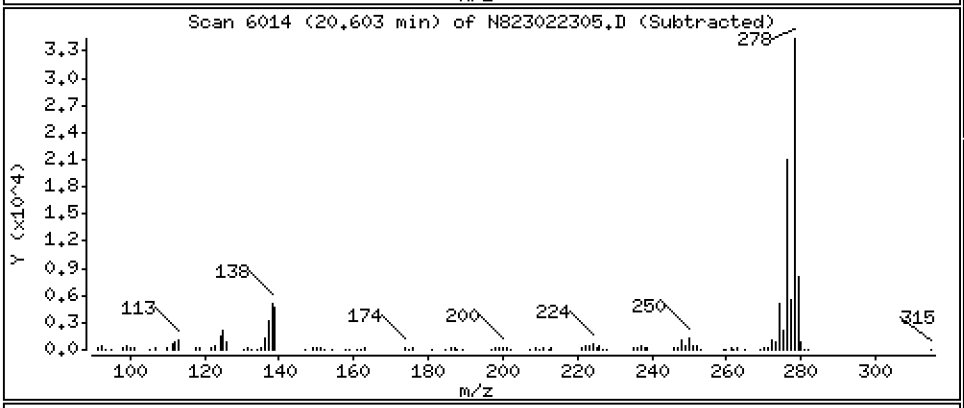
Column diameter: 0.25

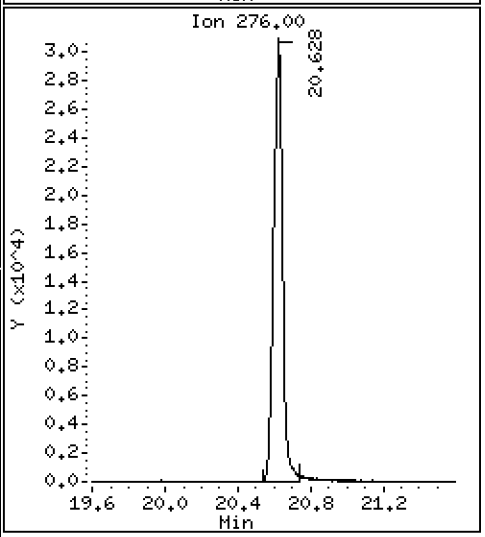
38 Dibenzo(a,h)anthracene

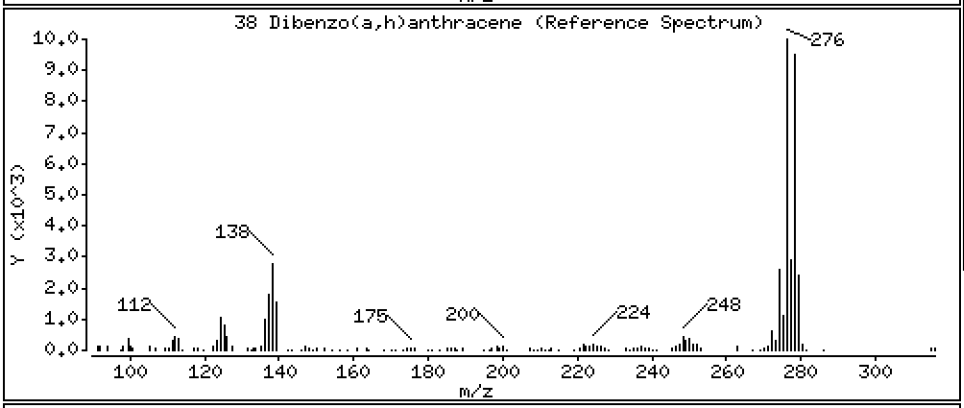
Concentration: 6.349 ug/mL

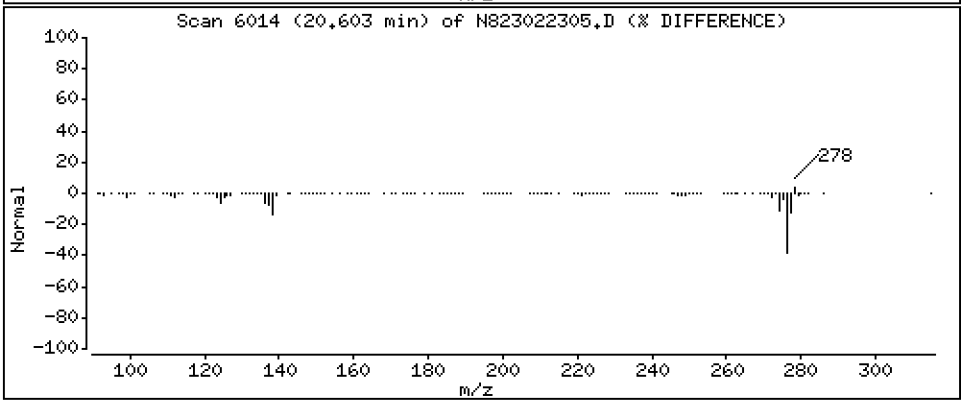












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022305.D

Date : 23-FEB-2023 13:21

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-BSD1,

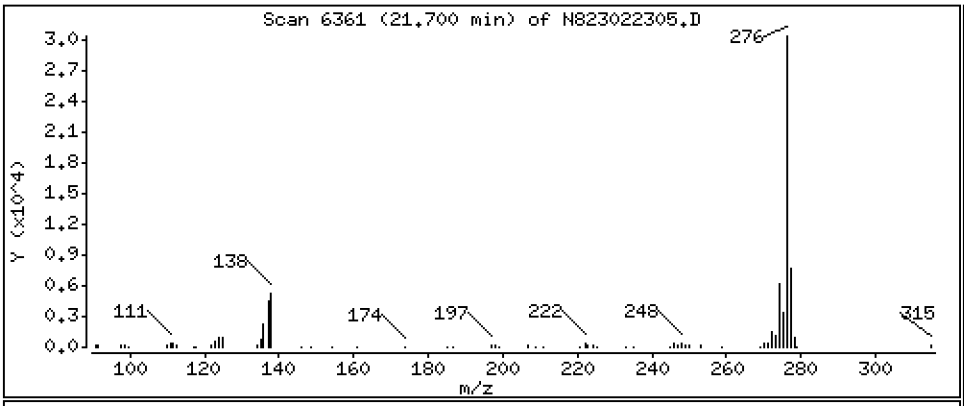
Operator: JZ

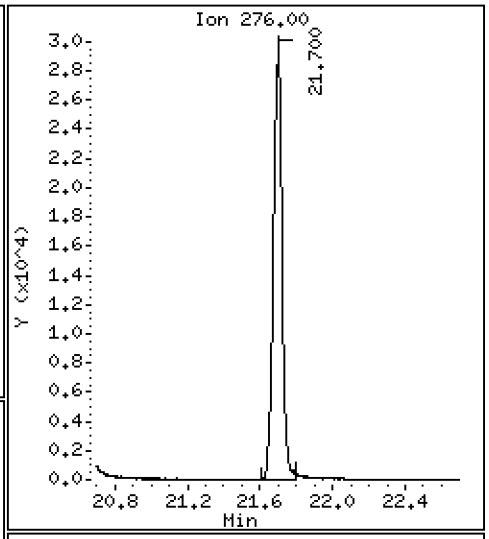
Column phase: Rxi-17sil

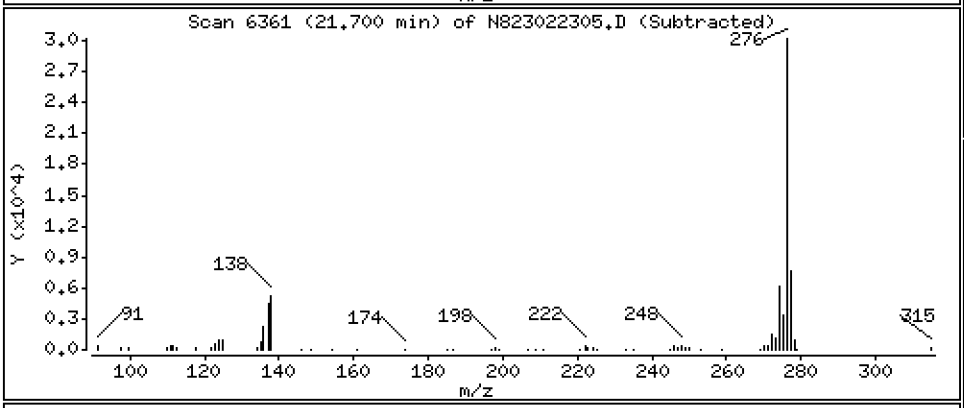
Column diameter: 0.25

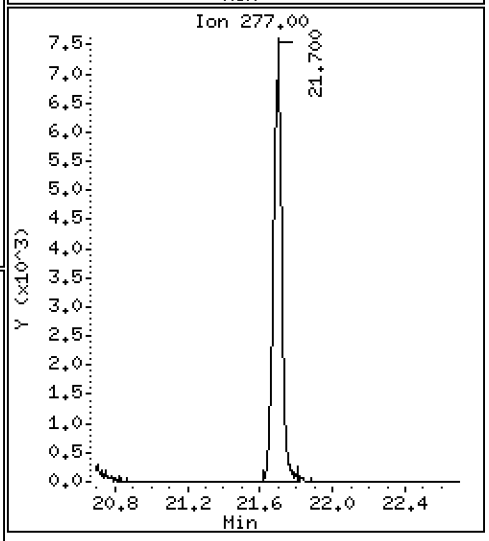
39 Benzo(g,h,i)perylene

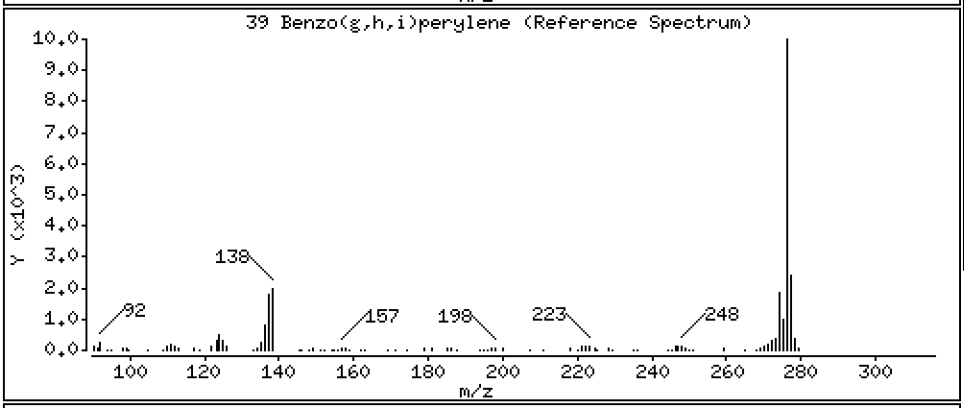
Concentration: 6.078 ug/mL

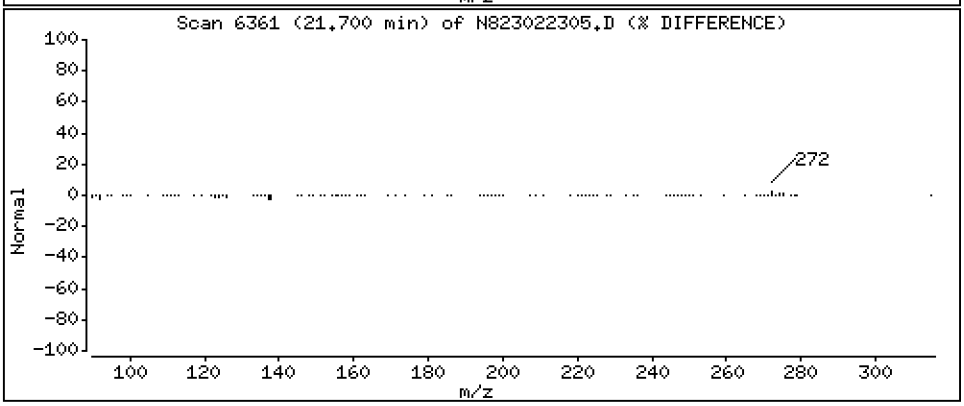












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230223.b\N823022305.D
Lab Smp Id: BLB0386-BSD1
Inj Date : 23-FEB-2023 13:21
Operator : JZ Inst ID: nt8.i
Smp Info : BLB0386-BSD1,
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Meth Date : 26-Feb-2023 11:43 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PNAXEMDL.sub
Target Version: 4.14
Processing Host: JIANQING-202105

							CONCENTRATIONS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.862	4.871	(1.000)	37656	2.00000	
	2 Naphthalene	128	4.891	4.903	(1.006)	77923	4.45058	4.451
$	3 2-Methylnaphthalene-d10	152	5.599	5.605	(1.152)	31016	3.02014	3.020
	4 2-Methylnaphthalene	141	5.646	5.652	(1.161)	44728	4.64437	4.644
	5 1-methylnaphthalene	141	5.842	5.849	(1.202)	45121	4.61633	4.616
	9 Acenaphthylene	152	7.047	7.050	(0.985)	72258	4.11232	4.112
*	10 Acenaphthene-d10	164	7.154	7.158	(1.000)	23269	2.00000	
	11 Acenaphthene	153	7.205	7.208	(1.007)	51592	4.38218	4.382
	12 Dibenzofuran	168	7.357	7.360	(1.028)	80827	4.52005	4.520
	14 Fluorene	166	7.834	7.837	(1.095)	66860	4.81410	4.814
*	15 Phenanthrene-d10	188	9.197	9.197	(1.000)	44748	2.00000	
	16 Phenanthrene	178	9.232	9.235	(1.004)	101302	4.63446	4.634
	17 Anthracene	178	9.273	9.276	(1.008)	86417	4.35200	4.352
	19 Carbazole	167	9.788	9.791	(1.064)	89889	4.93795	4.938
	22 Fluoranthene	202	11.006	11.009	(1.197)	120110	5.04810	5.048
$	21 Fluoranthene-d10	212	10.968	10.971	(1.193)	69607	3.52572	3.526
	23 Pyrene	202	11.524	11.527	(0.815)	125474	5.08780	5.088
	24 Benzo(a)anthracene	228	14.022	14.025	(0.991)	119017	5.32444	5.324
*	25 Chrysene-d12	240	14.146	14.152	(1.000)	39778	2.00000	
	27 Chrysene	228	14.221	14.225	(1.005)	118194	4.96699	4.967
	28 Benzo(b)fluoranthene	252	16.773	16.770	(0.929)	113817	6.28197	6.282
	29 Benzo(k)fluoranthene	252	16.830	16.833	(0.932)	106458	5.99875	5.999
	30 Benzo(j)fluoranthene	252	16.909	16.912	(0.937)	102326	6.40490	6.405
	31 Total Benzofluoranthenes	252	16.773	16.770	(0.929)	321753	18.7516	18.75(M)
	34 Benzo(e)pyrene	252	17.693	17.696	(0.980)	111893	6.19316	6.193
	32 Benzo(a)pyrene	252	17.823	17.826	(0.987)	73846	4.63165	4.632
*	33 Perylene-d12	264	18.054	18.057	(1.000)	31109	2.00000	
	35 Perylene	252	18.130	18.130	(1.004)	66700	3.89846	3.898
$	36 Dibenzo(a,h)anthracene-d14	292	20.485	20.485	(1.135)	54113	4.43943	4.439
	37 Indeno(1,2,3-cd)pyrene	276	20.628	20.624	(1.143)	105598	5.81365	5.814
	38 Dibenzo(a,h)anthracene	278	20.602	20.596	(1.141)	99239	6.34870	6.349
	39 Benzo(g,h,i)perylene	276	21.700	21.696	(1.202)	100029	6.07826	6.078

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823022305.D
Lab Smp Id: BLB0386-BSD1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 23-FEB-2023
Calibration Time: 11:46
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	37022	18511	74044	37656	1.71
10 Acenaphthene-d10	22454	11227	44908	23269	3.63
15 Phenanthrene-d10	43277	21639	86554	44748	3.40
25 Chrysene-d12	38907	19454	77814	39778	2.24
33 Perylene-d12	39582	19791	79164	31109	-21.41

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.87	4.37	5.37	4.86	-0.19
10 Acenaphthene-d10	7.16	6.66	7.66	7.15	-0.04
15 Phenanthrene-d10	9.20	8.70	9.70	9.20	0.00
25 Chrysene-d12	14.15	13.65	14.65	14.15	-0.04
33 Perylene-d12	18.06	17.56	18.56	18.05	-0.02

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

REVIEW SUMMARY FOR FILE - N823022305.D

Lab ID: BLB0386-BSD1
nt8.i, 20230223.b\FSIMPNA230119.m,   23-FEB-2023 13:21

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

No RRT check performed

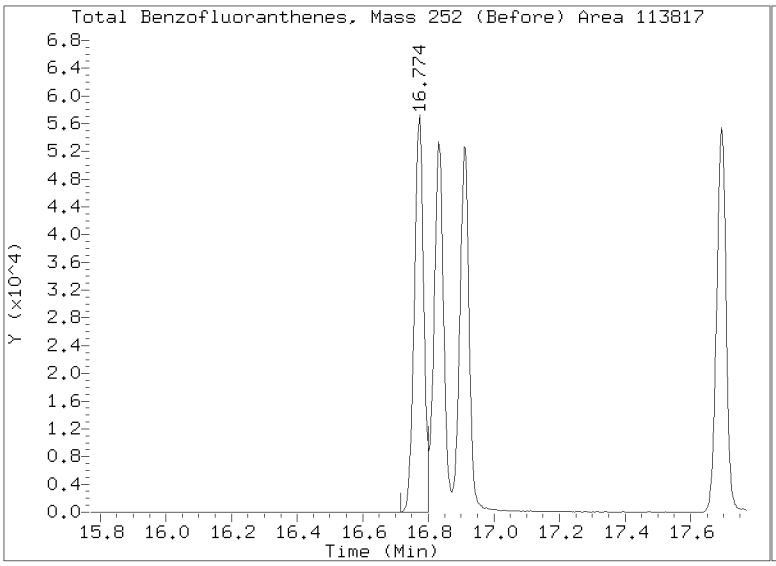
On Column LOD for nt8.i, 20230223.b\FSIMPNA230119.m, PNAXEMDL.sub = 0.0080

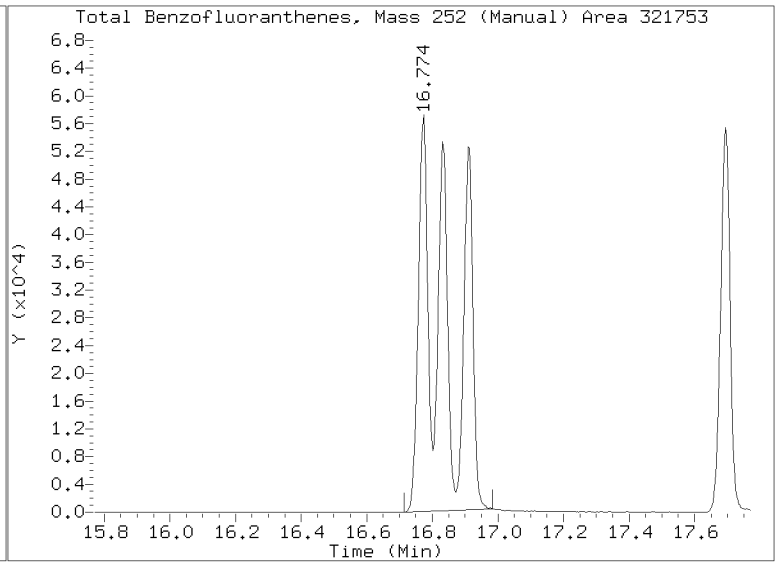
Exception: Benzo(e)pyrene 0.0800

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

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20230223.b/N823022305.D
Injection Date: 23-FEB-2023 13:21
Lab ID:BLB0386-BSD1 Client ID:
Report Date: 02/26/2023 12:32





MS / MS DUPLICATE RECOVERY
EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	02/23/23 17:24
Batch:	BLB0386	Laboratory ID:	BLB0386-MS1
Preparation:	EPA 3546 (Microwave)	Sequence Name:	Matrix Spike
Initial/Final:	16.96 g / 0.5 mL	Source Sample:	LDW23-IT1218

COMPOUND	SPIKE ADDED (ug/kg dry)	SAMPLE CONCENTRATION (ug/kg dry)	Q	MS CONCENTRATION (ug/kg dry)	Q	MS % REC. #	QC LIMITS REC.
Benzo(a)anthracene	300	101		421		107	42 - 120
Chrysene	300	102		402		99.8	48 - 120
Benzo(b)fluoranthene	300	97.6		343		81.7	52 - 137
Benzo(k)fluoranthene	300	49.9		246		65.5	37 - 129
Benzo(a)pyrene	300	89.4		339		83.1	36 - 120
Indeno(1,2,3-cd)pyrene	300	57.0		308		83.6	67 - 132
Dibenzo(a,h)anthracene	300	18.5		227		69.4	66 - 139

* Values outside of QC limits

MS / MS DUPLICATE RECOVERY
EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	02/23/23 17:51
Batch:	BLB0386	Laboratory ID:	BLB0386-MSD1
Preparation:	EPA 3546 (Microwave)	Sequence Name:	Matrix Spike Dup
Initial/Final:	16.96 g / 0.5 mL	Source Sample:	LDW23-IT1218

COMPOUND	SPIKE ADDED (ug/kg dry)	MSD CONCENTRATION (ug/kg dry)	Q	MSD % REC. #		% RPD #	QC LIMITS RPD	QC LIMITS REC.
Benzo(a)anthracene	300	374		91.0		11.7	30	42 - 120
Chrysene	300	314		70.7		24.3	30	48 - 120
Benzo(b)fluoranthene	300	279		60.6		20.3	30	52 - 137
Benzo(k)fluoranthene	300	219		56.2		12.0	30	37 - 129
Benzo(a)pyrene	300	294		68.4		13.9	30	36 - 120
Indeno(1,2,3-cd)pyrene	300	275		72.7		11.3	30	67 - 132
Dibenzo(a,h)anthracene	300	216	*	65.8	*	5.01	30	66 - 139

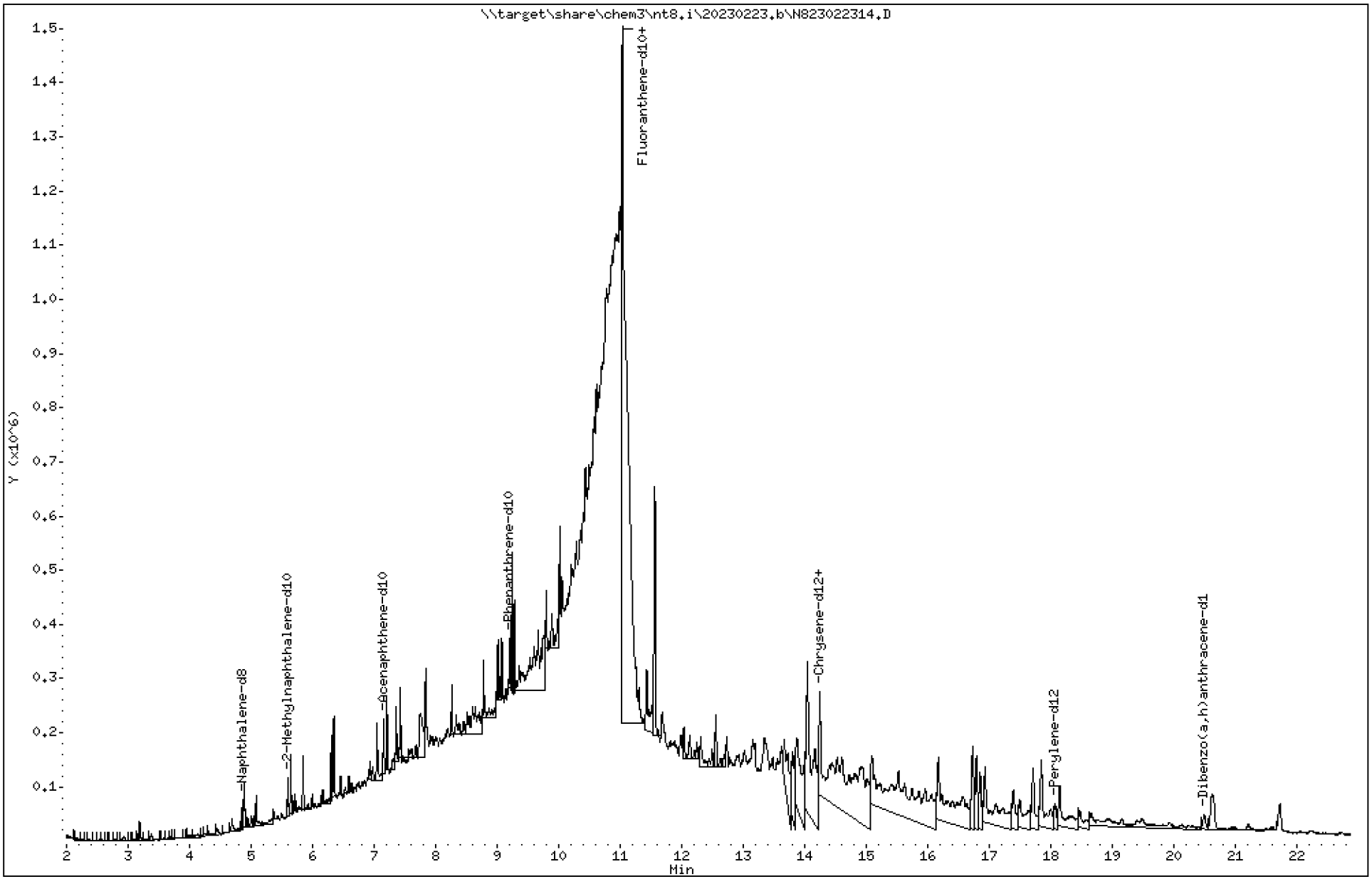
* Values outside of QC limits

Data File: \\target\share\chem3\nt8.i\20230223.b\N823022314.D
Date : 23-FEB-2023 17:24
Client ID:
Sample Info: BLB0386-MS1,

Column phase: Rxi-17sil

Instrument: nt8.i

Operator: JZ
Column diameter: 0.25



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Date : 23-FEB-2023 17:24

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MS1,

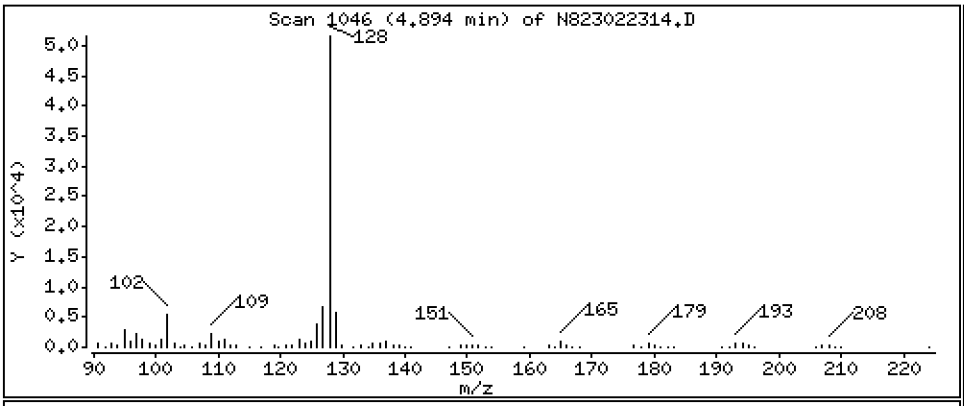
Operator: JZ

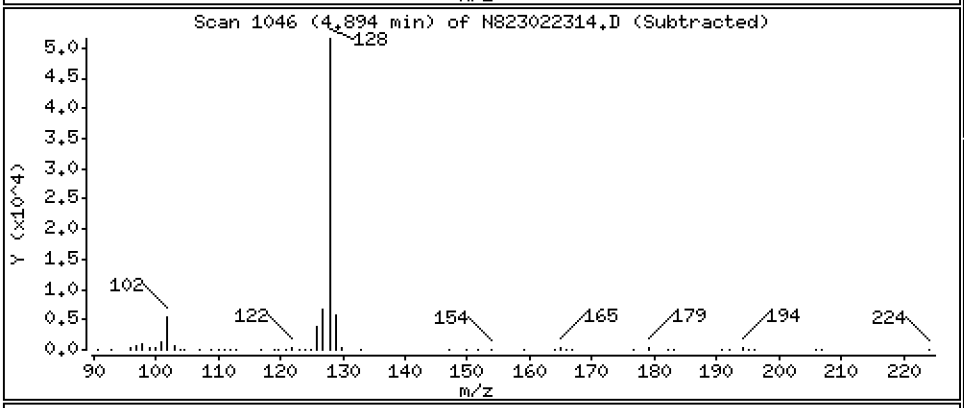
Column phase: Rxi-17sil

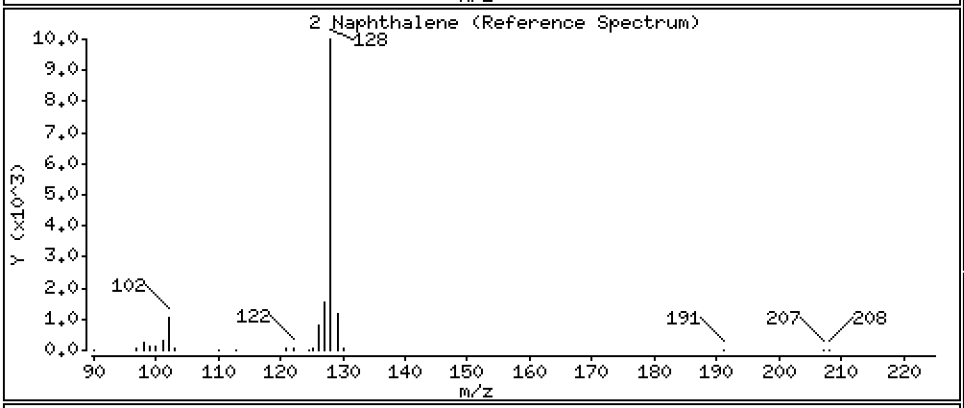
Column diameter: 0.25

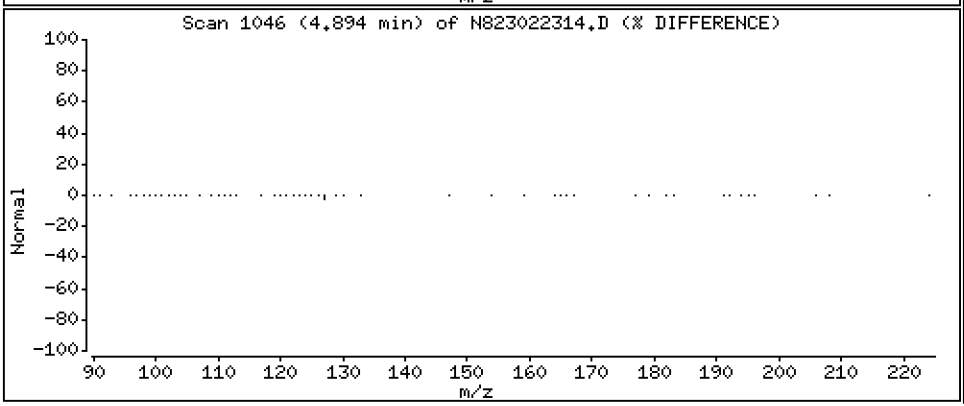
2 Naphthalene

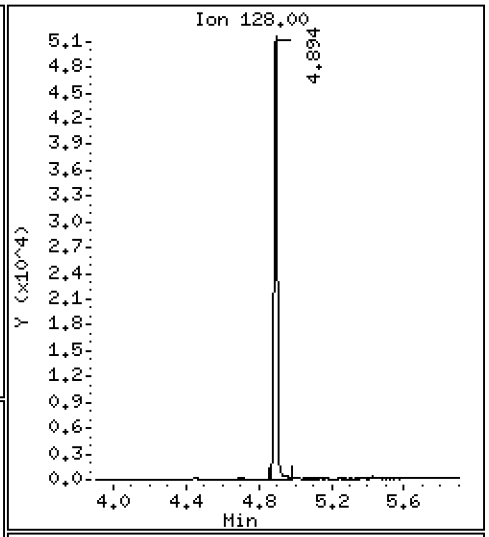
Concentration: 3.326 ug/mL

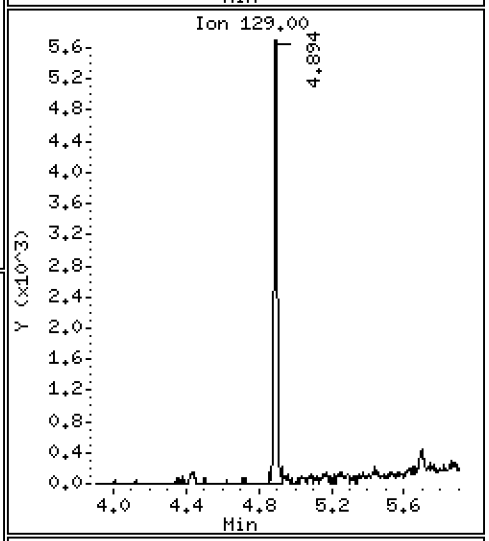


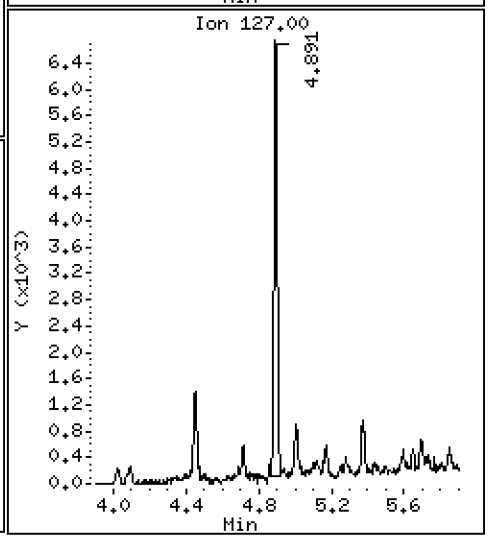












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022314.D

Date : 23-FEB-2023 17:24

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MS1,

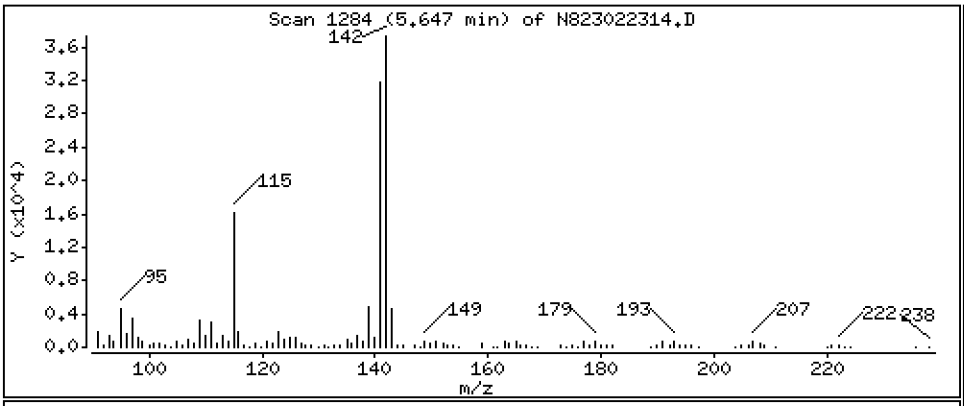
Operator: JZ

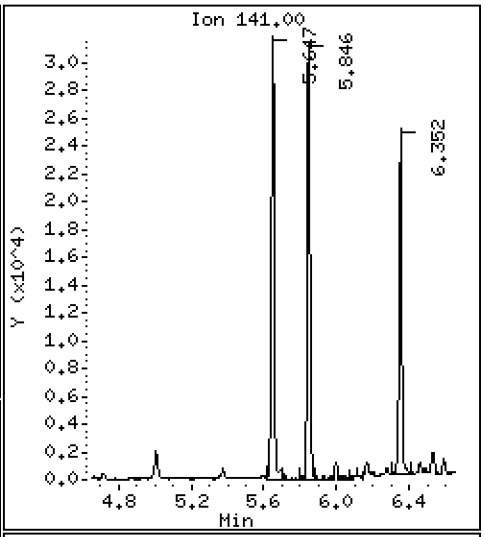
Column phase: Rxi-17sil

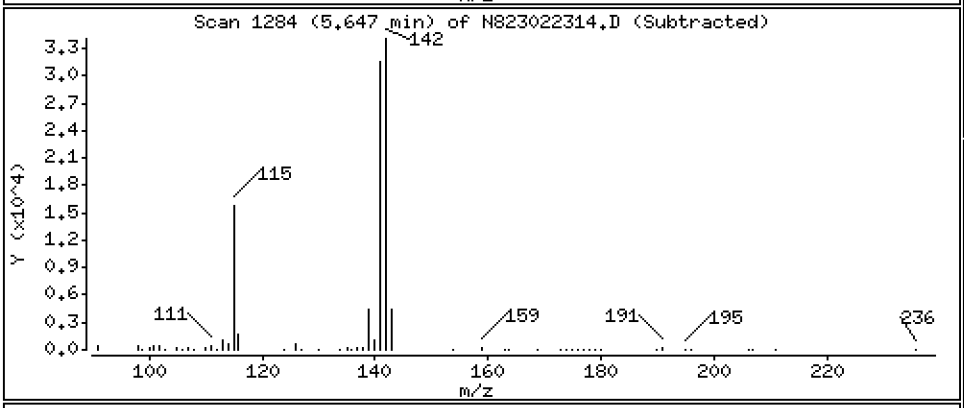
Column diameter: 0.25

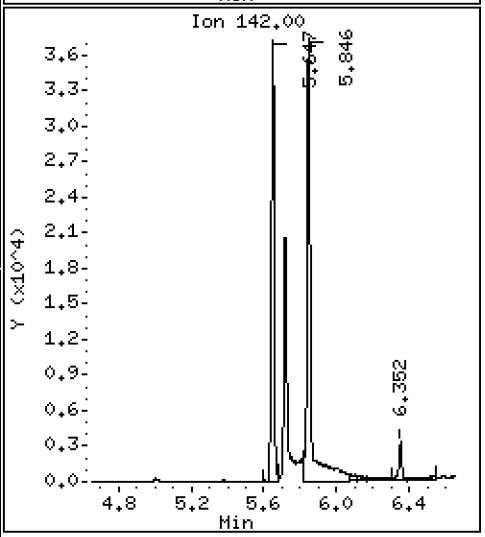
4 2-Methylnaphthalene

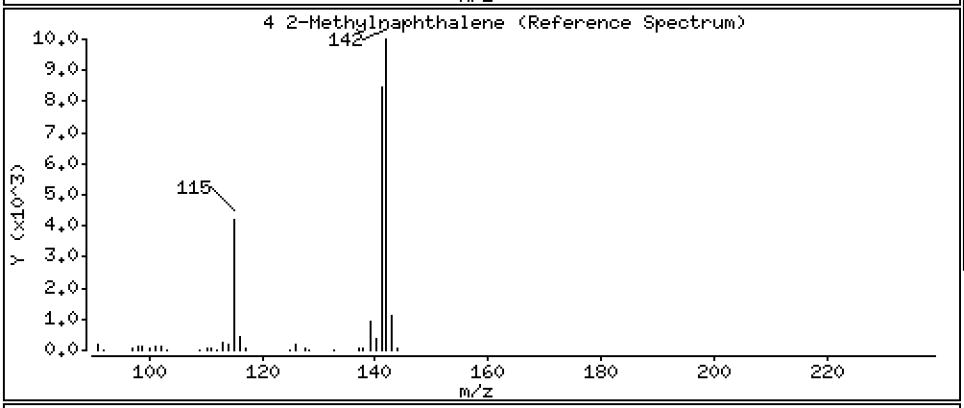
Concentration: 3.484 ug/mL

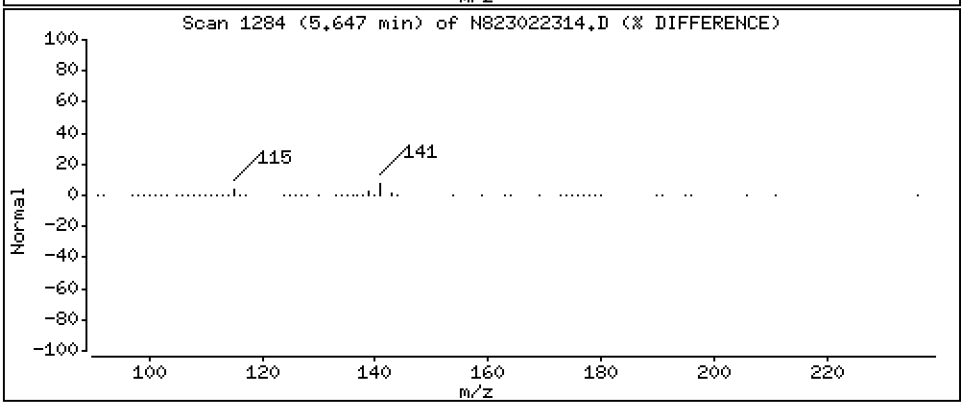












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Date : 23-FEB-2023 17:24

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MS1,

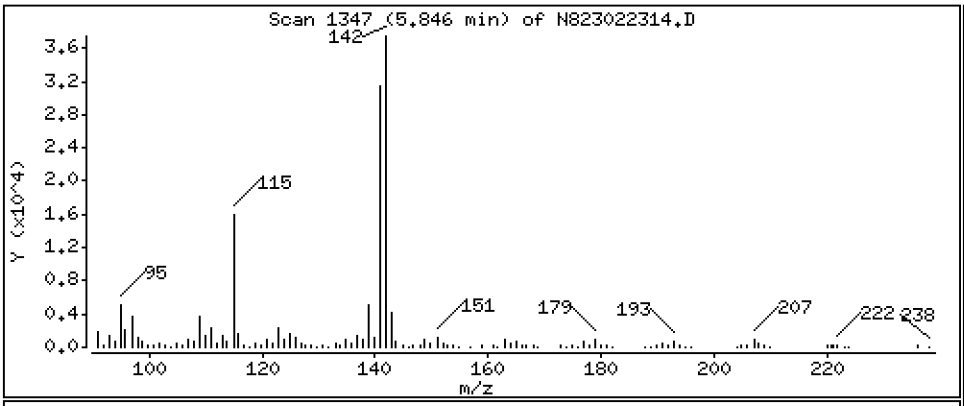
Operator: JZ

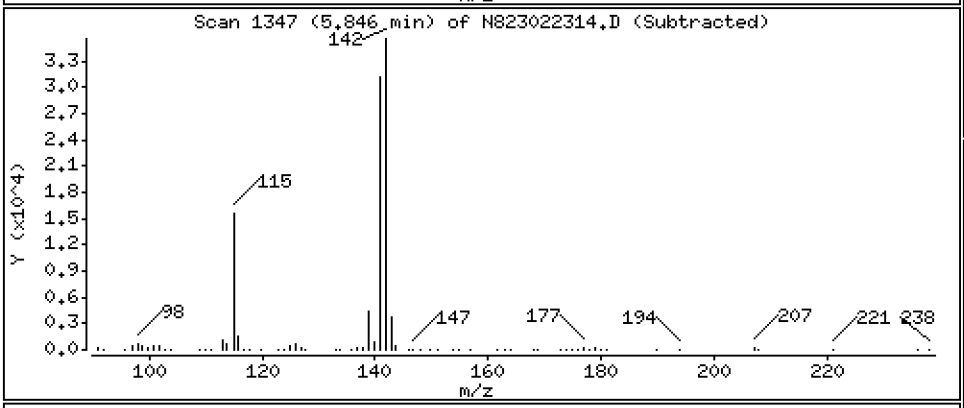
Column phase: Rxi-17sil

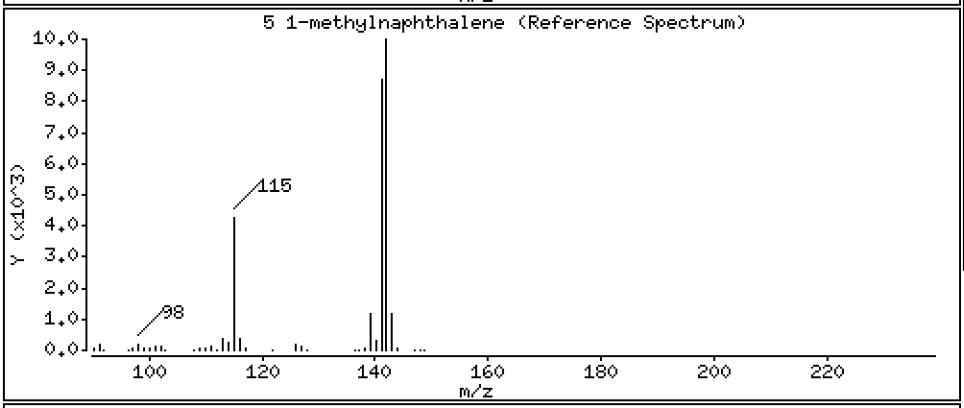
Column diameter: 0.25

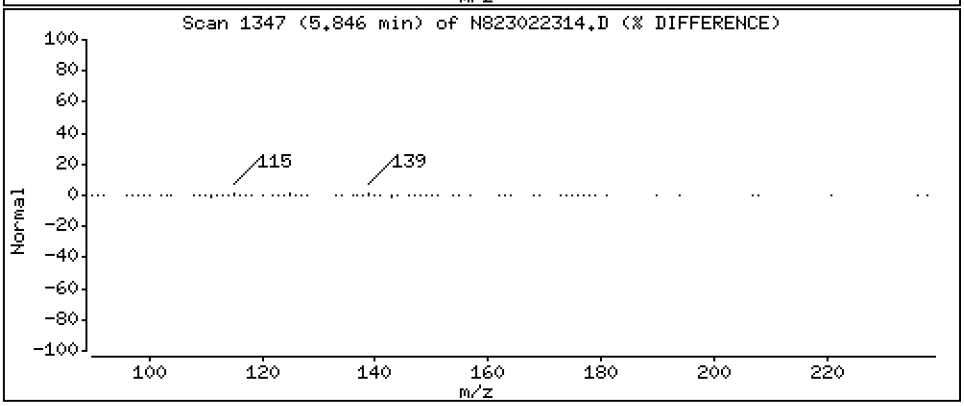
5 1-methylnaphthalene

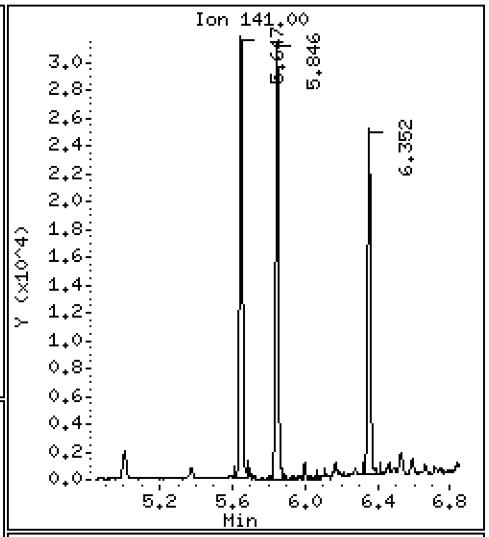
Concentration: 3.231 ug/mL

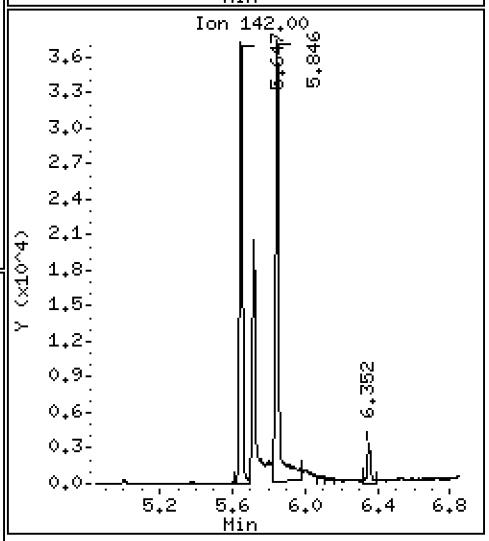












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022314.D

Date : 23-FEB-2023 17:24

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MS1,

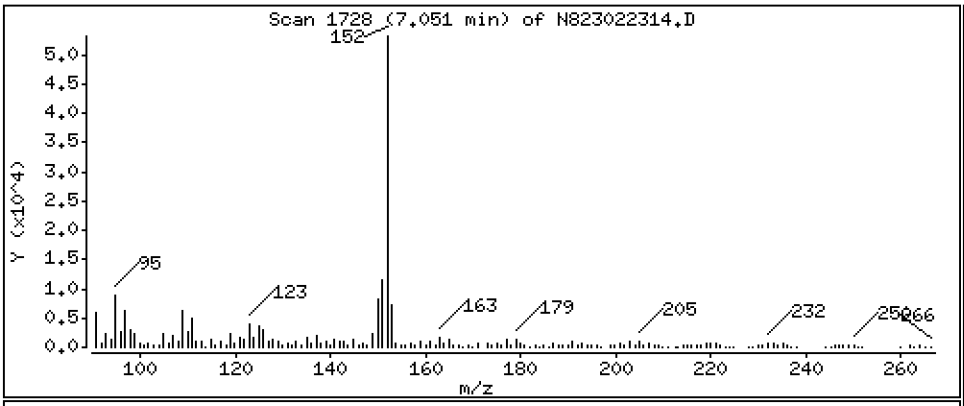
Operator: JZ

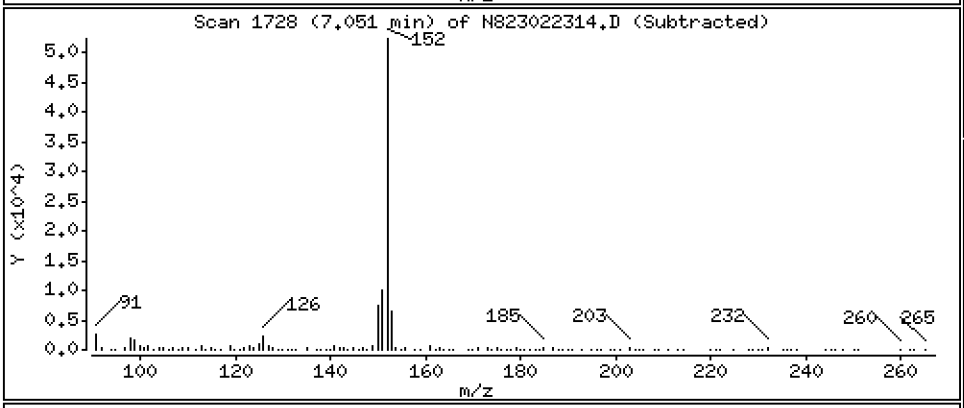
Column phase: Rxi-17sil

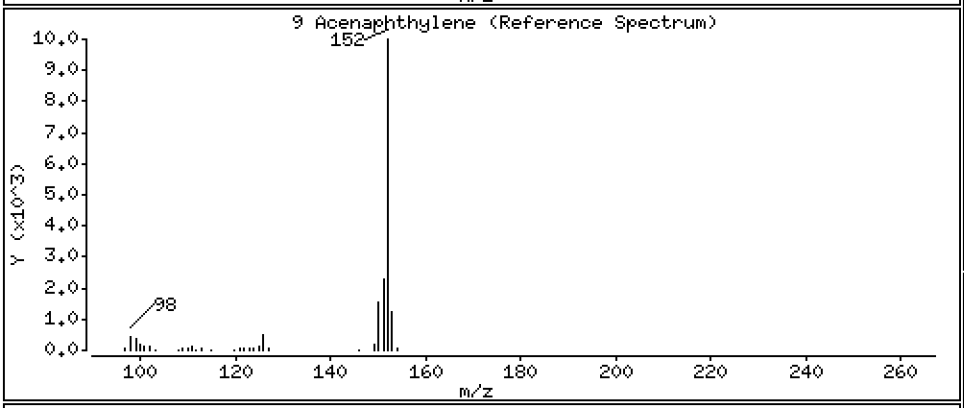
Column diameter: 0.25

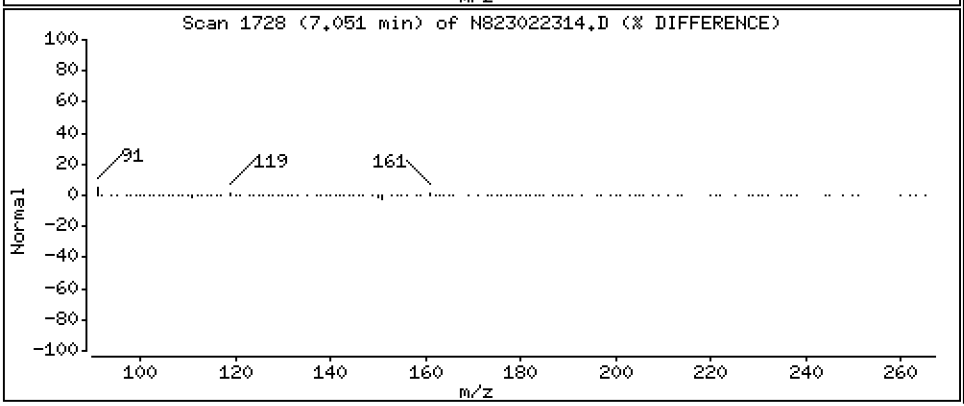
9 Acenaphthylene

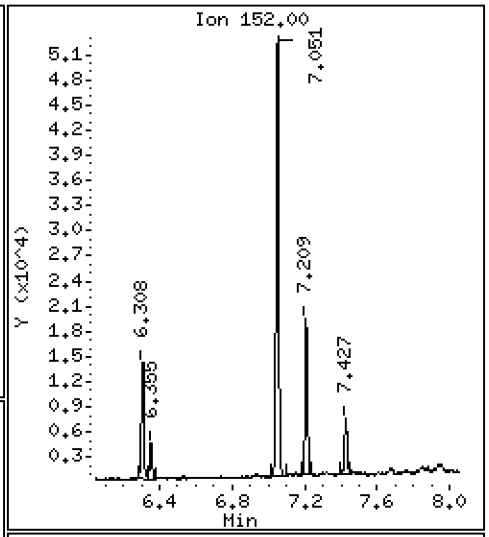
Concentration: 3.085 ug/mL

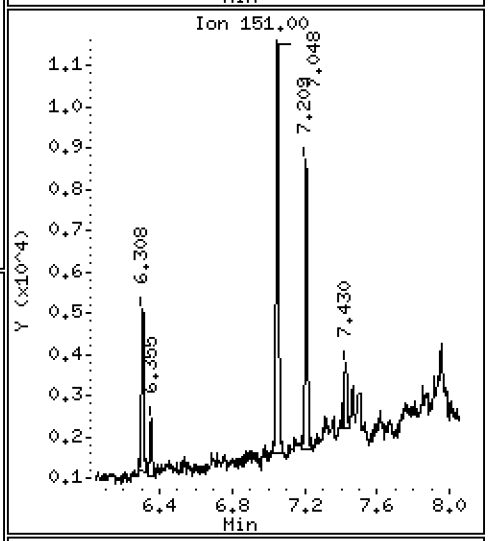


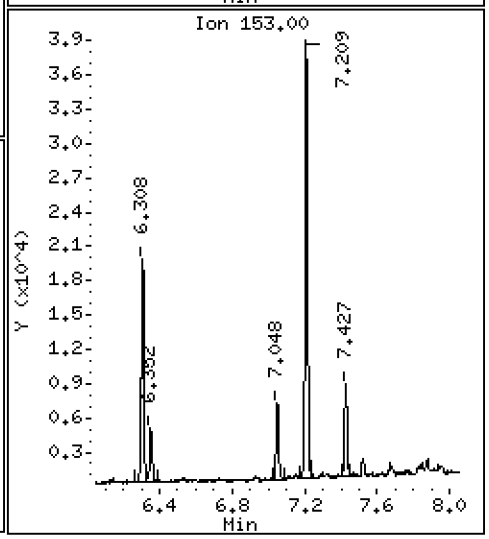












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022314.D

Date : 23-FEB-2023 17:24

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MS1,

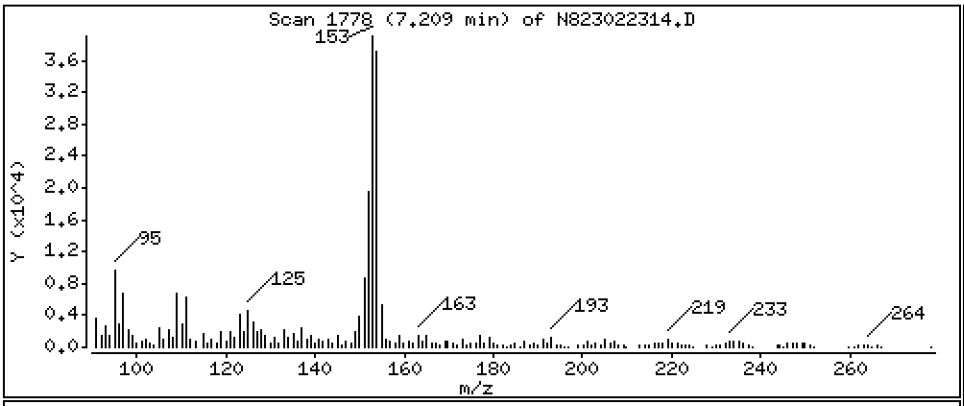
Operator: JZ

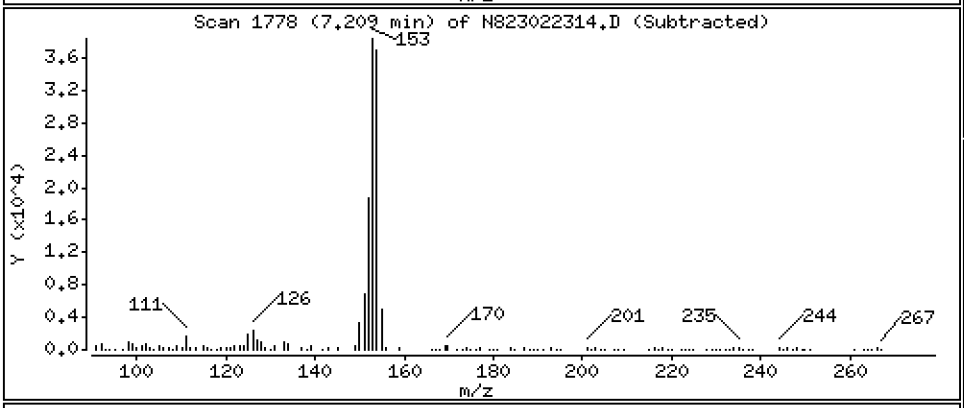
Column phase: Rxi-17sil

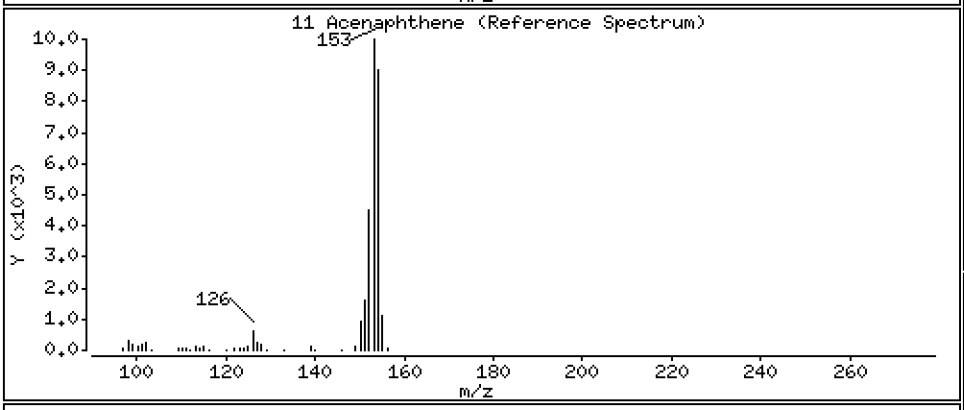
Column diameter: 0.25

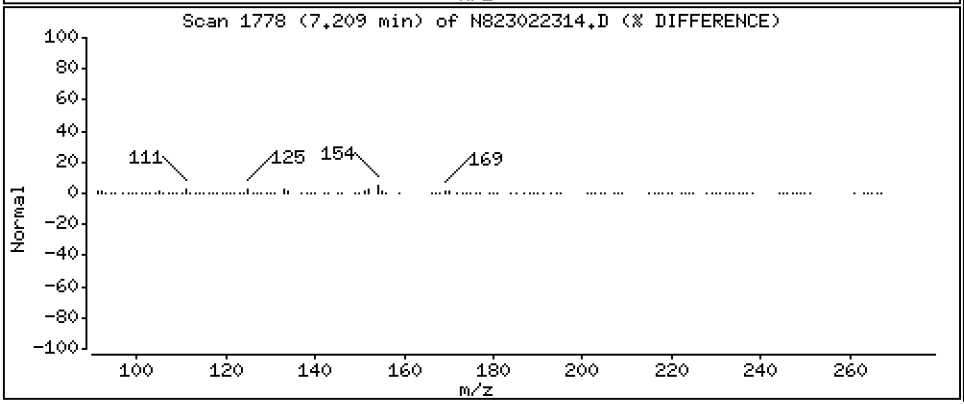
11 Acenaphthene

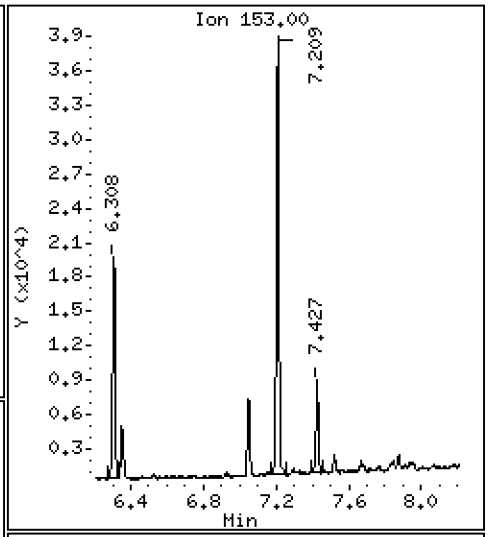
Concentration: 3.282 ug/mL

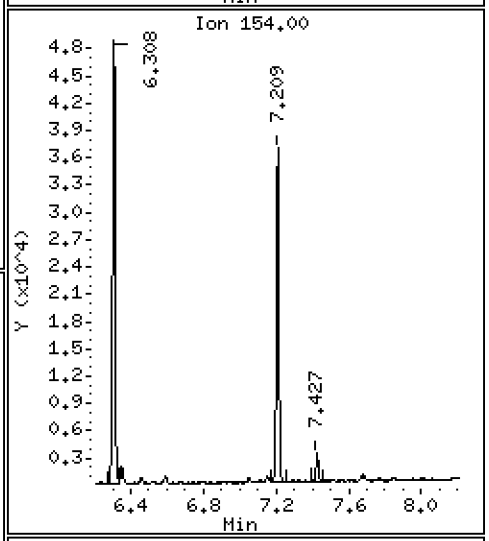


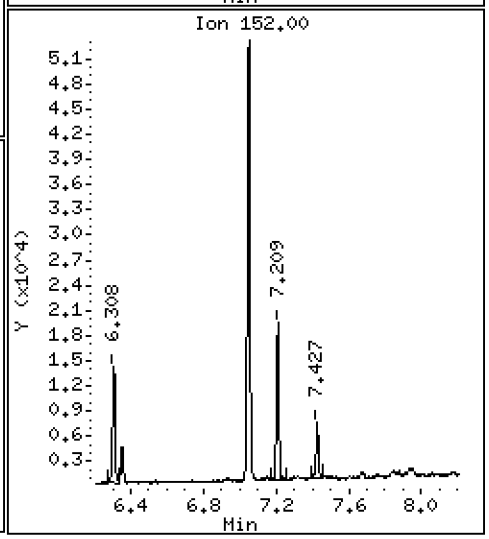












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022314.D

Date : 23-FEB-2023 17:24

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MS1,

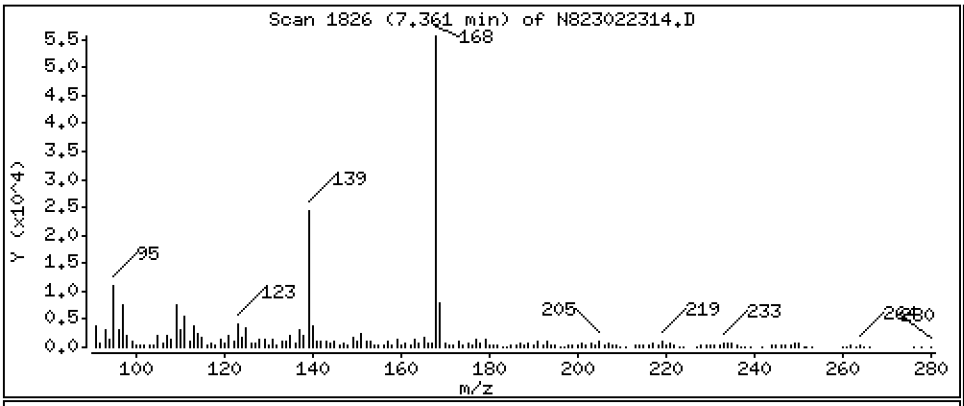
Operator: JZ

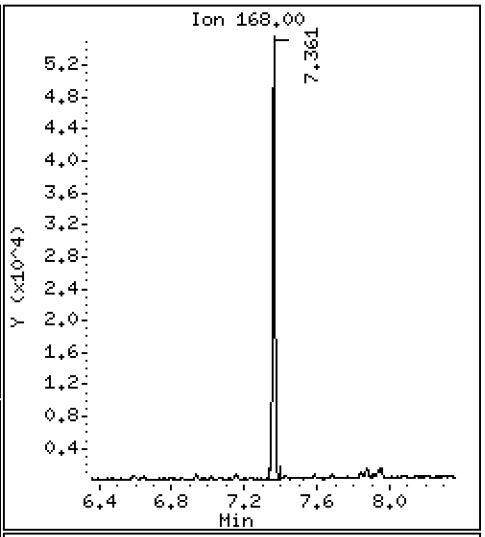
Column phase: Rxi-17sil

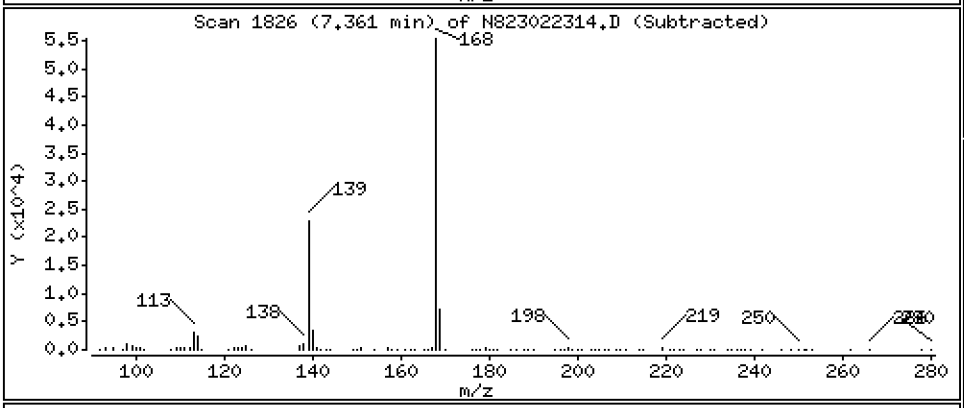
Column diameter: 0.25

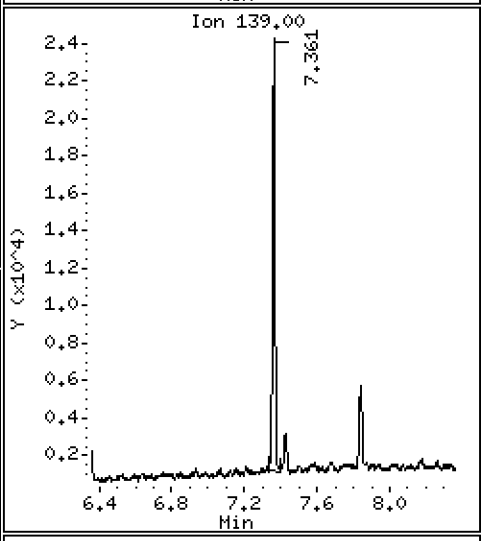
12 Dibenzofuran

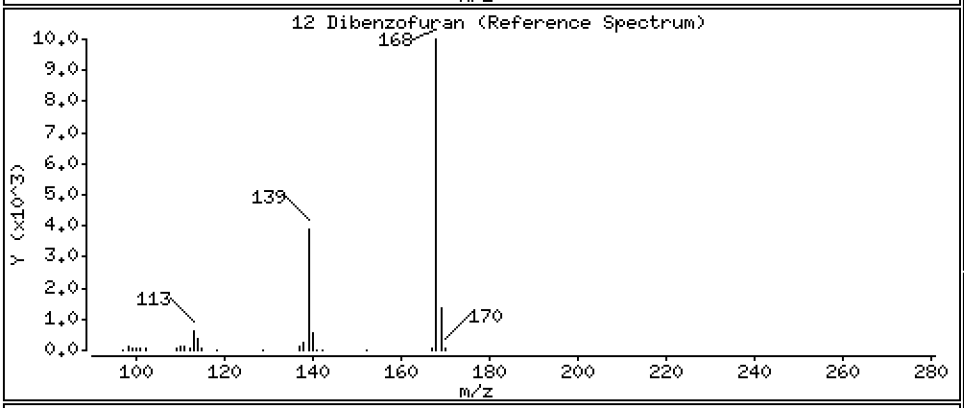
Concentration: 3.109 ug/mL

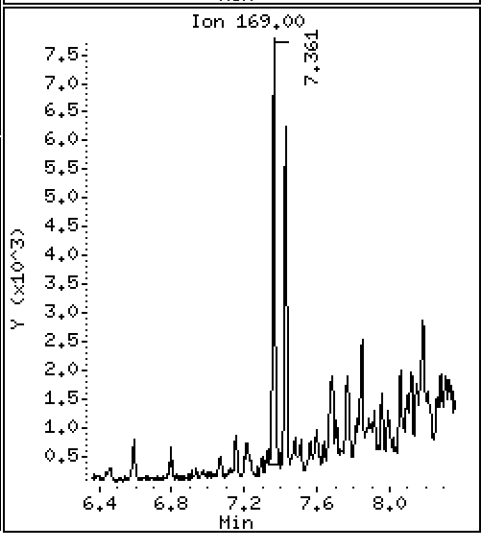


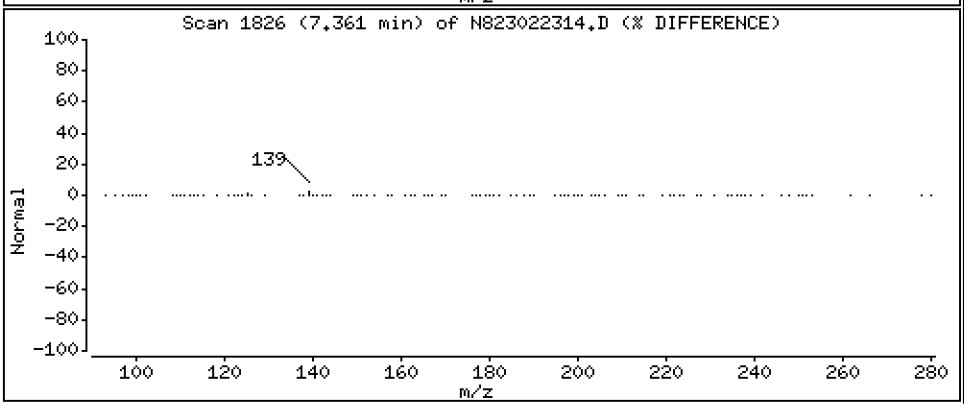












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022314.D

Date : 23-FEB-2023 17:24

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MS1,

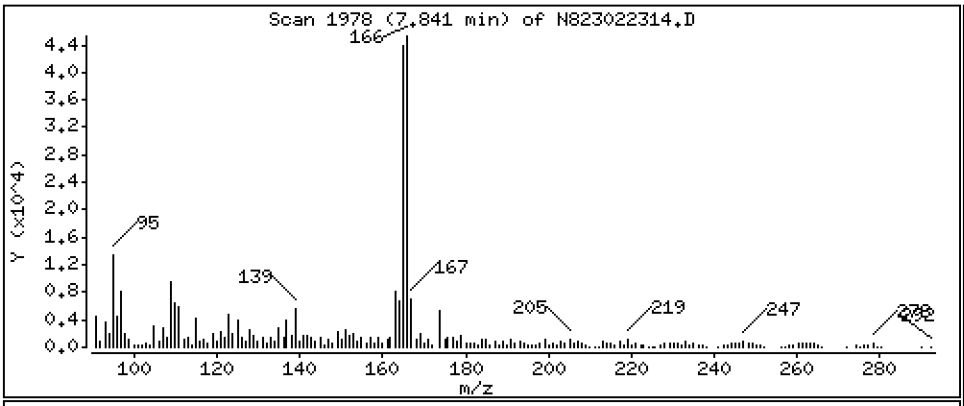
Operator: JZ

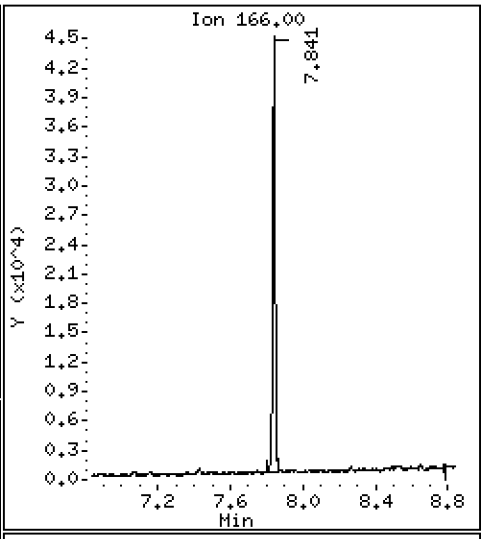
Column phase: Rxi-17sil

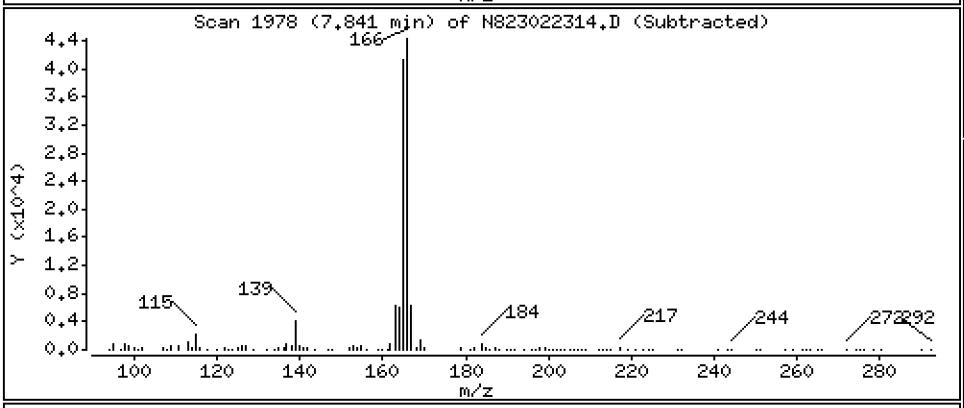
Column diameter: 0.25

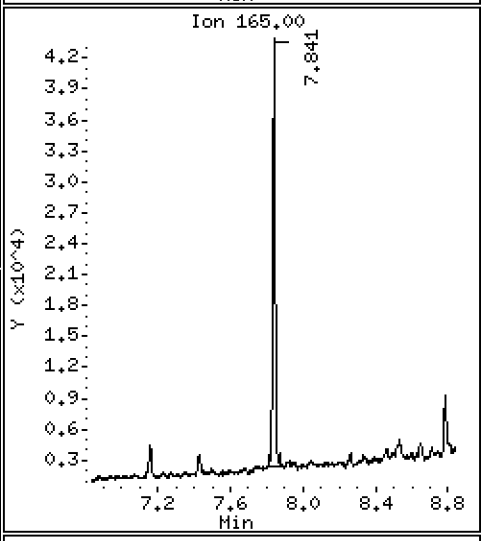
14 Fluorene

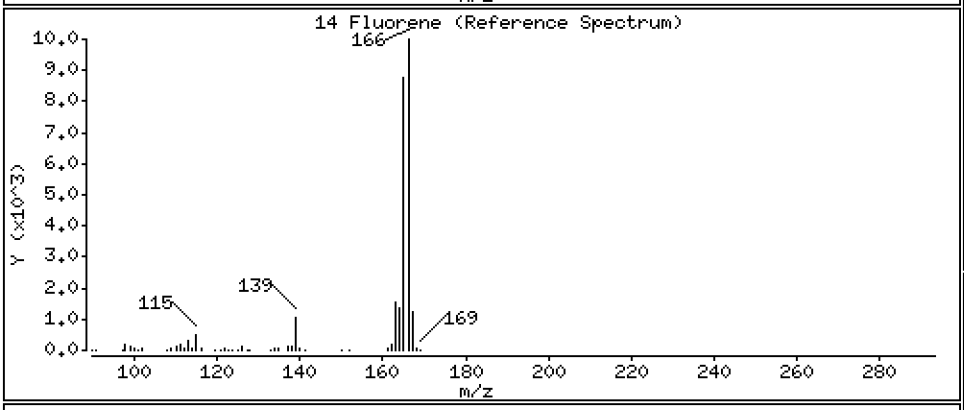
Concentration: 3.244 ug/mL

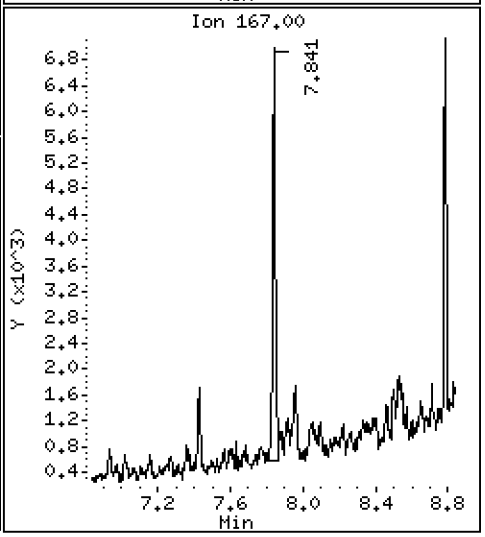


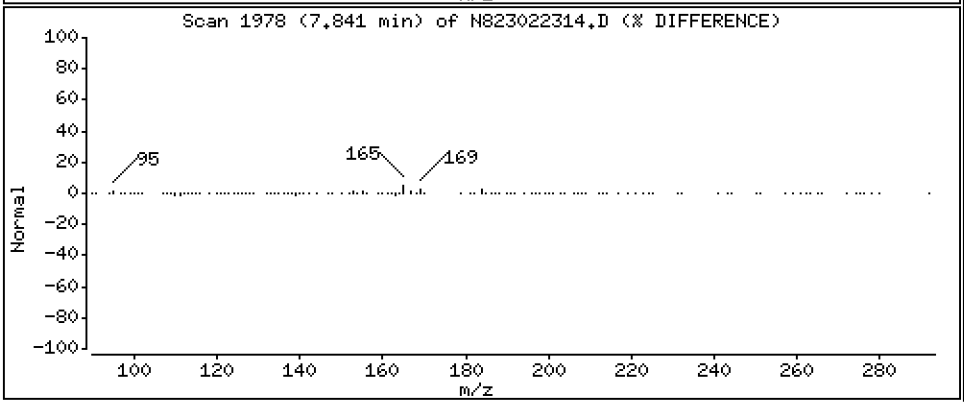












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022314.D

Date : 23-FEB-2023 17:24

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MS1,

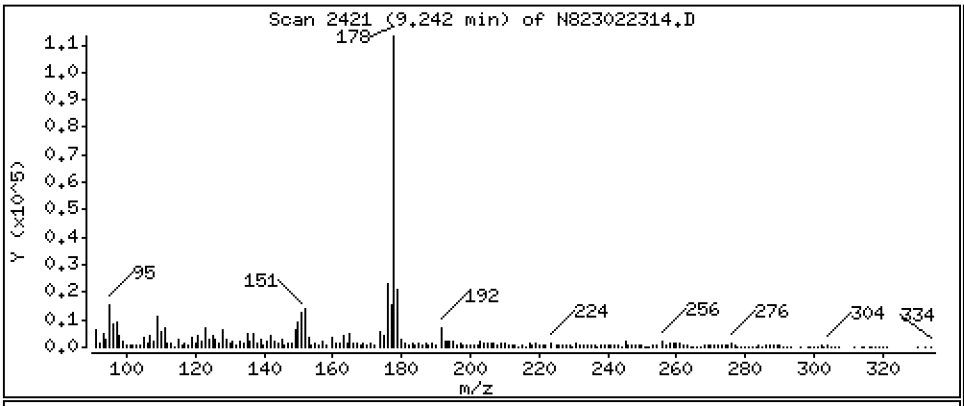
Operator: JZ

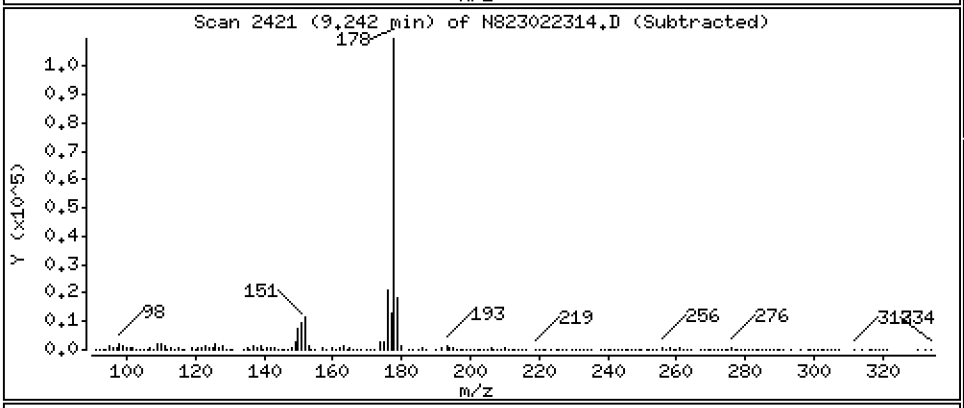
Column phase: Rxi-17sil

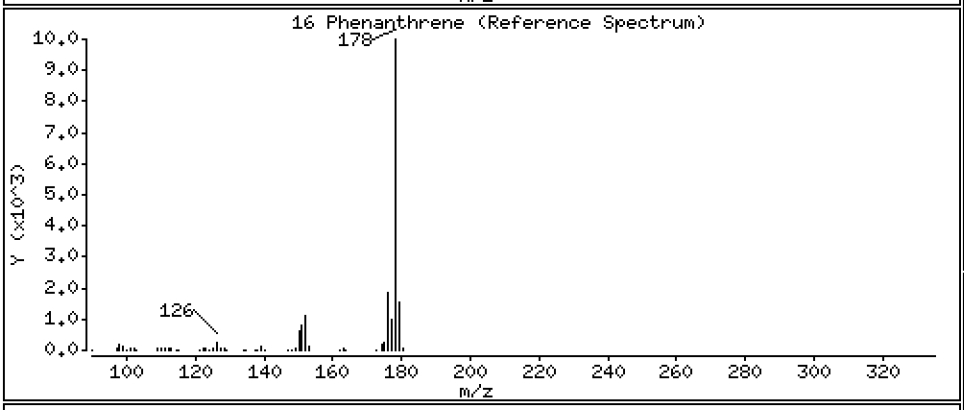
Column diameter: 0.25

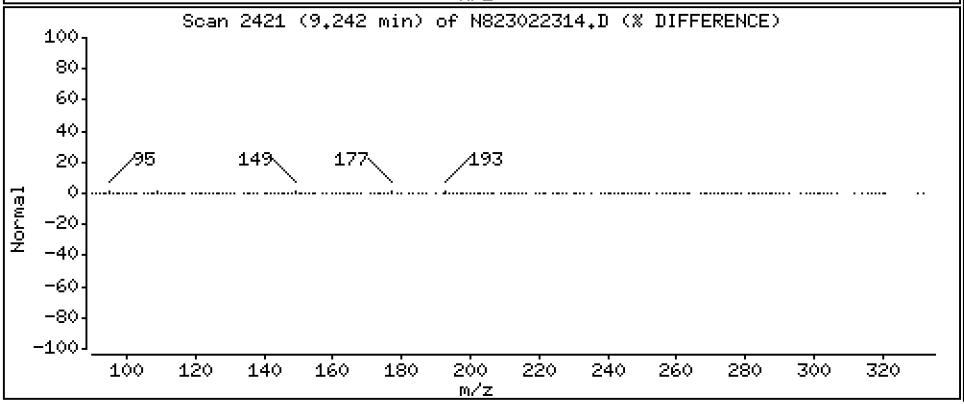
16 Phenanthrene

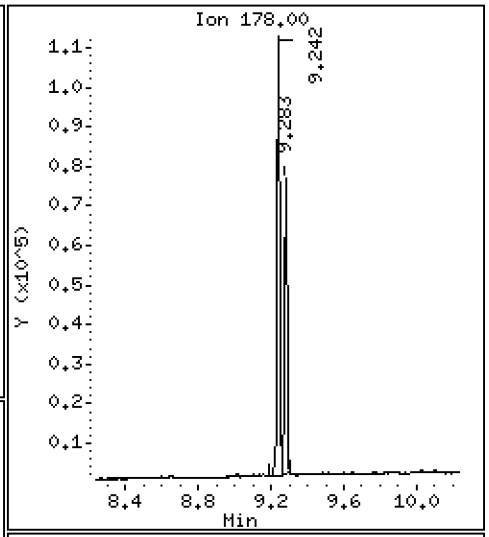
Concentration: 5.429 ug/mL

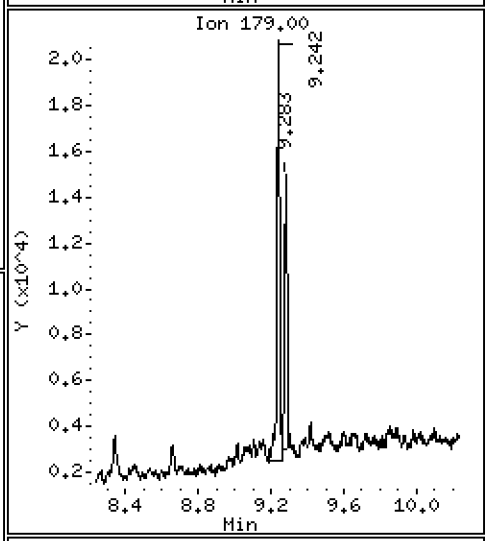


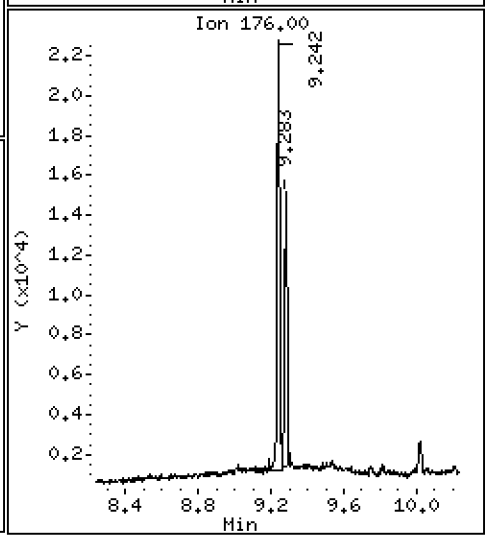












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022314.D

Date : 23-FEB-2023 17:24

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MS1,

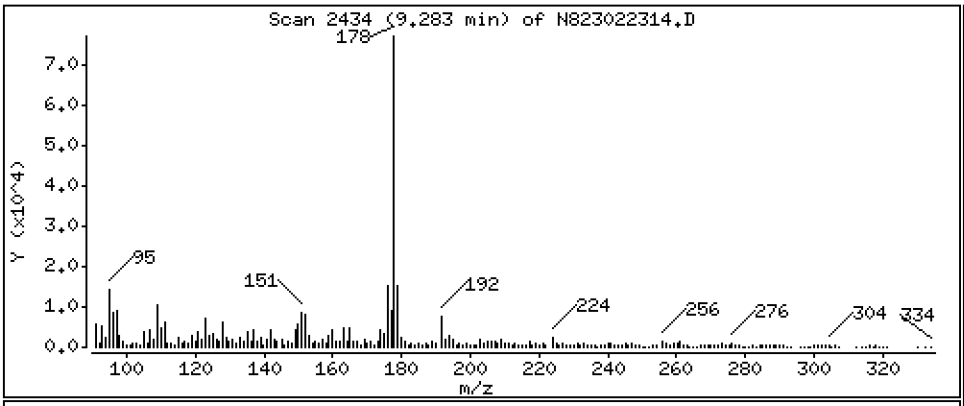
Operator: JZ

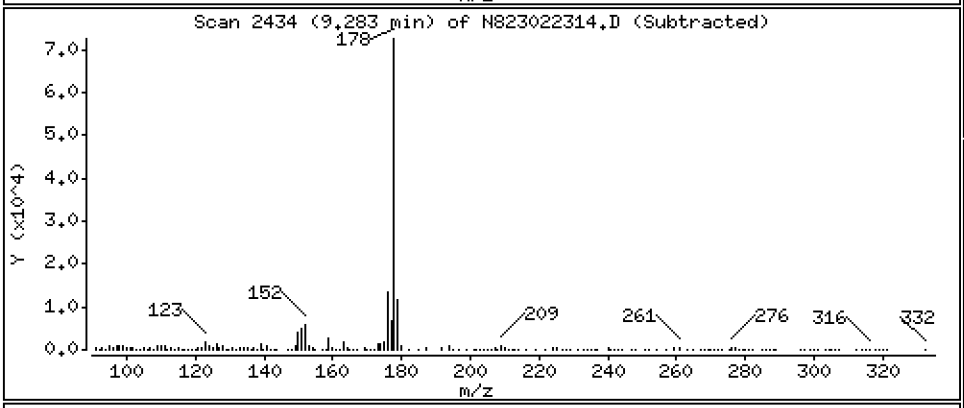
Column phase: Rxi-17sil

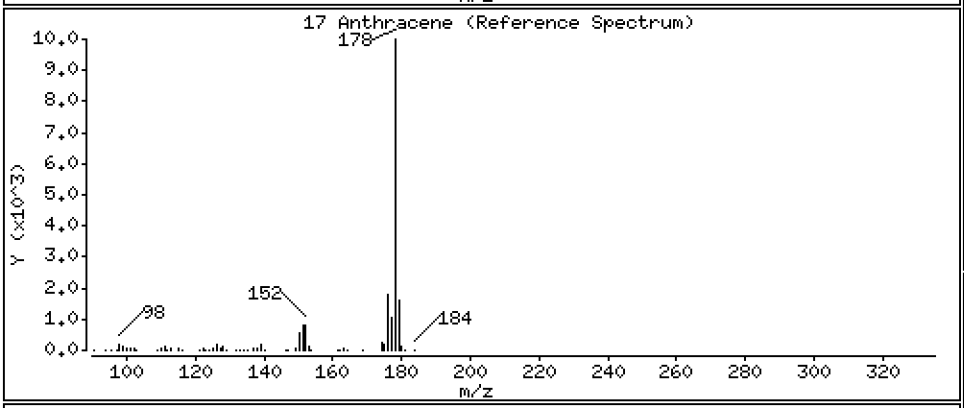
Column diameter: 0.25

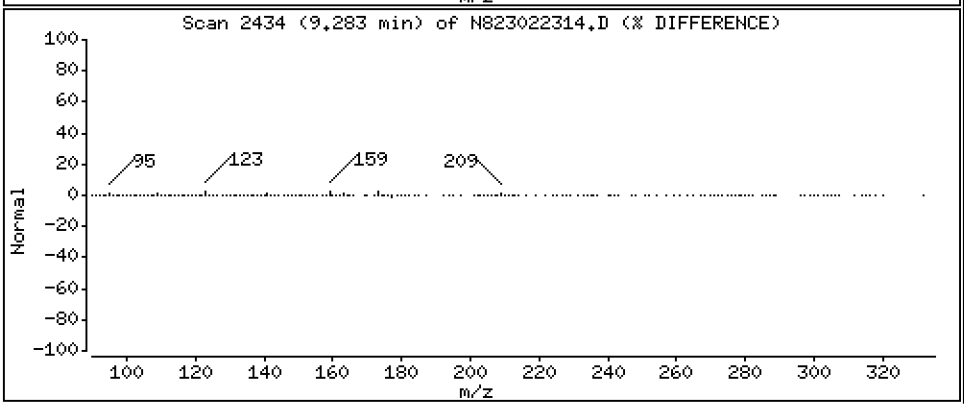
17 Anthracene

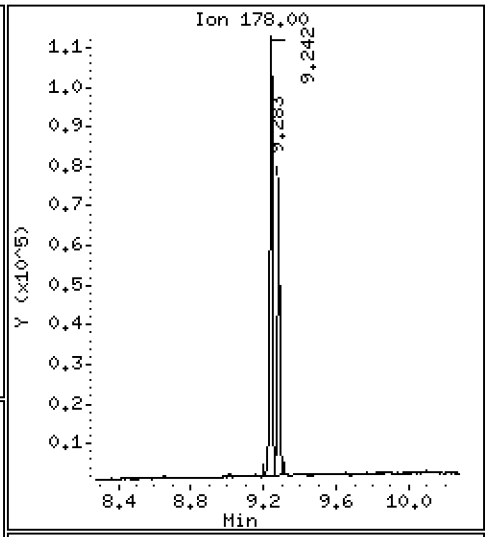
Concentration: 4.038 ug/mL

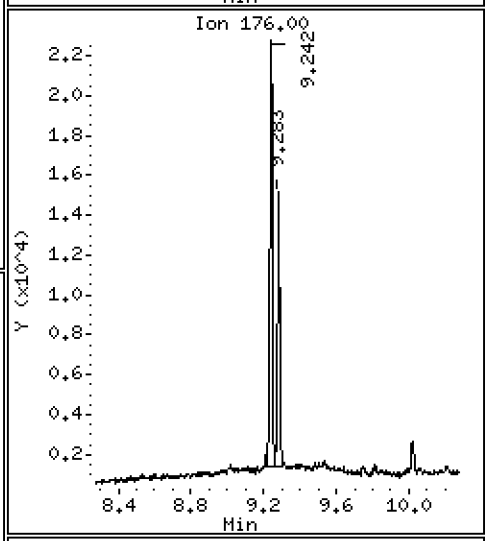


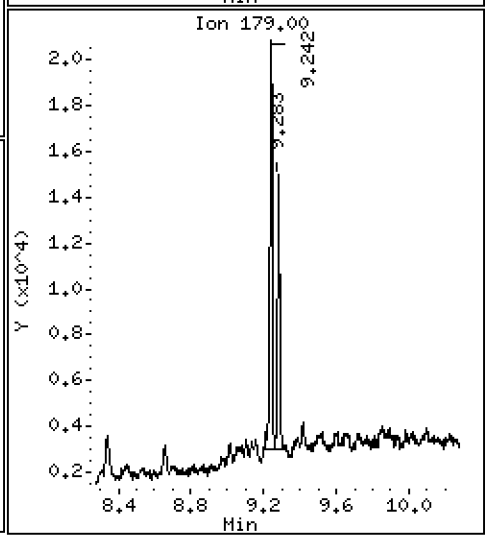












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022314.D

Date : 23-FEB-2023 17:24

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MS1,

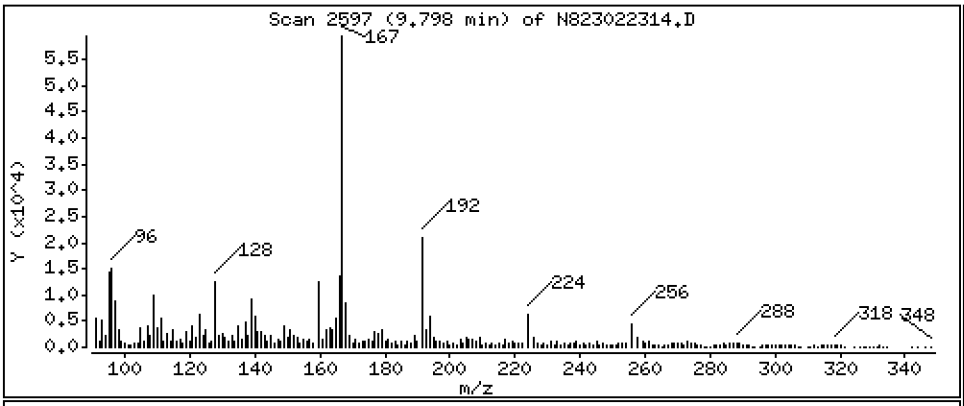
Operator: JZ

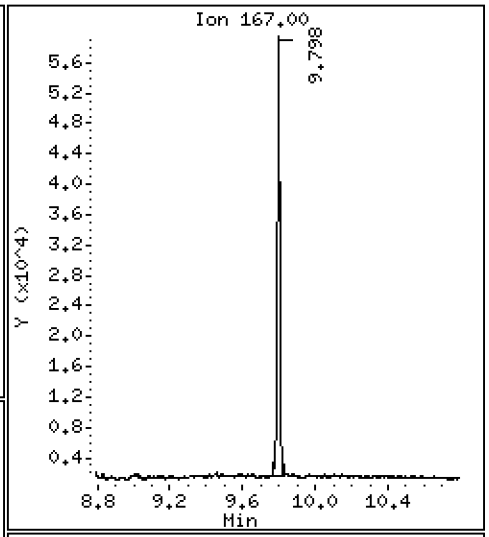
Column phase: Rxi-17sil

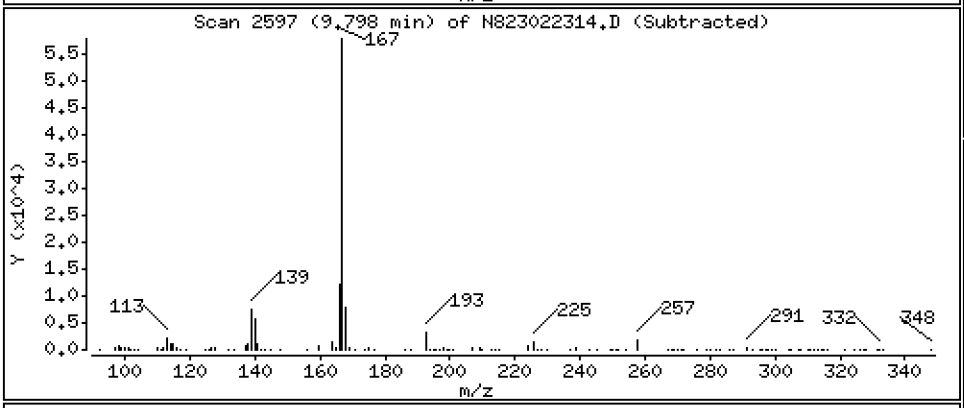
Column diameter: 0.25

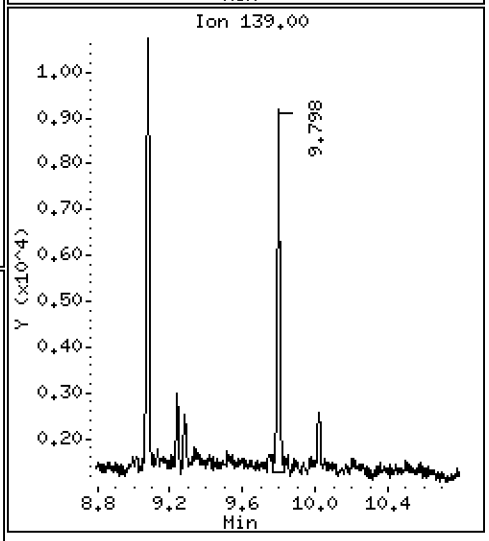
19 Carbazole

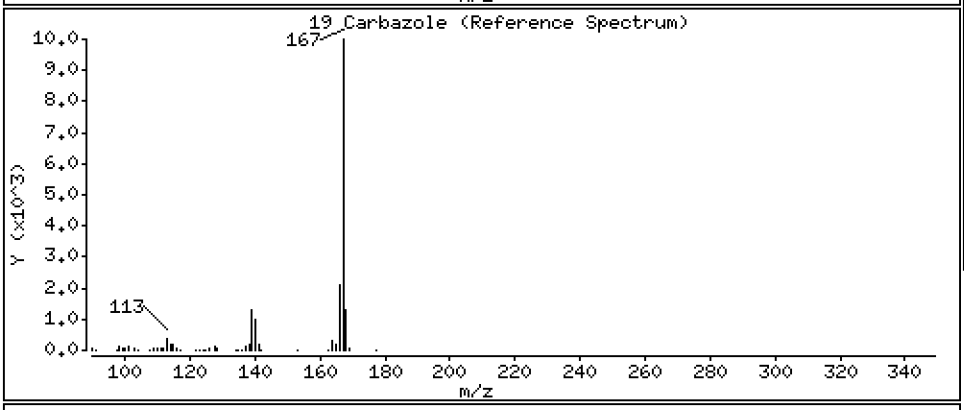
Concentration: 3.581 ug/mL

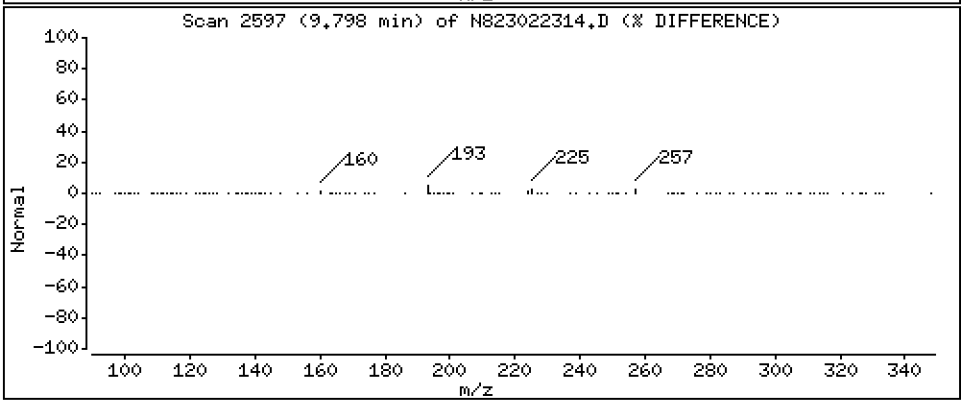












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022314.D

Date : 23-FEB-2023 17:24

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MS1,

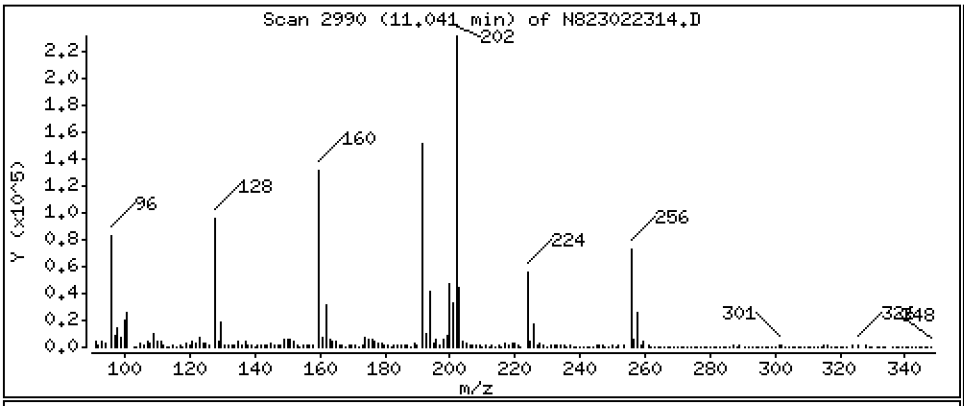
Operator: JZ

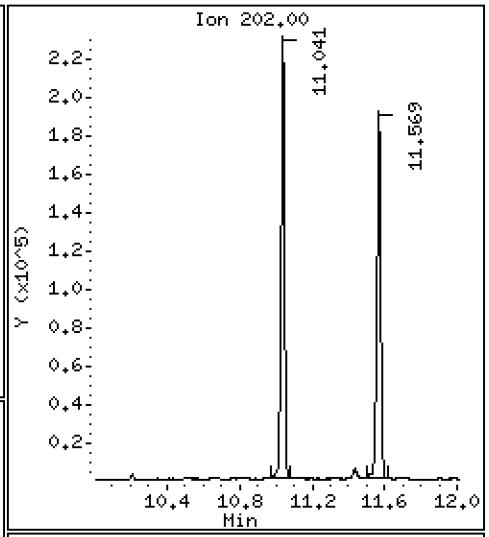
Column phase: Rxi-17sil

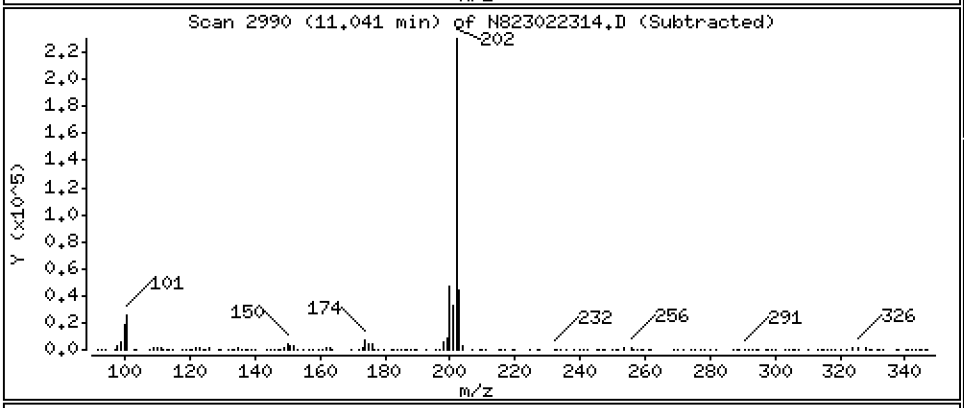
Column diameter: 0.25

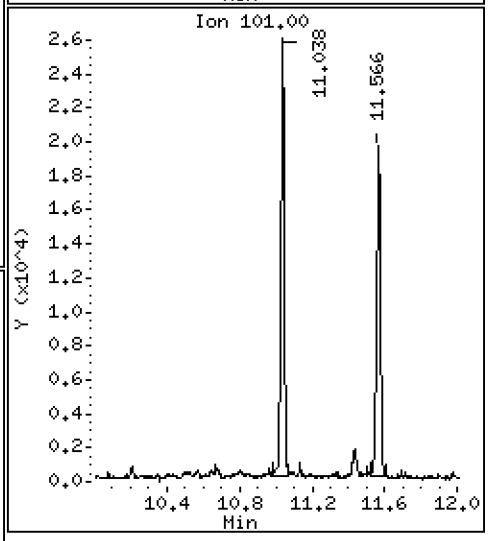
22 Fluoranthene

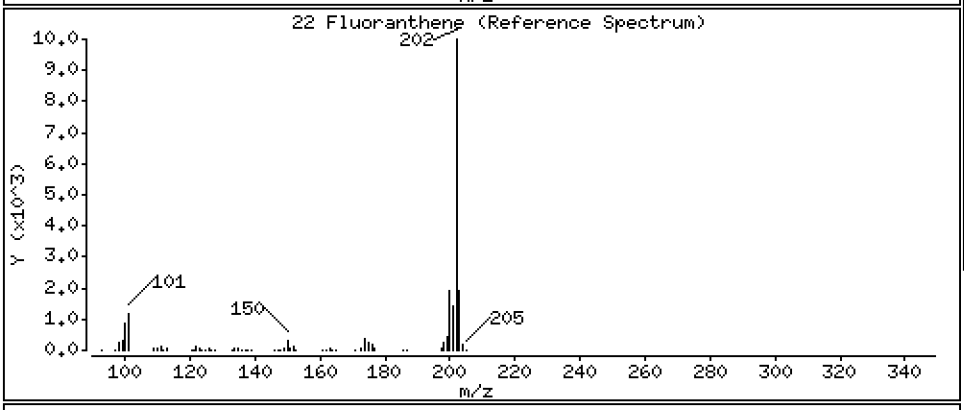
Concentration: 14.32 ug/mL

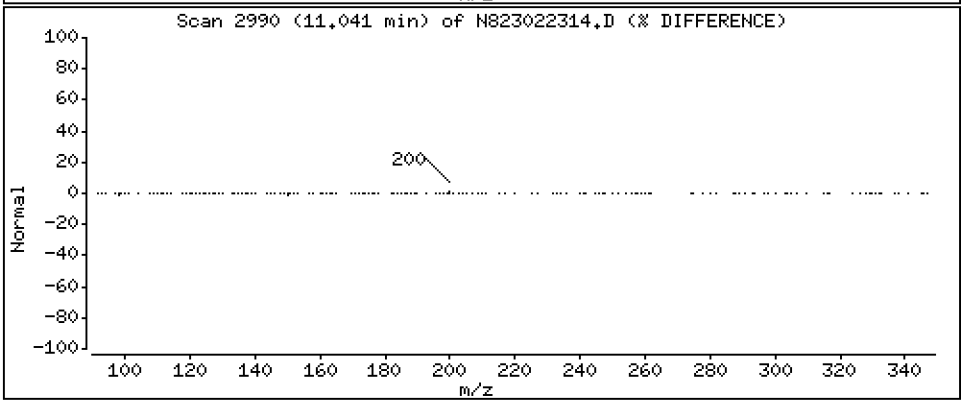












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022314.D

Date : 23-FEB-2023 17:24

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MS1,

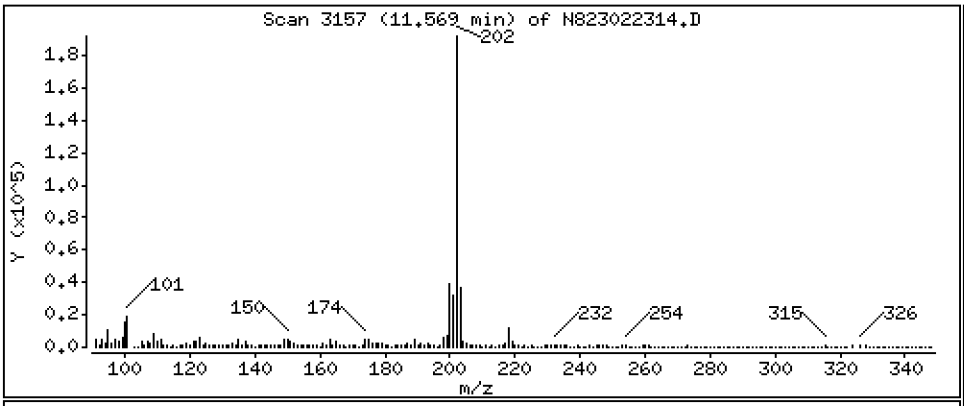
Operator: JZ

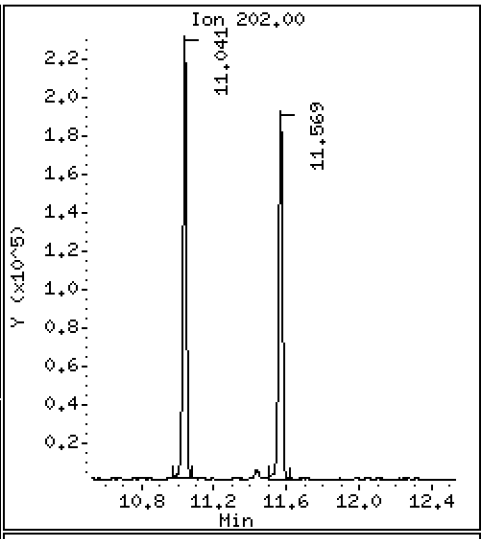
Column phase: Rxi-17sil

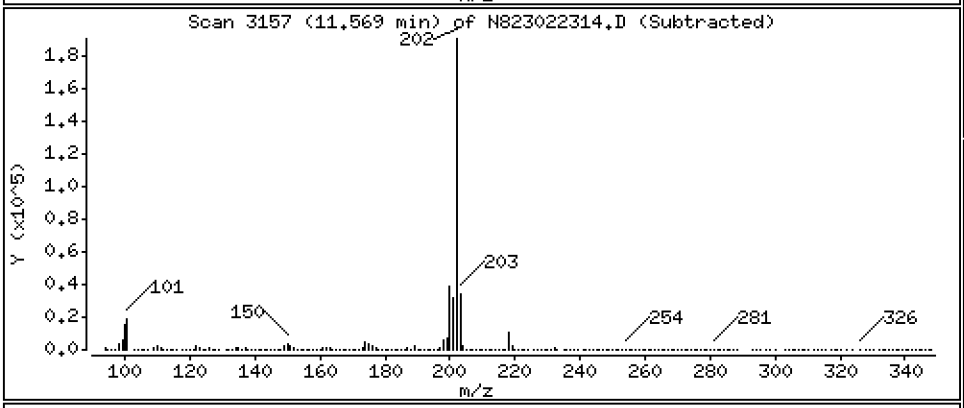
Column diameter: 0.25

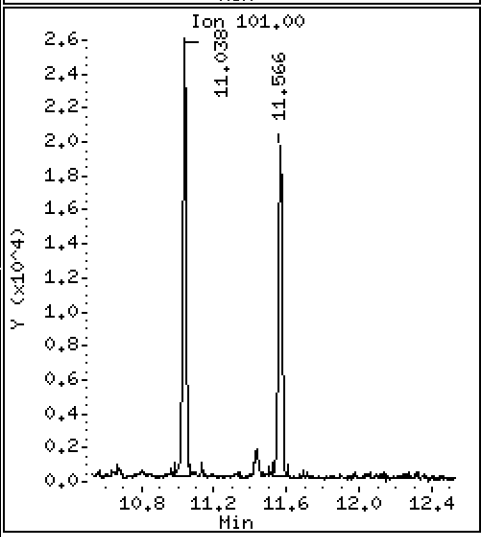
23 Pyrene

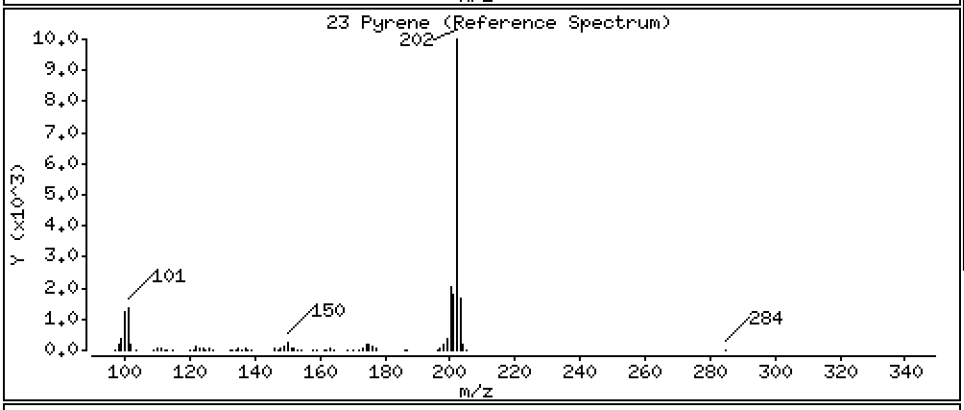
Concentration: 21.87 ug/mL

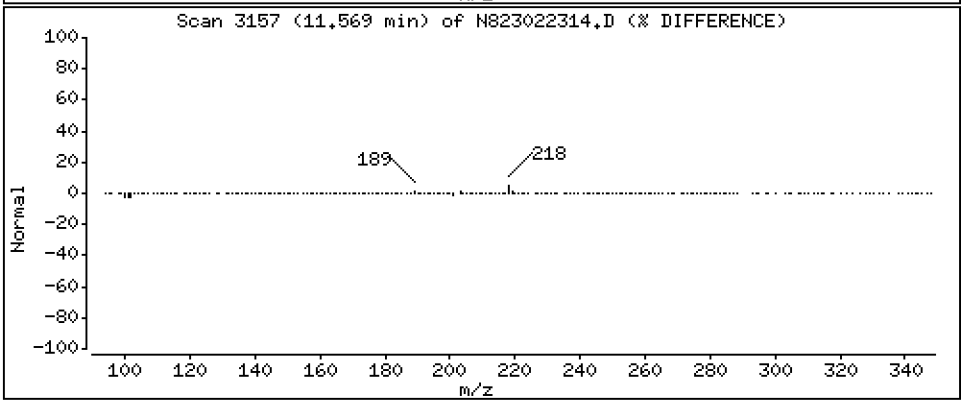












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Date : 23-FEB-2023 17:24

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MS1,

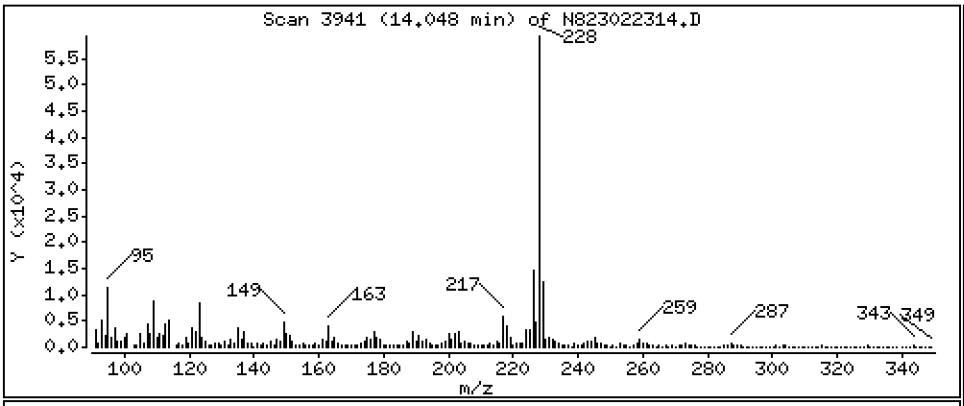
Operator: JZ

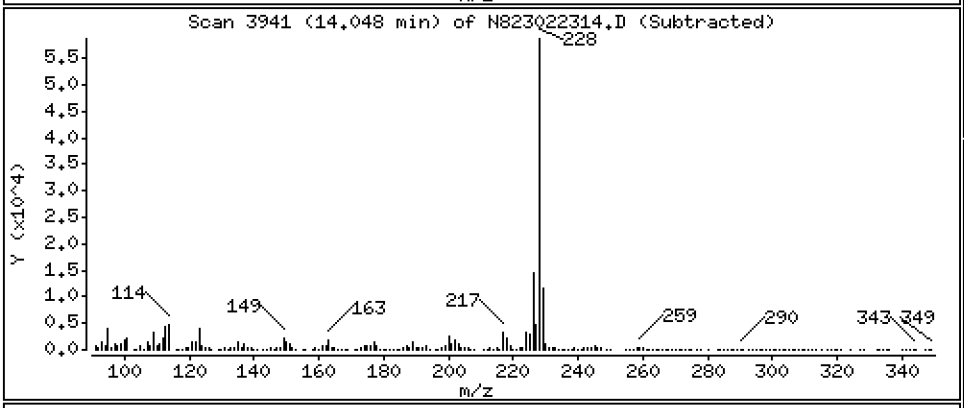
Column phase: Rxi-17sil

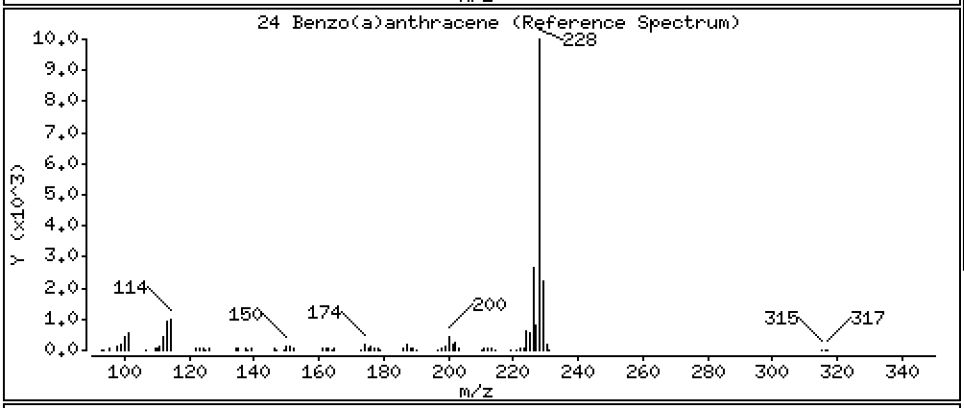
Column diameter: 0.25

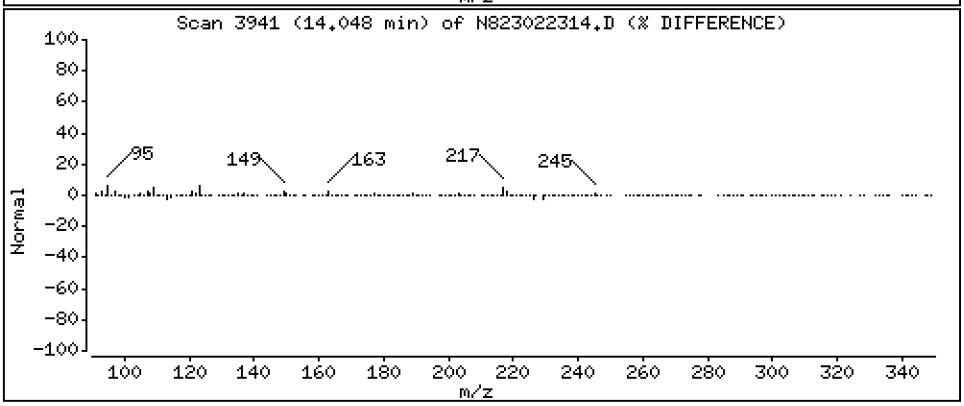
24 Benzo(a)anthracene

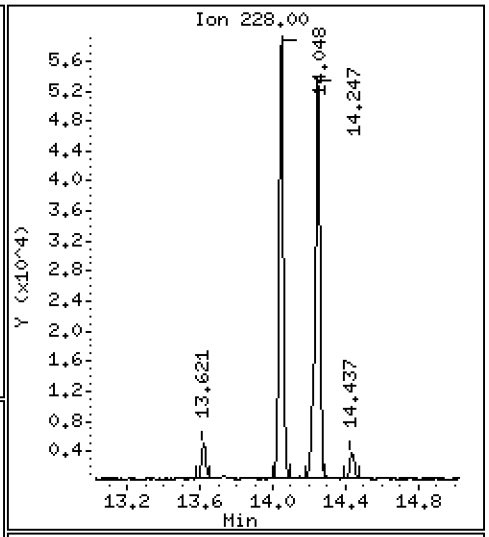
Concentration: 8.415 ug/mL

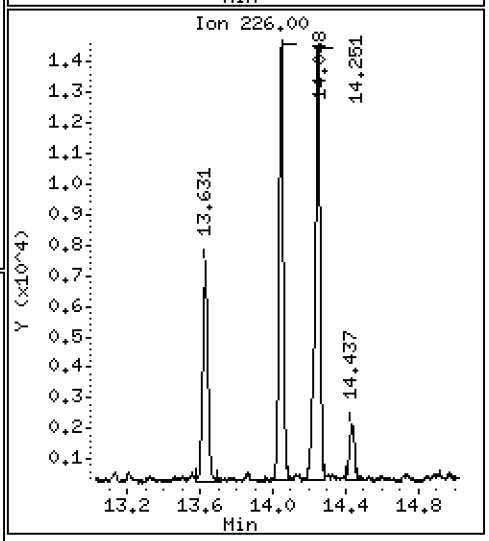












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Date : 23-FEB-2023 17:24

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MS1,

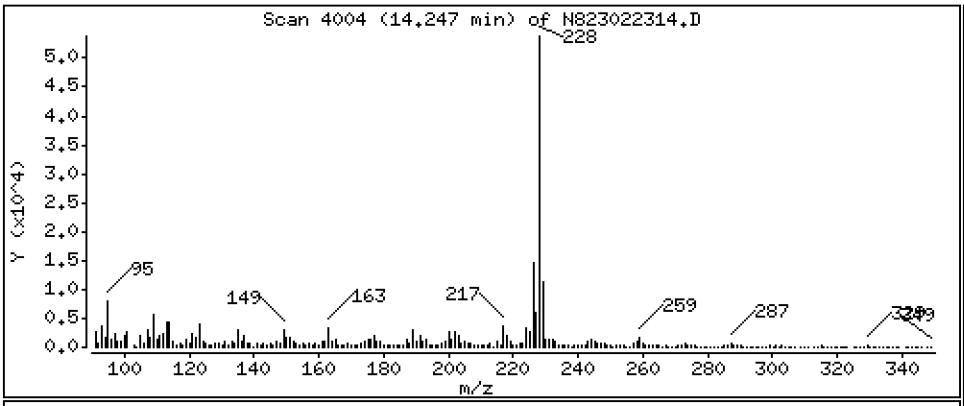
Operator: JZ

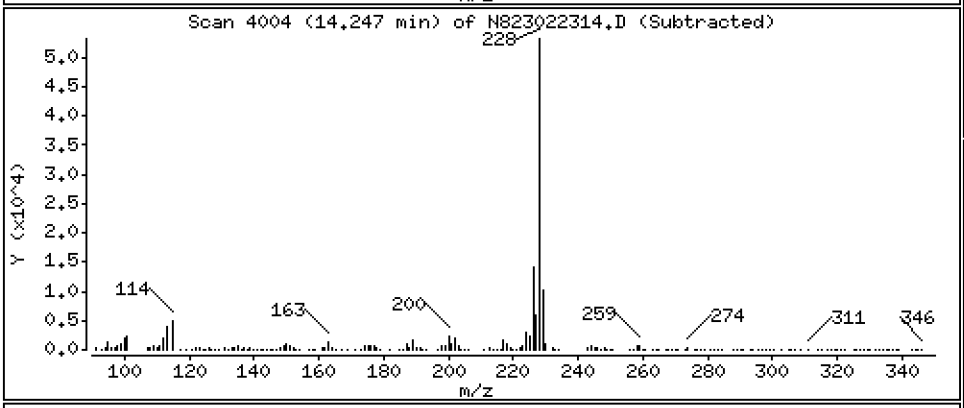
Column phase: Rxi-17sil

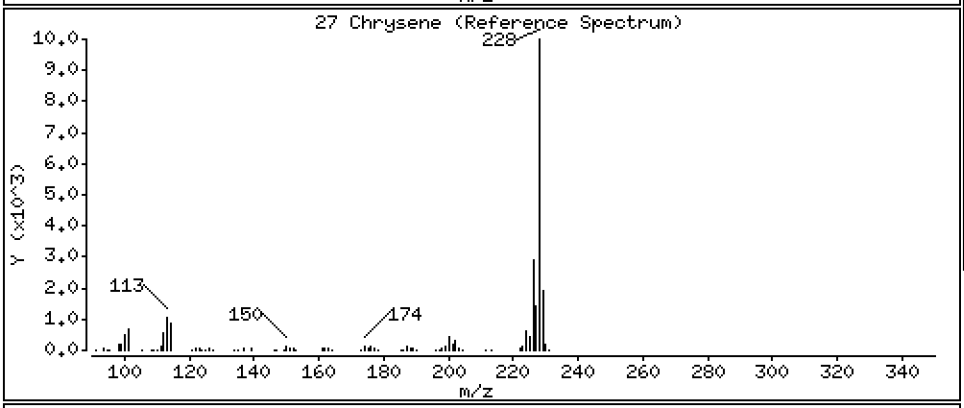
Column diameter: 0.25

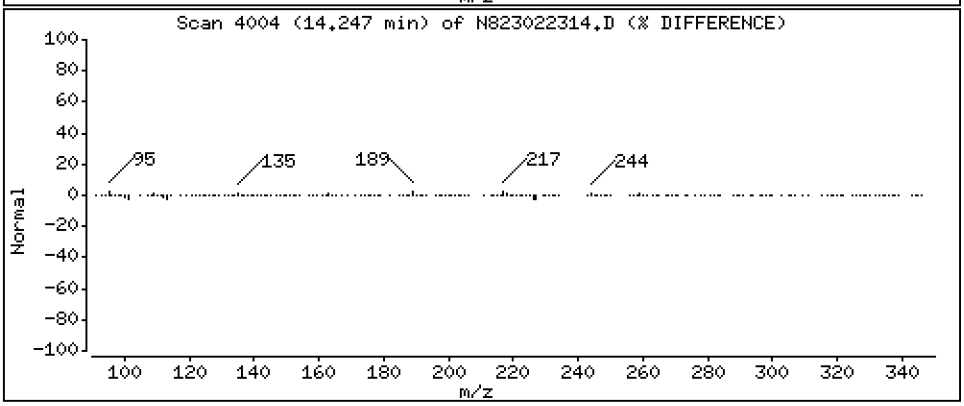
27 Chrysene

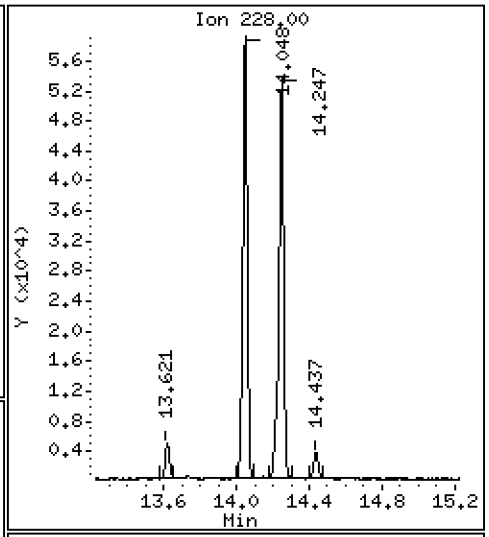
Concentration: 8.031 ug/mL

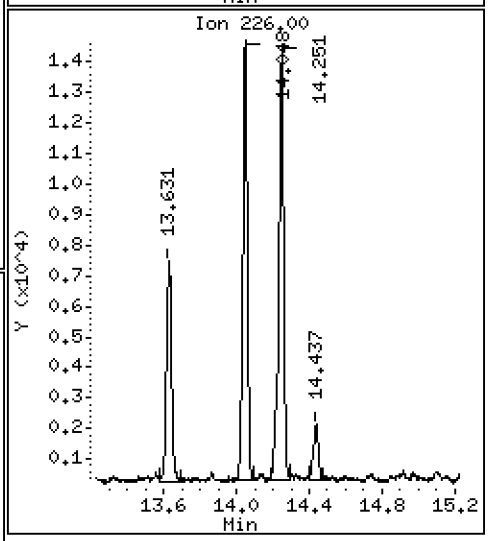












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Date : 23-FEB-2023 17:24

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MS1,

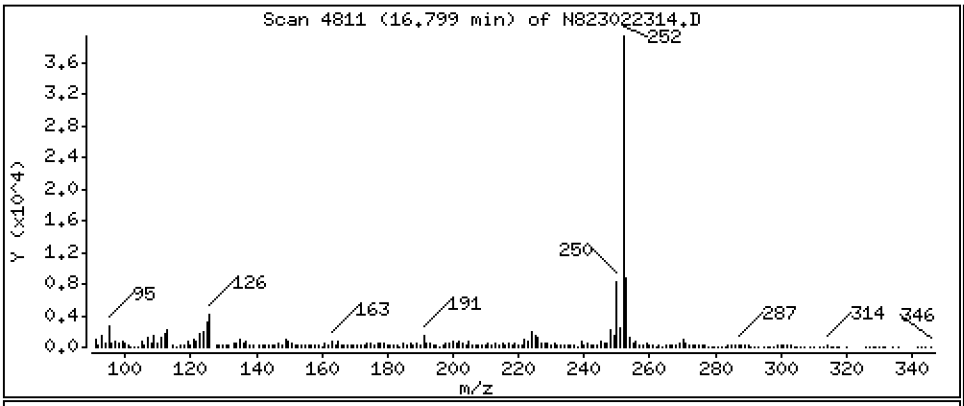
Operator: JZ

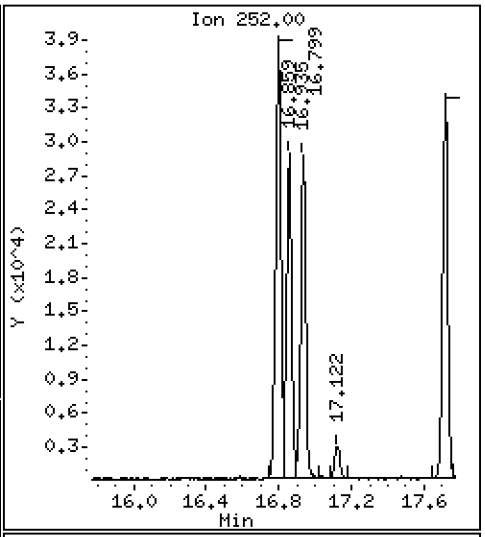
Column phase: Rxi-17sil

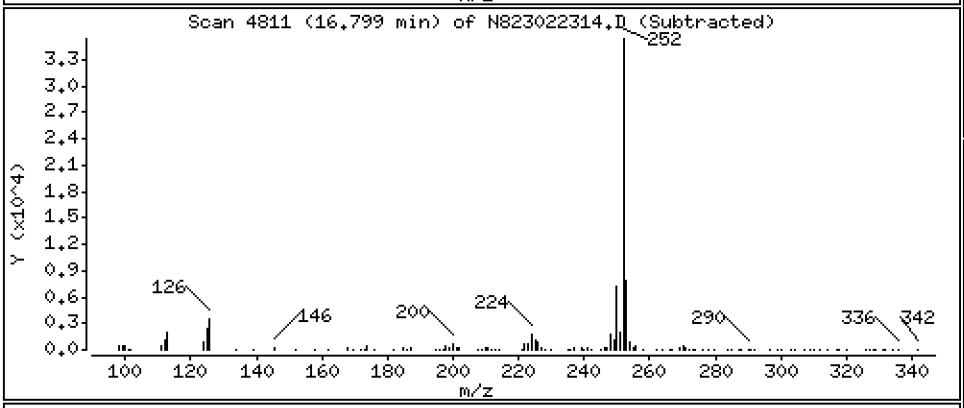
Column diameter: 0.25

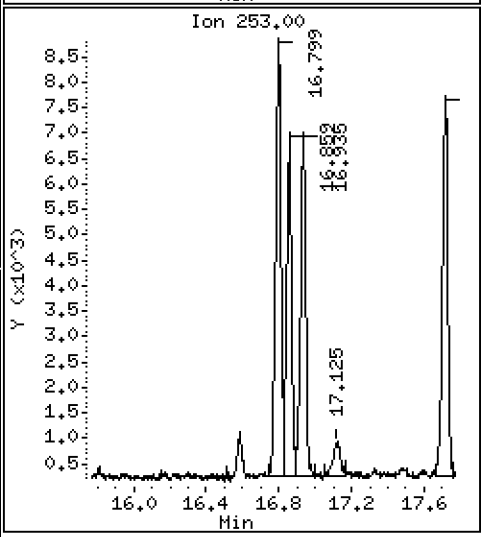
28 Benzo(b)fluoranthene

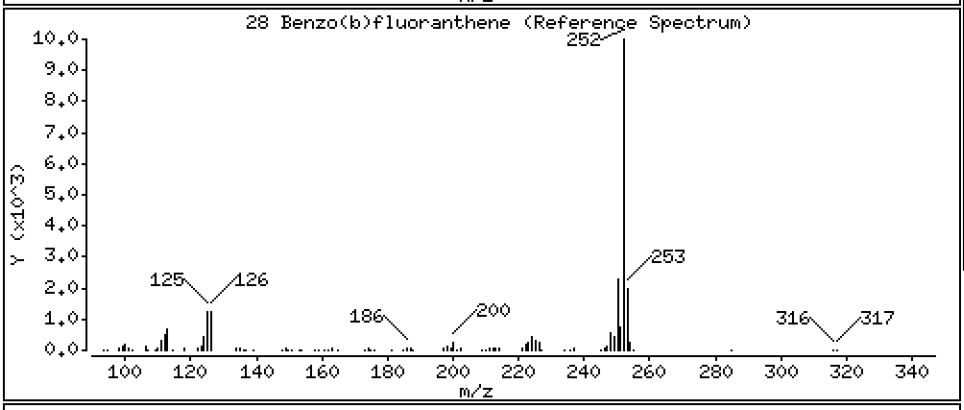
Concentration: 6.851 ug/mL

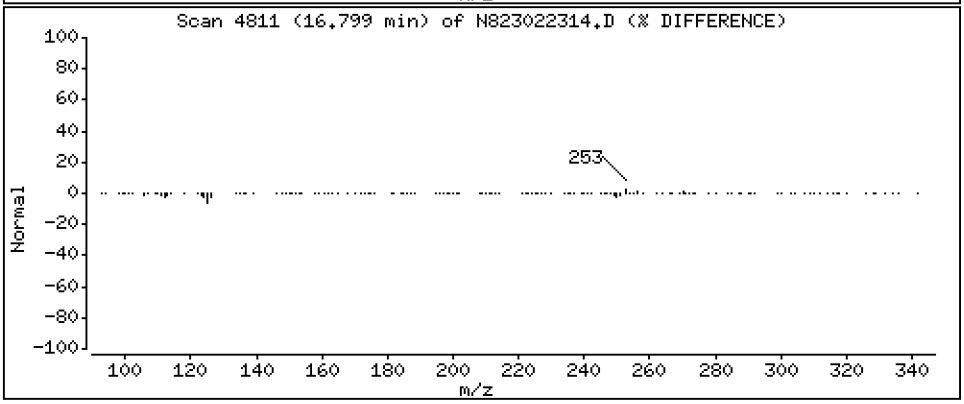












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Date : 23-FEB-2023 17:24

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MS1,

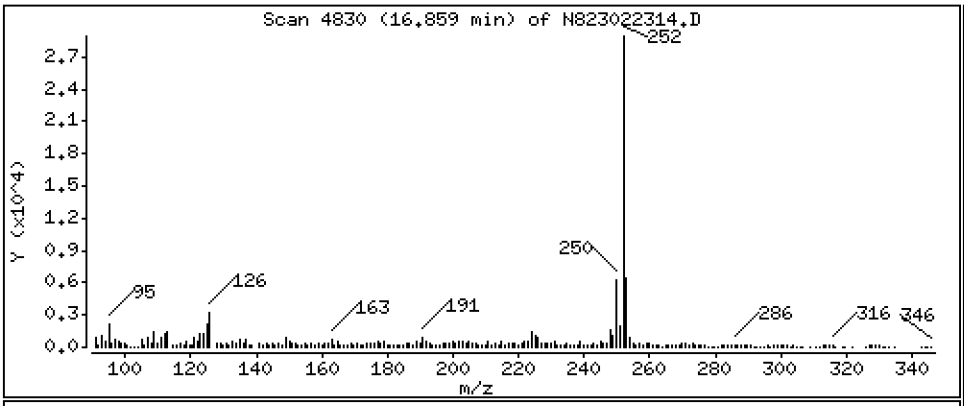
Operator: JZ

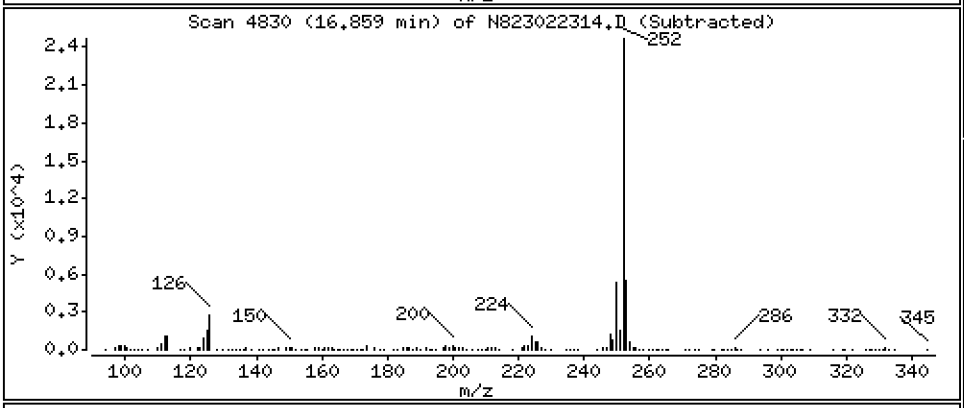
Column phase: Rxi-17sil

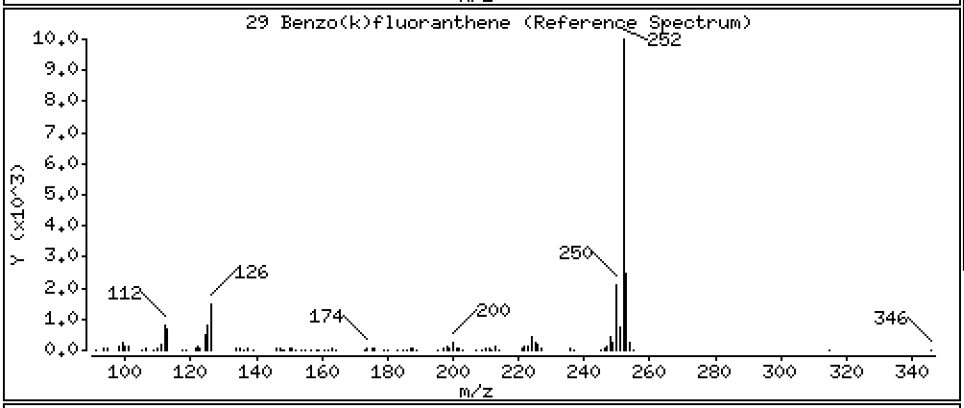
Column diameter: 0.25

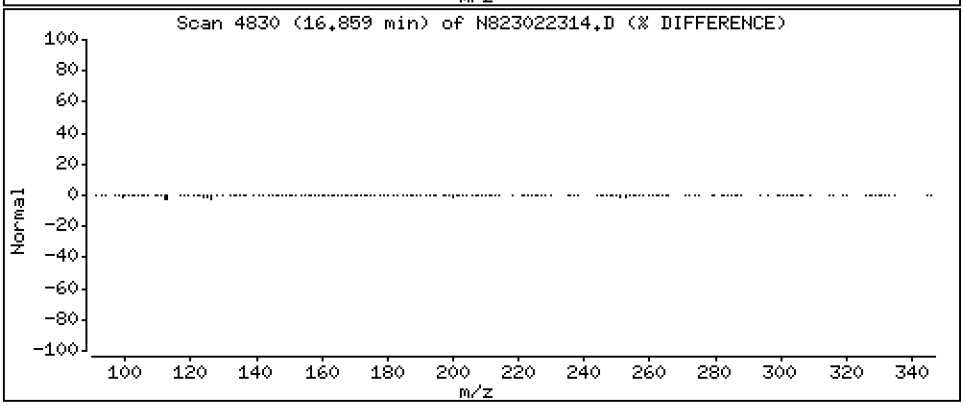
29 Benzo(k)fluoranthene

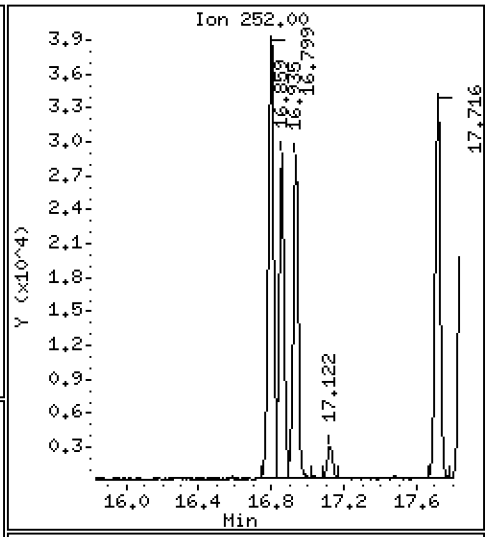
Concentration: 4.927 ug/mL

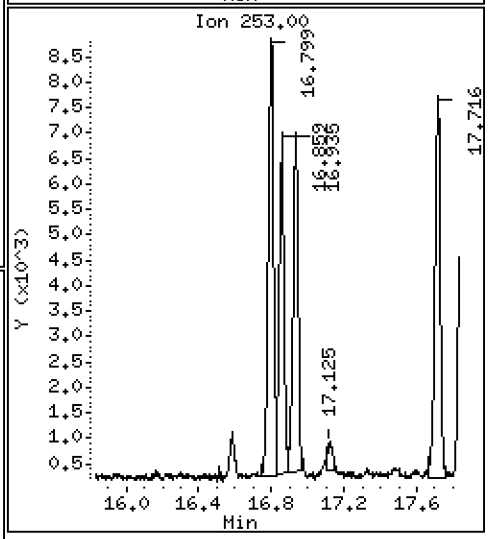












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Date : 23-FEB-2023 17:24

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MS1,

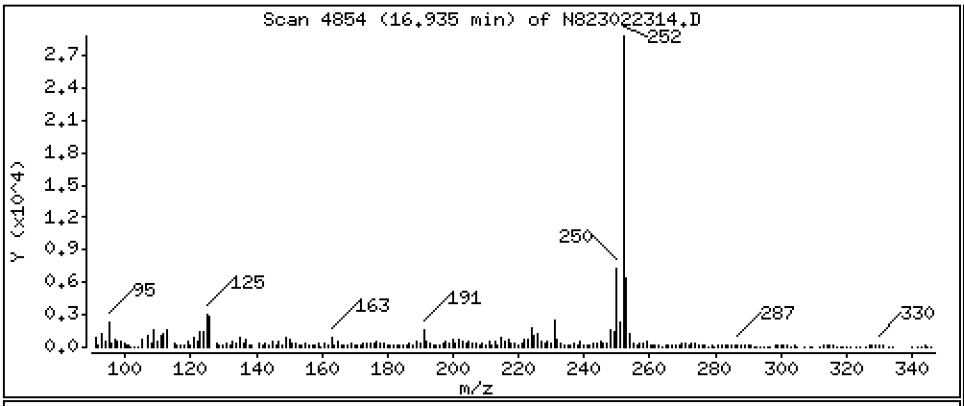
Operator: JZ

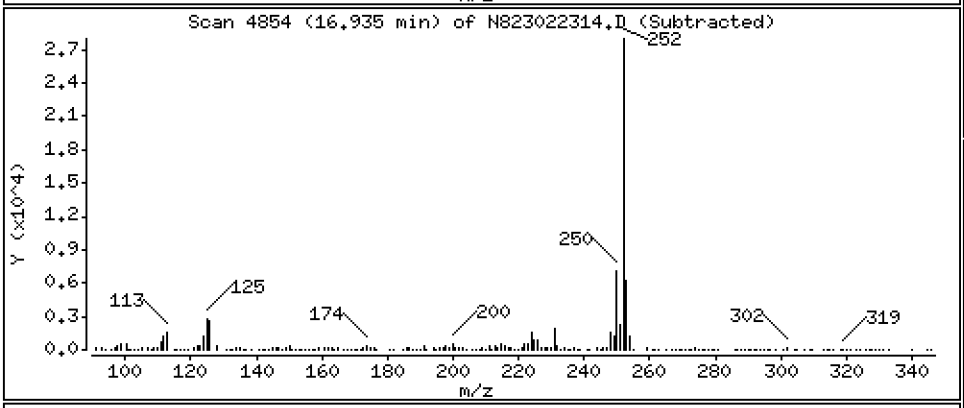
Column phase: Rxi-17sil

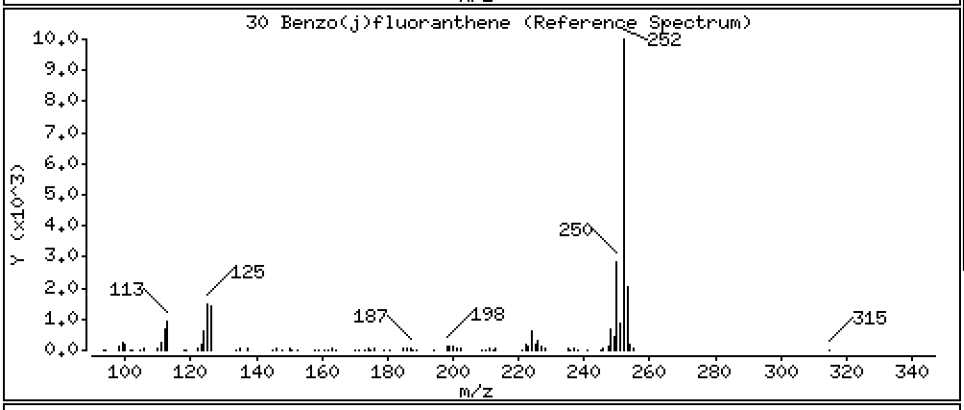
Column diameter: 0.25

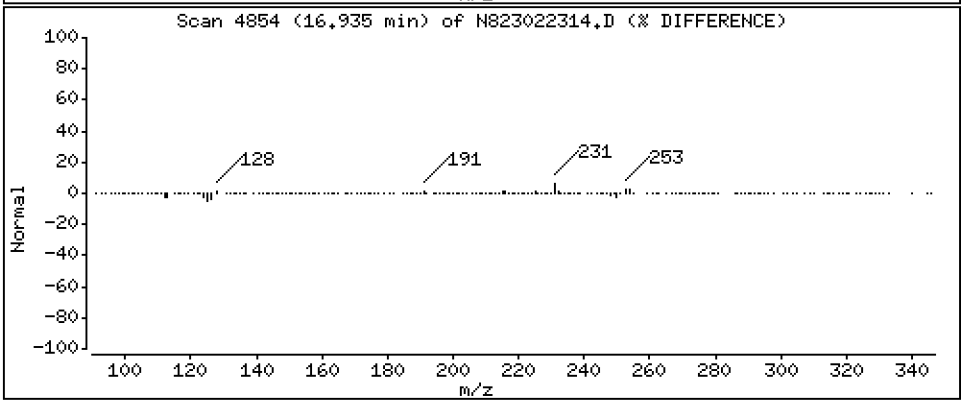
30 Benzo(j)fluoranthene

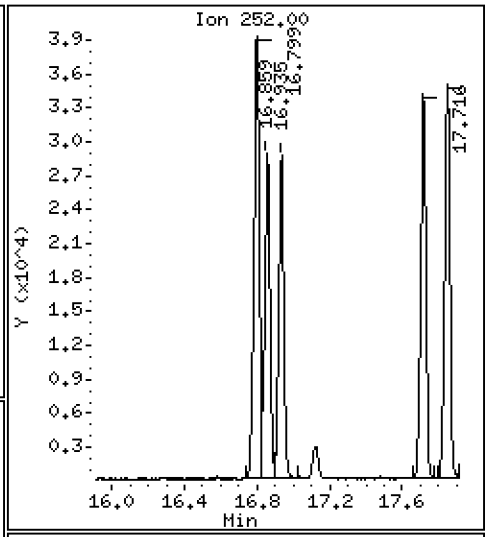
Concentration: 5.249 ug/mL

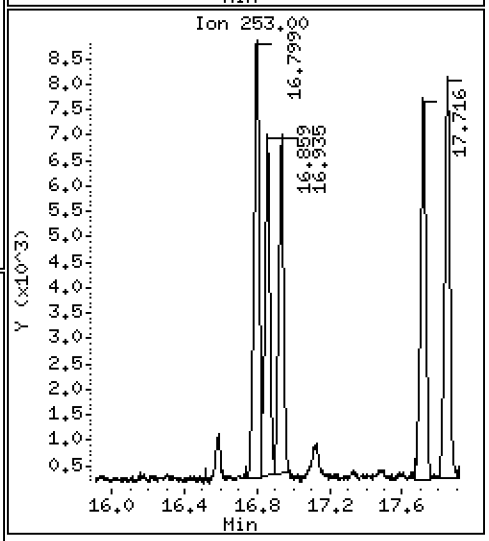












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Date : 23-FEB-2023 17:24

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MS1,

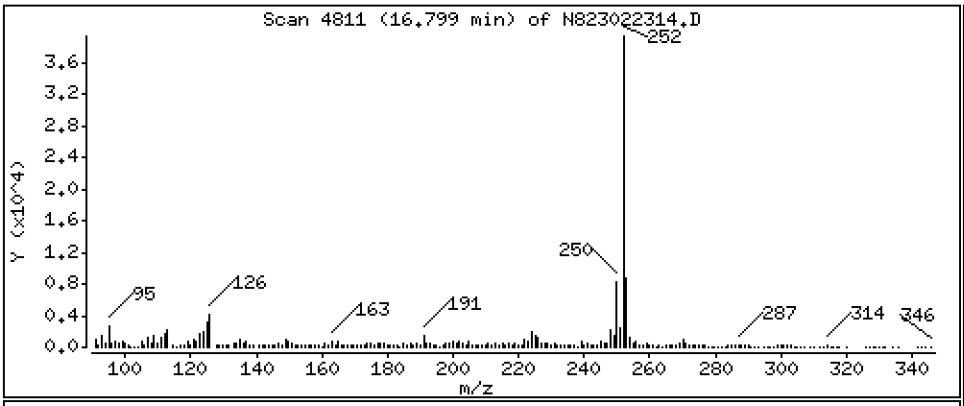
Operator: JZ

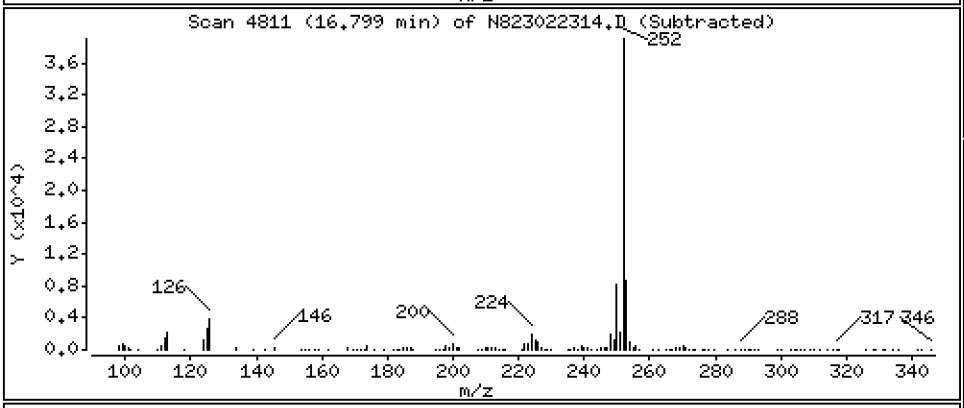
Column phase: Rxi-17sil

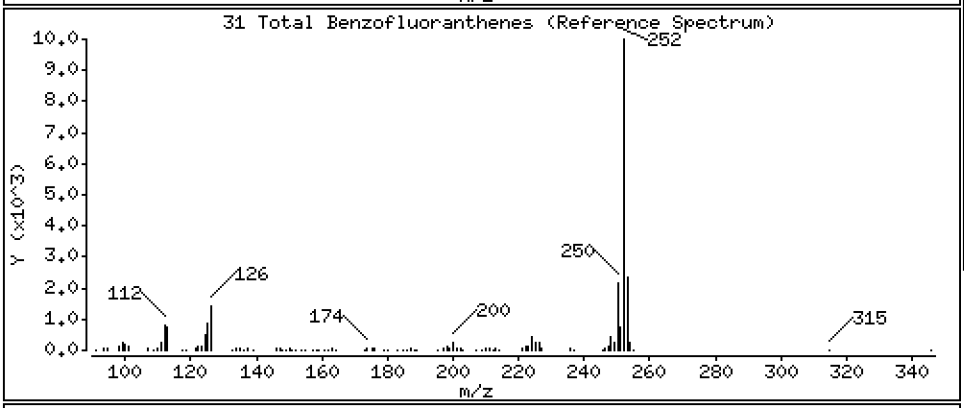
Column diameter: 0.25

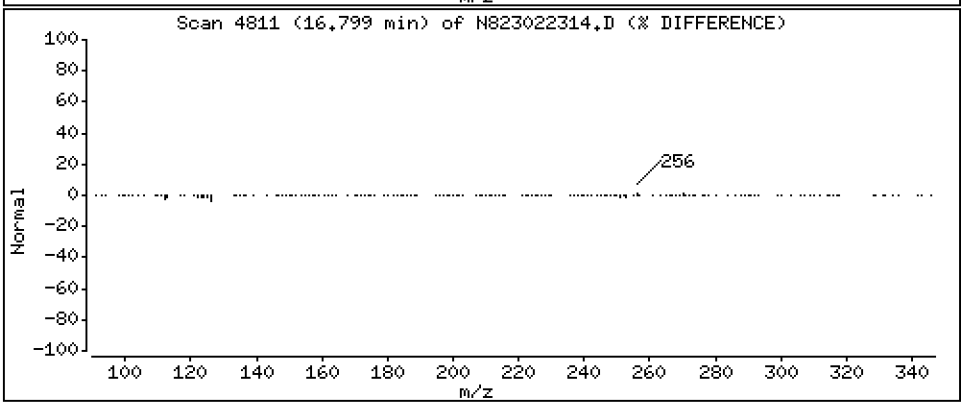
31 Total Benzofluoranthenes

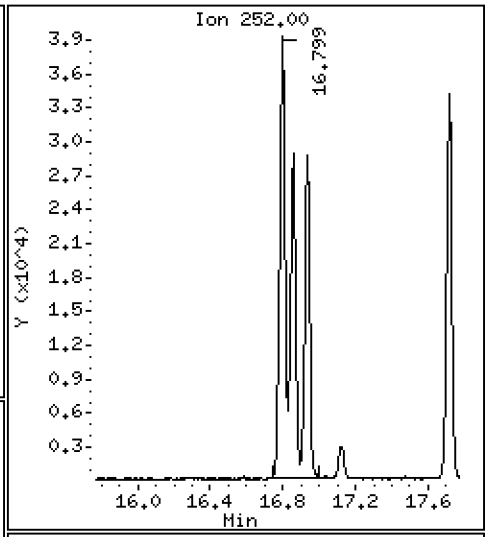
Concentration: 16.82 ug/mL

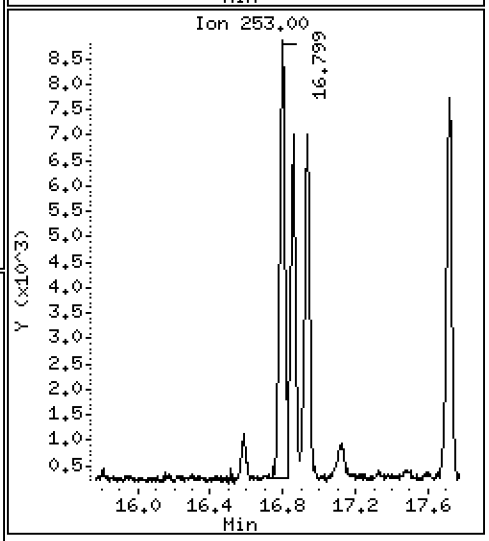












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Date : 23-FEB-2023 17:24

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MS1,

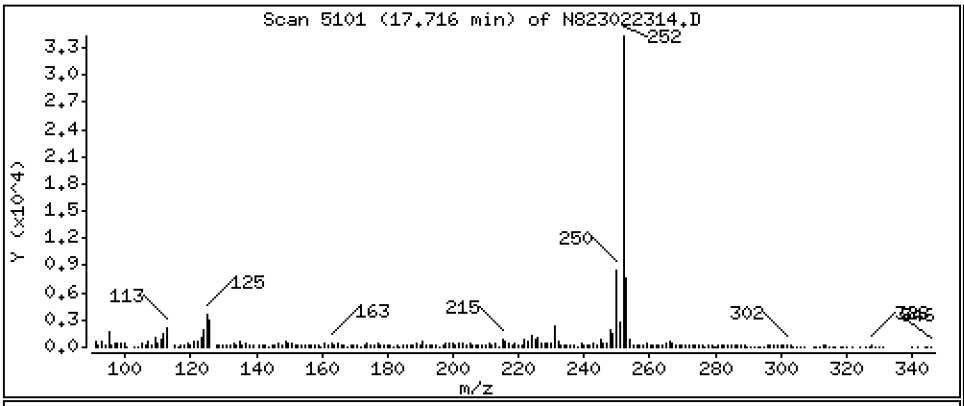
Operator: JZ

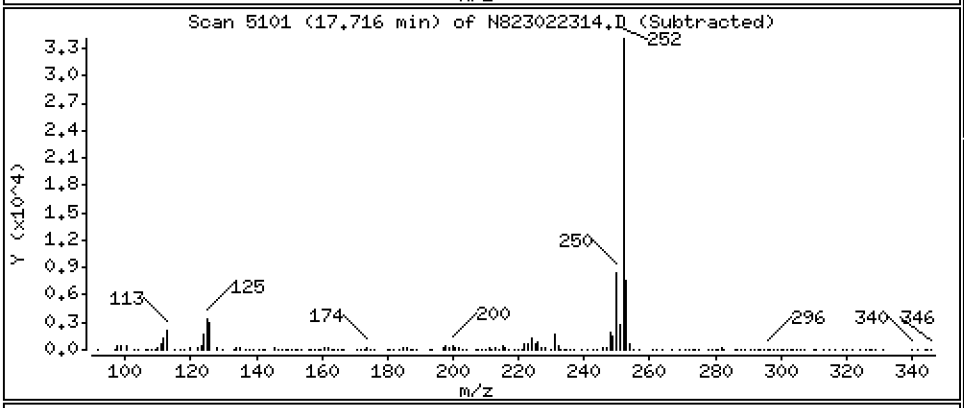
Column phase: Rxi-17sil

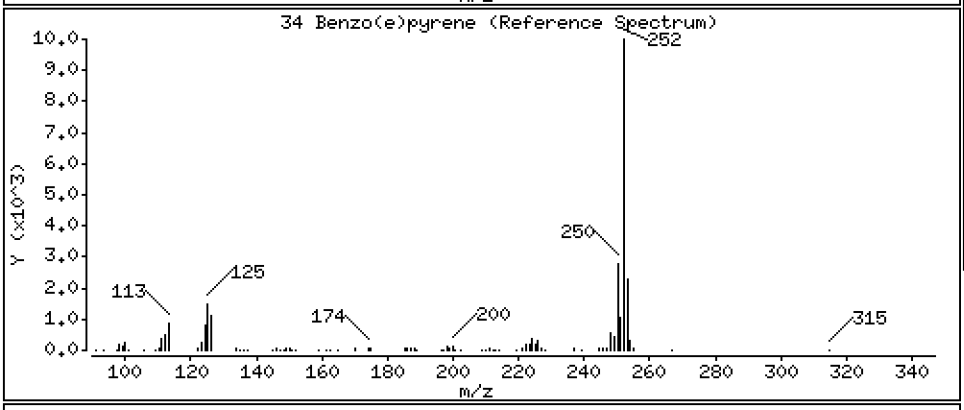
Column diameter: 0.25

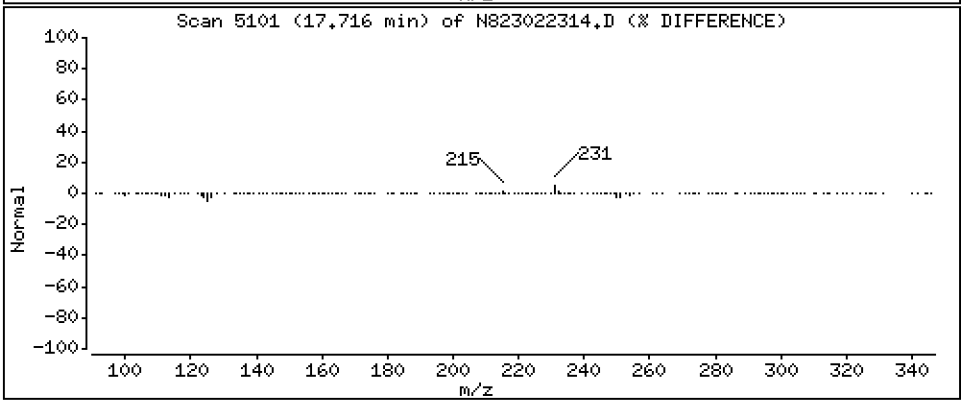
34 Benzo(e)pyrene

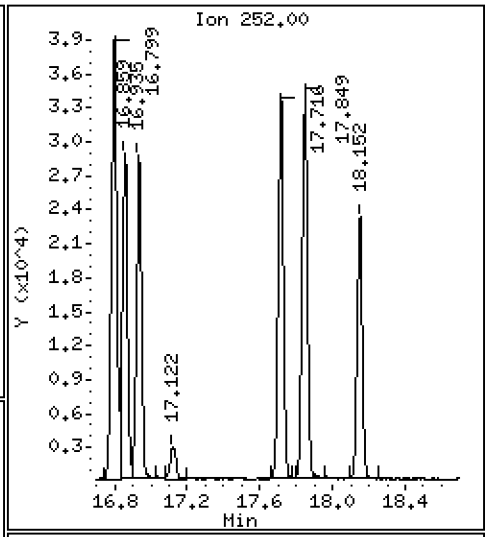
Concentration: 5.683 ug/mL

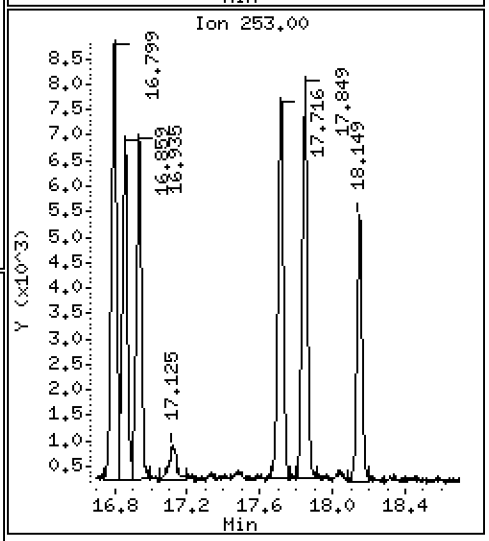












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Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MS1,

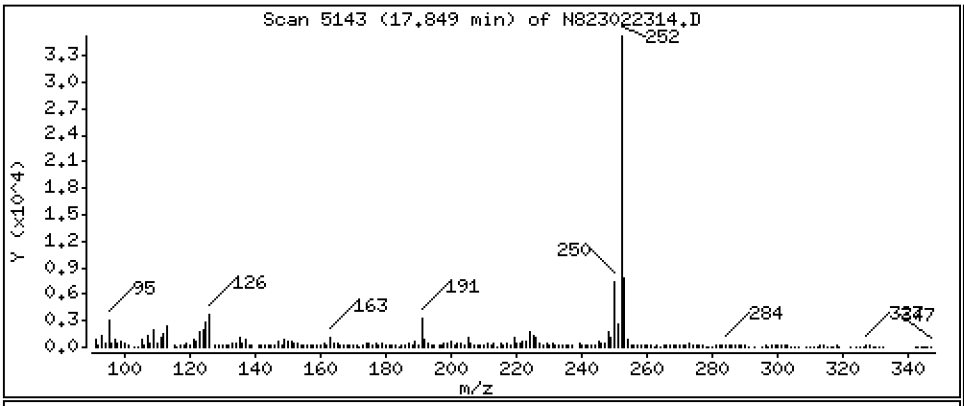
Operator: JZ

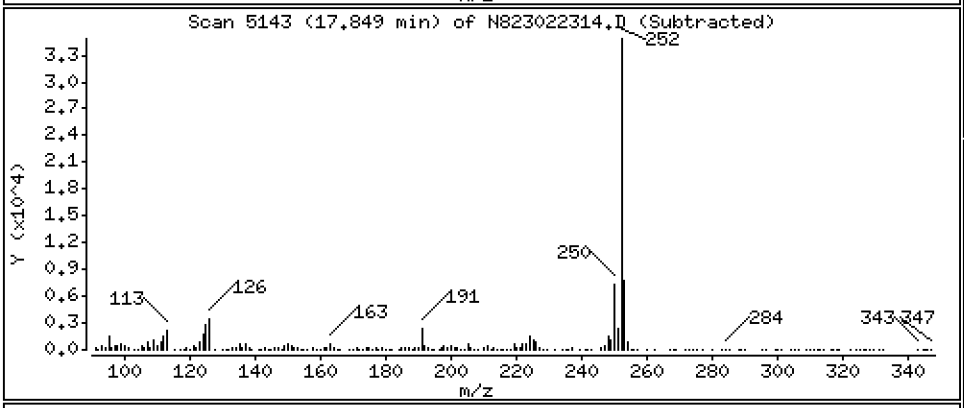
Column phase: Rxi-17sil

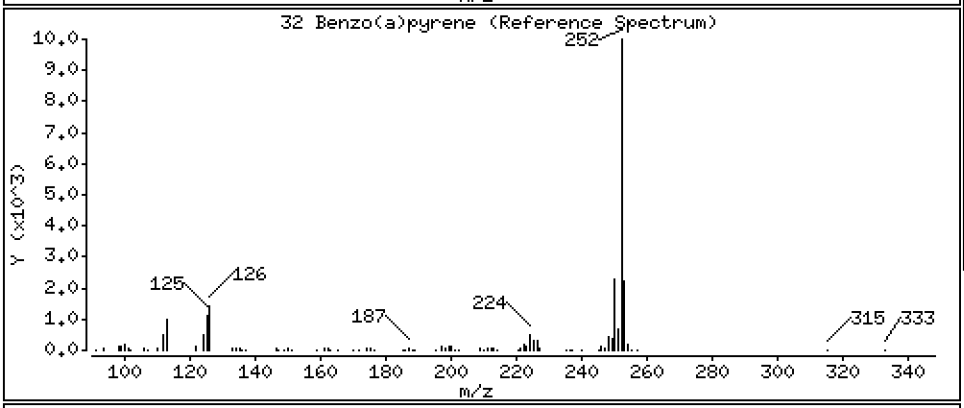
Column diameter: 0.25

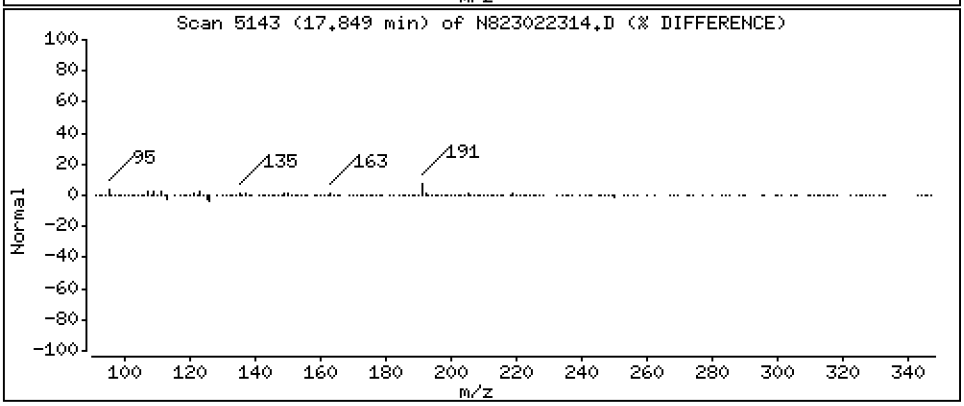
32 Benzo(a)pyrene

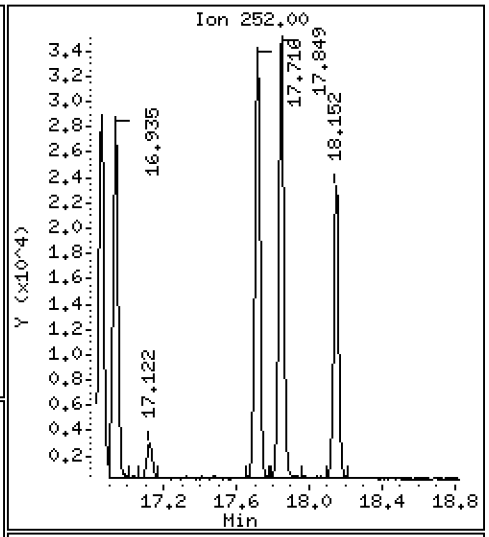
Concentration: 6.771 ug/mL

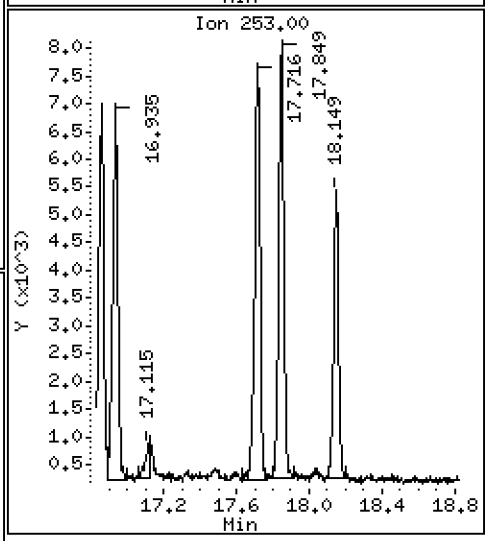












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Date : 23-FEB-2023 17:24

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MS1,

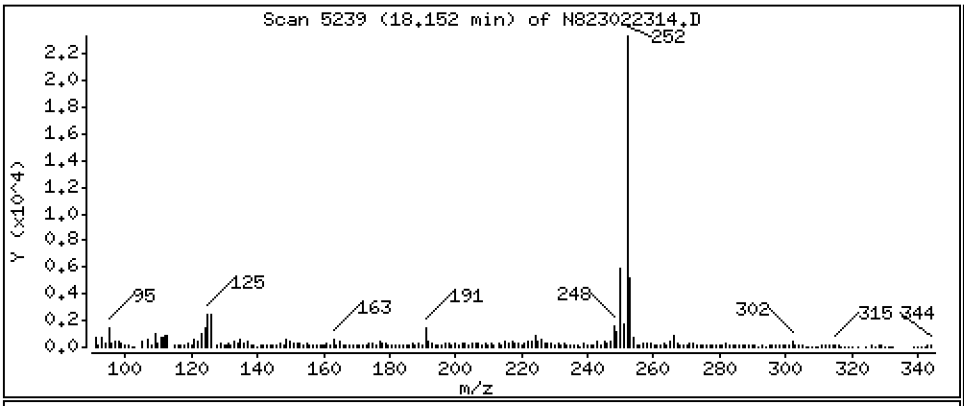
Operator: JZ

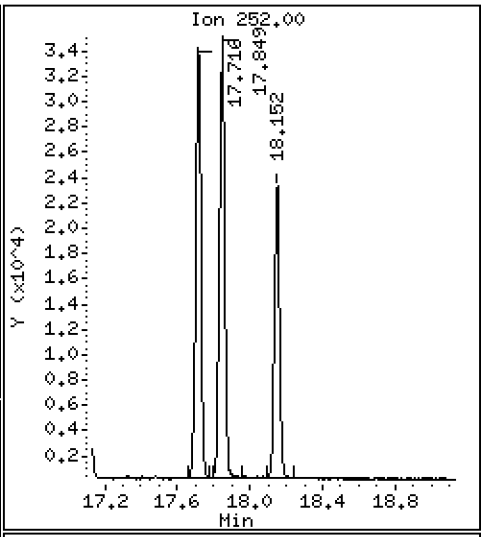
Column phase: Rxi-17sil

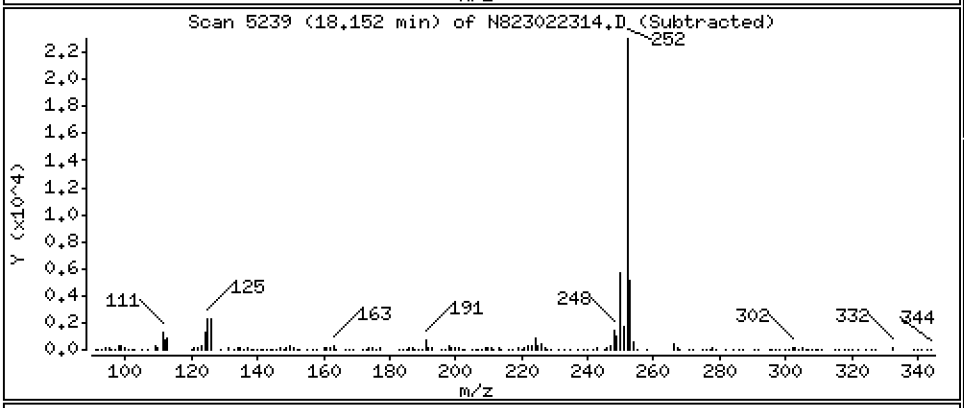
Column diameter: 0.25

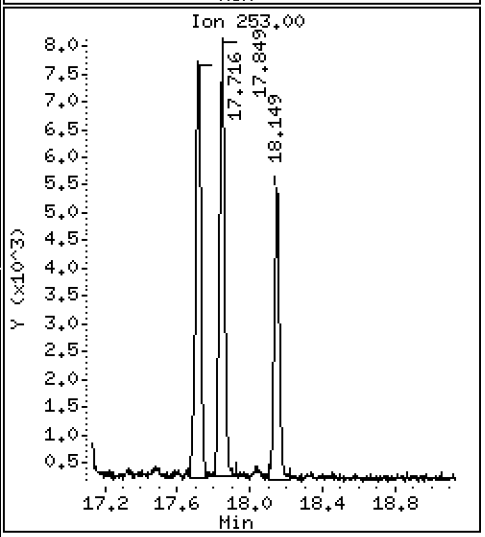
35 Perylene

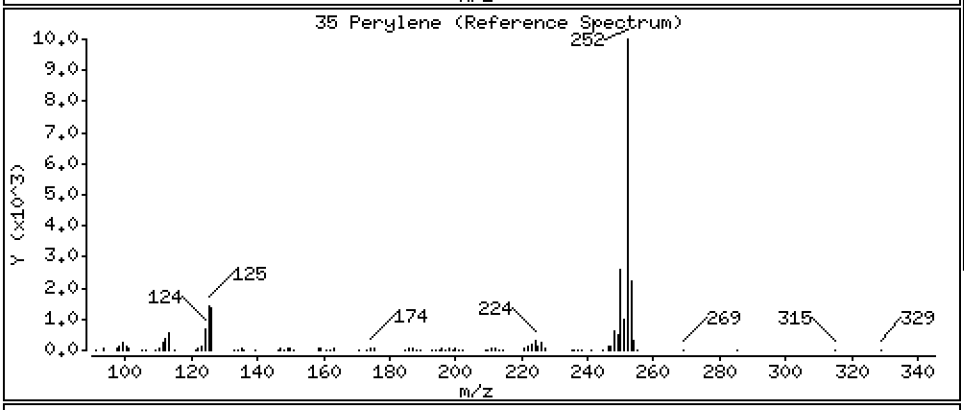
Concentration: 4.140 ug/mL

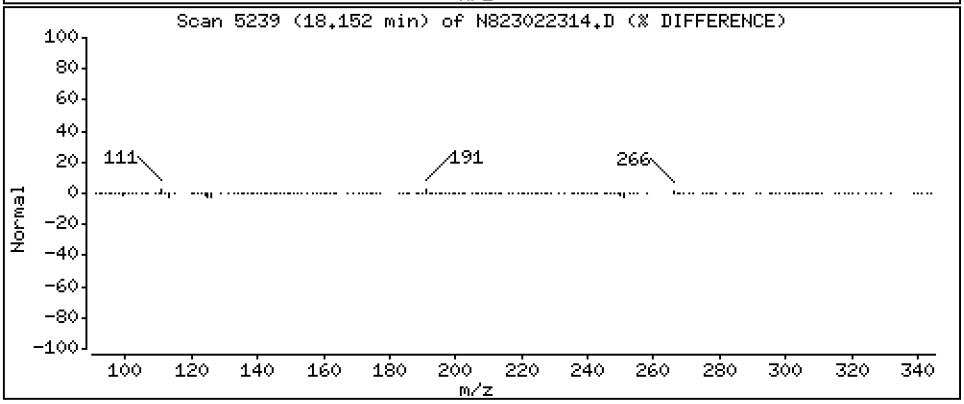












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022314.D

Date : 23-FEB-2023 17:24

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MS1,

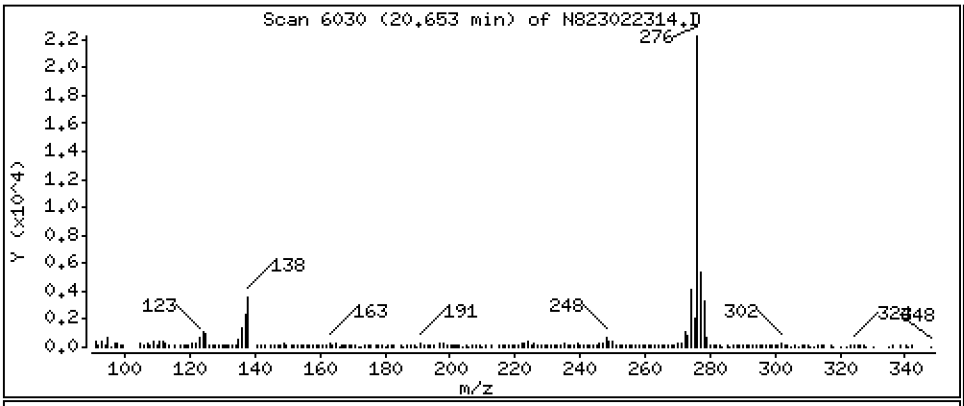
Operator: JZ

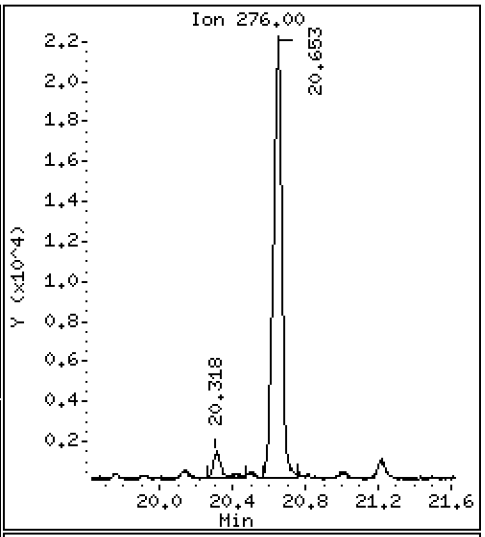
Column phase: Rxi-17sil

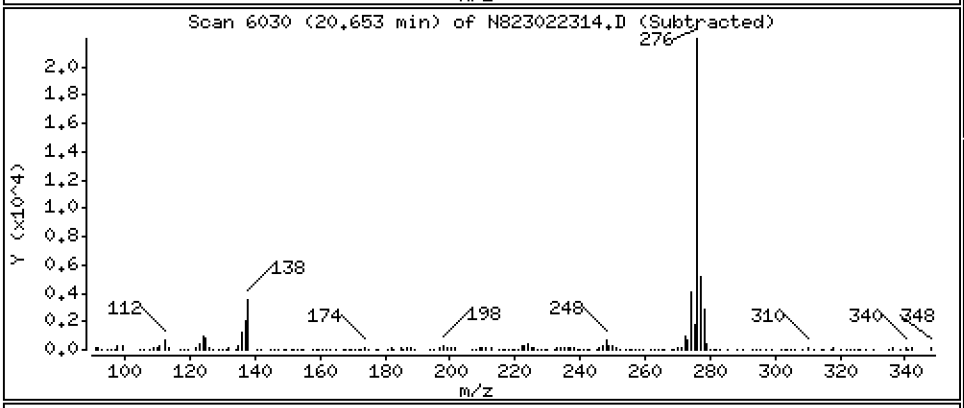
Column diameter: 0.25

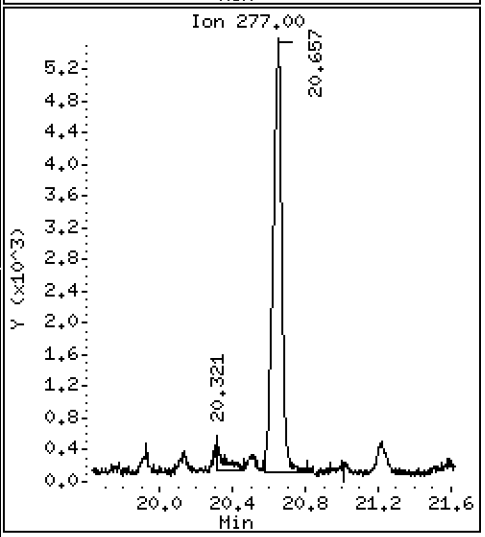
37 Indeno(1,2,3-cd)pyrene

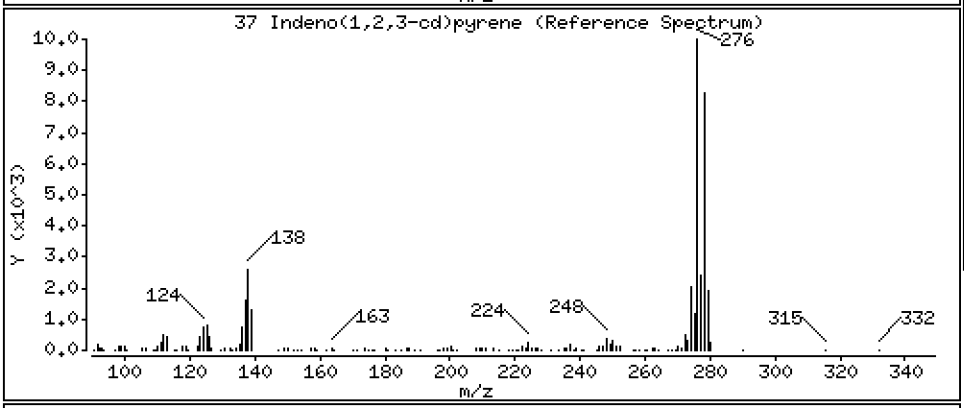
Concentration: 6.156 ug/mL

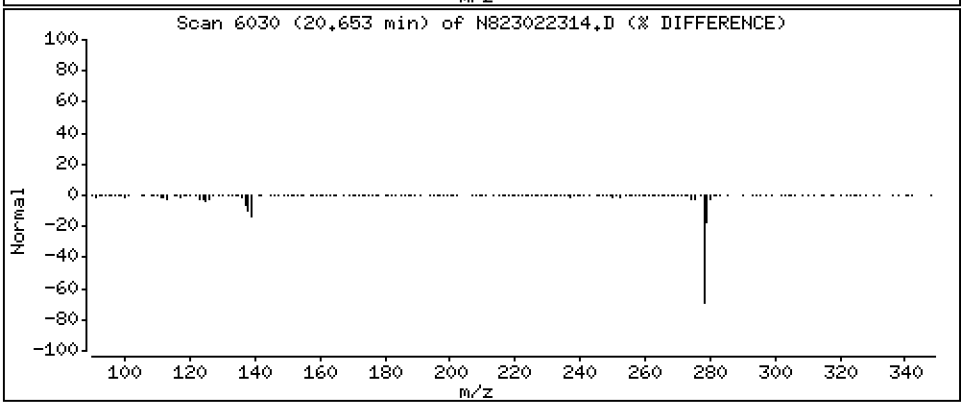












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Date : 23-FEB-2023 17:24

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MS1,

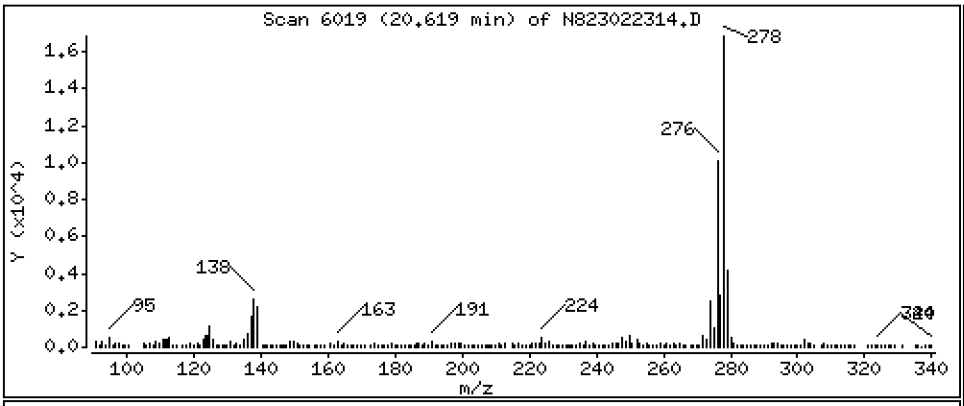
Operator: JZ

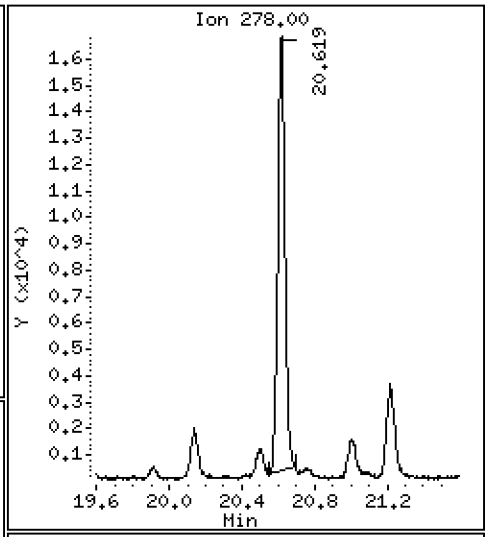
Column phase: Rxi-17sil

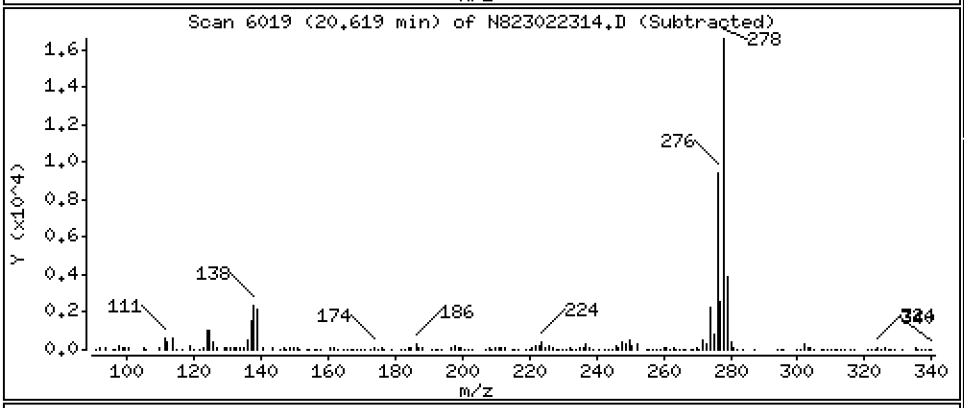
Column diameter: 0.25

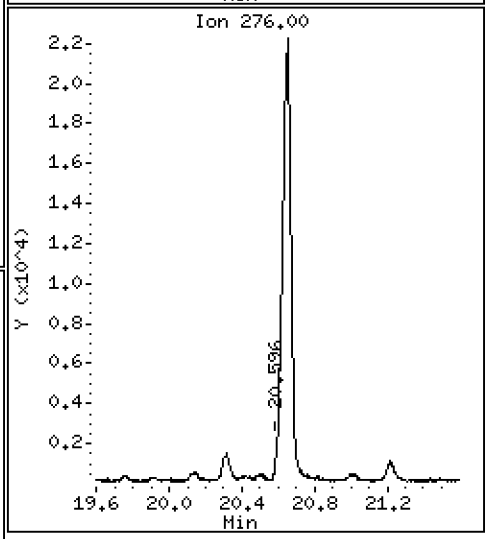
38 Dibenzo(a,h)anthracene

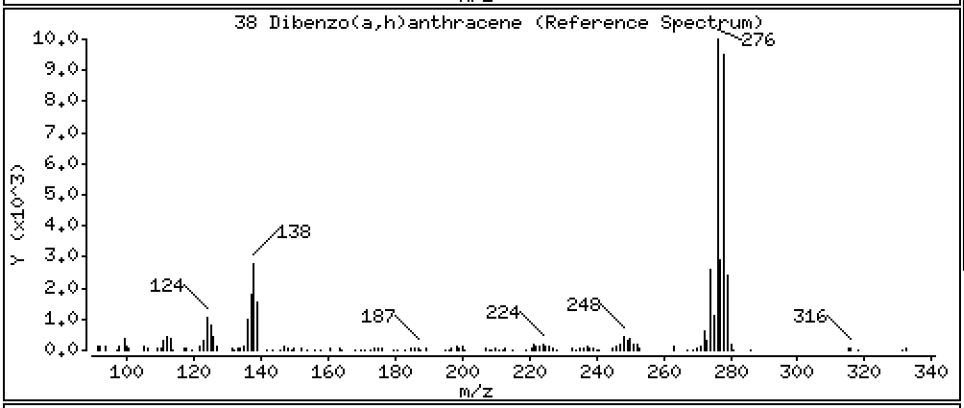
Concentration: 4.537 ug/mL

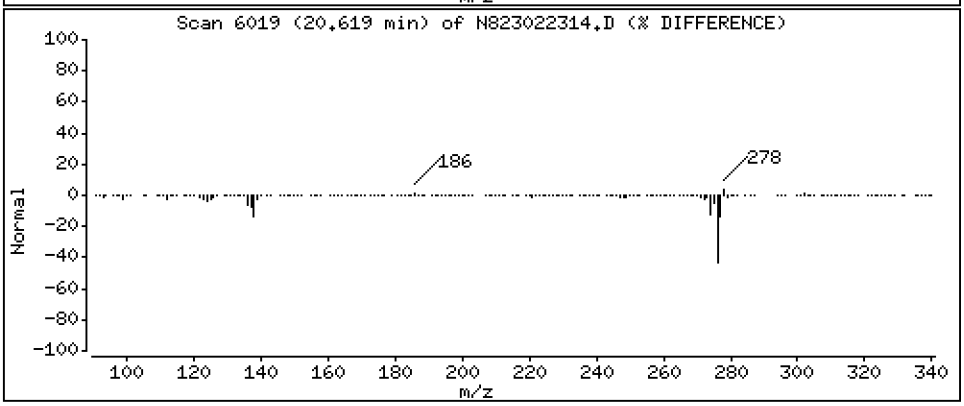












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022314.D

Date : 23-FEB-2023 17:24

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MS1,

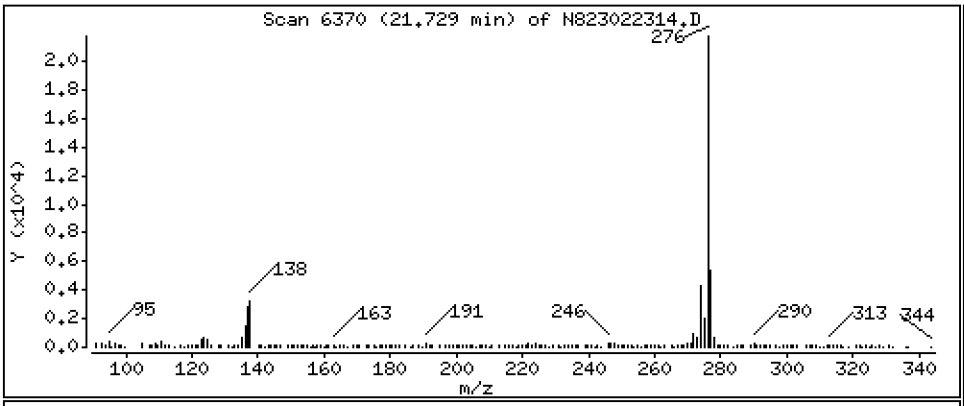
Operator: JZ

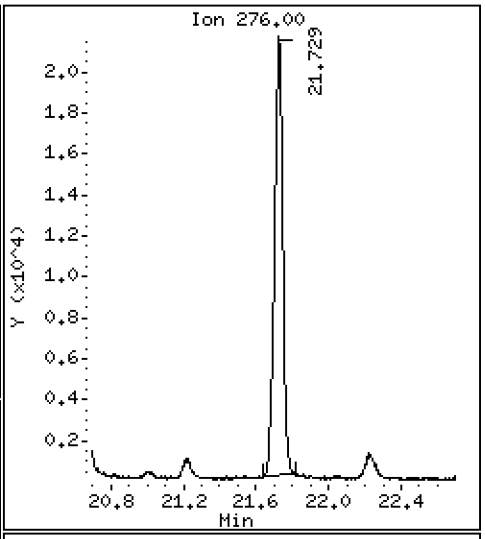
Column phase: Rxi-17sil

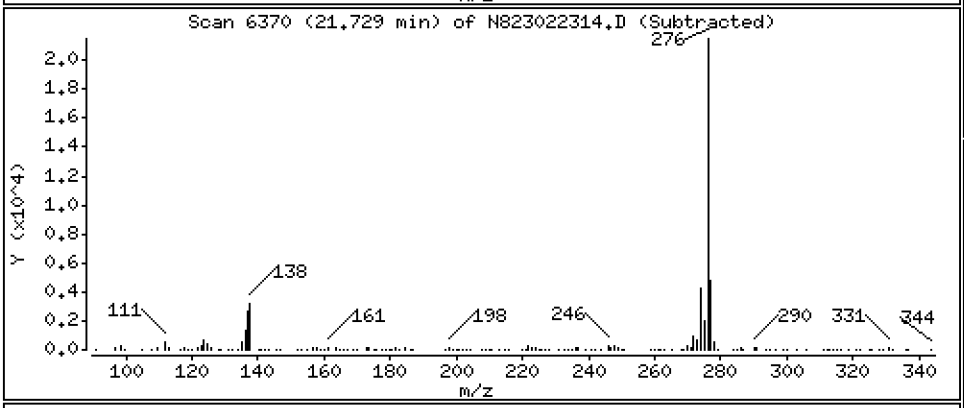
Column diameter: 0.25

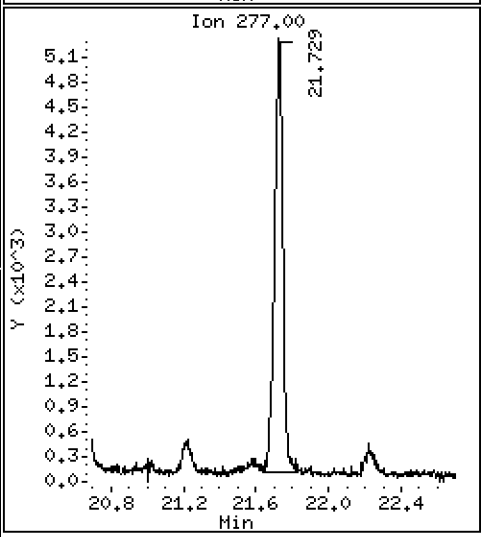
39 Benzo(g,h,i)perylene

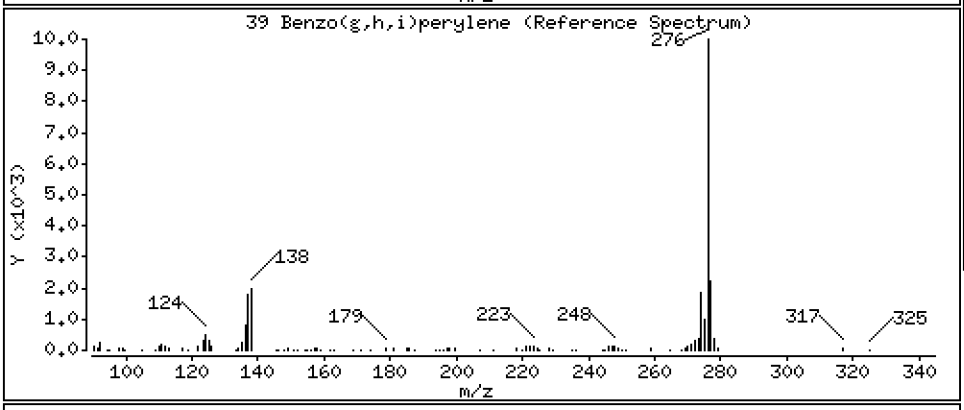
Concentration: 6.410 ug/mL

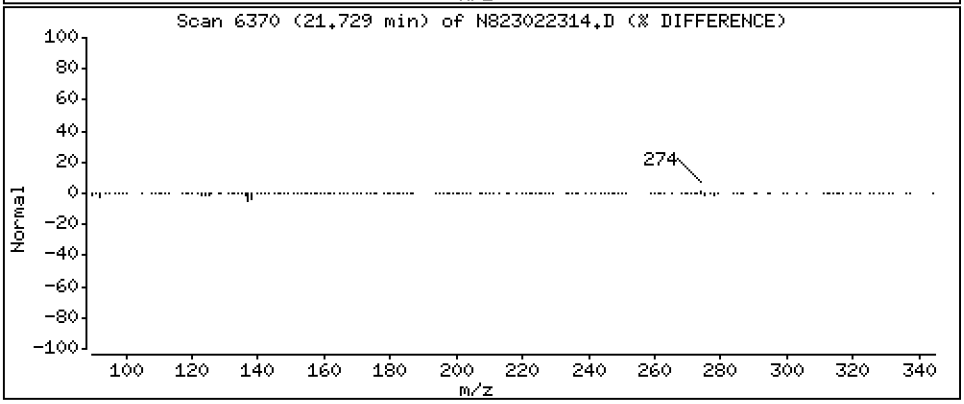












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230223.b\N823022314.D
Lab Smp Id: BLB0386-MS1
Inj Date : 23-FEB-2023 17:24
Operator : JZ Inst ID: nt8.i
Smp Info : BLB0386-MS1,
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Meth Date : 26-Feb-2023 12:40 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PNAXEMDL.sub
Target Version: 4.14
Processing Host: JIANQING-202105

							CONCENTRATIONS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.862	4.871	(1.000)	39215	2.00000	
	2 Naphthalene	128	4.894	4.903	(1.007)	60647	3.32615	3.326
$	3 2-Methylnaphthalene-d10	152	5.602	5.605	(1.152)	23159	2.16542	2.165
	4 2-Methylnaphthalene	141	5.646	5.652	(1.161)	34939	3.48369	3.484
	5 1-methylnaphthalene	141	5.845	5.849	(1.202)	32893	3.23150	3.231
	9 Acenaphthylene	152	7.050	7.050	(0.985)	52839	3.08484	3.085
*	10 Acenaphthene-d10	164	7.158	7.158	(1.000)	22683	2.00000	
	11 Acenaphthene	153	7.208	7.208	(1.007)	37663	3.28171	3.282
	12 Dibenzofuran	168	7.360	7.360	(1.028)	54188	3.10862	3.109
	14 Fluorene	166	7.841	7.837	(1.095)	43923	3.24427	3.244
*	15 Phenanthrene-d10	188	9.203	9.197	(1.000)	40075	2.00000	
	16 Phenanthrene	178	9.241	9.235	(1.004)	106284	5.42936	5.429
	17 Anthracene	178	9.283	9.276	(1.009)	71801	4.03757	4.038
	19 Carbazole	167	9.798	9.791	(1.065)	58383	3.58119	3.581
	22 Fluoranthene	202	11.041	11.009	(1.200)	305062	14.3165	14.32
$	21 Fluoranthene-d10	212	10.996	10.971	(1.195)	51572	2.91681	2.917
	23 Pyrene	202	11.569	11.527	(0.816)	279251	21.8691	21.87
	24 Benzo(a)anthracene	228	14.048	14.025	(0.991)	97397	8.41531	8.415
*	25 Chrysene-d12	240	14.171	14.152	(1.000)	20596	2.00000	
	27 Chrysene	228	14.247	14.225	(1.005)	98945	8.03067	8.031
	28 Benzo(b)fluoranthene	252	16.799	16.770	(0.930)	80719	6.85101	6.851
	29 Benzo(k)fluoranthene	252	16.859	16.833	(0.933)	56860	4.92696	4.927
	30 Benzo(j)fluoranthene	252	16.935	16.912	(0.937)	54531	5.24880	5.249
	31 Total Benzofluoranthenes	252	16.799	16.770	(0.930)	187720	16.8235	16.82(M)
	34 Benzo(e)pyrene	252	17.716	17.696	(0.980)	66767	5.68278	5.683
	32 Benzo(a)pyrene	252	17.848	17.826	(0.988)	70200	6.77074	6.771
*	33 Perylene-d12	264	18.070	18.057	(1.000)	20230	2.00000	
	35 Perylene	252	18.152	18.130	(1.005)	46058	4.13964	4.140
$	36 Dibenzo(a,h)anthracene-d14	292	20.501	20.485	(1.135)	21331	2.69108	2.691(M)
	37 Indeno(1,2,3-cd)pyrene	276	20.653	20.624	(1.143)	72713	6.15596	6.156
	38 Dibenzo(a,h)anthracene	278	20.618	20.596	(1.141)	46117	4.53684	4.537(M)
	39 Benzo(g,h,i)perylene	276	21.728	21.696	(1.202)	68601	6.41024	6.410(M)

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823022314.D
Lab Smp Id: BLB0386-MS1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 23-FEB-2023
Calibration Time: 11:46
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	37022	18511	74044	39215	5.92
10 Acenaphthene-d10	22454	11227	44908	22683	1.02
15 Phenanthrene-d10	43277	21639	86554	40075	-7.40
25 Chrysene-d12	38907	19454	77814	20596	-47.06
33 Perylene-d12	39582	19791	79164	20230	-48.89

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.87	4.37	5.37	4.86	-0.19
10 Acenaphthene-d10	7.16	6.66	7.66	7.16	0.00
15 Phenanthrene-d10	9.20	8.70	9.70	9.20	0.07
25 Chrysene-d12	14.15	13.65	14.65	14.17	0.14
33 Perylene-d12	18.06	17.56	18.56	18.07	0.07

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

REVIEW SUMMARY FOR FILE - N823022314.D

Lab ID: BLB0386-MS1
nt8.i, 20230223.b\FSIMPNA230119.m,   23-FEB-2023 17:24

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

No RRT check performed

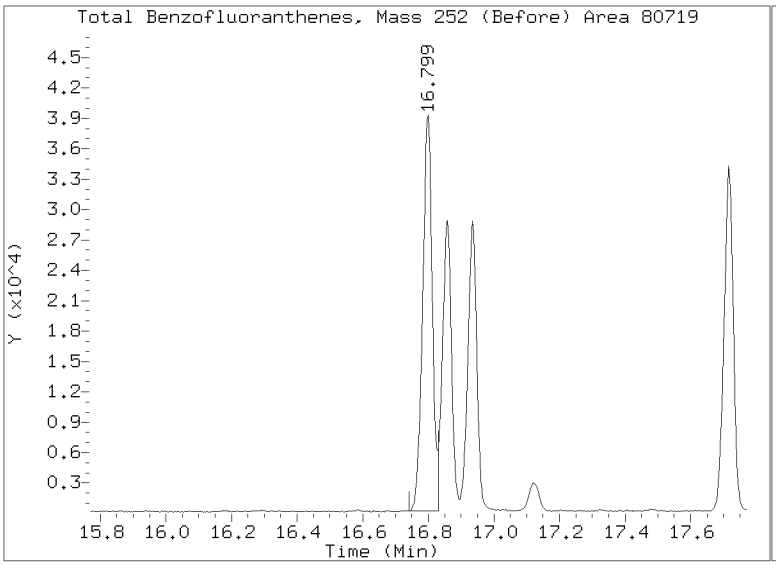
On Column LOD for nt8.i, 20230223.b\FSIMPNA230119.m, PNAXEMDL.sub = 0.0080

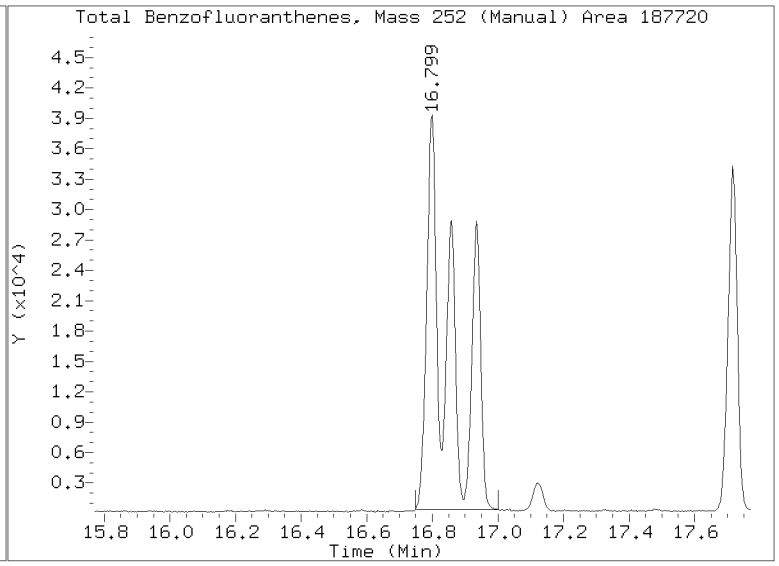
Exception: Benzo(e)pyrene 0.0800

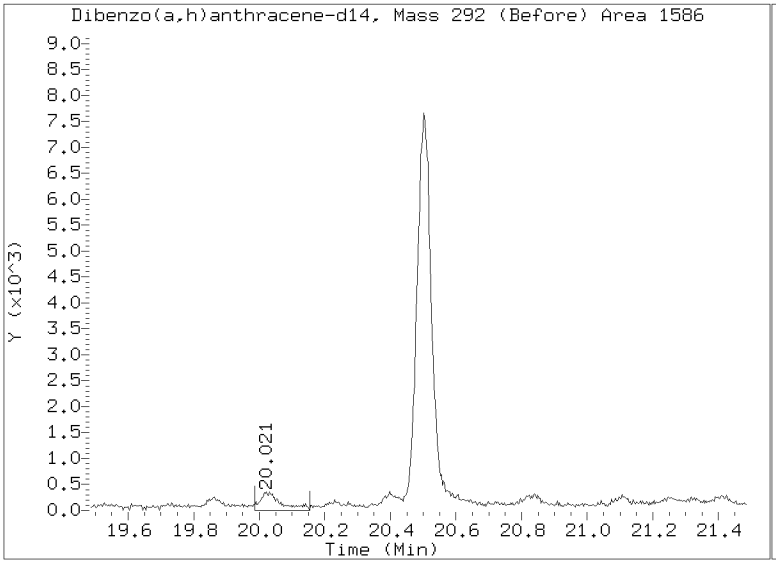
* Only compounds listed in the work order have been verified by the analyst *

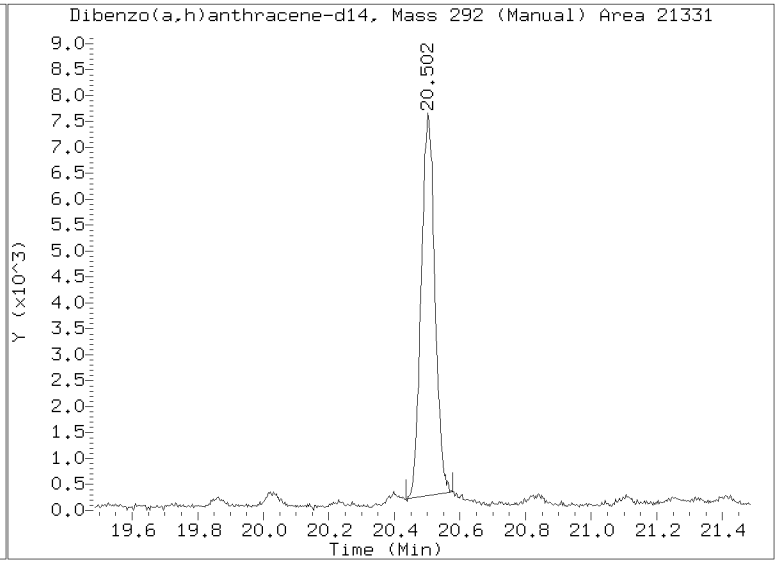
Quant Ion Manual Peak Adjustment Report

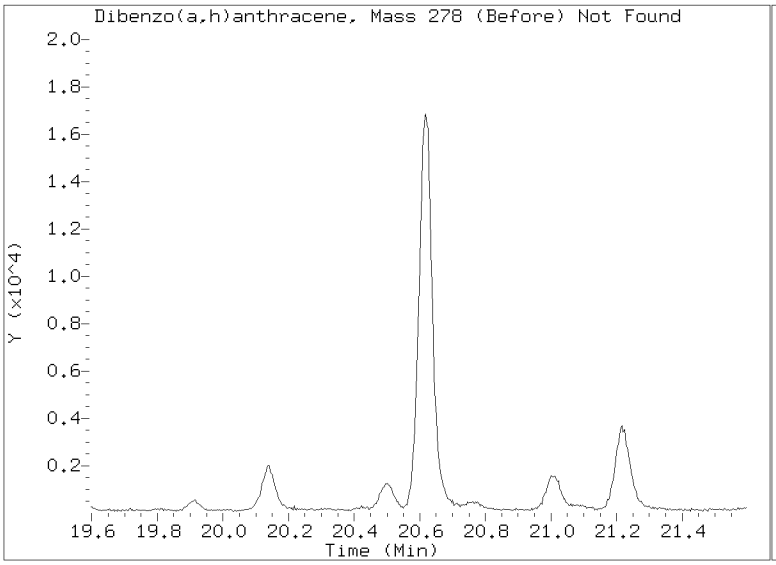
Datafile: //target/share/chem3/nt8.i/20230223.b/N823022314.D
Injection Date: 23-FEB-2023 17:24
Lab ID:BLB0386-MS1 Client ID:
Report Date: 02/26/2023 14:18

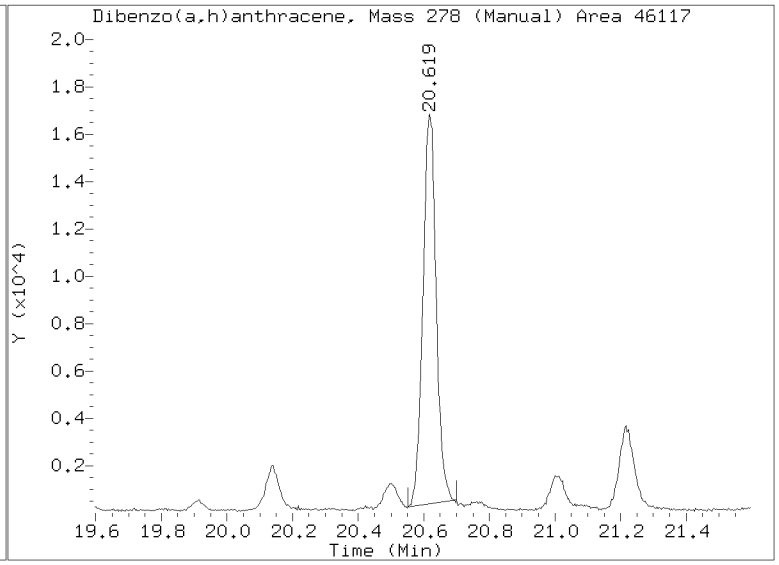






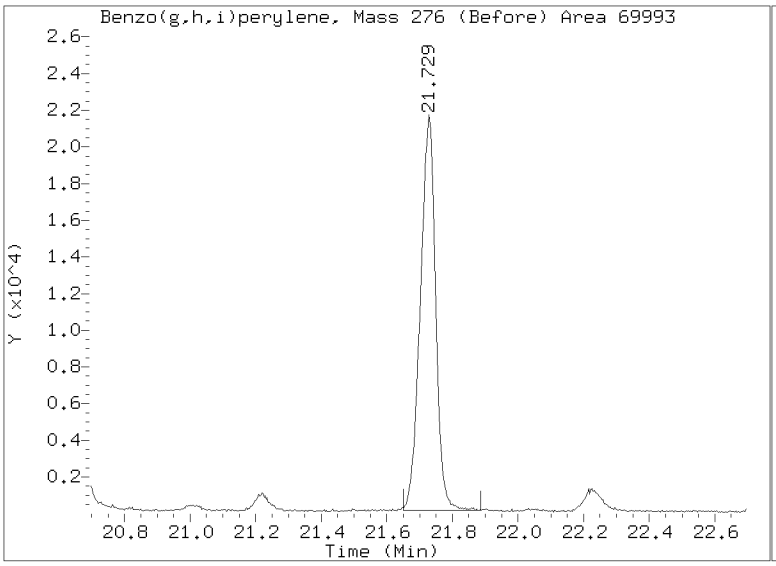


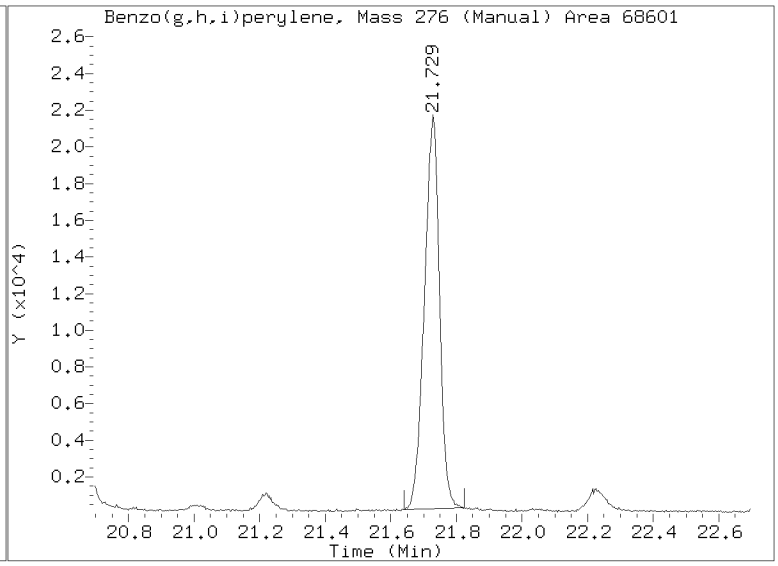




Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20230223.b/N823022314.D
Injection Date: 23-FEB-2023 17:24
Lab ID:BLB0386-MS1 Client ID:
Report Date: 02/26/2023 14:18



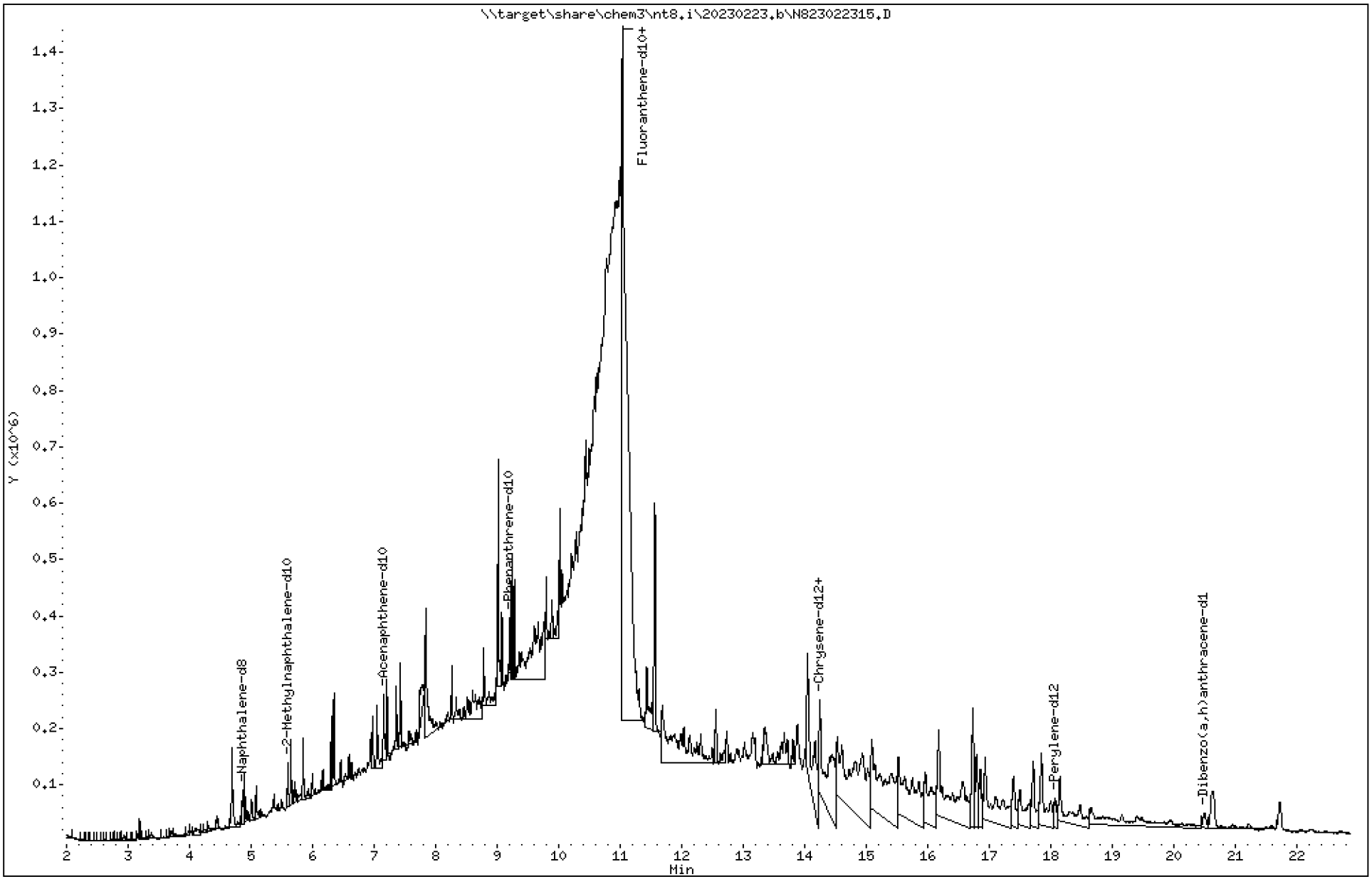


Data File: \\target\share\chem3\nt8.i\20230223.b\N823022315.D
Date : 23-FEB-2023 17:51
Client ID:
Sample Info: BLB0386-MSD1,

Column phase: Rxi-17sil

Instrument: nt8.i

Operator: JZ
Column diameter: 0.25



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Date : 23-FEB-2023 17:51

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MSD1,

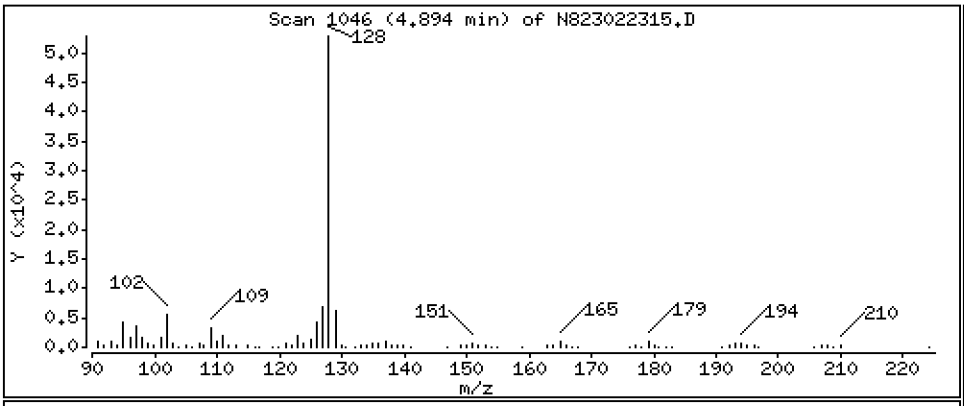
Operator: JZ

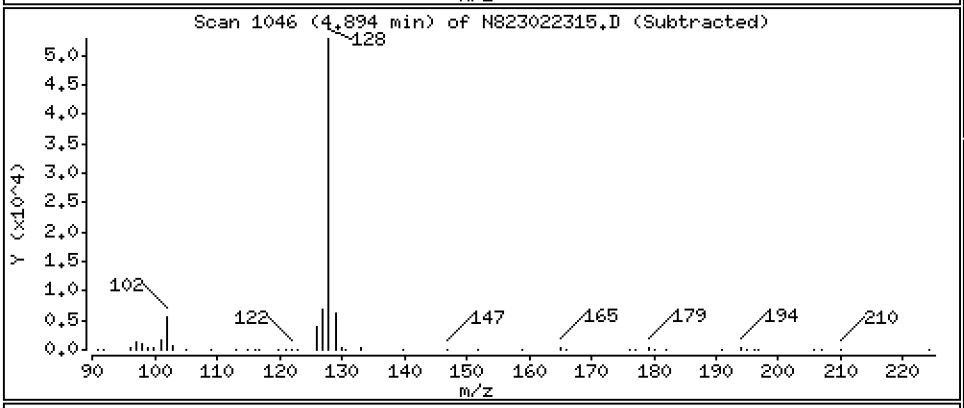
Column phase: Rxi-17sil

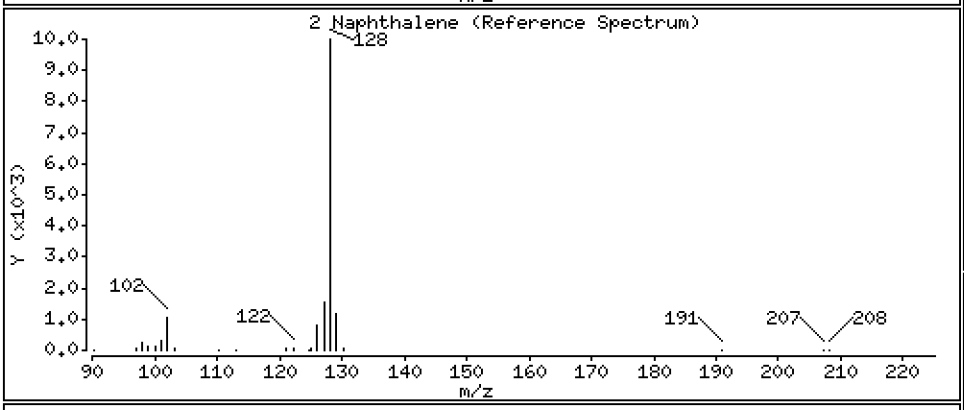
Column diameter: 0.25

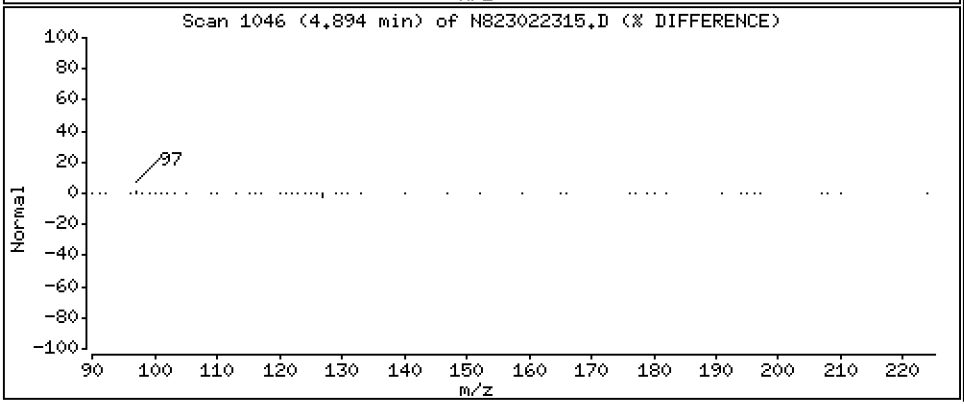
2 Naphthalene

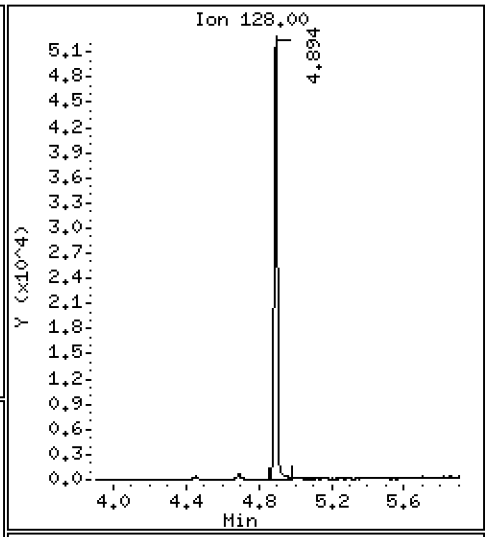
Concentration: 3.269 ug/mL

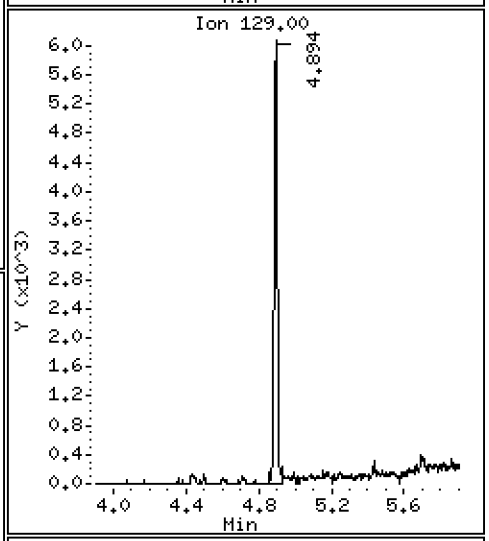


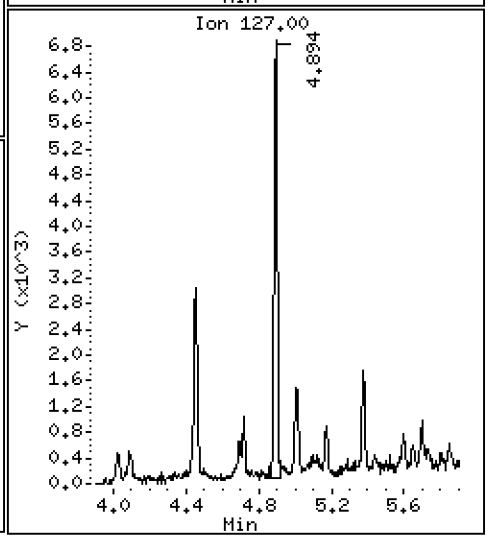












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022315.D

Date : 23-FEB-2023 17:51

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MSD1,

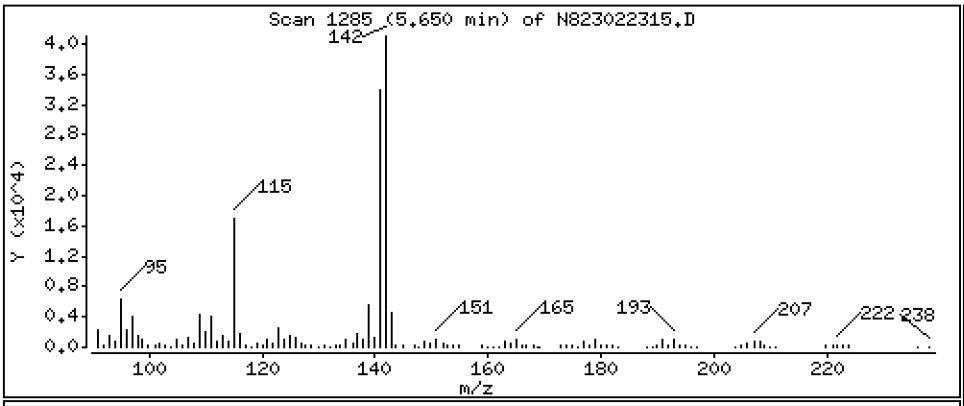
Operator: JZ

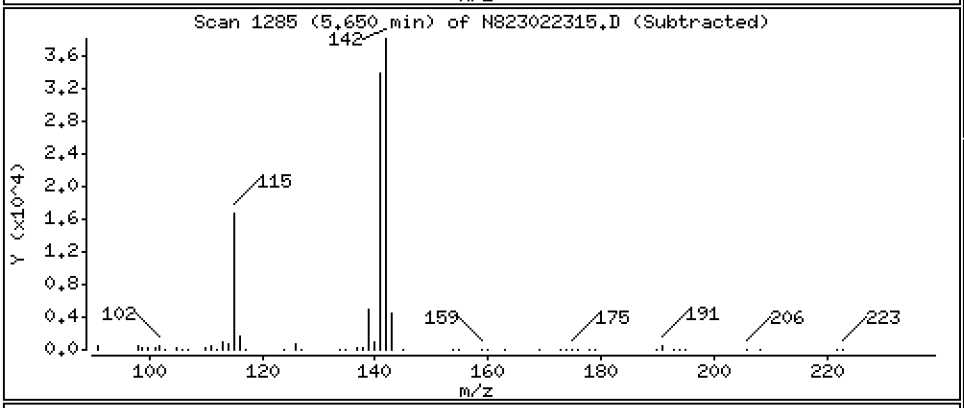
Column phase: Rxi-17sil

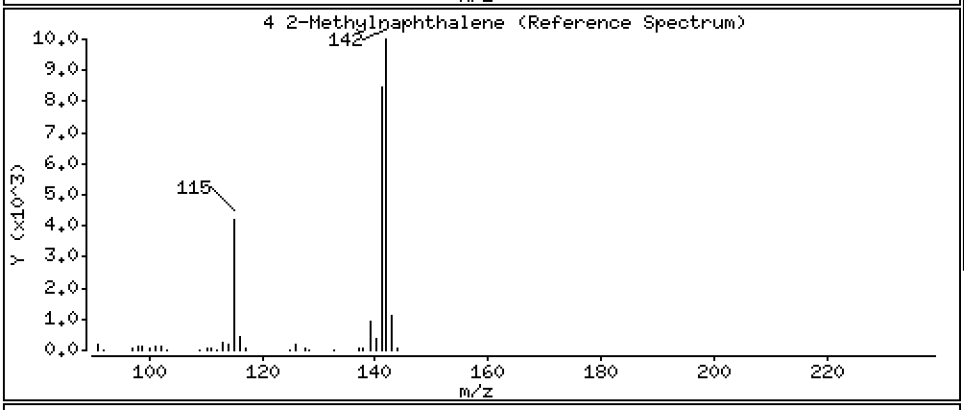
Column diameter: 0.25

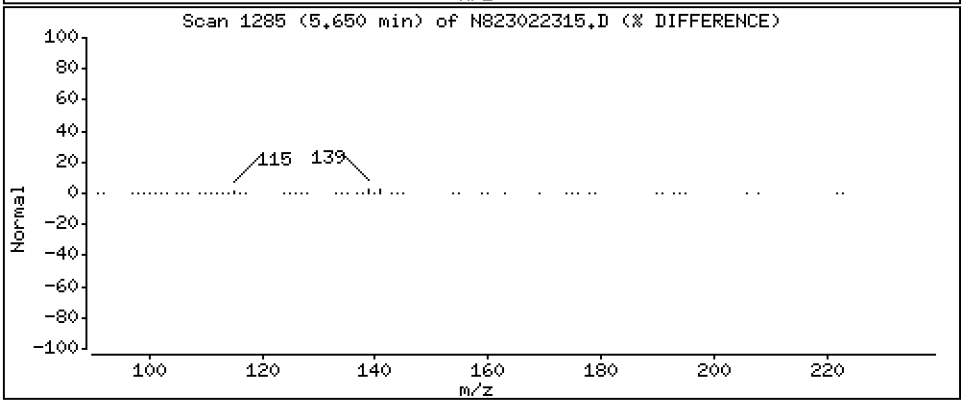
4 2-Methylnaphthalene

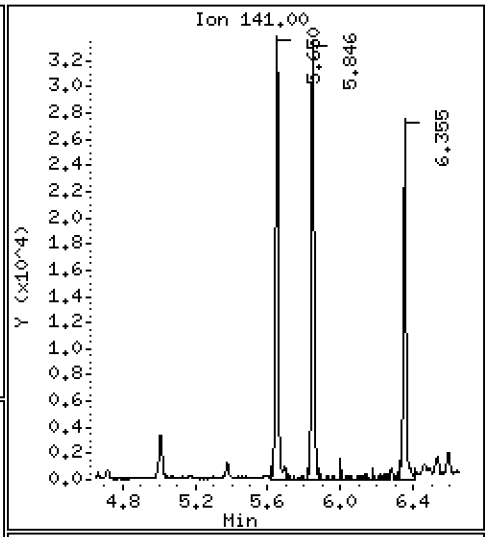
Concentration: 3.497 ug/mL

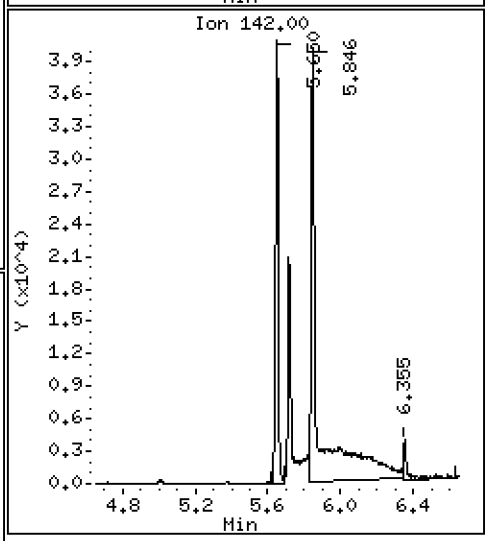












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Date : 23-FEB-2023 17:51

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MSD1,

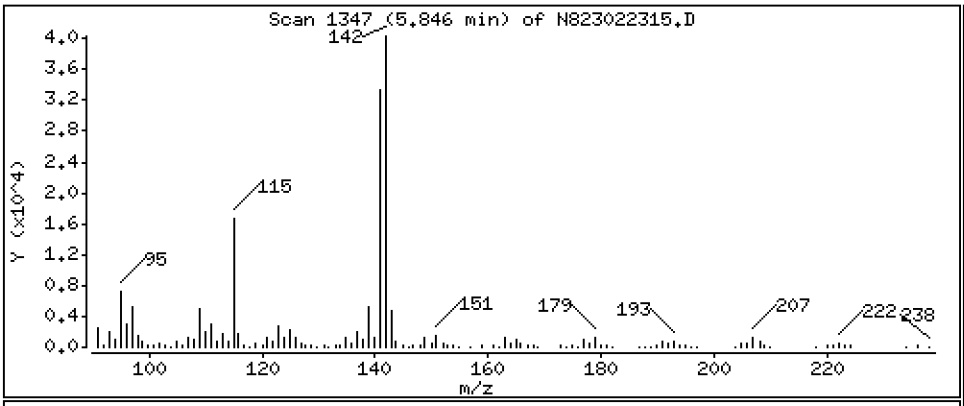
Operator: JZ

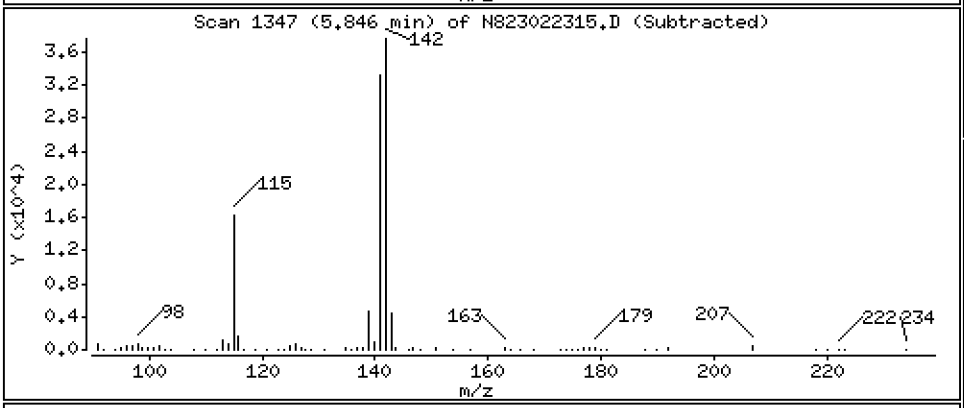
Column phase: Rxi-17sil

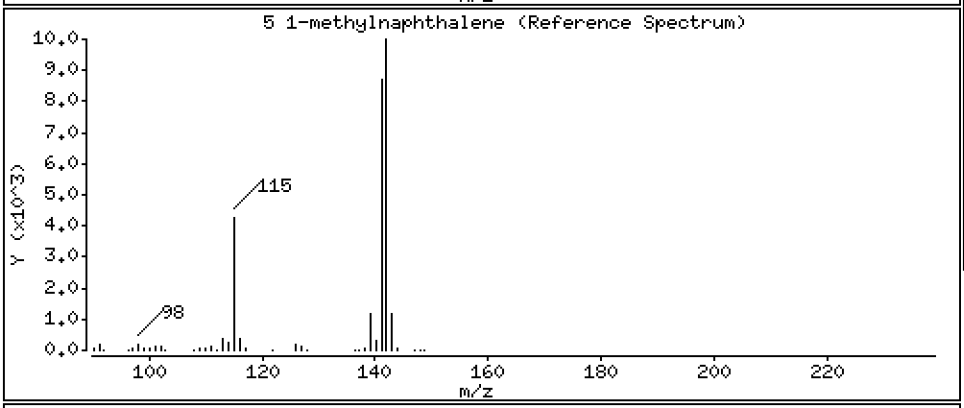
Column diameter: 0.25

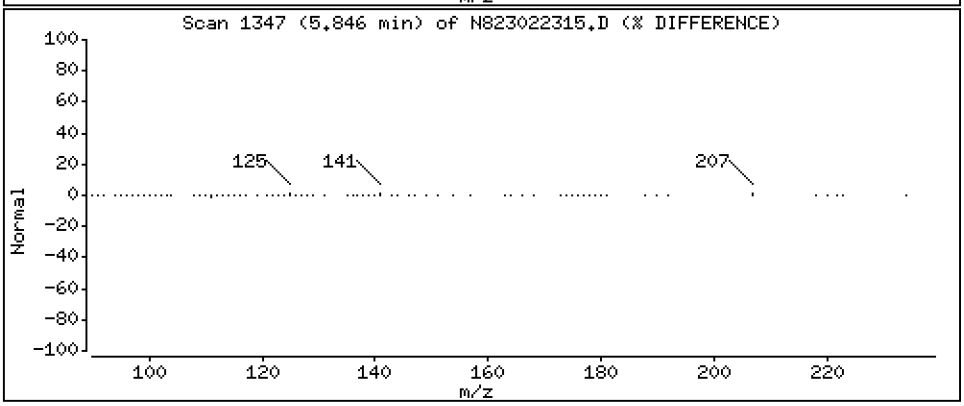
5 1-methylnaphthalene

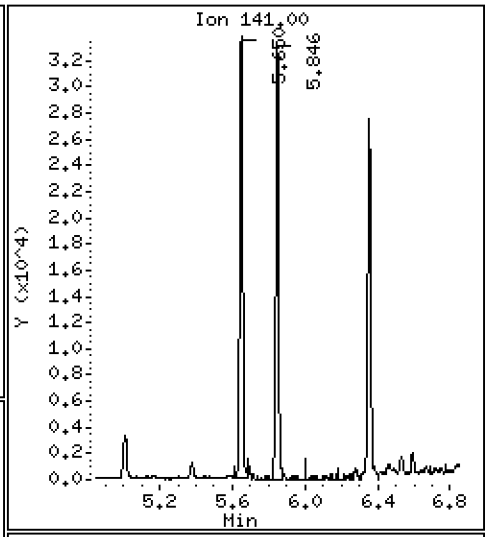
Concentration: 3.263 ug/mL

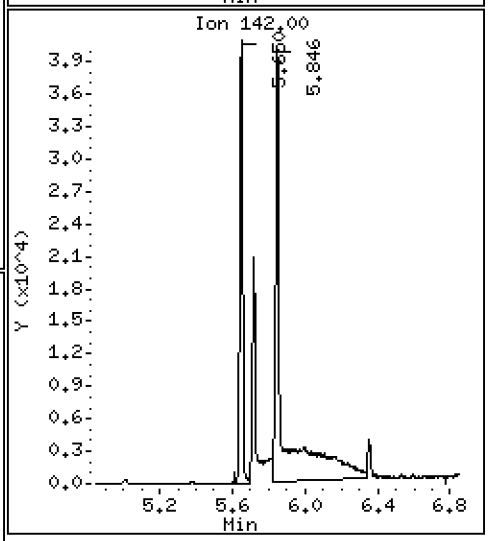












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Date : 23-FEB-2023 17:51

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MSD1,

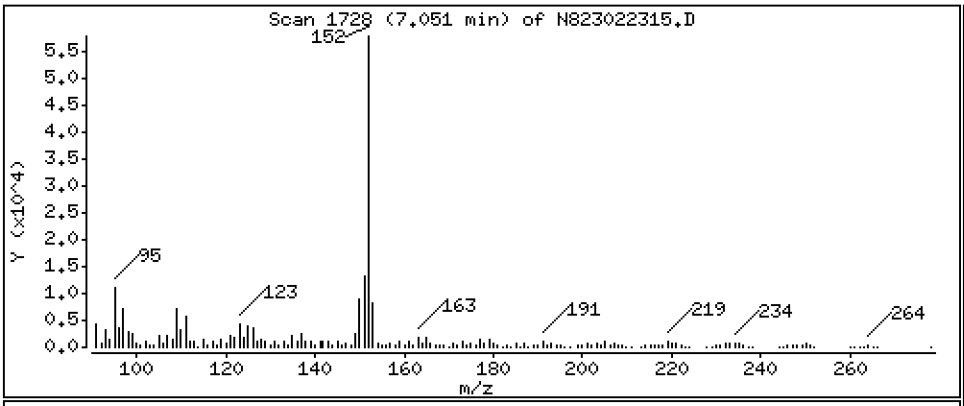
Operator: JZ

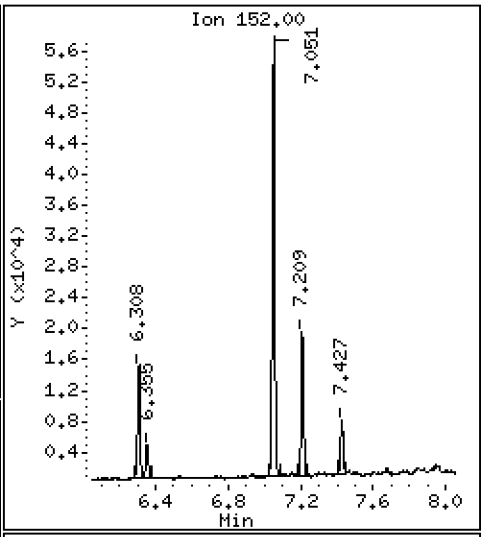
Column phase: Rxi-17sil

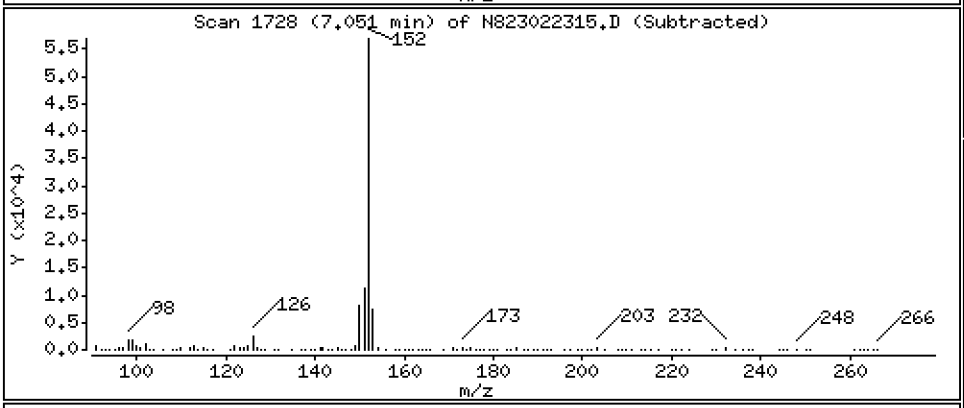
Column diameter: 0.25

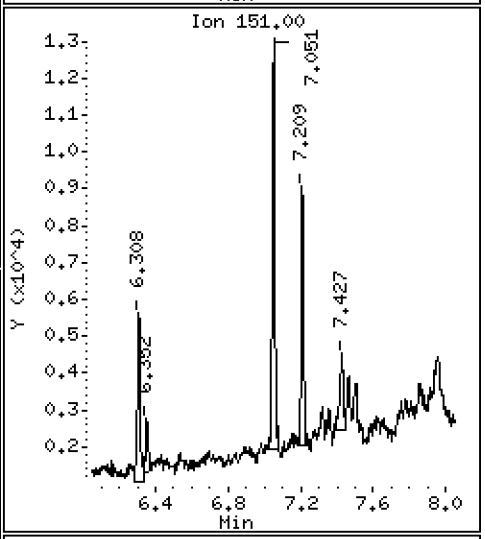
9 Acenaphthylene

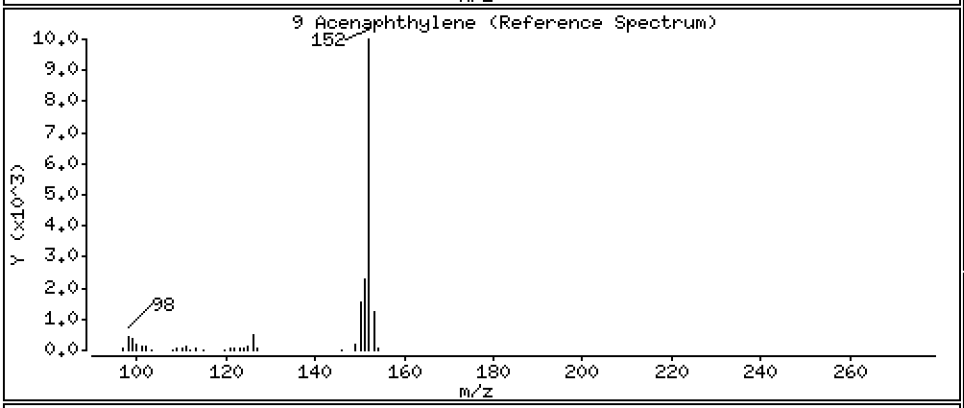
Concentration: 3.007 ug/mL

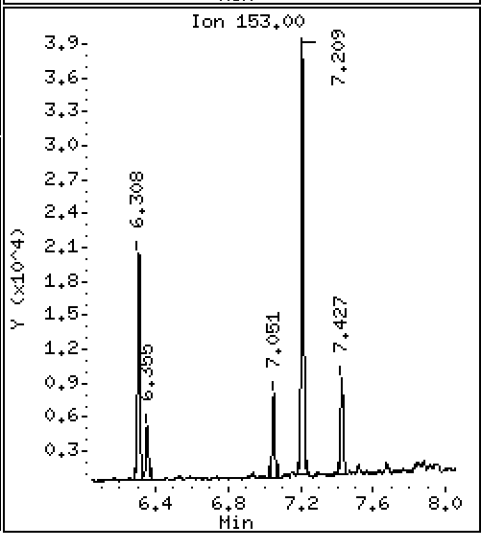


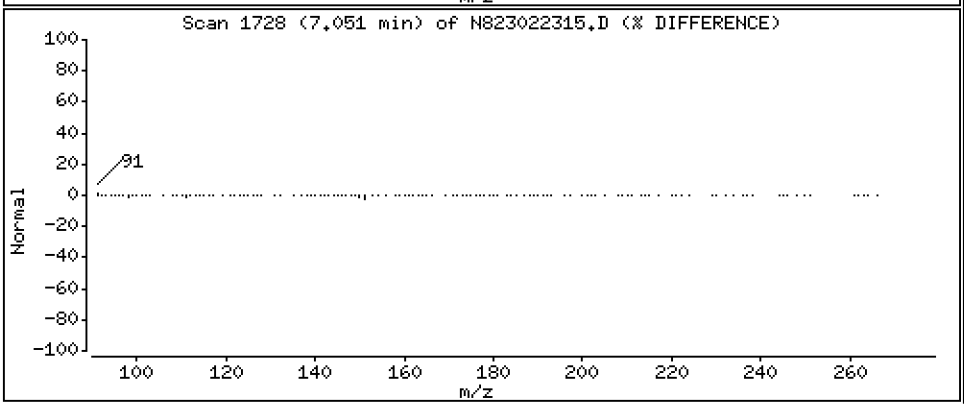












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022315.D

Date : 23-FEB-2023 17:51

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MSD1,

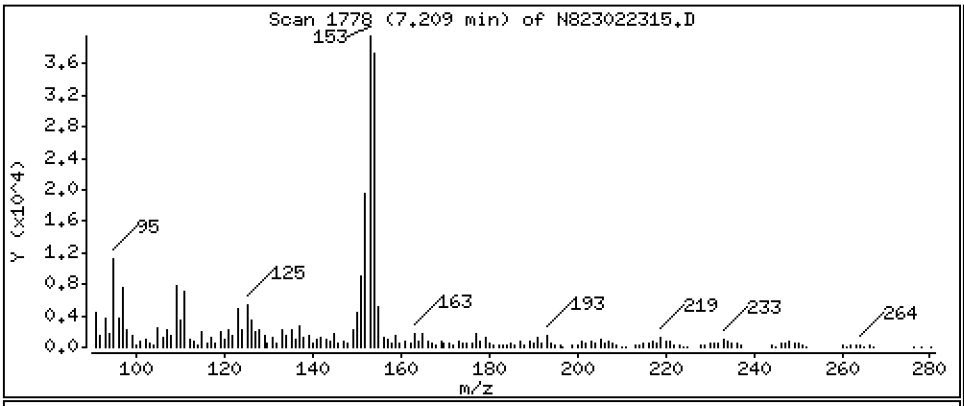
Operator: JZ

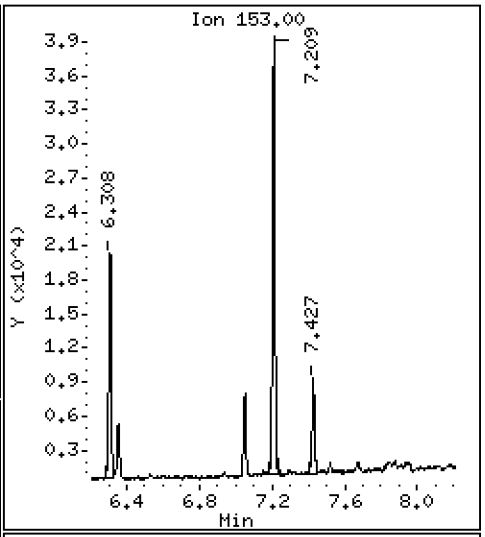
Column phase: Rxi-17sil

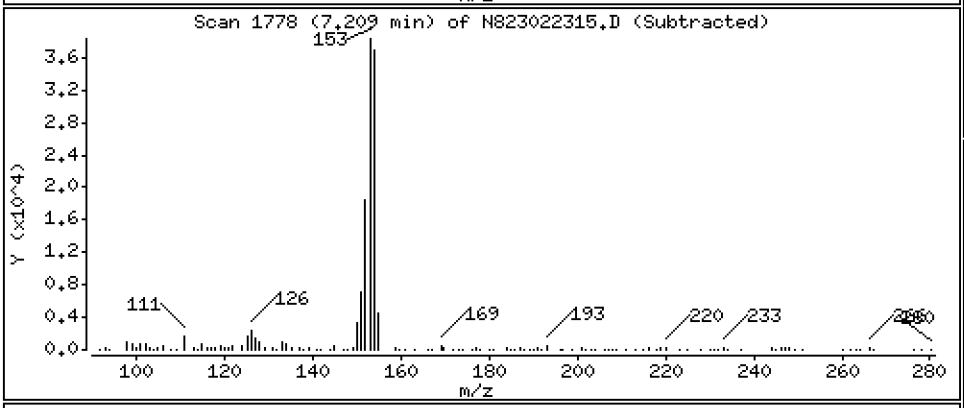
Column diameter: 0.25

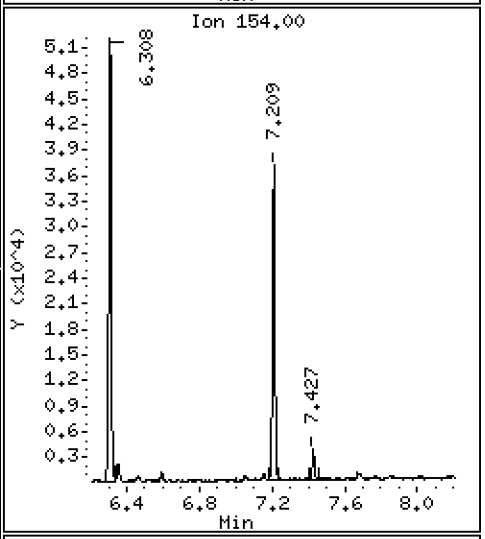
11 Acenaphthene

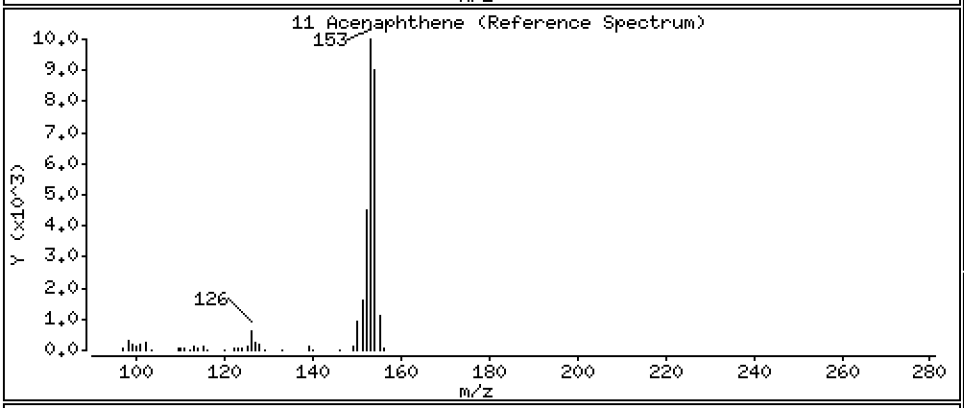
Concentration: 3.029 ug/mL

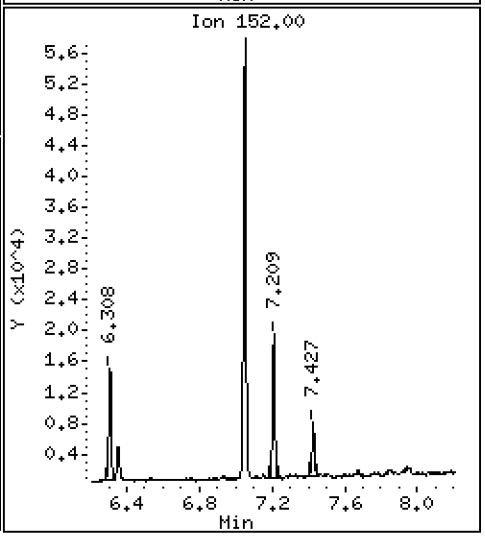


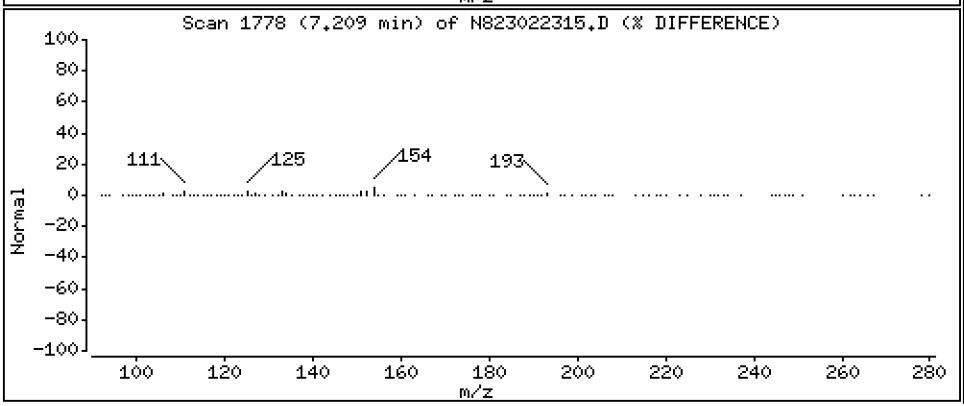












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022315.D

Date : 23-FEB-2023 17:51

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MSD1,

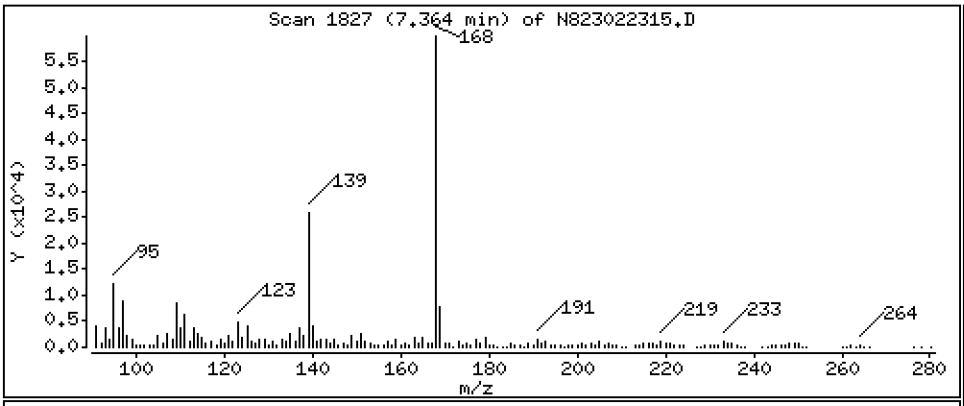
Operator: JZ

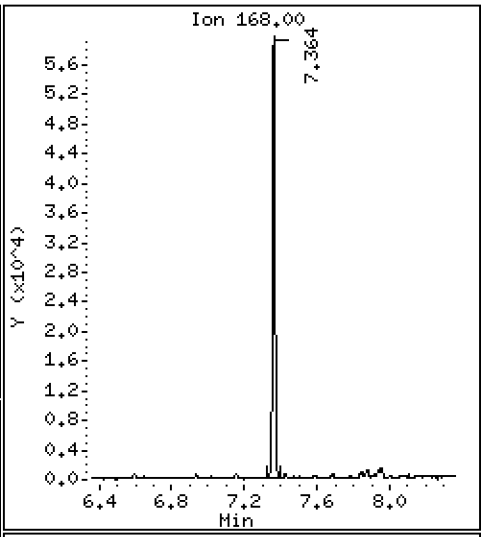
Column phase: Rxi-17sil

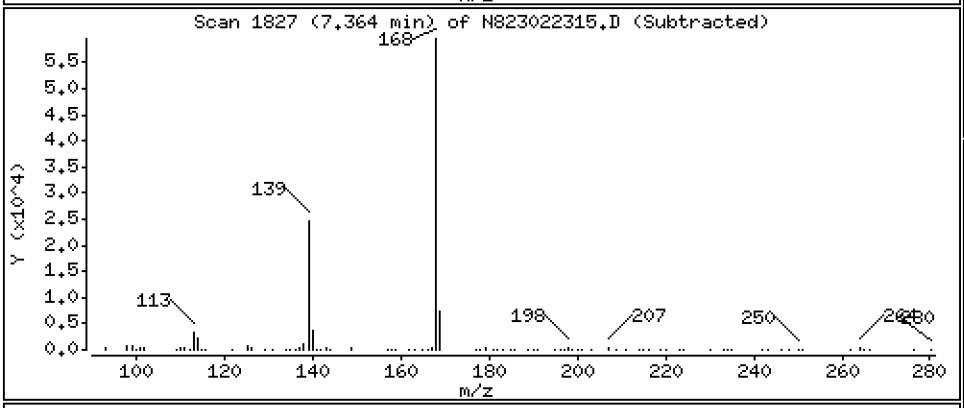
Column diameter: 0.25

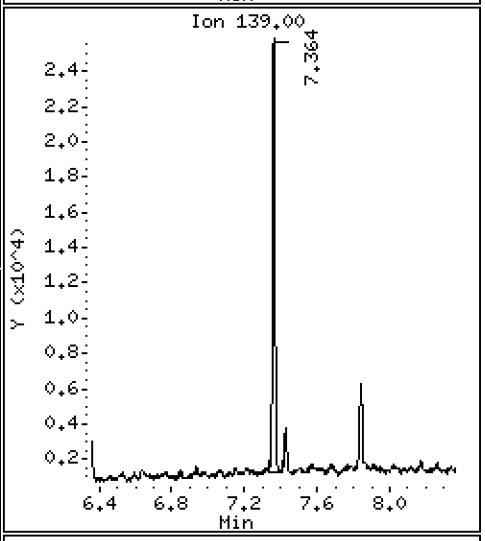
12 Dibenzofuran

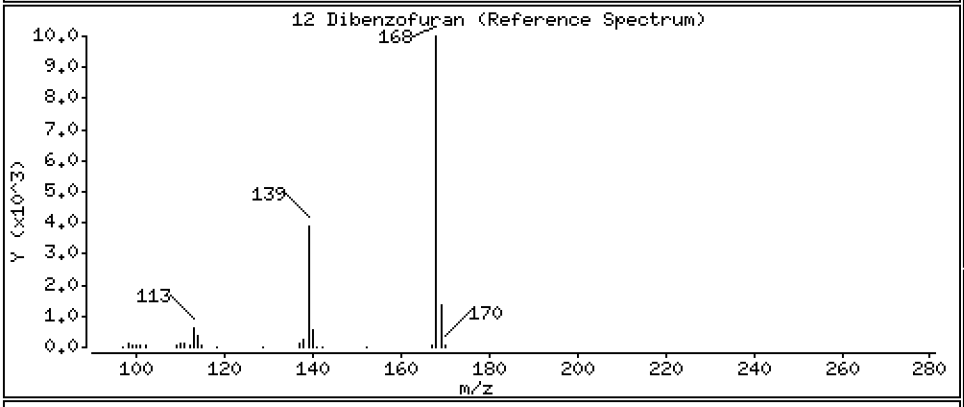
Concentration: 3.078 ug/mL

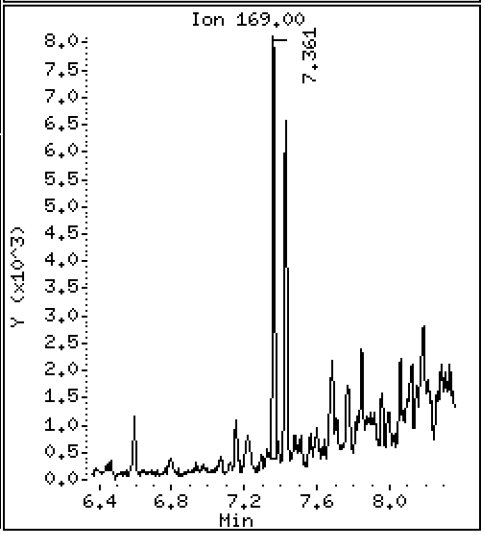


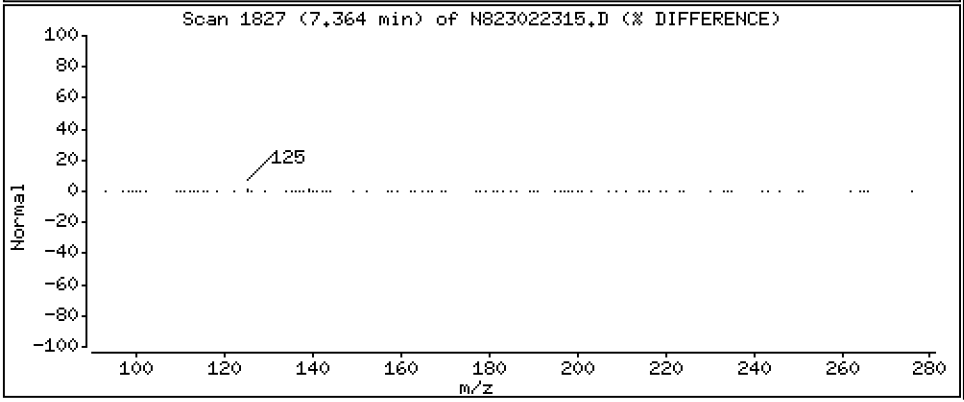












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Date : 23-FEB-2023 17:51

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MSD1,

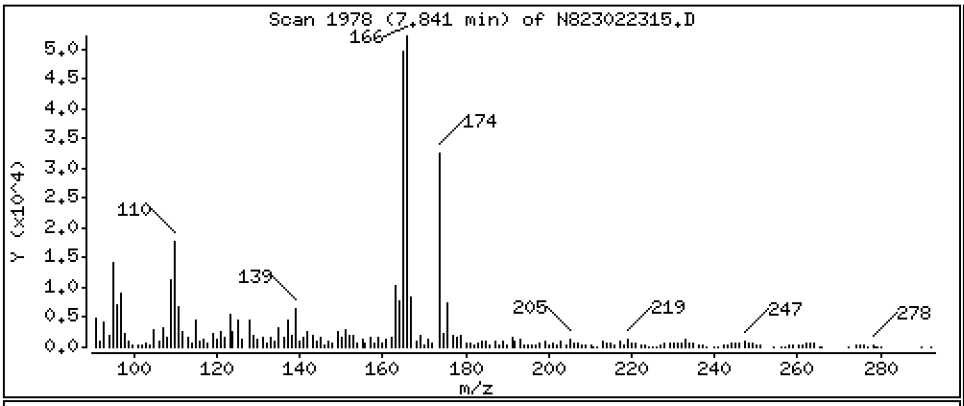
Operator: JZ

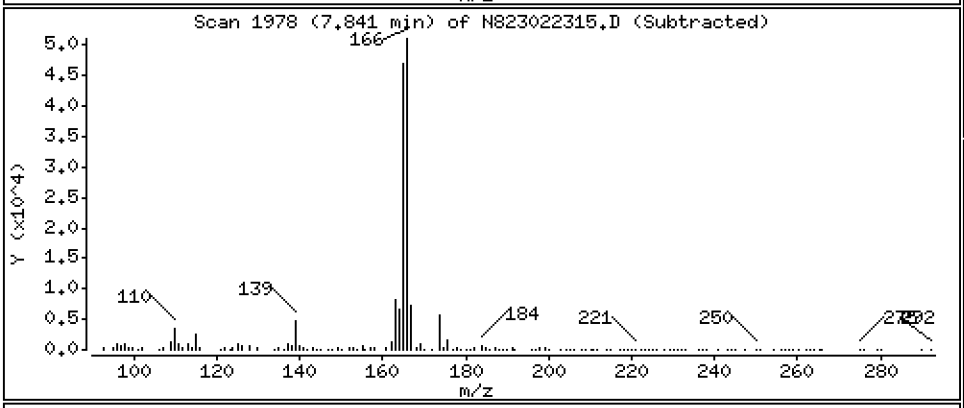
Column phase: Rxi-17sil

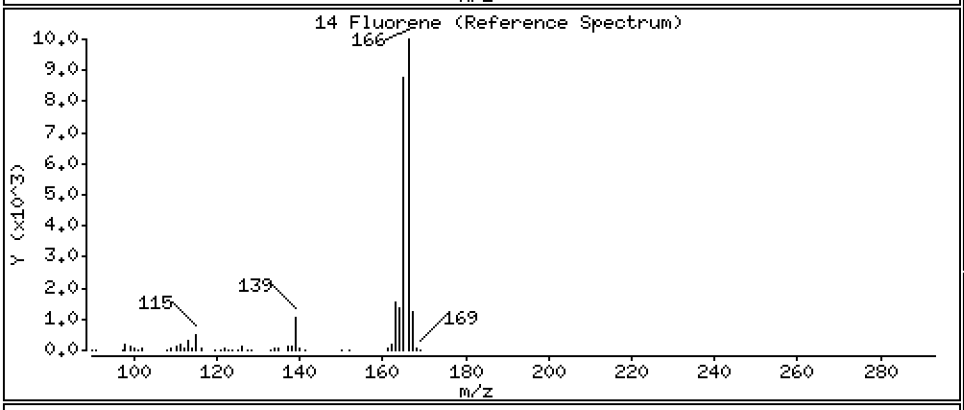
Column diameter: 0.25

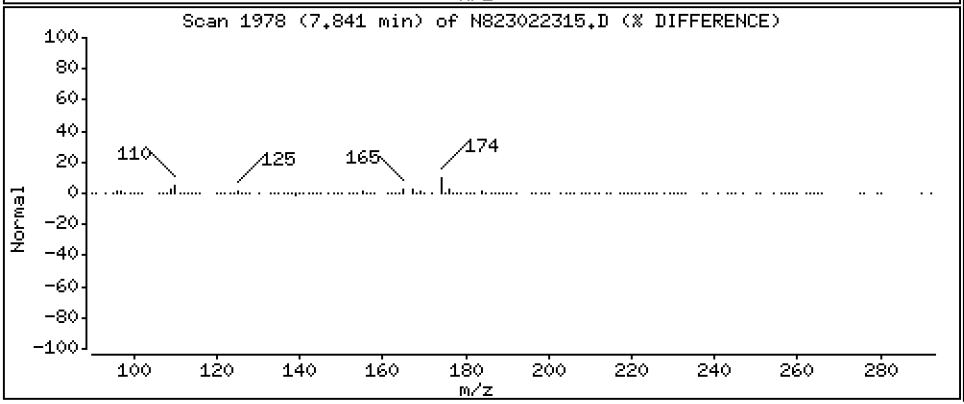
14 Fluorene

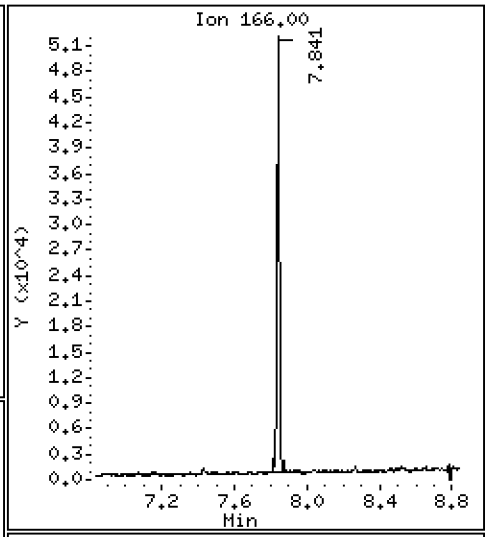
Concentration: 3.380 ug/mL

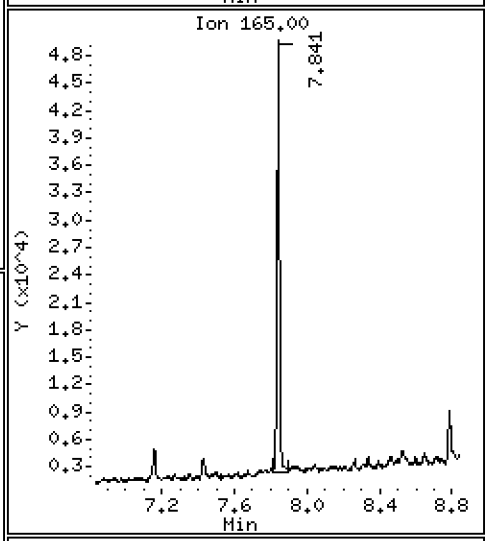


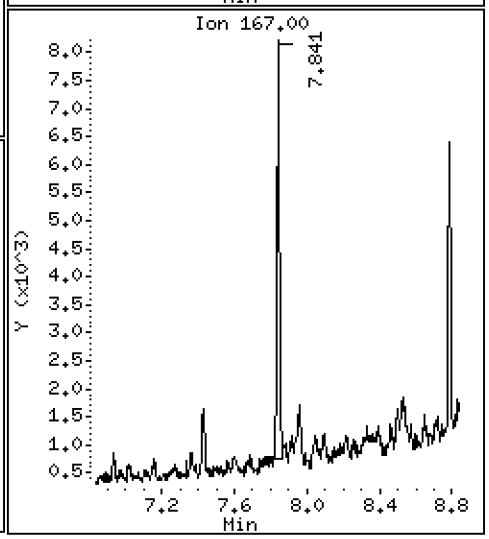












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022315.D

Date : 23-FEB-2023 17:51

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MSD1,

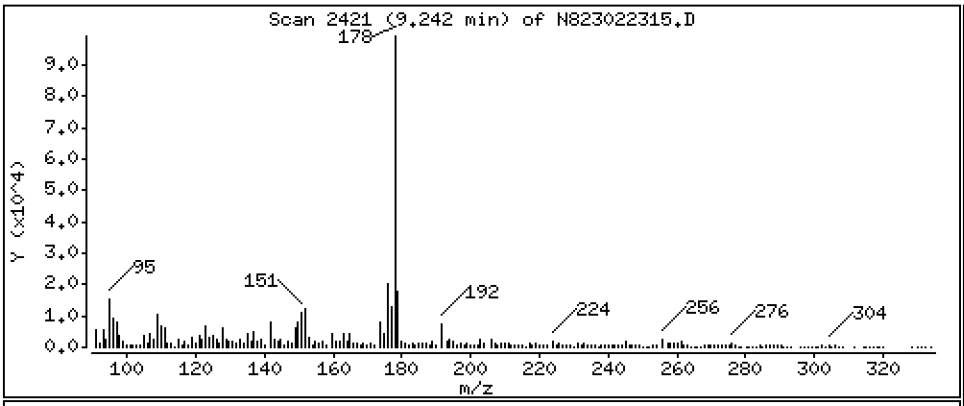
Operator: JZ

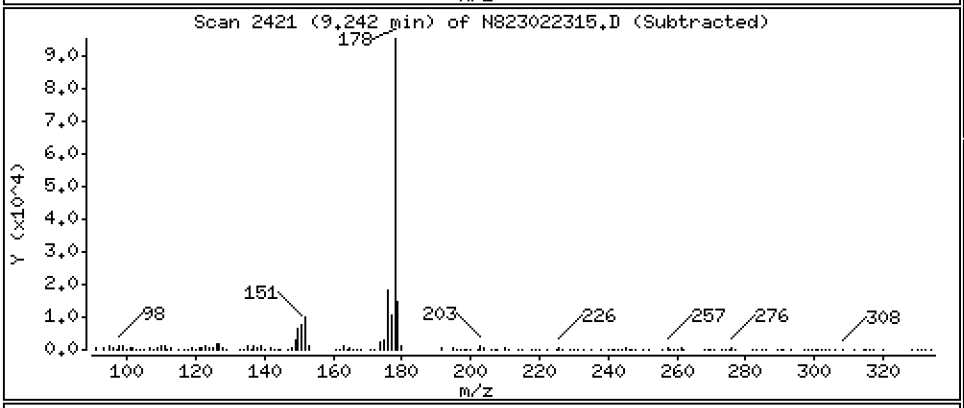
Column phase: Rxi-17sil

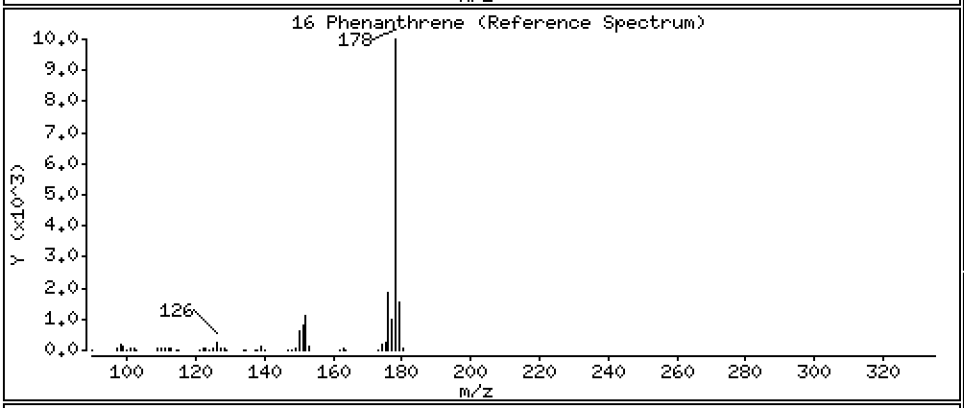
Column diameter: 0.25

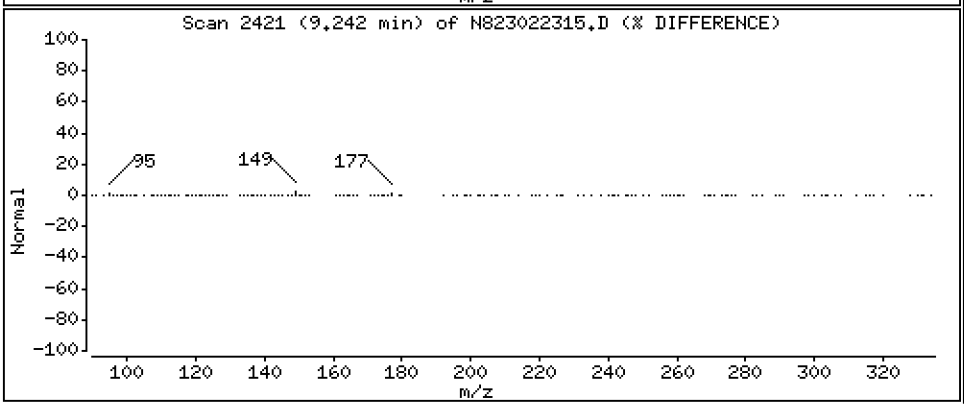
16 Phenanthrene

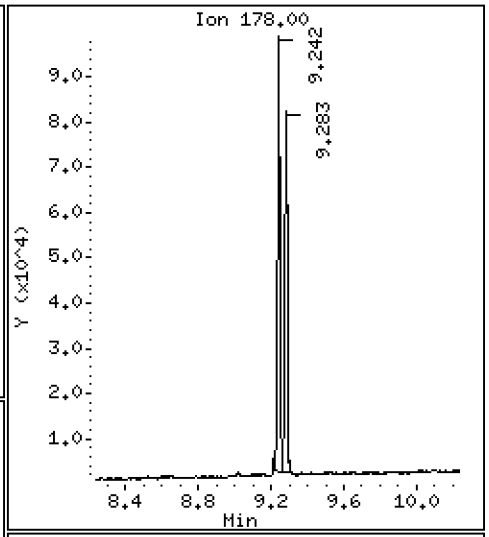
Concentration: 4.349 ug/mL

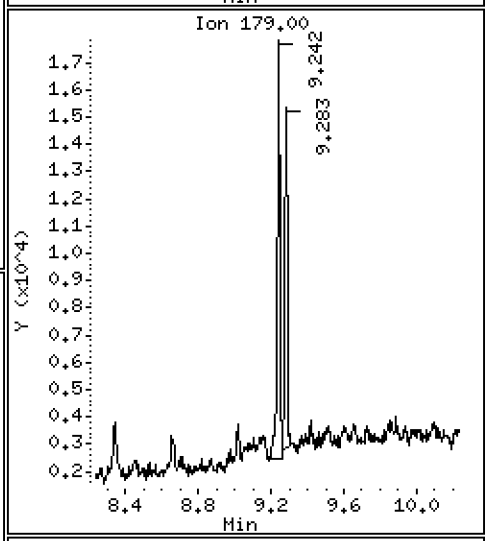


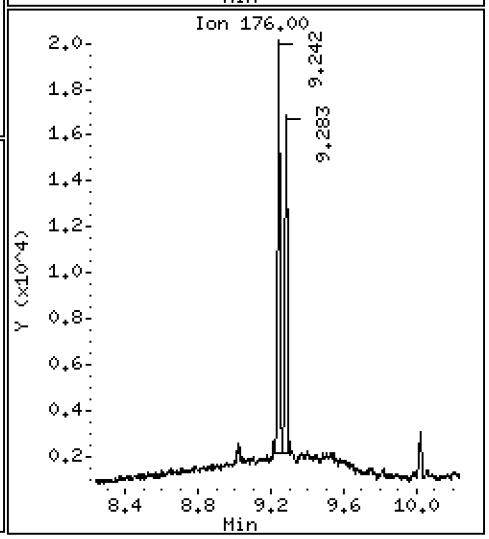












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022315.D

Date : 23-FEB-2023 17:51

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MSD1,

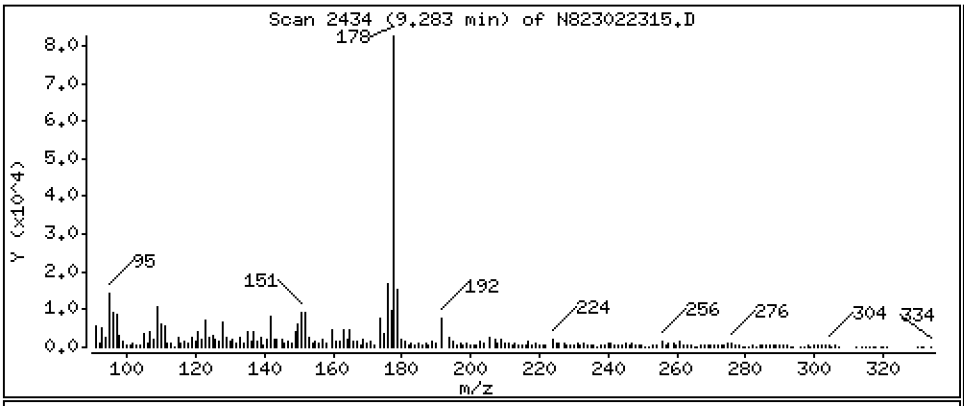
Operator: JZ

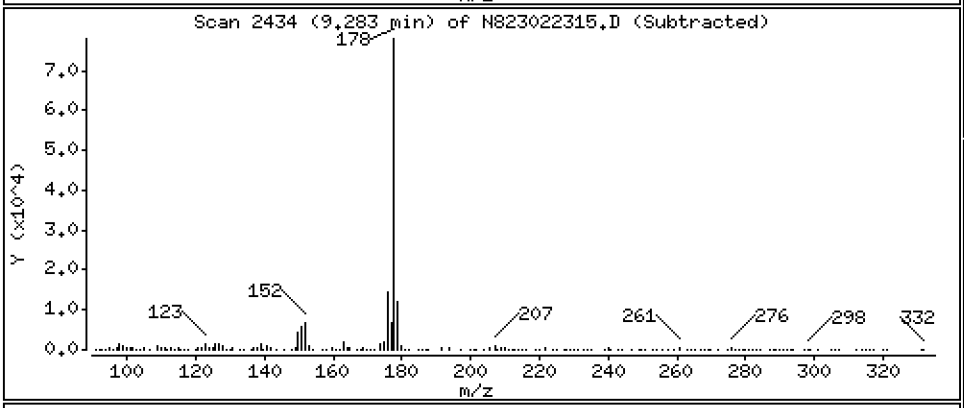
Column phase: Rxi-17sil

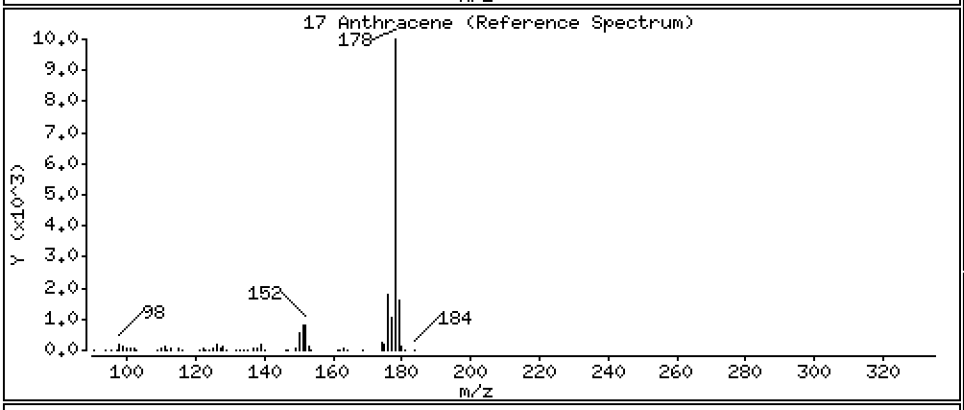
Column diameter: 0.25

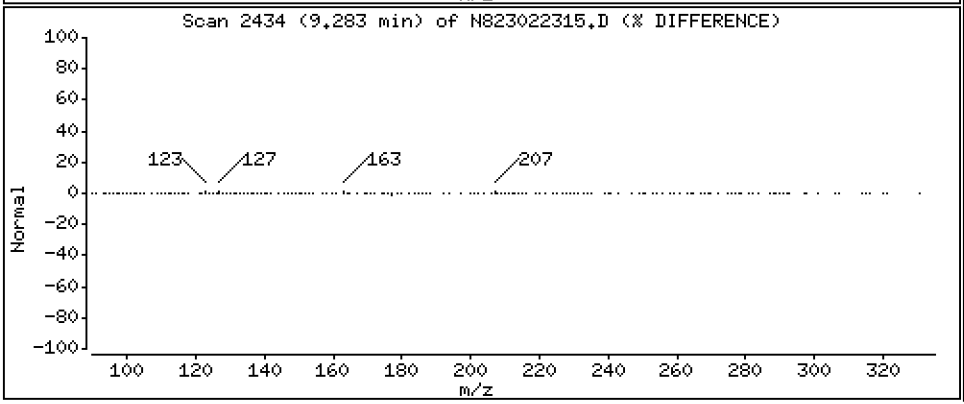
17 Anthracene

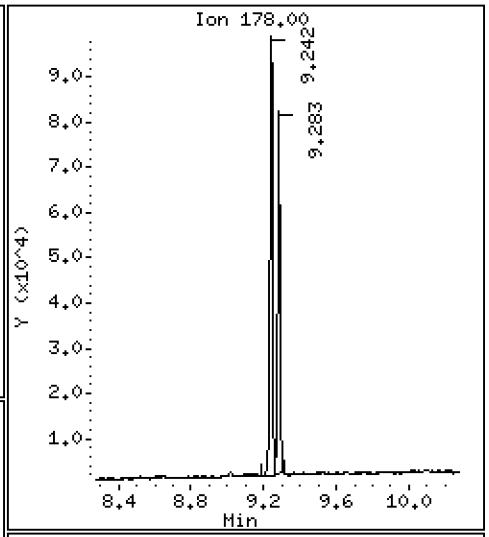
Concentration: 3.912 ug/mL

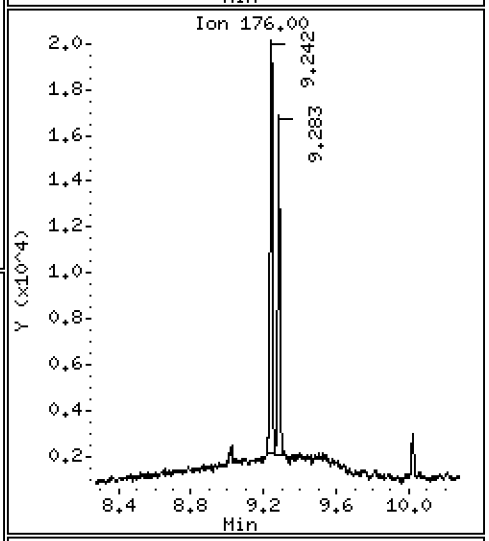


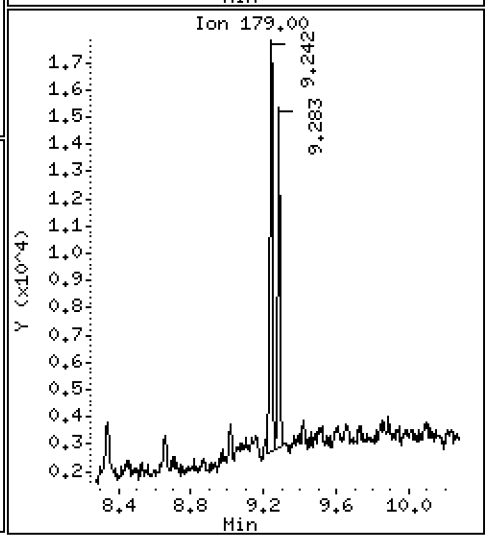












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022315.D

Date : 23-FEB-2023 17:51

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MSD1,

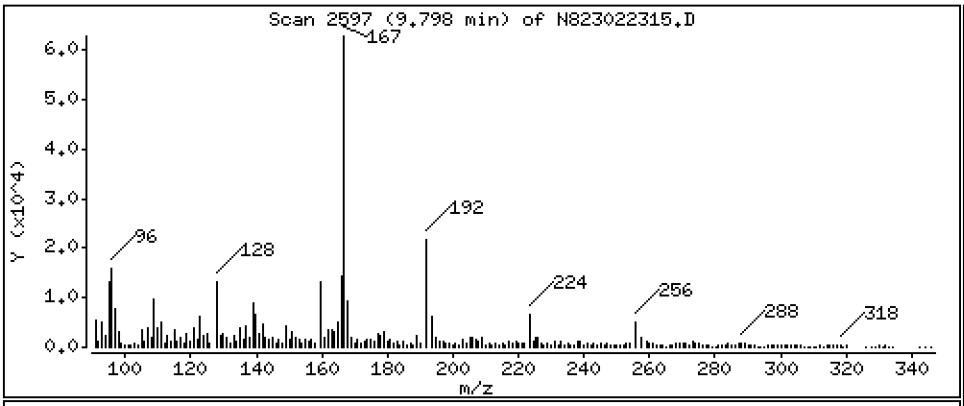
Operator: JZ

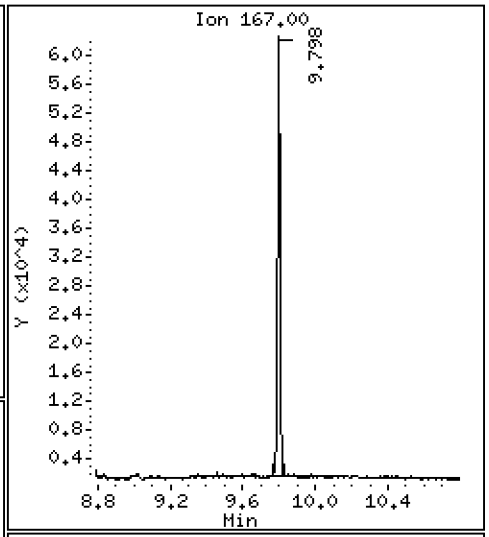
Column phase: Rxi-17sil

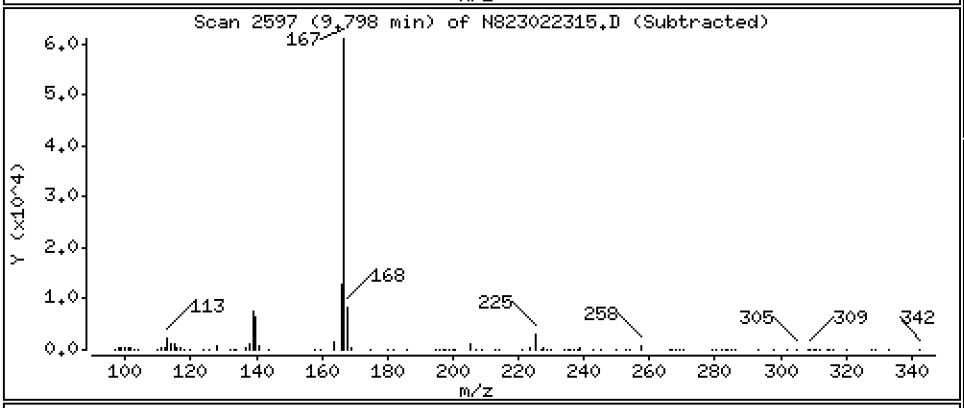
Column diameter: 0.25

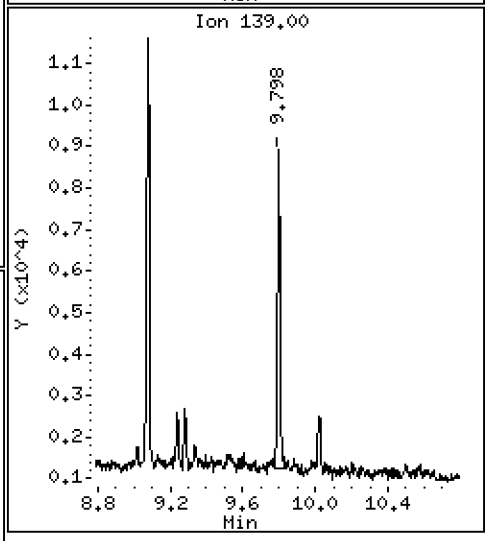
19 Carbazole

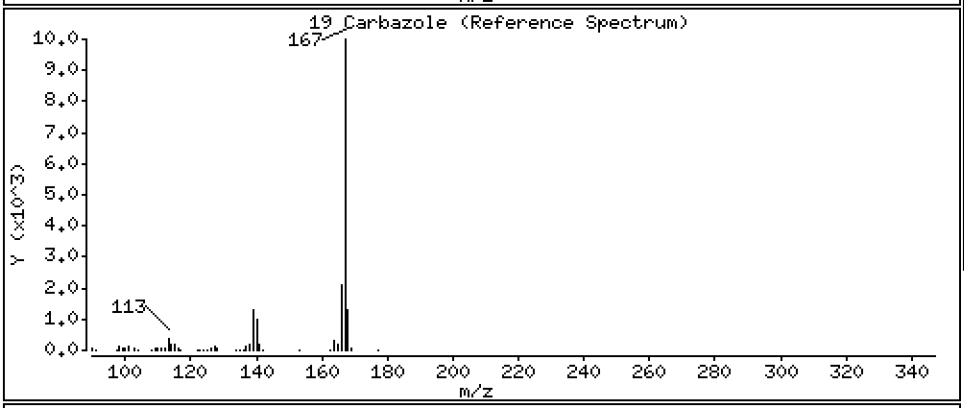
Concentration: 3.495 ug/mL

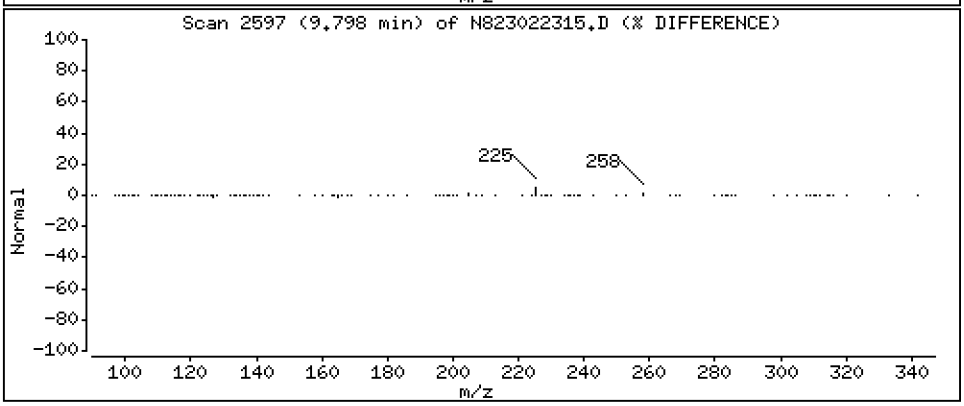












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Date : 23-FEB-2023 17:51

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MSD1,

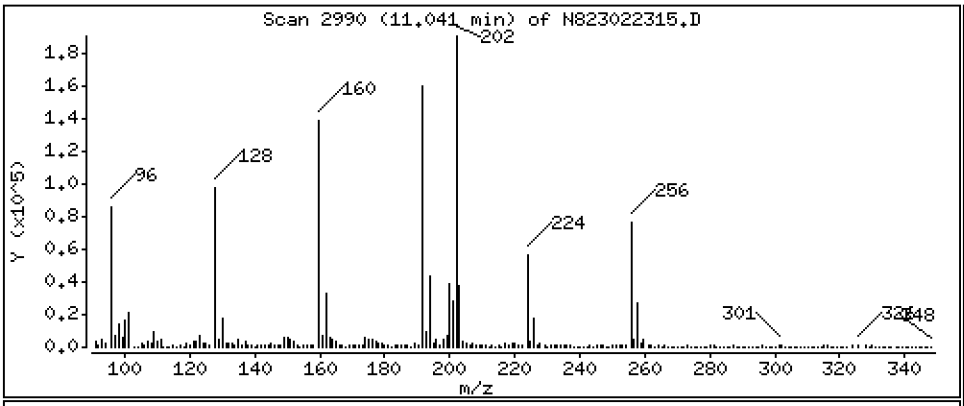
Operator: JZ

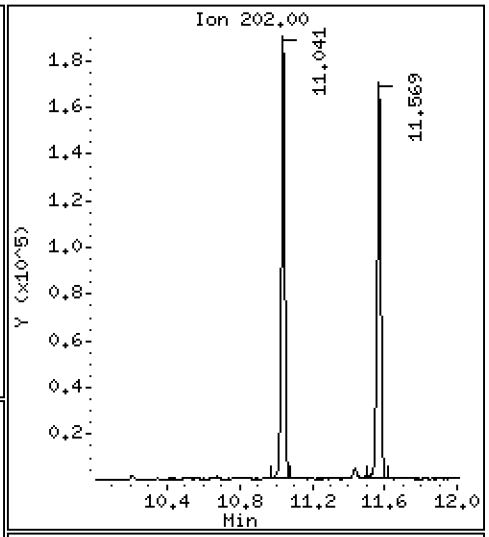
Column phase: Rxi-17sil

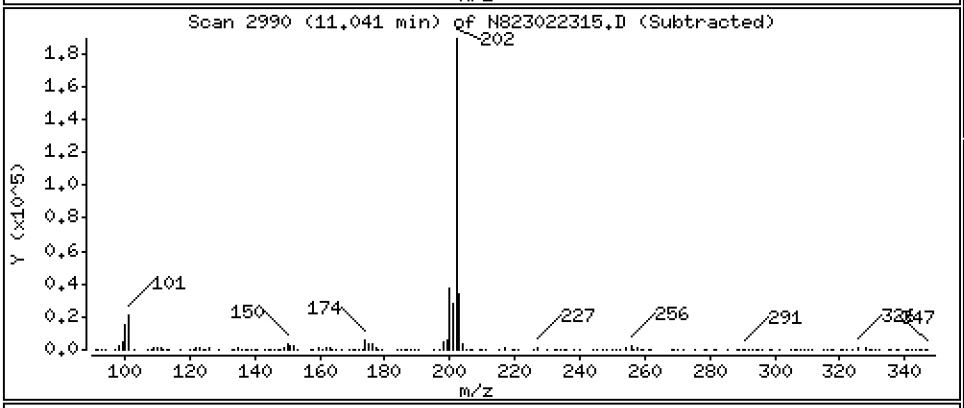
Column diameter: 0.25

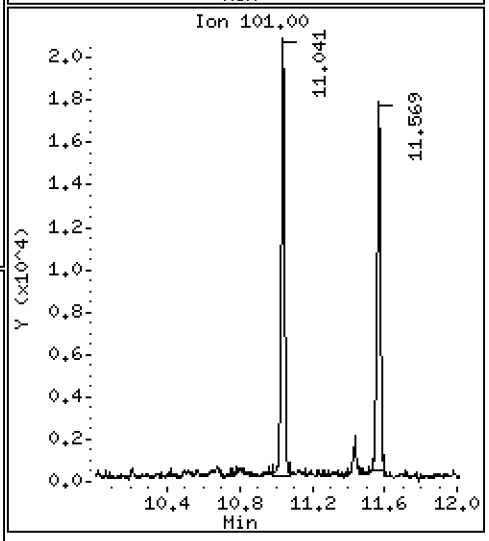
22 Fluoranthene

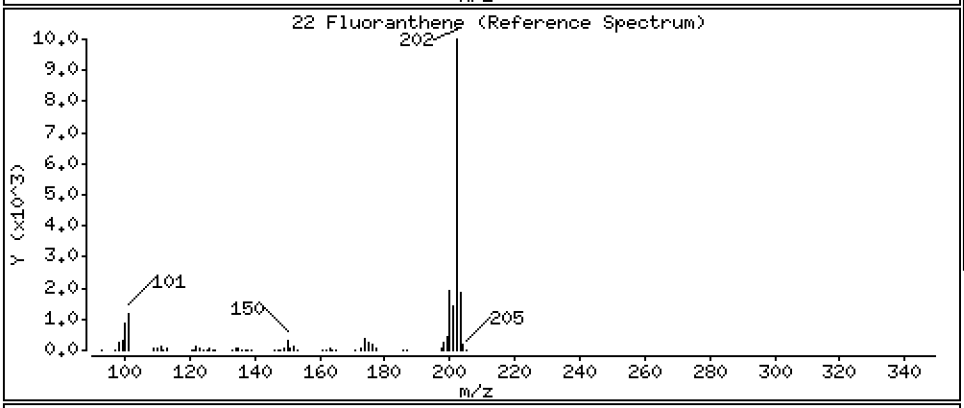
Concentration: 10.73 ug/mL

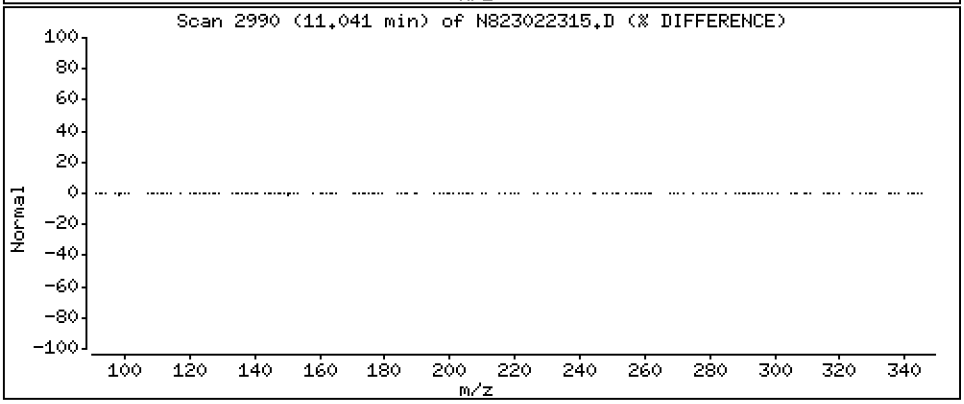












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Date : 23-FEB-2023 17:51

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MSD1,

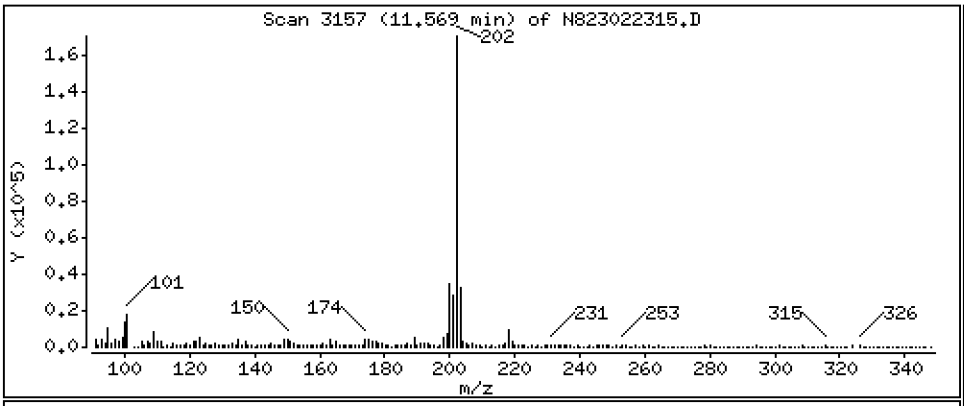
Operator: JZ

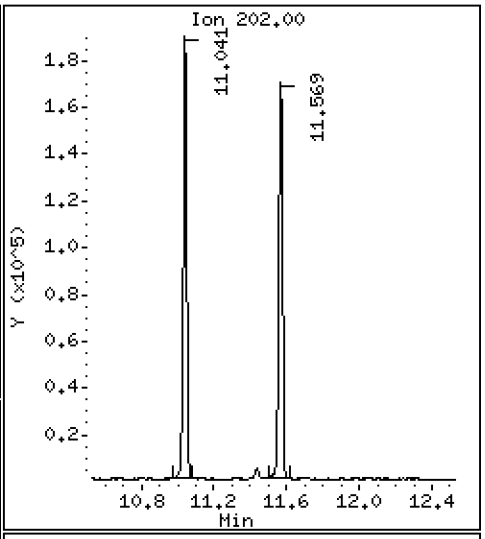
Column phase: Rxi-17sil

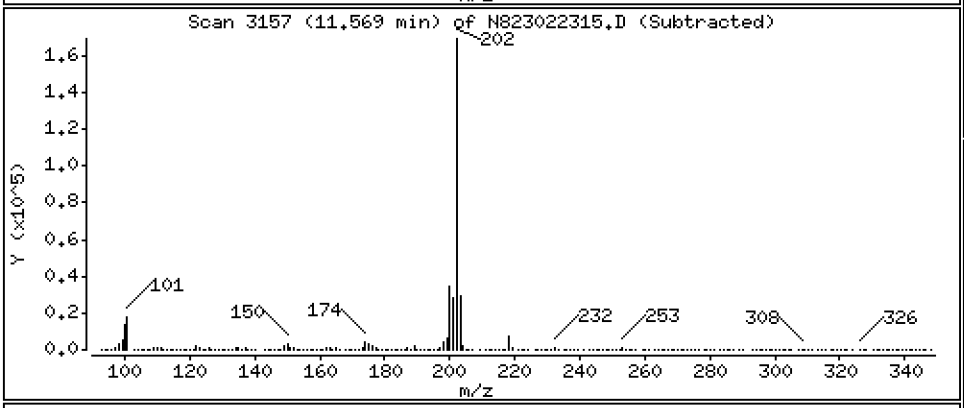
Column diameter: 0.25

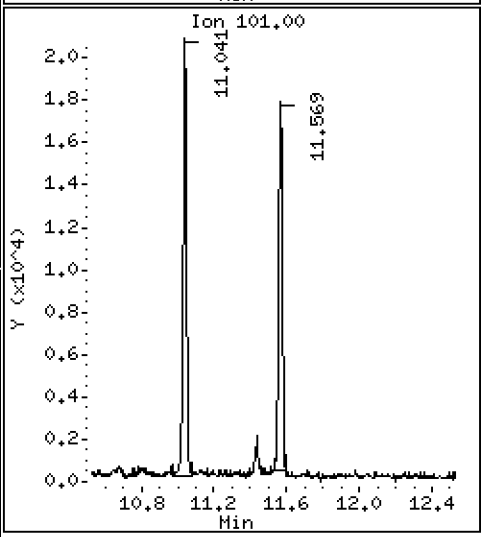
23 Pyrene

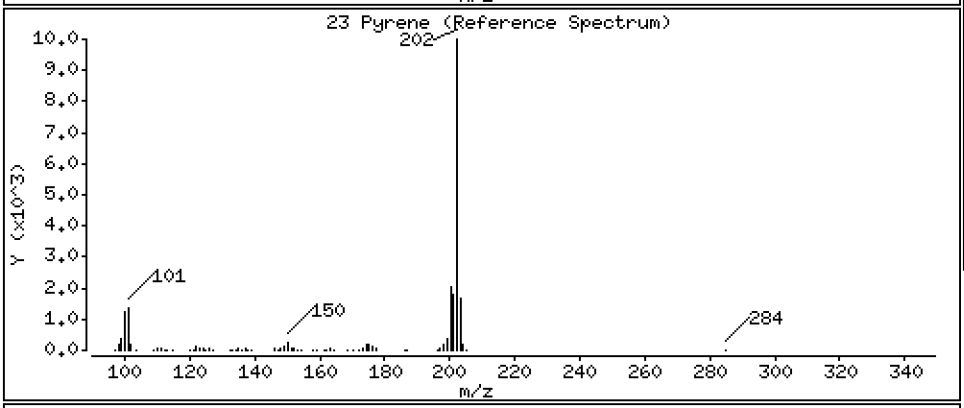
Concentration: 18.20 ug/mL

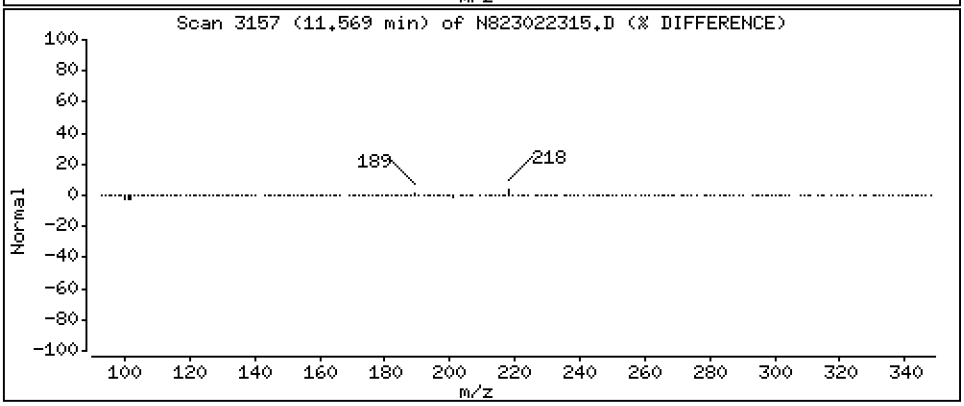












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Date : 23-FEB-2023 17:51

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MSD1,

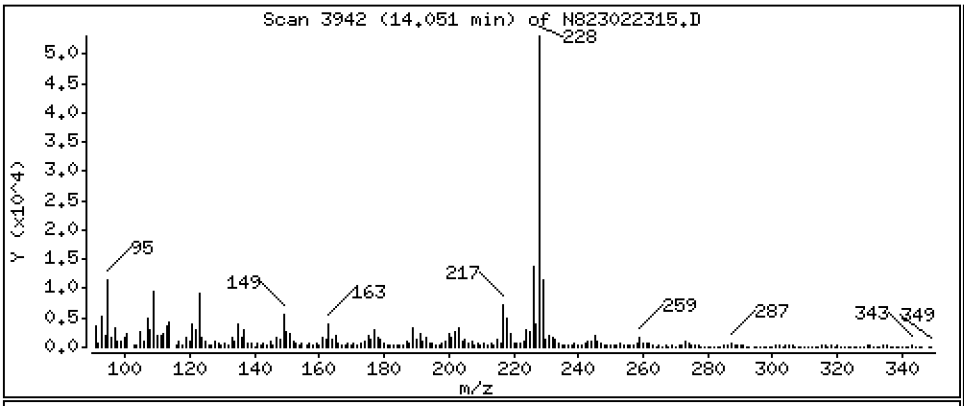
Operator: JZ

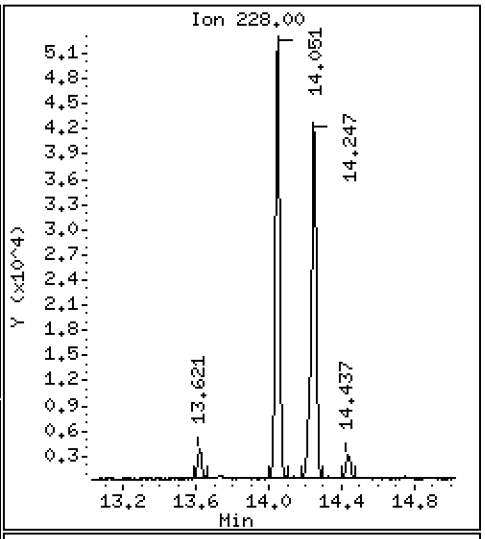
Column phase: Rxi-17sil

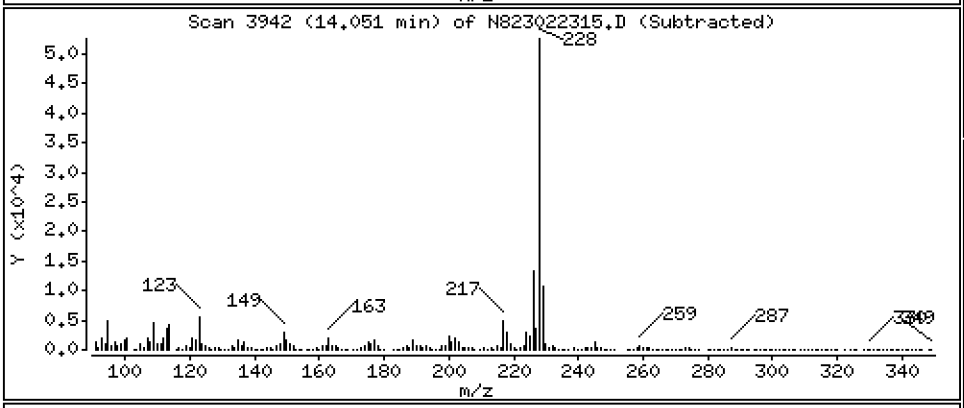
Column diameter: 0.25

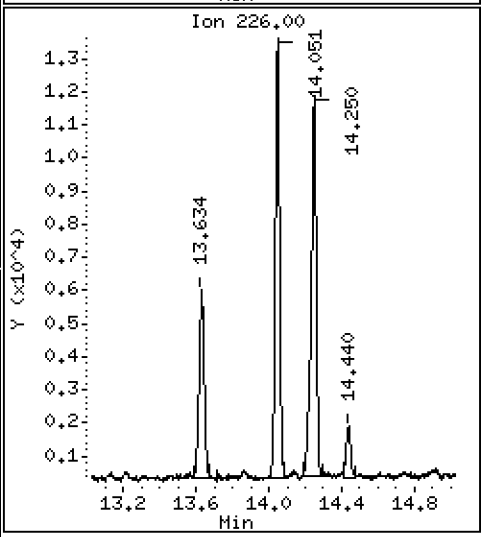
24 Benzo(a)anthracene

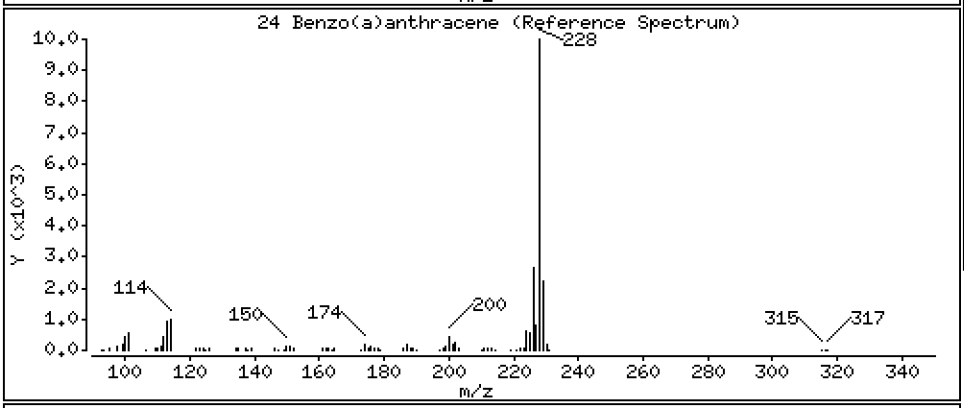
Concentration: 7.482 ug/mL

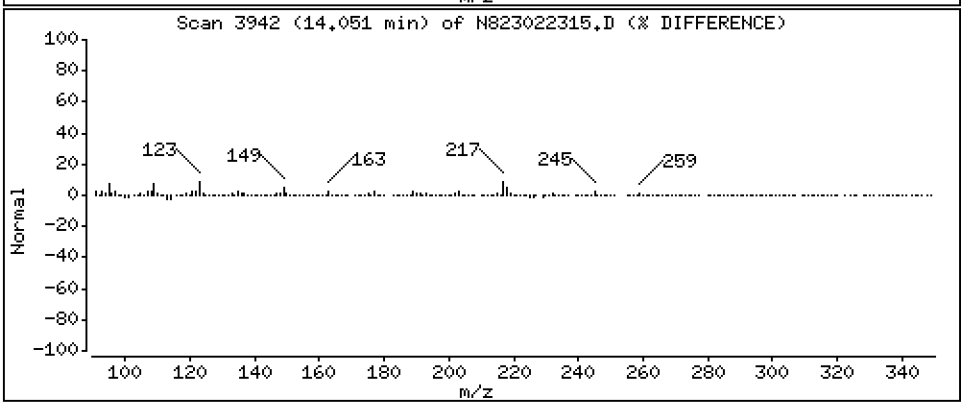












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Date : 23-FEB-2023 17:51

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MSD1,

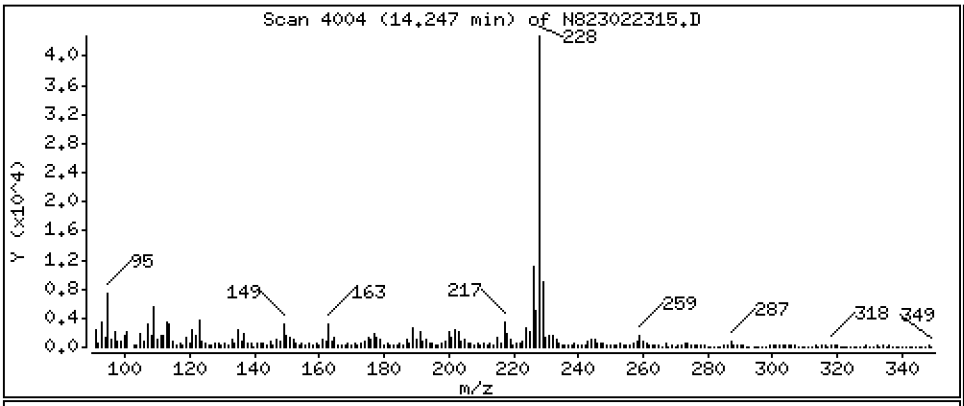
Operator: JZ

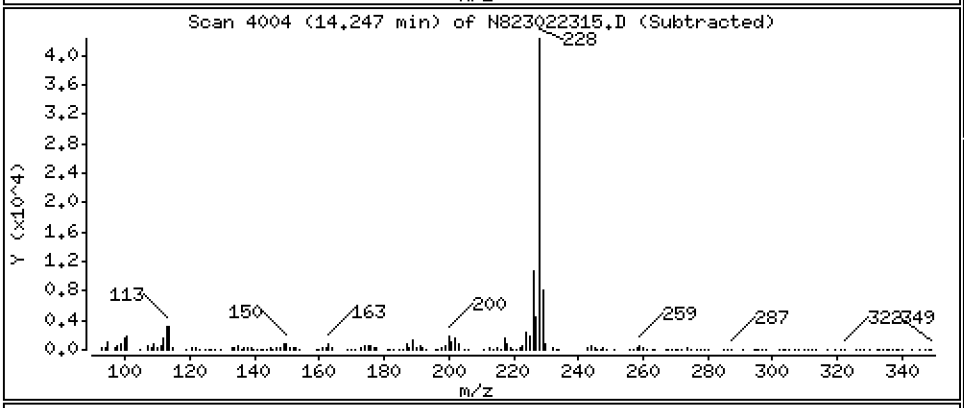
Column phase: Rxi-17sil

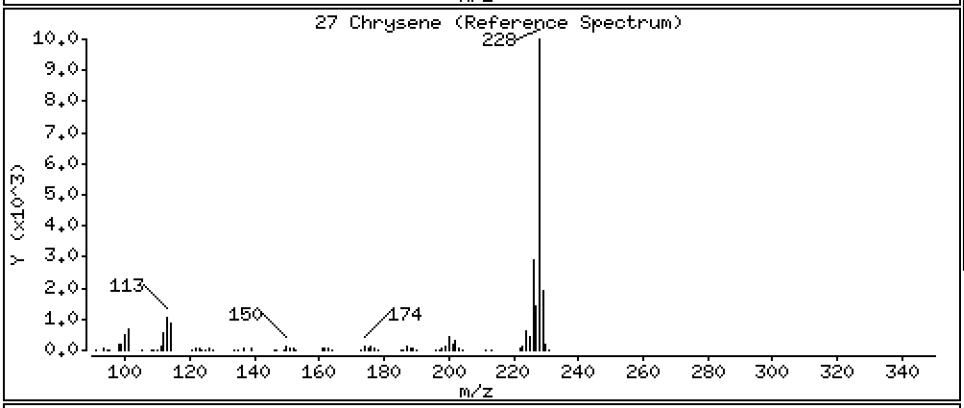
Column diameter: 0.25

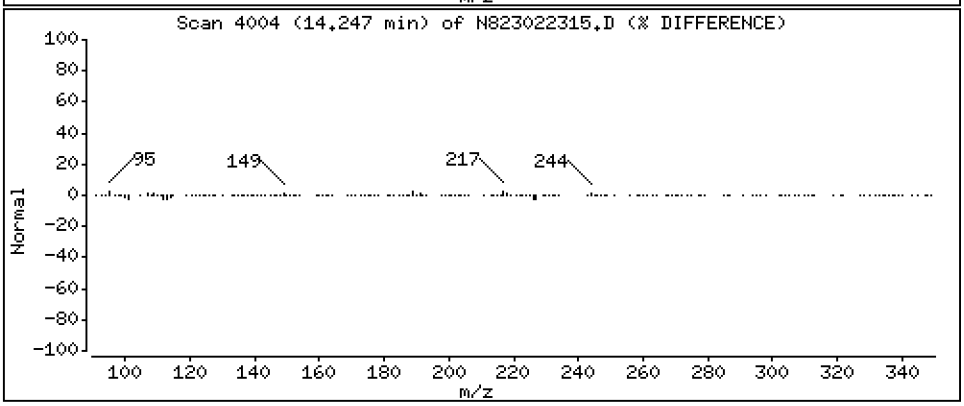
27 Chrysene

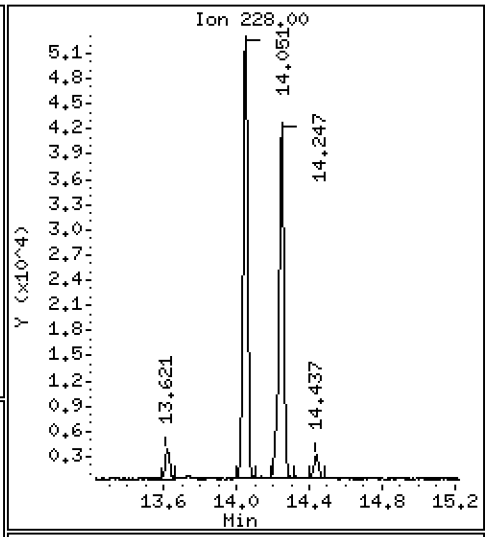
Concentration: 6.289 ug/mL

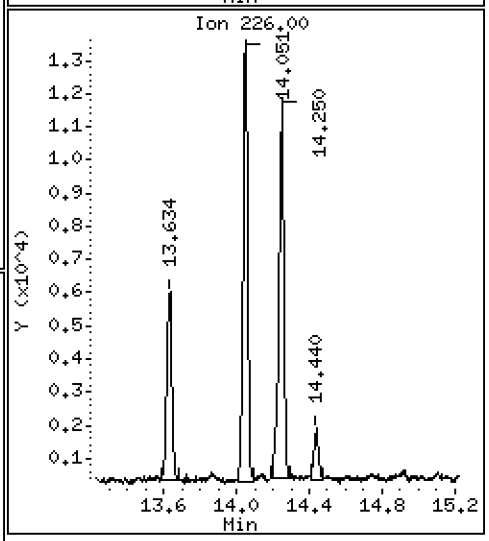












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Date : 23-FEB-2023 17:51

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MSD1,

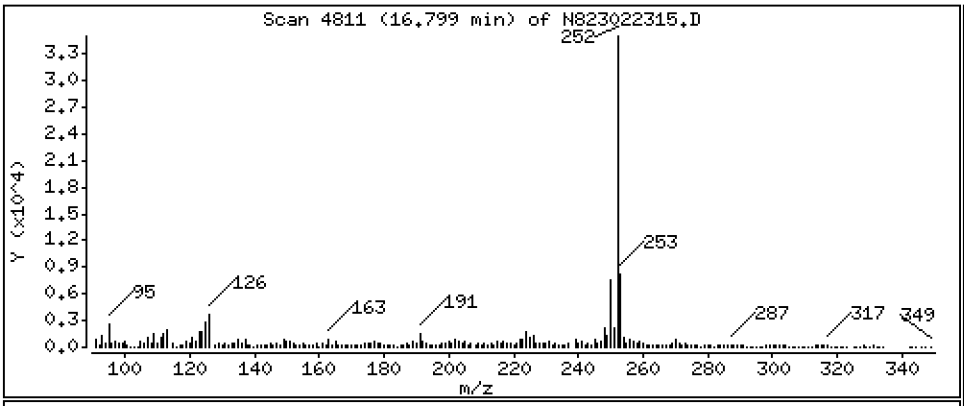
Operator: JZ

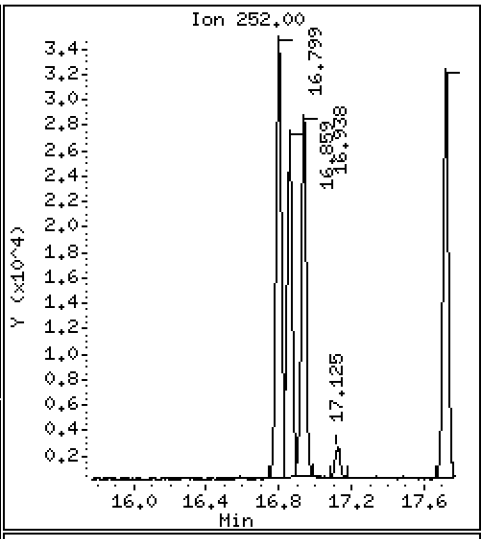
Column phase: Rxi-17sil

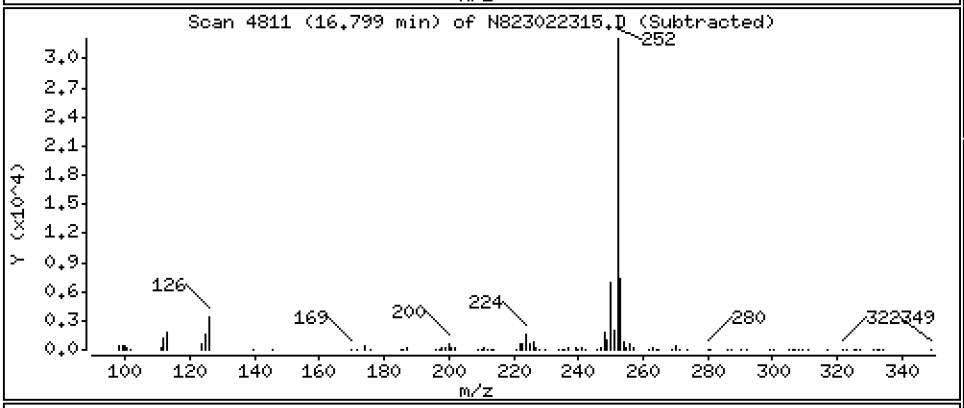
Column diameter: 0.25

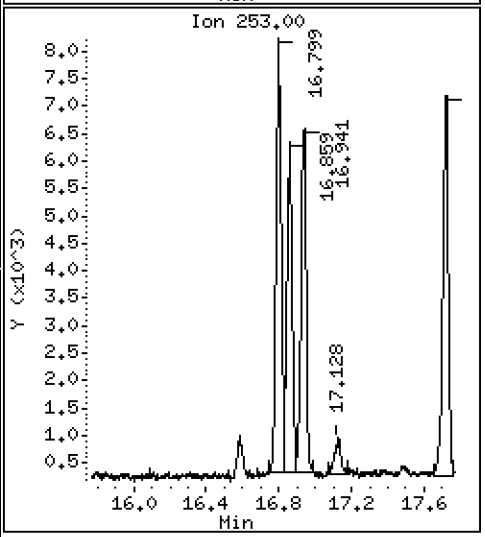
28 Benzo(b)fluoranthene

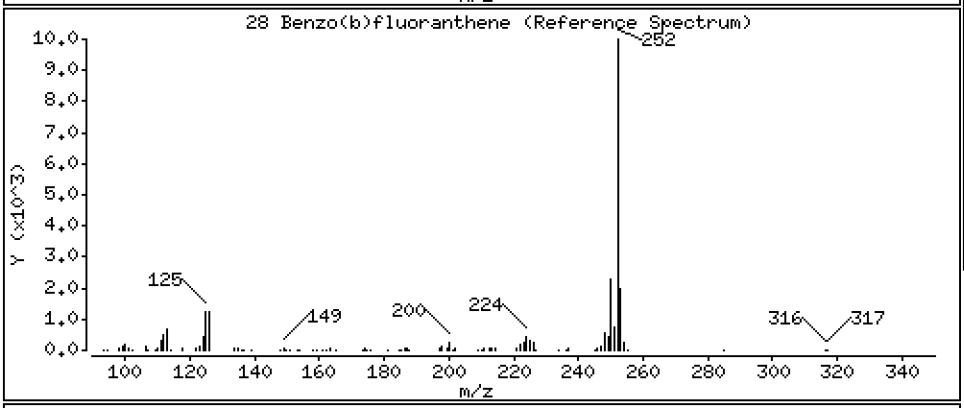
Concentration: 5.588 ug/mL

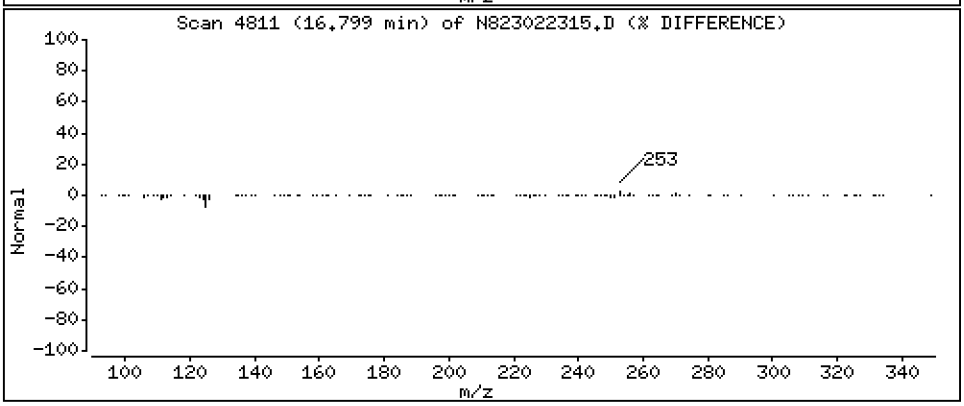












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Date : 23-FEB-2023 17:51

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MSD1,

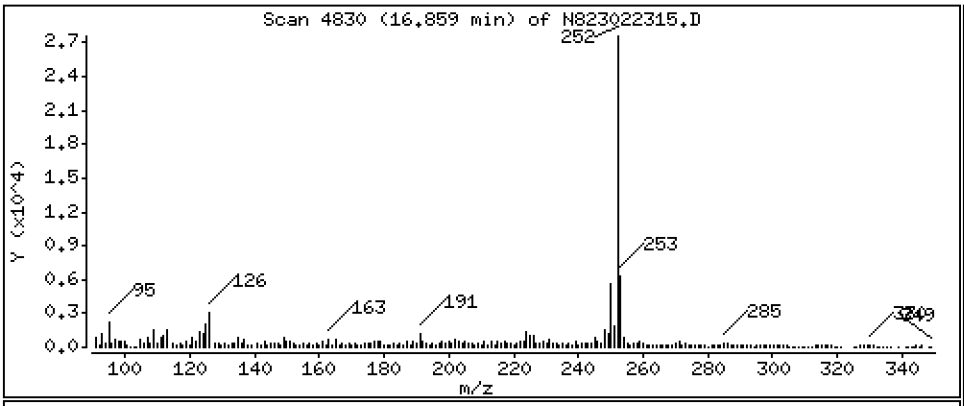
Operator: JZ

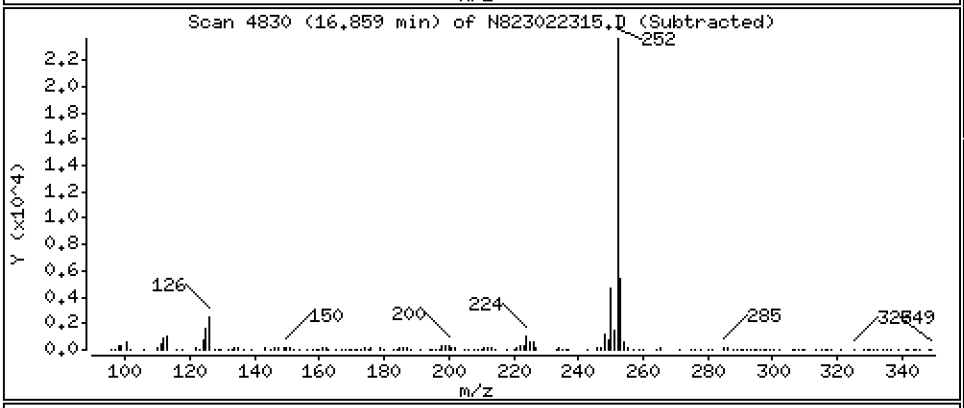
Column phase: Rxi-17sil

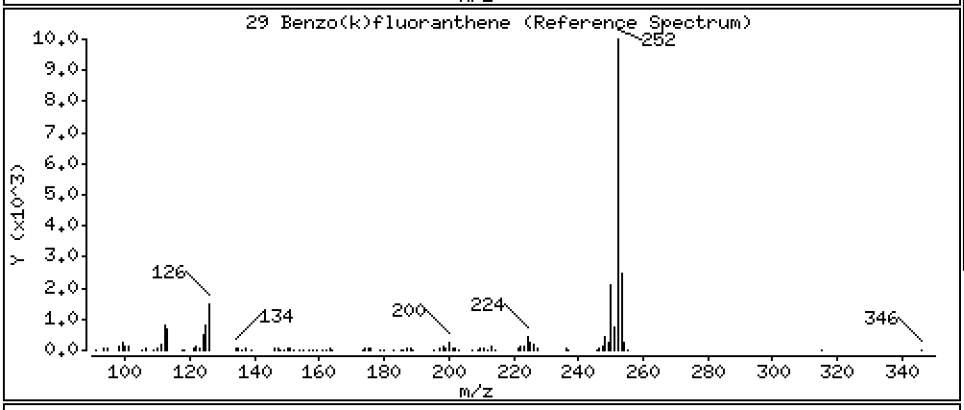
Column diameter: 0.25

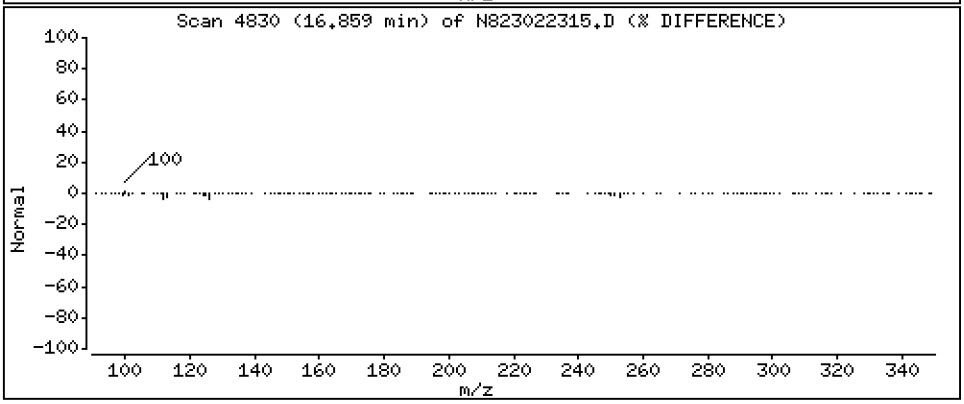
29 Benzo(k)fluoranthene

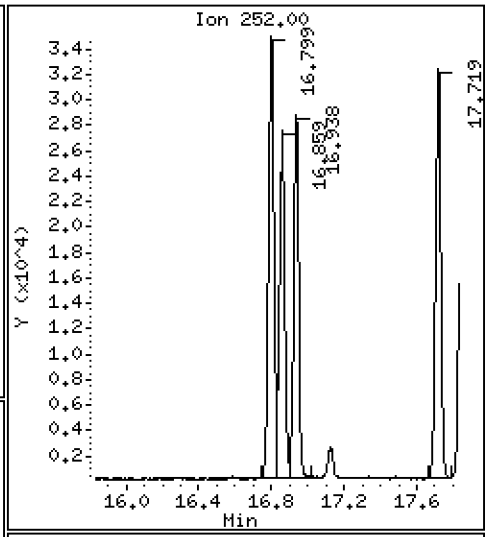
Concentration: 4.370 ug/mL

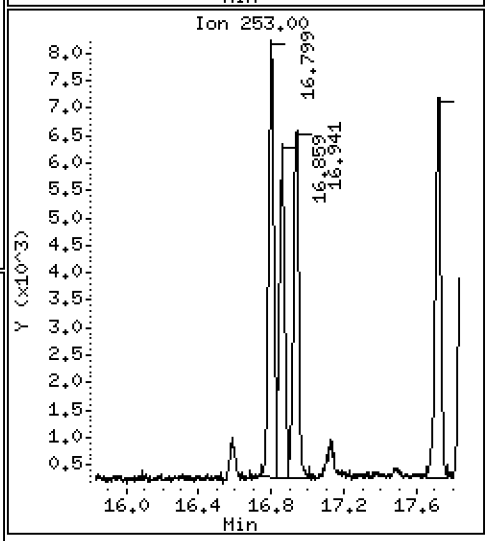












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Date : 23-FEB-2023 17:51

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MSD1,

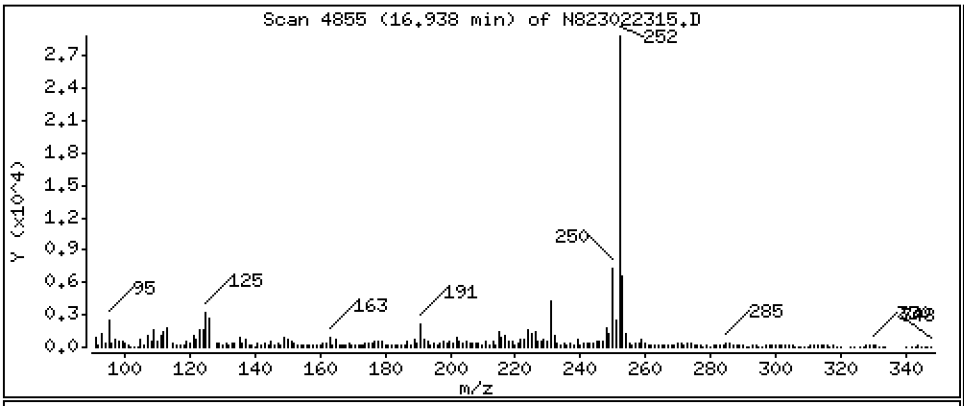
Operator: JZ

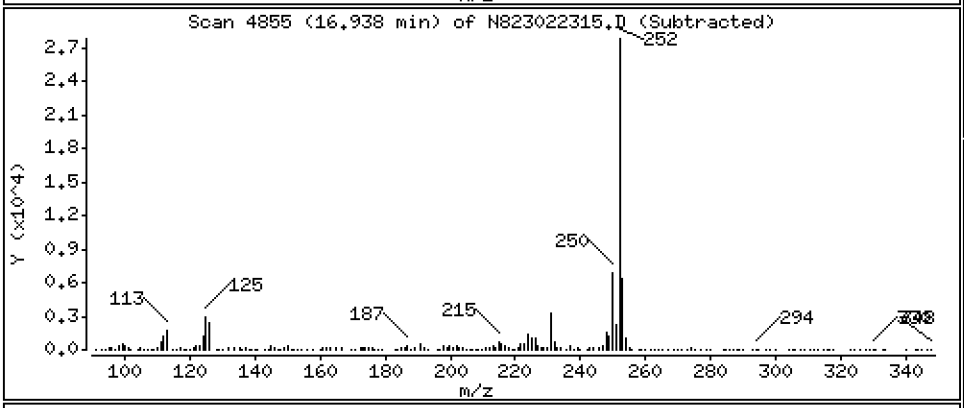
Column phase: Rxi-17sil

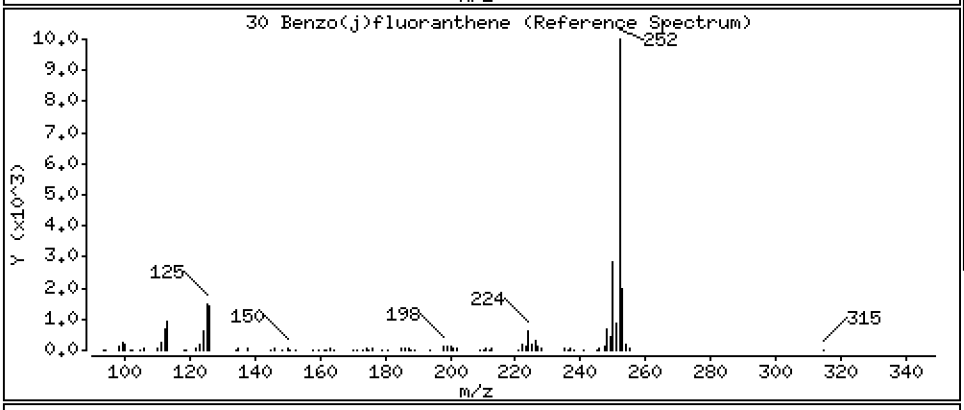
Column diameter: 0.25

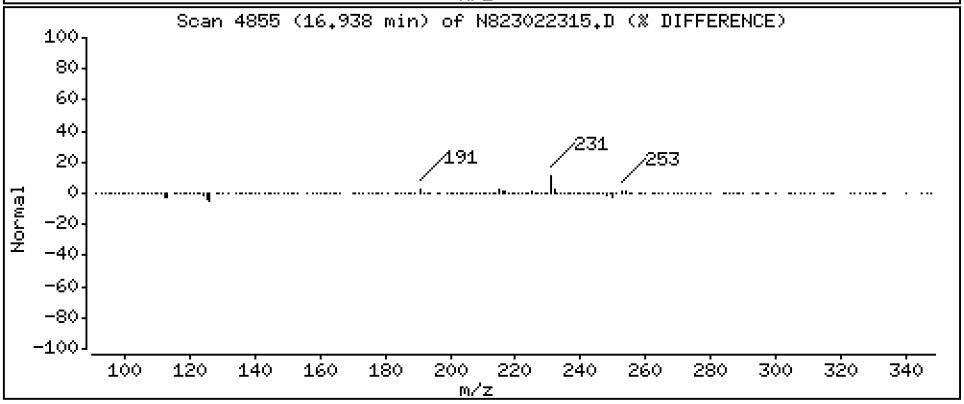
30 Benzo(j)fluoranthene

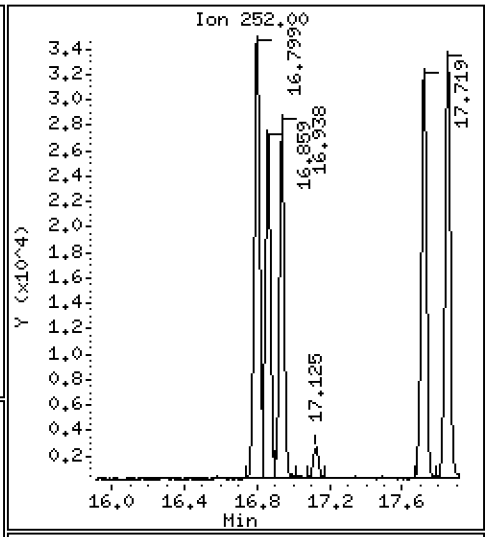
Concentration: 4.743 ug/mL

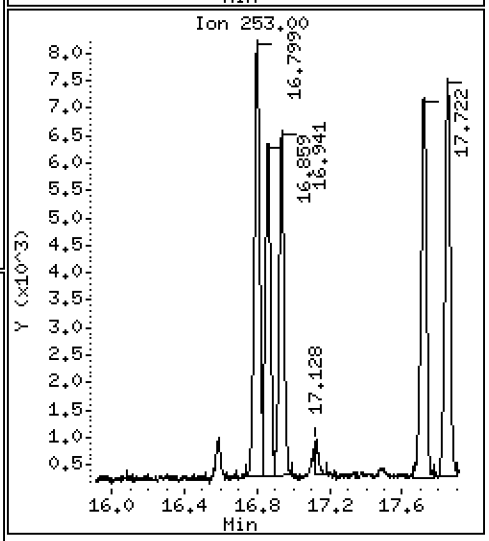












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Date : 23-FEB-2023 17:51

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MSD1,

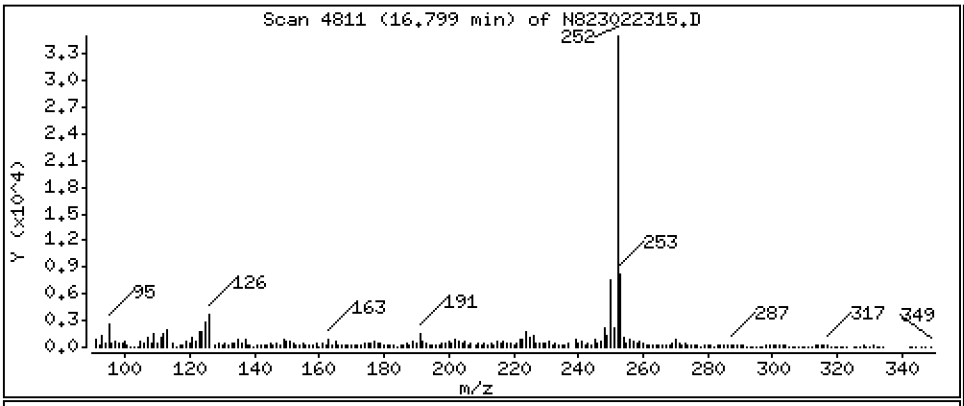
Operator: JZ

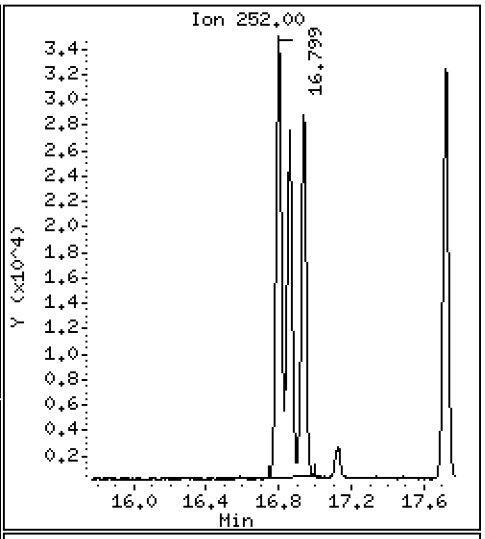
Column phase: Rxi-17sil

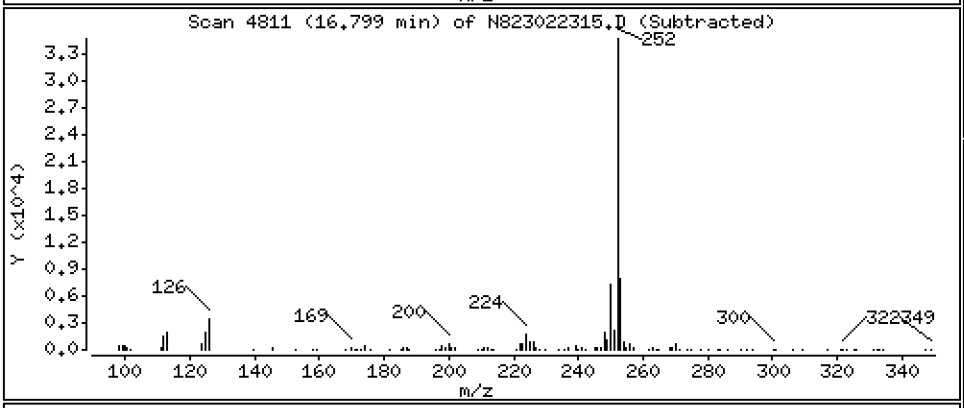
Column diameter: 0.25

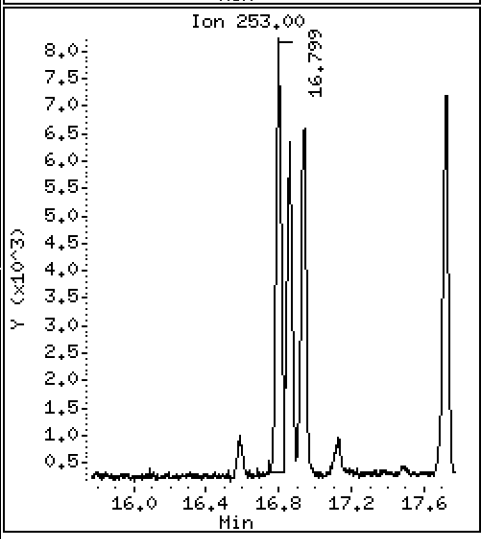
31 Total Benzofluoranthenes

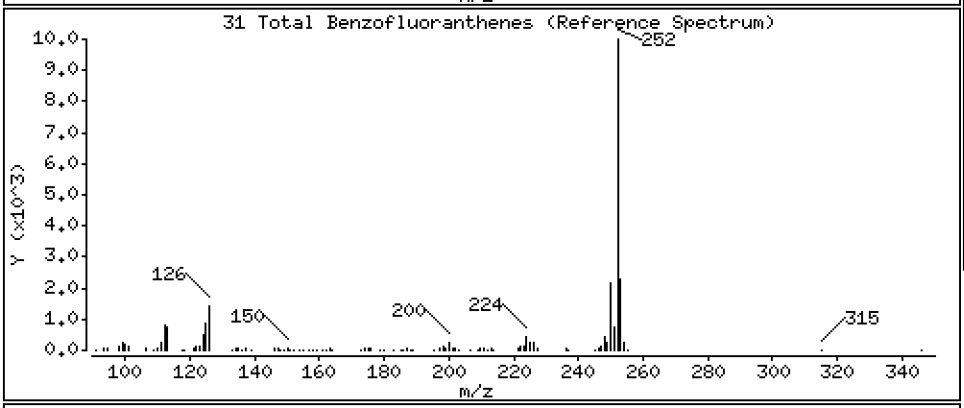
Concentration: 14.76 ug/mL

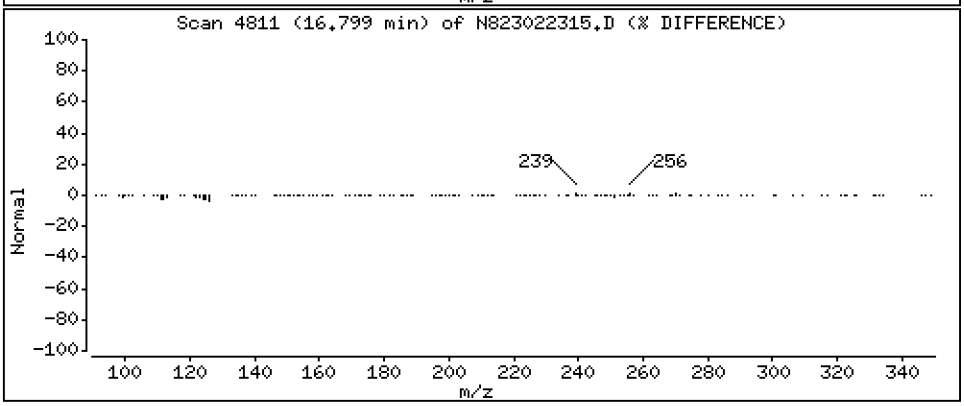












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Date : 23-FEB-2023 17:51

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MSD1,

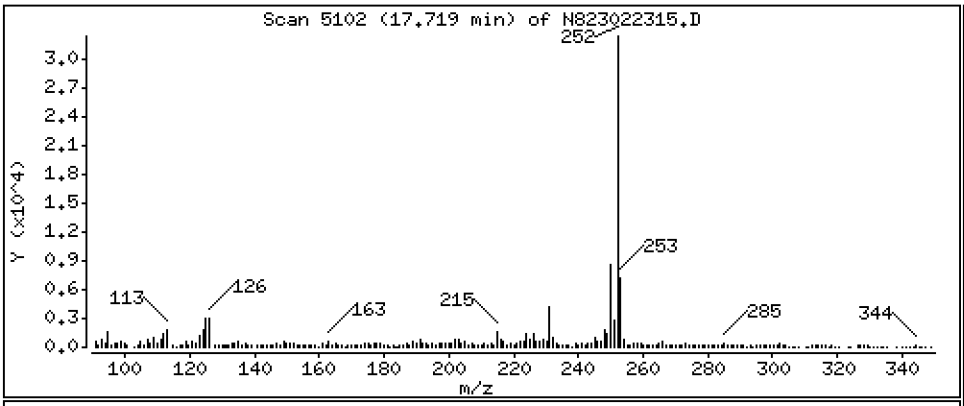
Operator: JZ

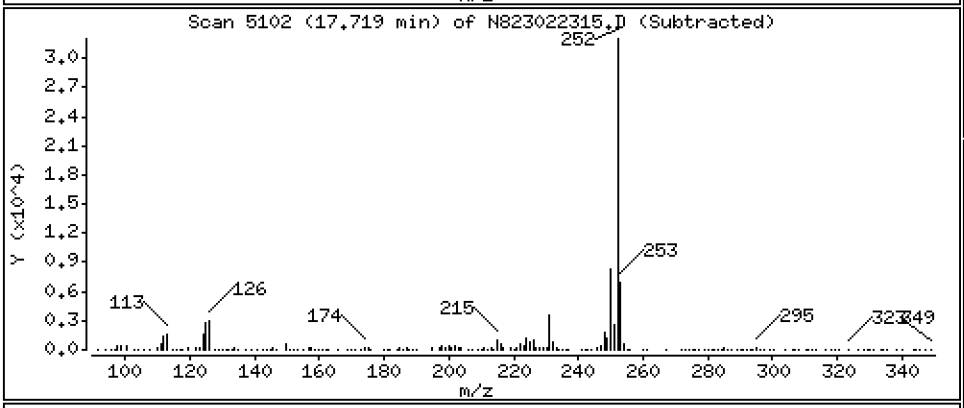
Column phase: Rxi-17sil

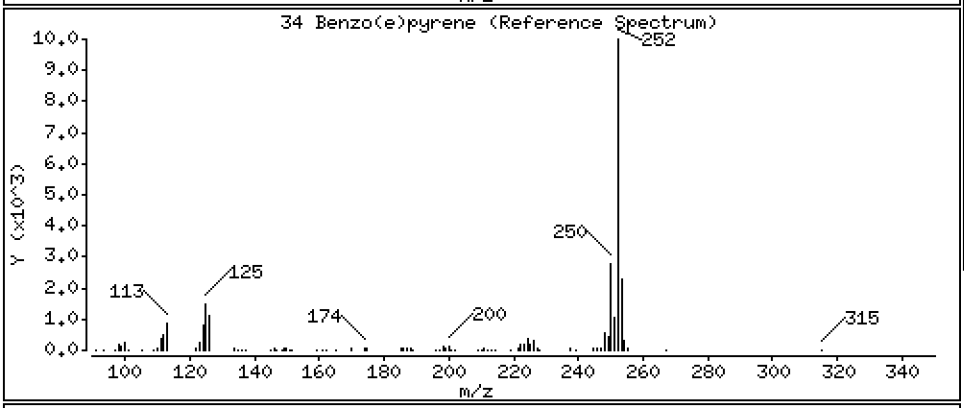
Column diameter: 0.25

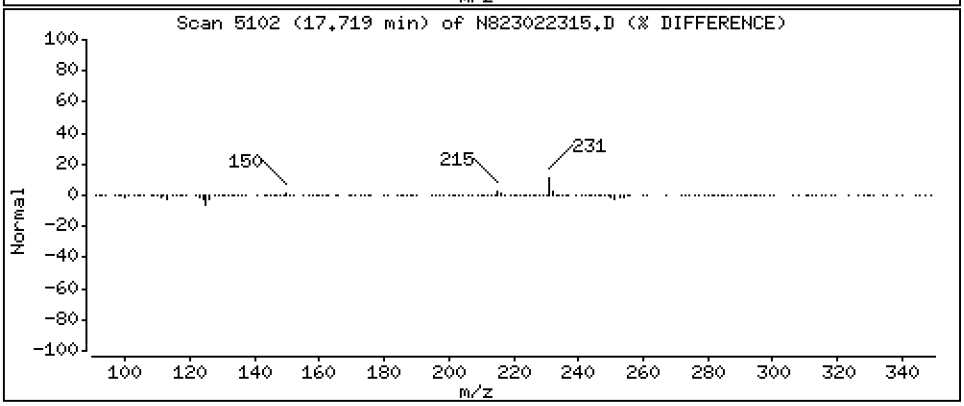
34 Benzo(e)pyrene

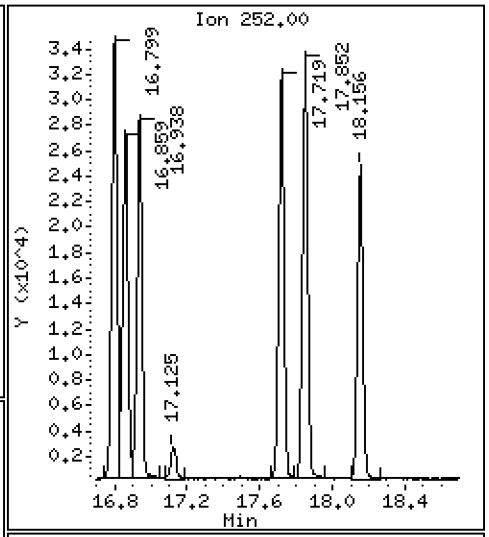
Concentration: 4.998 ug/mL

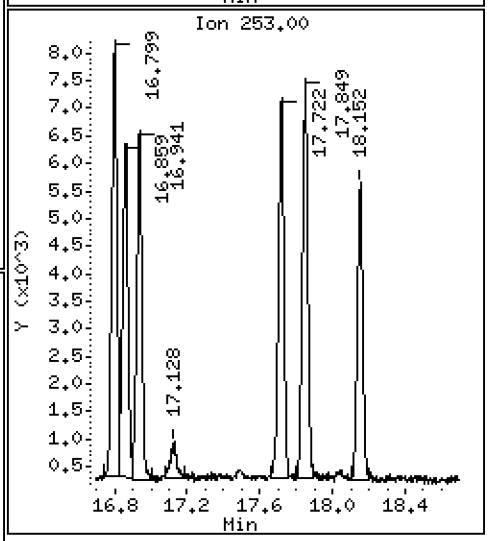












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022315.D

Date : 23-FEB-2023 17:51

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MSD1,

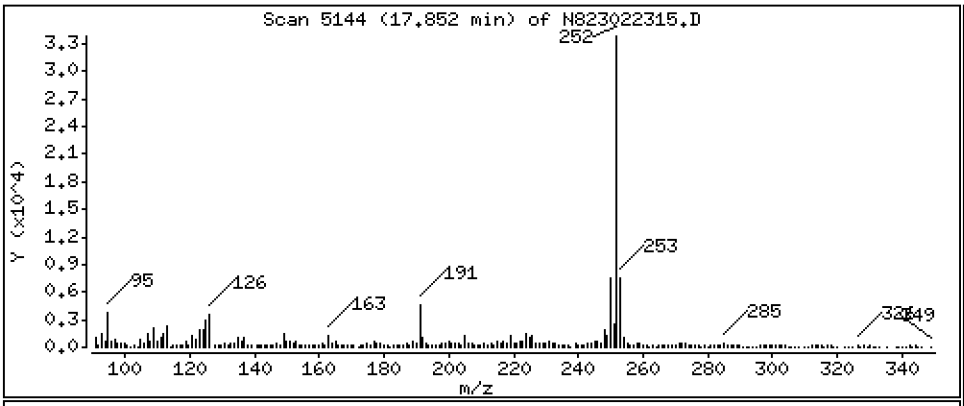
Operator: JZ

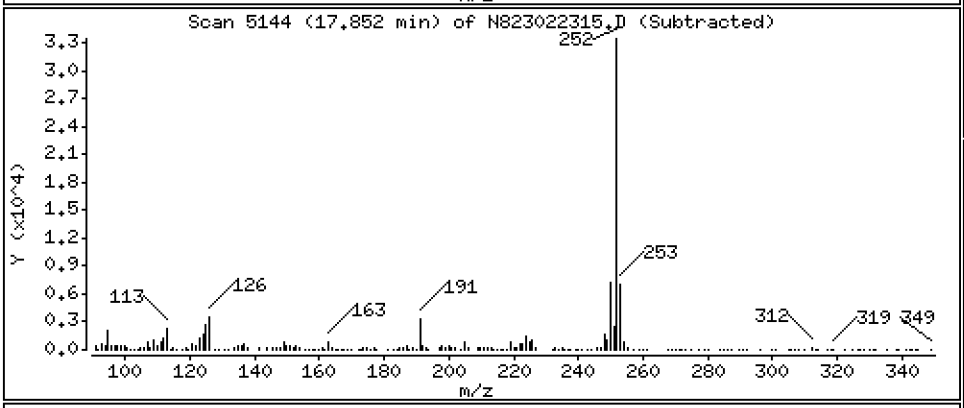
Column phase: Rxi-17sil

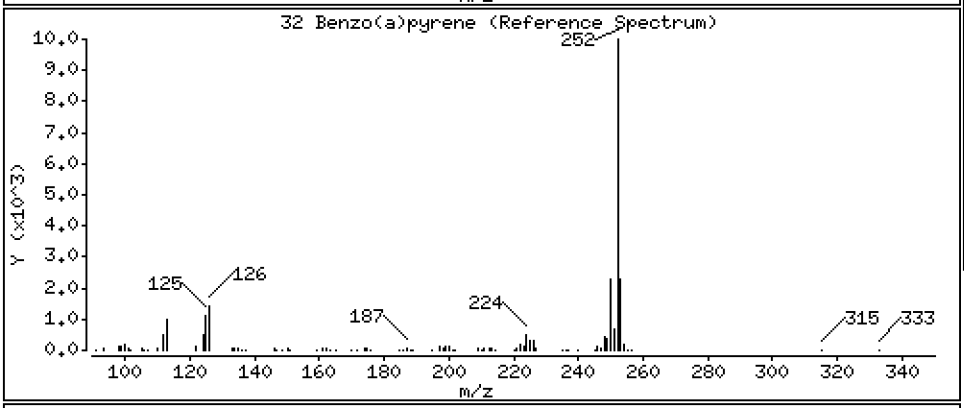
Column diameter: 0.25

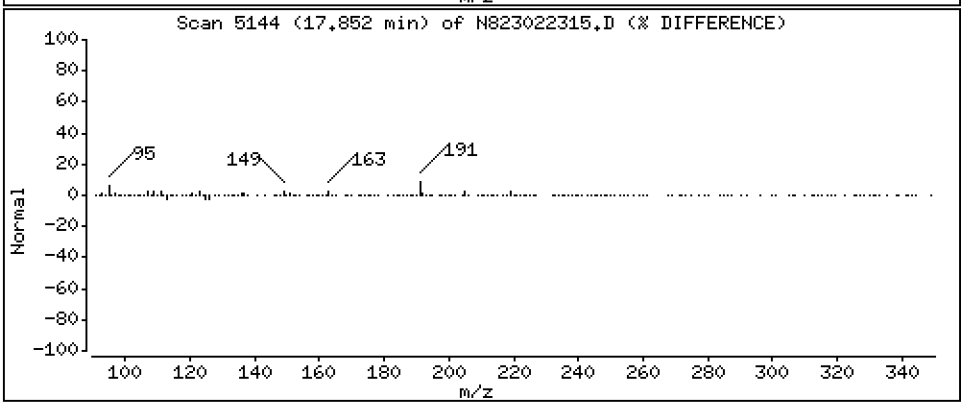
32 Benzo(a)pyrene

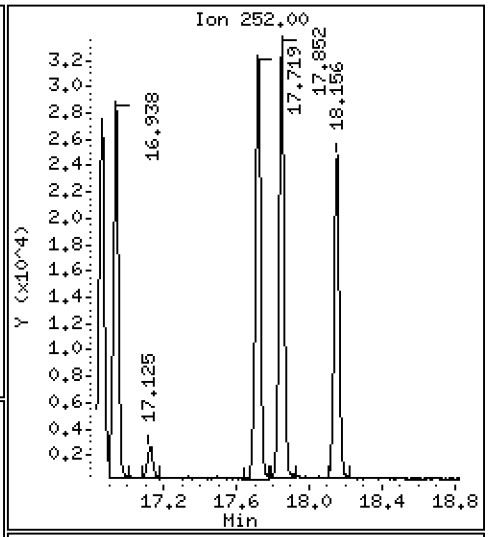
Concentration: 5.888 ug/mL

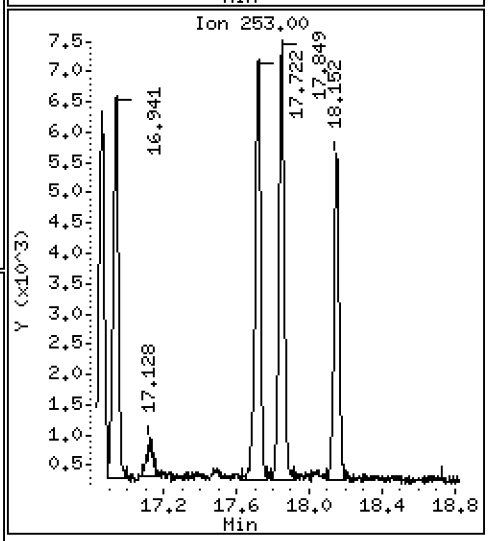












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022315.D

Date : 23-FEB-2023 17:51

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MSD1,

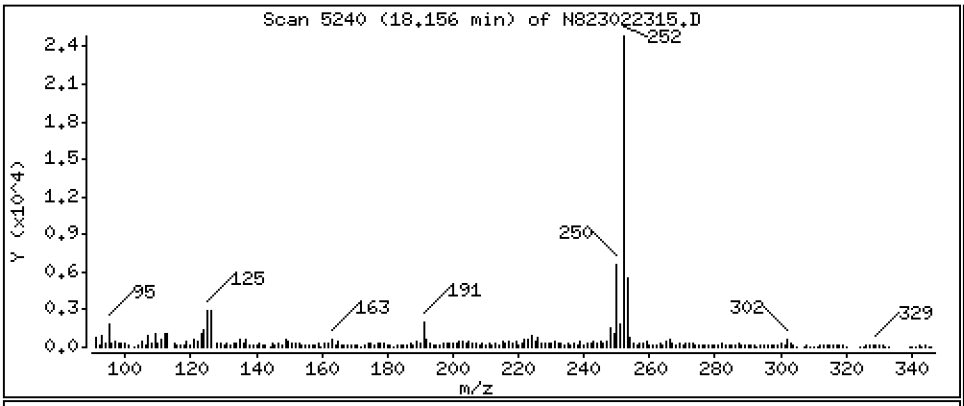
Operator: JZ

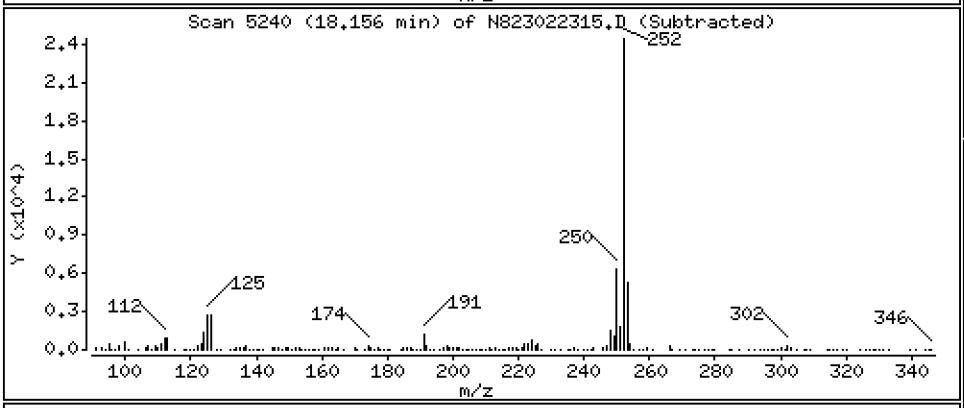
Column phase: Rxi-17sil

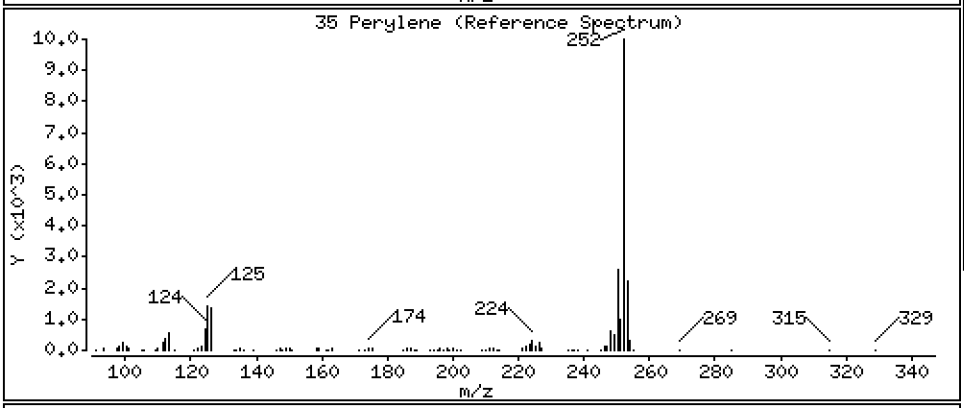
Column diameter: 0.25

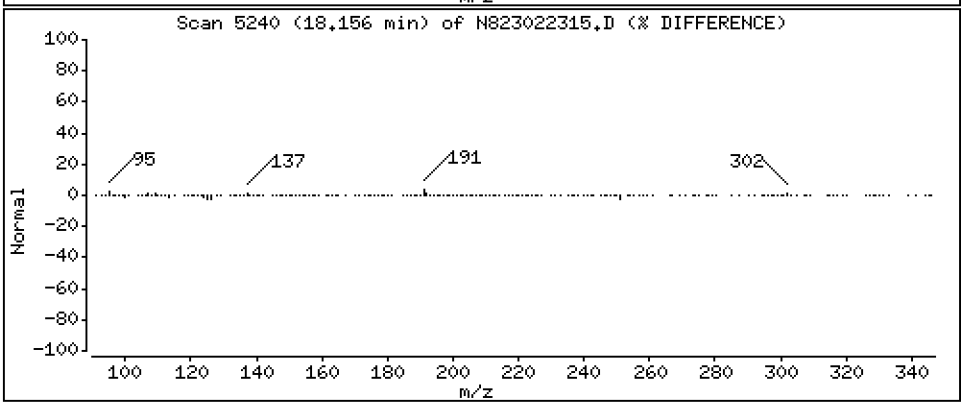
35 Perylene

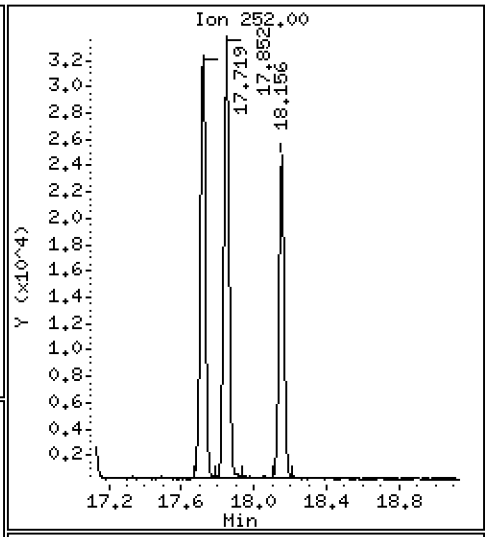
Concentration: 4.108 ug/mL

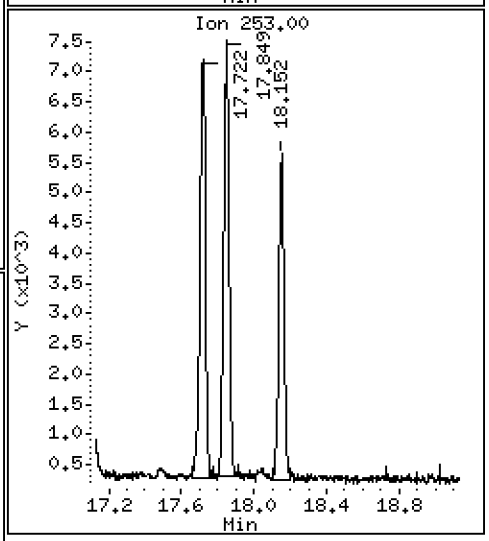












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022315.D

Date : 23-FEB-2023 17:51

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MSD1,

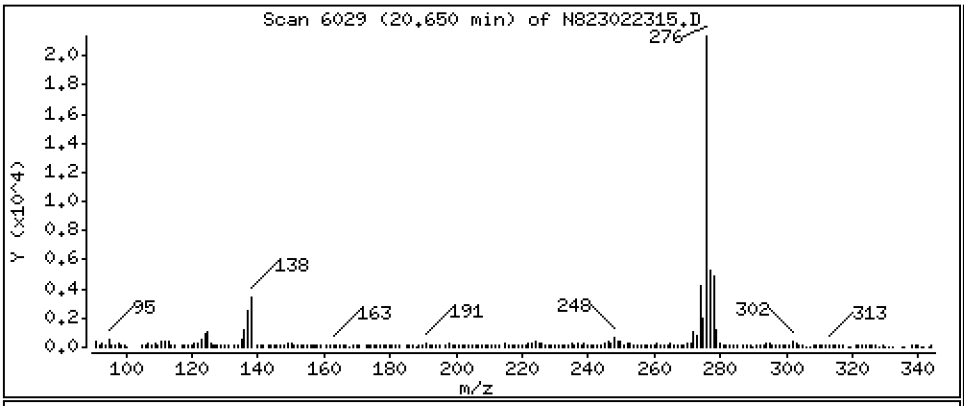
Operator: JZ

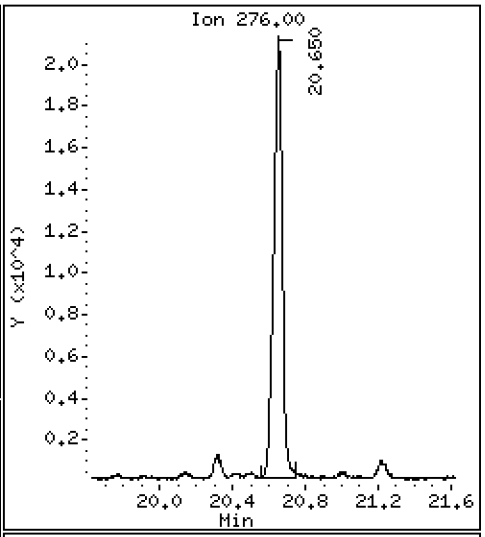
Column phase: Rxi-17sil

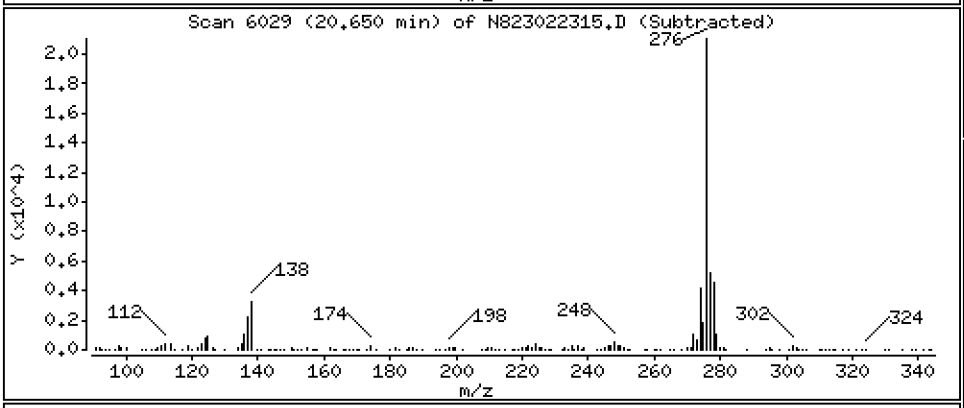
Column diameter: 0.25

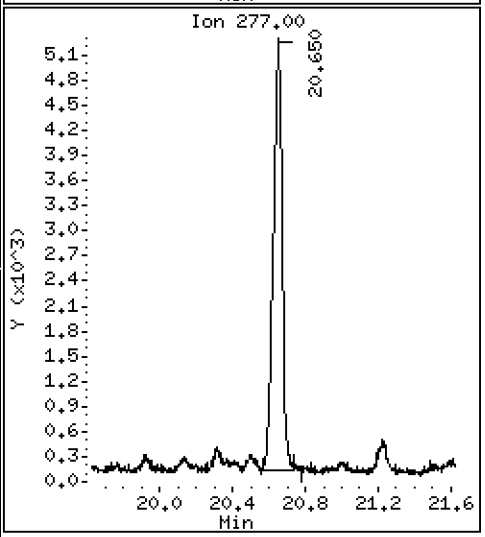
37 Indeno(1,2,3-cd)pyrene

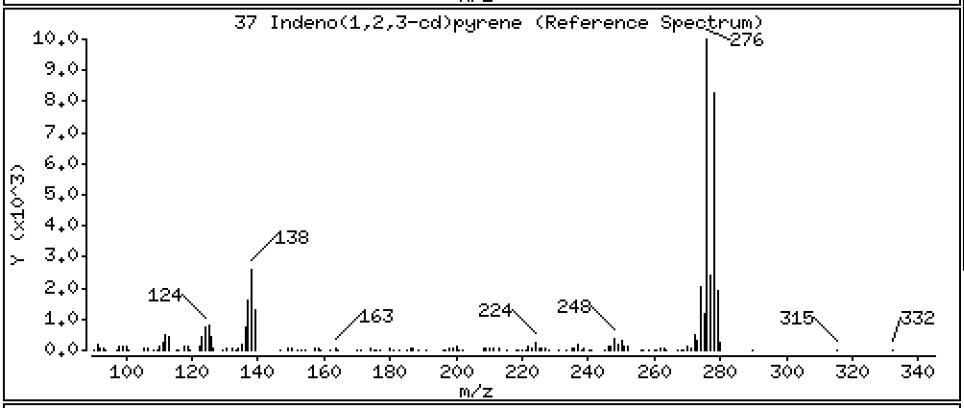
Concentration: 5.498 ug/mL

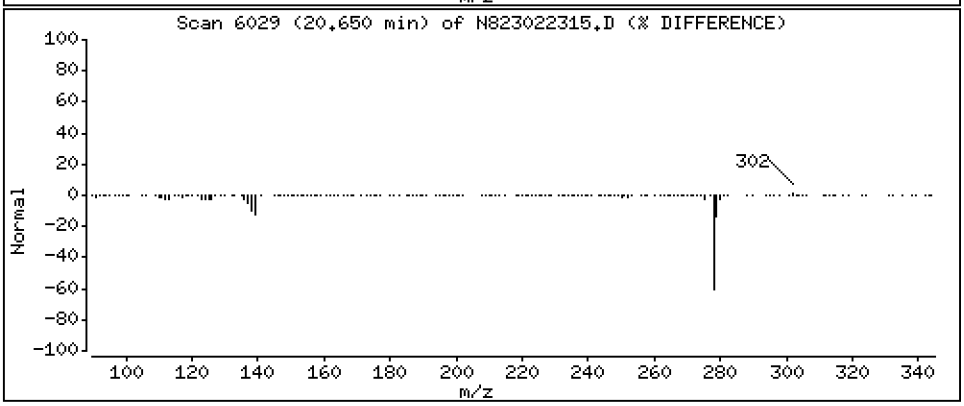












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Date : 23-FEB-2023 17:51

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MSD1,

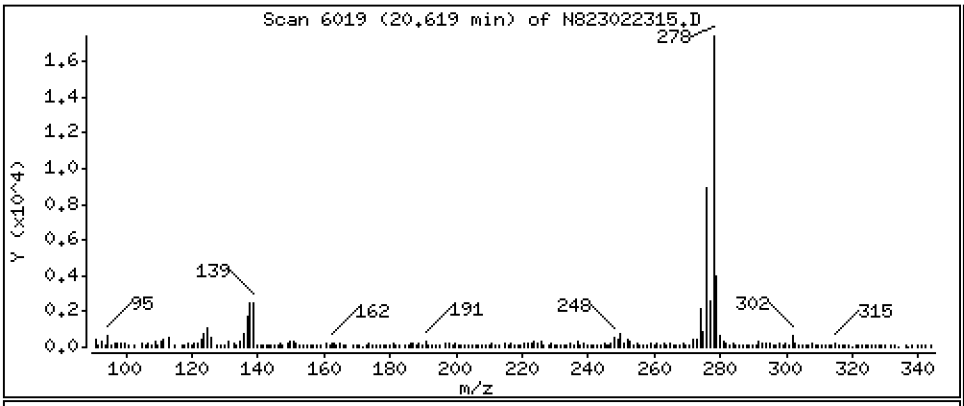
Operator: JZ

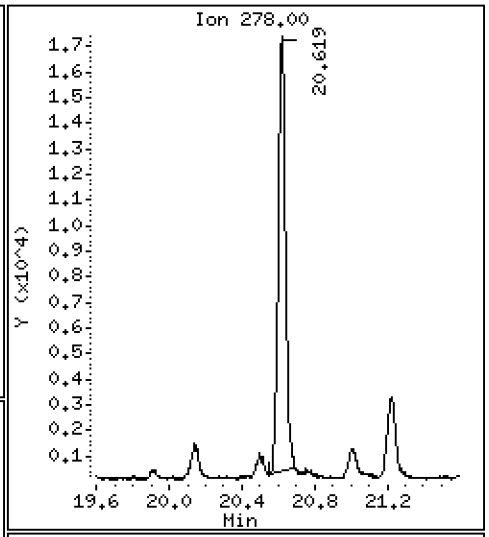
Column phase: Rxi-17sil

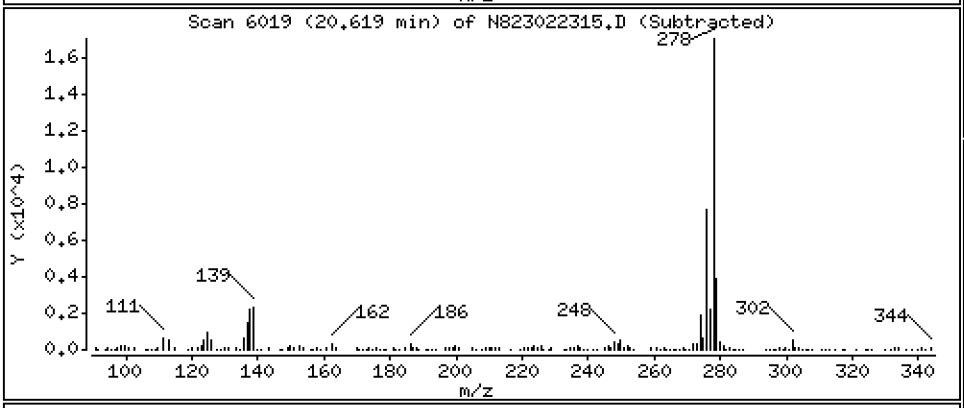
Column diameter: 0.25

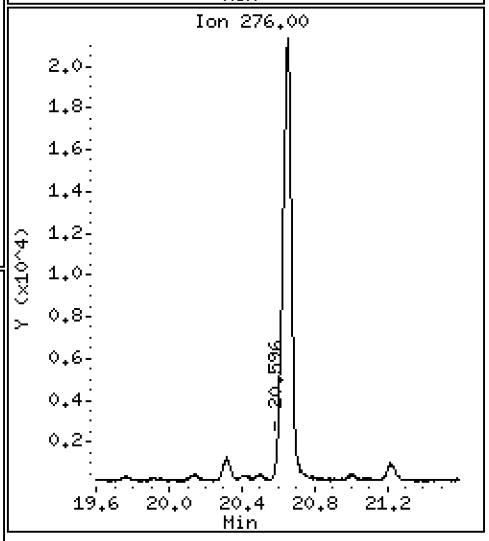
38 Dibenzo(a,h)anthracene

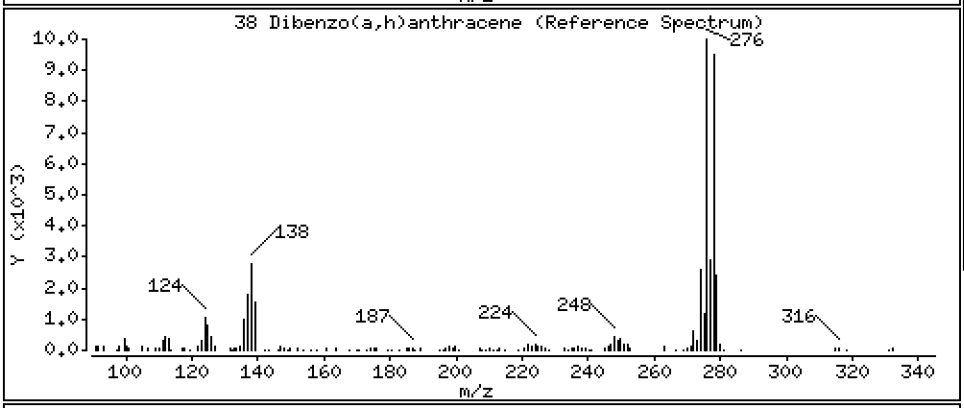
Concentration: 4.315 ug/mL

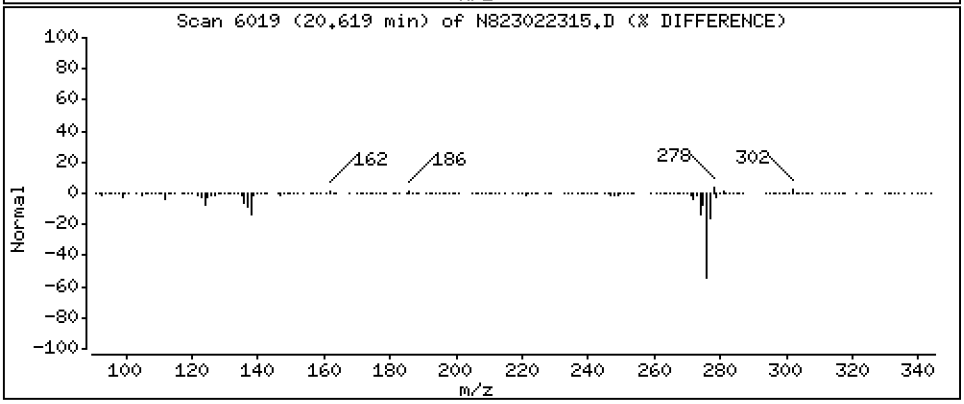












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Date : 23-FEB-2023 17:51

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-MSD1,

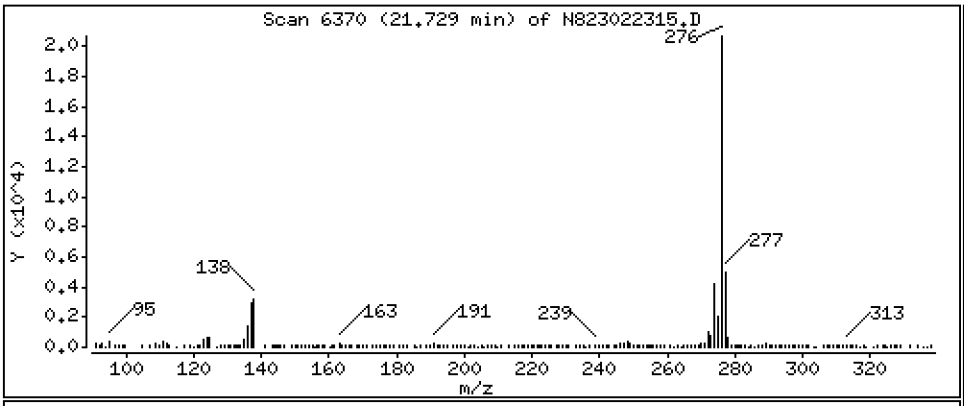
Operator: JZ

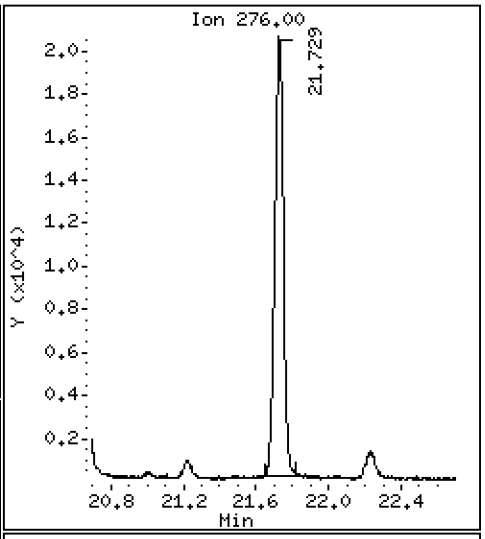
Column phase: Rxi-17sil

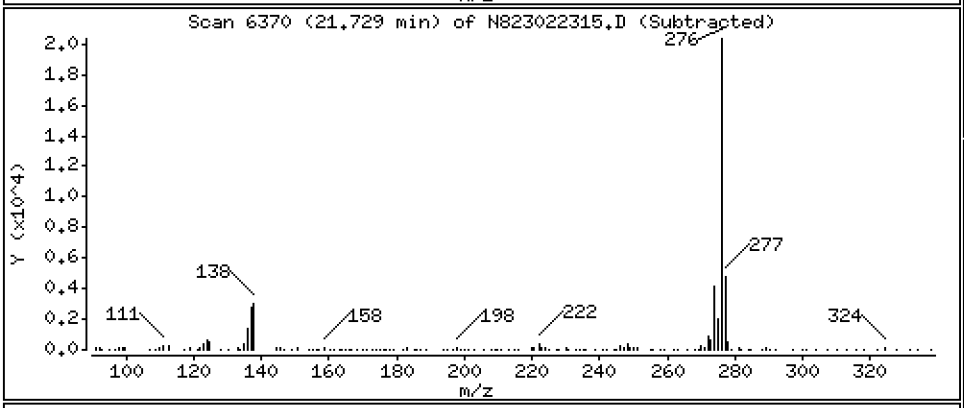
Column diameter: 0.25

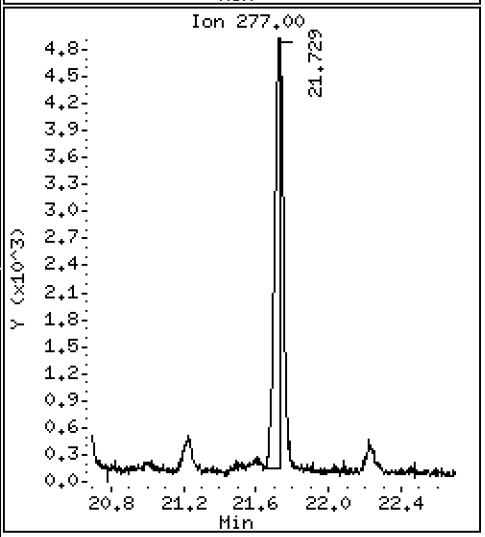
39 Benzo(g,h,i)perylene

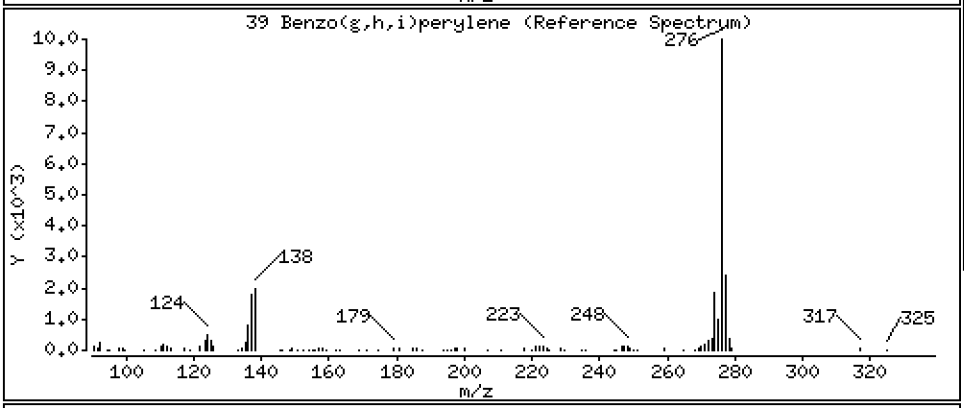
Concentration: 5.763 ug/mL

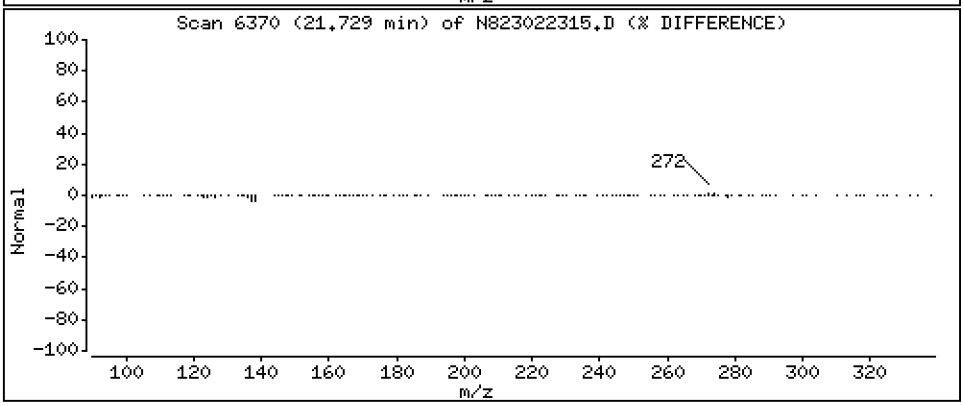












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230223.b\N823022315.D
Lab Smp Id: BLB0386-MSD1
Inj Date : 23-FEB-2023 17:51
Operator : JZ Inst ID: nt8.i
Smp Info : BLB0386-MSD1,
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Meth Date : 26-Feb-2023 12:40 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PNAXEMDL.sub
Target Version: 4.14
Processing Host: JIANQING-202105

							CONCENTRATIONS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.862	4.871	(1.000)	40625	2.00000	
	2 Naphthalene	128	4.894	4.903	(1.007)	61755	3.26937	3.269
$	3 2-Methylnaphthalene-d10	152	5.602	5.605	(1.152)	23528	2.12357	2.124
	4 2-Methylnaphthalene	141	5.649	5.652	(1.162)	36335	3.49714	3.497
	5 1-methylnaphthalene	141	5.845	5.849	(1.202)	34403	3.26254	3.263
	9 Acenaphthylene	152	7.050	7.050	(0.985)	54753	3.00664	3.007
*	10 Acenaphthene-d10	164	7.158	7.158	(1.000)	24116	2.00000	
	11 Acenaphthene	153	7.208	7.208	(1.007)	36959	3.02901	3.029
	12 Dibenzofuran	168	7.363	7.360	(1.029)	57044	3.07801	3.078
	14 Fluorene	166	7.841	7.837	(1.095)	48655	3.38025	3.380
*	15 Phenanthrene-d10	188	9.207	9.197	(1.000)	43556	2.00000	
	16 Phenanthrene	178	9.241	9.235	(1.004)	92535	4.34923	4.349
	17 Anthracene	178	9.283	9.276	(1.008)	75616	3.91227	3.912
	19 Carbazole	167	9.798	9.791	(1.064)	61927	3.49499	3.495
	22 Fluoranthene	202	11.041	11.009	(1.199)	248609	10.7347	10.73
$	21 Fluoranthene-d10	212	10.999	10.971	(1.195)	53496	2.78382	2.784
	23 Pyrene	202	11.569	11.527	(0.816)	242203	18.1973	18.20
	24 Benzo(a)anthracene	228	14.051	14.025	(0.991)	90257	7.48164	7.482
*	25 Chrysene-d12	240	14.174	14.152	(1.000)	21468	2.00000	
	27 Chrysene	228	14.247	14.225	(1.005)	80762	6.28863	6.289
	28 Benzo(b)fluoranthene	252	16.799	16.770	(0.929)	71581	5.58790	5.588
	29 Benzo(k)fluoranthene	252	16.859	16.833	(0.933)	54831	4.36989	4.370
	30 Benzo(j)fluoranthene	252	16.938	16.912	(0.937)	53576	4.74306	4.743
	31 Total Benzofluoranthenes	252	16.799	16.770	(0.929)	179106	14.7634	14.76(M)
	34 Benzo(e)pyrene	252	17.719	17.696	(0.980)	63843	4.99786	4.998
	32 Benzo(a)pyrene	252	17.851	17.826	(0.988)	66379	5.88845	5.888
*	33 Perylene-d12	264	18.073	18.057	(1.000)	21995	2.00000	
	35 Perylene	252	18.155	18.130	(1.005)	49697	4.10828	4.108
$	36 Dibenzo(a,h)anthracene-d14	292	20.501	20.485	(1.134)	24270	2.81616	2.816
	37 Indeno(1,2,3-cd)pyrene	276	20.650	20.624	(1.143)	70611	5.49829	5.498
	38 Dibenzo(a,h)anthracene	278	20.618	20.596	(1.141)	47689	4.31502	4.315(M)
	39 Benzo(g,h,i)perylene	276	21.728	21.696	(1.202)	67056	5.76306	5.763

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823022315.D
Lab Smp Id: BLB0386-MSD1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 23-FEB-2023
Calibration Time: 11:46
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	37022	18511	74044	40625	9.73
10 Acenaphthene-d10	22454	11227	44908	24116	7.40
15 Phenanthrene-d10	43277	21639	86554	43556	0.64
25 Chrysene-d12	38907	19454	77814	21468	-44.82
33 Perylene-d12	39582	19791	79164	21995	-44.43

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.87	4.37	5.37	4.86	-0.19
10 Acenaphthene-d10	7.16	6.66	7.66	7.16	0.00
15 Phenanthrene-d10	9.20	8.70	9.70	9.21	0.10
25 Chrysene-d12	14.15	13.65	14.65	14.17	0.16
33 Perylene-d12	18.06	17.56	18.56	18.07	0.09

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

REVIEW SUMMARY FOR FILE - N823022315.D

Lab ID: BLB0386-MSD1
nt8.i, 20230223.b\FSIMPNA230119.m,   23-FEB-2023 17:51

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

No RRT check performed

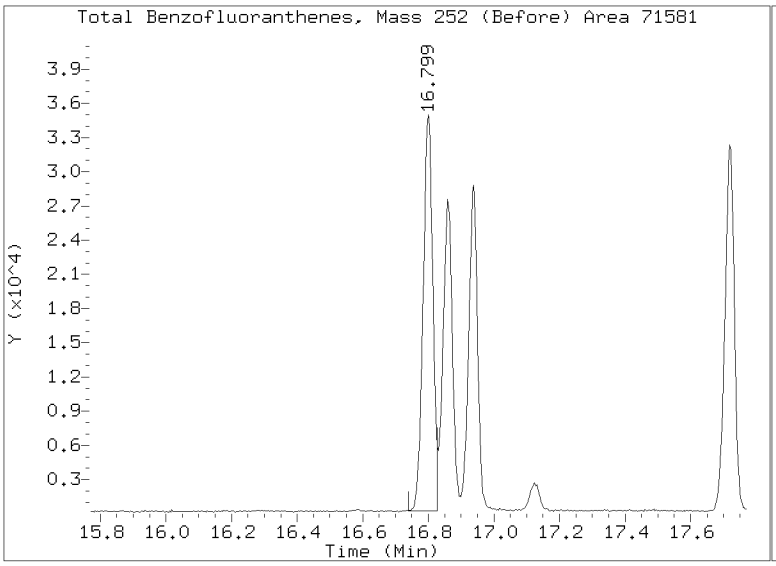
On Column LOD for nt8.i, 20230223.b\FSIMPNA230119.m, PNAXEMDL.sub = 0.0080

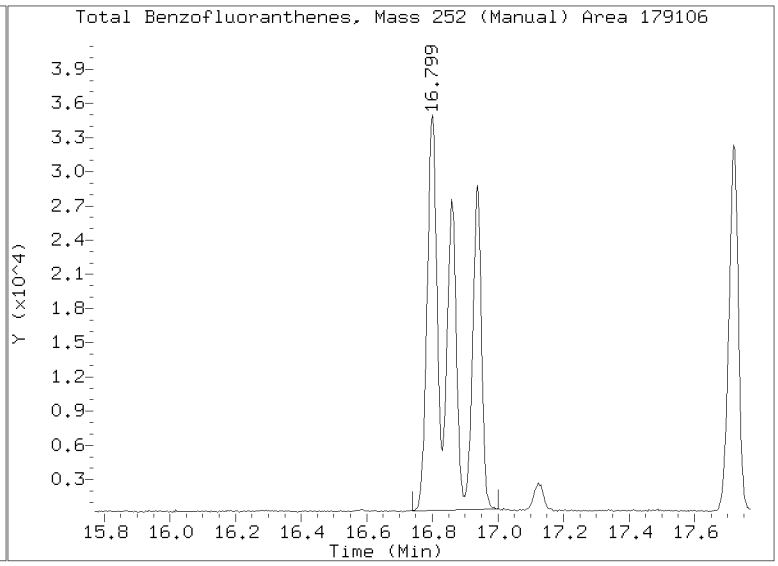
Exception: Benzo(e)pyrene 0.0800

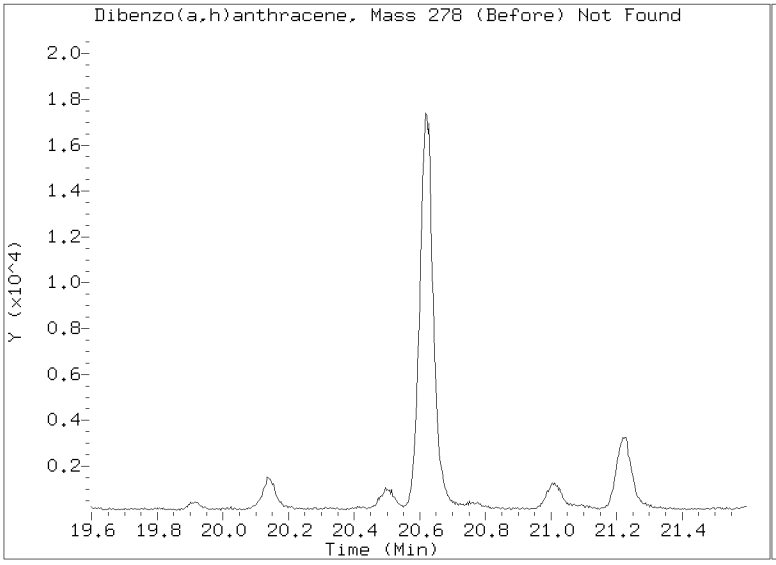
* Only compounds listed in the work order have been verified by the analyst *

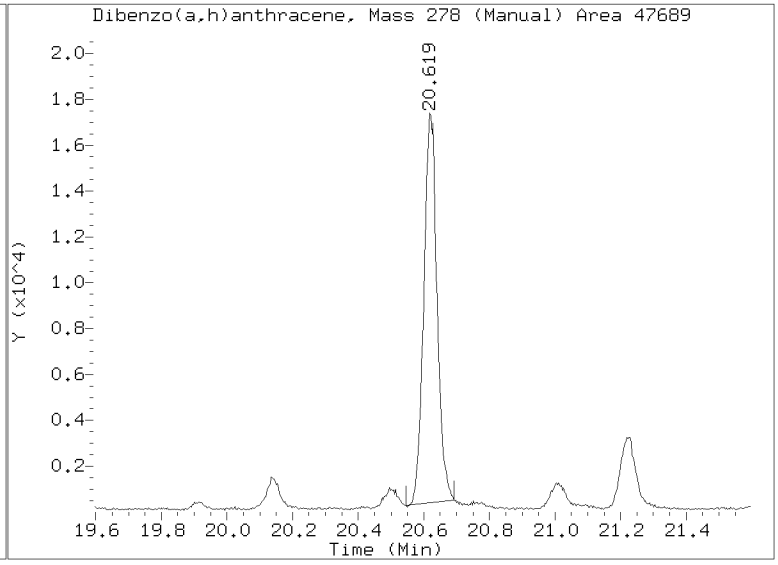
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20230223.b/N823022315.D
Injection Date: 23-FEB-2023 17:51
Lab ID:BLB0386-MSD1 Client ID:
Report Date: 02/26/2023 14:18









Analytical Resources, LLC
Analytical Chemists and Consultants

STANDARD REFERENCE MATERIAL RECOVERY

EPA 8270E-SIM

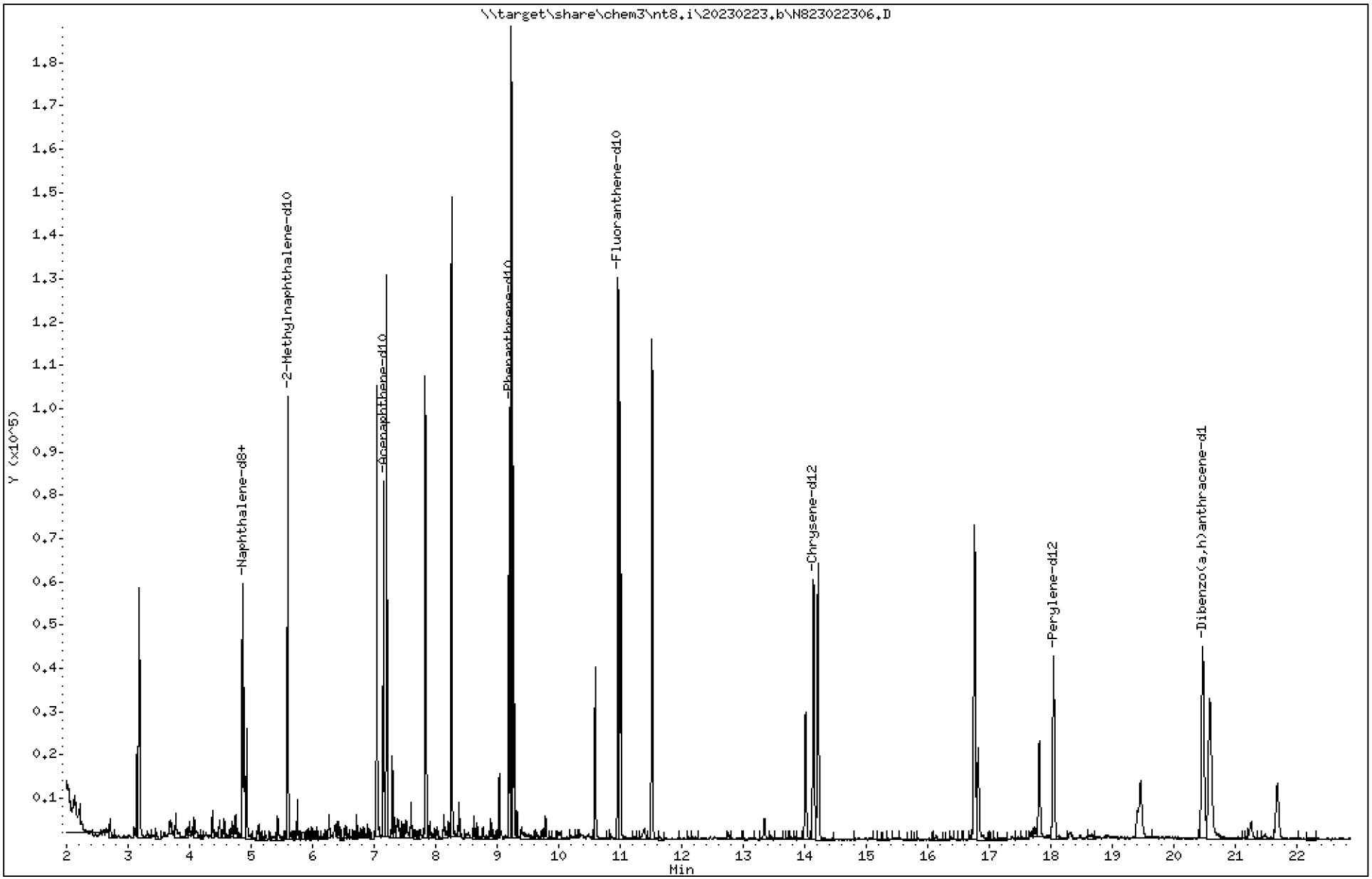
Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Laboratory ID: BLB0386-SRM1
Batch: BLB0386
Initial/Final: 5 g / 0.5 mL
Preparation: EPA 3546 (Microwave)
Analyzed: 02/23/2023 13:48
Standard ID: J007238
Expires: 01/09/2026
Standard Lot#: SQC017 (LRAC9745)
Description: SQC017-40G PAHs by HPLC40g

ANALYTE	TRUE (ug/kg wet)	FOUND (ug/kg wet)	MDL	MRL	Q	SRM % REC.	QC LIMITS REC.
Benzo(a)anthracene	109.00	98.9	1.65	10.0		90.7	31 - 170
Chrysene	210.00	187	2.11	10.0		89.1	13 - 186
Benzo(b)fluoranthene	295.00	312	2.74	10.0		106	33 - 167
Benzo(k)fluoranthene	259.00	94.1	1.52	10.0		36.3	14 - 186
Benzo(a)pyrene	65.500	112	1.23	10.0		171	24 - 176
Indeno(1,2,3-cd)pyrene	208.00	109	2.10	10.0		52.3	0 - 208
Dibenzo(a,h)anthracene	177.00	201	1.78	10.0		114	0 - 214

* Values outside of QC limits

Data File: \\target\share\chem3\nt8.i\20230223.b\N823022306.D
Date : 23-FEB-2023 13:48
Client ID:
Sample Info: BLB0386-SRM1,

Instrument: nt8.i
Operator: JZ
Column phase: Rxi-17sil
Column diameter: 0.25



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Date : 23-FEB-2023 13:48

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-SRM1,

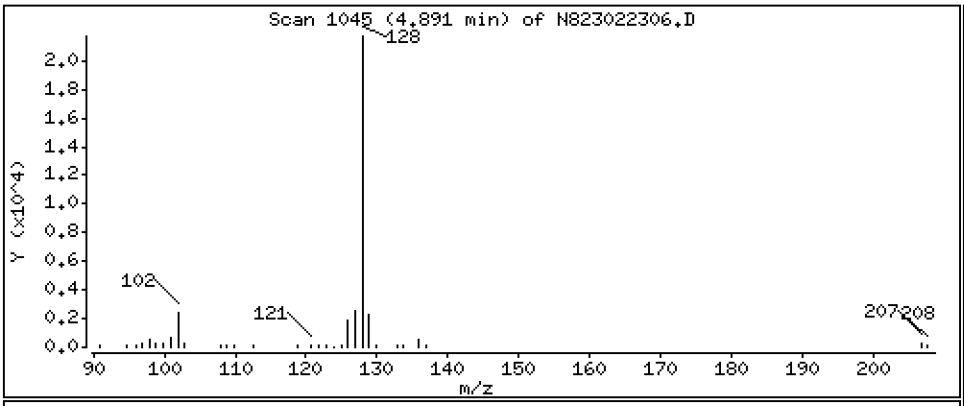
Operator: JZ

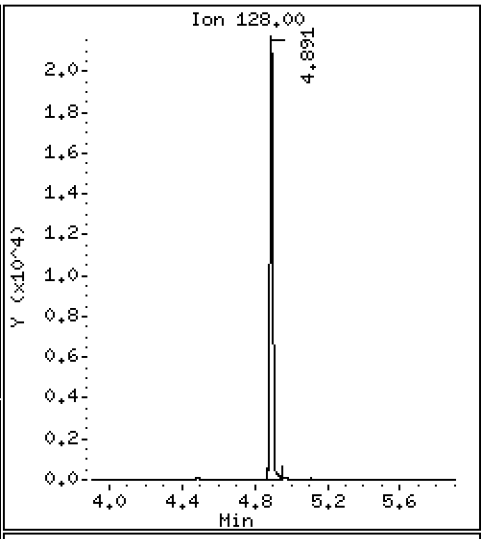
Column phase: Rxi-17sil

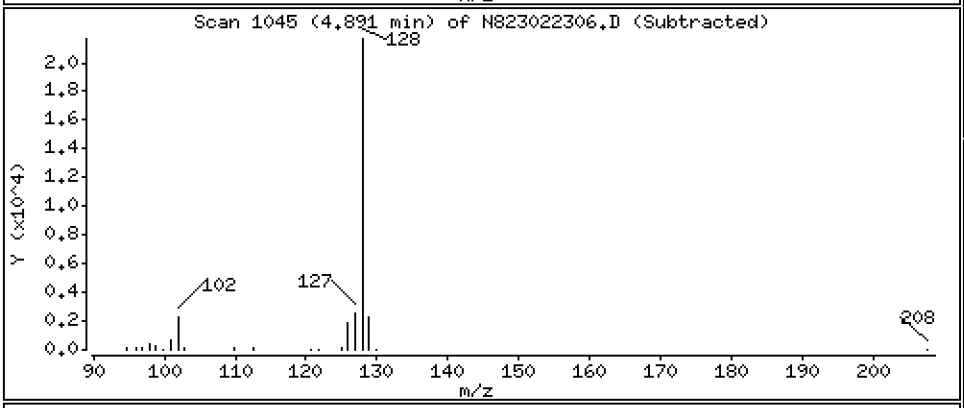
Column diameter: 0.25

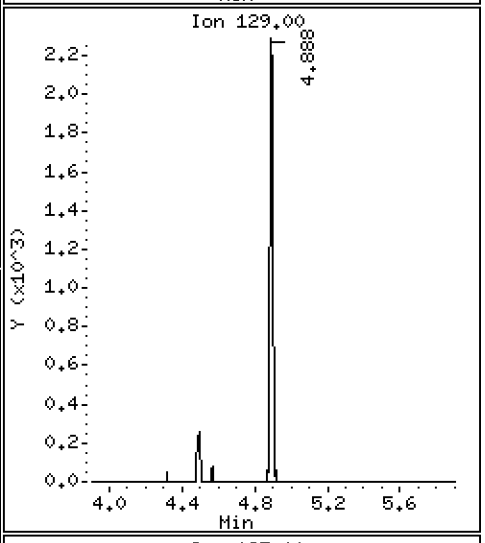
2 Naphthalene

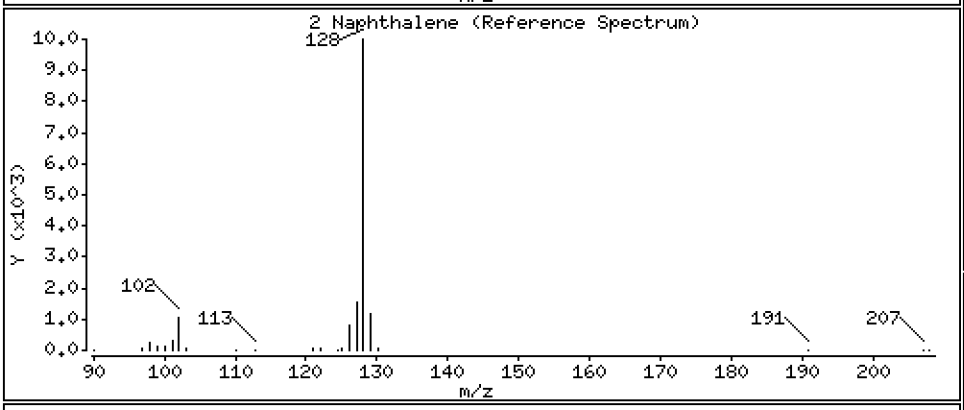
Concentration: 1.354 ug/mL

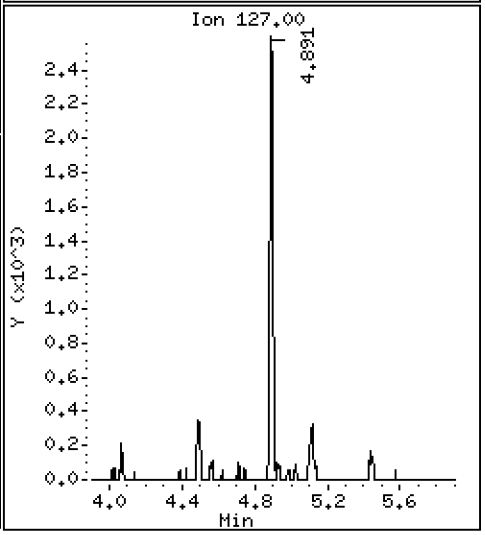


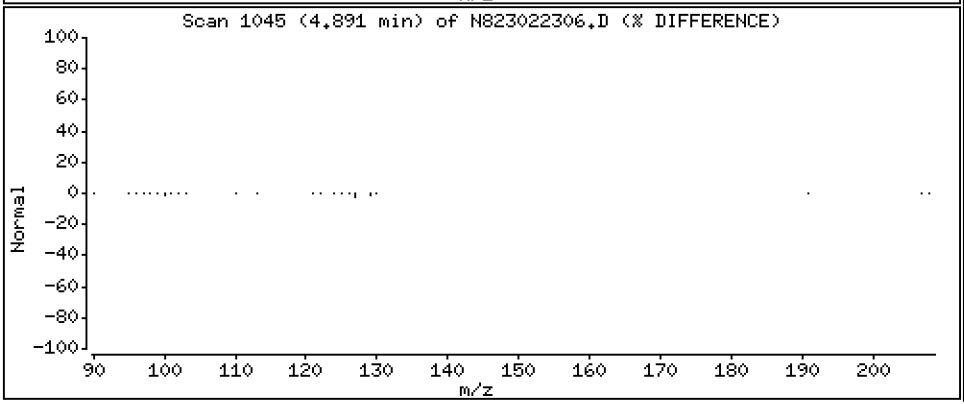












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Date : 23-FEB-2023 13:48

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-SRM1,

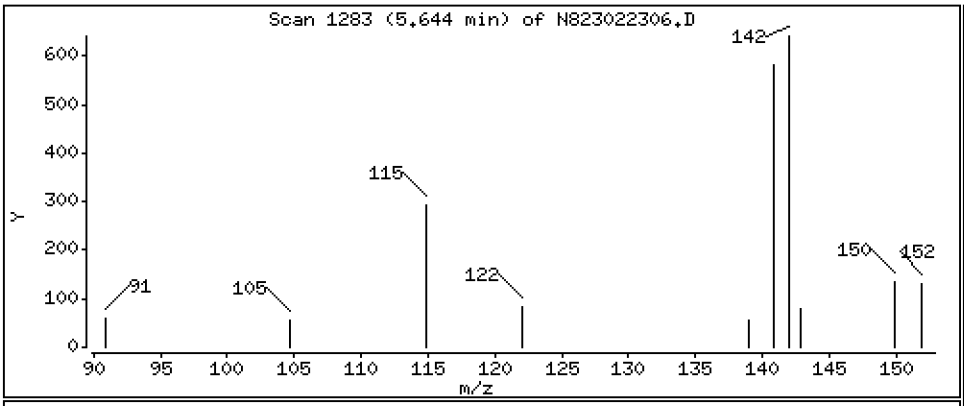
Operator: JZ

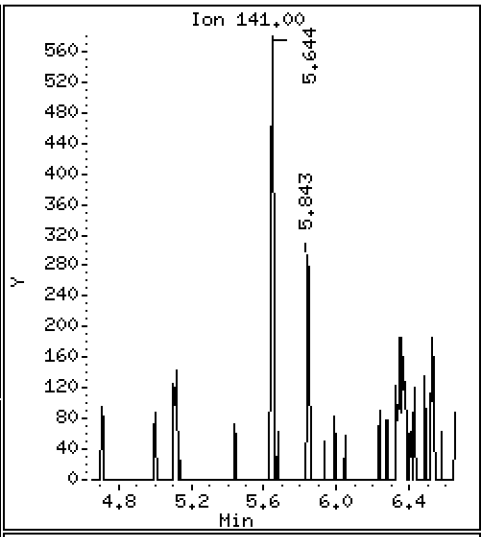
Column phase: Rxi-17sil

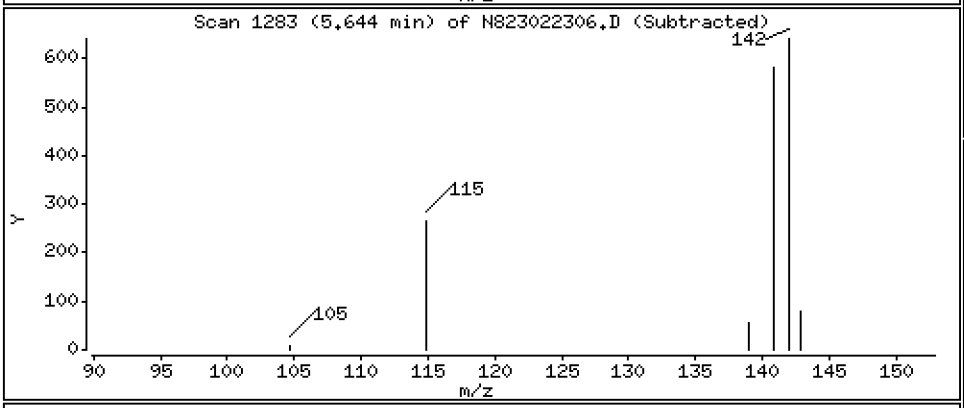
Column diameter: 0.25

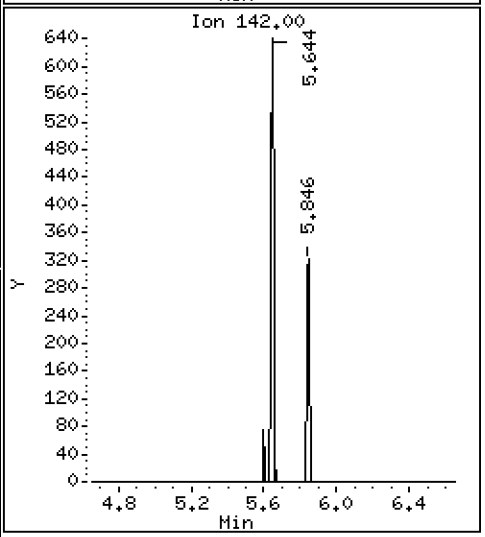
4 2-Methylnaphthalene

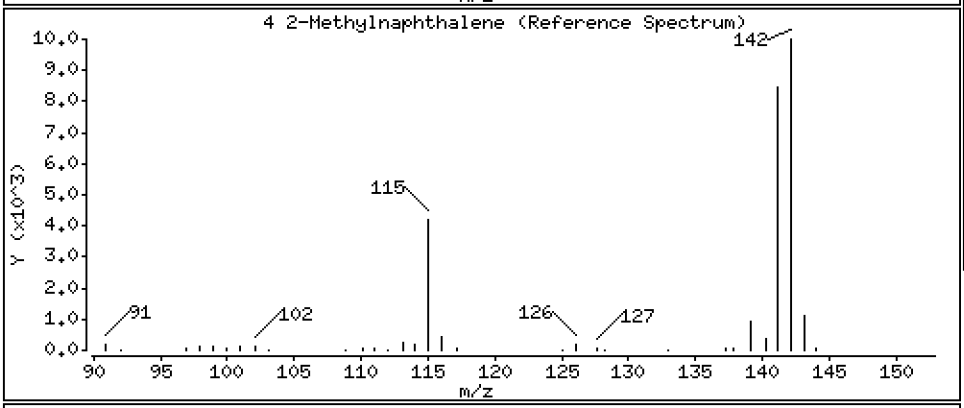
Concentration: 0.05677 ug/mL

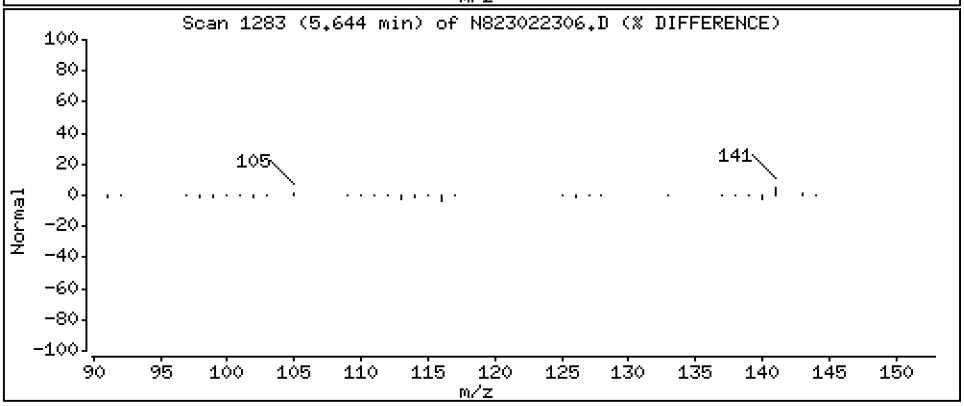












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Date : 23-FEB-2023 13:48

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-SRM1,

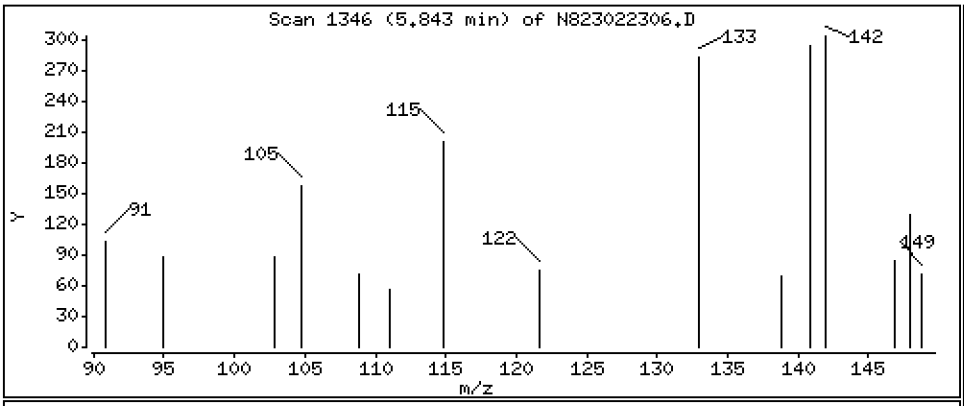
Operator: JZ

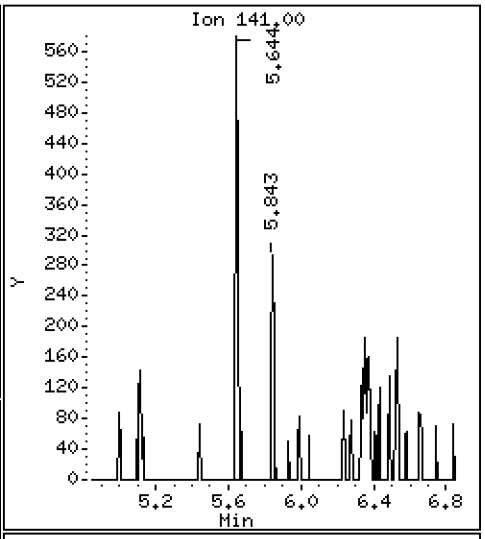
Column phase: Rxi-17sil

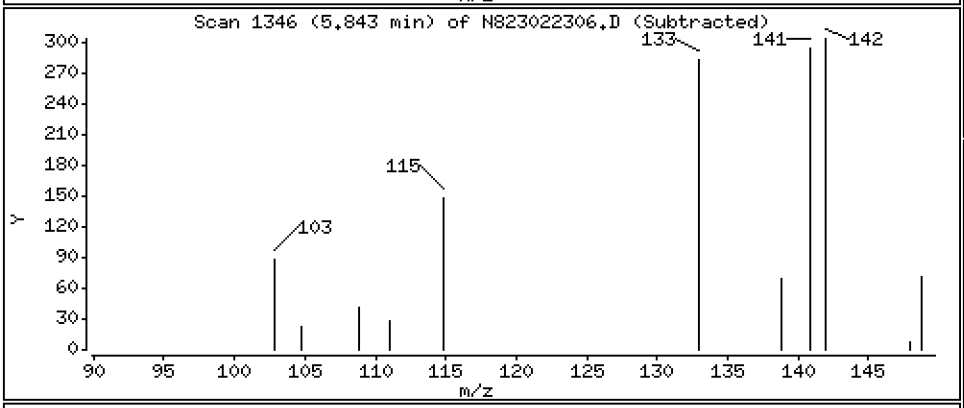
Column diameter: 0.25

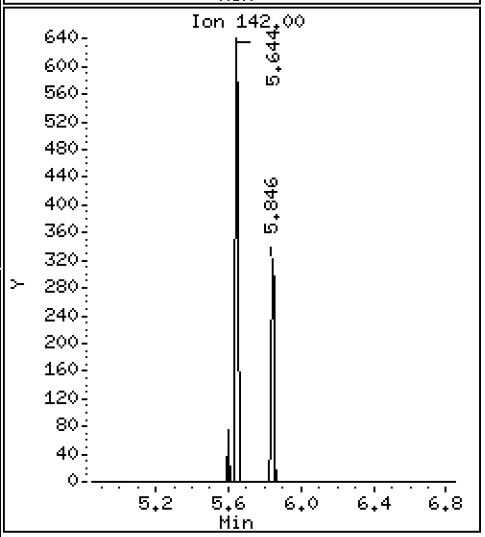
5 1-methylnaphthalene

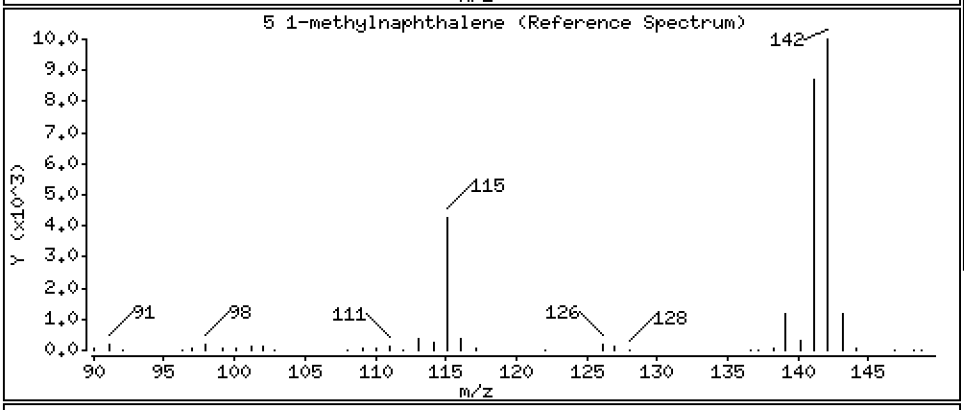
Concentration: 0.02964 ug/mL

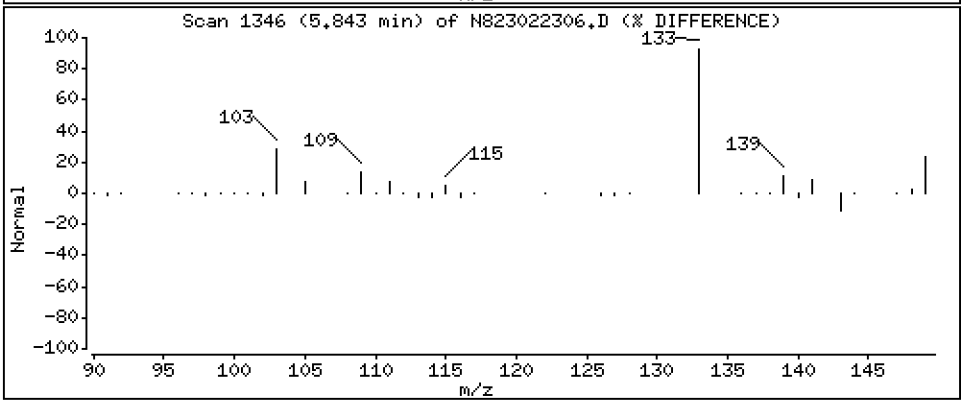












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Date : 23-FEB-2023 13:48

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-SRM1,

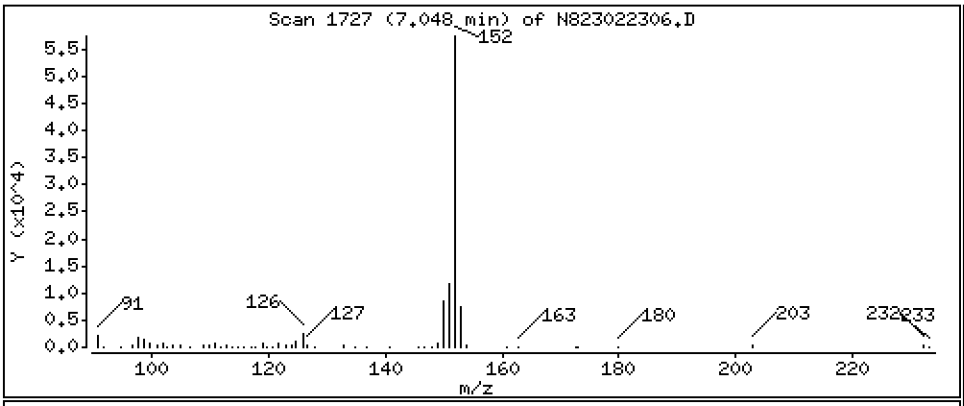
Operator: JZ

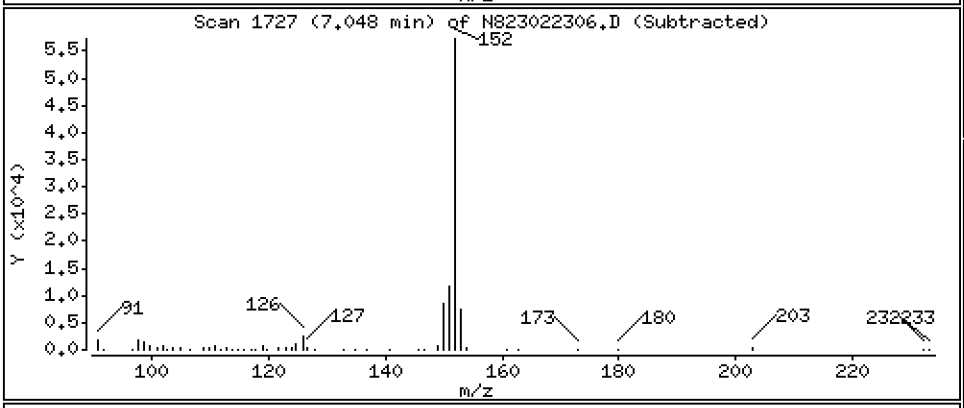
Column phase: Rxi-17sil

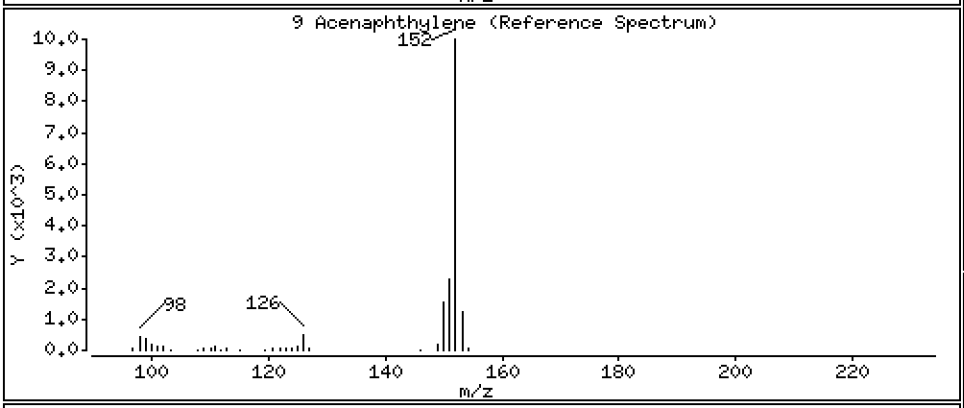
Column diameter: 0.25

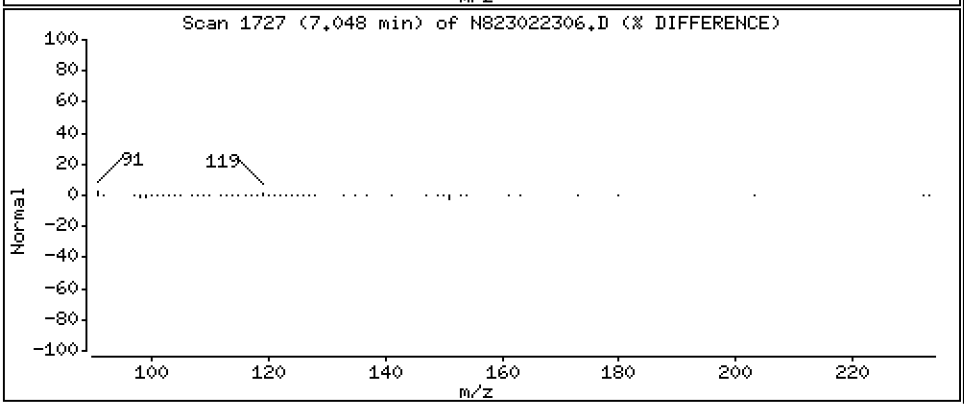
9 Acenaphthylene

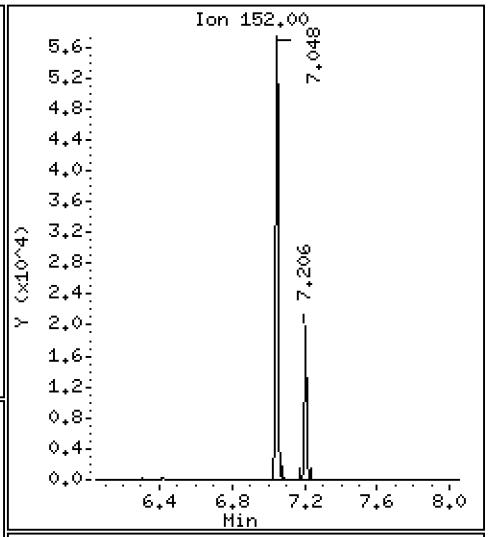
Concentration: 3.176 ug/mL

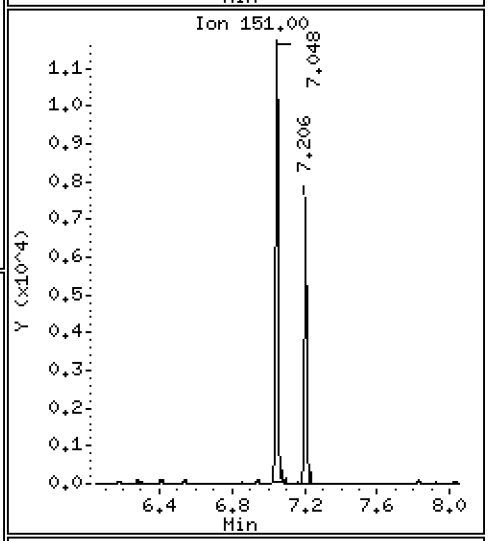


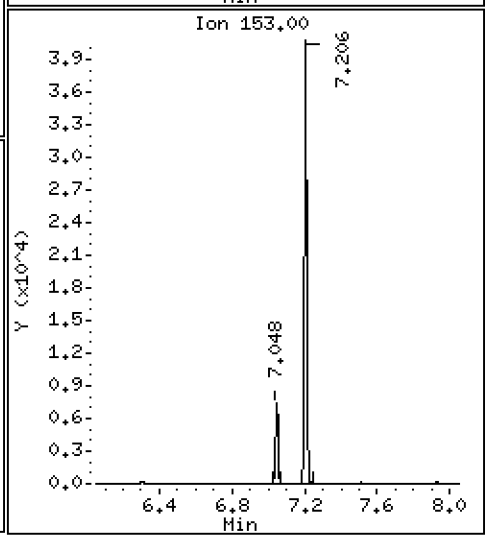












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Date : 23-FEB-2023 13:48

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-SRM1,

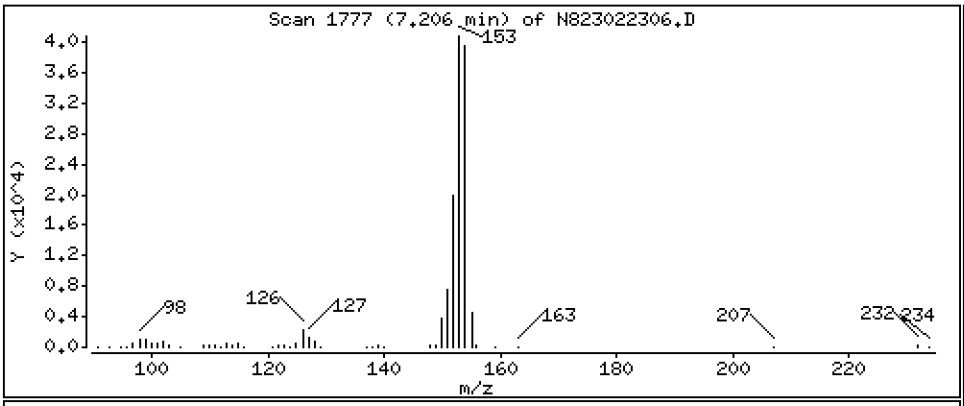
Operator: JZ

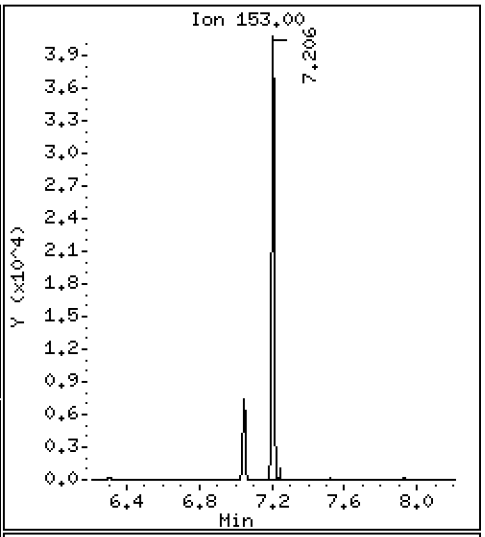
Column phase: Rxi-17sil

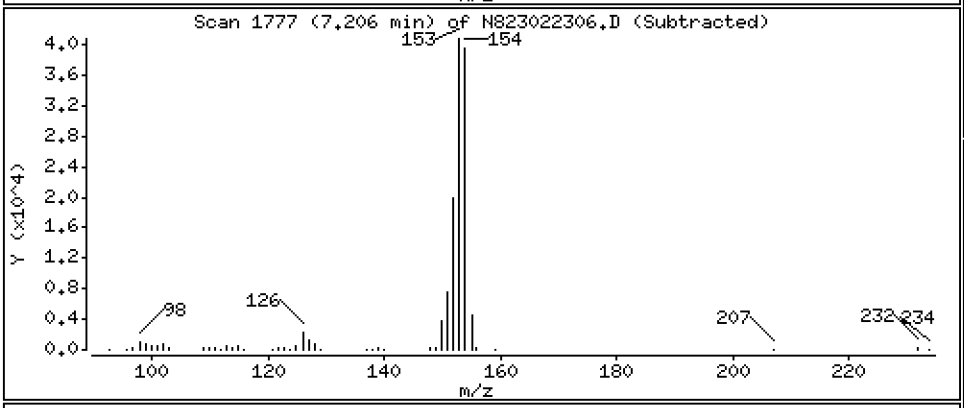
Column diameter: 0.25

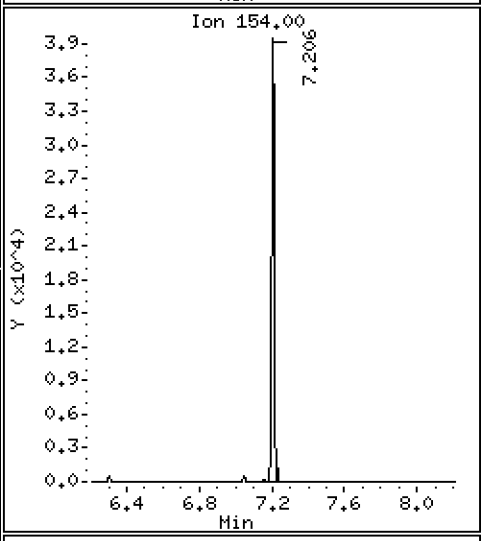
11 Acenaphthene

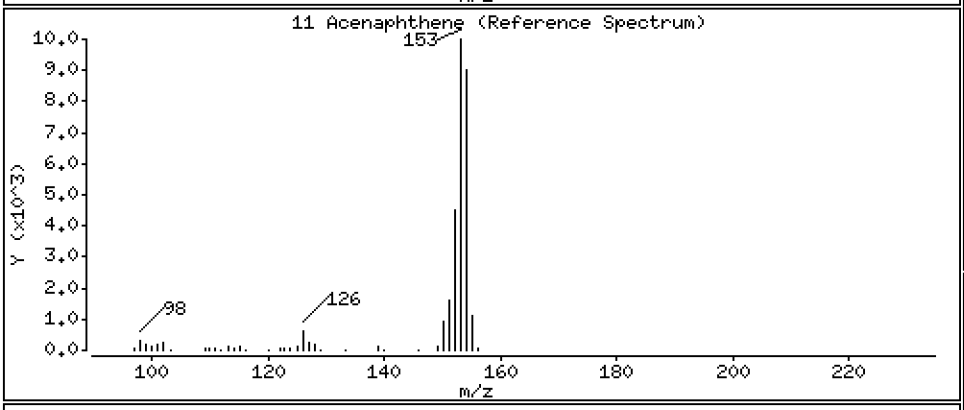
Concentration: 3.330 ug/mL

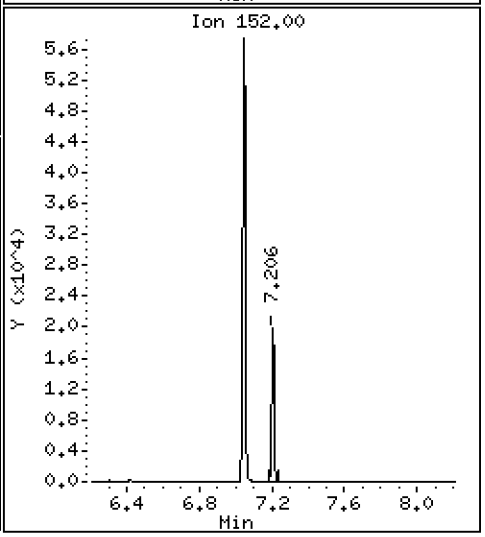


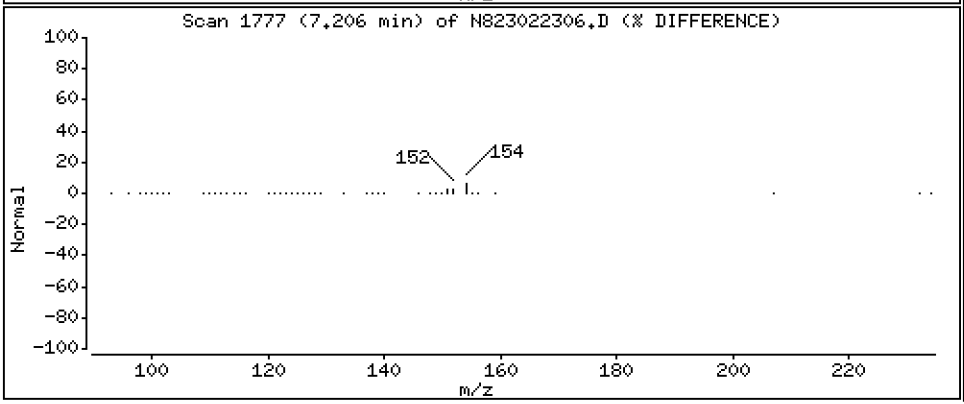












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Date : 23-FEB-2023 13:48

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-SRM1,

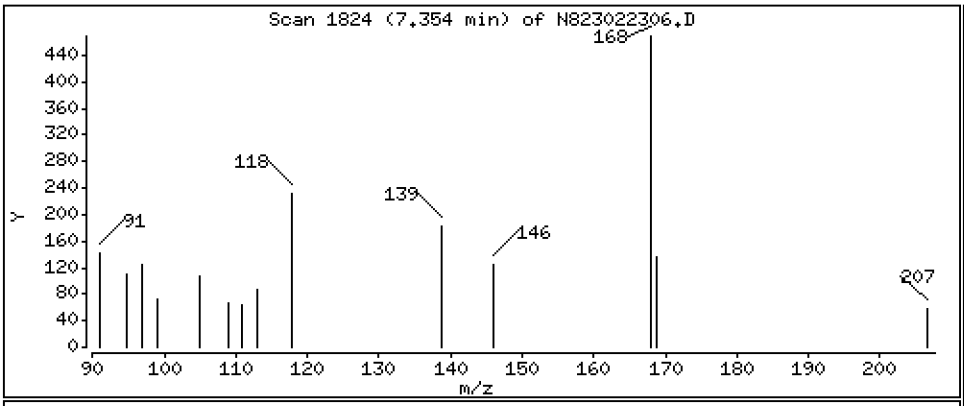
Operator: JZ

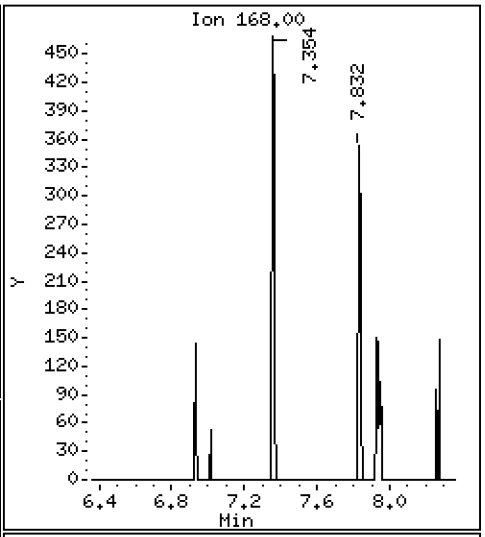
Column phase: Rxi-17sil

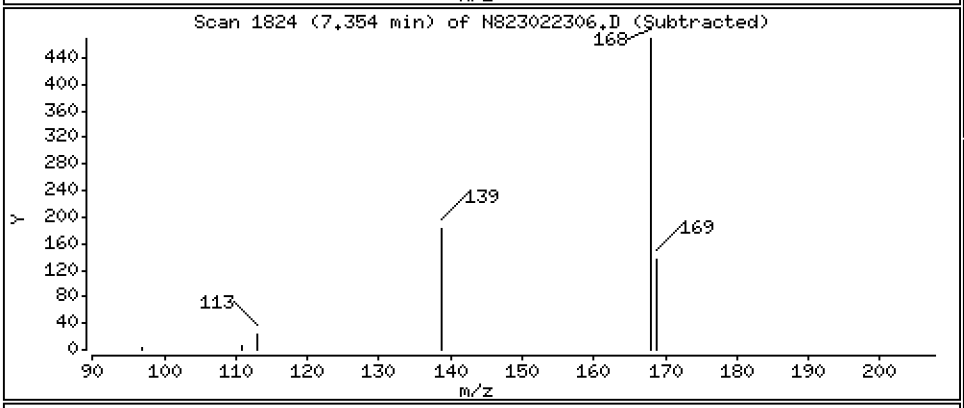
Column diameter: 0.25

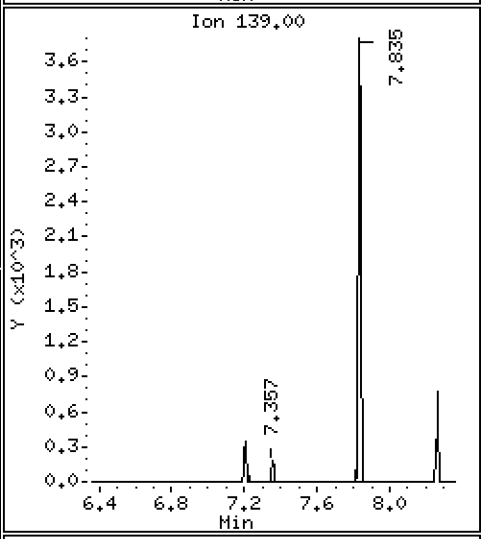
12 Dibenzofuran

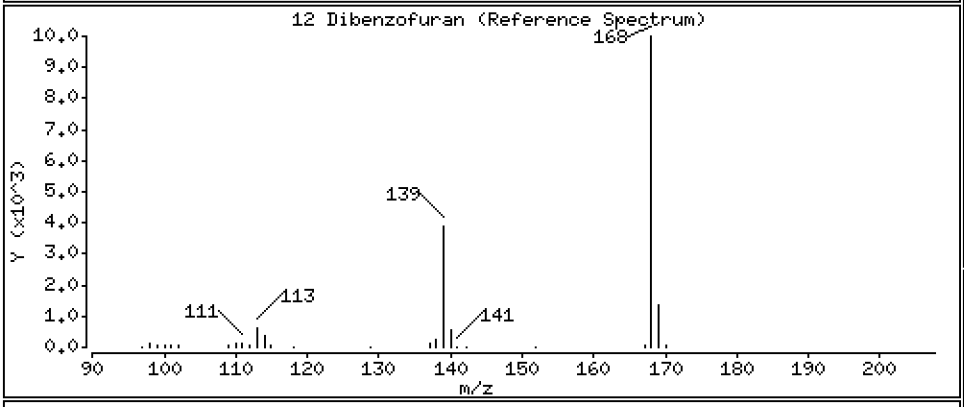
Concentration: 0.02469 ug/mL

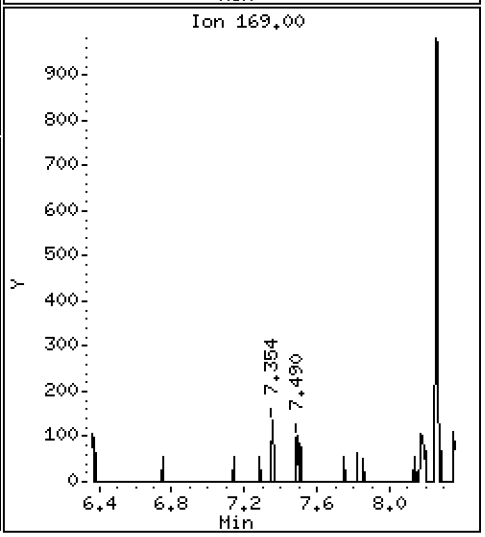


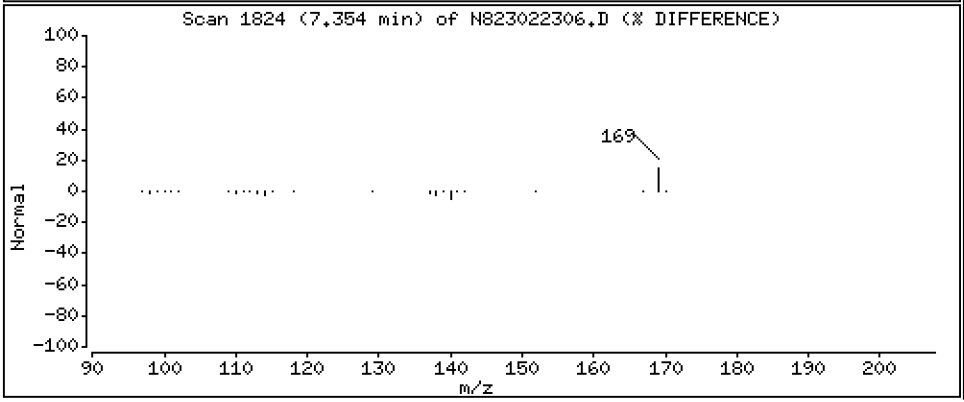












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022306.D

Date : 23-FEB-2023 13:48

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-SRM1,

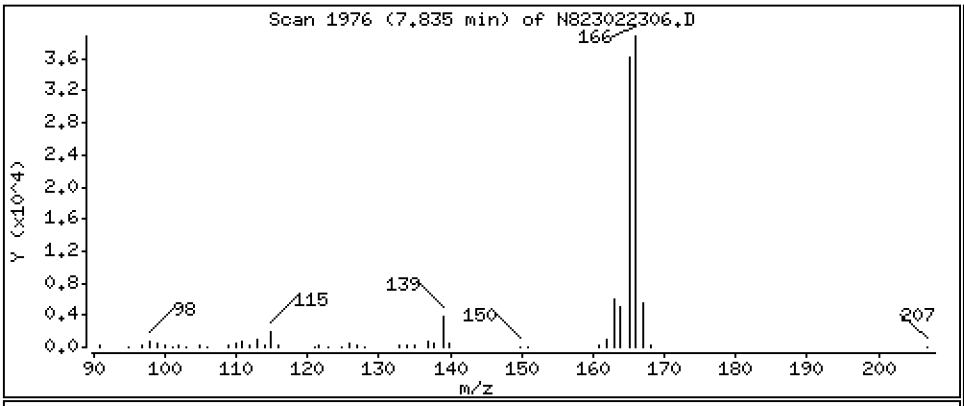
Operator: JZ

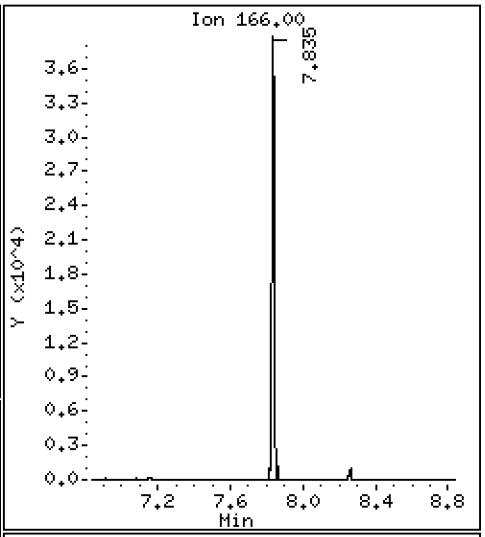
Column phase: Rxi-17sil

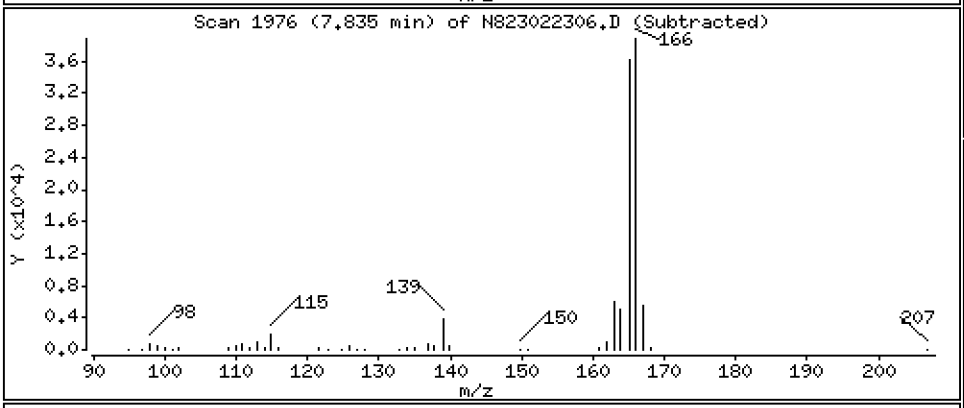
Column diameter: 0.25

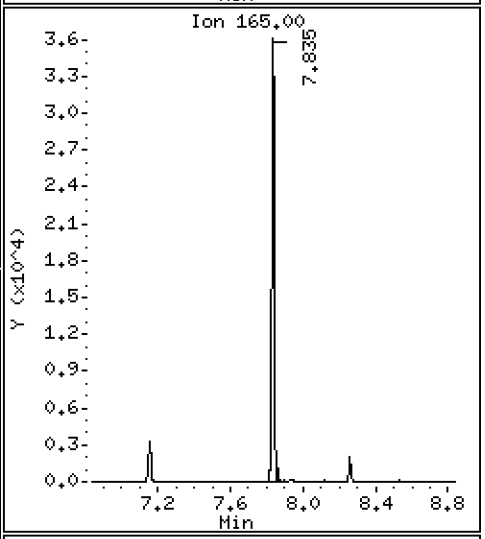
14 Fluorene

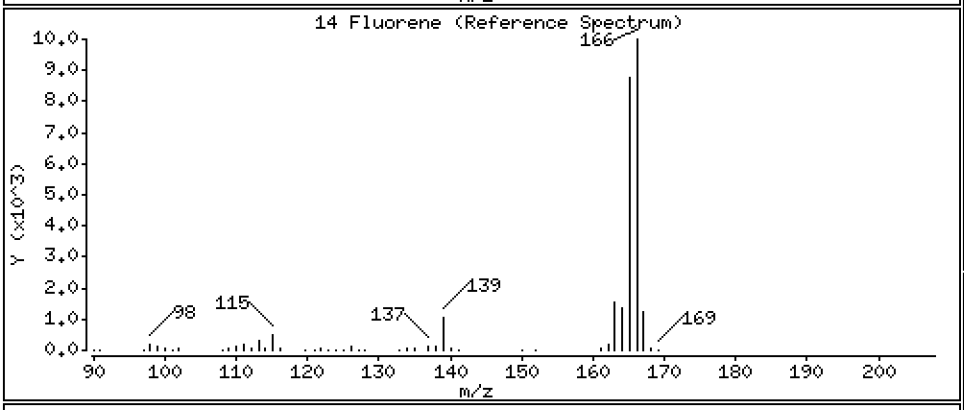
Concentration: 2.515 ug/mL

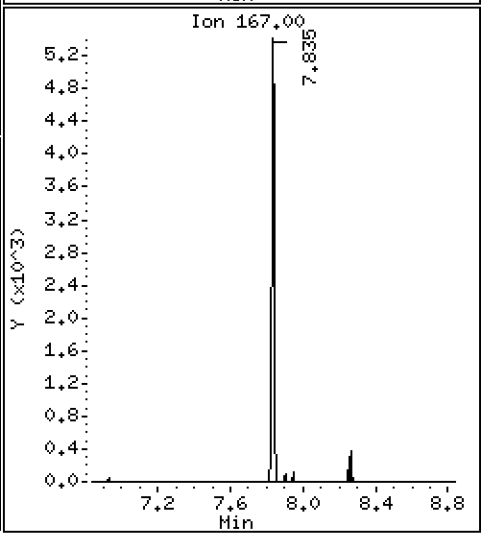


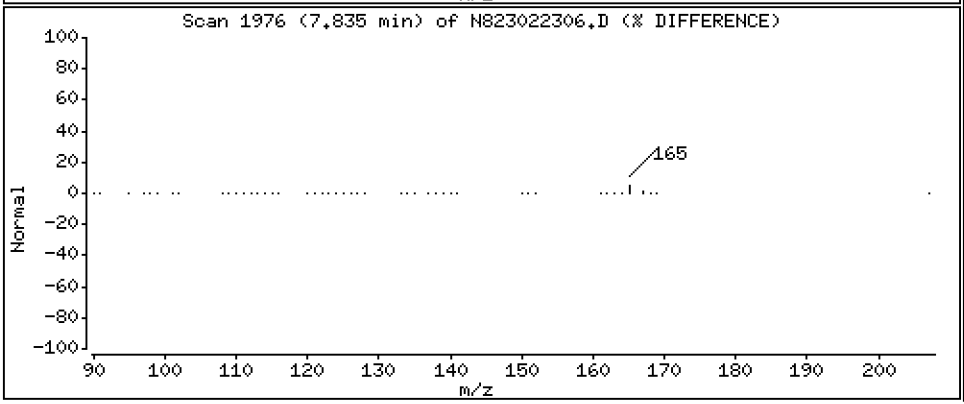












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022306.D

Date : 23-FEB-2023 13:48

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-SRM1,

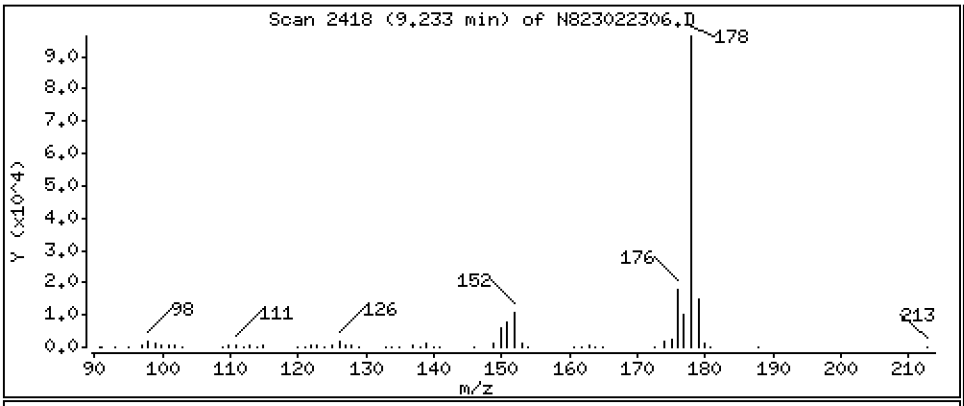
Operator: JZ

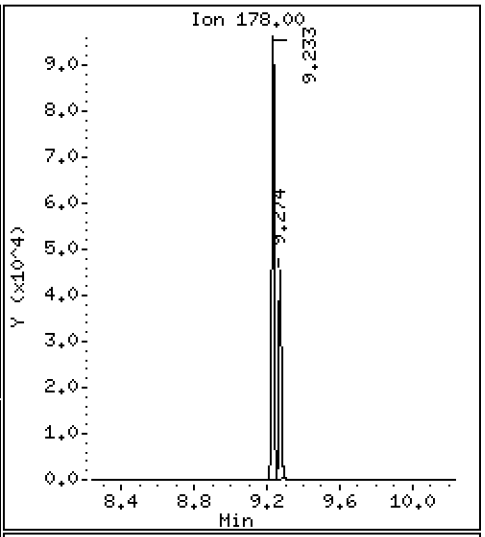
Column phase: Rxi-17sil

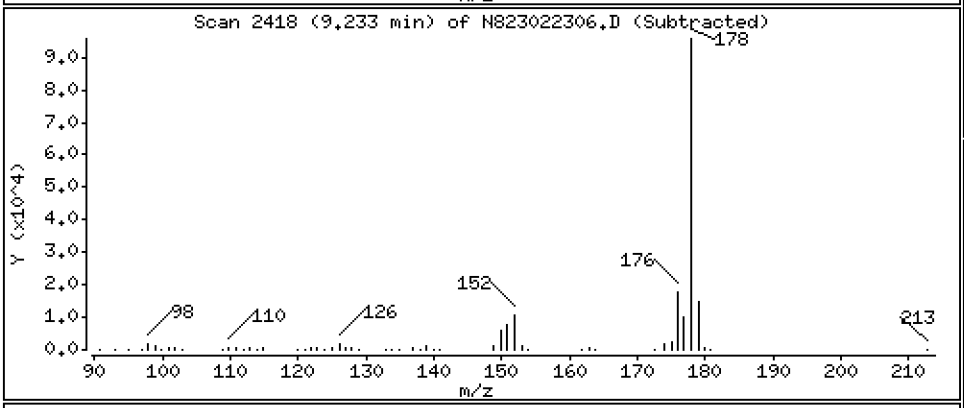
Column diameter: 0.25

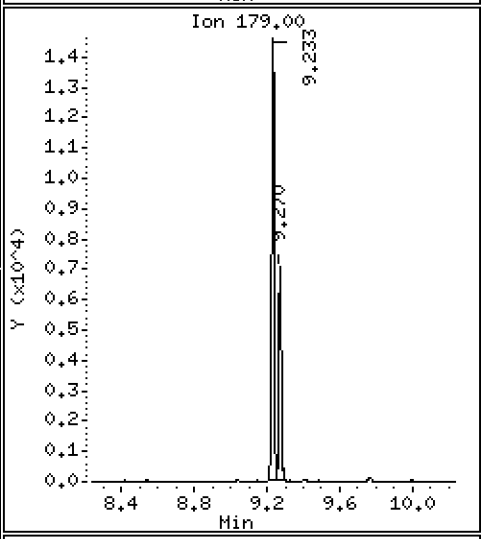
16 Phenanthrene

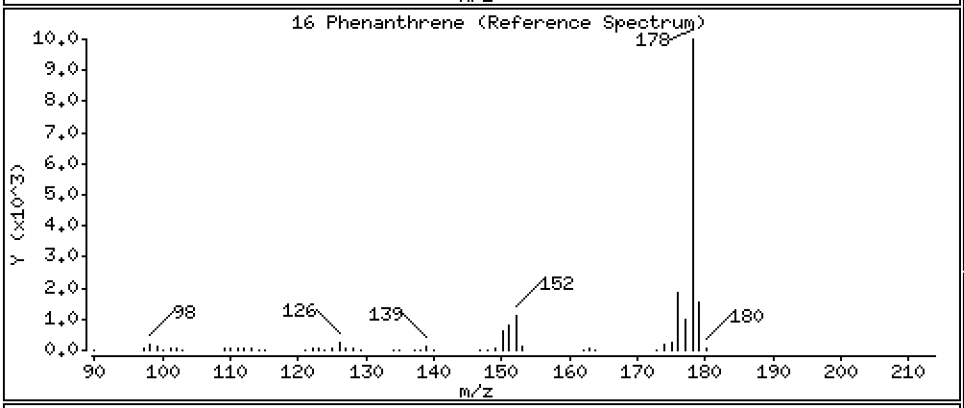
Concentration: 4.118 ug/mL

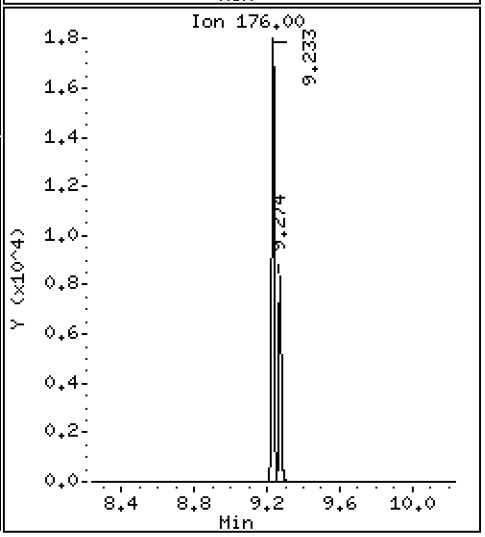


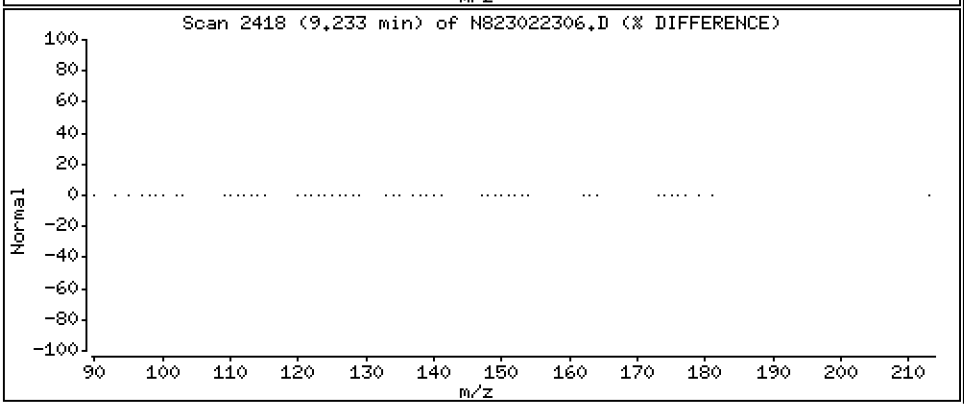












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022306.D

Date : 23-FEB-2023 13:48

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-SRM1,

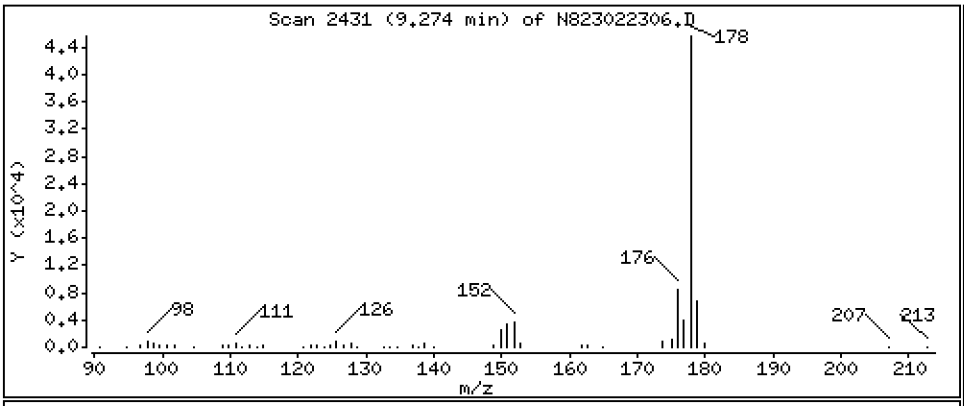
Operator: JZ

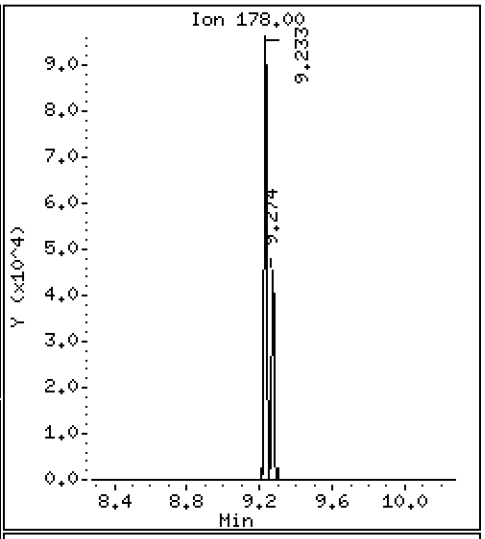
Column phase: Rxi-17sil

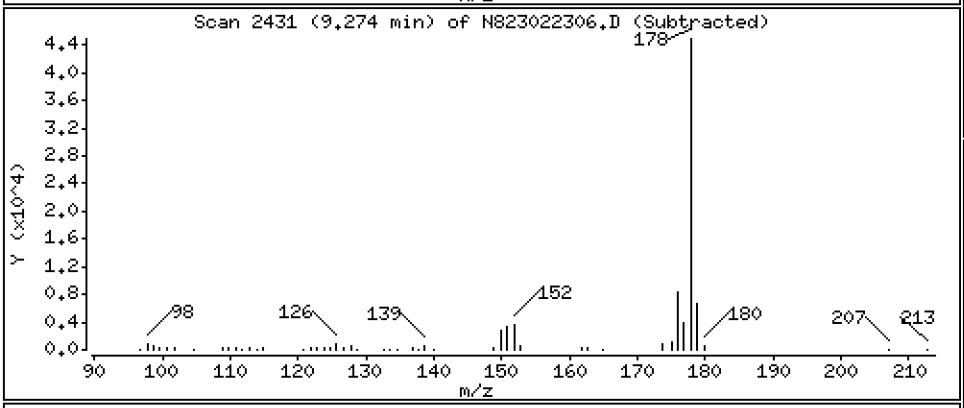
Column diameter: 0.25

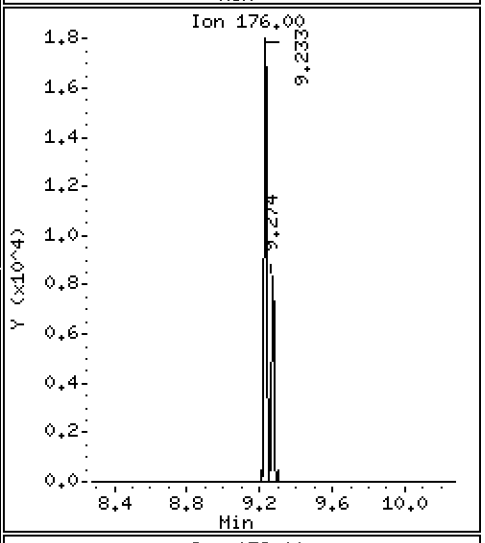
17 Anthracene

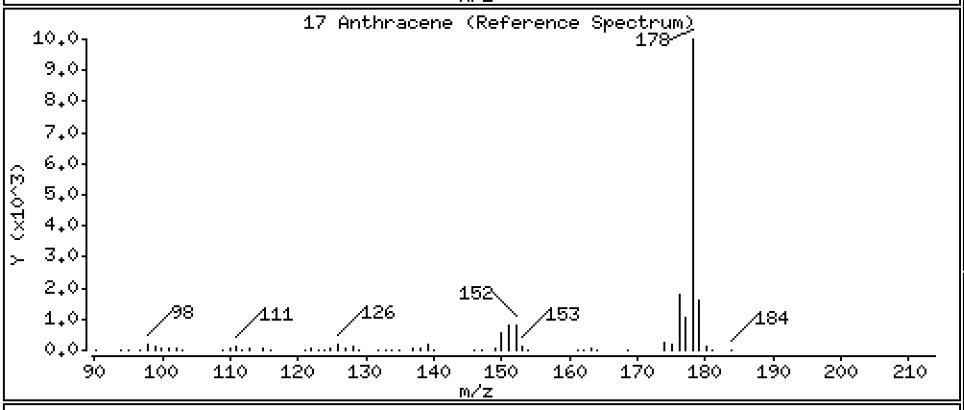
Concentration: 2.200 ug/mL

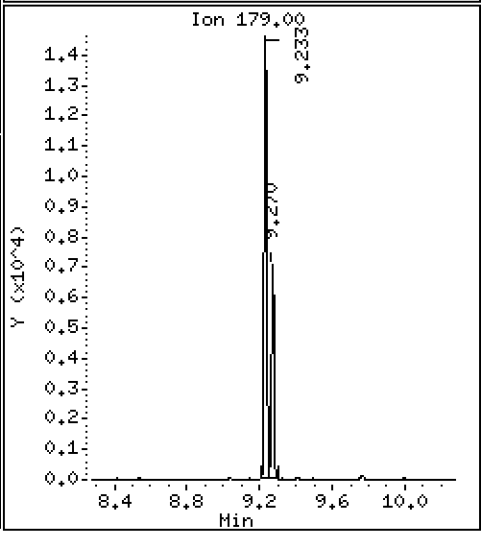


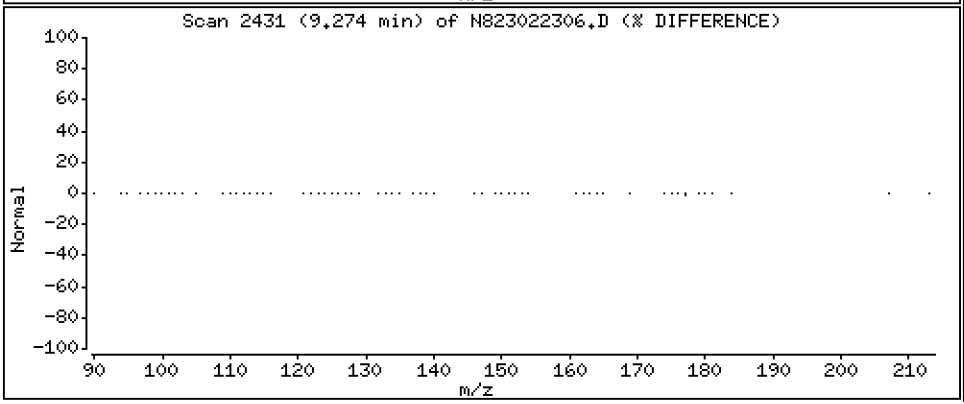












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Date : 23-FEB-2023 13:48

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-SRM1,

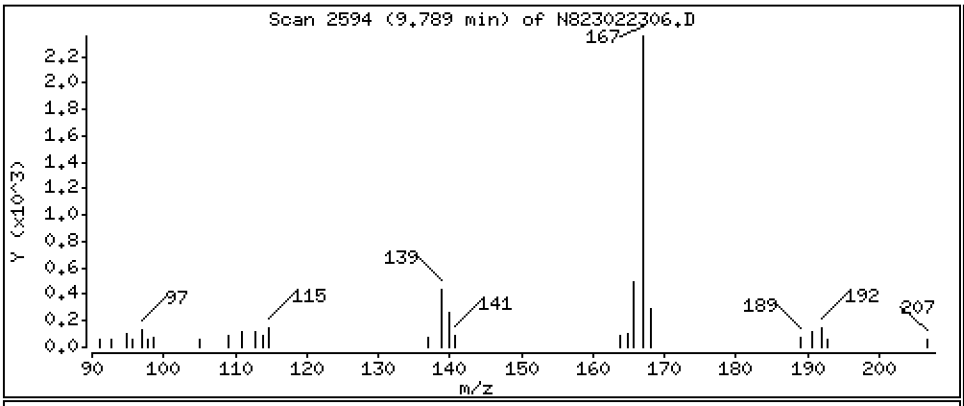
Operator: JZ

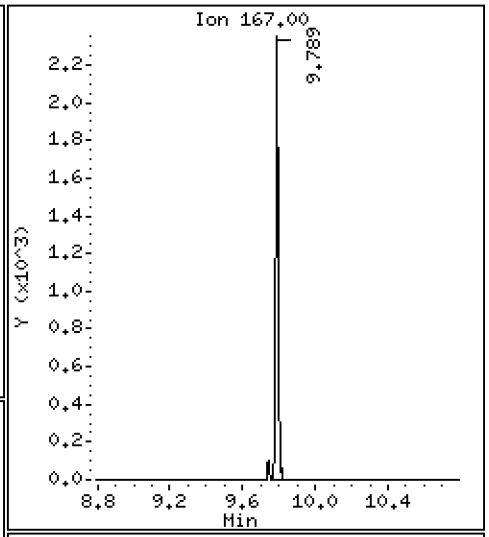
Column phase: Rxi-17sil

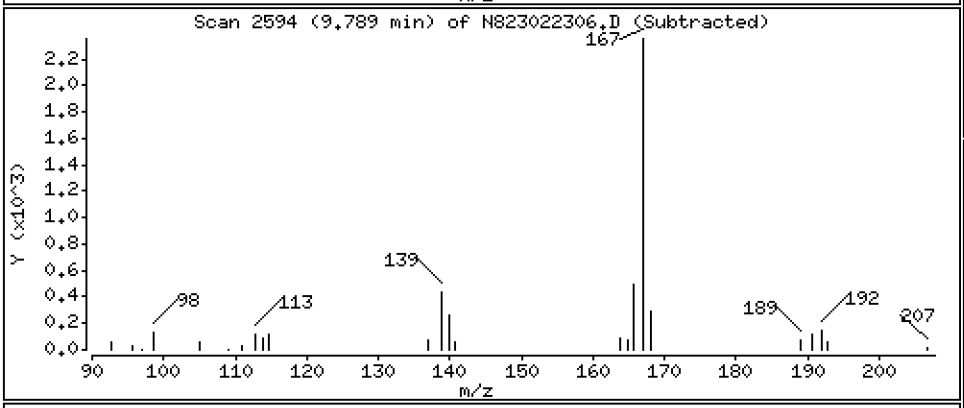
Column diameter: 0.25

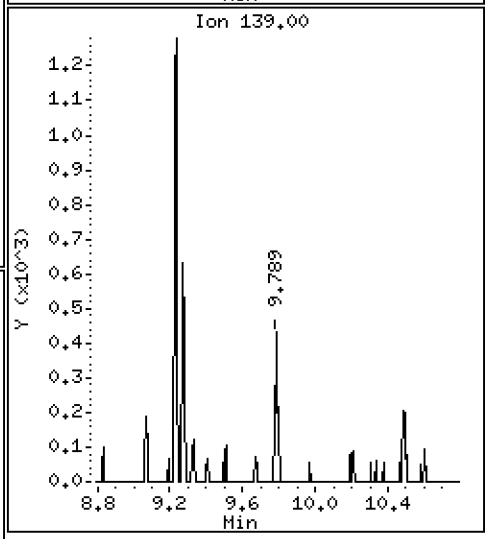
19 Carbazole

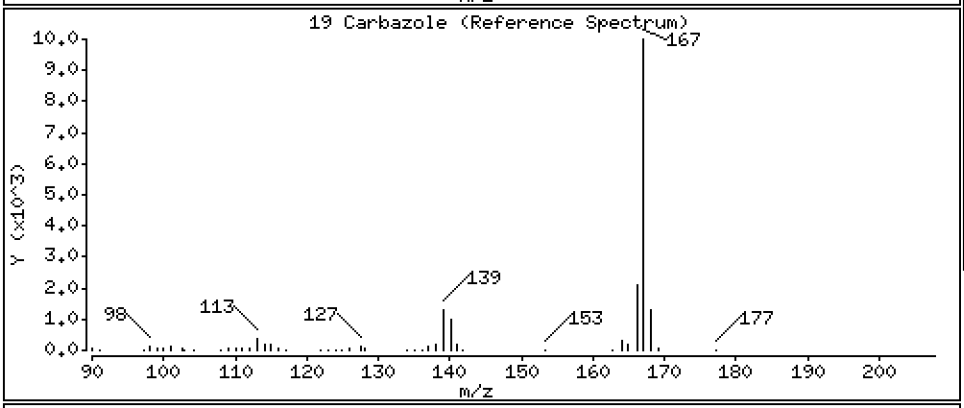
Concentration: 0.1350 ug/mL

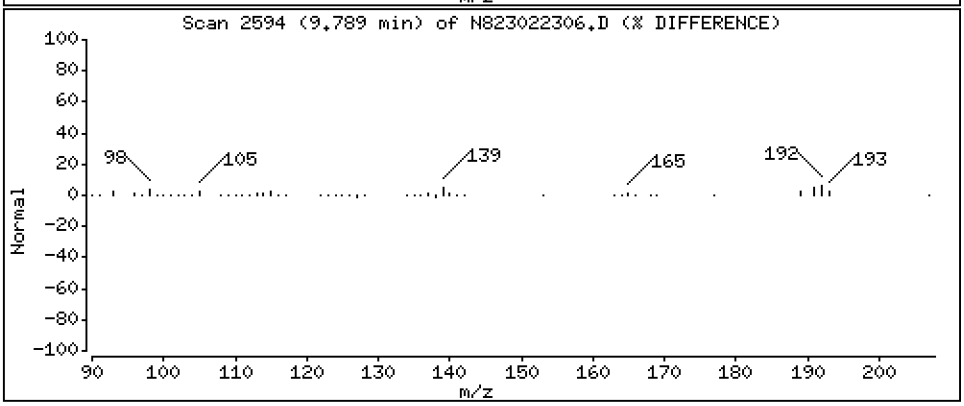












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Date : 23-FEB-2023 13:48

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-SRM1,

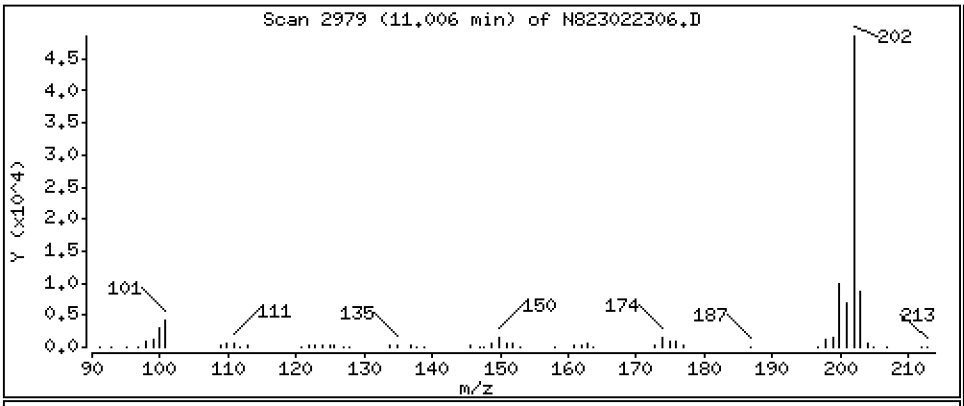
Operator: JZ

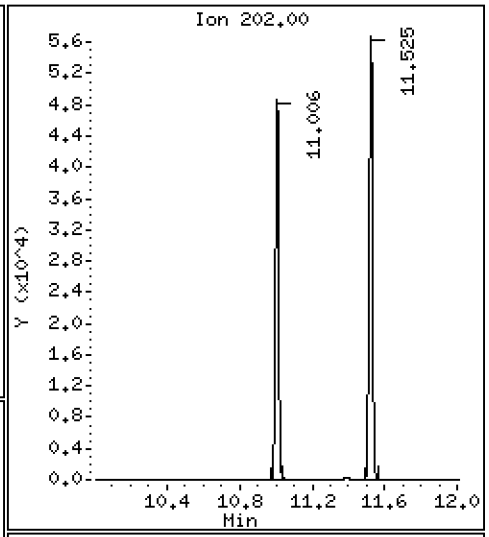
Column phase: Rxi-17sil

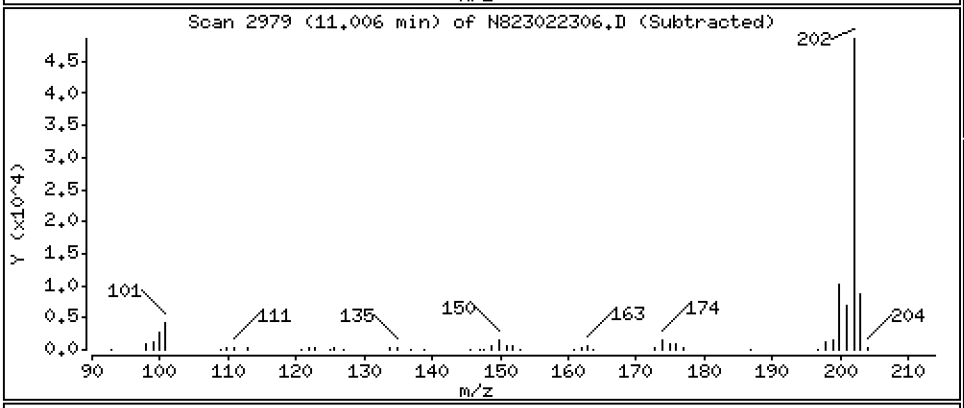
Column diameter: 0.25

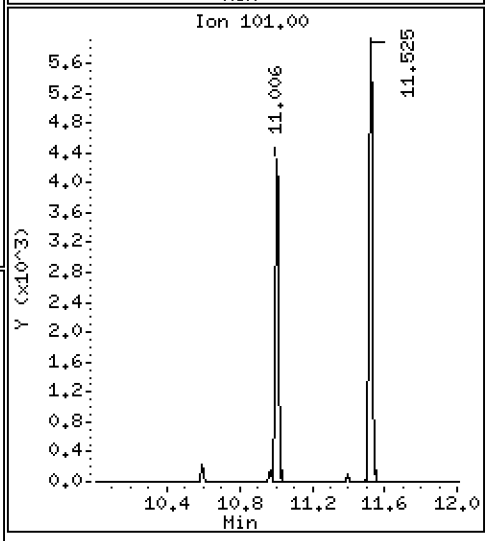
22 Fluoranthene

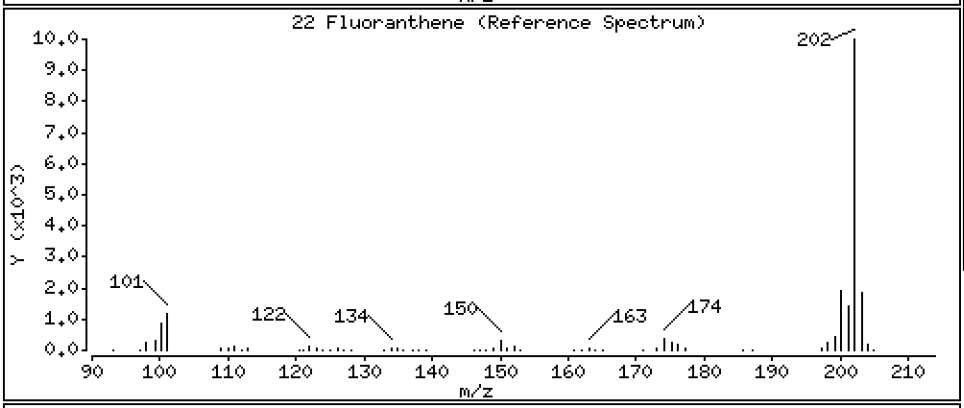
Concentration: 2.488 ug/mL

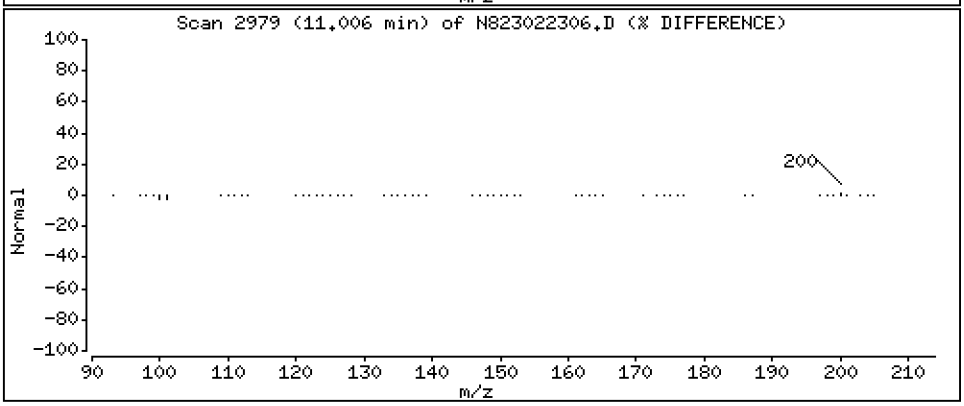












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Date : 23-FEB-2023 13:48

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-SRM1,

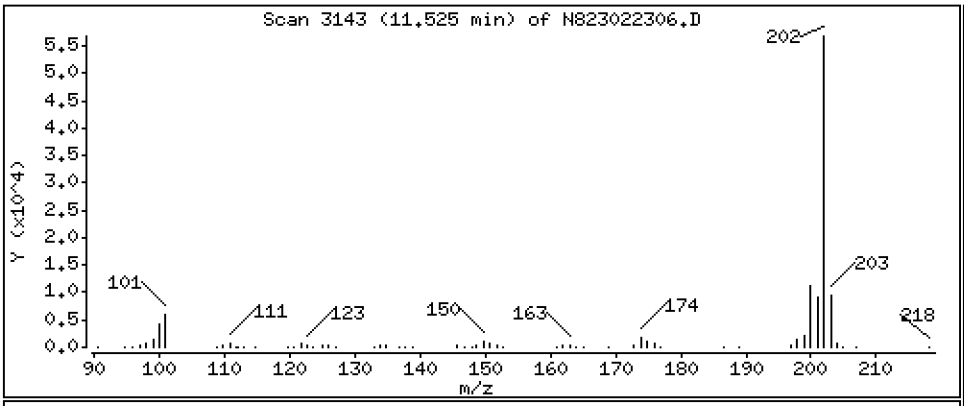
Operator: JZ

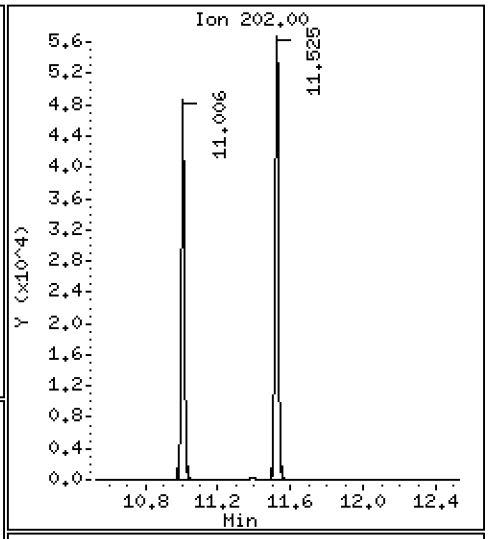
Column phase: Rxi-17sil

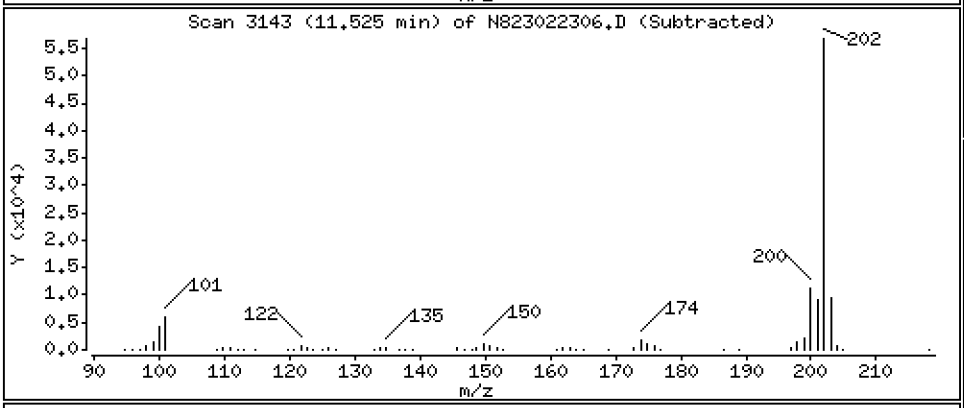
Column diameter: 0.25

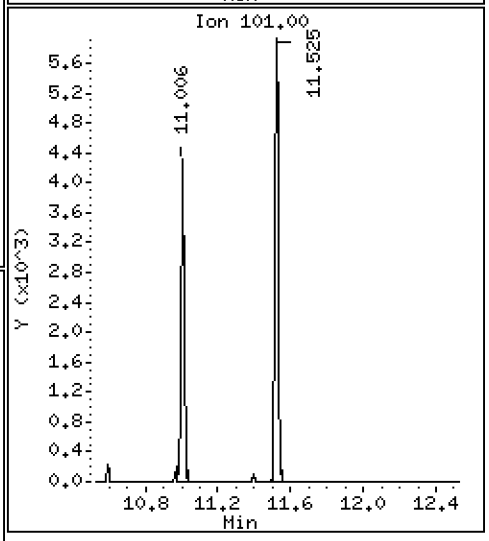
23 Pyrene

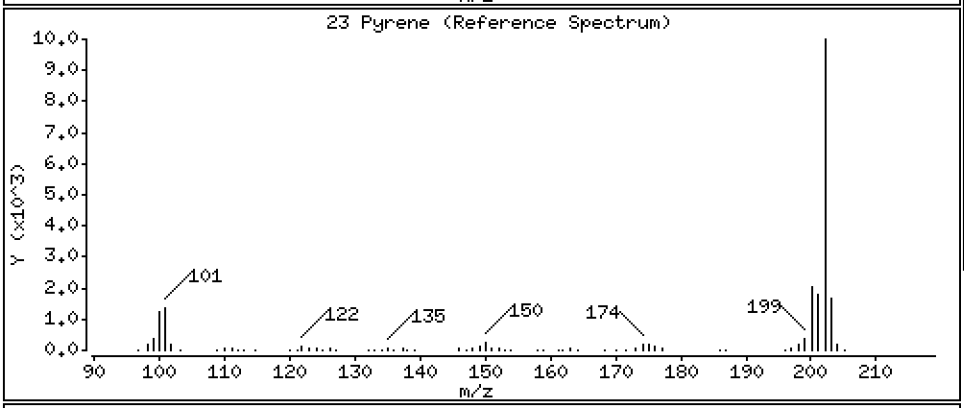
Concentration: 2.952 ug/mL

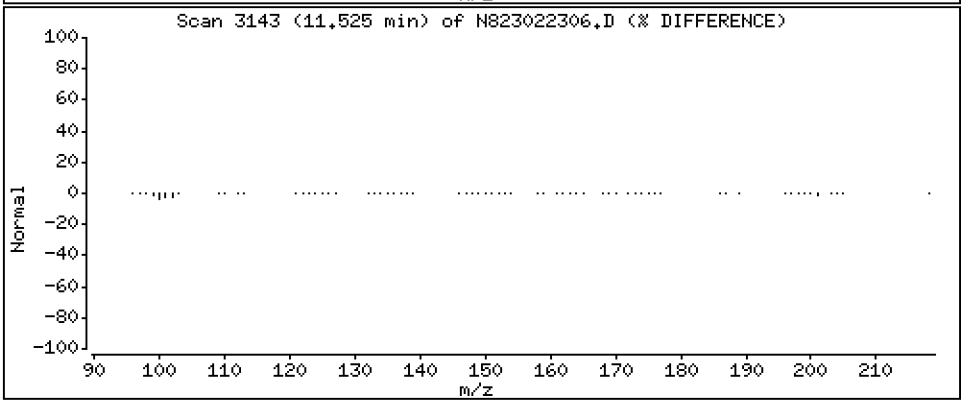












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Date : 23-FEB-2023 13:48

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-SRM1,

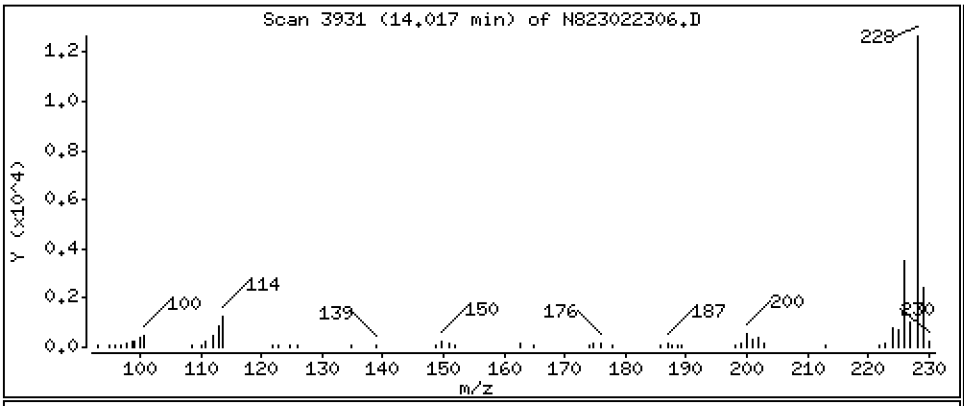
Operator: JZ

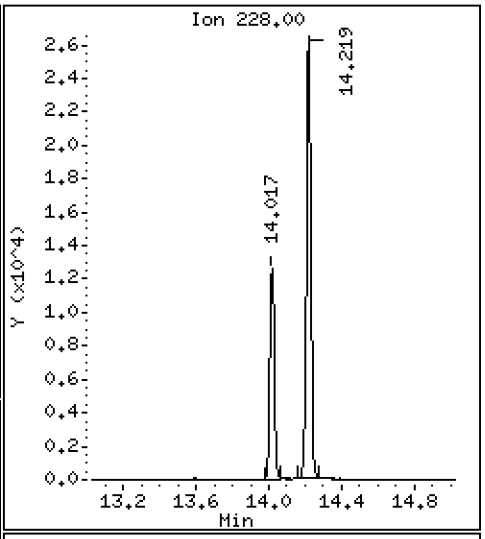
Column phase: Rxi-17sil

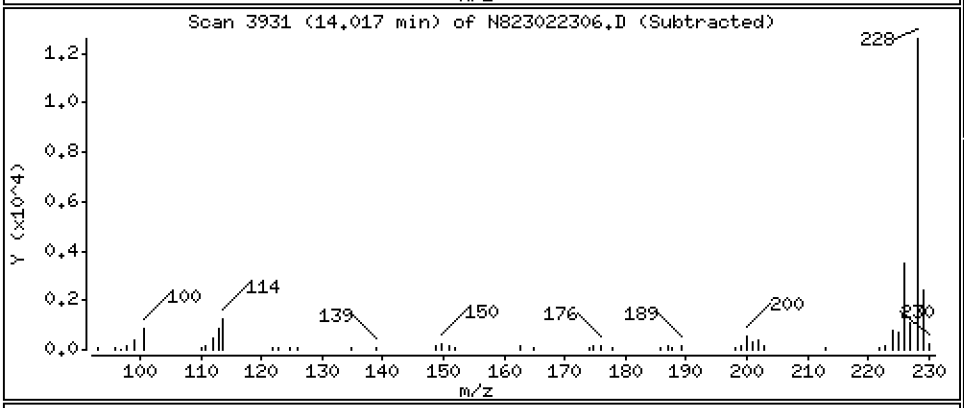
Column diameter: 0.25

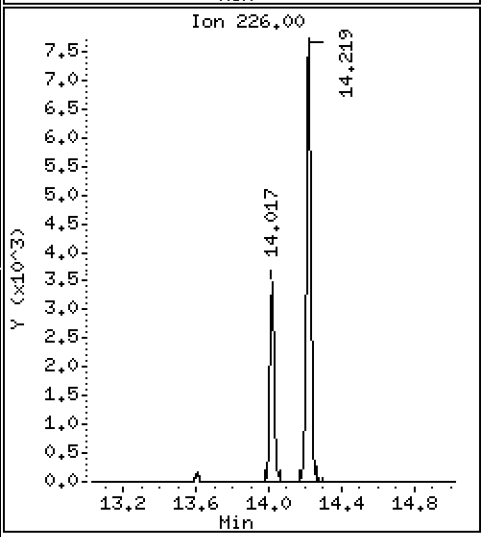
24 Benzo(a)anthracene

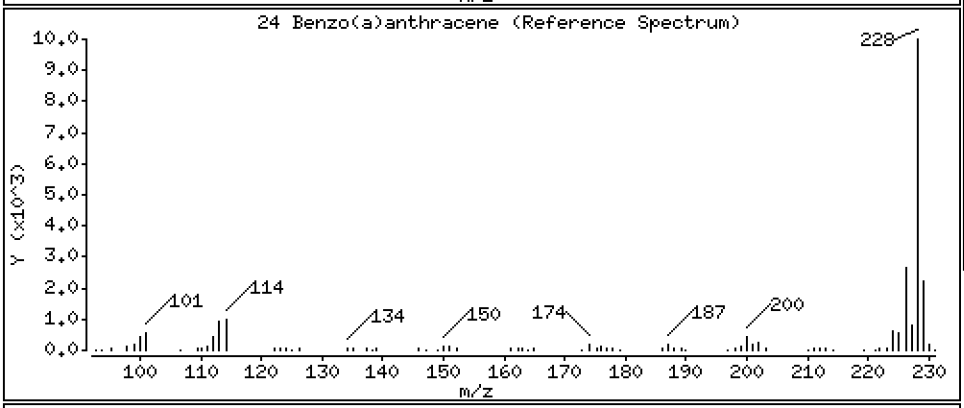
Concentration: 0.9888 ug/mL

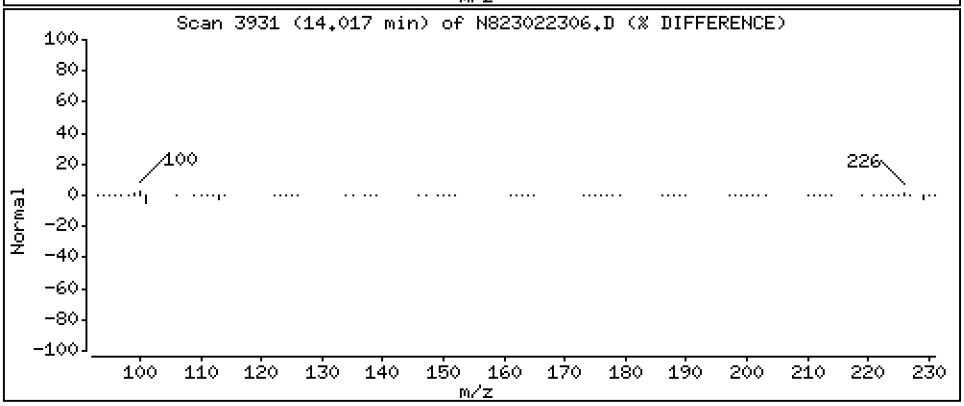












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Date : 23-FEB-2023 13:48

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-SRM1,

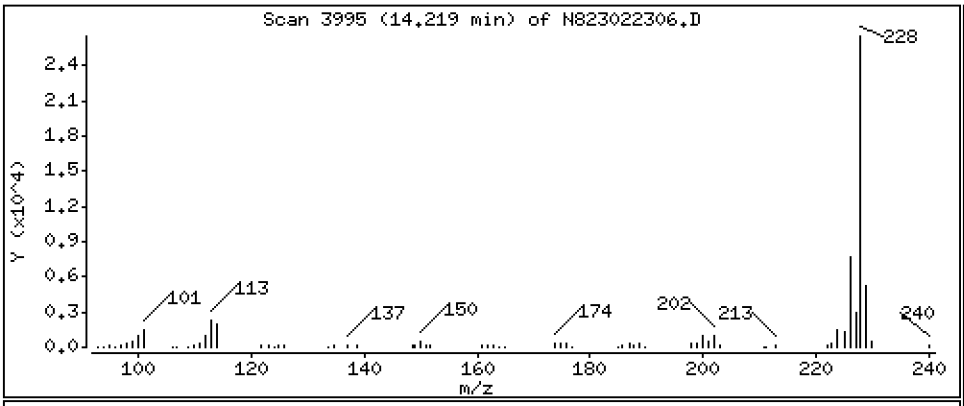
Operator: JZ

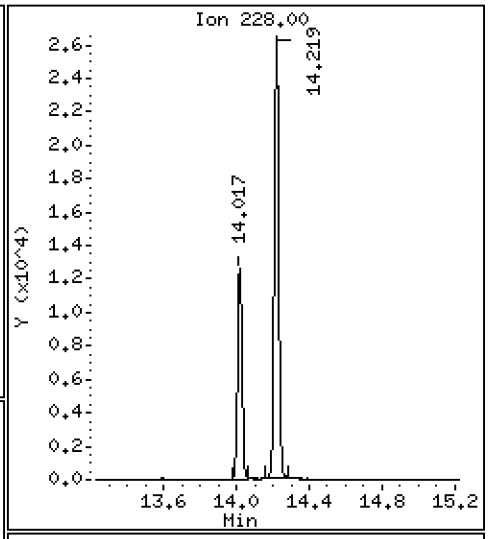
Column phase: Rxi-17sil

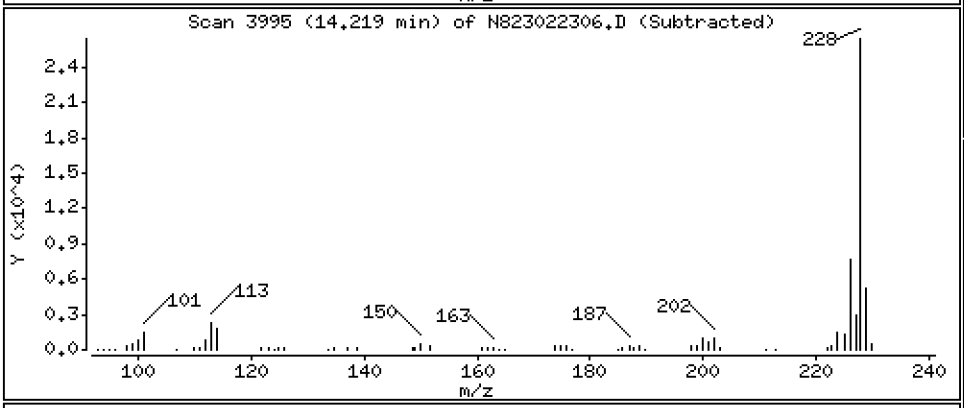
Column diameter: 0.25

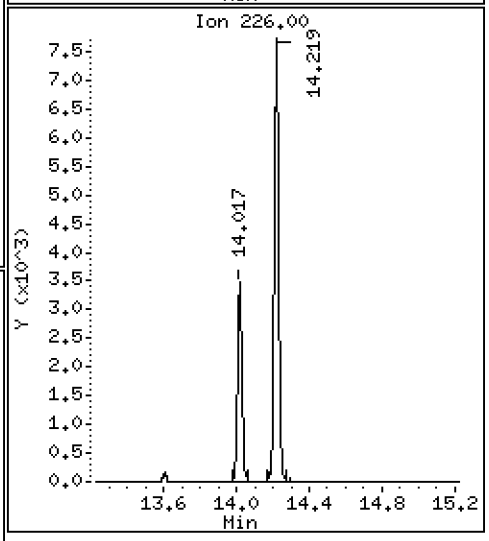
27 Chrysene

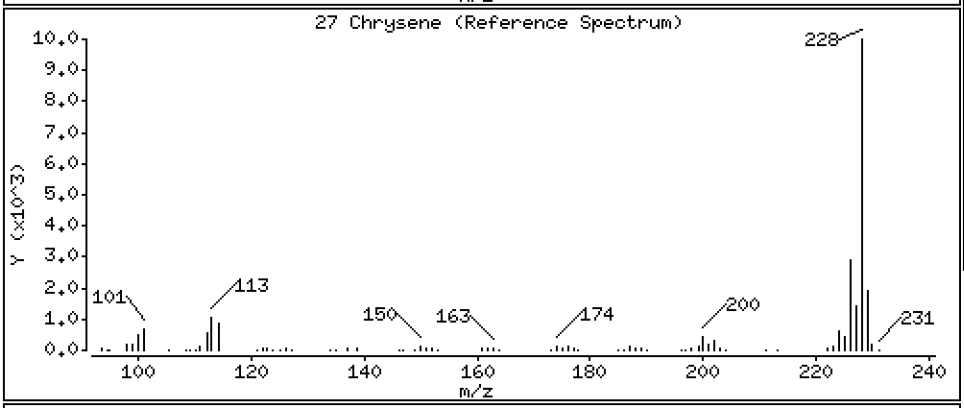
Concentration: 1.870 ug/mL

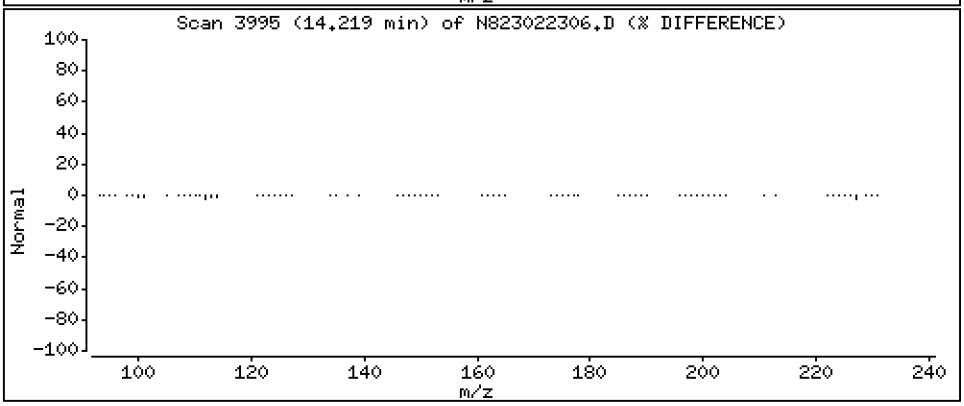












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Date : 23-FEB-2023 13:48

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-SRM1,

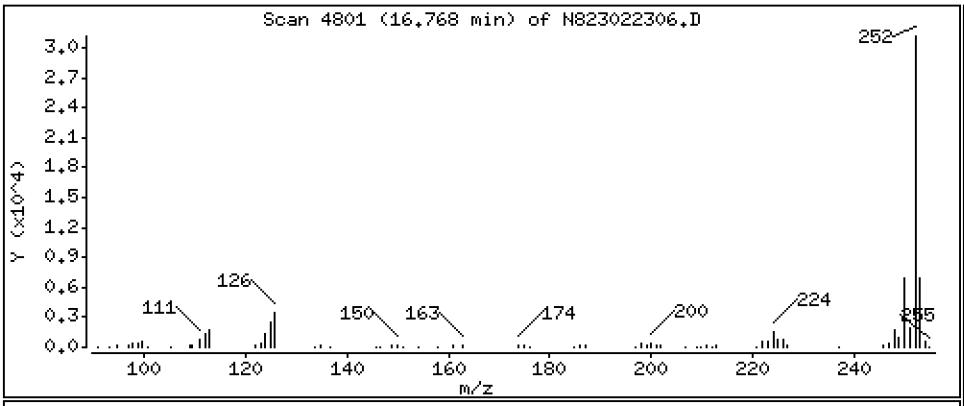
Operator: JZ

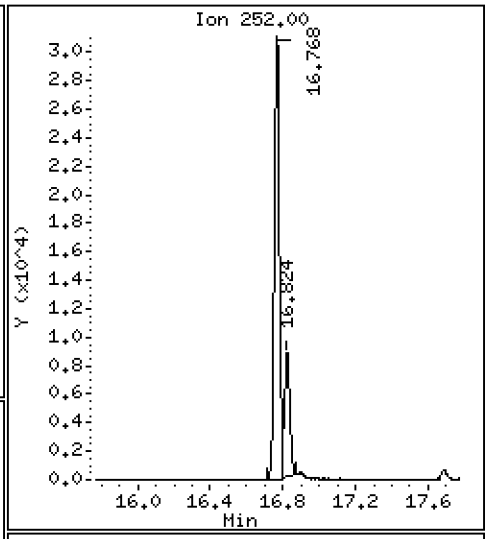
Column phase: Rxi-17sil

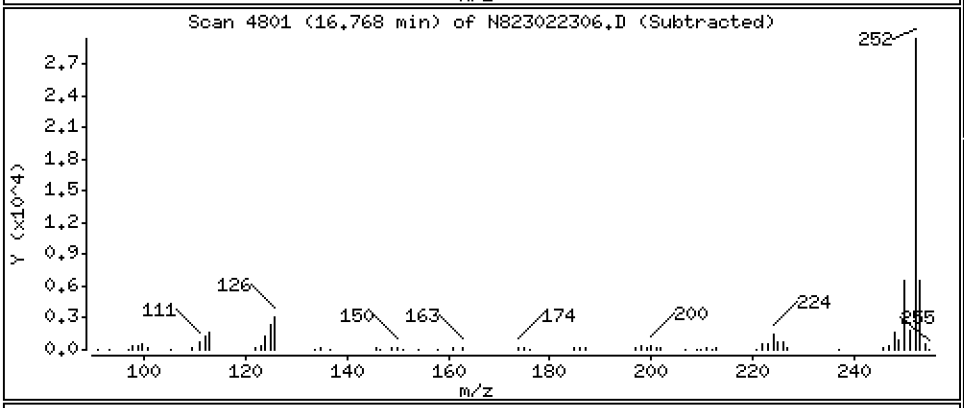
Column diameter: 0.25

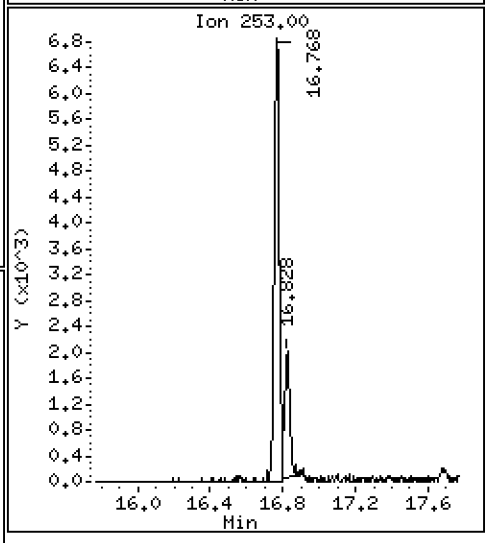
28 Benzo(b)fluoranthene

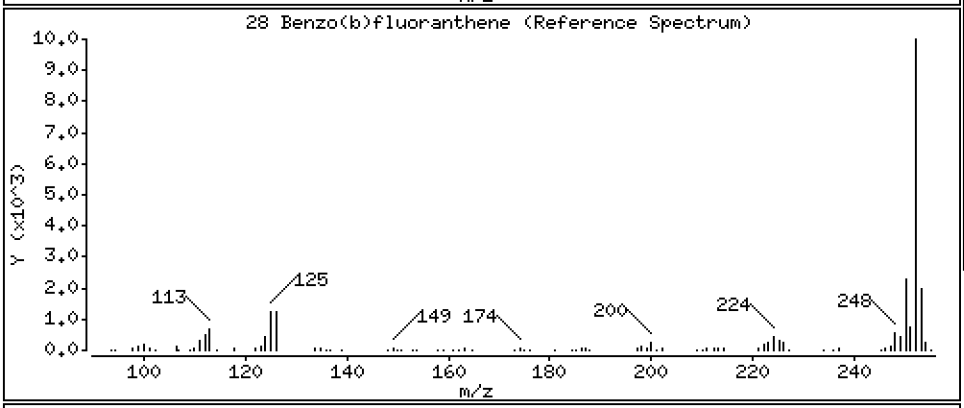
Concentration: 3.124 ug/mL

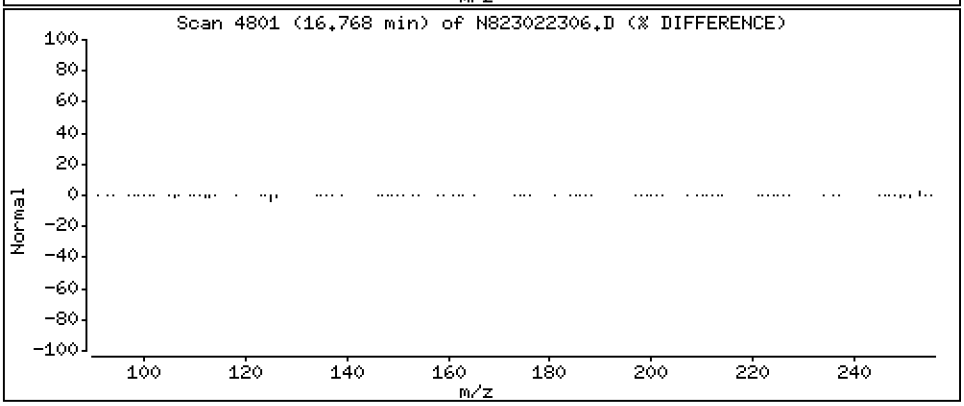












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022306.D

Date : 23-FEB-2023 13:48

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-SRM1,

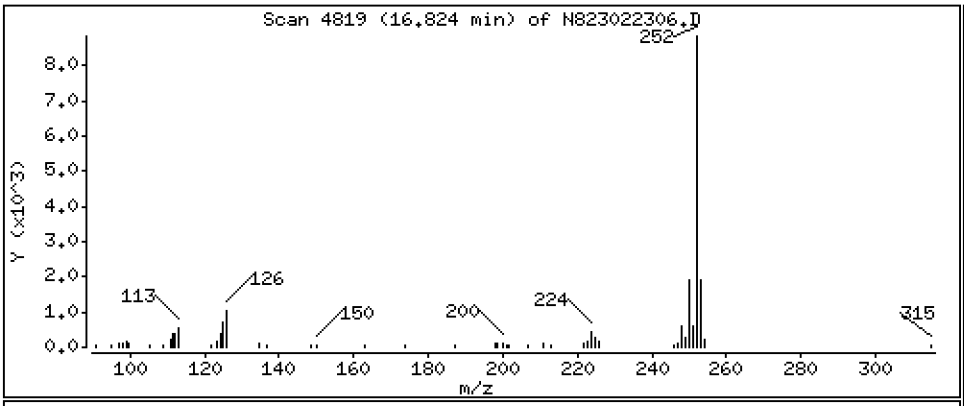
Operator: JZ

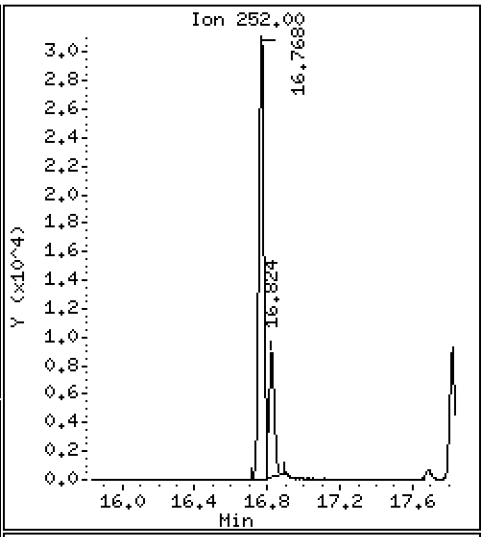
Column phase: Rxi-17sil

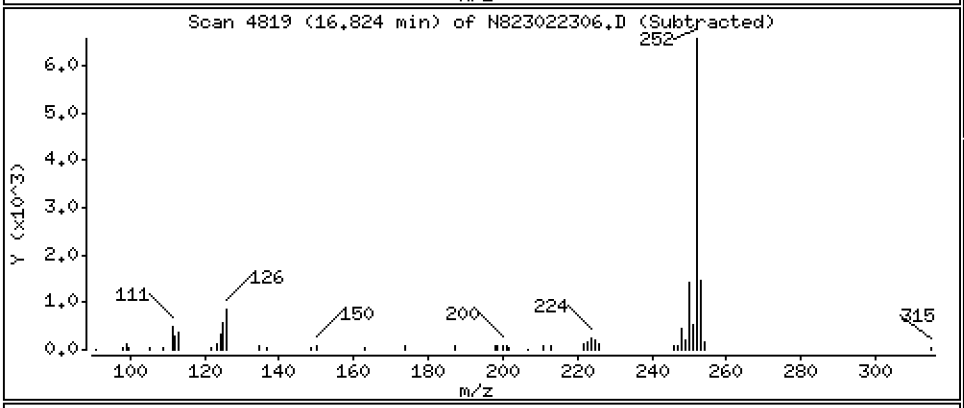
Column diameter: 0.25

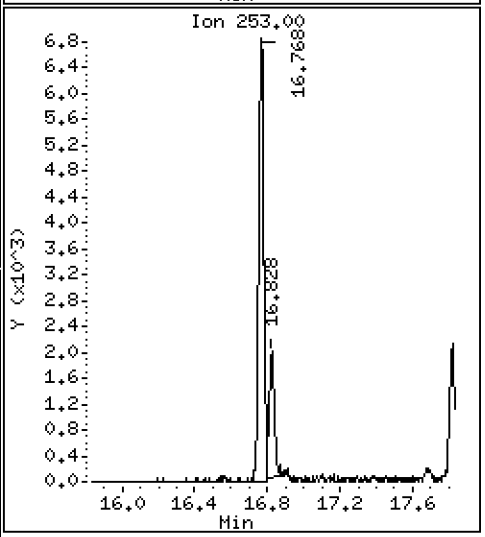
29 Benzo(k)fluoranthene

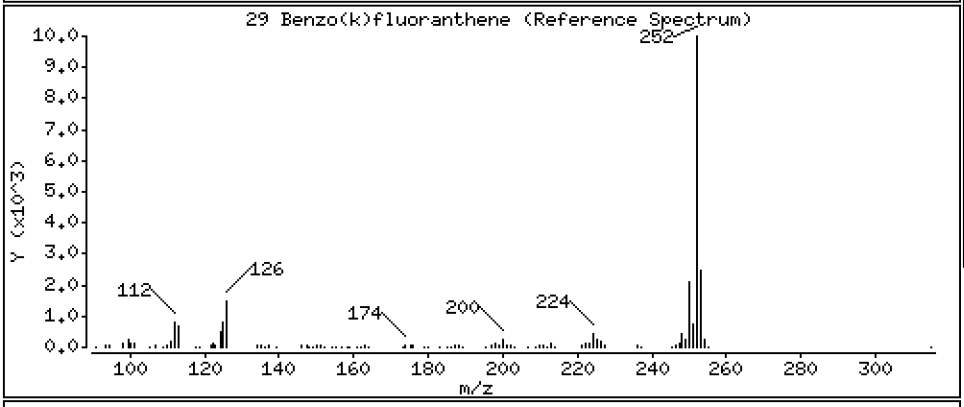
Concentration: 0.9411 ug/mL

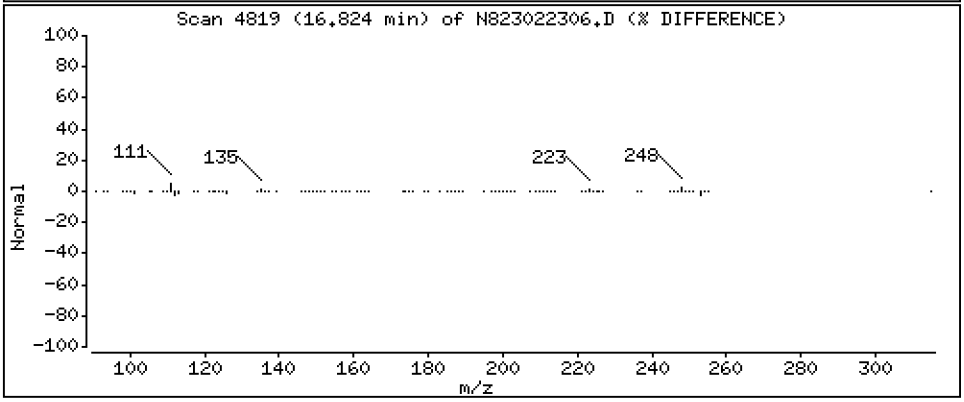












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022306.D

Date : 23-FEB-2023 13:48

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-SRM1,

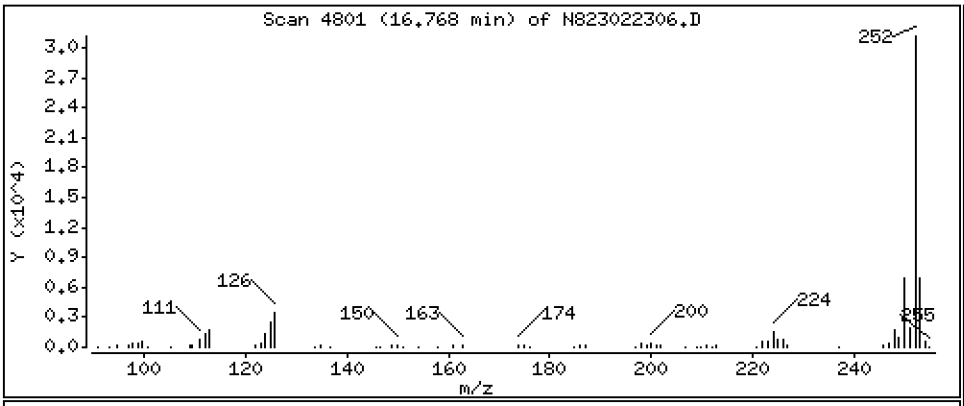
Operator: JZ

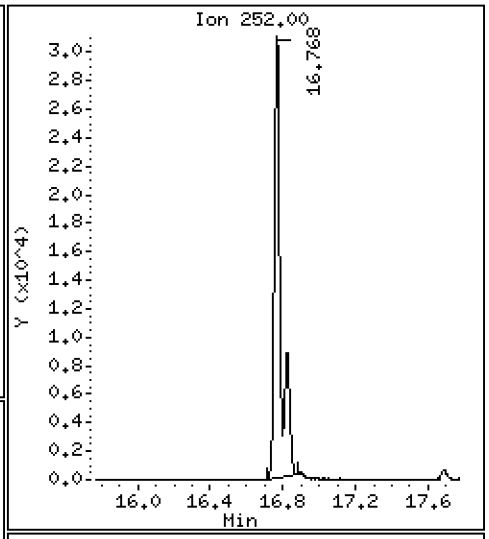
Column phase: Rxi-17sil

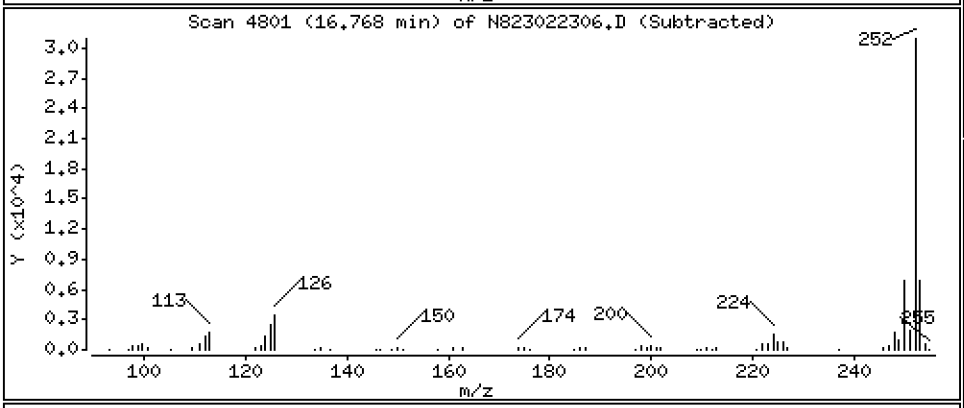
Column diameter: 0.25

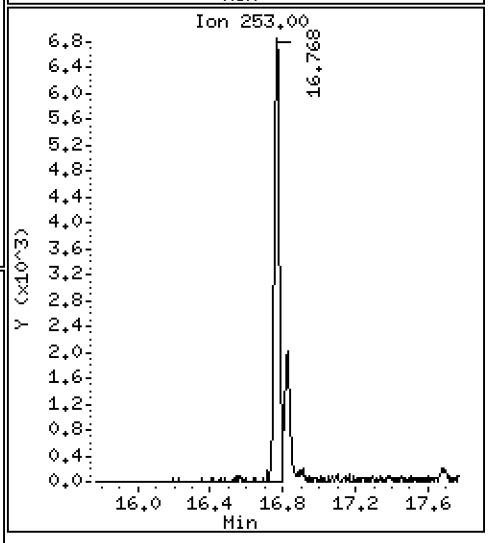
31 Total Benzofluoranthenes

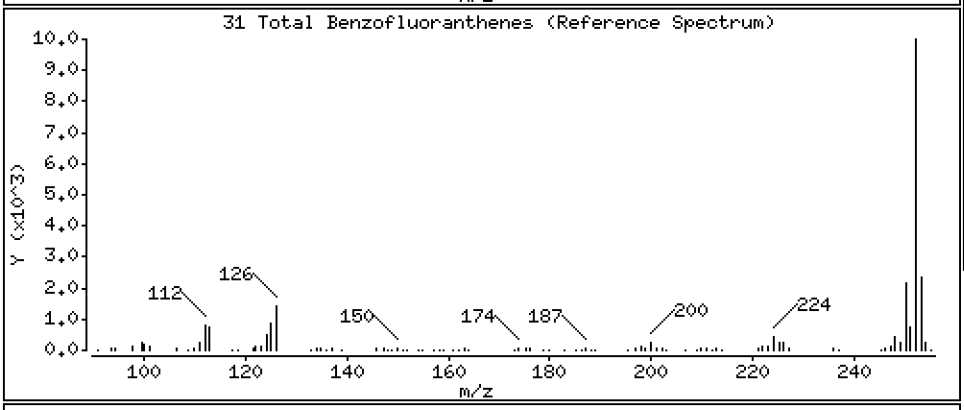
Concentration: 4.213 ug/mL

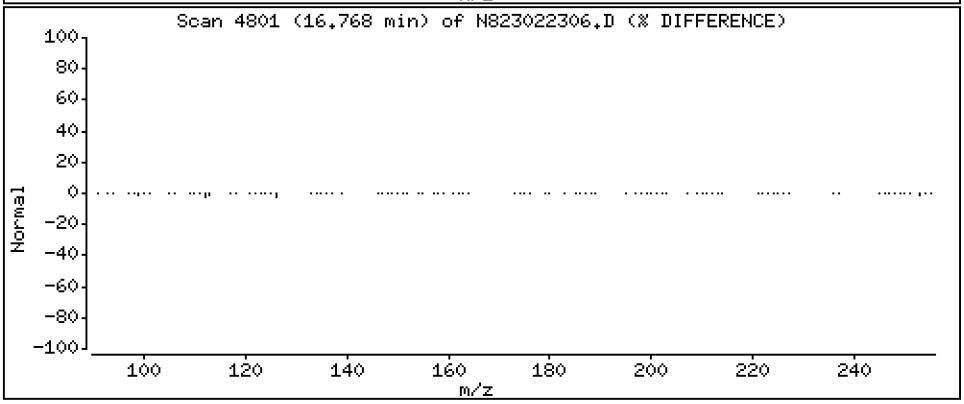












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022306.D

Date : 23-FEB-2023 13:48

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-SRM1,

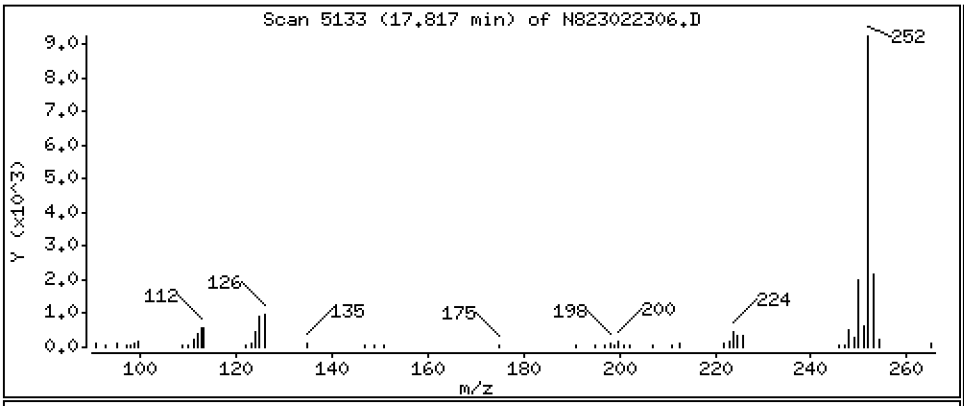
Operator: JZ

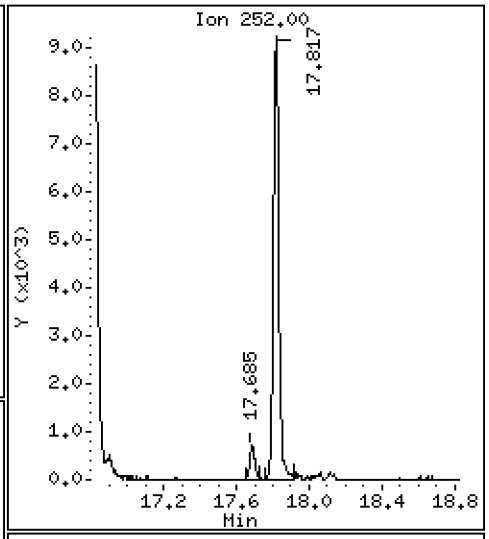
Column phase: Rxi-17sil

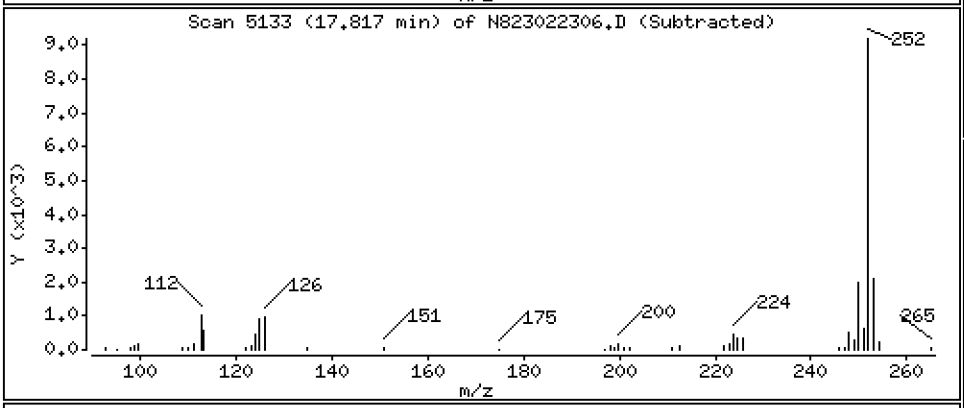
Column diameter: 0.25

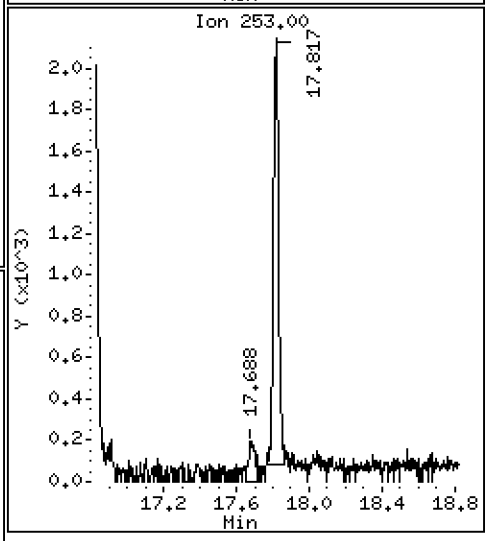
32 Benzo(a)pyrene

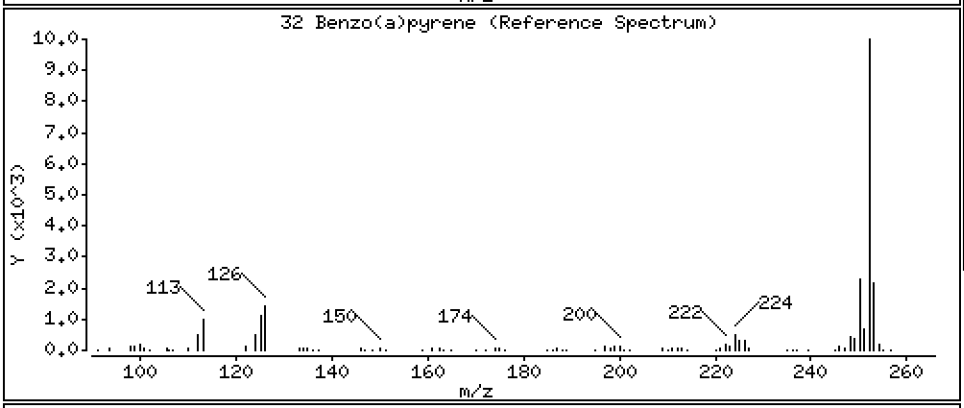
Concentration: 1.120 ug/mL

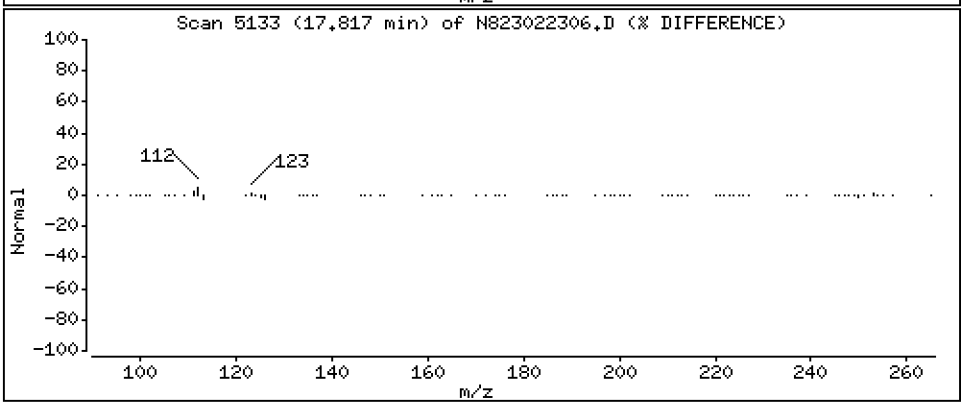












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022306.D

Date : 23-FEB-2023 13:48

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-SRM1,

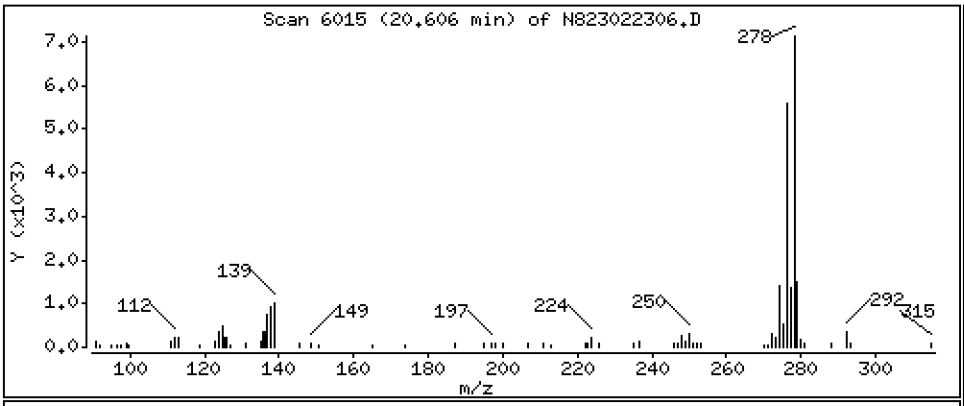
Operator: JZ

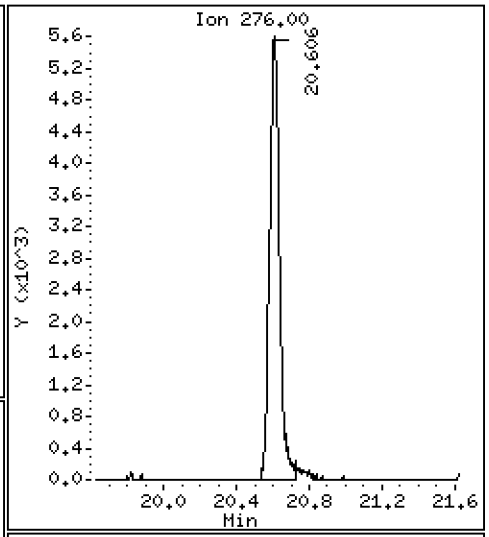
Column phase: Rxi-17sil

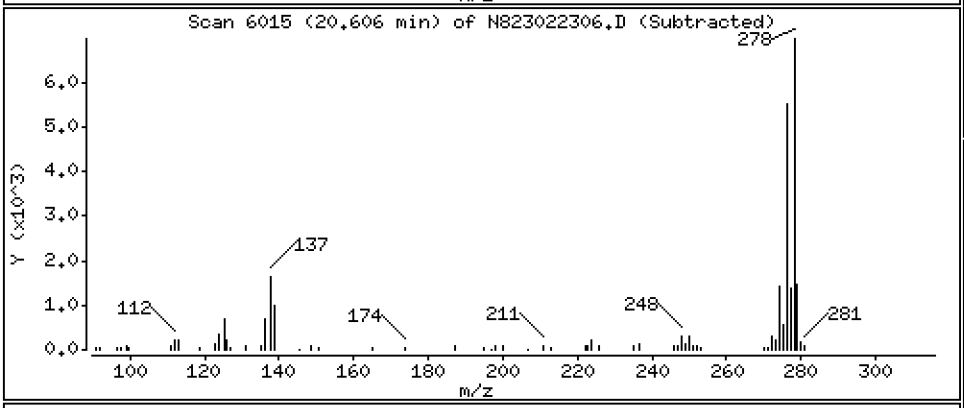
Column diameter: 0.25

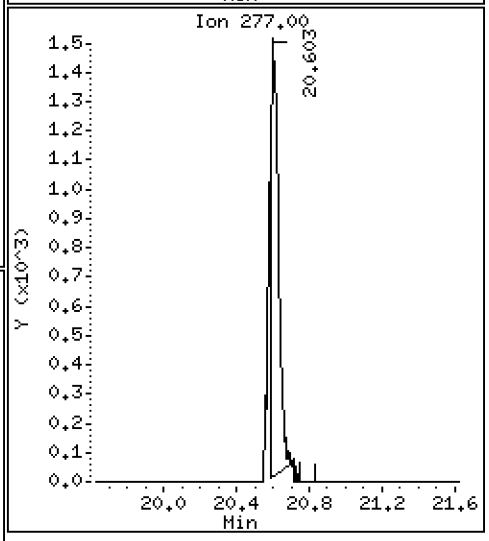
37 Indeno(1,2,3-cd)pyrene

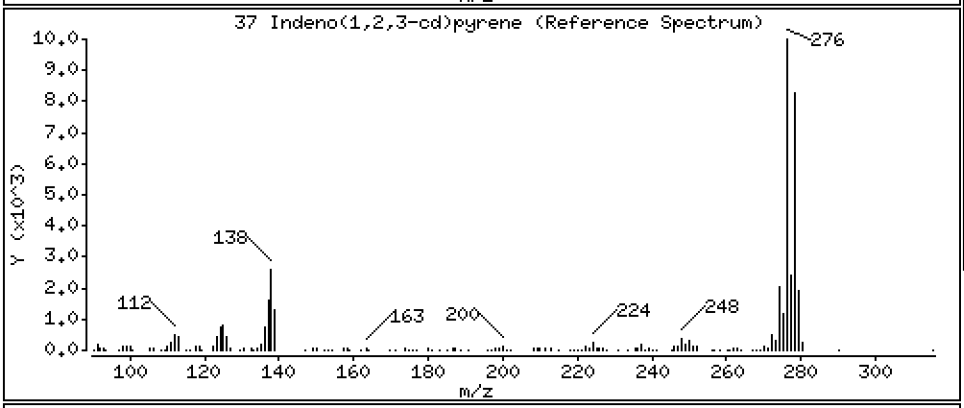
Concentration: 1.087 ug/mL

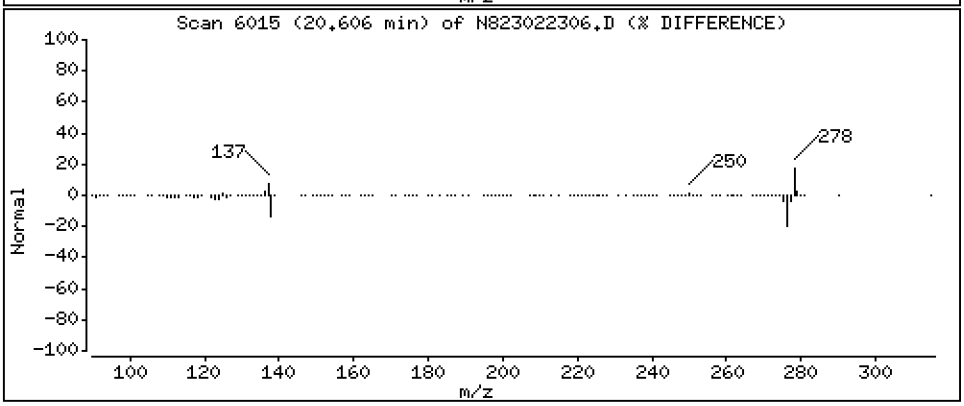












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Date : 23-FEB-2023 13:48

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-SRM1,

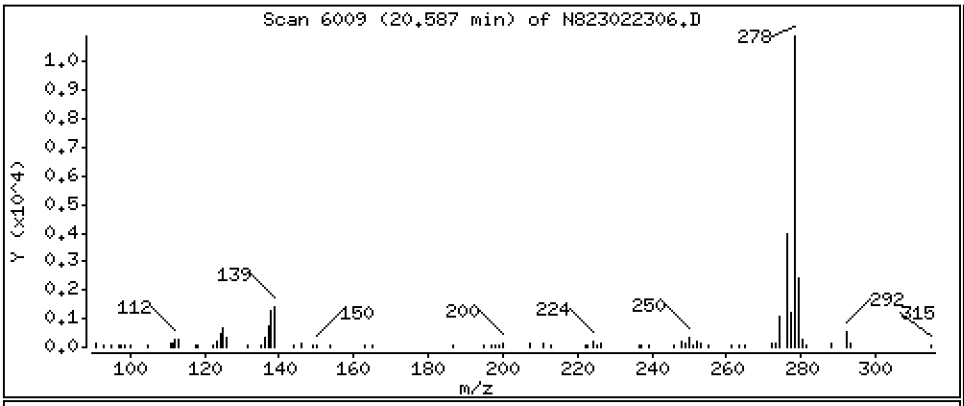
Operator: JZ

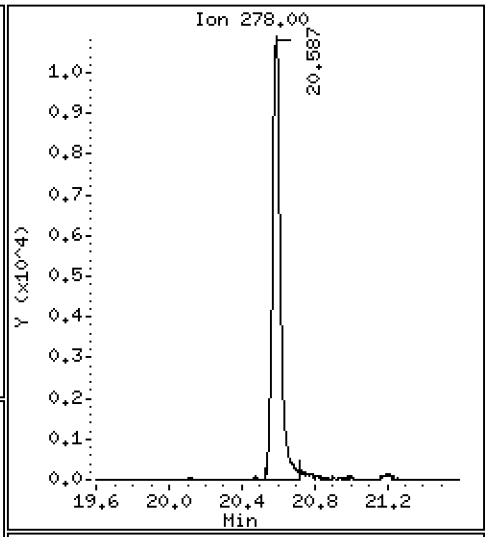
Column phase: Rxi-17sil

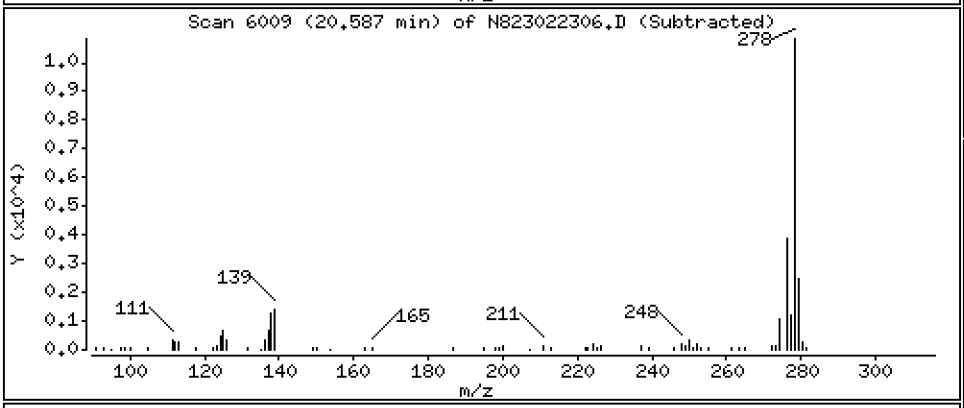
Column diameter: 0.25

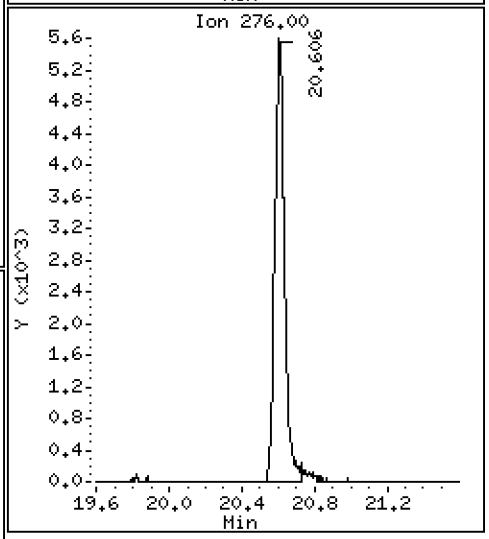
38 Dibenzo(a,h)anthracene

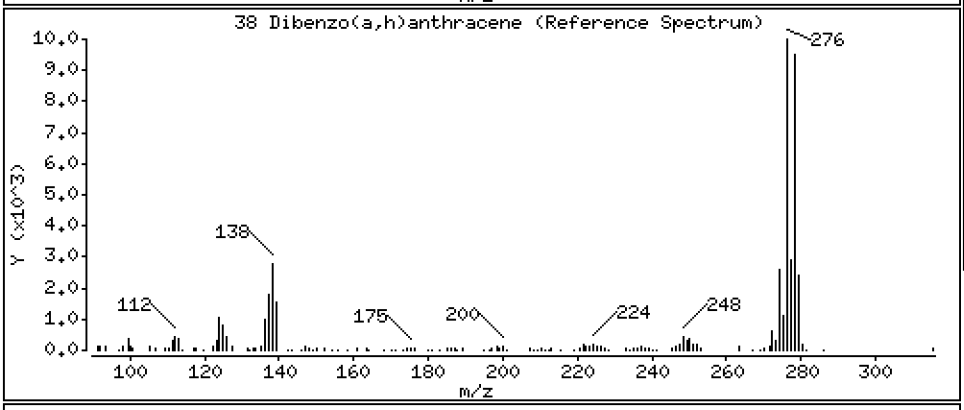
Concentration: 2.011 ug/mL

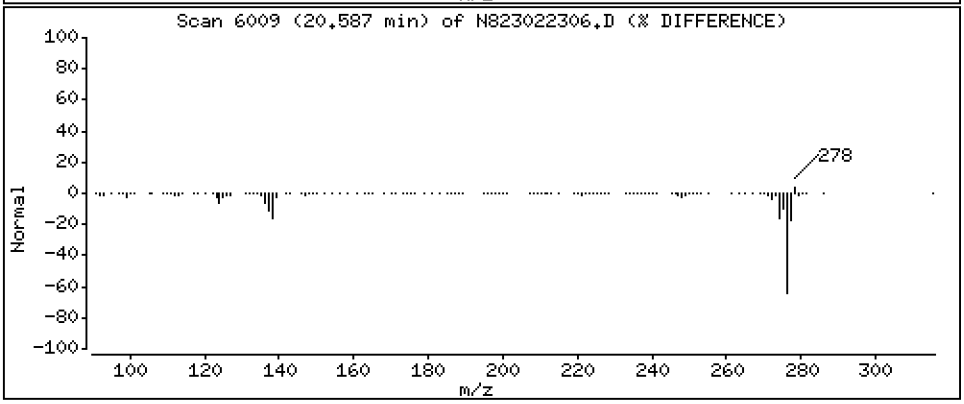












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Date : 23-FEB-2023 13:48

Client ID:

Instrument: nt8.i

Sample Info: BLB0386-SRM1,

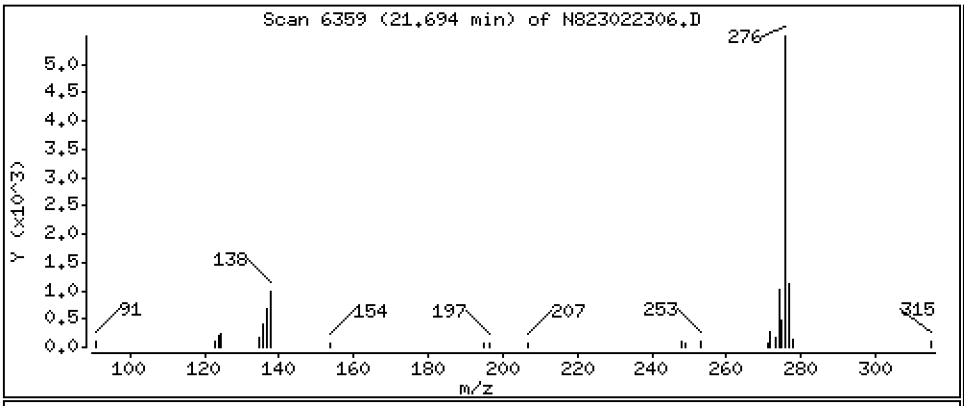
Operator: JZ

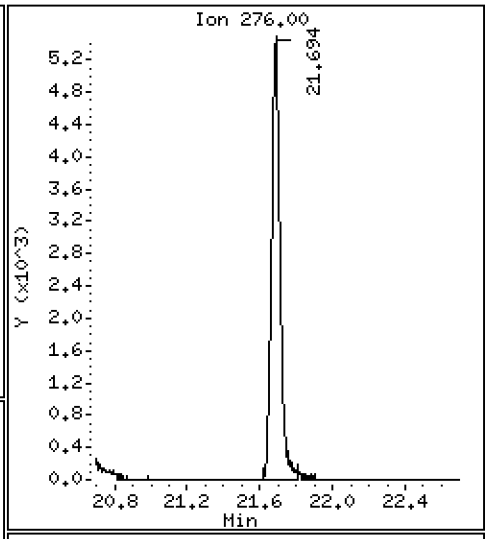
Column phase: Rxi-17sil

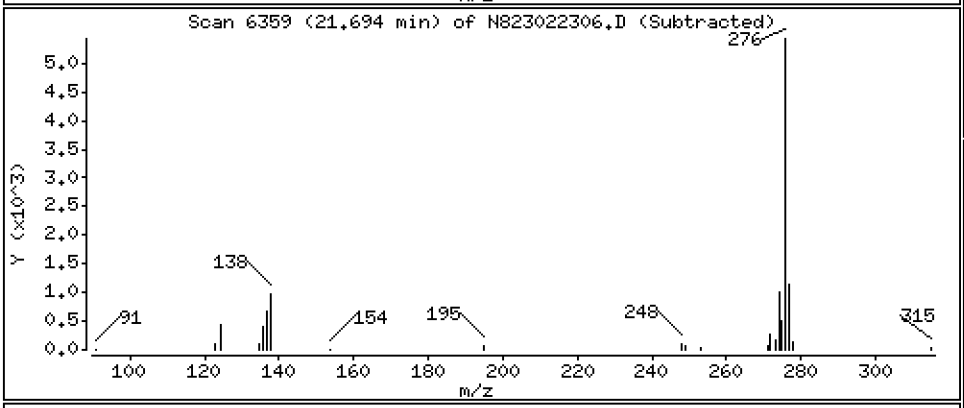
Column diameter: 0.25

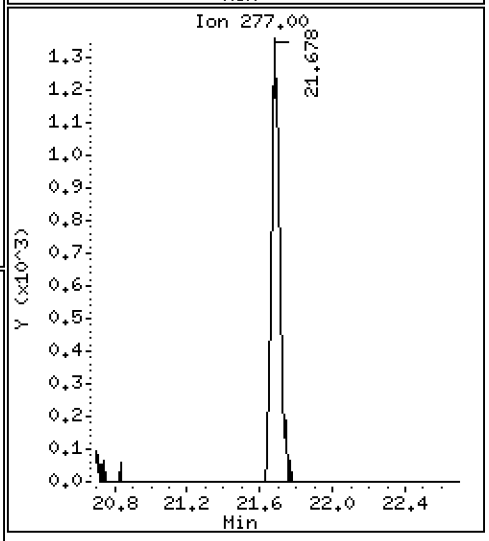
39 Benzo(g,h,i)perylene

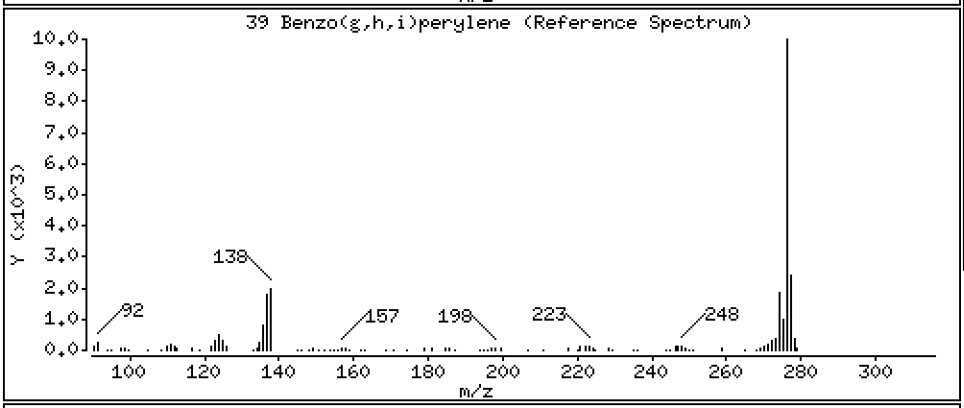
Concentration: 1.024 ug/mL

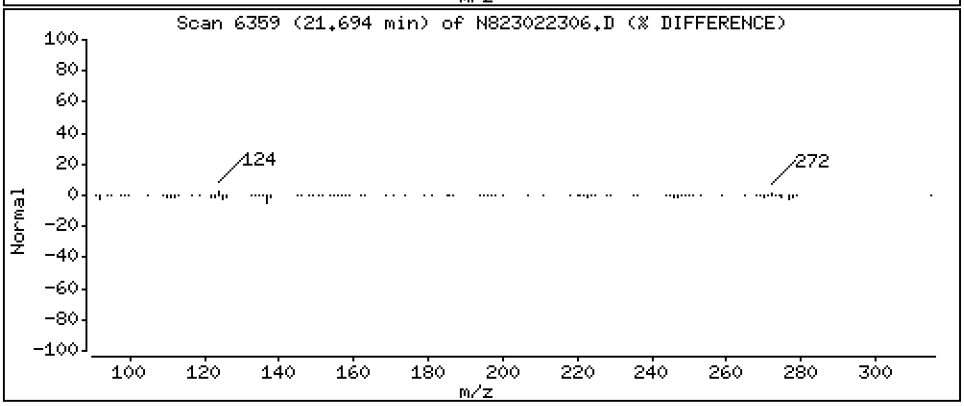












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230223.b\N823022306.D
Lab Smp Id: BLB0386-SRM1
Inj Date : 23-FEB-2023 13:48
Operator : JZ Inst ID: nt8.i
Smp Info : BLB0386-SRM1,
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Meth Date : 26-Feb-2023 11:43 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PNAXEMDL.sub
Target Version: 4.14
Processing Host: JIANQING-202105

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.862	4.871	(1.000)	36781	2.00000	
	2 Naphthalene	128	4.891	4.903	(1.006)	23156	1.35402	1.354
$	3 2-Methylnaphthalene-d10	152	5.599	5.605	(1.152)	31935	3.18360	3.184
	4 2-Methylnaphthalene	141	5.643	5.652	(1.161)	534	0.05677	0.05677
	5 1-methylnaphthalene	141	5.842	5.849	(1.202)	283	0.02964	0.02964
	9 Acenaphthylene	152	7.047	7.050	(0.985)	55362	3.17558	3.176
*	10 Acenaphthene-d10	164	7.155	7.158	(1.000)	23087	2.00000	
	11 Acenaphthene	153	7.205	7.208	(1.007)	38902	3.33035	3.330
	12 Dibenzofuran	168	7.354	7.360	(1.028)	438	0.02469	0.02469
	14 Fluorene	166	7.834	7.837	(1.095)	34652	2.51470	2.515
*	15 Phenanthrene-d10	188	9.197	9.197	(1.000)	44202	2.00000	
	16 Phenanthrene	178	9.232	9.235	(1.004)	88912	4.11787	4.118
	17 Anthracene	178	9.273	9.276	(1.008)	43156	2.20020	2.200
	19 Carbazole	167	9.789	9.791	(1.064)	2427	0.13497	0.1350
	22 Fluoranthene	202	11.006	11.009	(1.197)	58480	2.48822	2.488
$	21 Fluoranthene-d10	212	10.968	10.971	(1.193)	72222	3.70336	3.703
	23 Pyrene	202	11.524	11.527	(0.815)	72398	2.95152	2.952
	24 Benzo(a)anthracene	228	14.016	14.025	(0.991)	21984	0.98881	0.9888
*	25 Chrysene-d12	240	14.146	14.152	(1.000)	39564	2.00000	
	27 Chrysene	228	14.218	14.225	(1.005)	44269	1.87043	1.870
	28 Benzo(b)fluoranthene	252	16.767	16.770	(0.929)	61129	3.12417	3.124
	29 Benzo(k)fluoranthene	252	16.824	16.833	(0.932)	18037	0.94112	0.9411
	30 Benzo(j)fluoranthene	252	Compound Not Detected.					
	31 Total Benzofluoranthenes	252	16.767	16.770	(0.929)	78060	4.21252	4.213(M)
	34 Benzo(e)pyrene	252	Compound Not Detected.					
	32 Benzo(a)pyrene	252	17.817	17.826	(0.987)	19278	1.11962	1.120
*	33 Perylene-d12	264	18.048	18.057	(1.000)	33596	2.00000	
	35 Perylene	252	Compound Not Detected.					
$	36 Dibenzo(a,h)anthracene-d14	292	20.476	20.485	(1.135)	54836	4.16572	4.166
	37 Indeno(1,2,3-cd)pyrene	276	20.606	20.624	(1.142)	21322	1.08698	1.087
	38 Dibenzo(a,h)anthracene	278	20.587	20.596	(1.141)	33941	2.01060	2.011
	39 Benzo(g,h,i)perylene	276	21.693	21.696	(1.202)	18197	1.02389	1.024

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823022306.D
Lab Smp Id: BLB0386-SRM1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 23-FEB-2023
Calibration Time: 11:46
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	37022	18511	74044	36781	-0.65
10 Acenaphthene-d10	22454	11227	44908	23087	2.82
15 Phenanthrene-d10	43277	21639	86554	44202	2.14
25 Chrysene-d12	38907	19454	77814	39564	1.69
33 Perylene-d12	39582	19791	79164	33596	-15.12

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.87	4.37	5.37	4.86	-0.19
10 Acenaphthene-d10	7.16	6.66	7.66	7.16	-0.04
15 Phenanthrene-d10	9.20	8.70	9.70	9.20	0.00
25 Chrysene-d12	14.15	13.65	14.65	14.15	-0.04
33 Perylene-d12	18.06	17.56	18.56	18.05	-0.05

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

REVIEW SUMMARY FOR FILE - N823022306.D

Lab ID: BLB0386-SRM1
nt8.i, 20230223.b\FSIMPNA230119.m,   23-FEB-2023 13:48

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

No RRT check performed

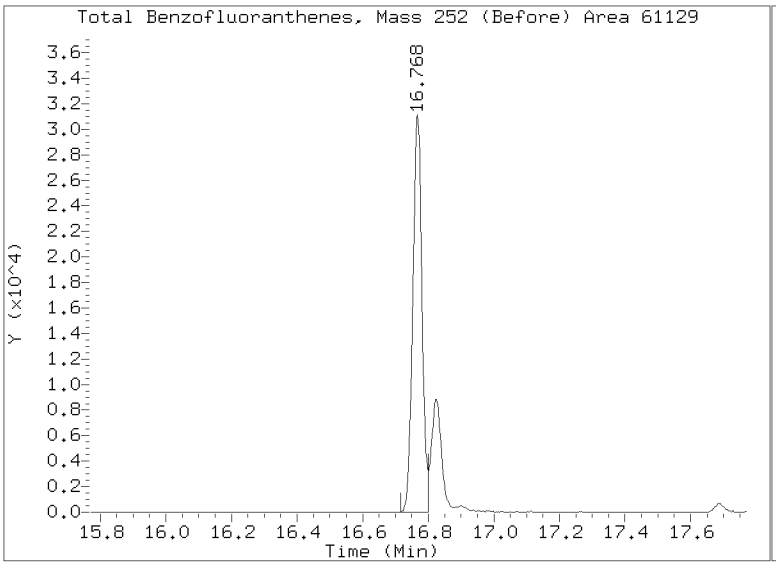
On Column LOD for nt8.i, 20230223.b\FSIMPNA230119.m, PNAXEMDL.sub = 0.0080

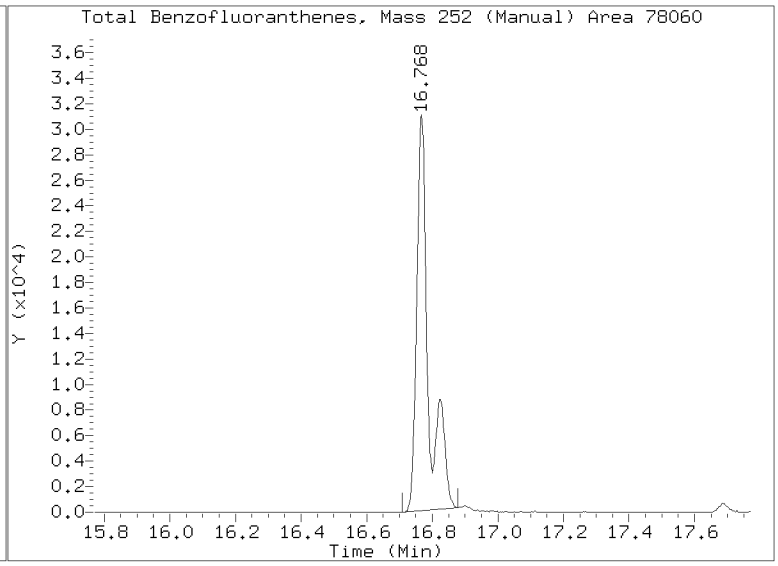
Exception: Benzo(e)pyrene 0.0800

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

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20230223.b/N823022306.D
Injection Date: 23-FEB-2023 13:48
Lab ID:BLB0386-SRM1 Client ID:
Report Date: 02/26/2023 12:32





Analytical Resources, LLC
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8270E-SIM

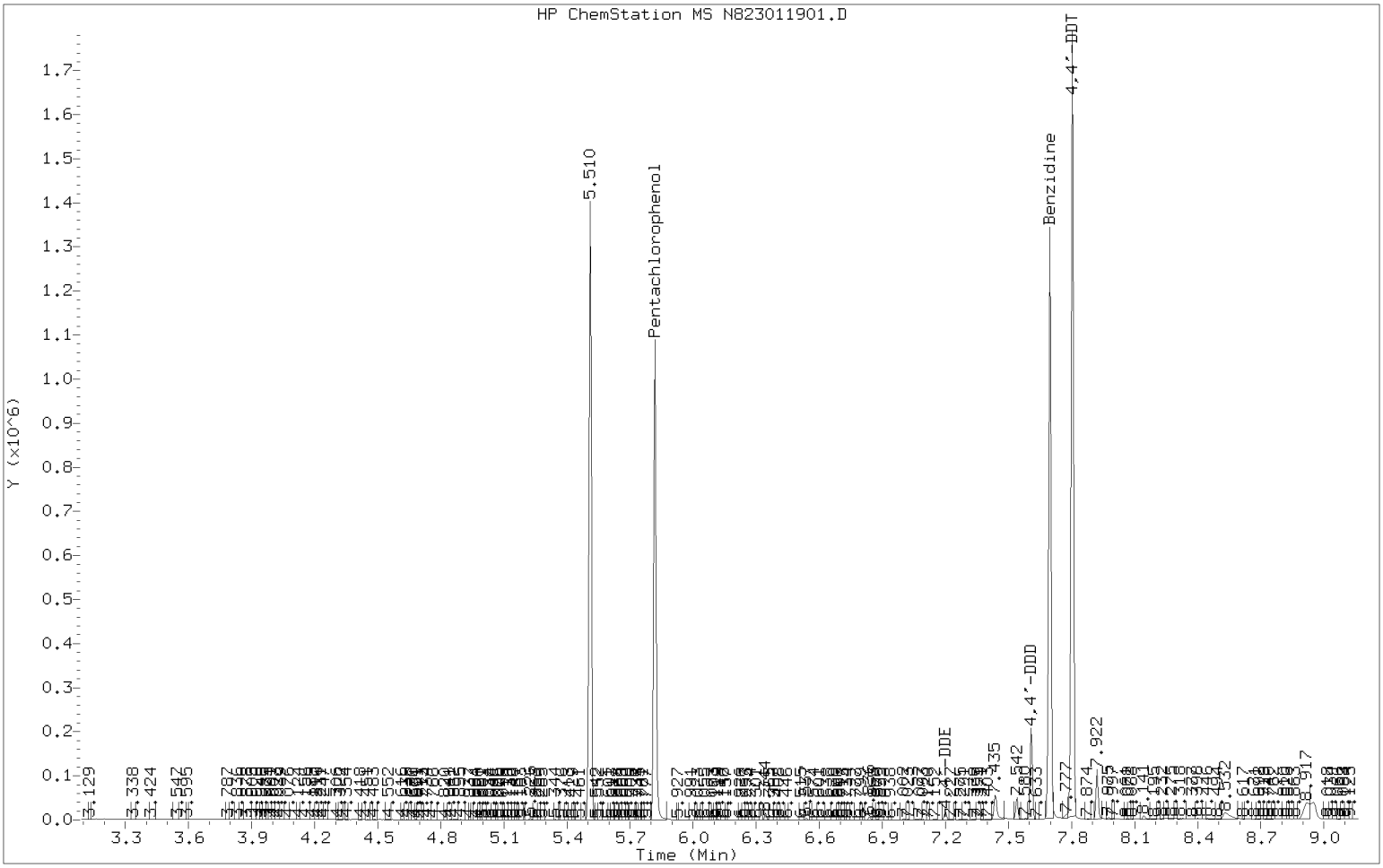
Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Lab File ID:	N823011901.D	Injection Date:	01/19/23
Instrument ID:	NT8	Injection Time:	10:28
Sequence:	SLA0213	Lab Sample ID:	SLA0213-TUN1

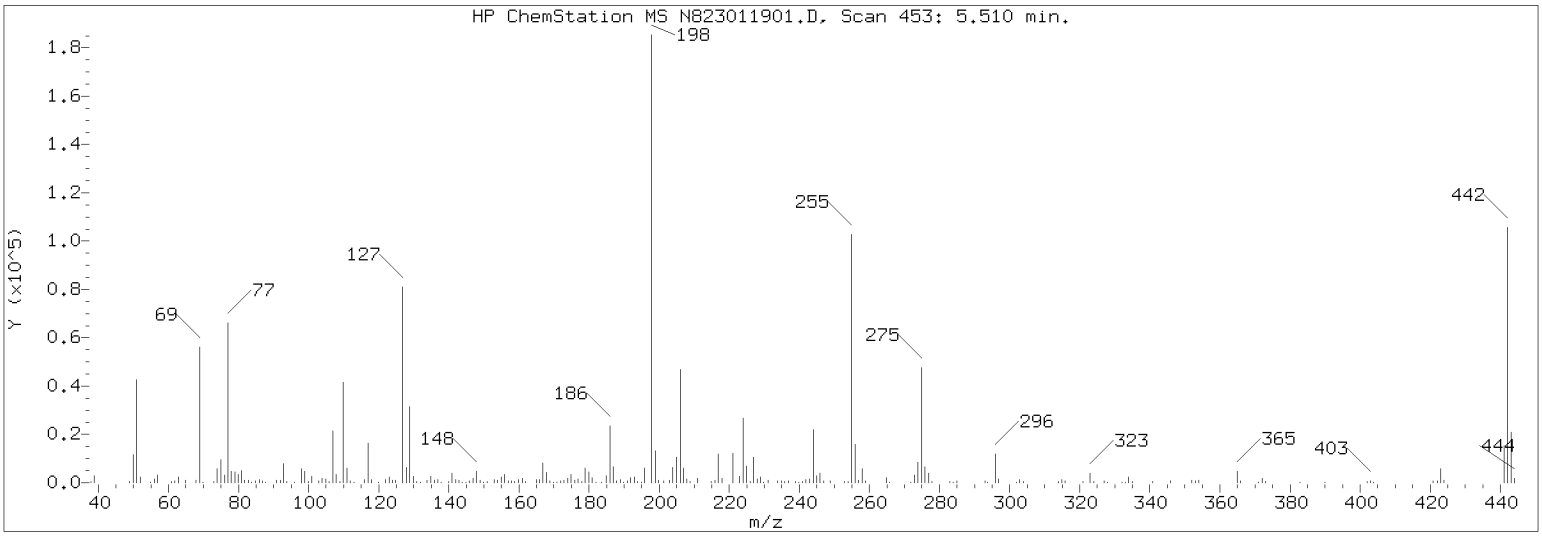
m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
68	Less than 2% of 69	1.25	PASS
69	Less than 100% of 198	30.9	PASS
70	Less than 2% of 69	0.208	PASS
197	Less than 2% of 198	0.168	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	6.89	PASS
365	1 - 100% of 198	2.85	PASS
441	Less than 150% of 443	72.9	PASS
442	1 - 200% of 198	67.9	PASS
443	15 - 24% of 442	19.6	PASS
4,4'-DDD	Less than 20% of 4,4'-DDT		
4,4'-DDE	Less than 20% of 4,4'-DDT		
4,4'-DDT	Less than 200% of		

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SLA0213-TUN1	N823011901.D	01/19/2023	10:28
Initial Cal Blank	SLA0213-ICB1	N823011902.D	01/19/2023	10:59
Cal Standard	SLA0213-CAL1	N823011903.D	01/19/2023	11:26
Cal Standard	SLA0213-CAL2	N823011904.D	01/19/2023	11:58
Cal Standard	SLA0213-CAL3	N823011905.D	01/19/2023	12:25
Cal Standard	SLA0213-CAL4	N823011906.D	01/19/2023	12:52
Cal Standard	SLA0213-CAL5	N823011907.D	01/19/2023	13:19
Cal Standard	SLA0213-CAL6	N823011908.D	01/19/2023	13:46
Secondary Cal Check	SLA0213-SCV1	N823011909.D	01/19/2023	14:58

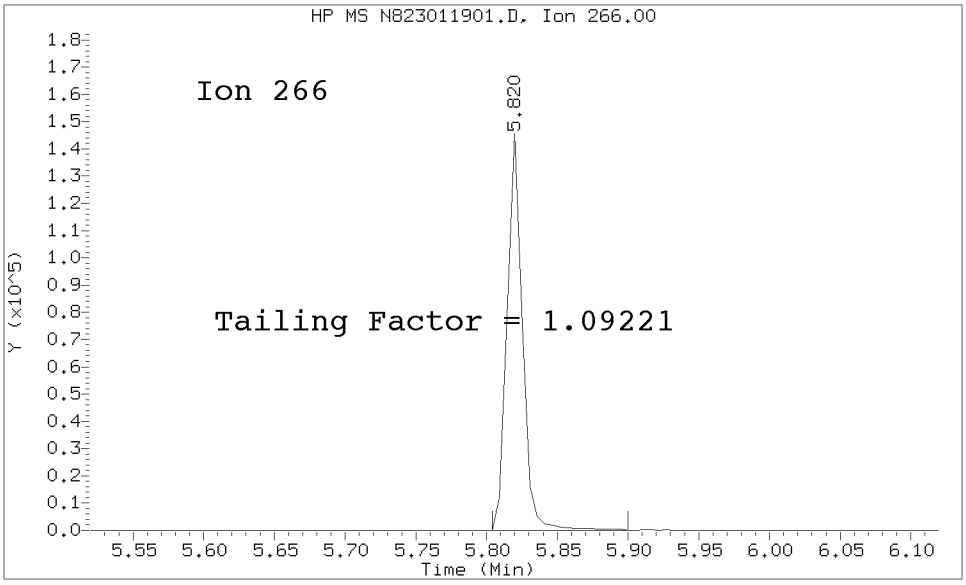
DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20230119.b/tune.b/N823011901.D/N823011901.D
Method Used: \20230119.b\tune.b\DFTPP.m Inst: nt8
Injection Date: 19-JAN-2023 10:28 Operator: JZ
Sample Info: SLA0213-TUN1 DFTPP230119
Report Date: 01/19/2023 20:14



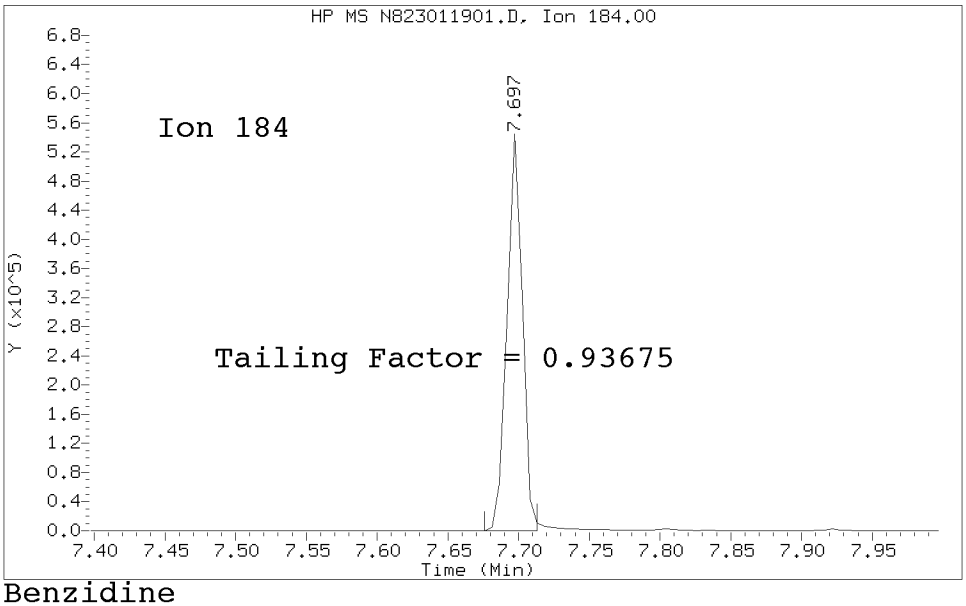


Datafile Analyzed: /20230119.b/tune.b/N823011901.D/N823011901.D
Method Used: \20230119.b\tune.b\DFTPP.m\sw846ddt.m Inst: nt8
Injection Date: 19-JAN-2023 10:28 Operator: JZ
Sample Info: DFTPP230119
Report Date: 01/19/2023 20:14



Pentachlorophenol
==========
Exp. RT = 5.825
Found RT = 5.820

Tail Factor = 1.092 Maximum Allowed = 2.0



Benzidine
==========
Exp. RT = 7.703
Found RT = 7.697

Tail Factor = 0.937 Maximum Allowed = 2.0

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	23.71
68	Less than 2.00% of mass 69	0.39 (1.25)
69	Mass 69 relative abundance	30.92
70	Less than 2.00% of mass 69	0.06 (0.21)
127	10.00 - 80.00% of mass 198	44.20
197	Less than 2.00% of mass 198	0.17
199	5.00 - 9.00% of mass 198	6.89
275	10.00 - 60.00% of mass 198	26.96
365	Greater than 1.00% of mass 198	2.85
441	0.01 - 24.00% of mass 442	9.72 (14.32)
442	50.00 - 200.00% of mass 198	67.89
443	15.00 - 24.00% of mass 442	13.33 (19.64)

Data File: N823011901.D
Spectrum: Avg. Scans 452-454 (5.51), Background Scan 448
Location of Maximum: 198.00
Number of points: 228

m/z	Y	m/z	Y	m/z	Y	m/z	Y
38.00	424	124.00	727	188.00	466	265.00	1738
39.00	2285	125.00	694	189.00	1088	266.00	231
49.00	389	127.00	59064	190.00	92	272.00	97
50.00	8567	128.00	4618	191.00	538	273.00	2435
51.00	31688	129.00	23208	192.00	1501	274.00	6434
52.00	1694	130.00	1967	193.00	1652	275.00	36032
55.00	89	131.00	387	194.00	339	276.00	4936
56.00	1081	132.00	92	195.00	108	277.00	3133
57.00	2353	134.00	695	196.00	4417	278.00	496
61.00	487	135.00	1887	197.00	224	283.00	243
62.00	511	136.00	770	198.00	133632	284.00	200
63.00	1627	137.00	979	199.00	9210	285.00	536
65.00	865	138.00	101	200.00	711	293.00	678
68.00	518	140.00	220	201.00	653	294.00	83
69.00	41320	141.00	2913	203.00	891	296.00	9364
70.00	86	142.00	931	204.00	4715	297.00	1310
73.00	274	143.00	728	205.00	8070	302.00	96
74.00	4327	144.00	83	206.00	34104	303.00	1146
75.00	6885	145.00	91	207.00	4557	304.00	262
76.00	2362	146.00	508	208.00	1177	314.00	364
77.00	48072	147.00	1540	209.00	387	315.00	1068
78.00	3441	148.00	3391	210.00	236	316.00	588
79.00	3296	149.00	690	211.00	1430	321.00	250
80.00	2464	150.00	90	215.00	376	323.00	3145
81.00	3741	151.00	458	216.00	746	324.00	501
82.00	872	152.00	181	217.00	9085	327.00	540
83.00	845	153.00	893	218.00	1189	328.00	201
84.00	287	154.00	764	221.00	8442	332.00	178
85.00	621	155.00	1756	223.00	2039	333.00	129
86.00	1039	156.00	2503	224.00	19544	334.00	1893
87.00	481	157.00	527	225.00	5122	335.00	518
88.00	91	158.00	516	226.00	502	341.00	275
91.00	866	159.00	410	227.00	8274	346.00	674
92.00	878	160.00	955	228.00	1174	352.00	945
93.00	5816	161.00	1421	229.00	1712	353.00	630
94.00	409	162.00	445	230.00	111	354.00	910
96.00	203	165.00	1085	231.00	685	365.00	3802
98.00	4243	166.00	1023	234.00	538	366.00	580
99.00	3501	167.00	5993	235.00	568	371.00	91
100.00	344	168.00	3082	236.00	394	372.00	1475
101.00	1983	169.00	490	237.00	657	373.00	292
103.00	704	170.00	94	239.00	327	383.00	290
104.00	1275	171.00	194	240.00	187	390.00	177
105.00	1230	172.00	595	241.00	468	402.00	468
106.00	379	173.00	732	242.00	1090	403.00	736
107.00	15826	174.00	1319	243.00	1102	404.00	243
108.00	2447	175.00	2491	244.00	16206	421.00	649
109.00	331	176.00	751	245.00	2245	422.00	226
110.00	30008	177.00	1175	246.00	3000	423.00	4860

111.00	4456	178.00	288	247.00	624	424.00	978
112.00	513	179.00	4561	249.00	587	441.00	12991
113.00	89	180.00	3271	253.00	239	442.00	90720
116.00	935	181.00	1513	254.00	438	443.00	17816
117.00	12513	182.00	106	255.00	76904	444.00	1584
118.00	931	184.00	333	256.00	11699		
120.00	104	185.00	2153	257.00	880		
122.00	1003	186.00	17336	258.00	4539		
123.00	1682	187.00	4916	259.00	746		

INITIAL CALIBRATION DATA

EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GA00050	Instrument:	NT8
Calibration Date:	01/19/2023	Column (1):	RXI-17Sil ms

Calibration Comments: SS, Dibenzo(a,h)anthracene-d14, highest point included. Changed curve fit from "AVG" to "LRO" on 1/25/23 by JZ.

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	Conc	RRF	Conc	**RRF**	Conc	RRF	Conc	RRF	Conc	**RRF**	Conc	**RRF**
Naphthalene	0.1	1.051331	0.5	0.8804155	1	0.9140738	2.5	0.9442377	5	0.9059688	10	0.8834817
2-Methylnaphthalene	0.1	0.5583976	0.5	0.483576	1	0.4966087	2.5	0.5321582	5	0.5081776	10	0.490102
1-Methylnaphthalene	0.1	0.567502	0.5	0.4881925	1	0.5073336	2.5	0.5386185	5	0.5123544	10	0.5007901
Acenaphthylene	0.1	1.569275	0.5	1.288567	1	1.419627	2.5	1.612722	5	1.573862	10	1.597505
Acenaphthene	0.1	1.159165	0.5	0.9399536	1	0.9690137	2.5	1.040021	5	0.9826181	10	0.9807186
Dibenzofuran	0.1	1.856131	0.5	1.449189	1	1.468766	2.5	1.539056	5	1.458398	10	1.450275
Fluorene	0.1	1.333774	0.5	1.066627	1	1.134936	2.5	1.226731	5	1.19285	10	1.207426
Phenanthrene	0.1	1.200199	0.5	0.9068737	1	0.925967	2.5	0.9922048	5	0.9288855	10	0.90761
Anthracene	0.1	0.9900686	0.5	0.7891408	1	0.8362482	2.5	0.9415647	5	0.895227	10	0.8727266
Fluoranthene	0.1	1.200966	0.5	0.9720444	1	1.022937	2.5	1.114343	5	1.05358	10	1.016684
Pyrene	0.1	1.416146	0.5	1.066416	1	1.156217	2.5	1.294823	5	1.256828	10	1.249389
Benzo(a)anthracene	0.1	1.200365	0.5	0.9419141	1	1.006861	2.5	1.18718	5	1.184592	10	1.222407
Chrysene	0.1	1.382333	0.5	1.081643	1	1.128342	2.5	1.227241	5	1.185771	10	1.173282
Benzo(b)fluoranthene	0.1	1.335895	0.5	0.9774708	1	1.022944	2.5	1.220494	5	1.192377	10	1.239686
Benzo(k)fluoranthene	0.1	1.327249	0.5	0.9937275	1	1.005899	2.5	1.178993	5	1.164539	10	1.175213
Benzo(j)fluoranthene	0.1	1.092831	0.5	0.9205253	1	0.9228699	2.5	1.084778	5	1.075203	10	1.066465
Benzofluoranthenes, Total	0.3	1.255354	1.5	0.9344954	3	0.9716584	7.5	1.159079	15	1.142352	30	1.155882
Benzo(a)pyrene	0.1	1.139906	0.5	0.8777692	1	0.8951488	2.5	1.077374	5	1.063086	10	1.096879
Indeno(1,2,3-cd)pyrene	0.1	1.208599	0.5	0.995325	1	1.072555	2.5	1.257473	5	1.228578	10	1.24398
Dibenzo(a,h)anthracene	0.1	1.049117	0.5	0.8348251	1	0.8950591	2.5	1.081382	5	1.068557	10	1.100721
Benzo(g,h,i)perylene	0.1	1.162964	0.5	0.9102826	1	0.9409469	2.5	1.106673	5	1.088733	10	1.138469
2-Methylnaphthalene-d10	0.1	0.5857106	0.5	0.4932528	1	0.5345061	2.5	0.5674481	5	0.5504276	10	0.5413545
Dibenzo[a,h]anthracene-d14	0.1	0.580281	0.5	0.5471844	1	0.6076211	2.5	0.7324975	5	0.7420675	10	0.7980029
Fluoranthene-d10	0.1	0.9007247	0.5	0.754546	1	0.8247891	2.5	0.9550254	5	0.9291815	10	0.930087

INITIAL CALIBRATION DATA

EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GA00050	Instrument:	NT8
Calibration Date:	01/19/2023	Column (1):	RXI-17Sil ms

Calibration Comments: SS, Dibenzo(a,h)anthracene-d14, highest point included. Changed curve fit from "AVG" to "LRO" on 1/25/23 by JZ.

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Naphthalene	0.9299181	6.9			RSD (15)	
2-Methylnaphthalene	0.5115033	5.6			RSD (15)	
1-Methylnaphthalene	0.5191318	5.6			RSD (15)	
Acenaphthylene	1.51026	8.5			RSD (15)	
Acenaphthene	1.011915	7.8			RSD (15)	
Dibenzofuran	1.536969	10.4			RSD (15)	
Fluorene	1.193724	7.5			RSD (15)	
Phenanthrene	0.9769567	11.6			RSD (15)	
Anthracene	0.887496	8.1			RSD (15)	
Fluoranthene	1.063426	7.7			RSD (15)	
Pyrene	1.23997	9.6			RSD (15)	
Benzo(a)anthracene	1.123887	10.5			RSD (15)	
Chrysene	1.196435	8.7			RSD (15)	
Benzo(b)fluoranthene	1.164811	11.8			RSD (15)	
Benzo(k)fluoranthene	1.140937	10.9			RSD (15)	
Benzo(j)fluoranthene	1.027112	8.0			RSD (15)	
Benzofluoranthenes, Total	1.103137	11.2			RSD (15)	
Benzo(a)pyrene	1.025027	10.8			RSD (15)	
Indeno(1,2,3-cd)pyrene	1.167752	9.2			RSD (15)	
Dibenzo(a,h)anthracene	1.004944	11.1			RSD (15)	
Benzo(g,h,i)perylene	1.058011	10.0			RSD (15)	
2-Methylnaphthalene-d10	0.5454499	5.8			RSD (15)	
Dibenzo[a,h]anthracene-d14	0.6679424	15.3	0.9971		LCOD (0.99)	
Fluoranthene-d10	0.8823923	8.7			RSD (15)	

Printed: 1/19/2023 8:45:16PM

ANALYSIS SEQUENCE

SLA0213

Instrument: NT8 Element Column ID: J006458
Calibration ID: GA00050

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Analyzed	Comments
SLA0213-TUN1	MS Tune	QC		1	K004775			
SLA0213-ICB1	Initial Cal Blank	QC		2		K008540		
SLA0213-CAL1	8270 SIM PNA 0.1	QC		3	L000603	K008540		
SLA0213-CAL2	8270 SIM PNA 0.5	QC		4	L000604	K008540		
SLA0213-CAL3	8270 SIM PNA 1.0	QC		5	L000605	K008540		
SLA0213-CAL4	8270 SIM PNA 2.5	QC		6	L000606	K008540		
SLA0213-CAL5	8270 SIM PNA 5	QC		7	L000607	K008540		
SLA0213-CAL6	8270 SIM PNA 10	QC		8	L000608	K008540		
SLA0213-SCV1	8270 SIM PNA SCV	QC		9	L000686	K008540		

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20230119.b

	Time	Filename	LabID	ClientId	DF									
1	1028	N823011901.D	SLA0213-TUN1		1	|NO ISTDS FOUND||								
2	1059	N823011902.D	SLA0213-ICB1		1	| 4.92	52082||	7.20	30936||	9.24	59030||	14.22	50944||	18.12	47418|
3	1126	N823011903.D	SLA0213-CAL1		1	| 4.91	46132||	7.20	27261||	9.24	52158||	14.20	44953||	18.11	41635|
4	1158	N823011904.D	SLA0213-CAL2		1	| 4.91	45056||	7.20	26746||	9.24	50759||	14.21	44658||	18.11	42567|
5	1225	N823011905.D	SLA0213-CAL3		1	| 4.91	47180||	7.20	28206||	9.24	53233||	14.20	46493||	18.11	44587|
6	1252	N823011906.D	SLA0213-CAL4		1	| 4.91	44704||	7.20	26411||	9.24	49210||	14.20	42994||	18.11	40520|
7	1319	N823011907.D	SLA0213-CAL5		1	| 4.91	46542||	7.20	27638||	9.23	51351||	14.20	44781||	18.11	42187|
8	1346	N823011908.D	SLA0213-CAL6		1	| 4.91	46070||	7.20	26689||	9.24	50683||	14.21	43880||	18.11	40659|
9	1458	N823011909.D	SLA0213-SCV1		1	| 4.91	46346||	7.20	27709||	9.24	51685||	14.21	46582||	18.12	41743|

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20230119.b

ARI Job No.: SLA0 Method: FSIMPNA230119.m Instrument: nt8.i Date: 19-JAN-2023

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1059	N823011902.D	SLA0213-ICB1		1	NO MANUAL INTEGRATION
1126	N823011903.D	SLA0213-CAL1		1	Total Benzofluoranthenes, Dibenzo(a,h)anthracene-d14,
1158	N823011904.D	SLA0213-CAL2		1	Total Benzofluoranthenes, Dibenzo(a,h)anthracene, Dibenzo(a,h)anthracene-d14,
1225	N823011905.D	SLA0213-CAL3		1	Total Benzofluoranthenes,
1252	N823011906.D	SLA0213-CAL4		1	Total Benzofluoranthenes,
1319	N823011907.D	SLA0213-CAL5		1	Total Benzofluoranthenes,
1346	N823011908.D	SLA0213-CAL6		1	Total Benzofluoranthenes,
1458	N823011909.D	SLA0213-SCV1		1	Total Benzofluoranthenes,

Security Status Report

Date: 19-Jan-2023 20:43

N823011901.D	Data Locked	jianqing, 19-Jan-2023 20:43
N823011902.D	Data Locked	jianqing, 19-Jan-2023 20:43
N823011903.D	Data Locked	jianqing, 19-Jan-2023 20:43
N823011904.D	Data Locked	jianqing, 19-Jan-2023 20:43
N823011905.D	Data Locked	jianqing, 19-Jan-2023 20:43
N823011906.D	Data Locked	jianqing, 19-Jan-2023 20:43
N823011907.D	Data Locked	jianqing, 19-Jan-2023 20:43
N823011908.D	Data Locked	jianqing, 19-Jan-2023 20:43
N823011909.D	Data Locked	jianqing, 19-Jan-2023 20:43

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-JAN-2023 11:26
End Cal Date : 19-JAN-2023 13:46
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt8.i\20230119.b\FSIMPNA230119.m
Last Edit : 19-Jan-2023 20:20 jianqing
Curve Type : Average

Calibration File Names:
Level 1: \\target\share\chem3\nt8.i\20230119.b\N823011903.D
Level 2: \\target\share\chem3\nt8.i\20230119.b\N823011904.D
Level 3: \\target\share\chem3\nt8.i\20230119.b\N823011905.D
Level 4: \\target\share\chem3\nt8.i\20230119.b\N823011906.D
Level 5: \\target\share\chem3\nt8.i\20230119.b\N823011907.D
Level 6: \\target\share\chem3\nt8.i\20230119.b\N823011908.D

	0.10000	0.50000	1.000	2.500	5.000	10.000	___	
Compound	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	RRF	% RSD
2 Naphthalene	1.05133	0.88042	0.91407	0.94424	0.90597	0.88348	0.92992	6.865
4 2-Methylnaphthalene	0.55840	0.48358	0.49661	0.53216	0.50818	0.49010	0.51150	5.596
5 1-methylnaphthalene	0.56750	0.48819	0.50733	0.53862	0.51235	0.50079	0.51913	5.582
6 2-Chloronaphthalene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
7 Biphenyl	1.53553	1.22381	1.26186	1.35447	1.27381	1.26708	1.31943	8.655
8 2,6-Dimethylnaphthalene	1.00657	0.84902	0.90342	0.98129	0.93327	0.92936	0.93382	5.997
9 Acenaphthylene	1.56927	1.28857	1.41963	1.61272	1.57386	1.59750	1.51026	8.531
11 Acenaphthene	1.15917	0.93995	0.96901	1.04002	0.98262	0.98072	1.01192	7.822
12 Dibenzofuran	1.85613	1.44919	1.46877	1.53906	1.45840	1.45028	1.53697	10.407
13 1,6,7-Trimethylnaphthalene	1.10194	0.88028	0.91555	1.00758	0.95392	0.95592	0.96920	8.030
14 Fluorene	1.33377	1.06663	1.13494	1.22673	1.19285	1.20743	1.19372	7.540
16 Phenanthrene	1.20020	0.90687	0.92597	0.99220	0.92889	0.90761	0.97696	11.644
17 Anthracene	0.99007	0.78914	0.83625	0.94156	0.89523	0.87273	0.88750	8.129
18 Dibenzothiophene	1.00464	0.81097	0.83858	0.91687	0.87432	0.85731	0.88378	7.813
19 Carbazole	0.89689	0.71317	0.75168	0.85950	0.83159	0.82882	0.81361	8.430
20 1-Methylphenanthrene	0.79489	0.62625	0.65095	0.73891	0.70849	0.70462	0.70402	8.607

22 Fluoranthene	1.20097	0.97204	1.02294	1.11434	1.05358	1.01668	1.06343	7.729
23 Pyrene	1.41615	1.06642	1.15622	1.29482	1.25683	1.24939	1.23997	9.648
24 Benzo(a)anthracene	1.20036	0.94191	1.00686	1.18718	1.18459	1.22241	1.12389	10.532
27 Chrysene	1.38233	1.08164	1.12834	1.22724	1.18577	1.17328	1.19644	8.684
28 Benzo(b)fluoranthene	1.33590	0.97747	1.02294	1.22049	1.19238	1.23969	1.16481	11.769
29 Benzo(k)fluoranthene	1.32725	0.99373	1.00590	1.17899	1.16454	1.17521	1.14094	10.933
30 Benzo(j)fluoranthene	1.09283	0.92053	0.92287	1.08478	1.07520	1.06646	1.02711	7.997
31 Total Benzofluoranthenes	1.25535	0.93450	0.97166	1.15908	1.14235	1.15588	1.10314	11.202
32 Benzo(a)pyrene	1.13991	0.87777	0.89515	1.07737	1.06309	1.09688	1.02503	10.785
34 Benzo(e)pyrene	1.38633	1.02276	1.03286	1.18813	1.15641	1.18275	1.16154	11.391
35 Perylene	1.28978	0.96103	0.98751	1.14448	1.10241	1.11455	1.09996	10.771
37 Indeno(1,2,3-cd)pyrene	1.20860	0.99533	1.07255	1.25747	1.22858	1.24398	1.16775	9.225

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-JAN-2023 11:26
End Cal Date : 19-JAN-2023 13:46
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt8.i\20230119.b\FSIMPNA230119.m
Last Edit : 19-Jan-2023 20:20 jianqing
Curve Type : Average

Compound	0.10000 Level 1	0.50000 Level 2	1.000 Level 3	2.500 Level 4	5.000 Level 5	10.000 Level 6	RRF	% RSD
38 Dibenzo(a,h)anthracene	1.04912	0.83483	0.89506	1.08138	1.06856	1.10072	1.00494	11.083
39 Benzo(g,h,i)perylene	1.16296	0.91028	0.94095	1.10667	1.08873	1.13847	1.05801	10.032
$ 3 2-Methylnaphthalene-d10	0.58571	0.49325	0.53451	0.56745	0.55043	0.54135	0.54545	5.792
$ 21 Fluoranthene-d10	0.90072	0.75455	0.82479	0.95503	0.92918	0.93009	0.88239	8.740
$ 36 Dibenzo(a,h)anthracene-d14	0.58028	0.54718	0.60762	0.73250	0.74207	+++++	0.64193	13.973

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt8.i\20230119.b\FSIMPNA230119.m
Batch File: \\target\share\chem3\nt8.i\20230119.b
Inst ID: nt8.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	N823011903	N823011904	N823011905	N823011906	N823011907	N823011908
INJ.DATE:	19-JAN-2023	19-JAN-2023	19-JAN-2023	19-JAN-2023	19-JAN-2023	19-JAN-2023
INJ.TIME:	11:26	11:58	12:25	12:52	13:19	13:46

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 1 Naphthalene-d8	4.907	4.913	4.907	4.907	4.910	4.907	4.907	1.907-7.907	4.908	0.003
2 Naphthalene	4.939	4.942	4.939	4.938	4.938	4.938	4.938	1.938-7.938	4.939	0.001
$ 3 2-Methylnaphthalene-d1	5.644	5.647	5.640	5.640	5.640	5.640	5.640	2.640-8.640	5.642	0.003
4 2-Methylnaphthalene	5.691	5.694	5.688	5.688	5.688	5.688	5.688	2.688-8.688	5.689	0.003
5 1-methylnaphthalene	5.884	5.890	5.887	5.884	5.887	5.887	5.887	2.887-8.887	5.887	0.002
6 2-Chloronaphthalene	+++++	+++++	+++++	+++++	+++++	+++++	6.377	3.377-9.377	+++++	+++++
7 Biphenyl	6.346	6.352	6.346	6.345	6.346	6.349	6.349	3.349-9.349	6.347	0.003
8 2,6-Dimethylnaphthalen	6.390	6.396	6.390	6.390	6.390	6.393	6.393	3.393-9.393	6.391	0.003
9 Acenaphthylene	7.086	7.092	7.085	7.085	7.085	7.089	7.089	4.089-10.089	7.087	0.003
* 10 Acenaphthene-d10	7.196	7.199	7.196	7.196	7.196	7.196	7.196	4.196-10.196	7.197	0.001
11 Acenaphthene	7.247	7.250	7.247	7.247	7.247	7.247	7.247	4.247-10.247	7.247	0.001
12 Dibenzofuran	7.395	7.402	7.395	7.395	7.395	7.398	7.398	4.398-10.398	7.397	0.003
13 1,6,7-Trimethylnaphtha	7.462	7.465	7.462	7.462	7.462	7.465	7.465	4.465-10.465	7.463	0.002
14 Fluorene	7.876	7.879	7.876	7.873	7.876	7.876	7.876	4.876-10.876	7.876	0.002
* 15 Phenanthrene-d10	9.236	9.239	9.236	9.236	9.232	9.236	9.236	6.236-12.236	9.236	0.002
16 Phenanthrene	9.270	9.273	9.270	9.270	9.270	9.274	9.274	6.274-12.274	9.271	0.002
17 Anthracene	9.312	9.315	9.312	9.311	9.311	9.315	9.315	6.315-12.315	9.313	0.002

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

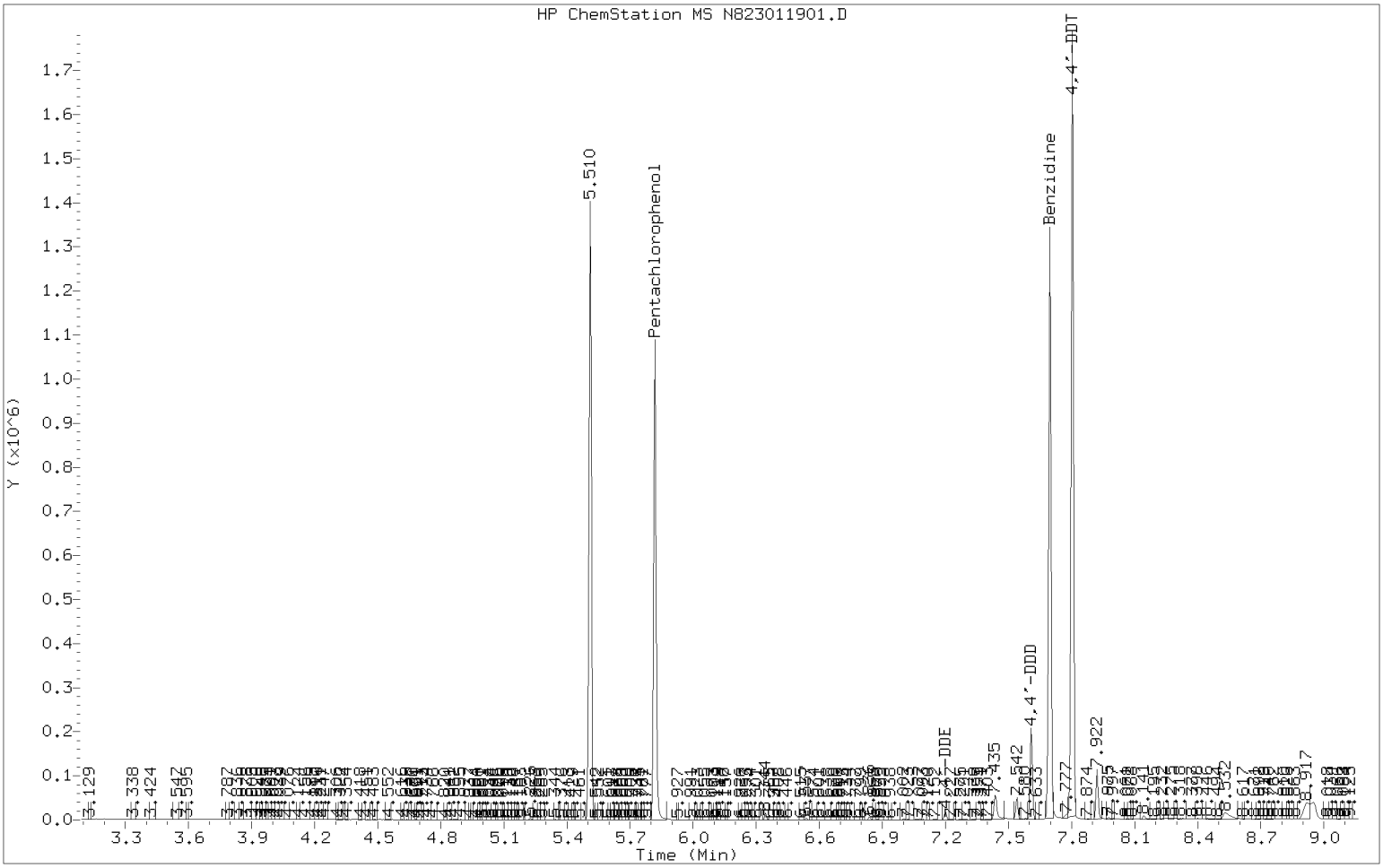
ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

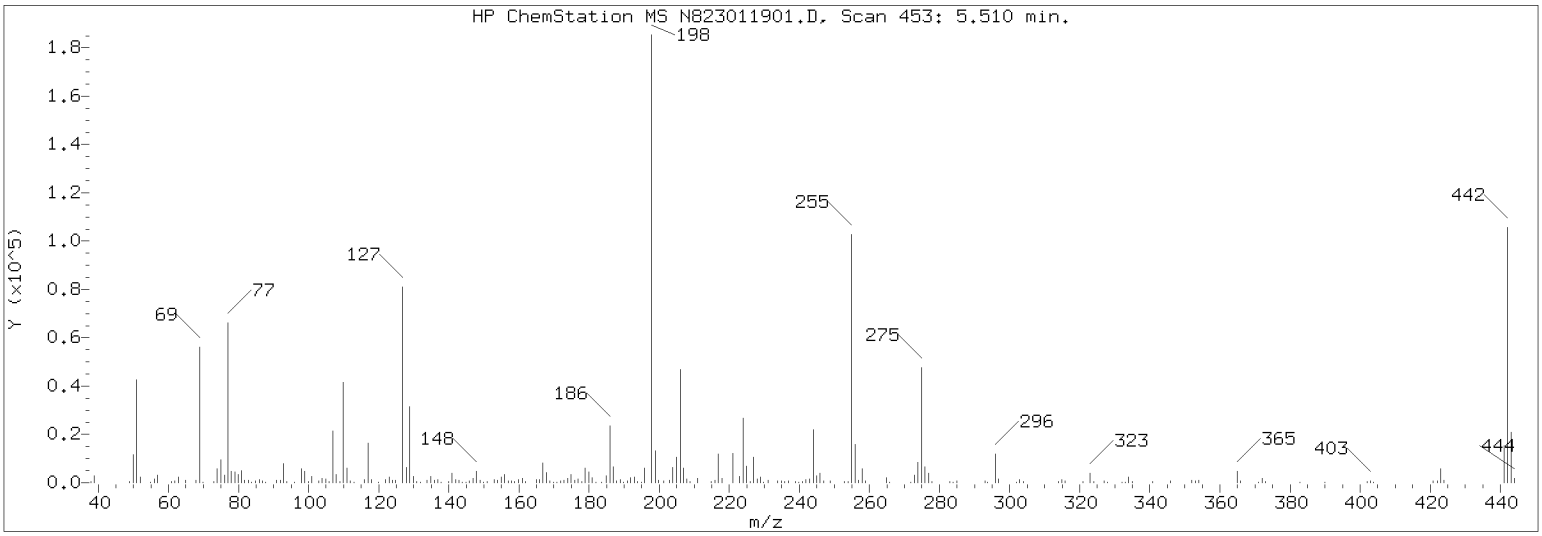
Method File: \\target\share\chem3\nt8.i\20230119.b\FSIMPNA230119.m
Batch File: \\target\share\chem3\nt8.i\20230119.b
Inst ID: nt8.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
	18 Dibenzothiophene	9.109	9.112	9.109	9.109	9.109	9.112	9.112	6.112-12.112	9.110	0.002
	19 Carbazole	9.824	9.830	9.824	9.824	9.824	9.827	9.827	6.827-12.827	9.825	0.003
	20 1-Methylphenanthrene	10.048	10.051	10.048	10.048	10.048	10.051	10.051	7.051-13.051	10.049	0.002
$	21 Fluoranthene-d10	11.016	11.019	11.016	11.016	11.016	11.019	11.019	8.019-14.019	11.017	0.002
	22 Fluoranthene	11.054	11.057	11.051	11.054	11.054	11.057	11.057	8.057-14.057	11.054	0.002
	23 Pyrene	11.572	11.575	11.572	11.572	11.572	11.575	11.575	8.575-14.575	11.573	0.002
	24 Benzo(a)anthracene	14.073	14.080	14.077	14.077	14.077	14.080	14.080	11.080-17.080	14.077	0.002
*	25 Chrysene-d12	14.203	14.209	14.203	14.203	14.203	14.206	14.206	11.206-17.206	14.205	0.003
	27 Chrysene	14.276	14.279	14.276	14.279	14.279	14.282	14.282	11.282-17.282	14.278	0.002
	28 Benzo(b)fluoranthene	16.821	16.827	16.824	16.821	16.827	16.834	16.834	13.834-19.834	16.826	0.005
	29 Benzo(k)fluoranthene	16.881	16.887	16.881	16.884	16.888	16.897	16.897	13.897-19.897	16.886	0.006
	30 Benzo(j)fluoranthene	16.960	16.963	16.960	16.963	16.967	16.973	16.973	13.973-19.973	16.964	0.005
	31 Total Benzofluoranthen	16.821	16.827	16.824	16.821	16.827	16.834	16.834	13.834-19.834	16.826	0.005
	32 Benzo(a)pyrene	17.874	17.883	17.877	17.877	17.884	17.890	17.890	14.890-20.890	17.881	0.006
*	33 Perylene-d12	18.111	18.114	18.111	18.111	18.111	18.114	18.114	15.114-21.114	18.112	0.002
	34 Benzo(e)pyrene	17.748	17.754	17.751	17.748	17.751	17.760	17.760	14.760-20.760	17.752	0.005
	35 Perylene	18.184	18.187	18.184	18.184	18.187	18.193	18.193	15.193-21.193	18.187	0.004
$	36 Dibenzo(a,h)anthracene	20.546	20.549	20.549	20.552	20.555	20.565	20.565	17.565-23.565	20.553	0.007
	37 Indeno(1,2,3-cd)pyrene	20.666	20.676	20.672	20.676	20.682	20.691	20.691	17.691-23.691	20.677	0.009
	38 Dibenzo(a,h)anthracene	20.666	20.666	20.657	20.663	20.669	20.685	20.685	17.685-23.685	20.668	0.010
	39 Benzo(g,h,i)perylene	21.757	21.760	21.748	21.757	21.763	21.782	21.782	18.782-24.782	21.761	0.012

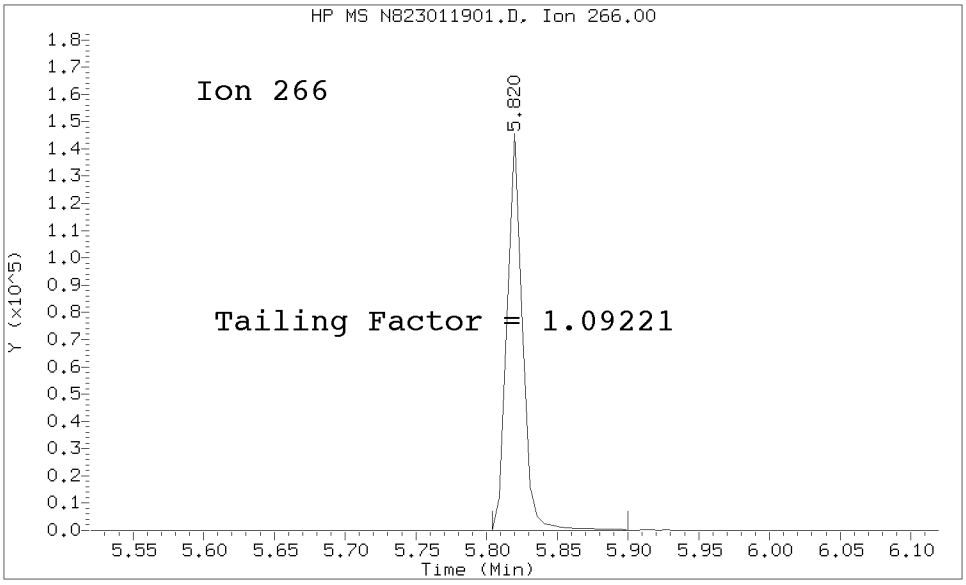
DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20230119.b/tune.b/N823011901.D/N823011901.D
Method Used: \20230119.b\tune.b\DFTPP.m Inst: nt8
Injection Date: 19-JAN-2023 10:28 Operator: JZ
Sample Info: SLA0213-TUN1 DFTPP230119
Report Date: 01/19/2023 20:14



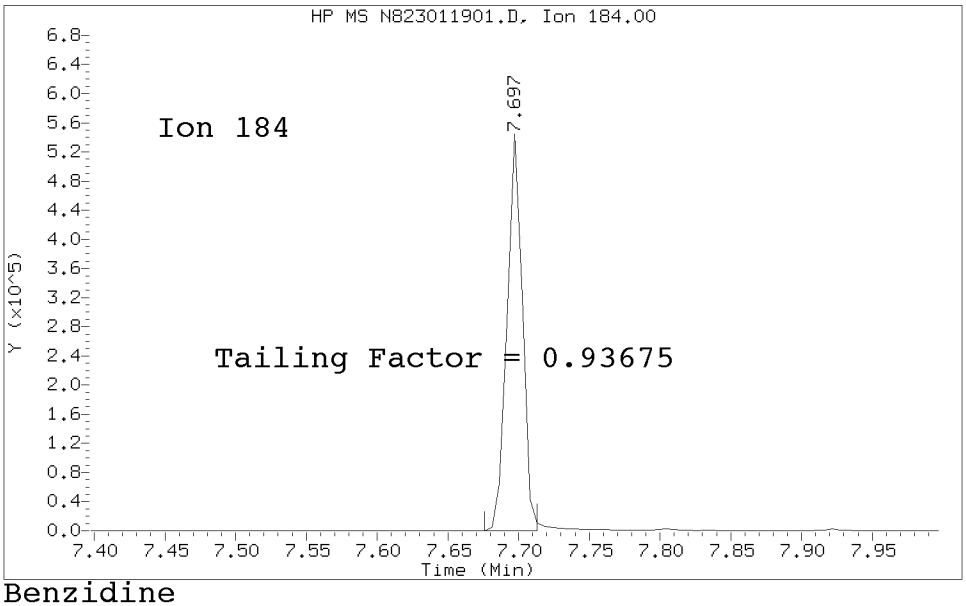


Datafile Analyzed: /20230119.b/tune.b/N823011901.D/N823011901.D
Method Used: \20230119.b\tune.b\DFTPP.m\sw846ddt.m Inst: nt8
Injection Date: 19-JAN-2023 10:28 Operator: JZ
Sample Info: DFTPP230119
Report Date: 01/19/2023 20:14



Pentachlorophenol
==========
Exp. RT = 5.825
Found RT = 5.820

Tail Factor = 1.092 Maximum Allowed = 2.0



Benzidine
==========
Exp. RT = 7.703
Found RT = 7.697

Tail Factor = 0.937 Maximum Allowed = 2.0

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	23.71
68	Less than 2.00% of mass 69	0.39 (1.25)
69	Mass 69 relative abundance	30.92
70	Less than 2.00% of mass 69	0.06 (0.21)
127	10.00 - 80.00% of mass 198	44.20
197	Less than 2.00% of mass 198	0.17
199	5.00 - 9.00% of mass 198	6.89
275	10.00 - 60.00% of mass 198	26.96
365	Greater than 1.00% of mass 198	2.85
441	0.01 - 24.00% of mass 442	9.72 (14.32)
442	50.00 - 200.00% of mass 198	67.89
443	15.00 - 24.00% of mass 442	13.33 (19.64)

Data File: N823011901.D
Spectrum: Avg. Scans 452-454 (5.51), Background Scan 448
Location of Maximum: 198.00
Number of points: 228

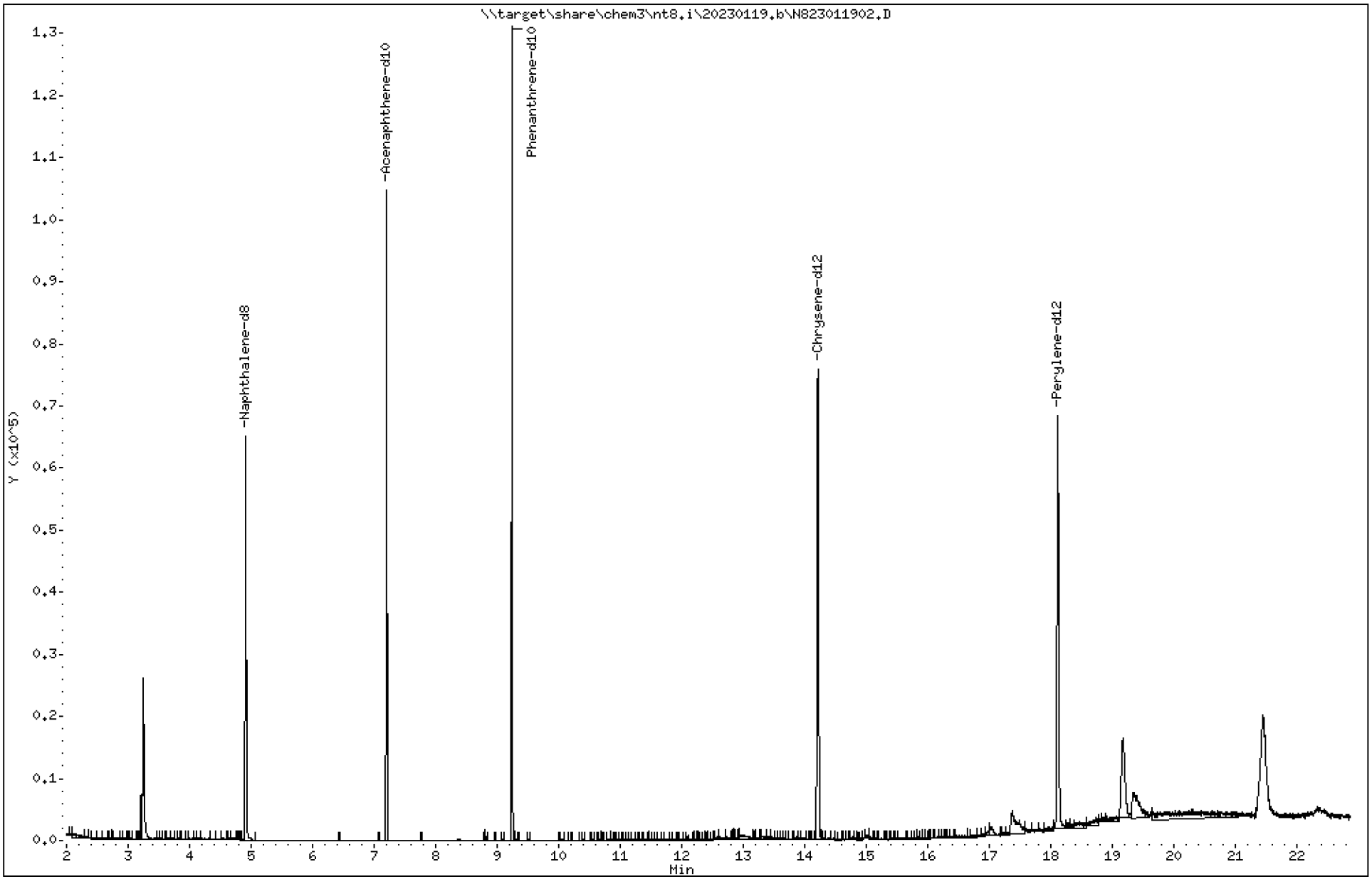
m/z	Y	m/z	Y	m/z	Y	m/z	Y
38.00	424	124.00	727	188.00	466	265.00	1738
39.00	2285	125.00	694	189.00	1088	266.00	231
49.00	389	127.00	59064	190.00	92	272.00	97
50.00	8567	128.00	4618	191.00	538	273.00	2435
51.00	31688	129.00	23208	192.00	1501	274.00	6434
52.00	1694	130.00	1967	193.00	1652	275.00	36032
55.00	89	131.00	387	194.00	339	276.00	4936
56.00	1081	132.00	92	195.00	108	277.00	3133
57.00	2353	134.00	695	196.00	4417	278.00	496
61.00	487	135.00	1887	197.00	224	283.00	243
62.00	511	136.00	770	198.00	133632	284.00	200
63.00	1627	137.00	979	199.00	9210	285.00	536
65.00	865	138.00	101	200.00	711	293.00	678
68.00	518	140.00	220	201.00	653	294.00	83
69.00	41320	141.00	2913	203.00	891	296.00	9364
70.00	86	142.00	931	204.00	4715	297.00	1310
73.00	274	143.00	728	205.00	8070	302.00	96
74.00	4327	144.00	83	206.00	34104	303.00	1146
75.00	6885	145.00	91	207.00	4557	304.00	262
76.00	2362	146.00	508	208.00	1177	314.00	364
77.00	48072	147.00	1540	209.00	387	315.00	1068
78.00	3441	148.00	3391	210.00	236	316.00	588
79.00	3296	149.00	690	211.00	1430	321.00	250
80.00	2464	150.00	90	215.00	376	323.00	3145
81.00	3741	151.00	458	216.00	746	324.00	501
82.00	872	152.00	181	217.00	9085	327.00	540
83.00	845	153.00	893	218.00	1189	328.00	201
84.00	287	154.00	764	221.00	8442	332.00	178
85.00	621	155.00	1756	223.00	2039	333.00	129
86.00	1039	156.00	2503	224.00	19544	334.00	1893
87.00	481	157.00	527	225.00	5122	335.00	518
88.00	91	158.00	516	226.00	502	341.00	275
91.00	866	159.00	410	227.00	8274	346.00	674
92.00	878	160.00	955	228.00	1174	352.00	945
93.00	5816	161.00	1421	229.00	1712	353.00	630
94.00	409	162.00	445	230.00	111	354.00	910
96.00	203	165.00	1085	231.00	685	365.00	3802
98.00	4243	166.00	1023	234.00	538	366.00	580
99.00	3501	167.00	5993	235.00	568	371.00	91
100.00	344	168.00	3082	236.00	394	372.00	1475
101.00	1983	169.00	490	237.00	657	373.00	292
103.00	704	170.00	94	239.00	327	383.00	290
104.00	1275	171.00	194	240.00	187	390.00	177
105.00	1230	172.00	595	241.00	468	402.00	468
106.00	379	173.00	732	242.00	1090	403.00	736
107.00	15826	174.00	1319	243.00	1102	404.00	243
108.00	2447	175.00	2491	244.00	16206	421.00	649
109.00	331	176.00	751	245.00	2245	422.00	226
110.00	30008	177.00	1175	246.00	3000	423.00	4860

111.00	4456	178.00	288	247.00	624	424.00	978
112.00	513	179.00	4561	249.00	587	441.00	12991
113.00	89	180.00	3271	253.00	239	442.00	90720
116.00	935	181.00	1513	254.00	438	443.00	17816
117.00	12513	182.00	106	255.00	76904	444.00	1584
118.00	931	184.00	333	256.00	11699		
120.00	104	185.00	2153	257.00	880		
122.00	1003	186.00	17336	258.00	4539		
123.00	1682	187.00	4916	259.00	746		

Data File: \\target\share\chem3\nt8.i\20230119.b\N823011902.D
Date : 19-JAN-2023 10:59
Client ID:
Sample Info: ICB230119

Instrument: nt8.i
Operator: JZ
Column diameter: 0.25

Column phase: Rxi-17sil



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230119.b\N823011902.D
Lab Smp Id: SLA0213-ICB1
Inj Date : 19-JAN-2023 10:59
Operator : JZ Inst ID: nt8.i
Smp Info : ICB230119
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230119.b\FSIMPNA230119.m
Meth Date : 19-Jan-2023 20:20 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICLA.sub
Target Version: 4.14
Processing Host: JIANQING-202105

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.916	4.906	(1.000)	52082	2.00000	
	2 Naphthalene	128	Compound Not Detected.					
$	3 2-Methylnaphthalene-d10	152	Compound Not Detected.					
	4 2-Methylnaphthalene	141	Compound Not Detected.					
	5 1-methylnaphthalene	141	Compound Not Detected.					
	7 Biphenyl	154	Compound Not Detected.					
	8 2,6-Dimethylnaphthalene	156	Compound Not Detected.					
	9 Acenaphthylene	152	Compound Not Detected.					
*	10 Acenaphthene-d10	164	7.202	7.196	(1.000)	30936	2.00000	
	11 Acenaphthene	153	Compound Not Detected.					
	12 Dibenzofuran	168	Compound Not Detected.					
	13 1,6,7-Trimethylnaphthalene	170	Compound Not Detected.					
	14 Fluorene	166	Compound Not Detected.					
	18 Dibenzothiophene	184	Compound Not Detected.					
*	15 Phenanthrene-d10	188	9.241	9.235	(1.000)	59030	2.00000	
	16 Phenanthrene	178	Compound Not Detected.					
	17 Anthracene	178	Compound Not Detected.					
	19 Carbazole	167	Compound Not Detected.					
	20 1-Methylphenanthrene	192	Compound Not Detected.					
	22 Fluoranthene	202	Compound Not Detected.					
$	21 Fluoranthene-d10	212	Compound Not Detected.					
	23 Pyrene	202	Compound Not Detected.					
	24 Benzo(a)anthracene	228	Compound Not Detected.					
*	25 Chrysene-d12	240	14.215	14.202	(1.000)	50944	2.00000	
	27 Chrysene	228	Compound Not Detected.					
	28 Benzo(b)fluoranthene	252	Compound Not Detected.					
	29 Benzo(k)fluoranthene	252	Compound Not Detected.					
	30 Benzo(j)fluoranthene	252	Compound Not Detected.					
	31 Total Benzofluoranthenes	252	Compound Not Detected.					
	34 Benzo(e)pyrene	252	Compound Not Detected.					
	32 Benzo(a)pyrene	252	Compound Not Detected.					
*	33 Perylene-d12	264	18.120	18.111	(1.000)	47418	2.00000	
	35 Perylene	252	Compound Not Detected.					

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
$ 36 Dibenzo(a,h)anthracene-d14	292	Compound Not Detected.					
37 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
38 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
39 Benzo(g,h,i)perylene	276	Compound Not Detected.					

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823011902.D
Lab Smp Id: SLA0213-ICB1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230119.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 19-JAN-2023
Calibration Time: 12:52
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	44704	22352	89408	52082	16.50
10 Acenaphthene-d10	26411	13206	52822	30936	17.13
15 Phenanthrene-d10	49210	24605	98420	59030	19.96
25 Chrysene-d12	42994	21497	85988	50944	18.49
33 Perylene-d12	40520	20260	81040	47418	17.02

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.91	4.41	5.41	4.92	0.19
10 Acenaphthene-d10	7.20	6.70	7.70	7.20	0.09
15 Phenanthrene-d10	9.24	8.74	9.74	9.24	0.07
25 Chrysene-d12	14.20	13.70	14.70	14.22	0.09
33 Perylene-d12	18.11	17.61	18.61	18.12	0.05

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

REVIEW SUMMARY FOR FILE - N823011902.D

Lab ID: SLA0213-ICB1
nt8.i, 20230119.b\FSIMPNA230119.m,   19-JAN-2023 10:59

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

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

No RRT check performed

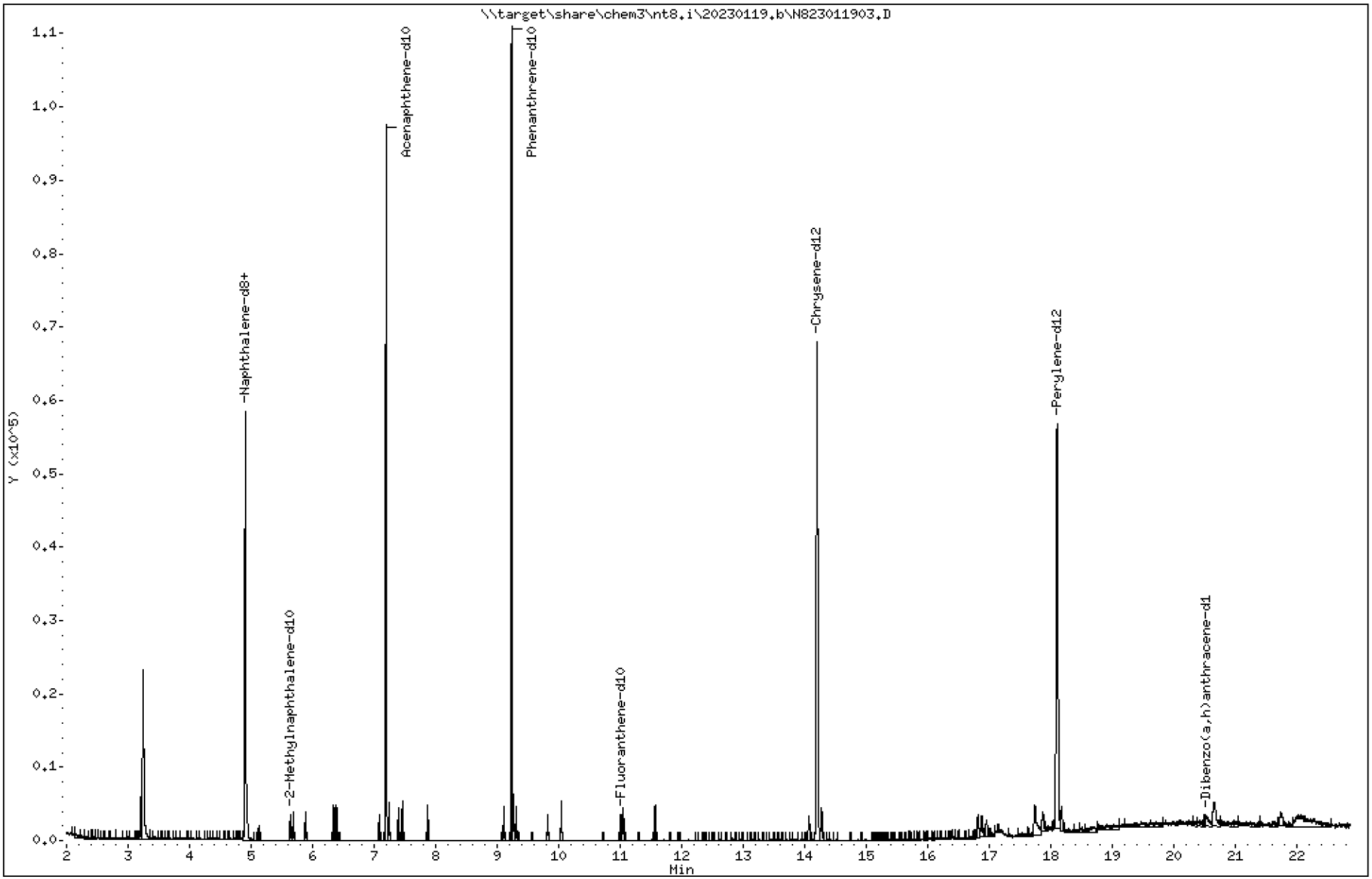
On Column LOD for nt8.i, 20230119.b\FSIMPNA230119.m, FSIMPNAICLA.sub = 0.0000

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

Data File: \\target\share\chem3\nt8.i\20230119.b\N823011903.D
Date : 19-JAN-2023 11:26
Client ID:
Sample Info: IC01230119,

Instrument: nt8.i
Operator: JZ
Column diameter: 0.25

Column phase: Rxi-17sil



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230119.b\N823011903.D
Lab Smp Id: SLA0213-CAL1
Inj Date : 19-JAN-2023 11:26
Operator : JZ Inst ID: nt8.i
Smp Info : IC01230119,
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230119.b\FSIMPNA230119.m
Meth Date : 19-Jan-2023 20:10 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 3 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICLA.sub
Target Version: 4.14
Processing Host: JIANQING-202105

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
*	1 Naphthalene-d8	136	4.906	4.906	(1.000)	46132	2.00000	
	2 Naphthalene	128	4.938	4.938	(1.006)	2425	0.10000	0.1131
$	3 2-Methylnaphthalene-d10	152	5.643	5.640	(1.150)	1351	0.10000	0.1074
	4 2-Methylnaphthalene	141	5.691	5.687	(1.160)	1288	0.10000	0.1092
	5 1-methylnaphthalene	141	5.883	5.887	(1.199)	1309	0.10000	0.1093
	7 Biphenyl	154	6.345	6.348	(0.882)	2093	0.10000	0.1164
	8 2,6-Dimethylnaphthalene	156	6.389	6.392	(0.888)	1372	0.10000	0.1078
	9 Acenaphthylene	152	7.085	7.088	(0.985)	2139	0.10000	0.1039
*	10 Acenaphthene-d10	164	7.196	7.196	(1.000)	27261	2.00000	
	11 Acenaphthene	153	7.246	7.246	(1.007)	1580	0.10000	0.1146
	12 Dibenzofuran	168	7.395	7.398	(1.028)	2530	0.10000	0.1208
	13 1,6,7-Trimethylnaphthalene	170	7.461	7.464	(1.037)	1502	0.10000	0.1137
	14 Fluorene	166	7.876	7.875	(1.094)	1818	0.10000	0.1117
	18 Dibenzothiophene	184	9.109	9.112	(0.986)	2620	0.10000	0.1137
*	15 Phenanthrene-d10	188	9.235	9.235	(1.000)	52158	2.00000	
	16 Phenanthrene	178	9.270	9.273	(1.004)	3130	0.10000	0.1229
	17 Anthracene	178	9.311	9.314	(1.008)	2582	0.10000	0.1116
	19 Carbazole	167	9.823	9.826	(1.064)	2339	0.10000	0.1102
	20 1-Methylphenanthrene	192	10.048	10.051	(1.088)	2073	0.10000	0.1129
	22 Fluoranthene	202	11.053	11.056	(1.197)	3132	0.10000	0.1129
$	21 Fluoranthene-d10	212	11.015	11.018	(1.193)	2349	0.10000	0.1021
	23 Pyrene	202	11.572	11.575	(0.815)	3183	0.10000	0.1142
	24 Benzo(a)anthracene	228	14.073	14.079	(0.991)	2698	0.10000	0.1068
*	25 Chrysene-d12	240	14.203	14.206	(1.000)	44953	2.00000	
	27 Chrysene	228	14.275	14.282	(1.005)	3107	0.10000	0.1155
	28 Benzo(b)fluoranthene	252	16.821	16.833	(0.929)	2781	0.10000	0.1147
	29 Benzo(k)fluoranthene	252	16.881	16.897	(0.932)	2763	0.10000	0.1163
	30 Benzo(j)fluoranthene	252	16.960	16.972	(0.936)	2275	0.10000	0.1064
	31 Total Benzofluoranthenes	252	16.821	16.833	(0.929)	7840	0.30000	0.3414(M)
	34 Benzo(e)pyrene	252	17.747	17.760	(0.980)	2886	0.10000	0.1194
	32 Benzo(a)pyrene	252	17.874	17.889	(0.987)	2373	0.10000	0.1112
*	33 Perylene-d12	264	18.111	18.114	(1.000)	41635	2.00000	
	35 Perylene	252	18.184	18.193	(1.004)	2685	0.10000	0.1173

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
$ 36 Dibenzo(a,h)anthracene-d14	292	20.546	20.565	(1.134)	1208	0.10000	0.09040(M)
37 Indeno(1,2,3-cd)pyrene	276	20.666	20.691	(1.141)	2516	0.10000	0.1035
38 Dibenzo(a,h)anthracene	278	20.666	20.685	(1.141)	2184	0.10000	0.1044
39 Benzo(g,h,i)perylene	276	21.757	21.782	(1.201)	2421	0.10000	0.1099

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823011903.D
Lab Smp Id: SLA0213-CAL1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230119.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 19-JAN-2023
Calibration Time: 12:52
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	44704	22352	89408	46132	3.19
10 Acenaphthene-d10	26411	13206	52822	27261	3.22
15 Phenanthrene-d10	49210	24605	98420	52158	5.99
25 Chrysene-d12	42994	21497	85988	44953	4.56
33 Perylene-d12	40520	20260	81040	41635	2.75

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.91	4.41	5.41	4.91	0.00
10 Acenaphthene-d10	7.20	6.70	7.70	7.20	0.00
15 Phenanthrene-d10	9.24	8.74	9.74	9.24	0.00
25 Chrysene-d12	14.20	13.70	14.70	14.20	0.00
33 Perylene-d12	18.11	17.61	18.61	18.11	0.00

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

REVIEW SUMMARY FOR FILE - N823011903.D

Lab ID: SLA0213-CAL1
nt8.i, 20230119.b\FSIMPNA230119.m,   19-JAN-2023 11:26

RT	CO-ELUTION COMPOUNDS
20.666	Indeno(1,2,3-cd)pyrene and Dibenzo(a,h)anthracene
20.666	Dibenzo(a,h)anthracene and Indeno(1,2,3-cd)pyrene

Quant Method: ICAL

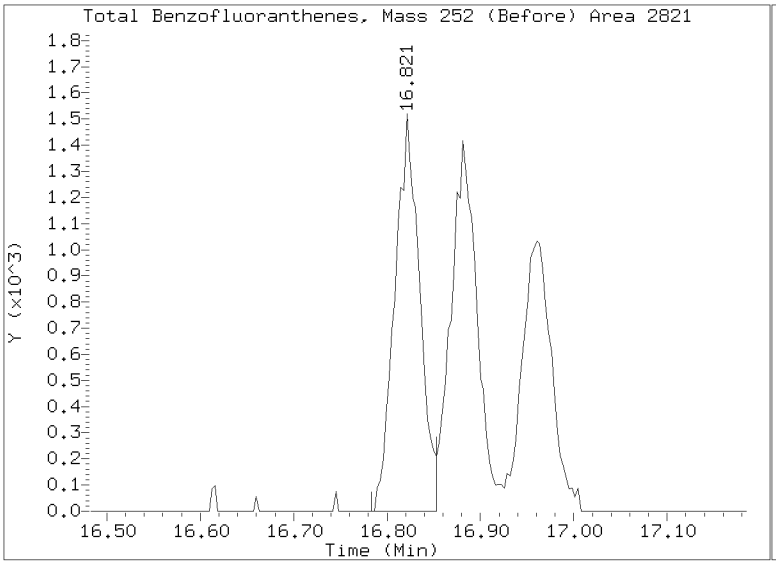
No RRT check performed

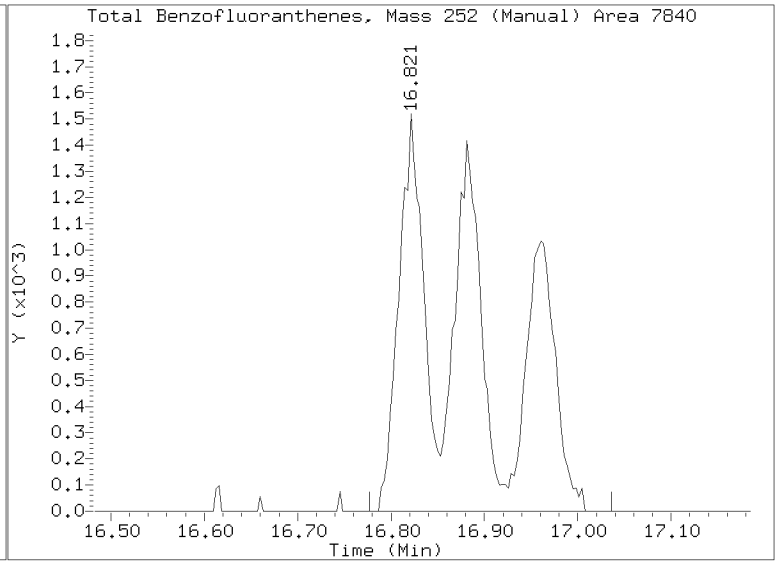
On Column LOD for nt8.i, 20230119.b\FSIMPNA230119.m, FSIMPNAICLA.sub = 0.0000

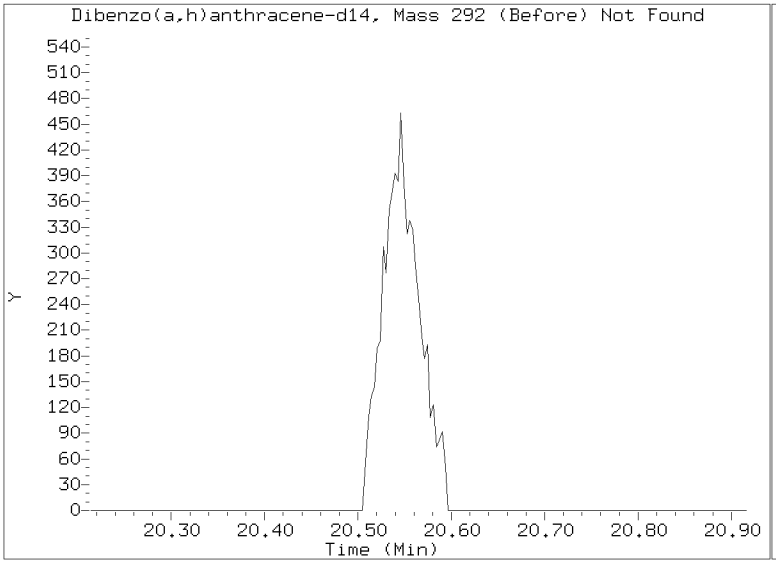
* Only compounds listed in the work order have been verified by the analyst *

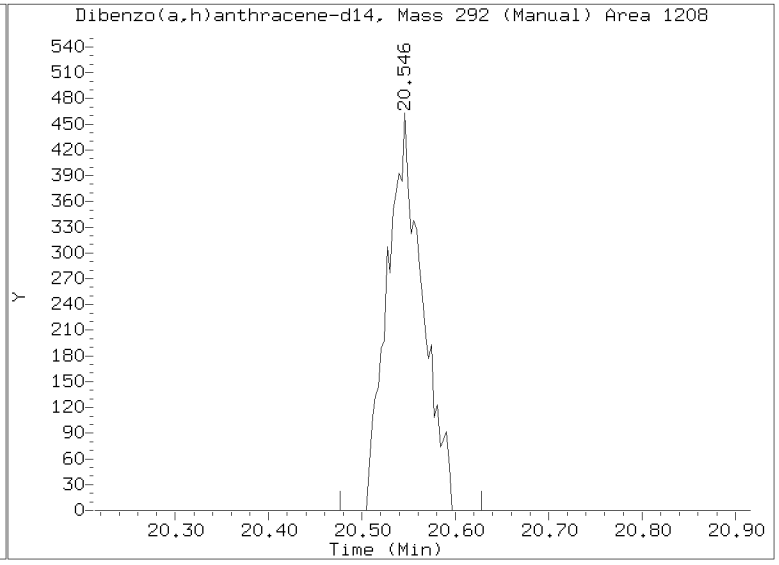
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20230119.b/N823011903.D
Injection Date: 19-JAN-2023 11:26
Lab ID:SLA0213-CAL1 Client ID:
Report Date: 01/19/2023 20:12









Data File: \\target\share\chem3\nt8.i\20230119.b\N823011904.D

Date : 19-JAN-2023 11:58

Client ID:

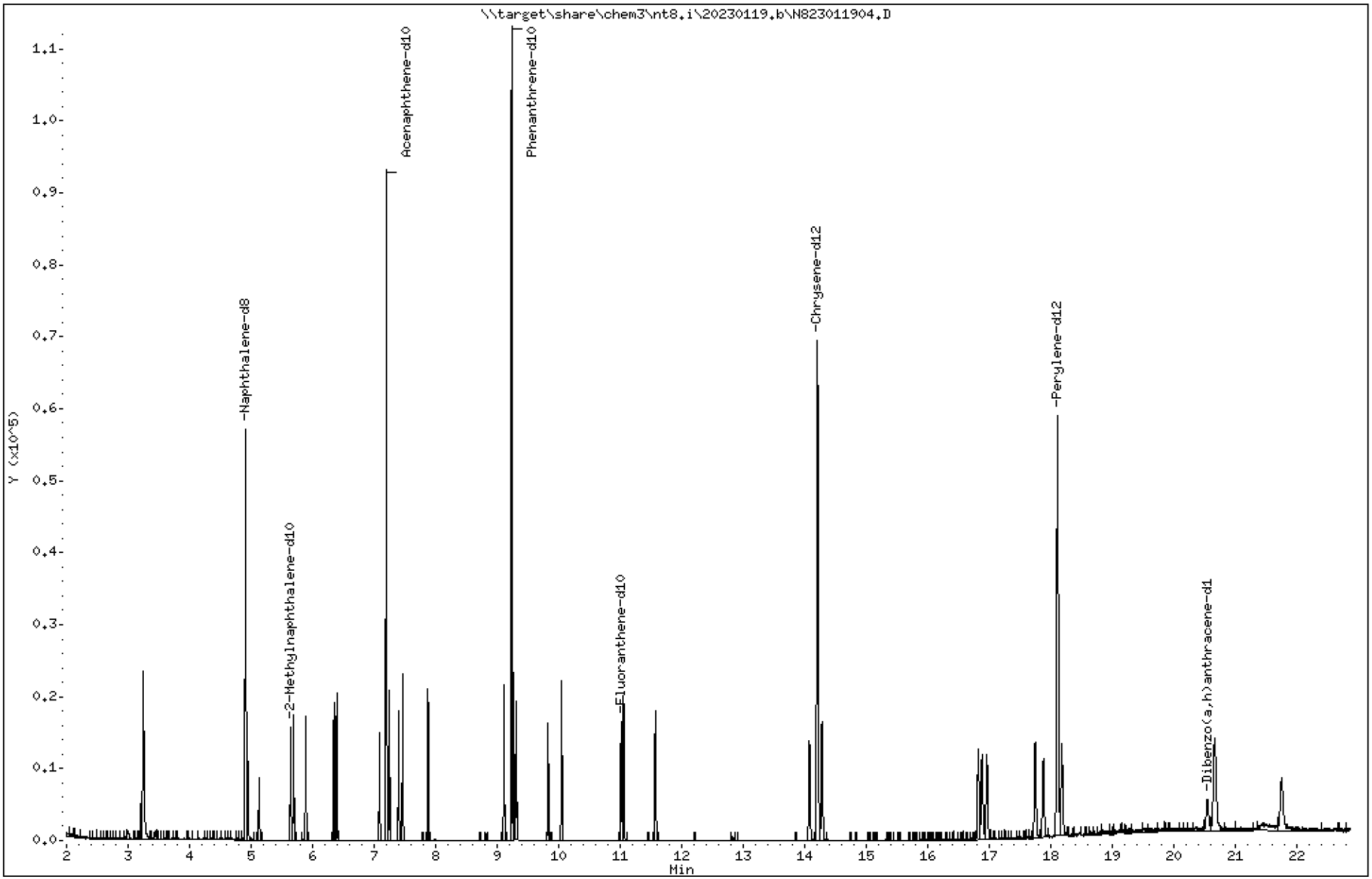
Instrument: nt8.i

Sample Info: IC05230119,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230119.b\N823011904.D
Lab Smp Id: SLA0213-CAL2
Inj Date : 19-JAN-2023 11:58
Operator : JZ Inst ID: nt8.i
Smp Info : IC05230119,
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230119.b\FSIMPNA230119.m
Meth Date : 19-Jan-2023 20:10 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICLA.sub
Target Version: 4.14
Processing Host: JIANQING-202105

								AMOUNTS	
		QUANT SIG						CAL-AMT	ON-COL
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE		(ug/mL)	(ug/mL)
*	1 Naphthalene-d8	136	4.913	4.906	(1.000)	45056		2.00000	
	2 Naphthalene	128	4.941	4.938	(1.006)	9917		0.50000	0.4734
$	3 2-Methylnaphthalene-d10	152	5.646	5.640	(1.149)	5556		0.50000	0.4522
	4 2-Methylnaphthalene	141	5.694	5.687	(1.159)	5447		0.50000	0.4727
	5 1-methylnaphthalene	141	5.890	5.887	(1.199)	5499		0.50000	0.4702
	7 Biphenyl	154	6.351	6.348	(0.882)	8183		0.50000	0.4638
	8 2,6-Dimethylnaphthalene	156	6.396	6.392	(0.888)	5677		0.50000	0.4546
	9 Acenaphthylene	152	7.091	7.088	(0.985)	8616		0.50000	0.4266
*	10 Acenaphthene-d10	164	7.199	7.196	(1.000)	26746		2.00000	
	11 Acenaphthene	153	7.249	7.246	(1.007)	6285		0.50000	0.4644
	12 Dibenzofuran	168	7.401	7.398	(1.028)	9690		0.50000	0.4714
	13 1,6,7-Trimethylnaphthalene	170	7.464	7.464	(1.037)	5886		0.50000	0.4541
	14 Fluorene	166	7.879	7.875	(1.094)	7132		0.50000	0.4468
	18 Dibenzothiophene	184	9.112	9.112	(0.986)	10291		0.50000	0.4588
*	15 Phenanthrene-d10	188	9.238	9.235	(1.000)	50759		2.00000	
	16 Phenanthrene	178	9.273	9.273	(1.004)	11508		0.50000	0.4641
	17 Anthracene	178	9.314	9.314	(1.008)	10014		0.50000	0.4446
	19 Carbazole	167	9.829	9.826	(1.064)	9050		0.50000	0.4383
	20 1-Methylphenanthrene	192	10.051	10.051	(1.088)	7947		0.50000	0.4448
	22 Fluoranthene	202	11.056	11.056	(1.197)	12335		0.50000	0.4570
$	21 Fluoranthene-d10	212	11.018	11.018	(1.193)	9575		0.50000	0.4276
	23 Pyrene	202	11.575	11.575	(0.815)	11906		0.50000	0.4300
	24 Benzo(a)anthracene	228	14.079	14.079	(0.991)	10516		0.50000	0.4190
*	25 Chrysene-d12	240	14.209	14.206	(1.000)	44658		2.00000	
	27 Chrysene	228	14.278	14.282	(1.005)	12076		0.50000	0.4520
	28 Benzo(b)fluoranthene	252	16.827	16.833	(0.929)	10402		0.50000	0.4196
	29 Benzo(k)fluoranthene	252	16.887	16.897	(0.932)	10575		0.50000	0.4355
	30 Benzo(j)fluoranthene	252	16.963	16.972	(0.936)	9796		0.50000	0.4481
	31 Total Benzofluoranthenes	252	16.827	16.833	(0.929)	29834		1.50000	1.271(M)
	34 Benzo(e)pyrene	252	17.753	17.760	(0.980)	10884		0.50000	0.4403
	32 Benzo(a)pyrene	252	17.883	17.889	(0.987)	9341		0.50000	0.4282
*	33 Perylene-d12	264	18.114	18.114	(1.000)	42567		2.00000	
	35 Perylene	252	18.187	18.193	(1.004)	10227		0.50000	0.4368

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
$ 36 Dibenzo(a,h)anthracene-d14	292	20.549	20.565	(1.134)	5823	0.50000	0.4262(M)
37 Indeno(1,2,3-cd)pyrene	276	20.675	20.691	(1.141)	10592	0.50000	0.4262
38 Dibenzo(a,h)anthracene	278	20.666	20.685	(1.141)	8884	0.50000	0.4154(M)
39 Benzo(g,h,i)perylene	276	21.760	21.782	(1.201)	9687	0.50000	0.4302

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823011904.D
Lab Smp Id: SLA0213-CAL2
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230119.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 19-JAN-2023
Calibration Time: 12:52
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	44704	22352	89408	45056	0.79
10 Acenaphthene-d10	26411	13206	52822	26746	1.27
15 Phenanthrene-d10	49210	24605	98420	50759	3.15
25 Chrysene-d12	42994	21497	85988	44658	3.87
33 Perylene-d12	40520	20260	81040	42567	5.05

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.91	4.41	5.41	4.91	0.13
10 Acenaphthene-d10	7.20	6.70	7.70	7.20	0.04
15 Phenanthrene-d10	9.24	8.74	9.74	9.24	0.03
25 Chrysene-d12	14.20	13.70	14.70	14.21	0.04
33 Perylene-d12	18.11	17.61	18.61	18.11	0.02

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

REVIEW SUMMARY FOR FILE - N823011904.D

Lab ID: SLA0213-CAL2
nt8.i, 20230119.b\FSIMPNA230119.m,   19-JAN-2023 11:58

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

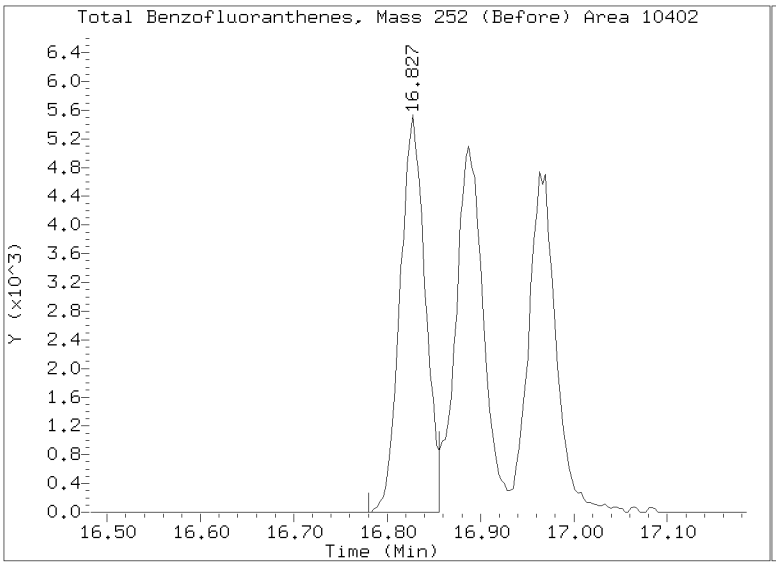
No RRT check performed

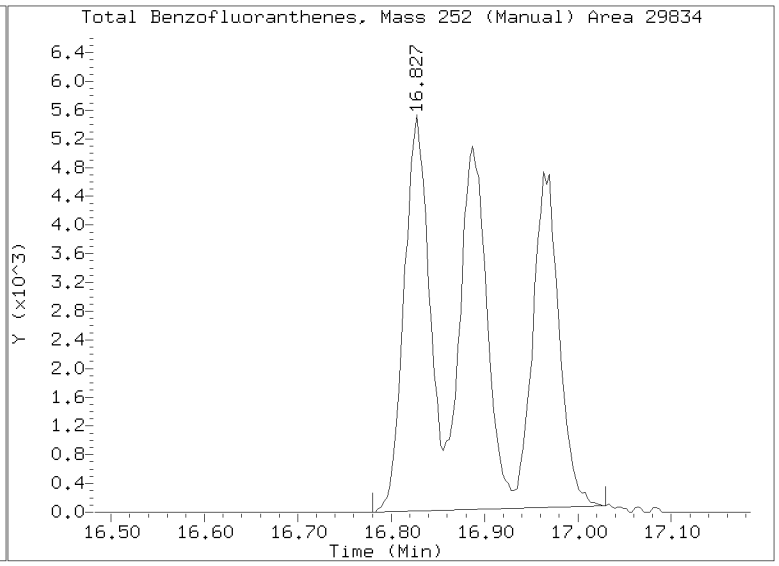
On Column LOD for nt8.i, 20230119.b\FSIMPNA230119.m, FSIMPNAICLA.sub = 0.0000

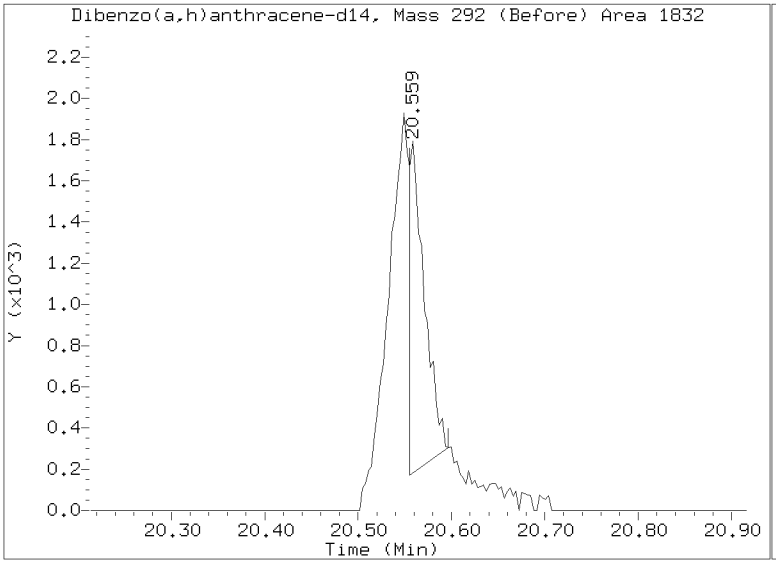
* Only compounds listed in the work order have been verified by the analyst *

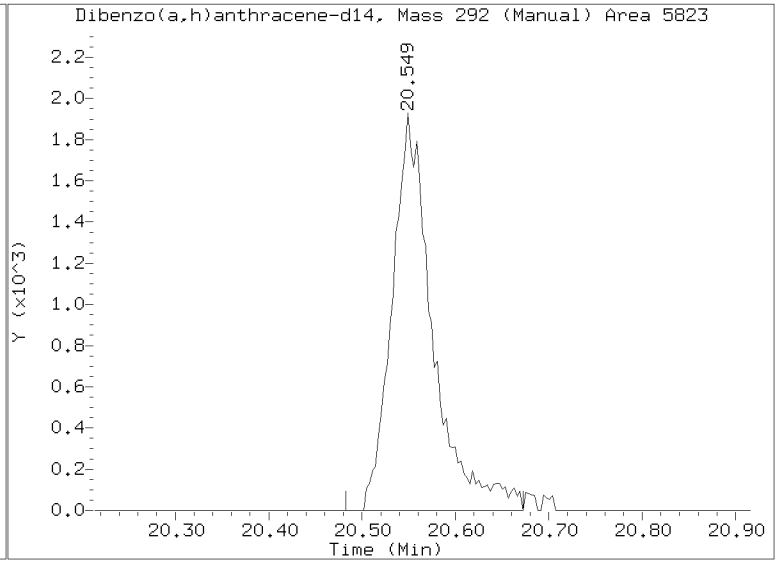
Quant Ion Manual Peak Adjustment Report

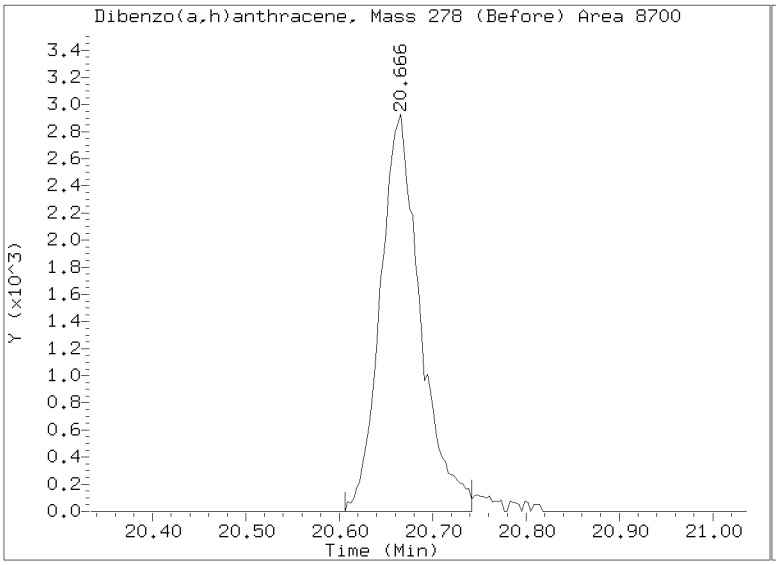
Datafile: //target/share/chem3/nt8.i/20230119.b/N823011904.D
Injection Date: 19-JAN-2023 11:58
Lab ID:SLA0213-CAL2 Client ID:
Report Date: 01/19/2023 20:12

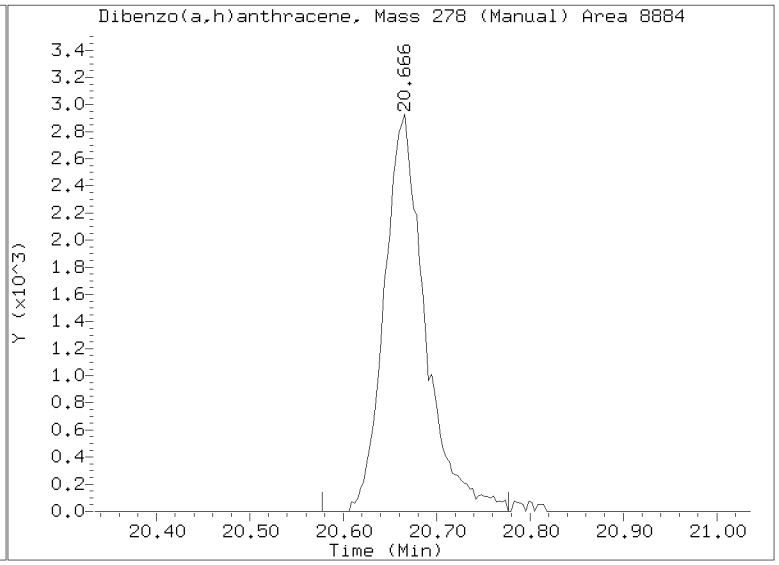






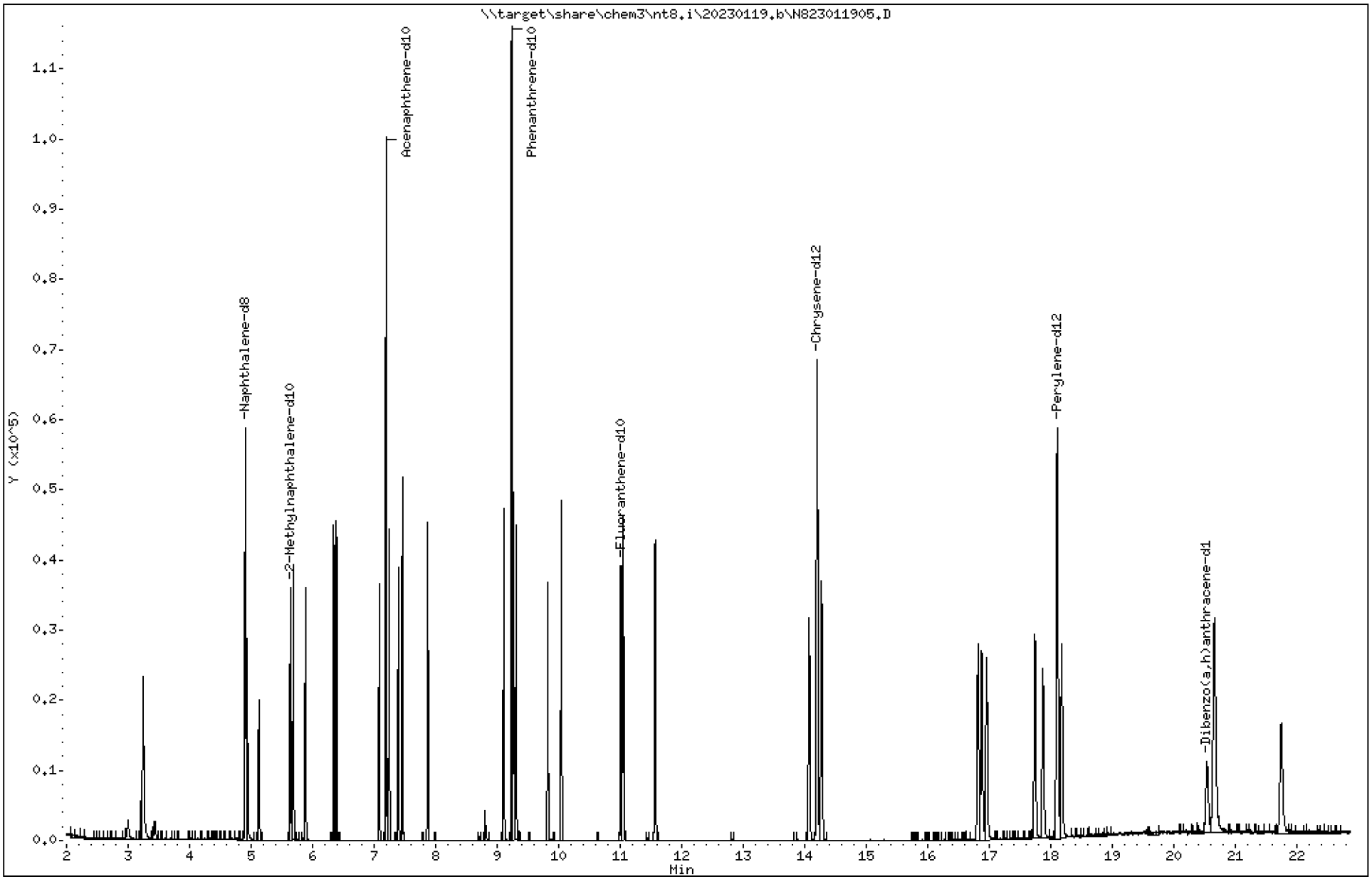






Data File: \\target\share\chem3\nt8.i\20230119.b\N823011905.D
Date : 19-JAN-2023 12:25
Client ID:
Sample Info: IC1230119,

Instrument: nt8.i
Operator: JZ
Column phase: Rxi-17sil
Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230119.b\N823011905.D
Lab Smp Id: SLA0213-CAL3
Inj Date : 19-JAN-2023 12:25
Operator : JZ Inst ID: nt8.i
Smp Info : IC1230119,
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230119.b\FSIMPNA230119.m
Meth Date : 19-Jan-2023 20:10 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICLA.sub
Target Version: 4.14
Processing Host: JIANQING-202105

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
*	1 Naphthalene-d8	136	4.906	4.906	(1.000)	47180	2.00000	
	2 Naphthalene	128	4.938	4.938	(1.006)	21563	1.00000	0.9830
$	3 2-Methylnaphthalene-d10	152	5.640	5.640	(1.150)	12609	1.00000	0.9799
	4 2-Methylnaphthalene	141	5.687	5.687	(1.159)	11715	1.00000	0.9709
	5 1-methylnaphthalene	141	5.887	5.887	(1.200)	11968	1.00000	0.9773
	7 Biphenyl	154	6.345	6.348	(0.882)	17796	1.00000	0.9564
	8 2,6-Dimethylnaphthalene	156	6.389	6.392	(0.888)	12741	1.00000	0.9674
	9 Acenaphthylene	152	7.085	7.088	(0.985)	20021	1.00000	0.9400
*	10 Acenaphthene-d10	164	7.196	7.196	(1.000)	28206	2.00000	
	11 Acenaphthene	153	7.246	7.246	(1.007)	13666	1.00000	0.9576
	12 Dibenzofuran	168	7.395	7.398	(1.028)	20714	1.00000	0.9556
	13 1,6,7-Trimethylnaphthalene	170	7.461	7.464	(1.037)	12912	1.00000	0.9446
	14 Fluorene	166	7.875	7.875	(1.094)	16006	1.00000	0.9508
	18 Dibenzothiophene	184	9.109	9.112	(0.986)	22320	1.00000	0.9489
*	15 Phenanthrene-d10	188	9.235	9.235	(1.000)	53233	2.00000	
	16 Phenanthrene	178	9.270	9.273	(1.004)	24646	1.00000	0.9478
	17 Anthracene	178	9.311	9.314	(1.008)	22258	1.00000	0.9423
	19 Carbazole	167	9.823	9.826	(1.064)	20007	1.00000	0.9239
	20 1-Methylphenanthrene	192	10.048	10.051	(1.088)	17326	1.00000	0.9246
	22 Fluoranthene	202	11.050	11.056	(1.197)	27227	1.00000	0.9619
$	21 Fluoranthene-d10	212	11.015	11.018	(1.193)	21953	1.00000	0.9347
	23 Pyrene	202	11.572	11.575	(0.815)	26878	1.00000	0.9325
	24 Benzo(a)anthracene	228	14.076	14.079	(0.991)	23406	1.00000	0.8959
*	25 Chrysene-d12	240	14.203	14.206	(1.000)	46493	2.00000	
	27 Chrysene	228	14.275	14.282	(1.005)	26230	1.00000	0.9431
	28 Benzo(b)fluoranthene	252	16.824	16.833	(0.929)	22805	1.00000	0.8782
	29 Benzo(k)fluoranthene	252	16.881	16.897	(0.932)	22425	1.00000	0.8816
	30 Benzo(j)fluoranthene	252	16.960	16.972	(0.936)	20574	1.00000	0.8985
	31 Total Benzofluoranthenes	252	16.824	16.833	(0.929)	64985	3.00000	2.642(M)
	34 Benzo(e)pyrene	252	17.750	17.760	(0.980)	23026	1.00000	0.8892
	32 Benzo(a)pyrene	252	17.877	17.889	(0.987)	19956	1.00000	0.8733
*	33 Perylene-d12	264	18.111	18.114	(1.000)	44587	2.00000	
	35 Perylene	252	18.184	18.193	(1.004)	22015	1.00000	0.8978

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
$ 36 Dibenzo(a,h)anthracene-d14	292	20.549	20.565	(1.135)	13546	1.00000	0.9466
37 Indeno(1,2,3-cd)pyrene	276	20.672	20.691	(1.141)	23911	1.00000	0.9185
38 Dibenzo(a,h)anthracene	278	20.656	20.685	(1.141)	19954	1.00000	0.8907
39 Benzo(g,h,i)perylene	276	21.747	21.782	(1.201)	20977	1.00000	0.8894

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823011905.D
Lab Smp Id: SLA0213-CAL3
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230119.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 19-JAN-2023
Calibration Time: 12:52
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	44704	22352	89408	47180	5.54
10 Acenaphthene-d10	26411	13206	52822	28206	6.80
15 Phenanthrene-d10	49210	24605	98420	53233	8.18
25 Chrysene-d12	42994	21497	85988	46493	8.14
33 Perylene-d12	40520	20260	81040	44587	10.04

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.91	4.41	5.41	4.91	0.00
10 Acenaphthene-d10	7.20	6.70	7.70	7.20	0.00
15 Phenanthrene-d10	9.24	8.74	9.74	9.24	0.00
25 Chrysene-d12	14.20	13.70	14.70	14.20	0.00
33 Perylene-d12	18.11	17.61	18.61	18.11	0.00

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

REVIEW SUMMARY FOR FILE - N823011905.D

Lab ID: SLA0213-CAL3
nt8.i, 20230119.b\FSIMPNA230119.m,   19-JAN-2023 12:25

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

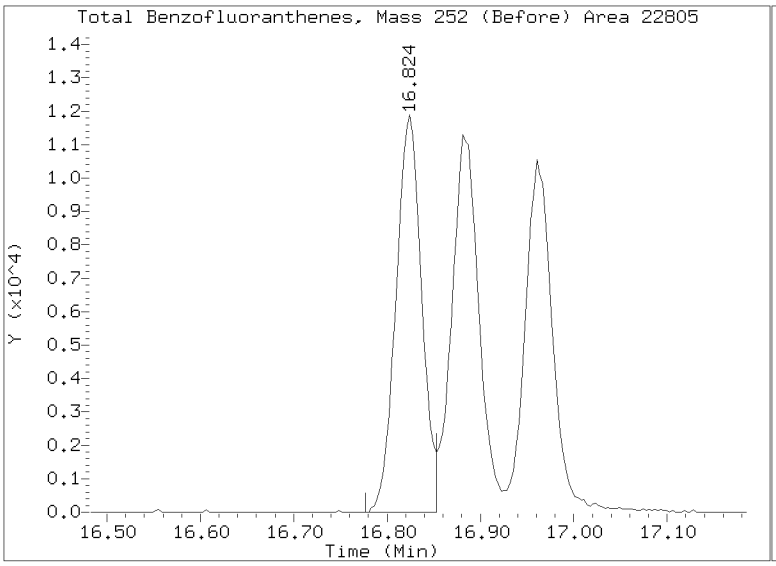
No RRT check performed

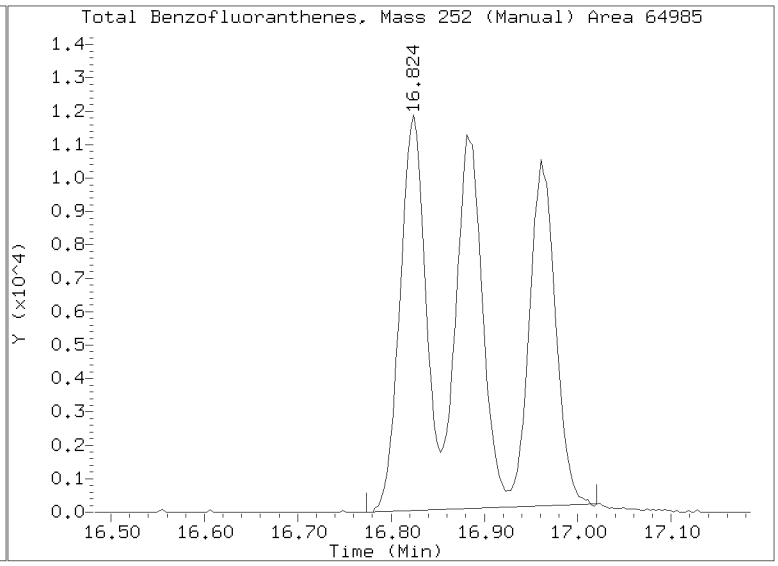
On Column LOD for nt8.i, 20230119.b\FSIMPNA230119.m, FSIMPNAICLA.sub = 0.0000

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

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20230119.b/N823011905.D
Injection Date: 19-JAN-2023 12:25
Lab ID:SLA0213-CAL3 Client ID:
Report Date: 01/19/2023 20:12

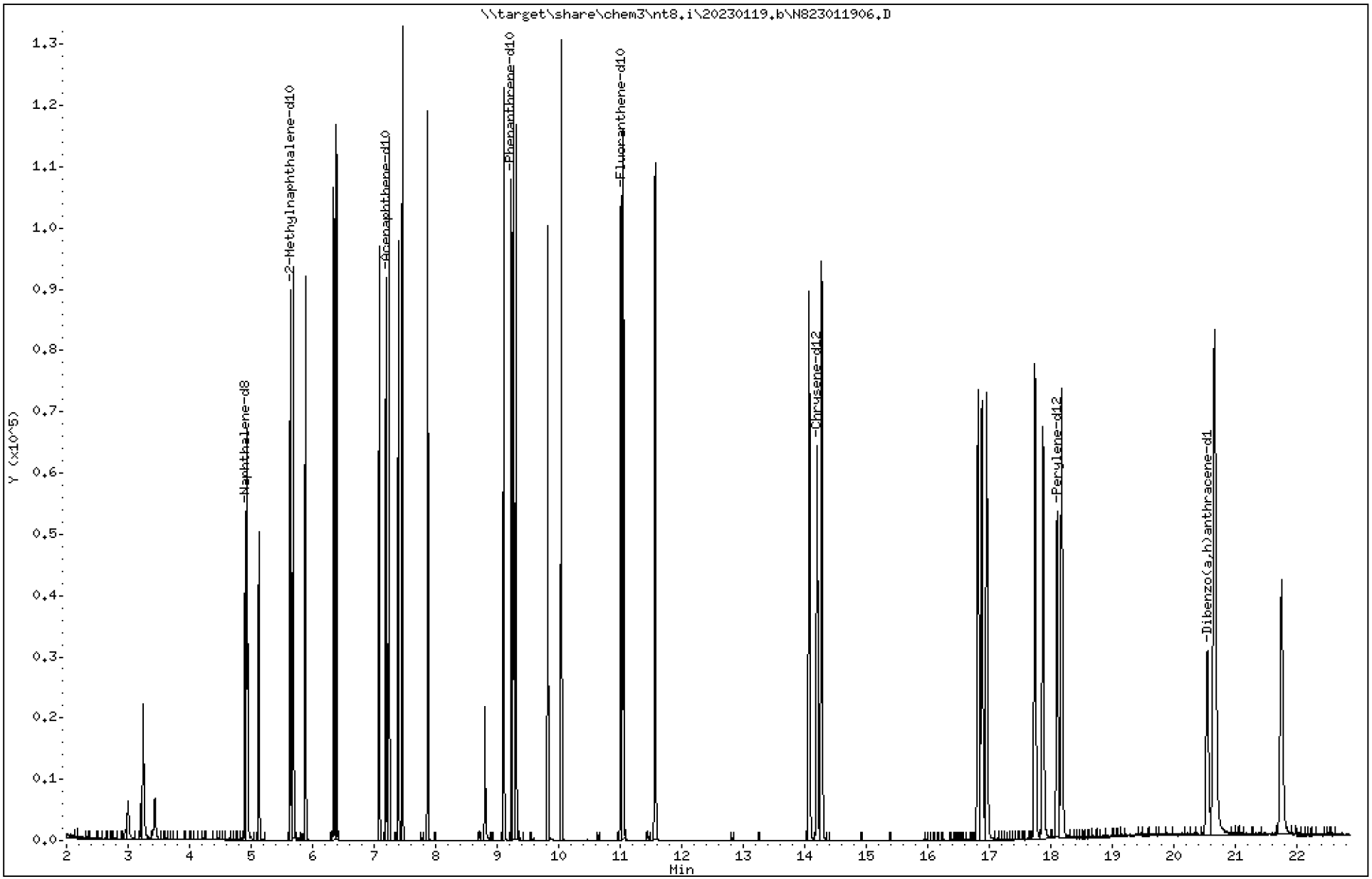




Data File: \\target\share\chem3\nt8.i\20230119.b\N823011906.D
Date : 19-JAN-2023 12:52
Client ID:
Sample Info: IC25230119,

Instrument: nt8.i
Operator: JZ
Column diameter: 0.25

Column phase: Rxi-17sil



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230119.b\N823011906.D
Lab Smp Id: SLA0213-CAL4
Inj Date : 19-JAN-2023 12:52
Operator : JZ Inst ID: nt8.i
Smp Info : IC25230119,
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230119.b\FSIMPNA230119.m
Meth Date : 19-Jan-2023 20:10 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICLA.sub
Target Version: 4.14
Processing Host: JIANQING-202105

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
*	1 Naphthalene-d8	136	4.906	4.906	(1.000)	44704	2.00000	
	2 Naphthalene	128	4.938	4.938	(1.006)	52764	2.50000	2.538
$	3 2-Methylnaphthalene-d10	152	5.640	5.640	(1.150)	31709	2.50000	2.601
	4 2-Methylnaphthalene	141	5.687	5.687	(1.159)	29737	2.50000	2.601
	5 1-methylnaphthalene	141	5.883	5.887	(1.199)	30098	2.50000	2.594
	7 Biphenyl	154	6.345	6.348	(0.882)	44716	2.50000	2.566
	8 2,6-Dimethylnaphthalene	156	6.389	6.392	(0.888)	32396	2.50000	2.627
	9 Acenaphthylene	152	7.085	7.088	(0.985)	53242	2.50000	2.670
*	10 Acenaphthene-d10	164	7.196	7.196	(1.000)	26411	2.00000	
	11 Acenaphthene	153	7.246	7.246	(1.007)	34335	2.50000	2.569
	12 Dibenzofuran	168	7.395	7.398	(1.028)	50810	2.50000	2.503
	13 1,6,7-Trimethylnaphthalene	170	7.461	7.464	(1.037)	33264	2.50000	2.599
	14 Fluorene	166	7.872	7.875	(1.094)	40499	2.50000	2.569
	18 Dibenzothiophene	184	9.109	9.112	(0.986)	56399	2.50000	2.594
*	15 Phenanthrene-d10	188	9.235	9.235	(1.000)	49210	2.00000	
	16 Phenanthrene	178	9.270	9.273	(1.004)	61033	2.50000	2.539
	17 Anthracene	178	9.311	9.314	(1.008)	57918	2.50000	2.652
	19 Carbazole	167	9.823	9.826	(1.064)	52870	2.50000	2.641
	20 1-Methylphenanthrene	192	10.048	10.051	(1.088)	45452	2.50000	2.624
	22 Fluoranthene	202	11.053	11.056	(1.197)	68546	2.50000	2.620
$	21 Fluoranthene-d10	212	11.015	11.018	(1.193)	58746	2.50000	2.706
	23 Pyrene	202	11.572	11.575	(0.815)	69587	2.50000	2.611
	24 Benzo(a)anthracene	228	14.076	14.079	(0.991)	63802	2.50000	2.641
*	25 Chrysene-d12	240	14.202	14.206	(1.000)	42994	2.00000	
	27 Chrysene	228	14.278	14.282	(1.005)	65955	2.50000	2.564
	28 Benzo(b)fluoranthene	252	16.821	16.833	(0.929)	61818	2.50000	2.620
	29 Benzo(k)fluoranthene	252	16.884	16.897	(0.932)	59716	2.50000	2.583
	30 Benzo(j)fluoranthene	252	16.963	16.972	(0.937)	54944	2.50000	2.640
	31 Total Benzofluoranthenes	252	16.821	16.833	(0.929)	176122	7.50000	7.880(M)
	34 Benzo(e)pyrene	252	17.747	17.760	(0.980)	60179	2.50000	2.557
	32 Benzo(a)pyrene	252	17.877	17.889	(0.987)	54569	2.50000	2.628
*	33 Perylene-d12	264	18.111	18.114	(1.000)	40520	2.00000	
	35 Perylene	252	18.183	18.193	(1.004)	57968	2.50000	2.601

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
$ 36 Dibenzo(a,h)anthracene-d14	292	20.552	20.565	(1.135)	37101	2.50000	2.853
37 Indeno(1,2,3-cd)pyrene	276	20.675	20.691	(1.142)	63691	2.50000	2.692
38 Dibenzo(a,h)anthracene	278	20.662	20.685	(1.141)	54772	2.50000	2.690
39 Benzo(g,h,i)perylene	276	21.756	21.782	(1.201)	56053	2.50000	2.615

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823011906.D
Lab Smp Id: SLA0213-CAL4
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230119.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 19-JAN-2023
Calibration Time: 12:52
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	44704	22352	89408	44704	0.00
10 Acenaphthene-d10	26411	13206	52822	26411	0.00
15 Phenanthrene-d10	49210	24605	98420	49210	0.00
25 Chrysene-d12	42994	21497	85988	42994	0.00
33 Perylene-d12	40520	20260	81040	40520	0.00

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.91	4.41	5.41	4.91	0.00
10 Acenaphthene-d10	7.20	6.70	7.70	7.20	0.00
15 Phenanthrene-d10	9.24	8.74	9.74	9.24	0.00
25 Chrysene-d12	14.20	13.70	14.70	14.20	0.00
33 Perylene-d12	18.11	17.61	18.61	18.11	0.00

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

REVIEW SUMMARY FOR FILE - N823011906.D

Lab ID: SLA0213-CAL4
nt8.i, 20230119.b\FSIMPNA230119.m,   19-JAN-2023 12:52

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

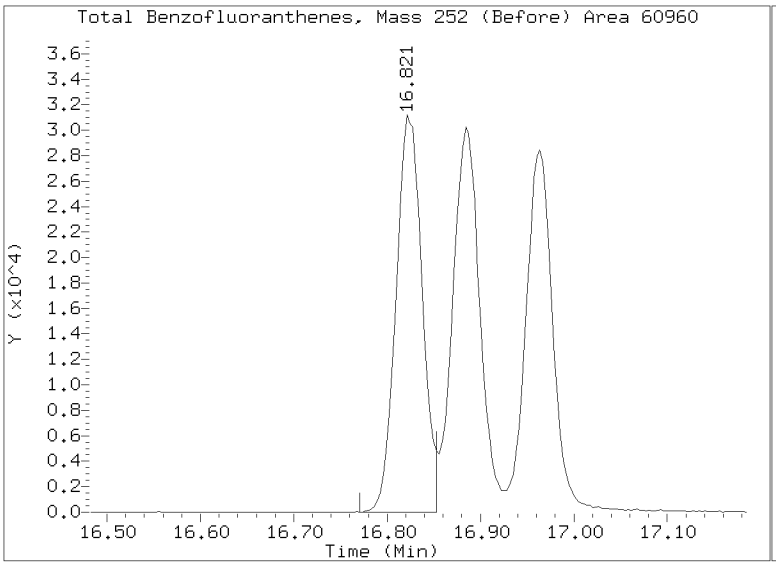
No RRT check performed

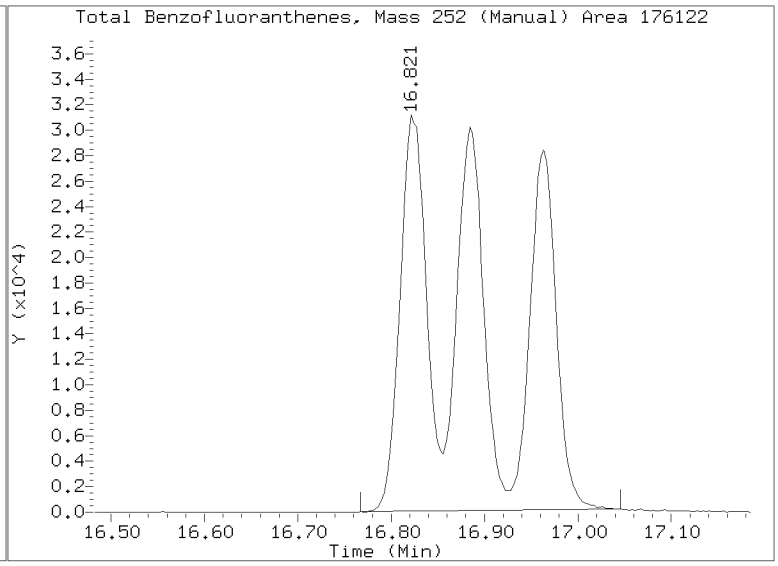
On Column LOD for nt8.i, 20230119.b\FSIMPNA230119.m, FSIMPNAICLA.sub = 0.0000

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

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20230119.b/N823011906.D
Injection Date: 19-JAN-2023 12:52
Lab ID:SLA0213-CAL4 Client ID:
Report Date: 01/19/2023 20:12

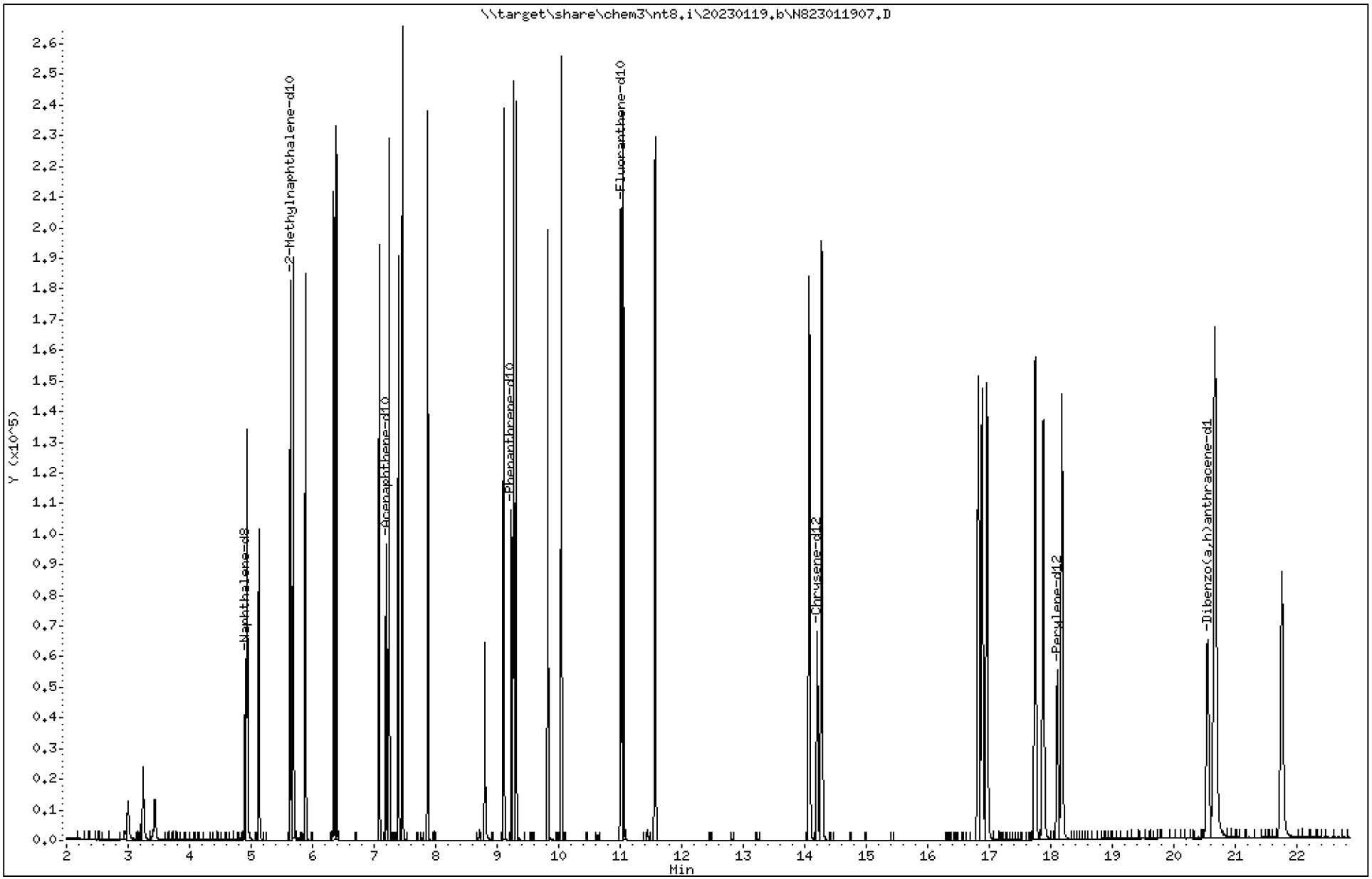




Data File: \\target\share\chem3\nt8.i\20230119.b\N823011907.D
Date : 19-JAN-2023 13:19
Client ID:
Sample Info: IC5230119,

Instrument: nt8.i
Operator: JZ
Column diameter: 0.25

Column phase: Rxi-17sil



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230119.b\N823011907.D
Lab Smp Id: SLA0213-CAL5
Inj Date : 19-JAN-2023 13:19
Operator : JZ Inst ID: nt8.i
Smp Info : IC5230119,
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230119.b\FSIMPNA230119.m
Meth Date : 19-Jan-2023 20:10 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICLA.sub
Target Version: 4.14
Processing Host: JIANQING-202105

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
*	1 Naphthalene-d8	136	4.909	4.906	(1.000)	46542	2.00000	
	2 Naphthalene	128	4.938	4.938	(1.006)	105414	5.00000	4.871
$	3 2-Methylnaphthalene-d10	152	5.640	5.640	(1.149)	64045	5.00000	5.046
	4 2-Methylnaphthalene	141	5.687	5.687	(1.158)	59129	5.00000	4.967
	5 1-methylnaphthalene	141	5.887	5.887	(1.199)	59615	5.00000	4.935
	7 Biphenyl	154	6.345	6.348	(0.882)	88014	5.00000	4.827
	8 2,6-Dimethylnaphthalene	156	6.389	6.392	(0.888)	64484	5.00000	4.997
	9 Acenaphthylene	152	7.085	7.088	(0.985)	108746	5.00000	5.211
*	10 Acenaphthene-d10	164	7.196	7.196	(1.000)	27638	2.00000	
	11 Acenaphthene	153	7.246	7.246	(1.007)	67894	5.00000	4.855
	12 Dibenzofuran	168	7.395	7.398	(1.028)	100768	5.00000	4.744
	13 1,6,7-Trimethylnaphthalene	170	7.461	7.464	(1.037)	65911	5.00000	4.921
	14 Fluorene	166	7.875	7.875	(1.094)	82420	5.00000	4.996
	18 Dibenzothiophene	184	9.109	9.112	(0.987)	112243	5.00000	4.946
*	15 Phenanthrene-d10	188	9.232	9.235	(1.000)	51351	2.00000	
	16 Phenanthrene	178	9.270	9.273	(1.004)	119248	5.00000	4.754
	17 Anthracene	178	9.311	9.314	(1.009)	114927	5.00000	5.044
	19 Carbazole	167	9.823	9.826	(1.064)	106758	5.00000	5.111
	20 1-Methylphenanthrene	192	10.048	10.051	(1.088)	90954	5.00000	5.032
	22 Fluoranthene	202	11.053	11.056	(1.197)	135256	5.00000	4.954
$	21 Fluoranthene-d10	212	11.015	11.018	(1.193)	119286	5.00000	5.265
	23 Pyrene	202	11.572	11.575	(0.815)	140705	5.00000	5.068
	24 Benzo(a)anthracene	228	14.076	14.079	(0.991)	132618	5.00000	5.270
*	25 Chrysene-d12	240	14.203	14.206	(1.000)	44781	2.00000	
	27 Chrysene	228	14.278	14.282	(1.005)	132750	5.00000	4.955
	28 Benzo(b)fluoranthene	252	16.827	16.833	(0.929)	125757	5.00000	5.118
	29 Benzo(k)fluoranthene	252	16.887	16.897	(0.932)	122821	5.00000	5.103
	30 Benzo(j)fluoranthene	252	16.966	16.972	(0.937)	113399	5.00000	5.234
	31 Total Benzofluoranthenes	252	16.827	16.833	(0.929)	361443	15.0000	15.53(M)
	34 Benzo(e)pyrene	252	17.750	17.760	(0.980)	121964	5.00000	4.978
	32 Benzo(a)pyrene	252	17.883	17.889	(0.987)	112121	5.00000	5.186
*	33 Perylene-d12	264	18.111	18.114	(1.000)	42187	2.00000	
	35 Perylene	252	18.187	18.193	(1.004)	116268	5.00000	5.011

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
$ 36 Dibenzo(a,h)anthracene-d14	292	20.555	20.565	(1.135)	78264	5.00000	5.780
37 Indeno(1,2,3-cd)pyrene	276	20.681	20.691	(1.142)	129575	5.00000	5.260
38 Dibenzo(a,h)anthracene	278	20.669	20.685	(1.141)	112698	5.00000	5.317
39 Benzo(g,h,i)perylene	276	21.763	21.782	(1.202)	114826	5.00000	5.145

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823011907.D
Lab Smp Id: SLA0213-CAL5
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230119.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 19-JAN-2023
Calibration Time: 12:52
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	44704	22352	89408	46542	4.11
10 Acenaphthene-d10	26411	13206	52822	27638	4.65
15 Phenanthrene-d10	49210	24605	98420	51351	4.35
25 Chrysene-d12	42994	21497	85988	44781	4.16
33 Perylene-d12	40520	20260	81040	42187	4.11

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.91	4.41	5.41	4.91	0.06
10 Acenaphthene-d10	7.20	6.70	7.70	7.20	0.00
15 Phenanthrene-d10	9.24	8.74	9.74	9.23	-0.03
25 Chrysene-d12	14.20	13.70	14.70	14.20	0.00
33 Perylene-d12	18.11	17.61	18.61	18.11	0.00

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

REVIEW SUMMARY FOR FILE - N823011907.D

Lab ID: SLA0213-CAL5
nt8.i, 20230119.b\FSIMPNA230119.m,   19-JAN-2023 13:19

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

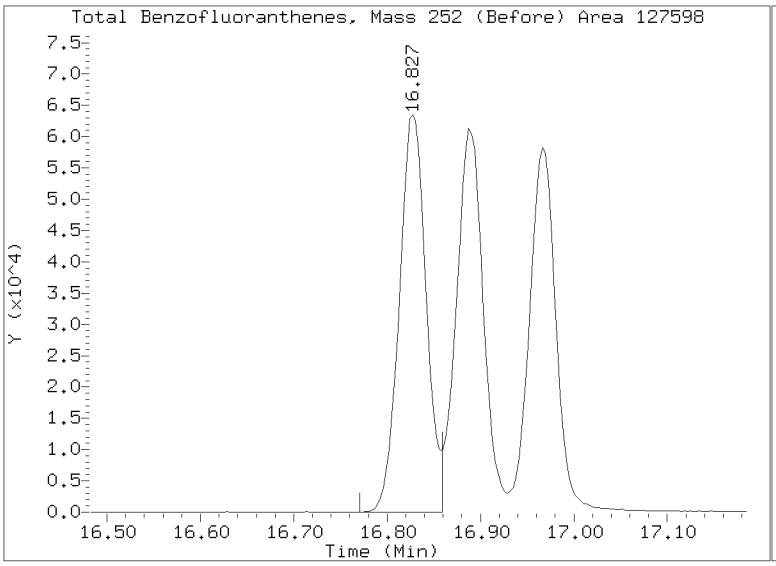
No RRT check performed

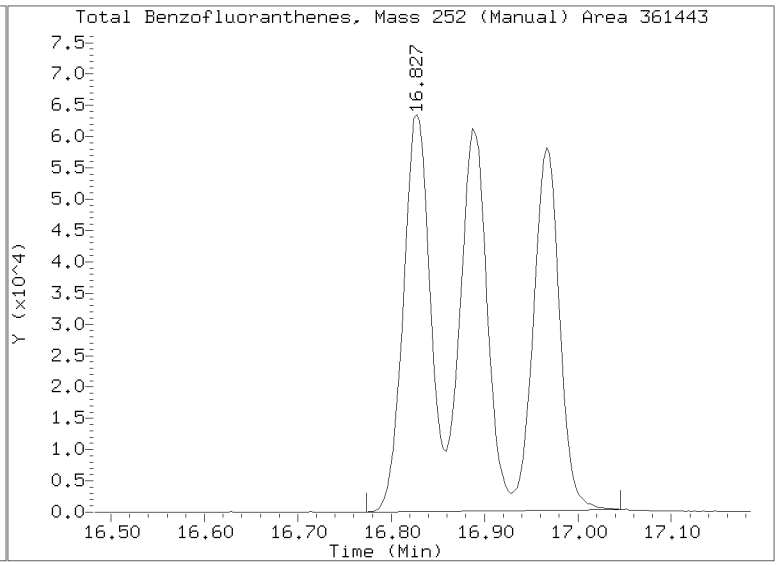
On Column LOD for nt8.i, 20230119.b\FSIMPNA230119.m, FSIMPNAICLA.sub = 0.0000

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

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20230119.b/N823011907.D
Injection Date: 19-JAN-2023 13:19
Lab ID:SLA0213-CAL5 Client ID:
Report Date: 01/19/2023 20:12

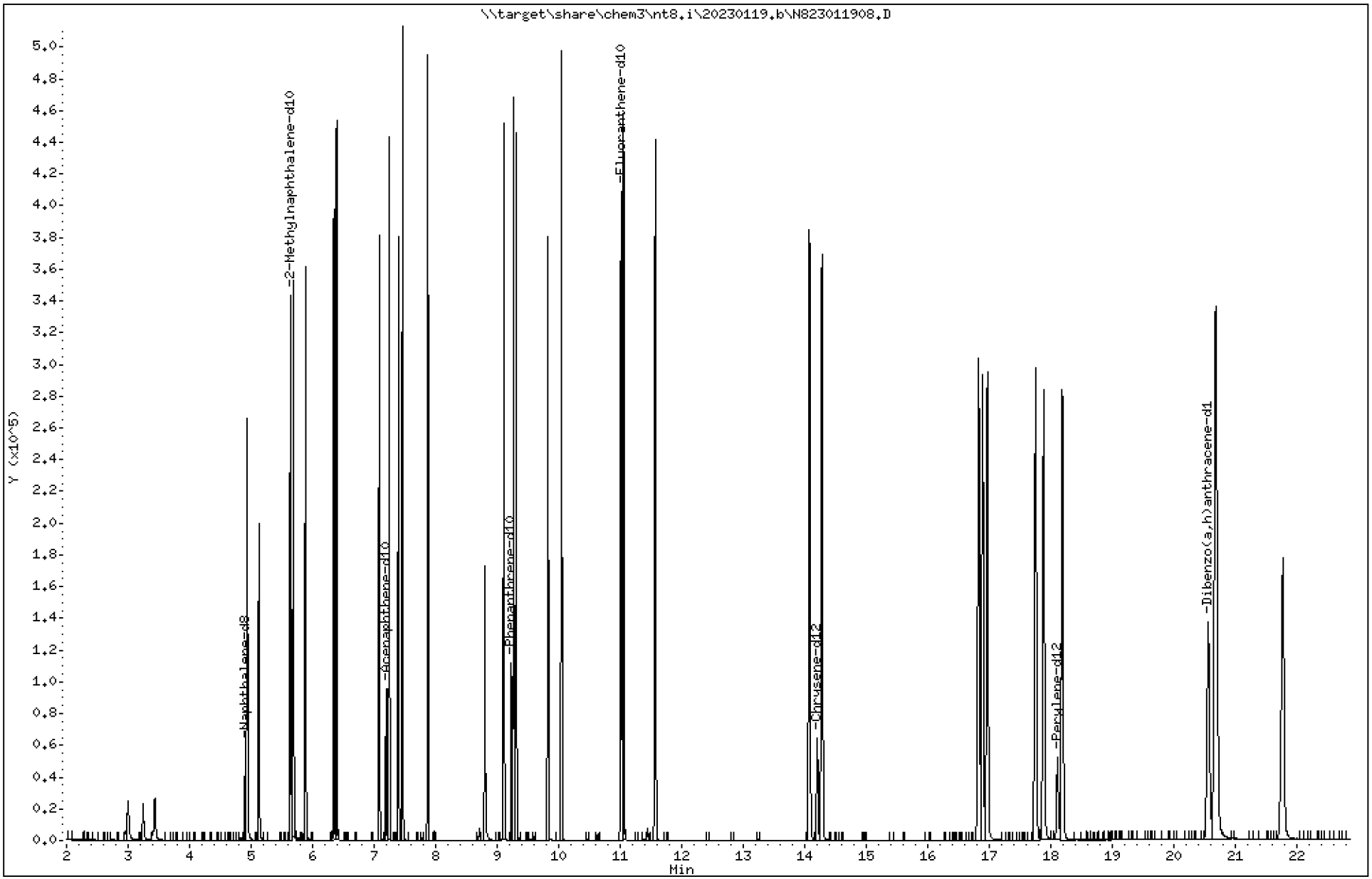




Data File: \\target\share\chem3\nt8.i\20230119.b\N823011908.D
Date : 19-JAN-2023 13:46
Client ID:
Sample Info: IC10230119,

Instrument: nt8.i
Operator: JZ
Column diameter: 0.25

Column phase: Rxi-17sil



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230119.b\N823011908.D
Lab Smp Id: SLA0213-CAL6
Inj Date : 19-JAN-2023 13:46
Operator : JZ Inst ID: nt8.i
Smp Info : IC10230119,
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230119.b\FSIMPNA230119.m
Meth Date : 19-Jan-2023 20:10 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICLA.sub
Target Version: 4.14
Processing Host: JIANQING-202105

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
*	1 Naphthalene-d8	136	4.906	4.906	(1.000)	46070	2.00000	
	2 Naphthalene	128	4.938	4.938	(1.006)	203510	10.0000	9.501
$	3 2-Methylnaphthalene-d10	152	5.640	5.640	(1.149)	124701	10.0000	9.925
	4 2-Methylnaphthalene	141	5.687	5.687	(1.159)	112895	10.0000	9.582
	5 1-methylnaphthalene	141	5.887	5.887	(1.200)	115357	10.0000	9.647
	7 Biphenyl	154	6.348	6.348	(0.882)	169086	10.0000	9.603
	8 2,6-Dimethylnaphthalene	156	6.392	6.392	(0.888)	124019	10.0000	9.952
	9 Acenaphthylene	152	7.088	7.088	(0.985)	213179	10.0000	10.58
*	10 Acenaphthene-d10	164	7.196	7.196	(1.000)	26689	2.00000	
	11 Acenaphthene	153	7.246	7.246	(1.007)	130872	10.0000	9.692
	12 Dibenzofuran	168	7.398	7.398	(1.028)	193532	10.0000	9.436
	13 1,6,7-Trimethylnaphthalene	170	7.464	7.464	(1.037)	127563	10.0000	9.863
	14 Fluorene	166	7.875	7.875	(1.094)	161125	10.0000	10.11
	18 Dibenzothiophene	184	9.112	9.112	(0.987)	217256	10.0000	9.701
*	15 Phenanthrene-d10	188	9.235	9.235	(1.000)	50683	2.00000	
	16 Phenanthrene	178	9.273	9.273	(1.004)	230002	10.0000	9.290
	17 Anthracene	178	9.314	9.314	(1.009)	221162	10.0000	9.834
	19 Carbazole	167	9.826	9.826	(1.064)	210036	10.0000	10.19
	20 1-Methylphenanthrene	192	10.051	10.051	(1.088)	178561	10.0000	10.01
	22 Fluoranthene	202	11.056	11.056	(1.197)	257643	10.0000	9.560
$	21 Fluoranthene-d10	212	11.018	11.018	(1.193)	235698	10.0000	10.54
	23 Pyrene	202	11.575	11.575	(0.815)	274116	10.0000	10.08
	24 Benzo(a)anthracene	228	14.079	14.079	(0.991)	268196	10.0000	10.88
*	25 Chrysene-d12	240	14.206	14.206	(1.000)	43880	2.00000	
	27 Chrysene	228	14.282	14.282	(1.005)	257418	10.0000	9.806
	28 Benzo(b)fluoranthene	252	16.833	16.833	(0.929)	252022	10.0000	10.64
	29 Benzo(k)fluoranthene	252	16.897	16.897	(0.933)	238915	10.0000	10.30
	30 Benzo(j)fluoranthene	252	16.972	16.972	(0.937)	216807	10.0000	10.38
	31 Total Benzofluoranthenes	252	16.833	16.833	(0.929)	704955	30.0000	31.43(M)
	34 Benzo(e)pyrene	252	17.760	17.760	(0.980)	240447	10.0000	10.18
	32 Benzo(a)pyrene	252	17.889	17.889	(0.988)	222990	10.0000	10.70
*	33 Perylene-d12	264	18.114	18.114	(1.000)	40659	2.00000	
	35 Perylene	252	18.193	18.193	(1.004)	226582	10.0000	10.13

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
$ 36 Dibenzo(a,h)anthracene-d14	292	20.564	20.565	(1.135)	162230	10.0000	12.43
37 Indeno(1,2,3-cd)pyrene	276	20.691	20.691	(1.142)	252895	10.0000	10.65
38 Dibenzo(a,h)anthracene	278	20.685	20.685	(1.142)	223771	10.0000	10.95
39 Benzo(g,h,i)perylene	276	21.782	21.782	(1.202)	231445	10.0000	10.76

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823011908.D
Lab Smp Id: SLA0213-CAL6
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230119.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 19-JAN-2023
Calibration Time: 12:52
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	44704	22352	89408	46070	3.06
10 Acenaphthene-d10	26411	13206	52822	26689	1.05
15 Phenanthrene-d10	49210	24605	98420	50683	2.99
25 Chrysene-d12	42994	21497	85988	43880	2.06
33 Perylene-d12	40520	20260	81040	40659	0.34

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.91	4.41	5.41	4.91	0.00
10 Acenaphthene-d10	7.20	6.70	7.70	7.20	0.00
15 Phenanthrene-d10	9.24	8.74	9.74	9.24	0.00
25 Chrysene-d12	14.20	13.70	14.70	14.21	0.02
33 Perylene-d12	18.11	17.61	18.61	18.11	0.02

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

REVIEW SUMMARY FOR FILE - N823011908.D

Lab ID: SLA0213-CAL6
nt8.i, 20230119.b\FSIMPNA230119.m,   19-JAN-2023 13:46

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

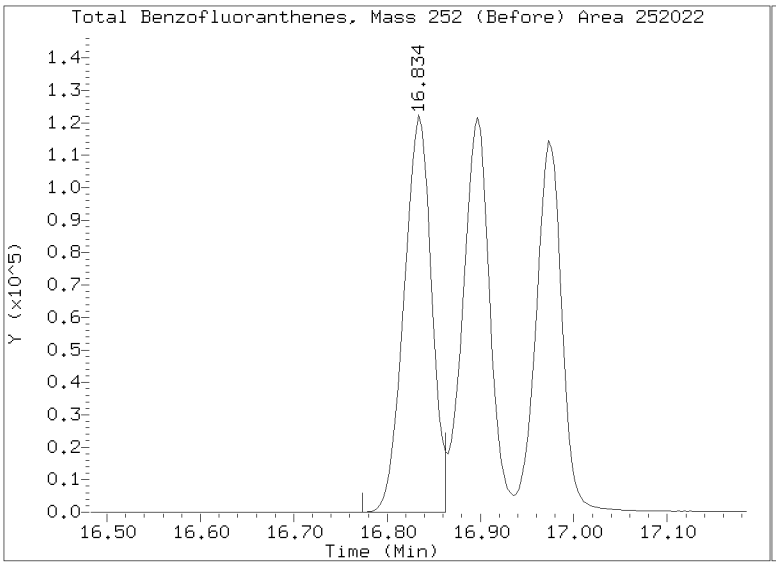
No RRT check performed

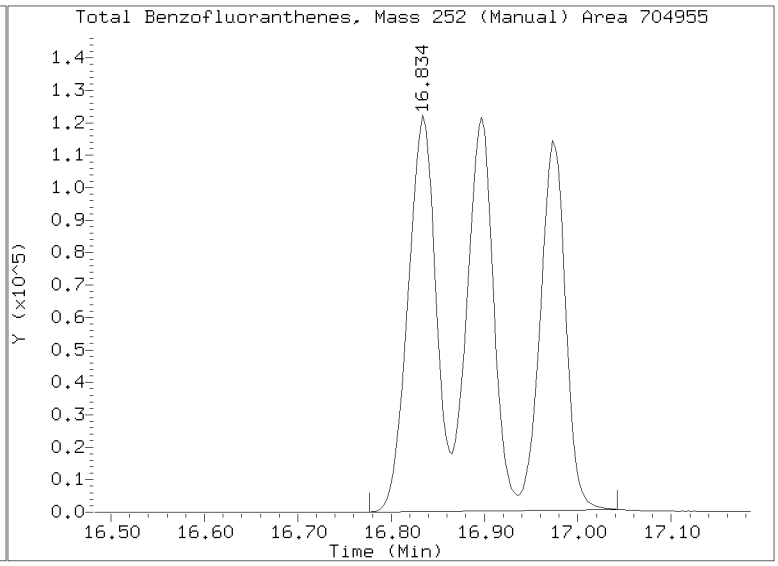
On Column LOD for nt8.i, 20230119.b\FSIMPNA230119.m, FSIMPNAICLA.sub = 0.0000

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

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20230119.b/N823011908.D
Injection Date: 19-JAN-2023 13:46
Lab ID:SLA0213-CAL6 Client ID:
Report Date: 01/19/2023 20:12





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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

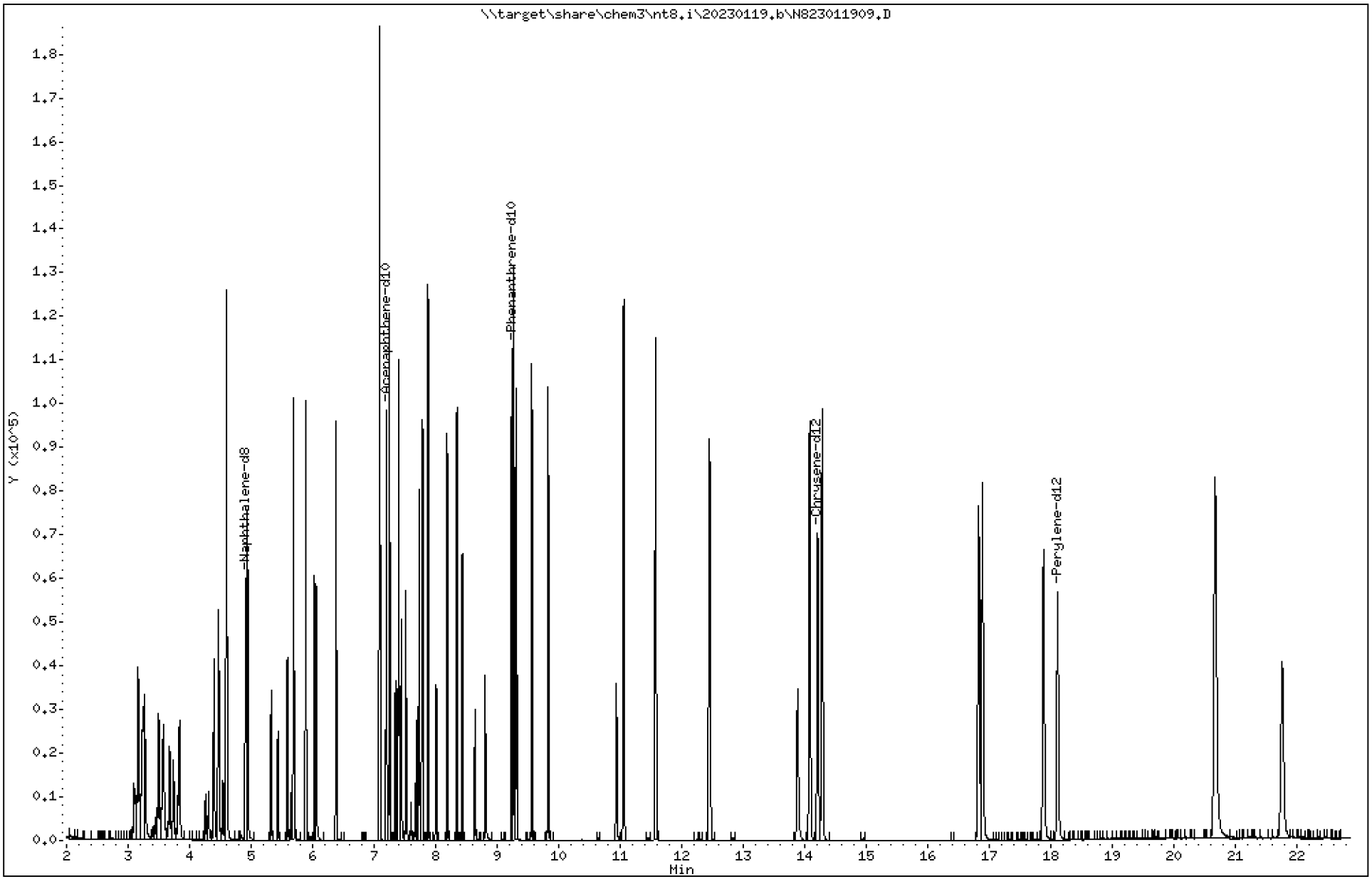
Sample Info: SCV230119

Volume Injected (uL): 1.0

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

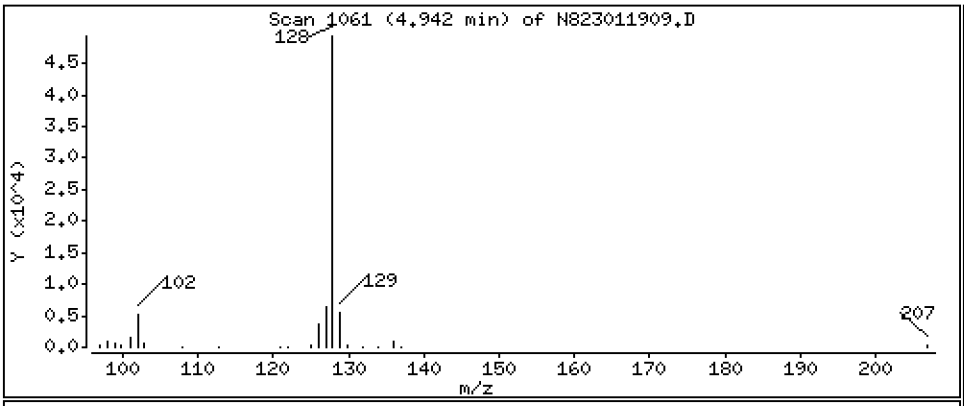
Operator: JZ

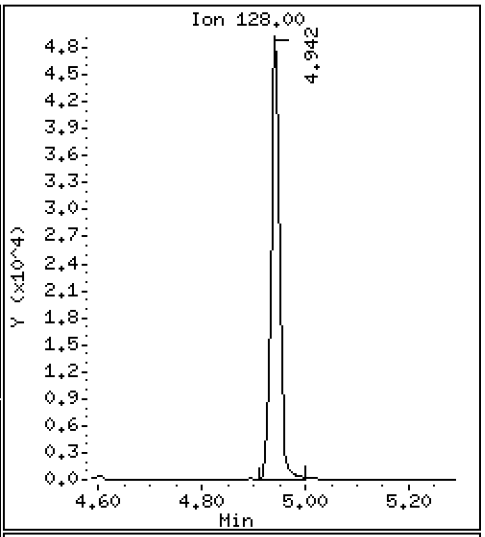
Column phase: Rxi-17sil

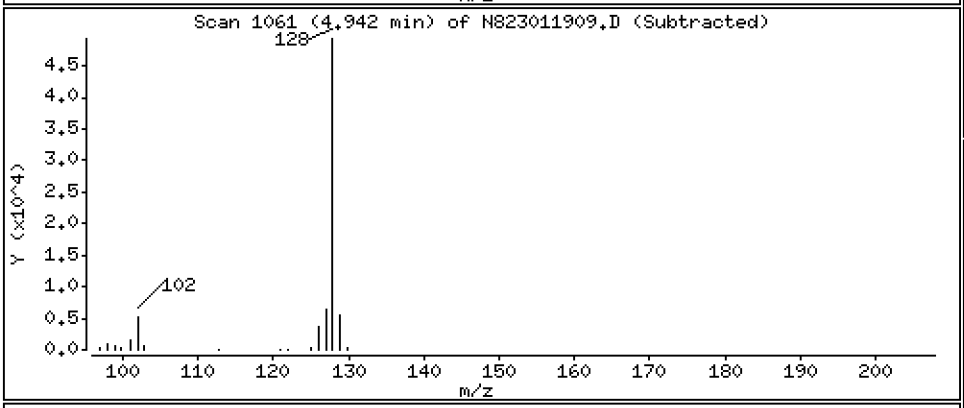
Column diameter: 0.25

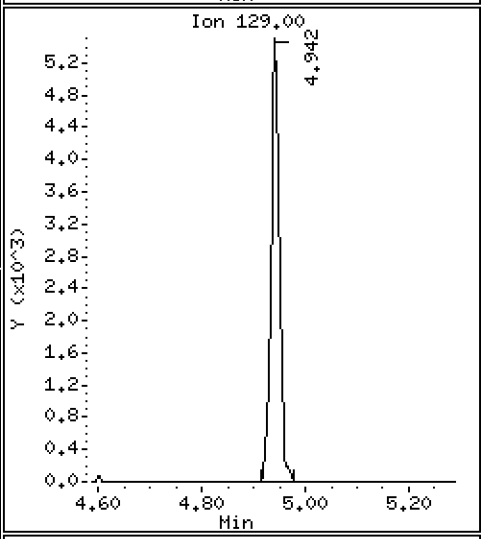
2 Naphthalene

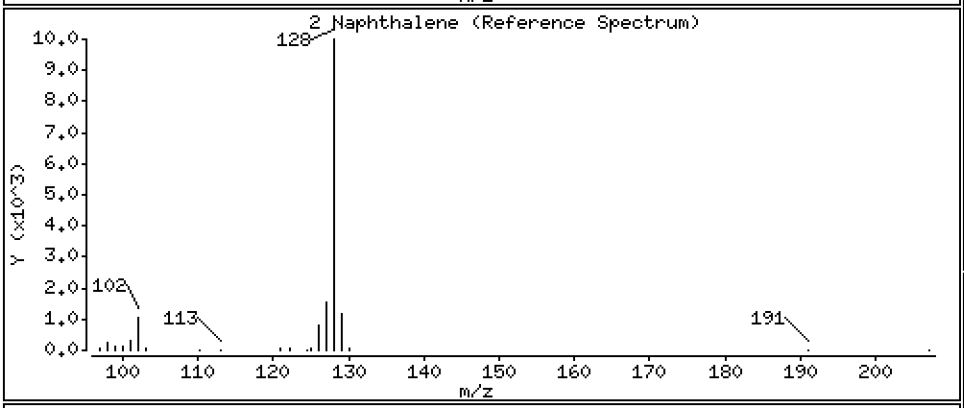
Concentration: 2.626 ug/L

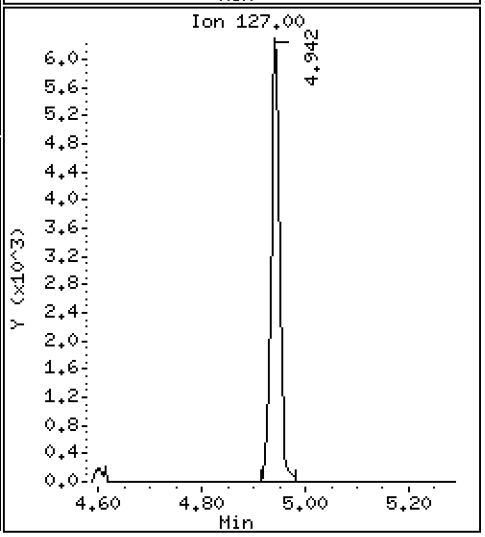


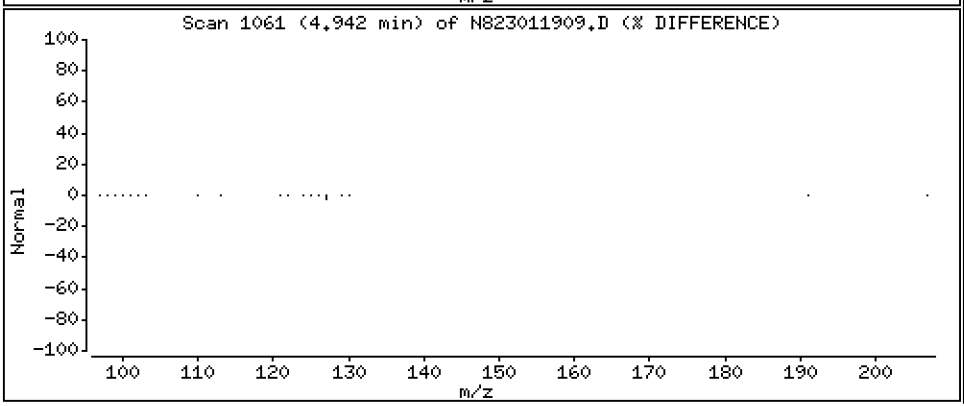












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

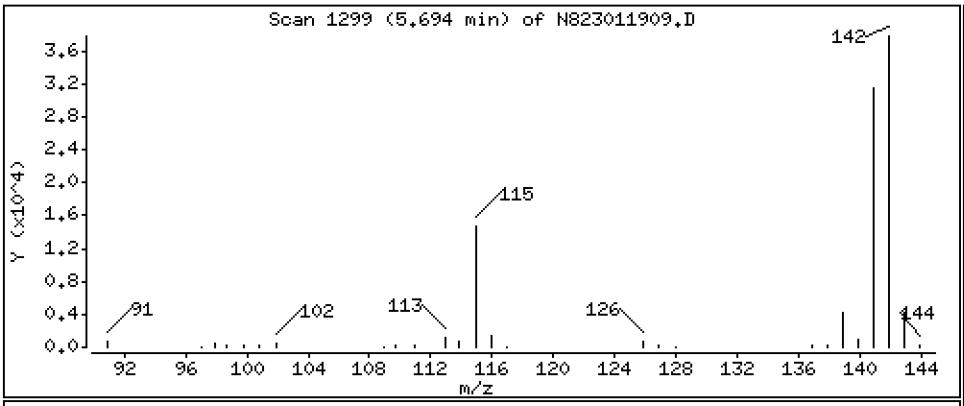
Operator: JZ

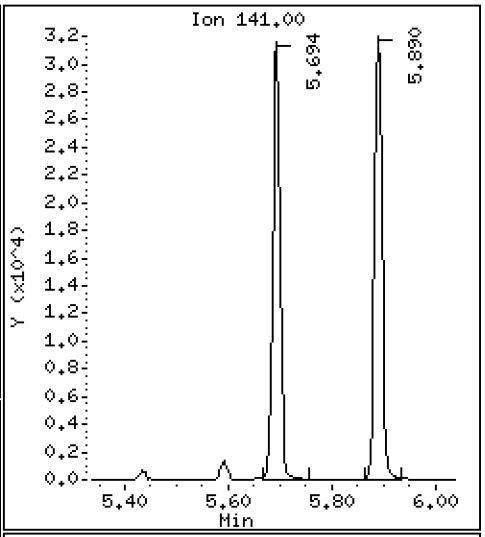
Column phase: Rxi-17sil

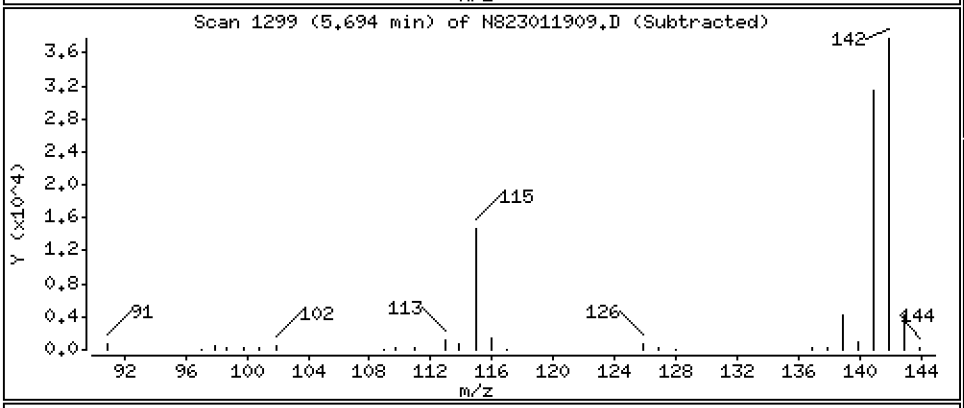
Column diameter: 0.25

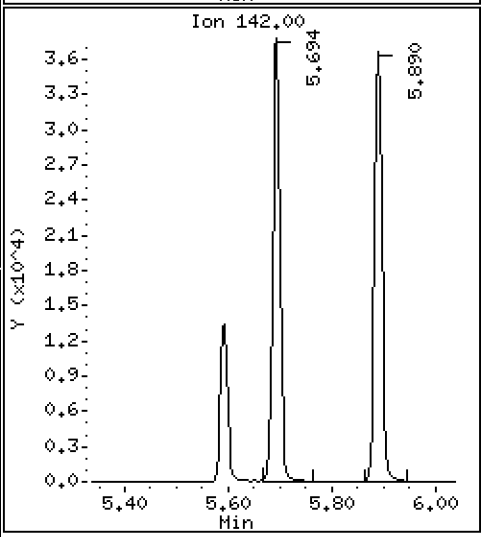
4 2-Methylnaphthalene

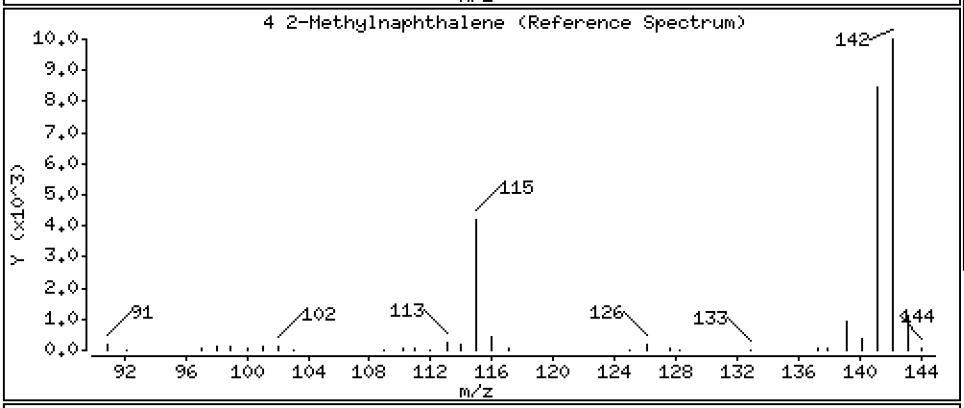
Concentration: 2.670 ug/L

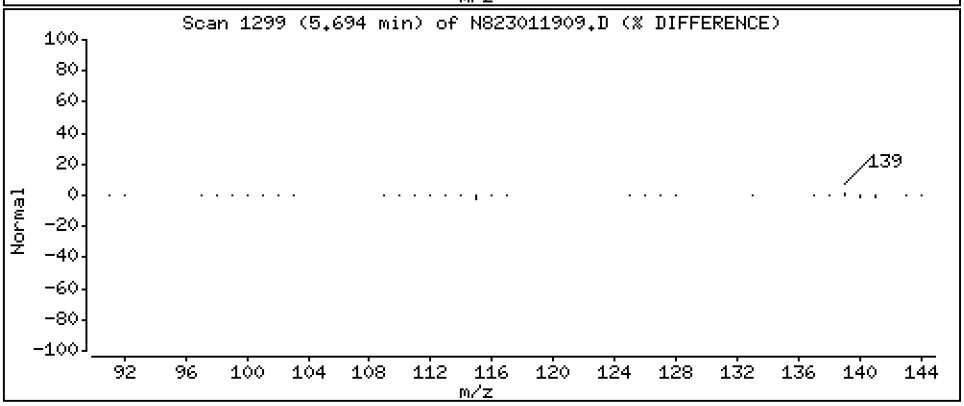












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

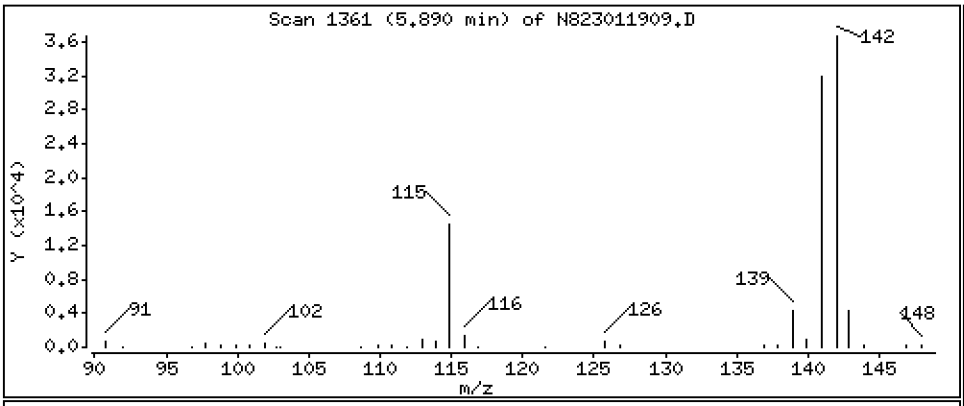
Operator: JZ

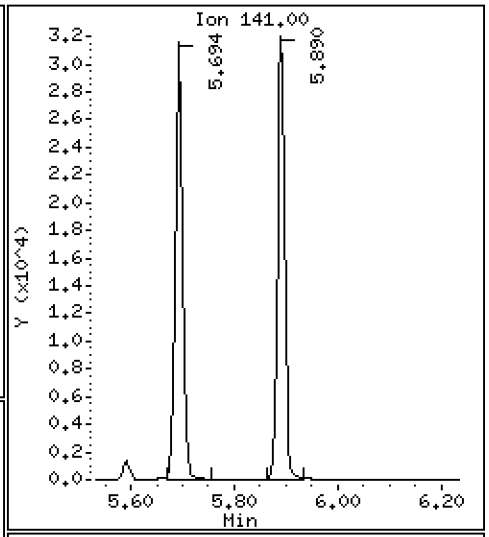
Column phase: Rxi-17sil

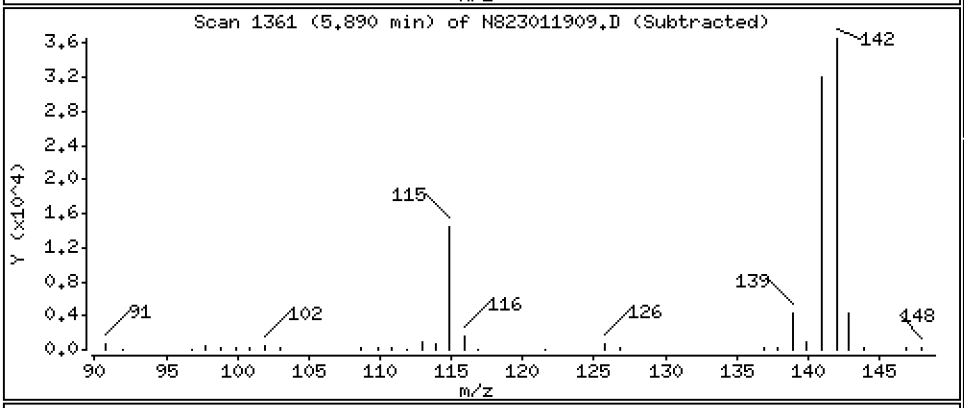
Column diameter: 0.25

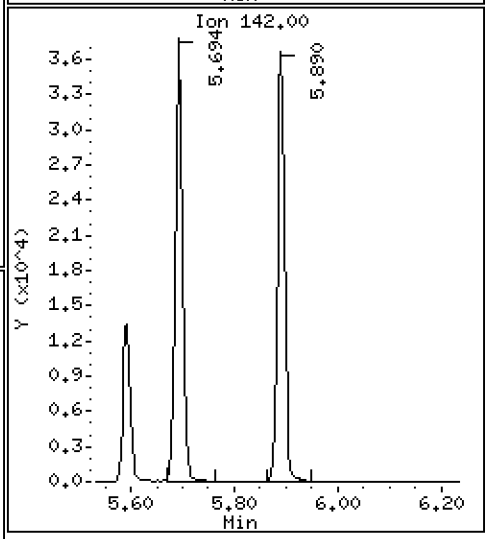
5 1-methylnaphthalene

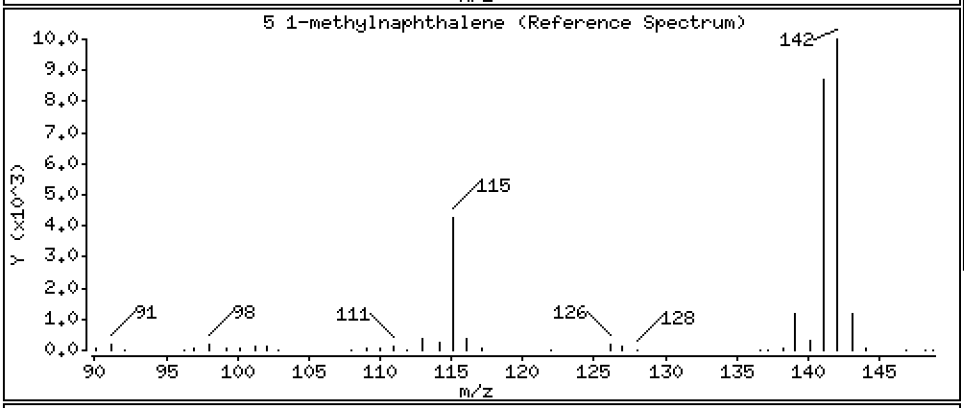
Concentration: 2.649 ug/L

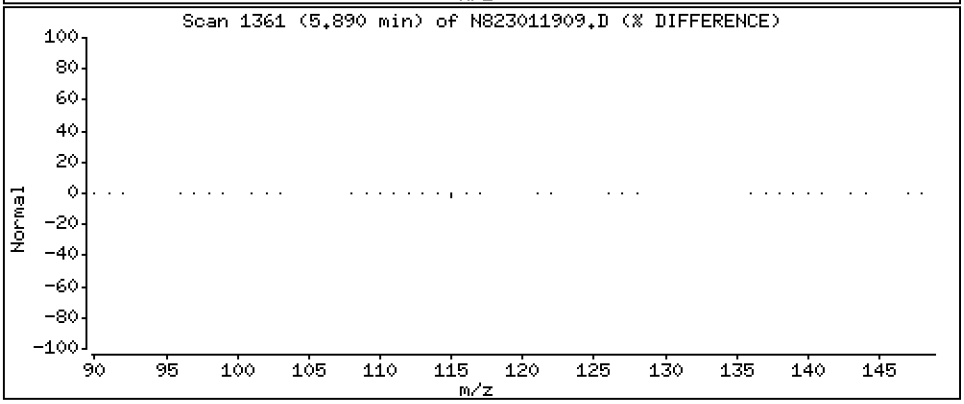












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

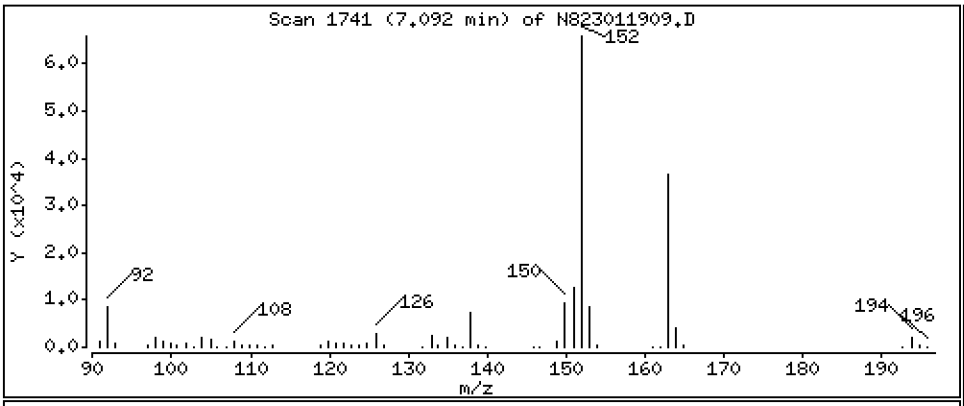
Operator: JZ

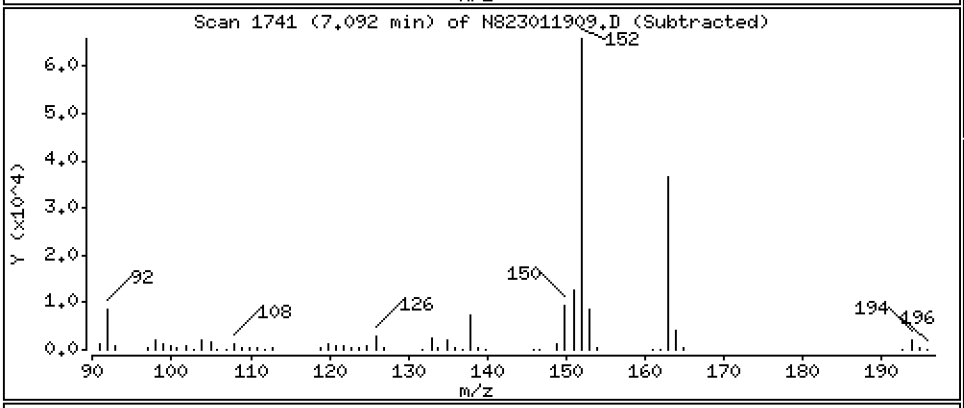
Column phase: Rxi-17sil

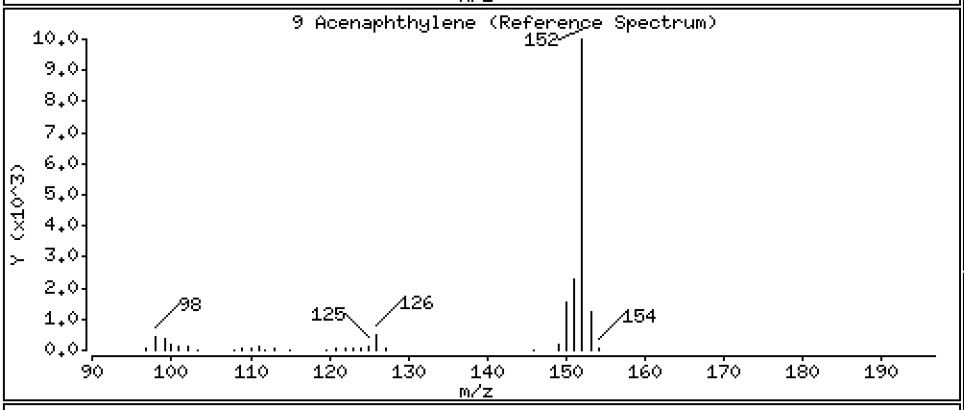
Column diameter: 0.25

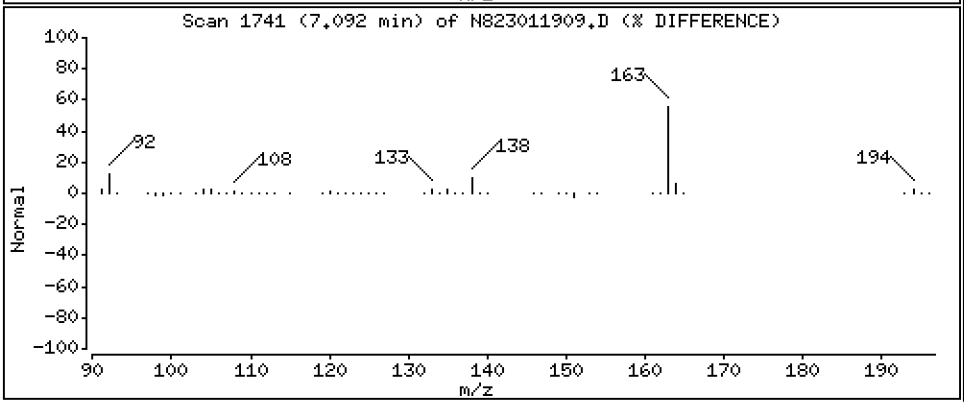
9 Acenaphthylene

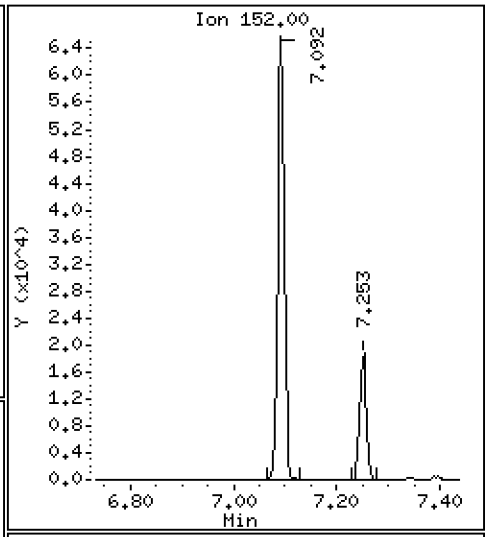
Concentration: 2.821 ug/L

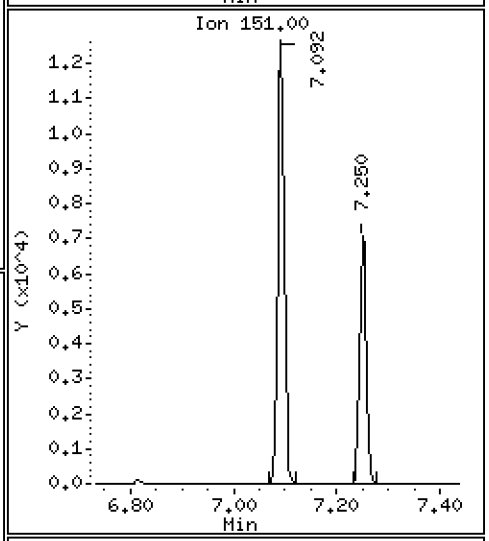


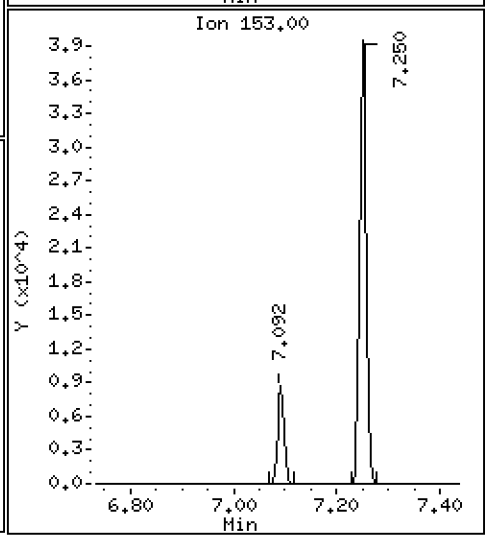












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

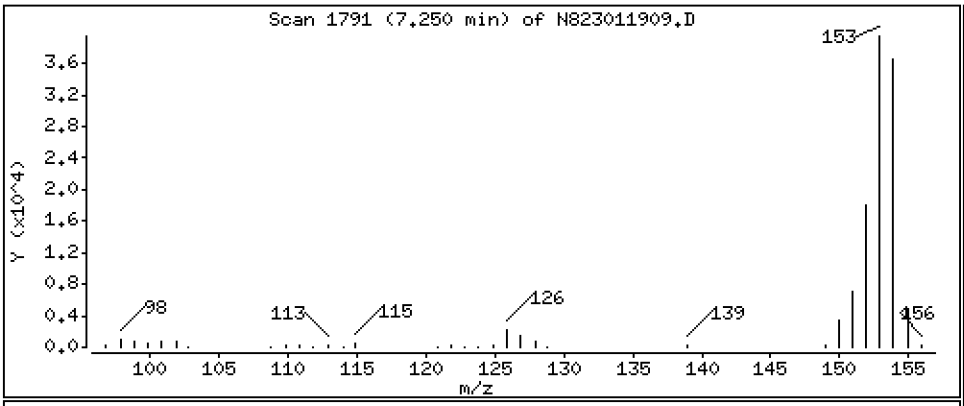
Operator: JZ

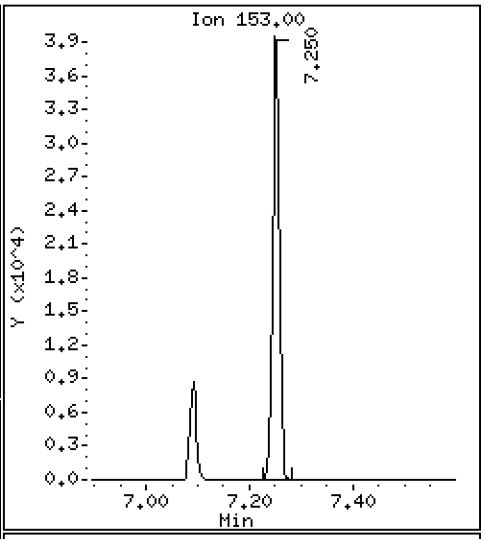
Column phase: Rxi-17sil

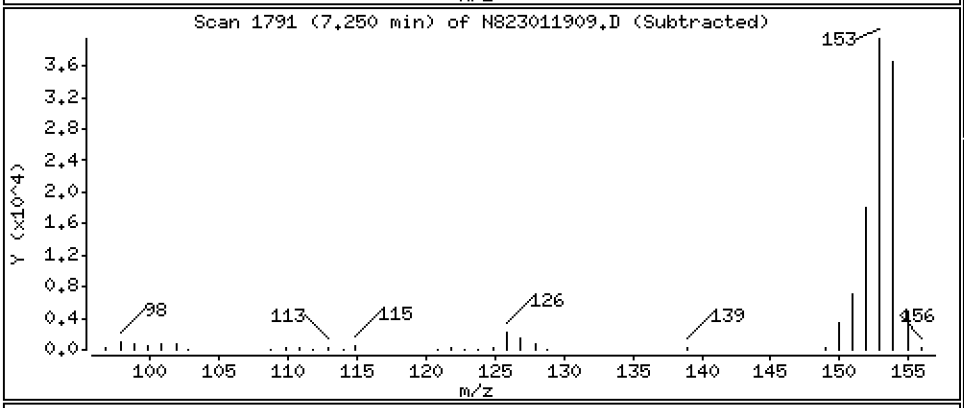
Column diameter: 0.25

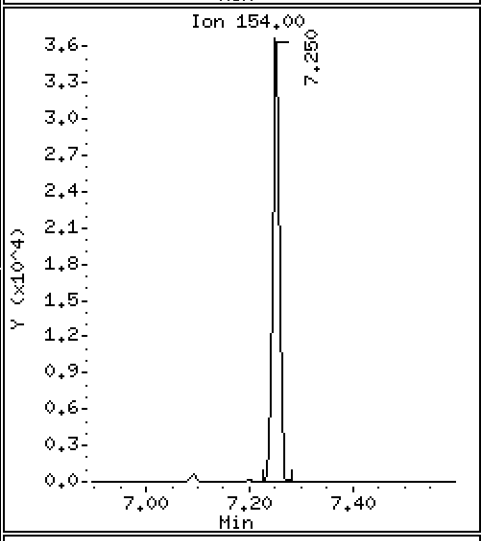
11 Acenaphthene

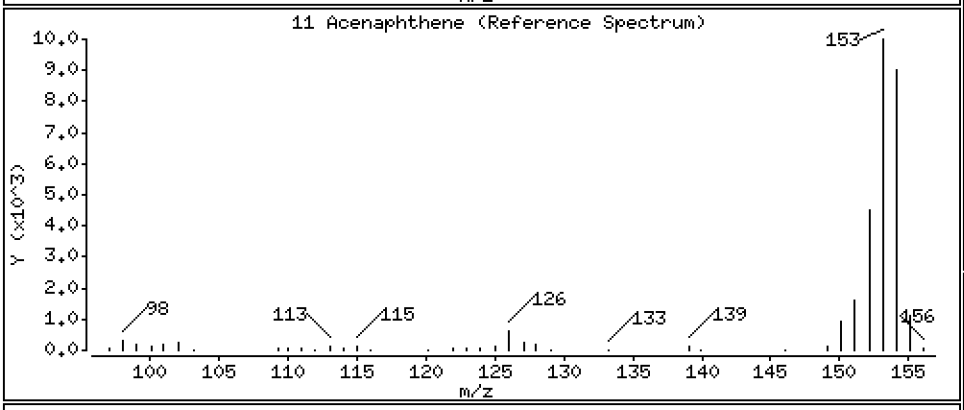
Concentration: 2.600 ug/L

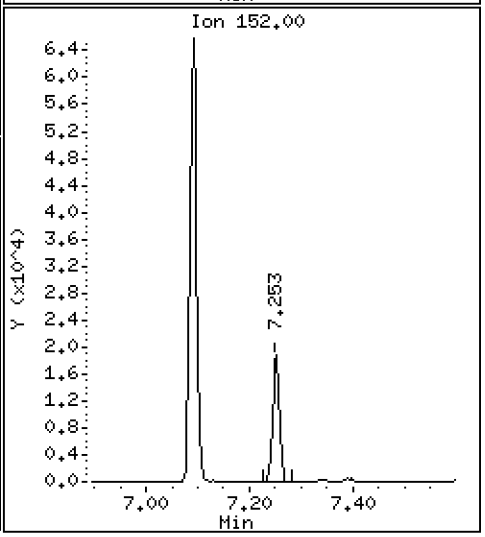


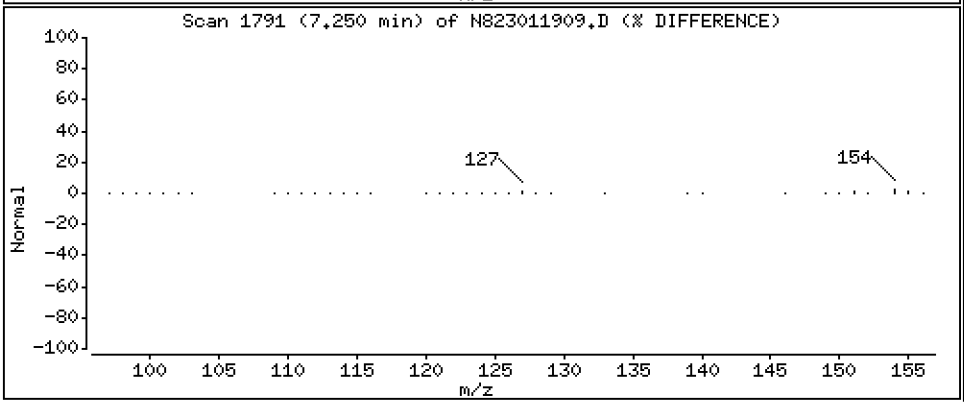












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

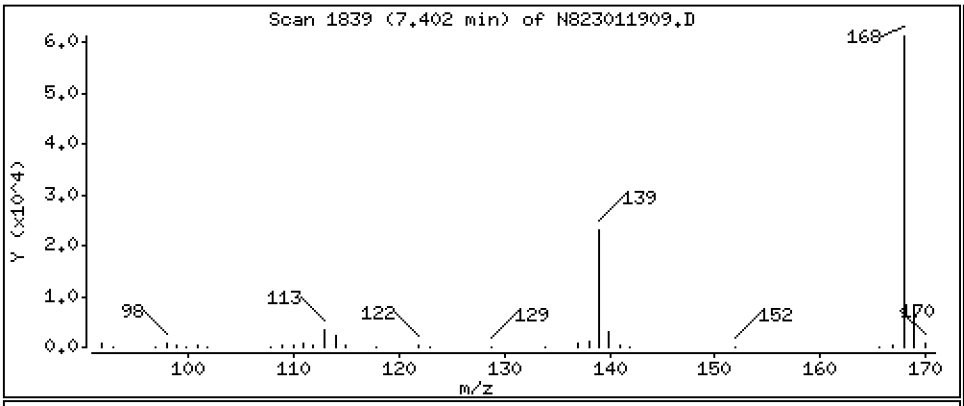
Operator: JZ

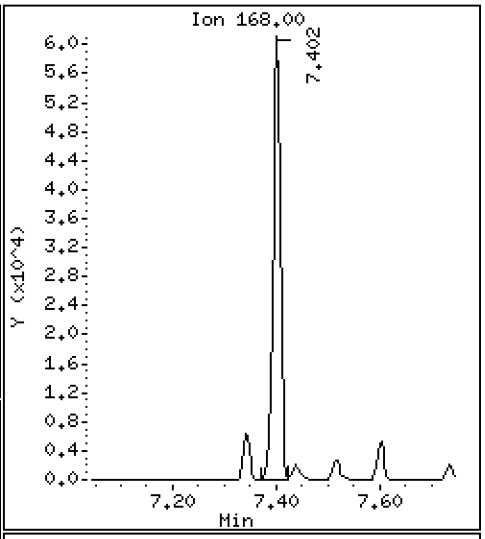
Column phase: Rxi-17sil

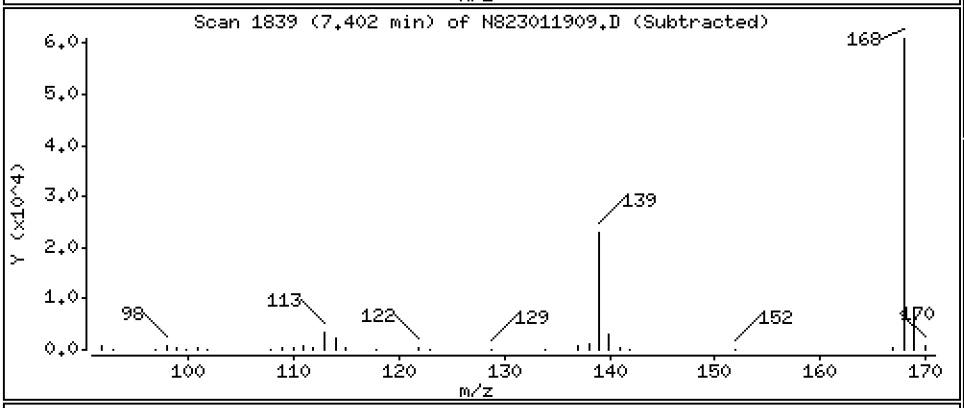
Column diameter: 0.25

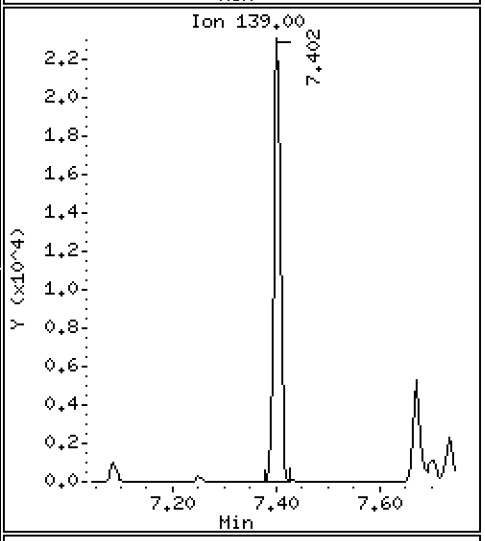
12 Dibenzofuran

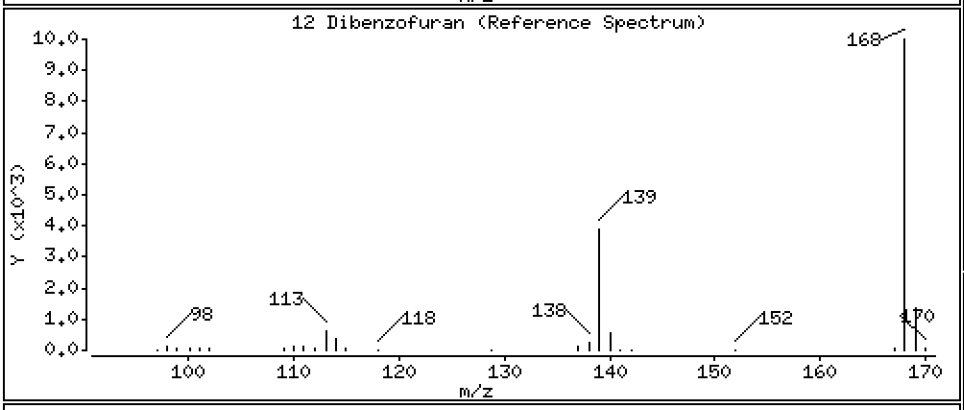
Concentration: 2.860 ug/L

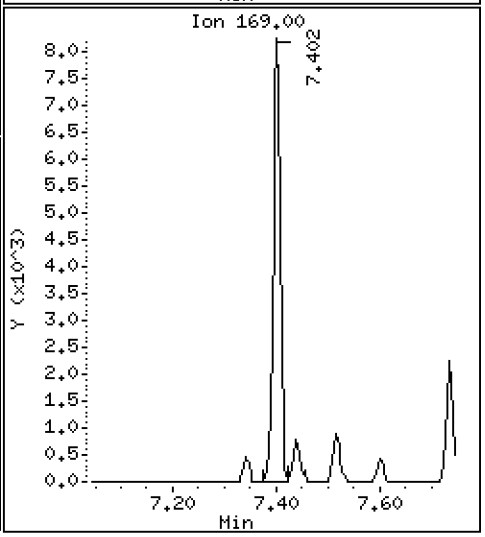


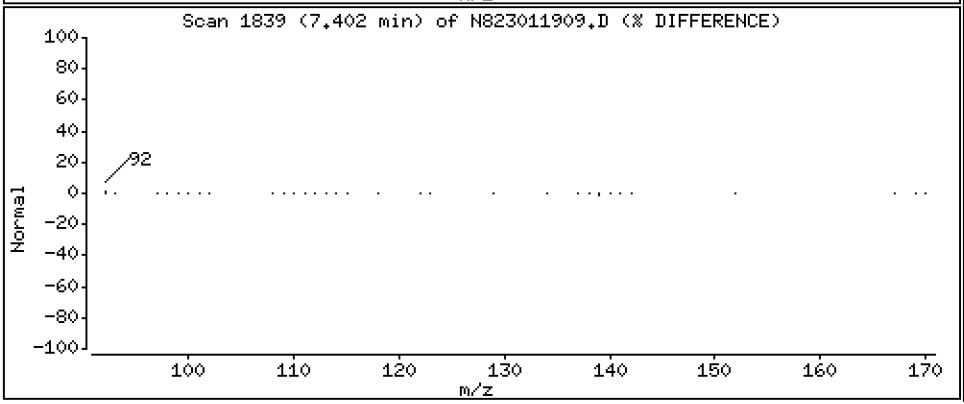












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

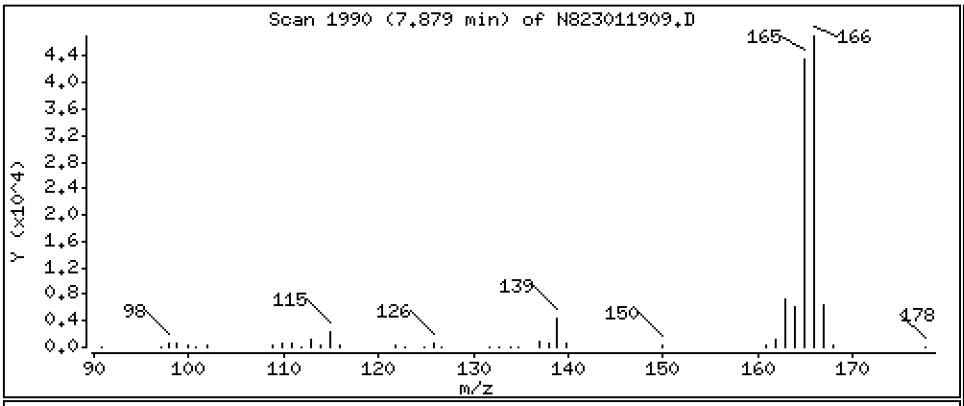
Operator: JZ

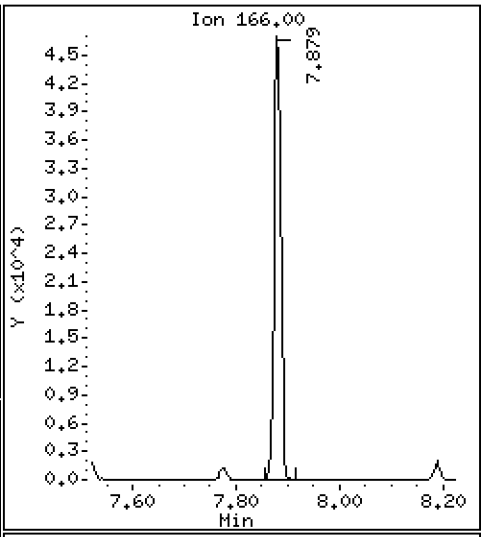
Column phase: Rxi-17sil

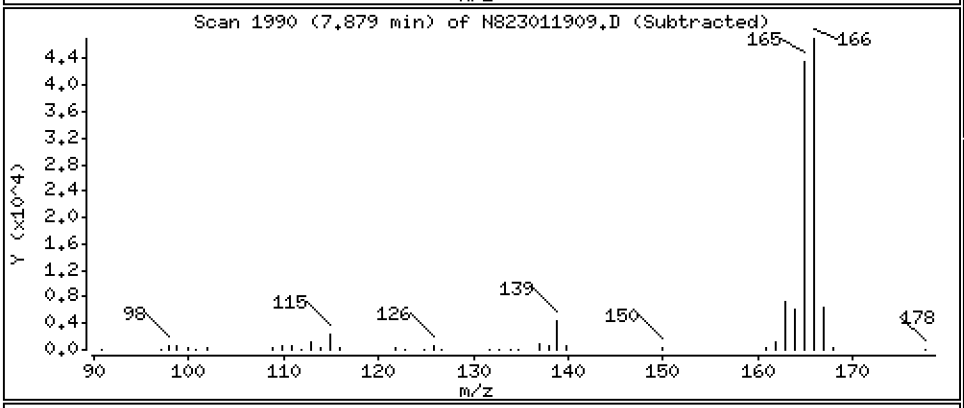
Column diameter: 0.25

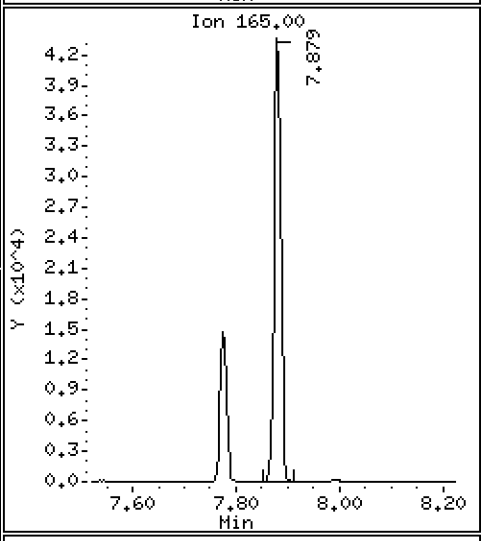
14 Fluorene

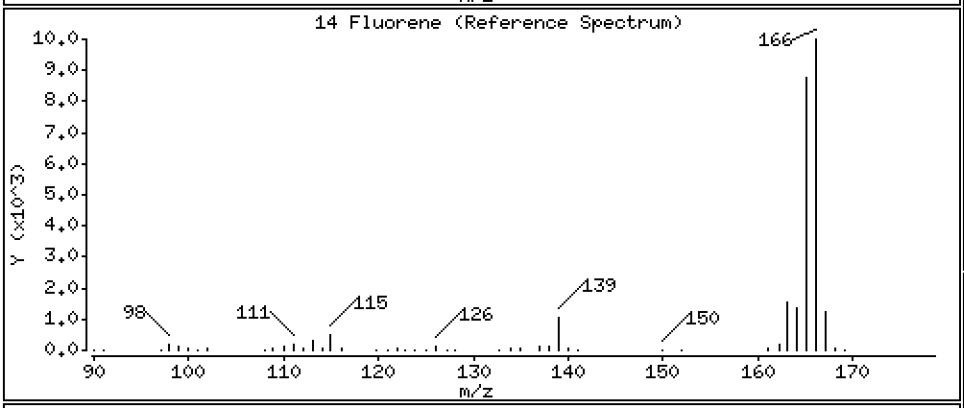
Concentration: 2.631 ug/L

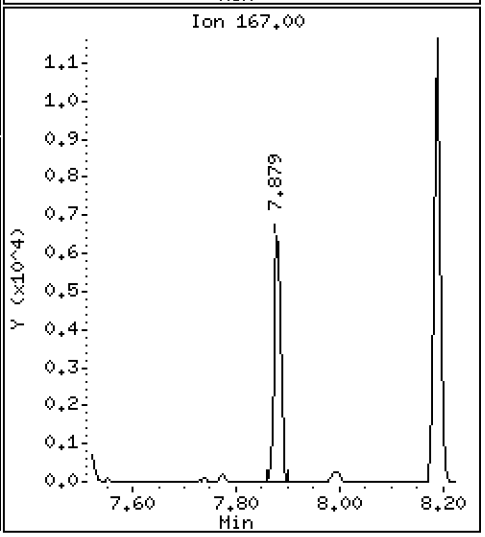


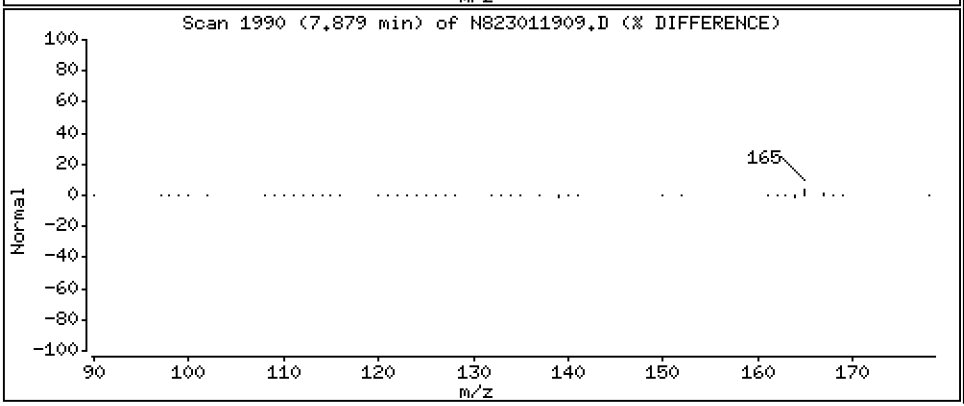












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

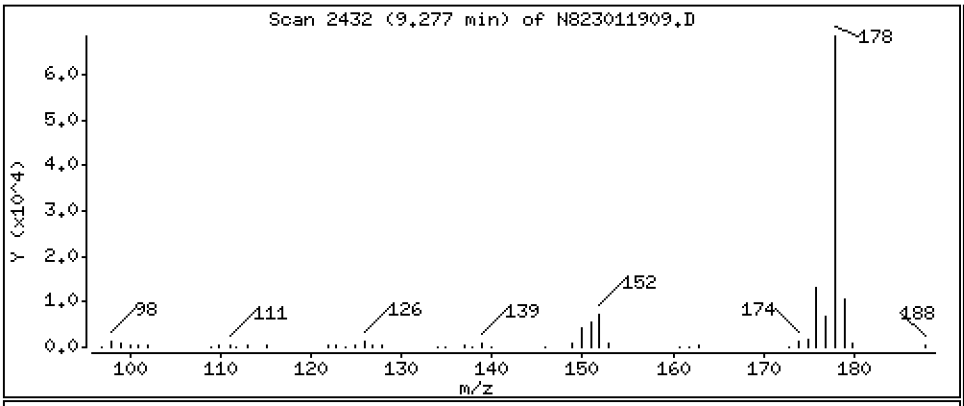
Operator: JZ

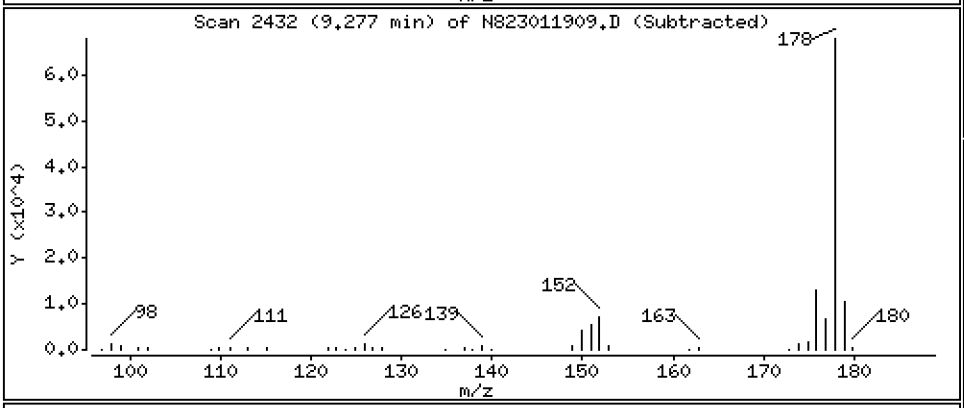
Column phase: Rxi-17sil

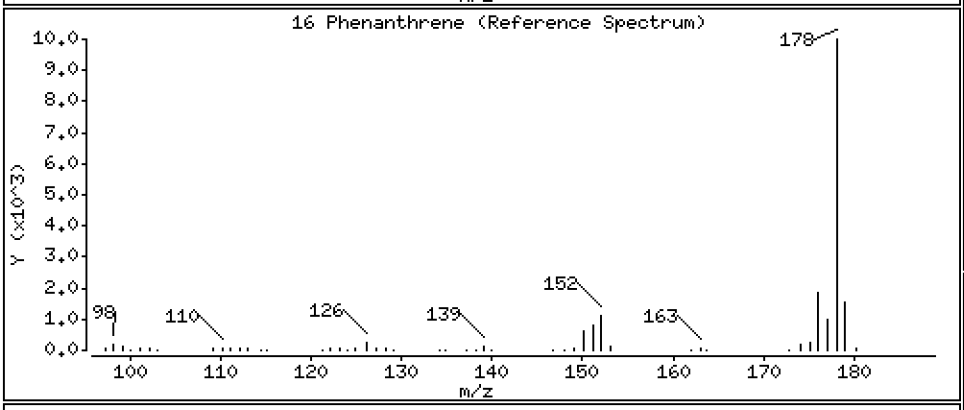
Column diameter: 0.25

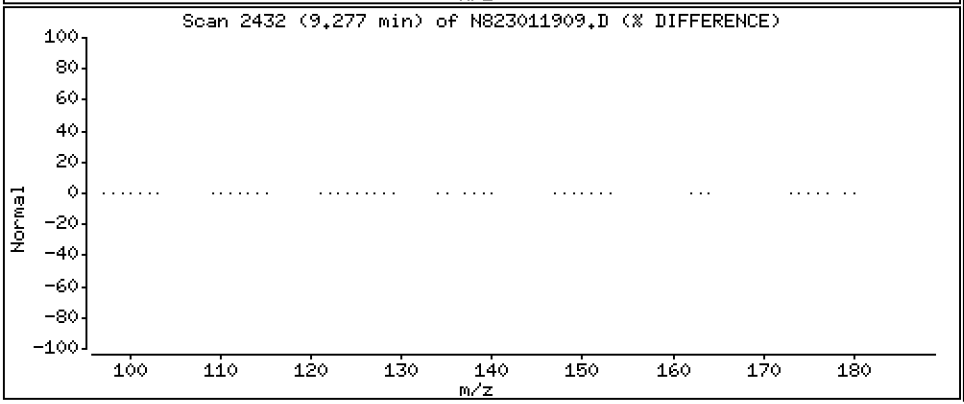
16 Phenanthrene

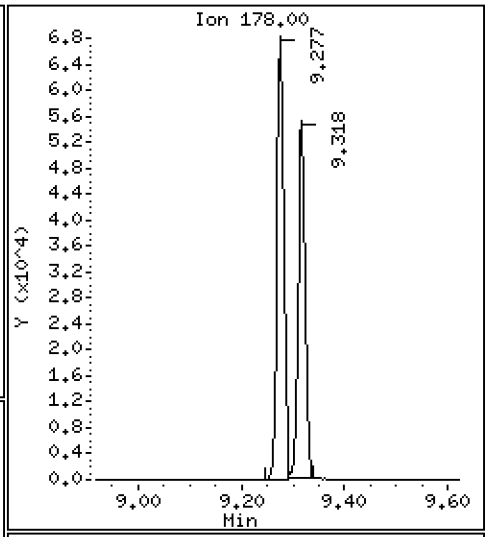
Concentration: 2.448 ug/L

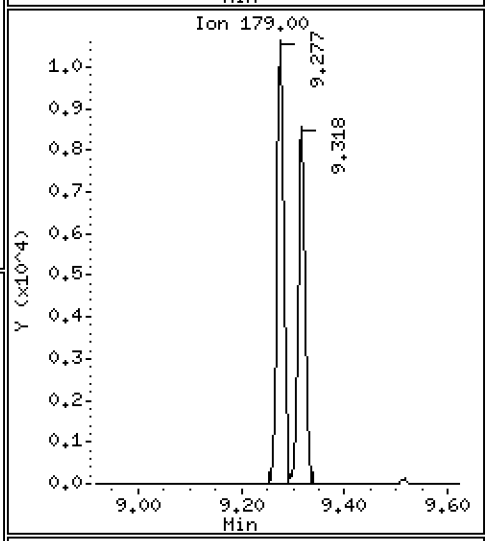


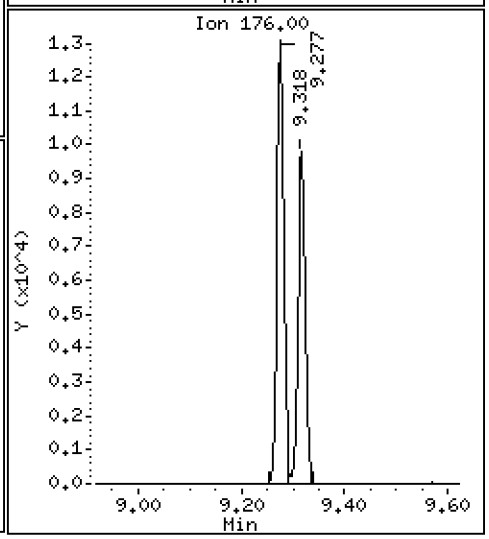












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

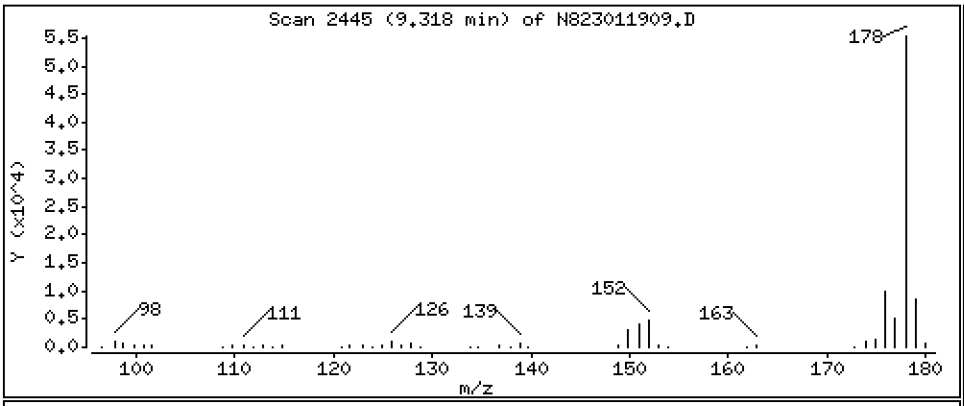
Operator: JZ

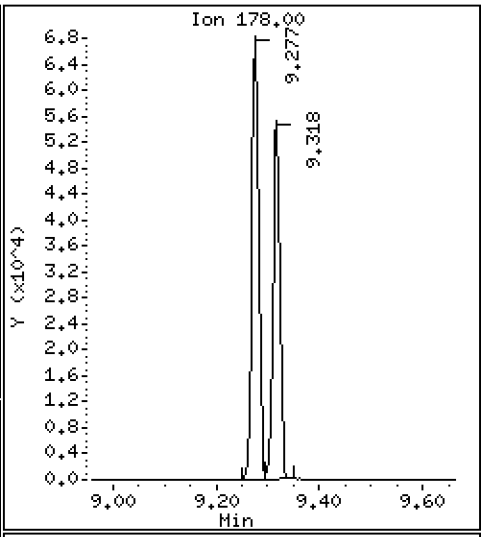
Column phase: Rxi-17sil

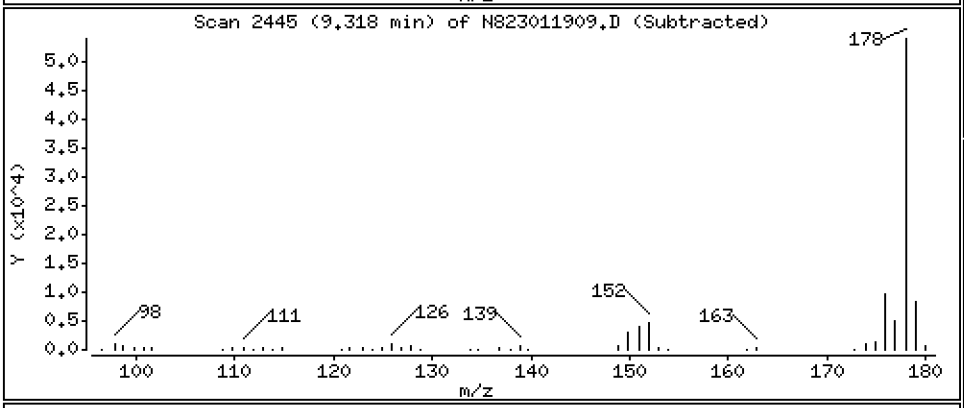
Column diameter: 0.25

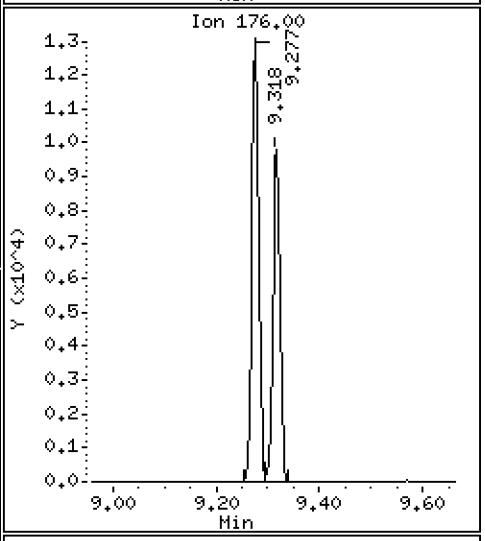
17 Anthracene

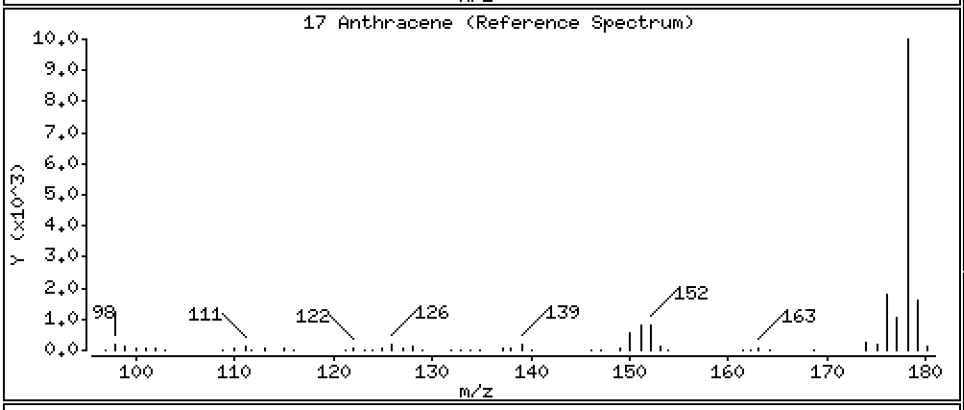
Concentration: 2.270 ug/L

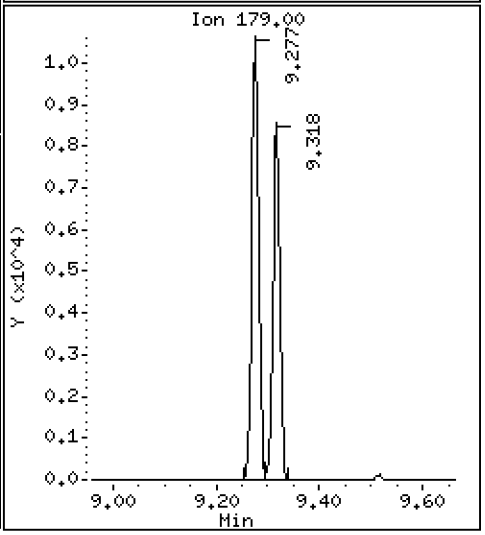


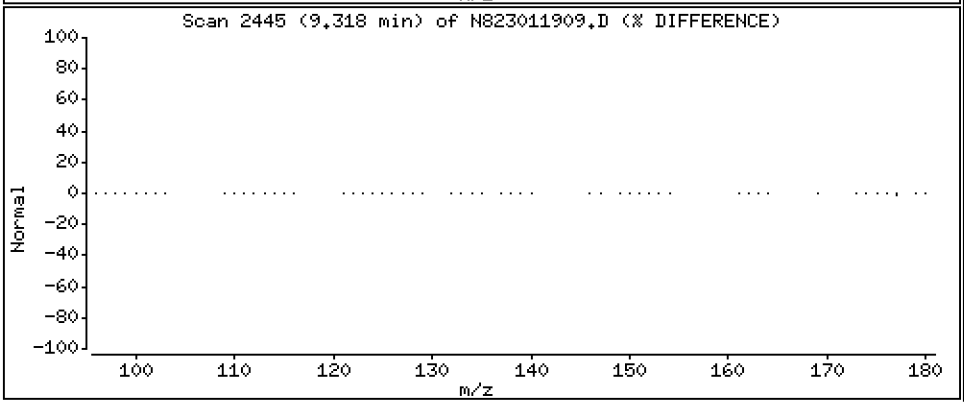












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

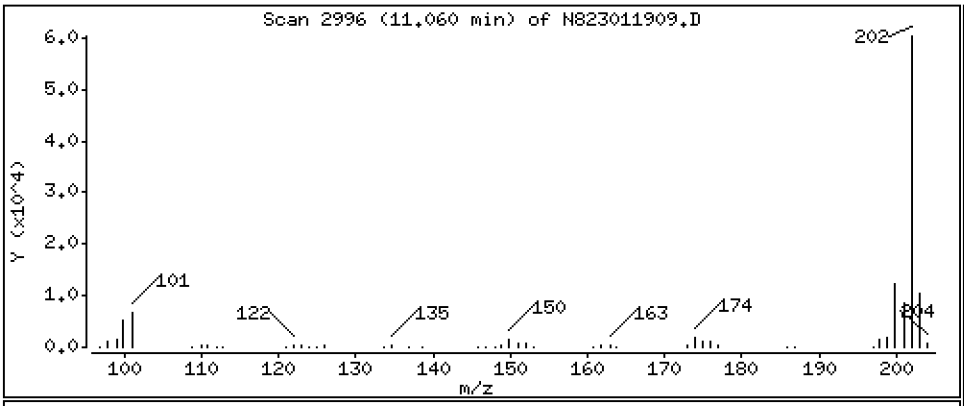
Operator: JZ

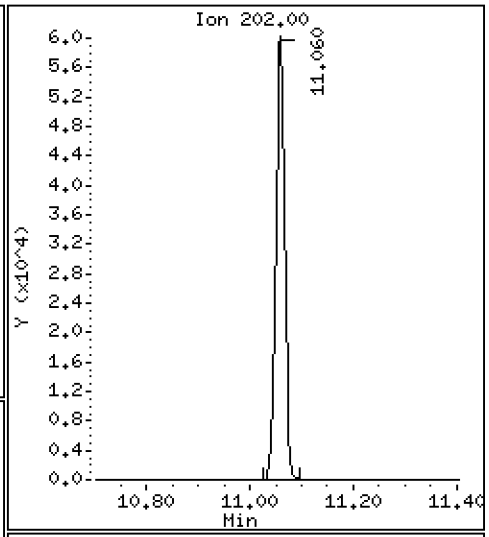
Column phase: Rxi-17sil

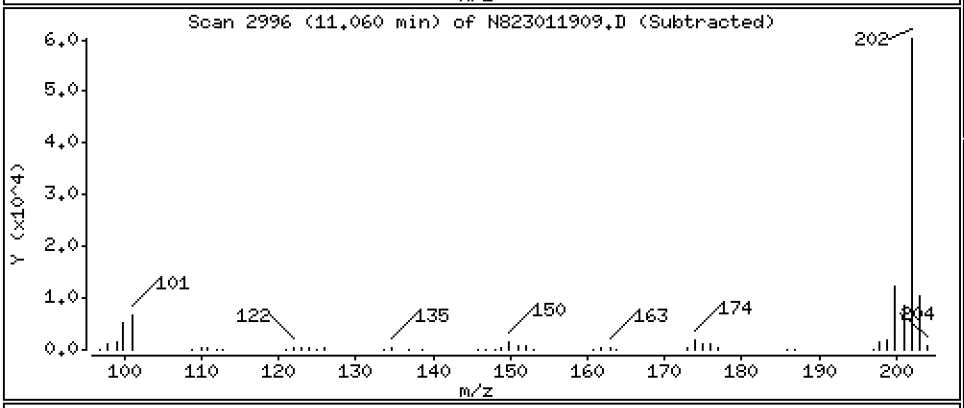
Column diameter: 0.25

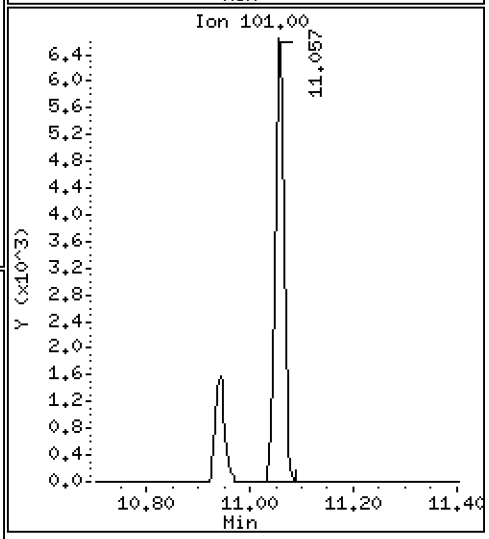
22 Fluoranthene

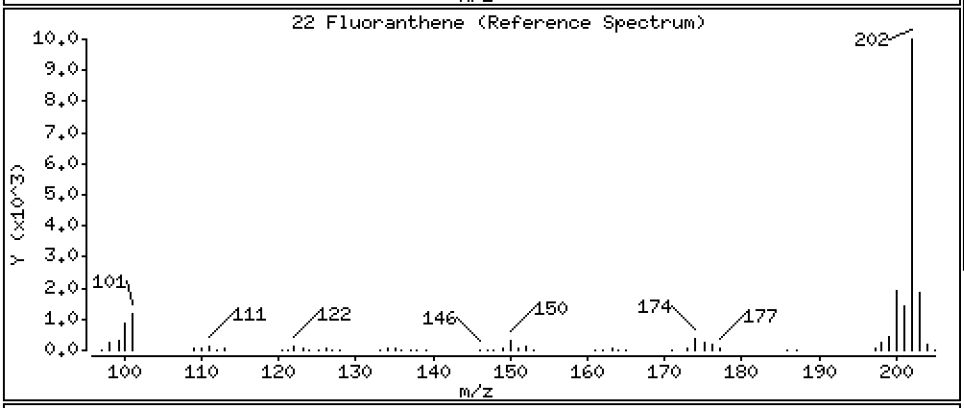
Concentration: 2.653 ug/L

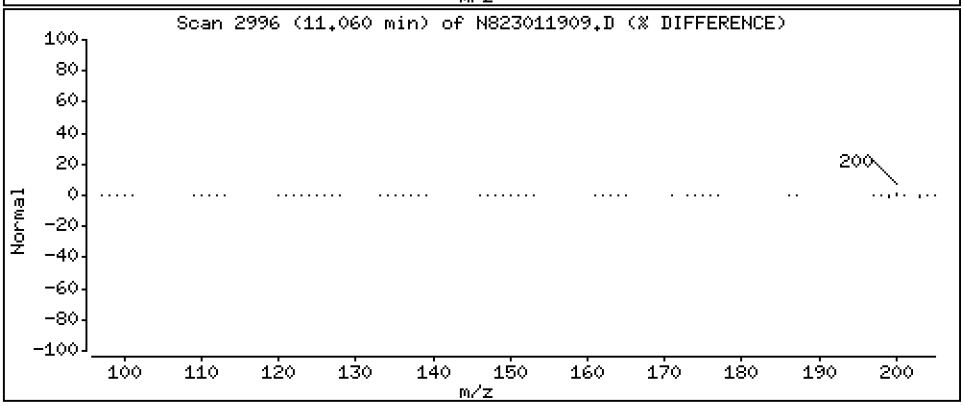












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

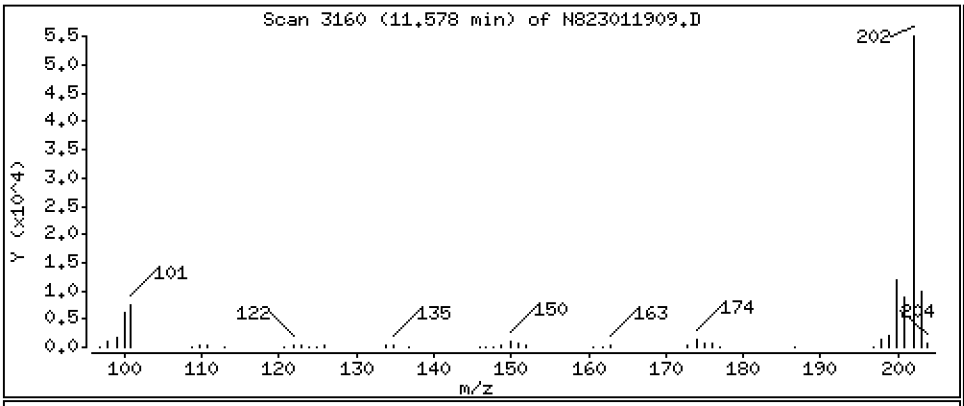
Operator: JZ

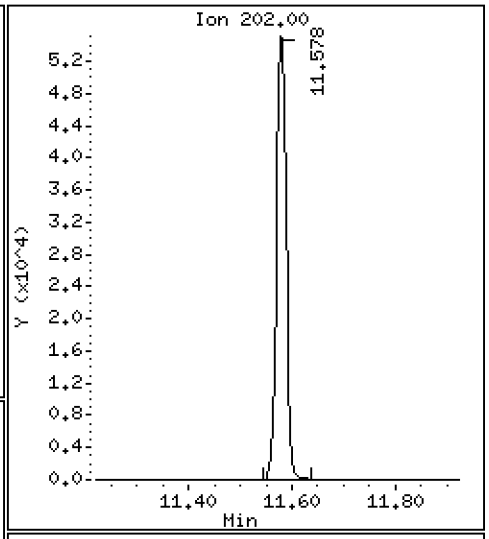
Column phase: Rxi-17sil

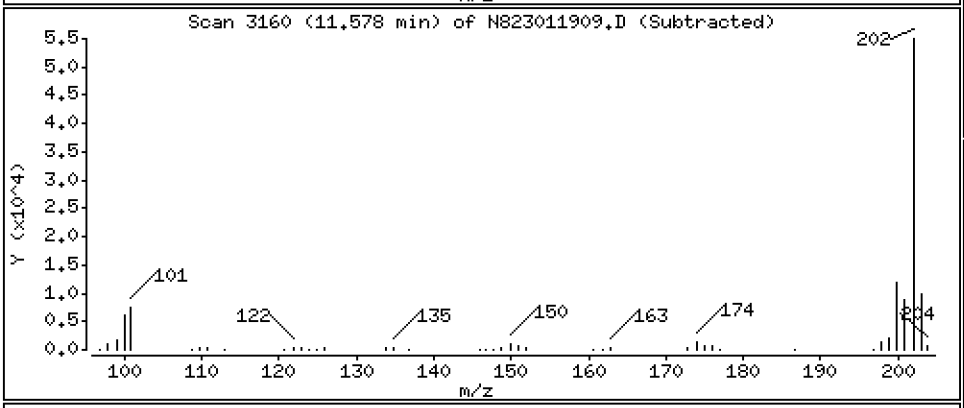
Column diameter: 0.25

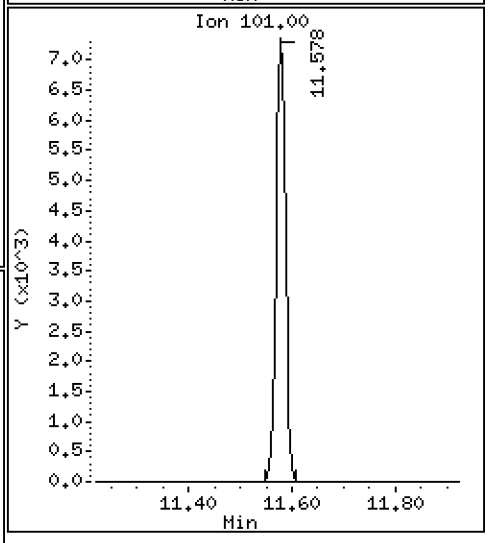
23 Pyrene

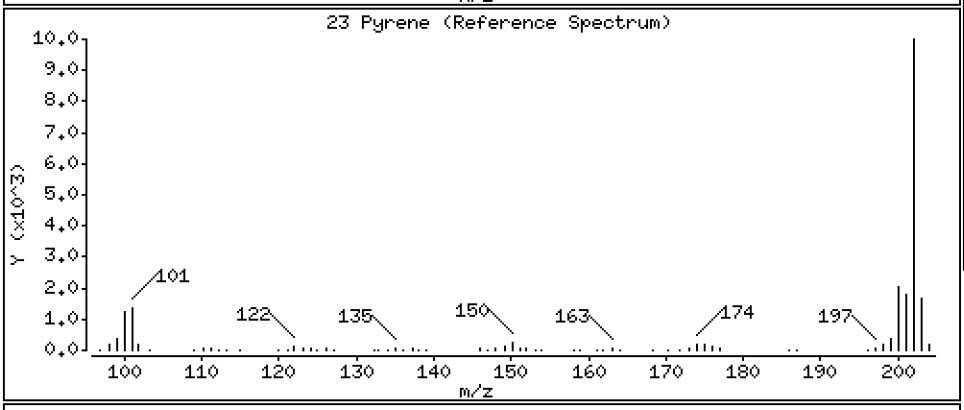
Concentration: 2.462 ug/L

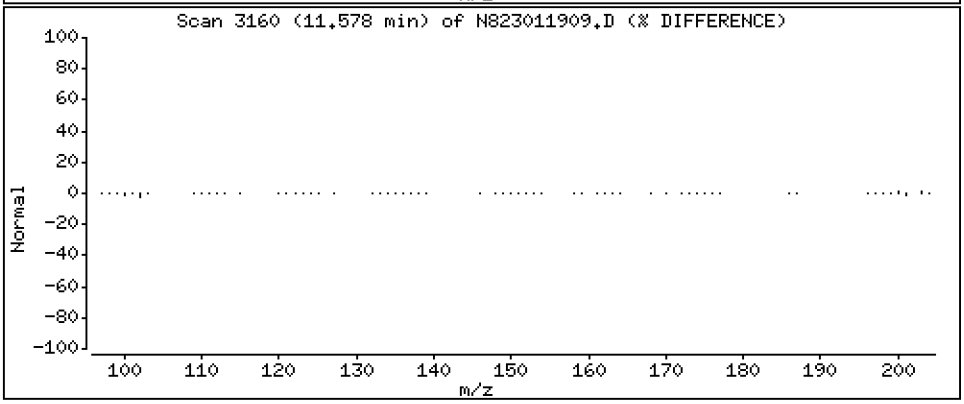












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

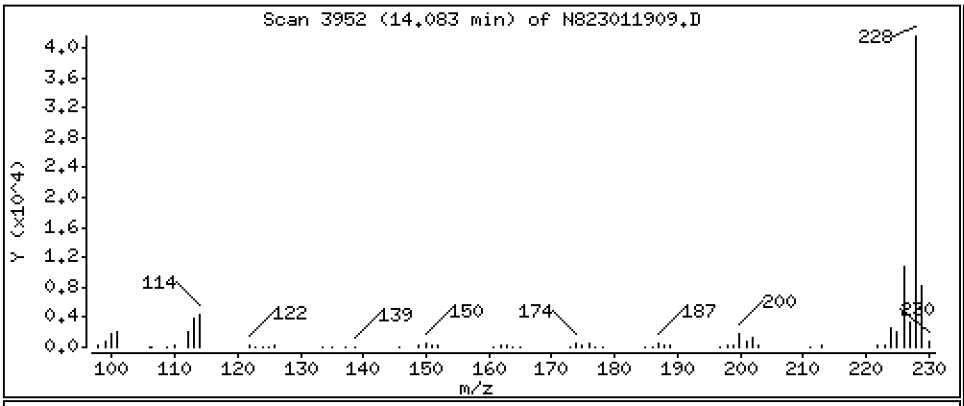
Operator: JZ

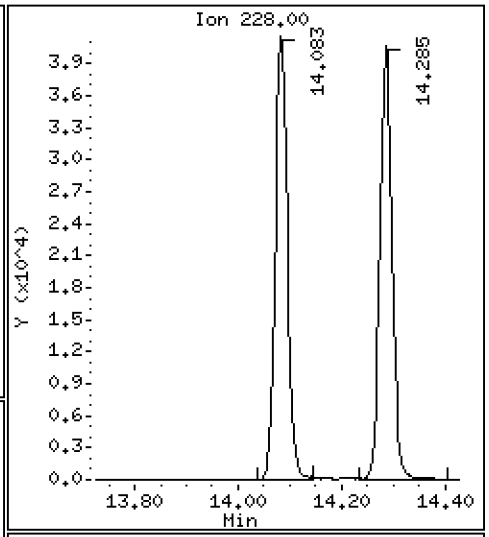
Column phase: Rxi-17sil

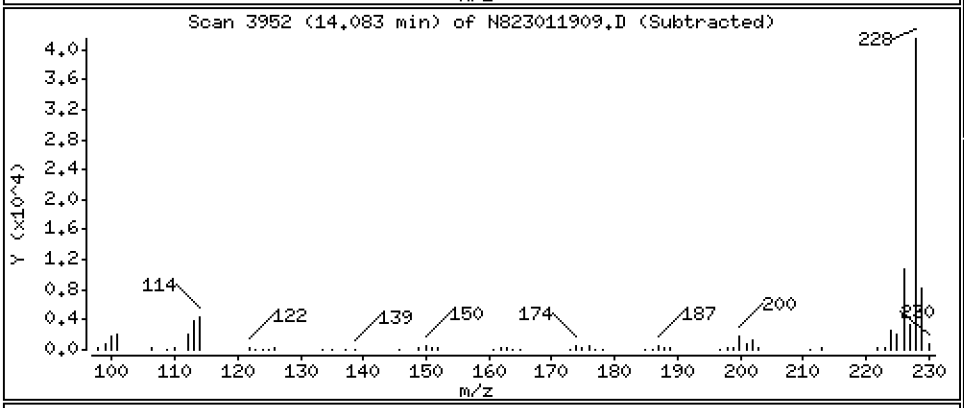
Column diameter: 0.25

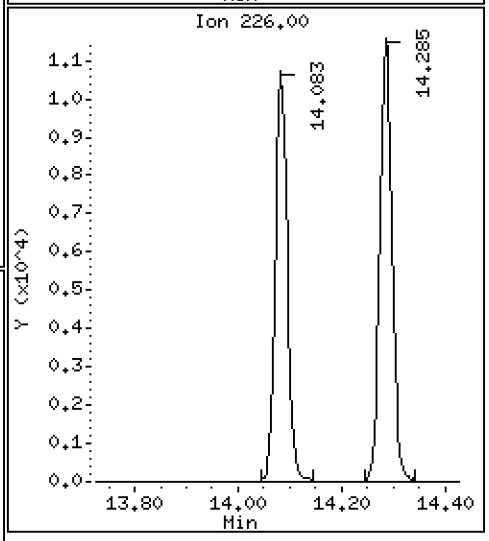
24 Benzo(a)anthracene

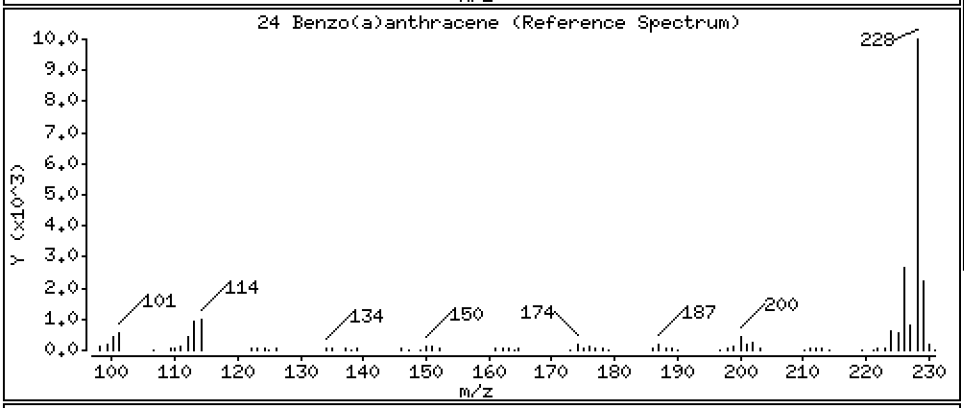
Concentration: 2.587 ug/L

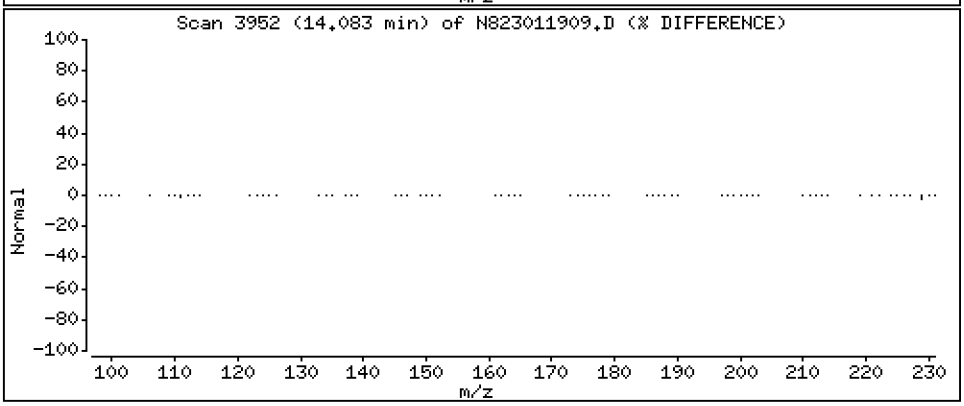












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

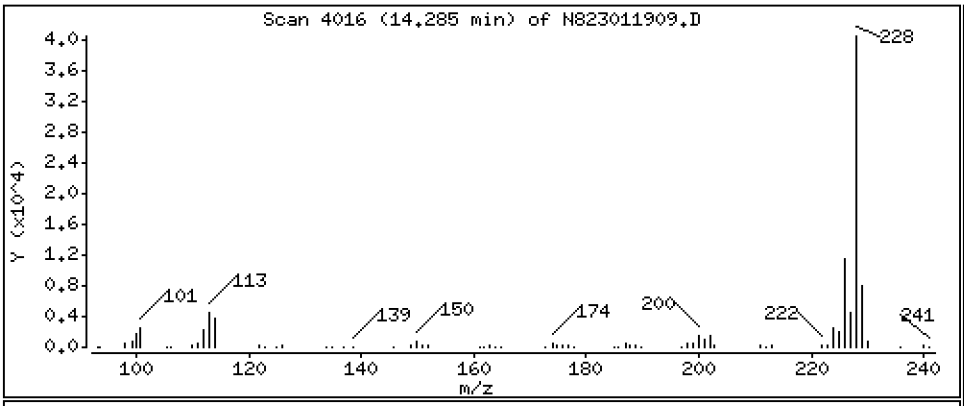
Operator: JZ

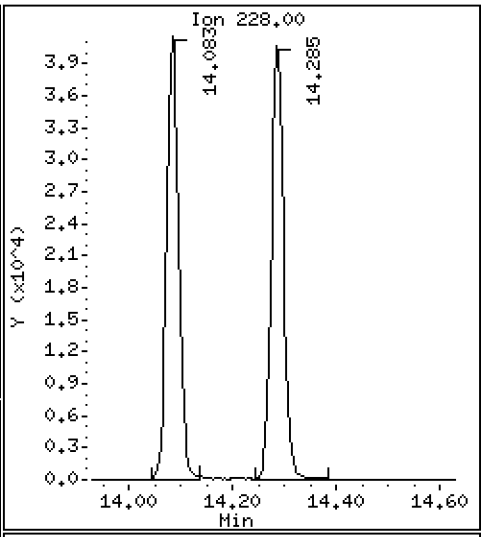
Column phase: Rxi-17sil

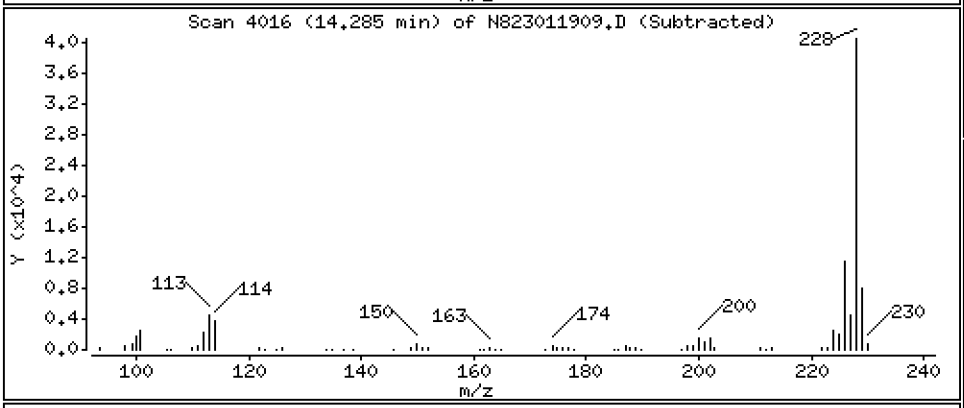
Column diameter: 0.25

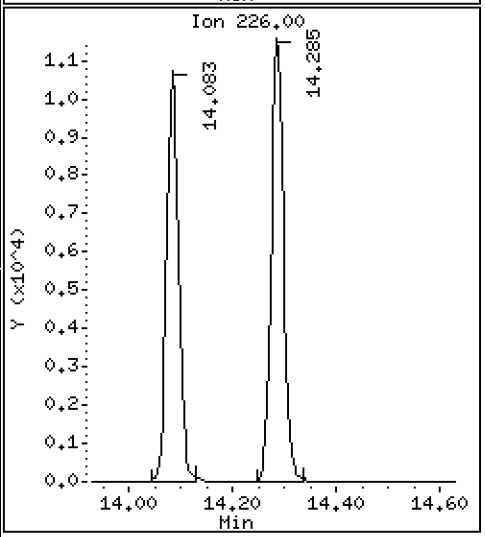
27 Chrysene

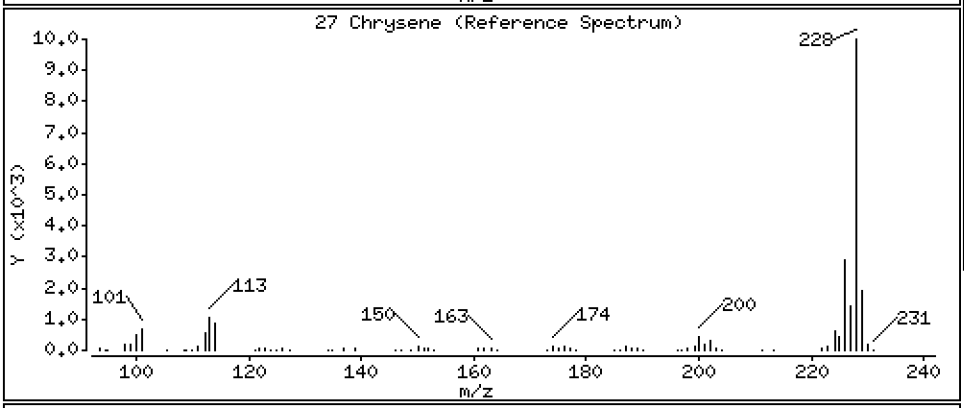
Concentration: 2.400 ug/L

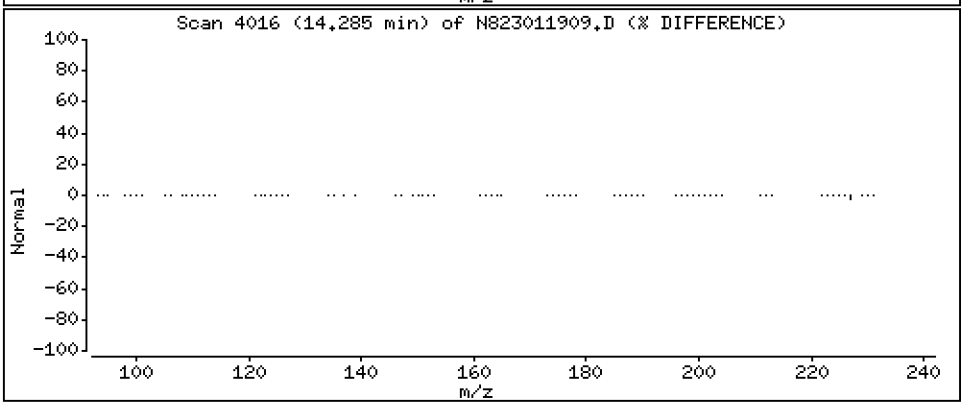












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

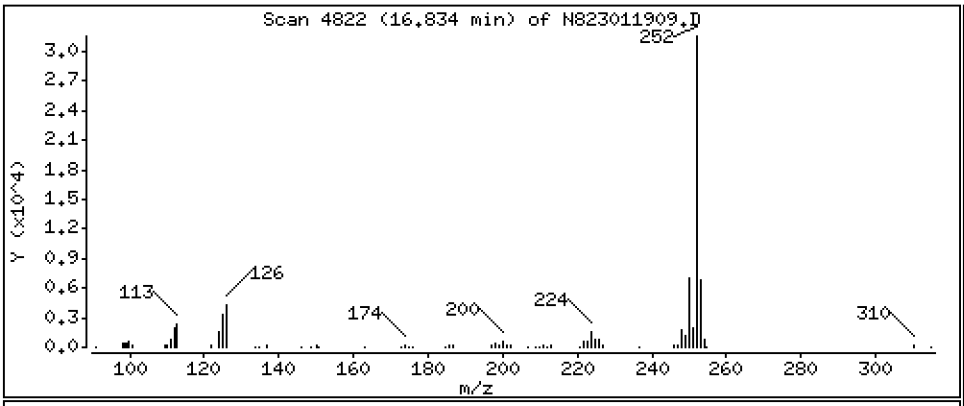
Operator: JZ

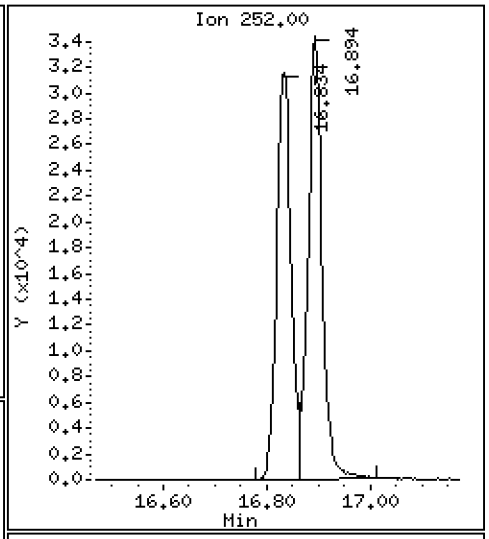
Column phase: Rxi-17sil

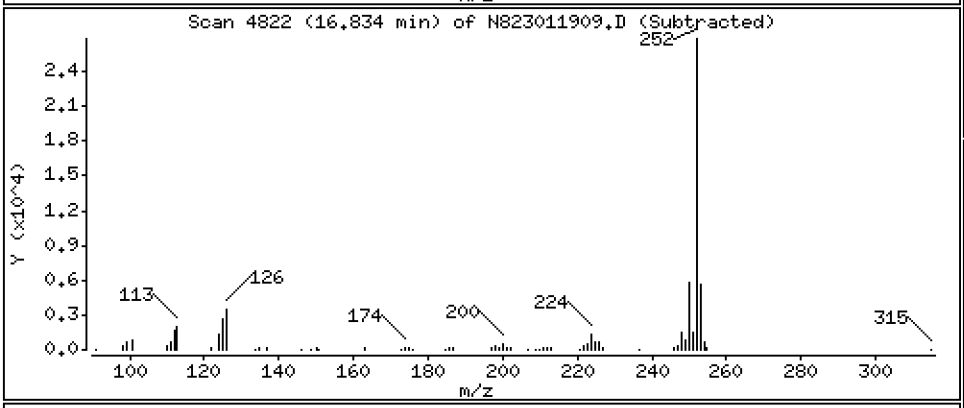
Column diameter: 0.25

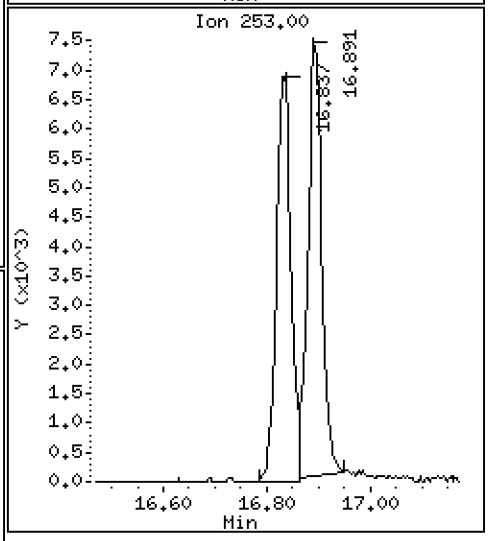
28 Benzo(b)fluoranthene

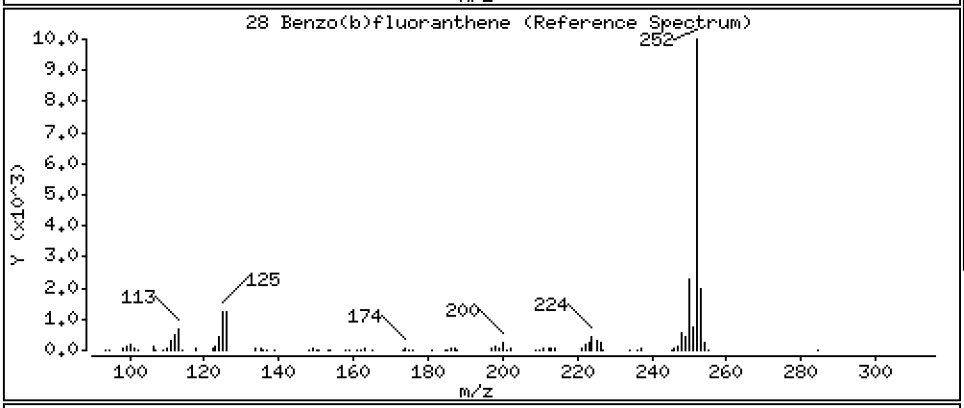
Concentration: 2.507 ug/L

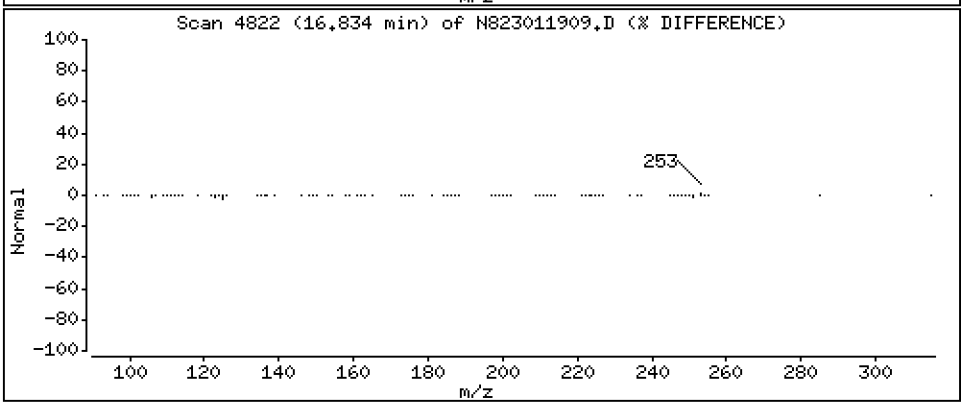












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

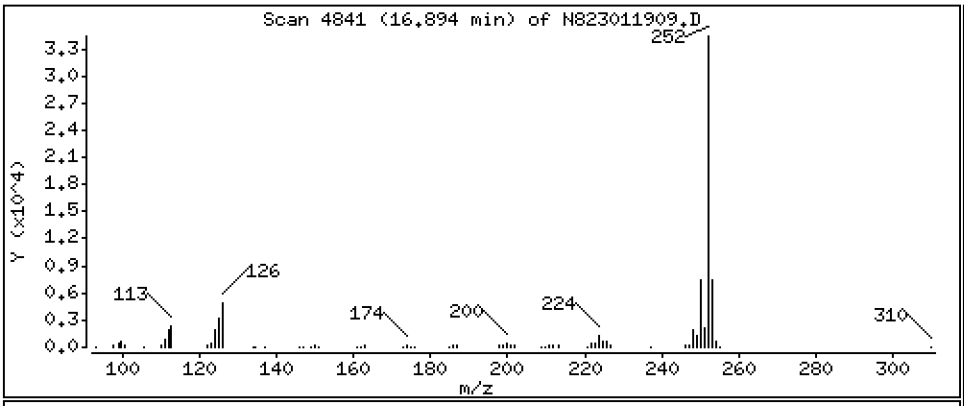
Operator: JZ

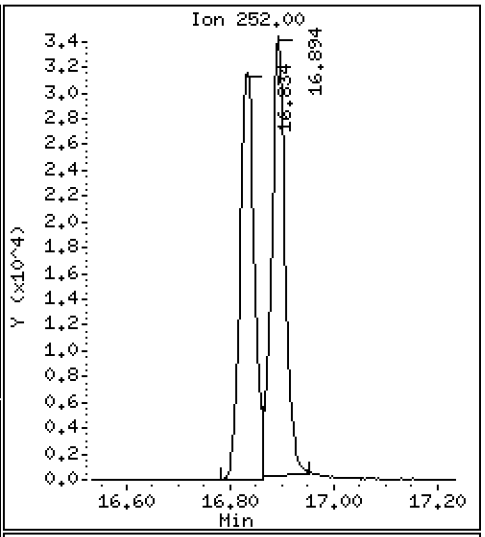
Column phase: Rxi-17sil

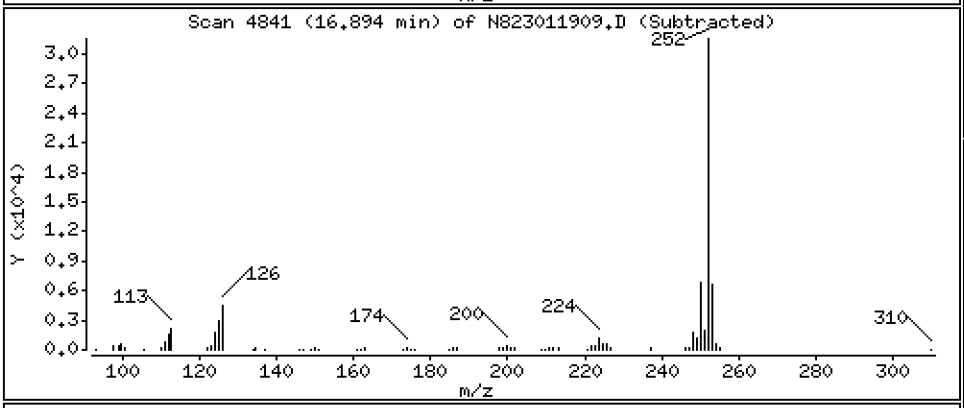
Column diameter: 0.25

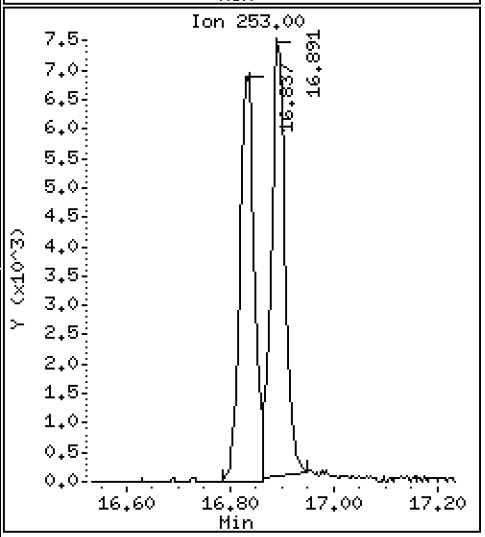
29 Benzo(k)fluoranthene

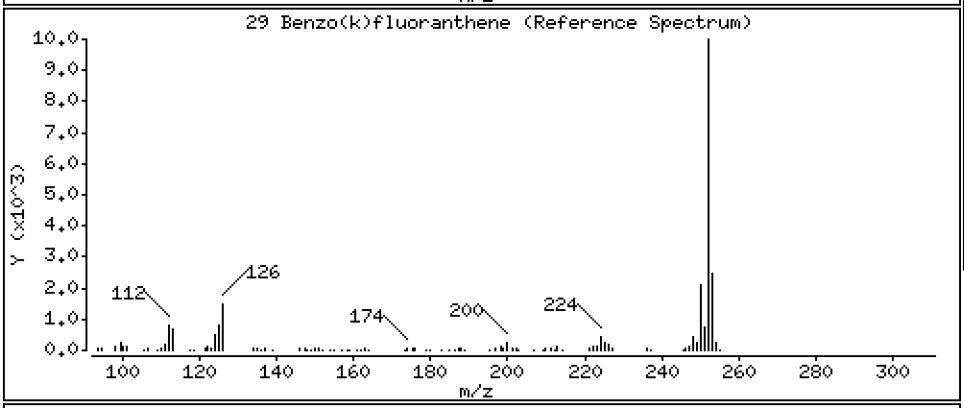
Concentration: 2.656 ug/L

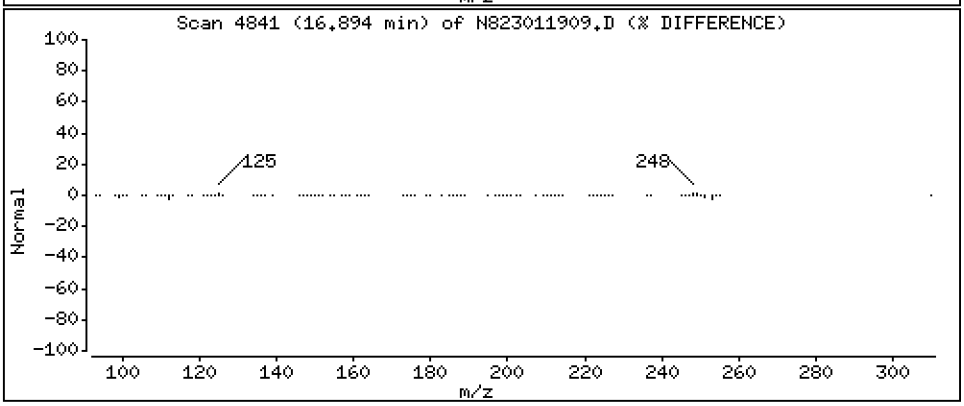












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

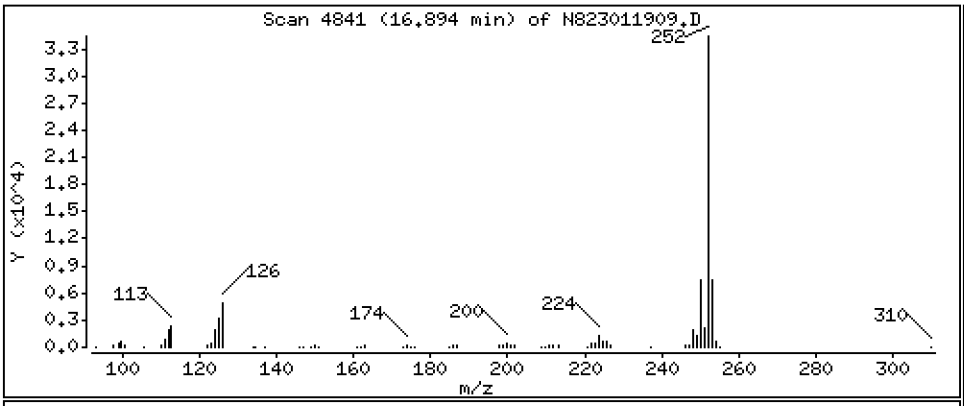
Operator: JZ

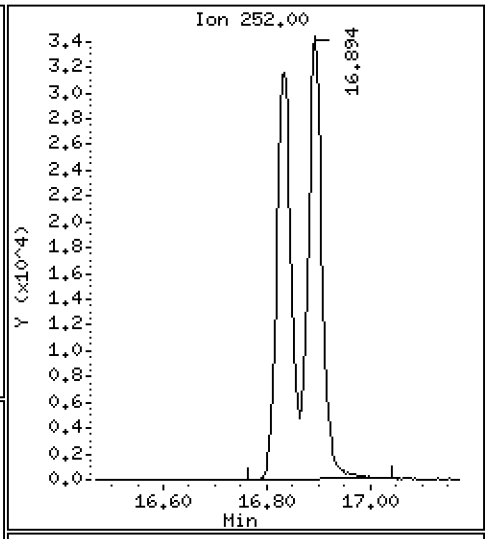
Column phase: Rxi-17sil

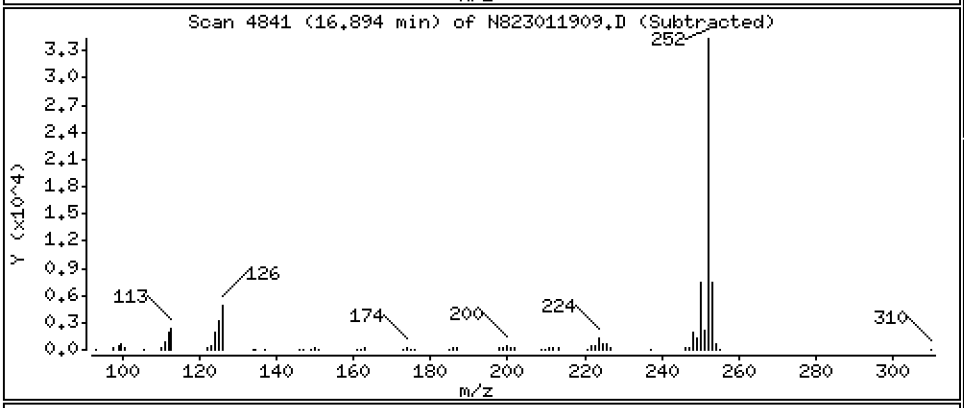
Column diameter: 0.25

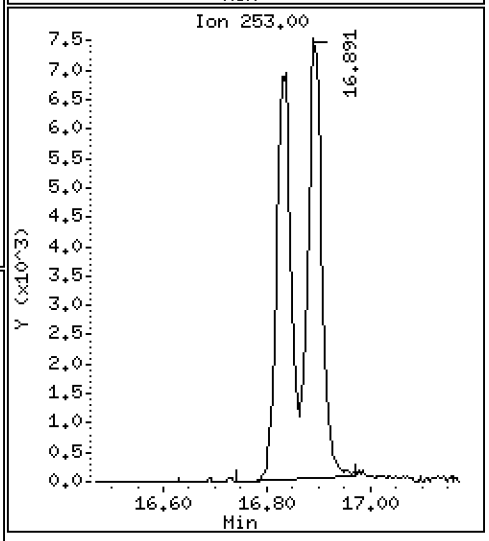
31 Total Benzofluoranthenes

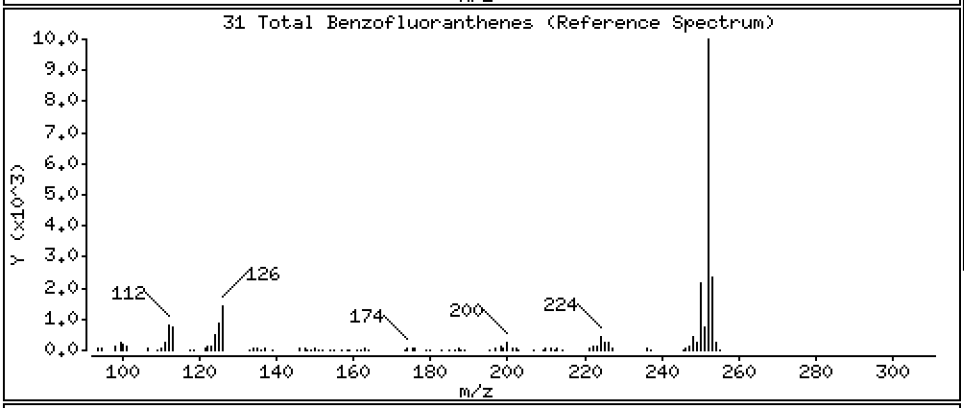
Concentration: 5.480 ug/L

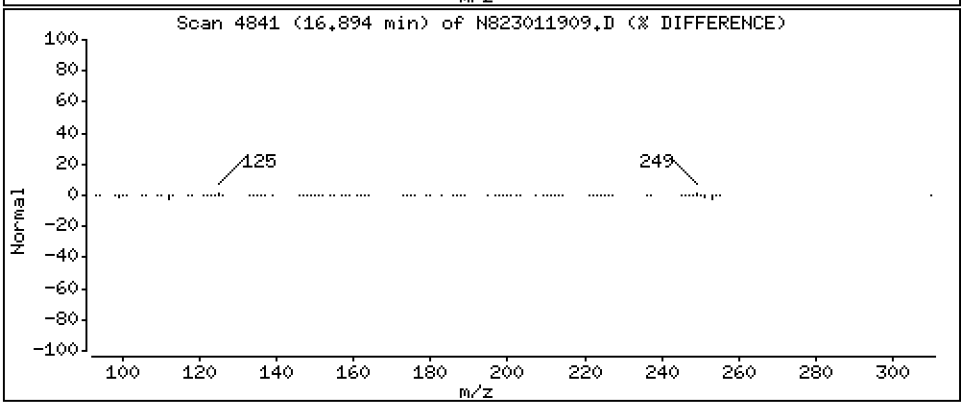












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

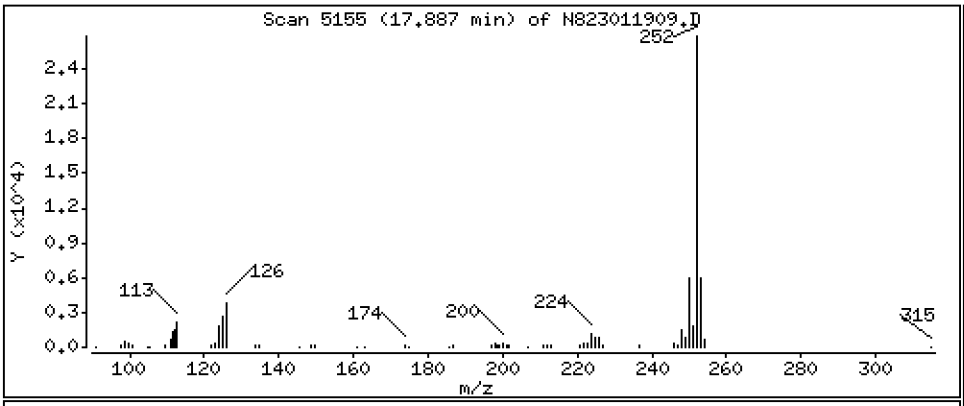
Operator: JZ

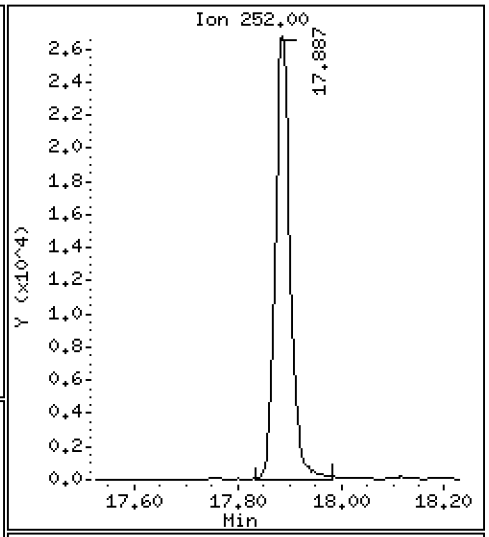
Column phase: Rxi-17sil

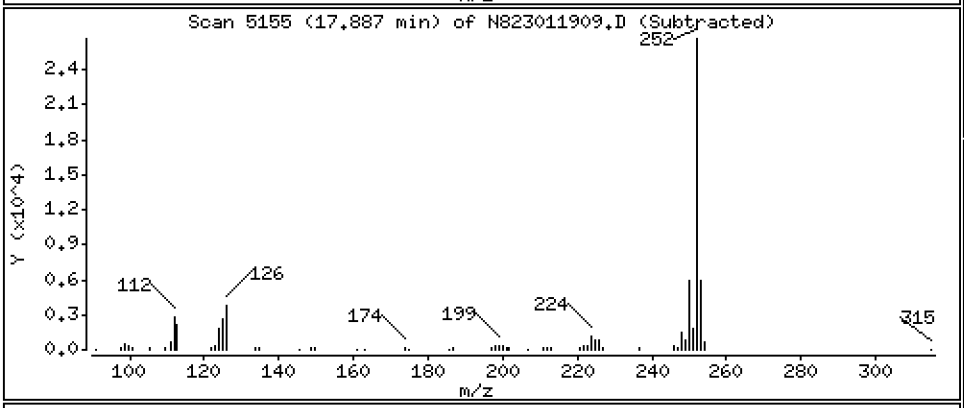
Column diameter: 0.25

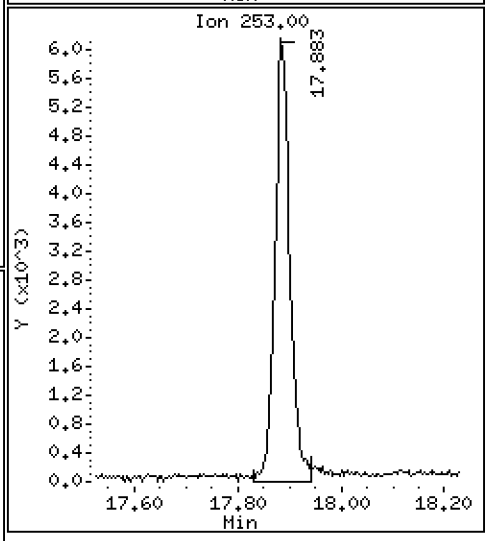
32 Benzo(a)pyrene

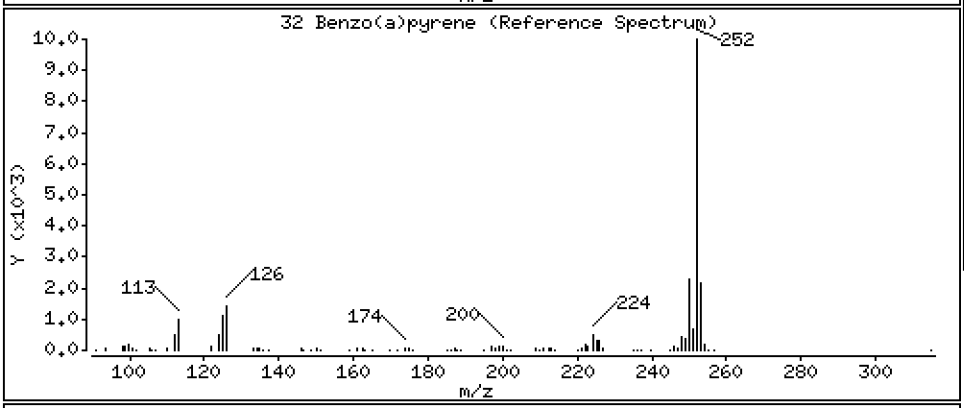
Concentration: 2.572 ug/L

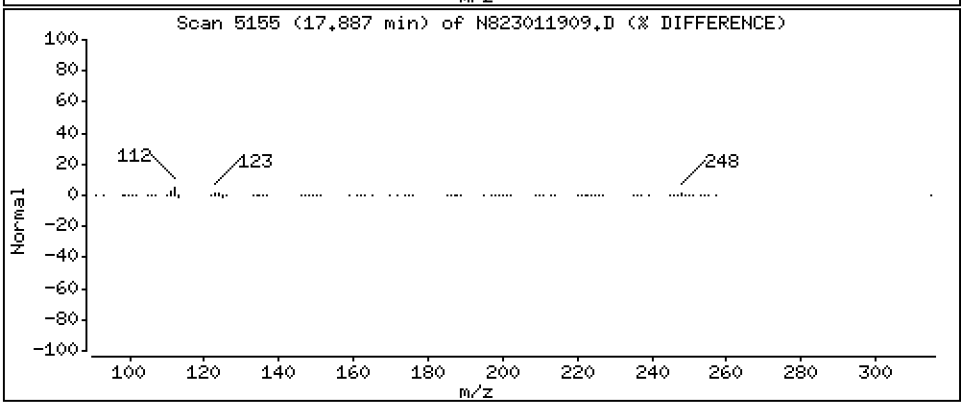












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

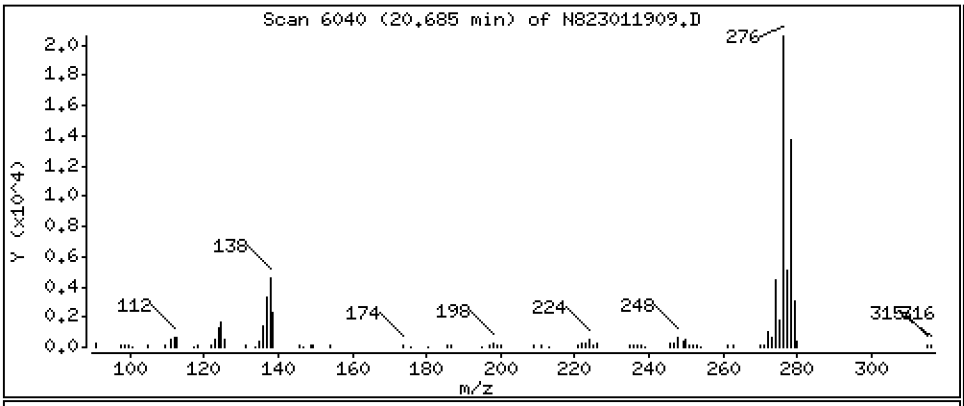
Operator: JZ

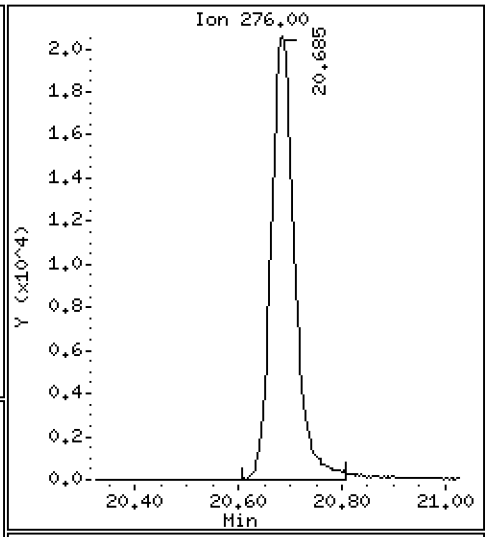
Column phase: Rxi-17sil

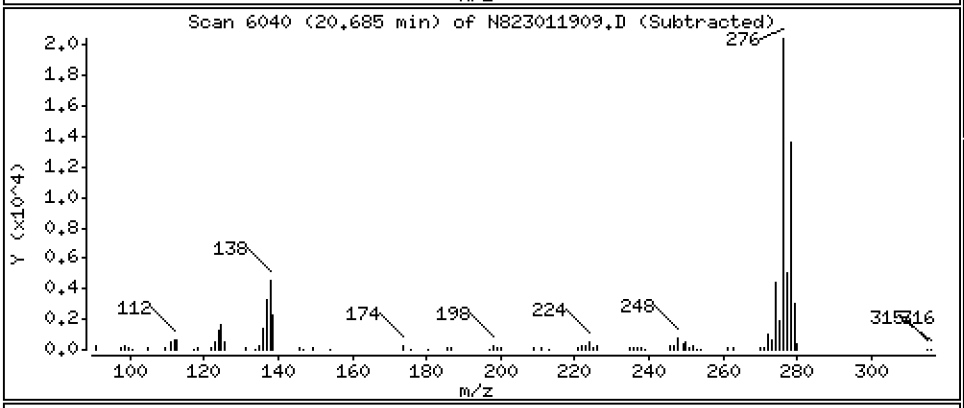
Column diameter: 0.25

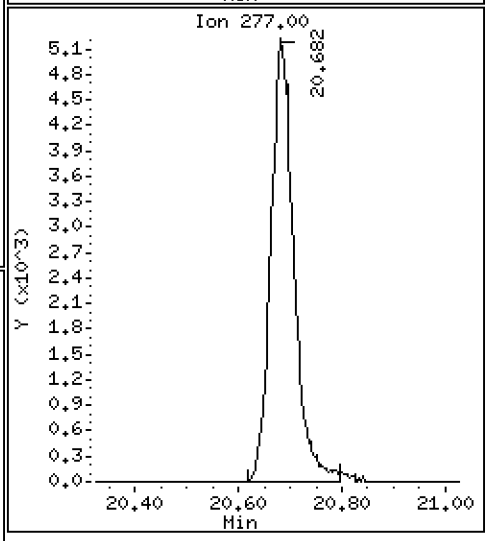
37 Indeno(1,2,3-cd)pyrene

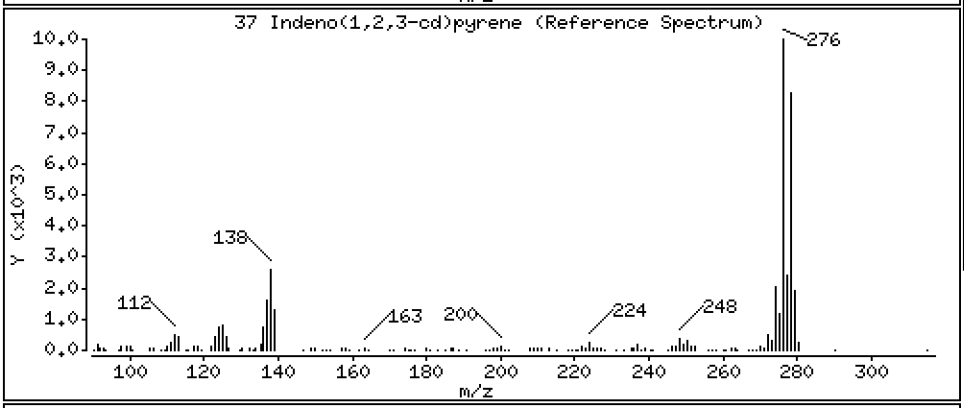
Concentration: 2.689 ug/L

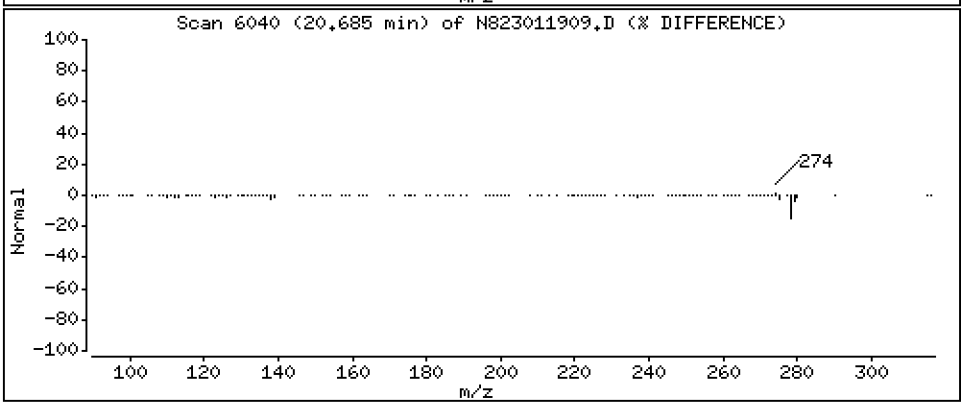












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

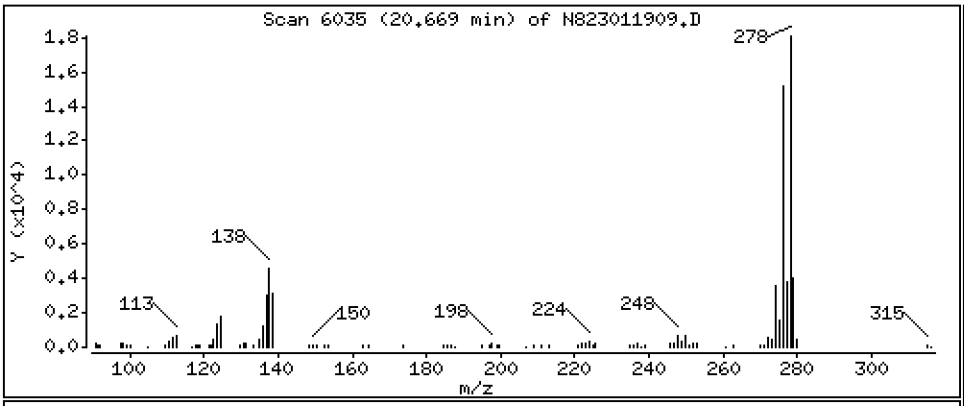
Operator: JZ

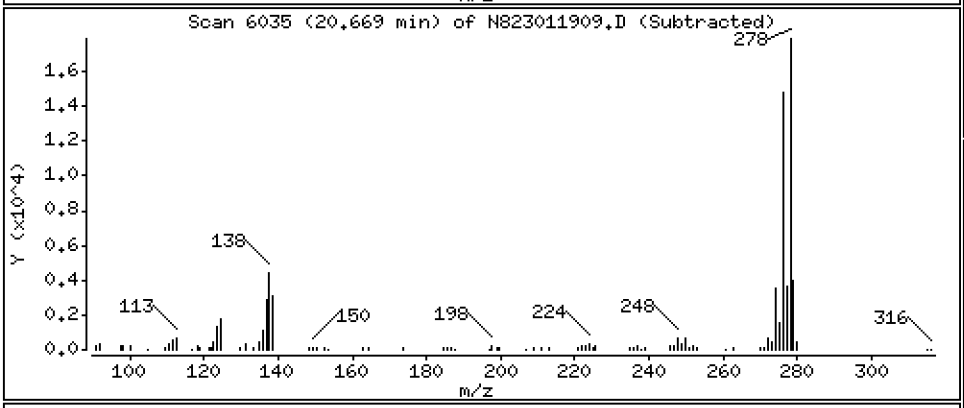
Column phase: Rxi-17sil

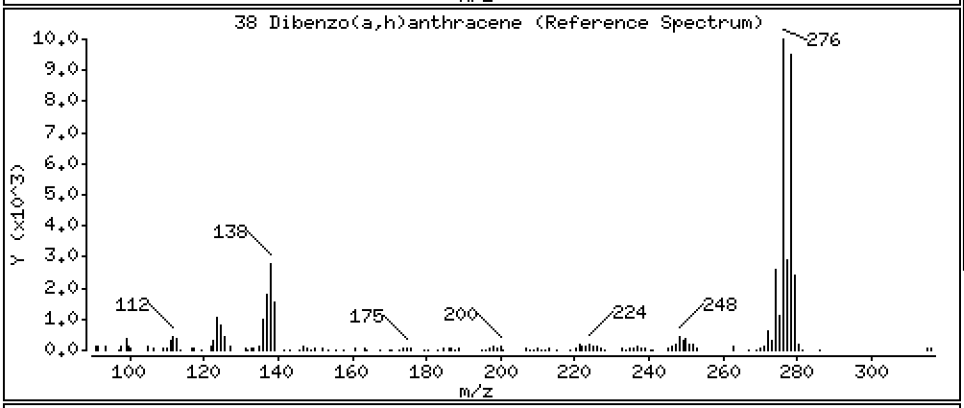
Column diameter: 0.25

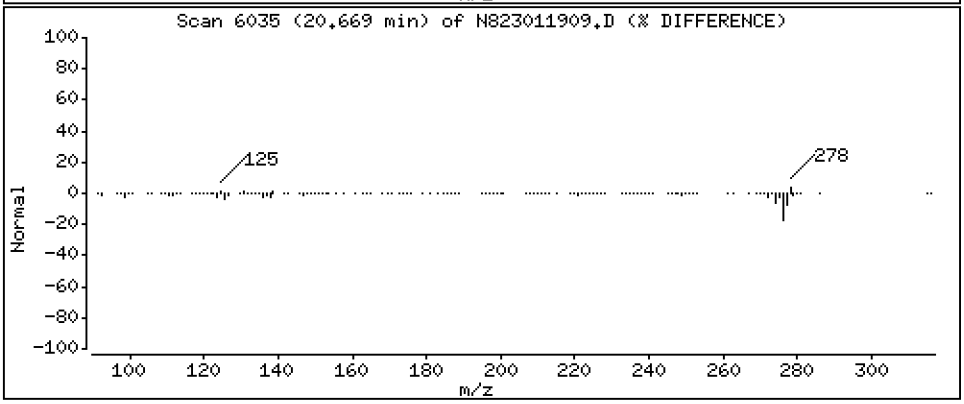
38 Dibenzo(a,h)anthracene

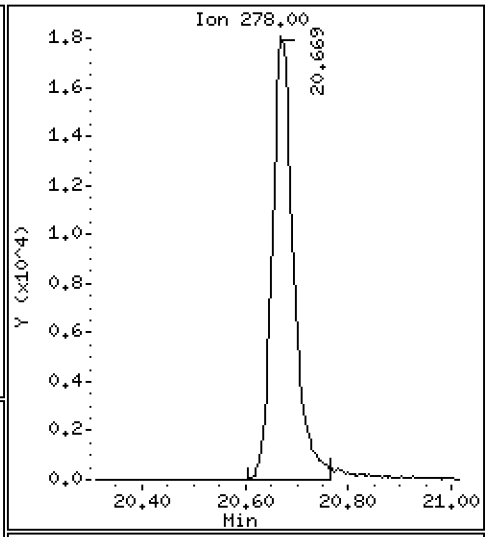
Concentration: 2.493 ug/L

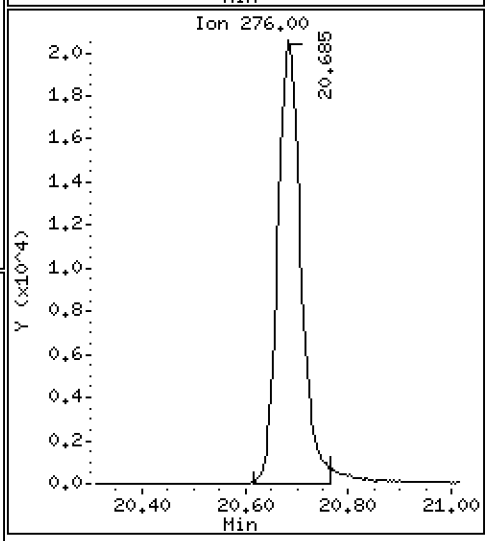












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

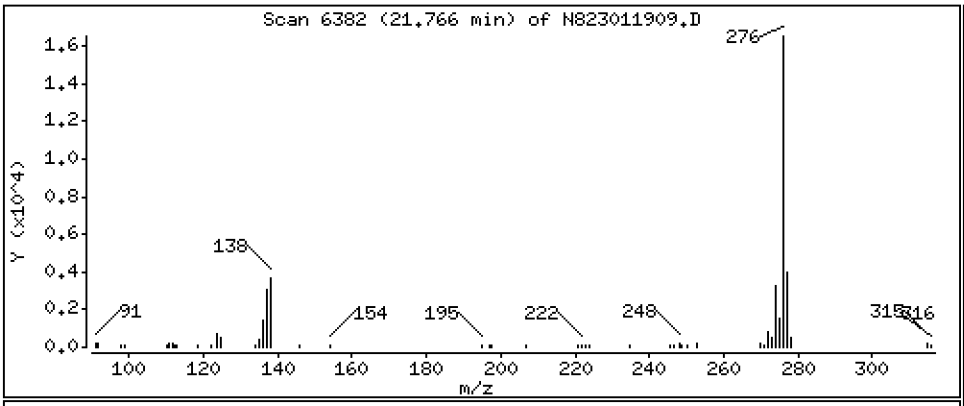
Operator: JZ

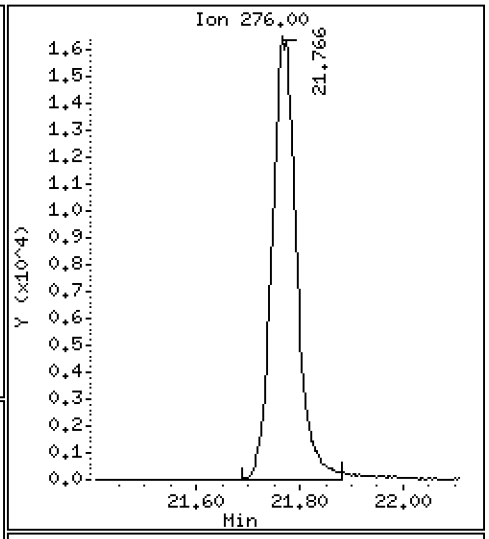
Column phase: Rxi-17sil

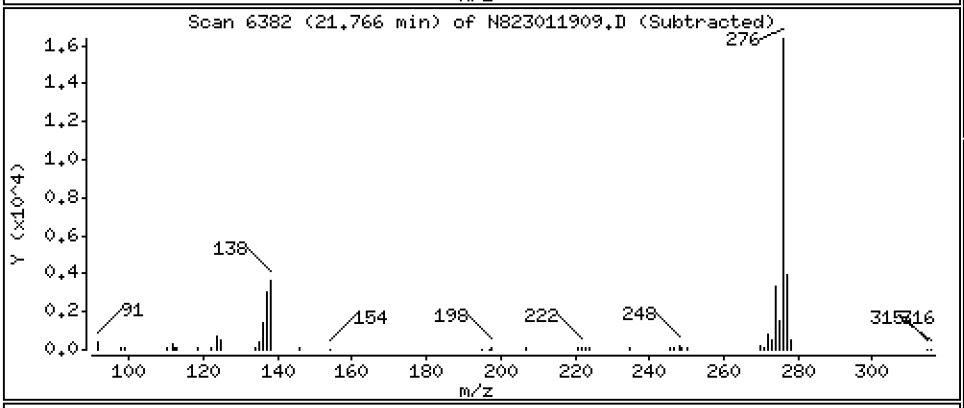
Column diameter: 0.25

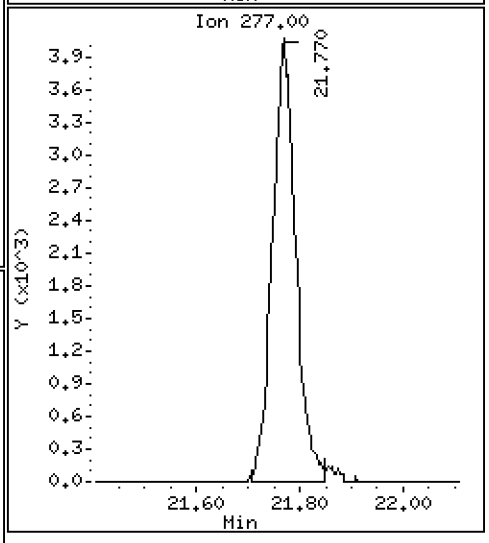
39 Benzo(g,h,i)perylene

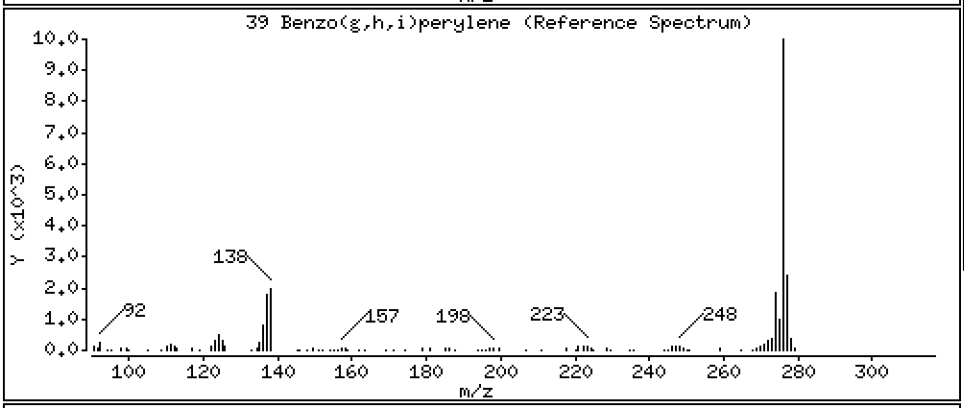
Concentration: 2.483 ug/L

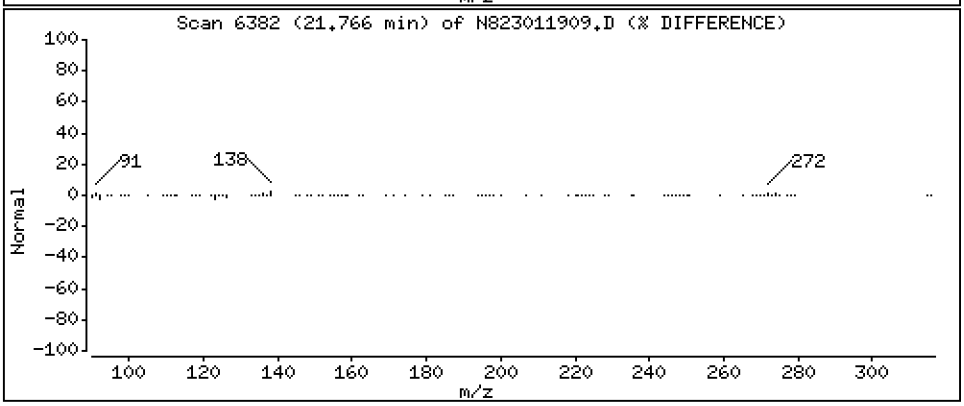












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230119.b\N823011909.D
Lab Smp Id: SLA0213-SCV1
Inj Date : 19-JAN-2023 14:58
Operator : JZ Inst ID: nt8.i
Smp Info : SCV230119
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230119.b\FSIMPNA230119.m
Meth Date : 19-Jan-2023 20:20 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 9 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnascv.sub
Target Version: 4.14
Processing Host: JIANQING-202105

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Vo	500.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/L)
* 1 Naphthalene-d8	136	4.913	4.906	(1.000)	46346	2.00000	
2 Naphthalene	128	4.941	4.938	(1.006)	56587	2.62597	2.626
$ 3 2-Methylnaphthalene-d10	152	Compound Not Detected.					
4 2-Methylnaphthalene	141	5.694	5.687	(1.159)	31650	2.67019	2.670
5 1-methylnaphthalene	141	5.890	5.883	(1.199)	31873	2.64949	2.649
9 Acenaphthylene	152	7.091	7.085	(0.985)	59018	2.82060	2.821
* 10 Acenaphthene-d10	164	7.202	7.196	(1.000)	27709	2.00000	
11 Acenaphthene	153	7.249	7.246	(1.007)	36454	2.60022	2.600
12 Dibenzofuran	168	7.401	7.395	(1.028)	60898	2.85987	2.860
14 Fluorene	166	7.878	7.872	(1.094)	43507	2.63066	2.631
* 15 Phenanthrene-d10	188	9.238	9.235	(1.000)	51685	2.00000	
16 Phenanthrene	178	9.276	9.270	(1.004)	61815	2.44841	2.448
17 Anthracene	178	9.317	9.311	(1.009)	52064	2.27006	2.270
22 Fluoranthene	202	11.059	11.053	(1.197)	72902	2.65276	2.653
$ 21 Fluoranthene-d10	212	Compound Not Detected.					
23 Pyrene	202	11.578	11.572	(0.815)	71115	2.46242	2.462
24 Benzo(a)anthracene	228	14.082	14.076	(0.991)	67725	2.58725	2.587
* 25 Chrysene-d12	240	14.212	14.202	(1.000)	46582	2.00000	
27 Chrysene	228	14.285	14.278	(1.005)	66872	2.39976	2.400
28 Benzo(b)fluoranthene	252	16.833	16.821	(0.929)	60946	2.50689	2.507
29 Benzo(k)fluoranthene	252	16.893	16.884	(0.932)	63249	2.65606	2.656
31 Total Benzofluoranthenes	252	16.893	16.821	(0.932)	126178	5.48025	5.480(M)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)
	32 Benzo(a)pyrene	252	17.886	17.877	(0.987)	55026	2.57205	2.572
*	33 Perylene-d12	264	18.117	18.111	(1.000)	41743	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	20.684	20.675	(1.142)	65545	2.68928	2.689
$	36 Dibenzo(a,h)anthracene-d14	292	Compound Not Detected.					
	38 Dibenzo(a,h)anthracene	278	20.669	20.662	(1.141)	52293	2.49315	2.493
	39 Benzo(g,h,i)perylene	276	21.766	21.756	(1.201)	54821	2.48258	2.483
	35 Perylene	252	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823011909.D
Lab Smp Id: SLA0213-SCV1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230119.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 19-JAN-2023
Calibration Time: 12:52
Level: LOW
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	44704	22352	89408	46346	3.67
10 Acenaphthene-d10	26411	13206	52822	27709	4.91
15 Phenanthrene-d10	49210	24605	98420	51685	5.03
25 Chrysene-d12	42994	21497	85988	46582	8.35
33 Perylene-d12	40520	20260	81040	41743	3.02

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.91	4.41	5.41	4.91	0.13
10 Acenaphthene-d10	7.20	6.70	7.70	7.20	0.09
15 Phenanthrene-d10	9.24	8.74	9.74	9.24	0.03
25 Chrysene-d12	14.20	13.70	14.70	14.21	0.07
33 Perylene-d12	18.11	17.61	18.61	18.12	0.03

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

REVIEW SUMMARY FOR FILE - N823011909.D

Lab ID: SLA0213-SCV1
nt8.i, 20230119.b\FSIMPNA230119.m,   19-JAN-2023 14:58

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

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

No RRT check performed

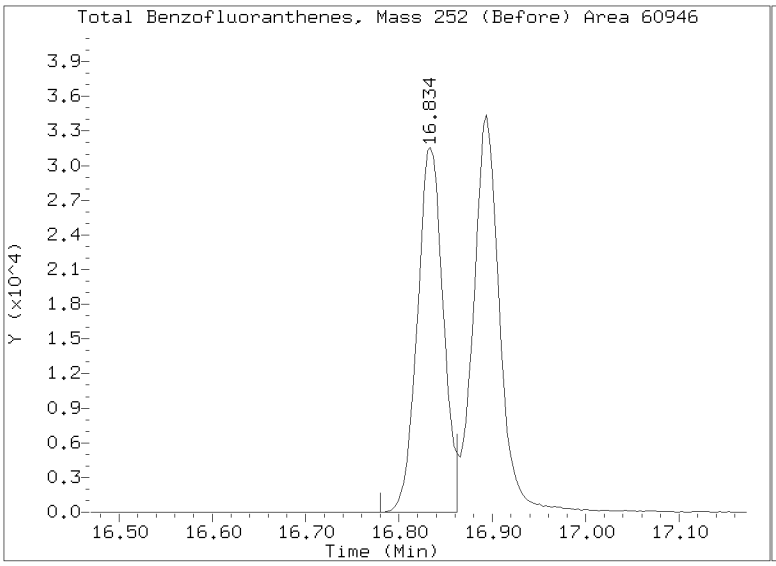
On Column LOD for nt8.i, 20230119.b\FSIMPNA230119.m, pnascv.sub = 0.0500

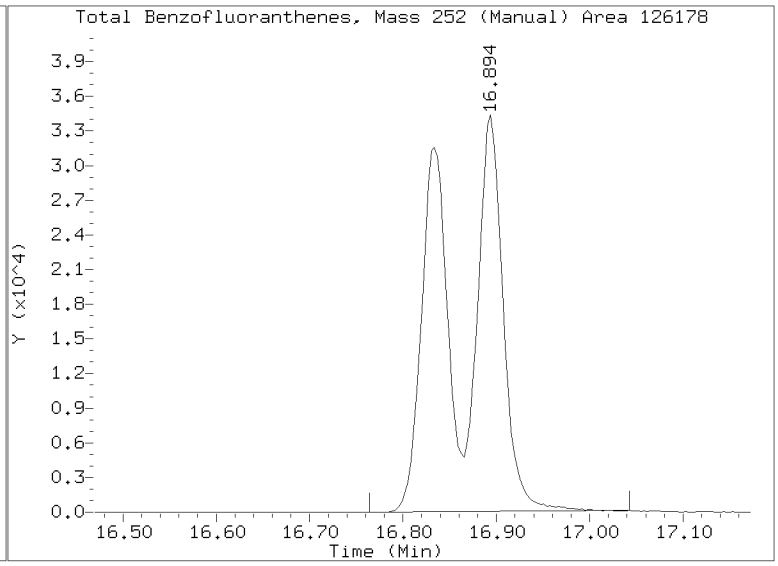
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

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

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20230119.b/N823011909.D
Injection Date: 19-JAN-2023 14:58
Lab ID:SLA0213-SCV1 Client ID:
Report Date: 01/19/2023 20:27





SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270E-SIM

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GA00050
Laboratory ID: SLA0213-SCV1
Sequence: SLA0213
Sequence Name: 8270 SIM PNA SCV
Standard ID: L000686

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DRIFT	QC LIMIT
Naphthalene	2.5000	2.63	5.0	
2-Methylnaphthalene	2.5000	2.67	6.8	
1-Methylnaphthalene	2.5000	2.65	6.0	
Acenaphthylene	2.5000	2.82	12.8	
Acenaphthene	2.5000	2.60	4.0	
Dibenzofuran	2.5000	2.86	14.4	
Fluorene	2.5000	2.63	5.2	
Phenanthrene	2.5000	2.45	-2.1	
Anthracene	2.5000	2.27	-9.2	
Fluoranthene	2.5000	2.65	6.1	
Pyrene	2.5000	2.46	-1.5	
Benzo(a)anthracene	2.5000	2.59	3.5	
Chrysene	2.5000	2.40	-4.0	
Benzo(b)fluoranthene	2.5000	2.51	0.3	
Benzo(k)fluoranthene	2.5000	2.66	6.2	
Benzofluoranthenes, Total	5.0000	5.48	9.6	
Benzo(a)pyrene	2.5000	2.57	2.9	
Indeno(1,2,3-cd)pyrene	2.5000	2.69	7.6	
Dibenzo(a,h)anthracene	2.5000	2.49	-0.3	
Benzo(g,h,i)perylene	2.5000	2.48	-0.7	

* Indicates values outside of QC limits

Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

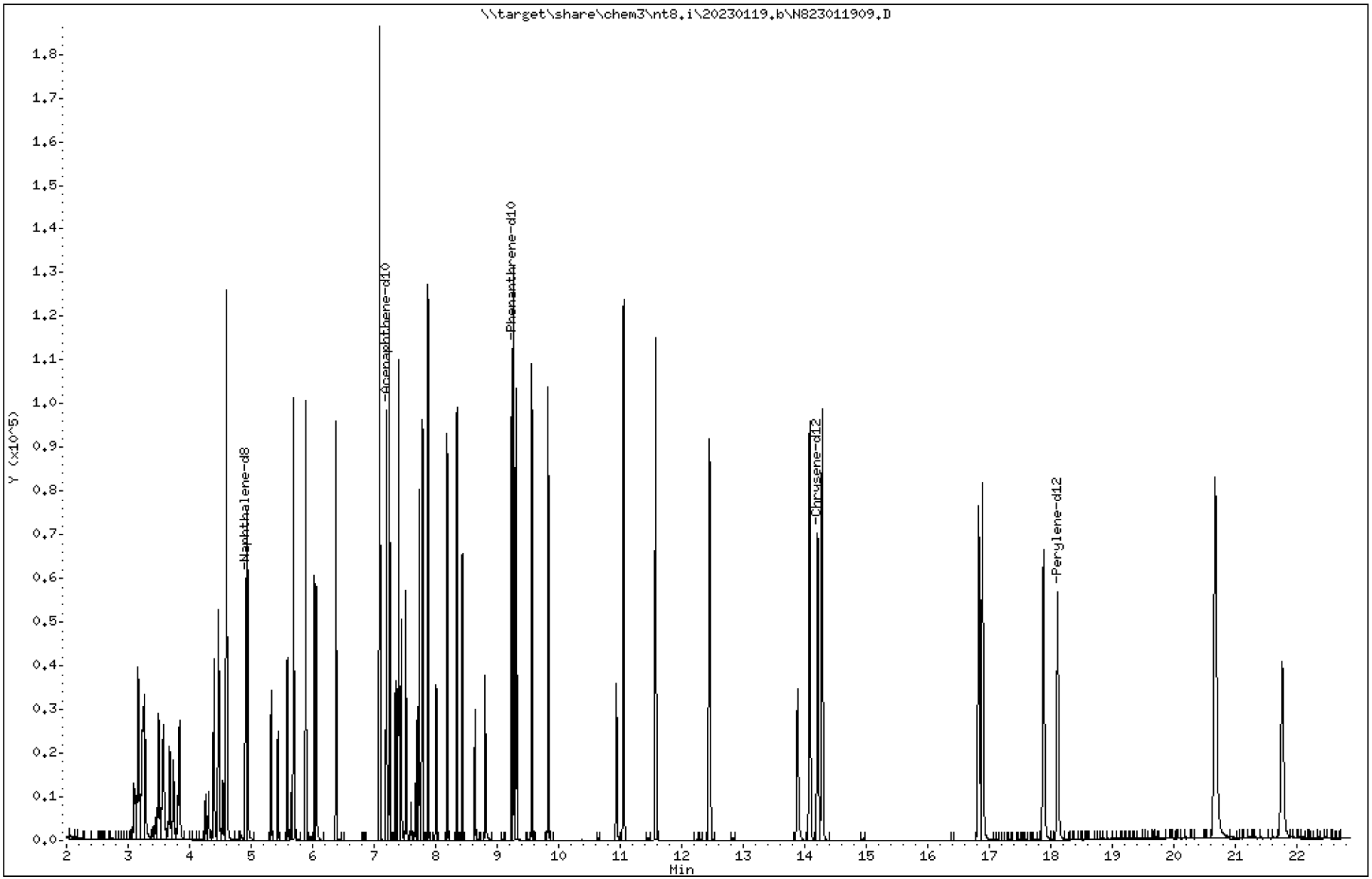
Sample Info: SCV230119

Volume Injected (uL): 1.0

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

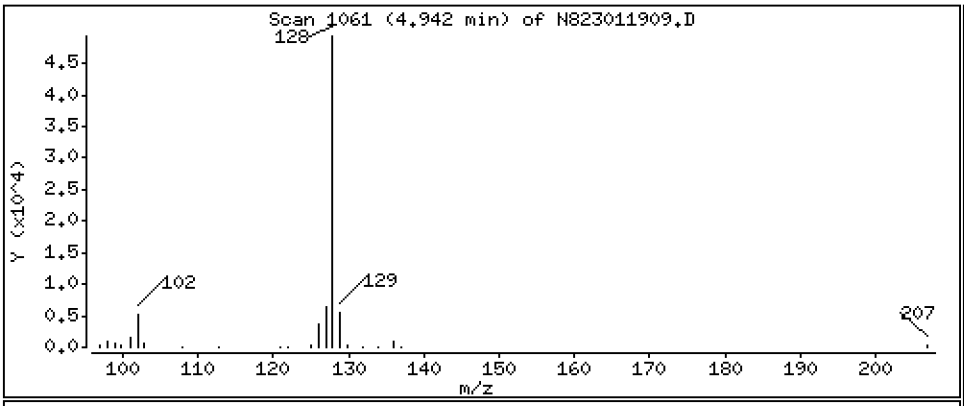
Operator: JZ

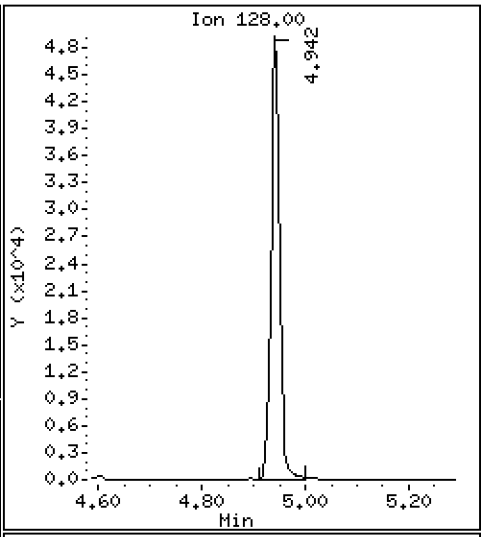
Column phase: Rxi-17sil

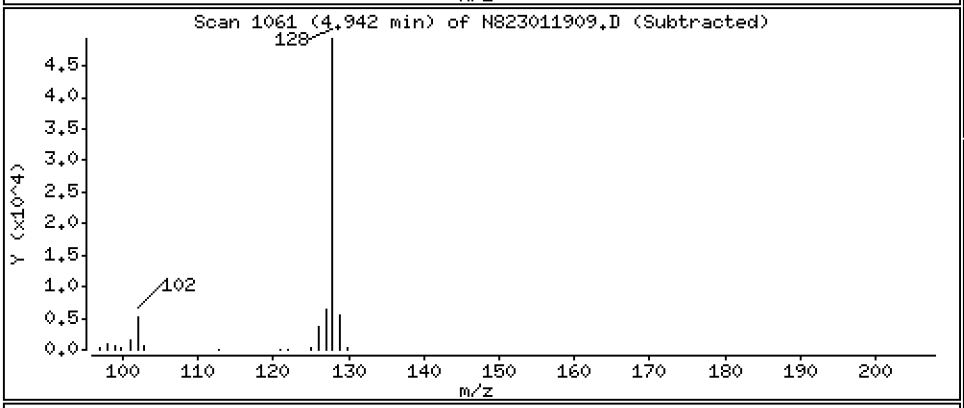
Column diameter: 0.25

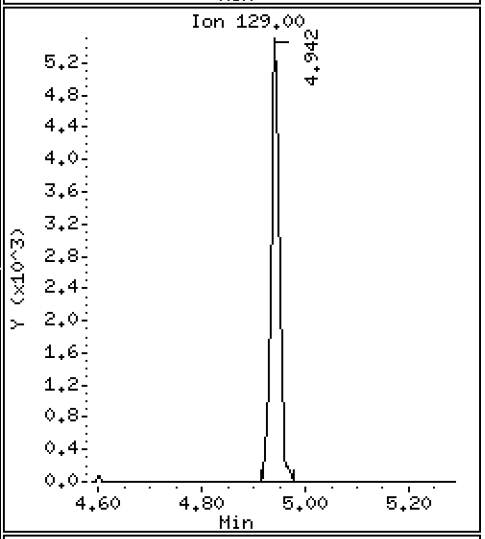
2 Naphthalene

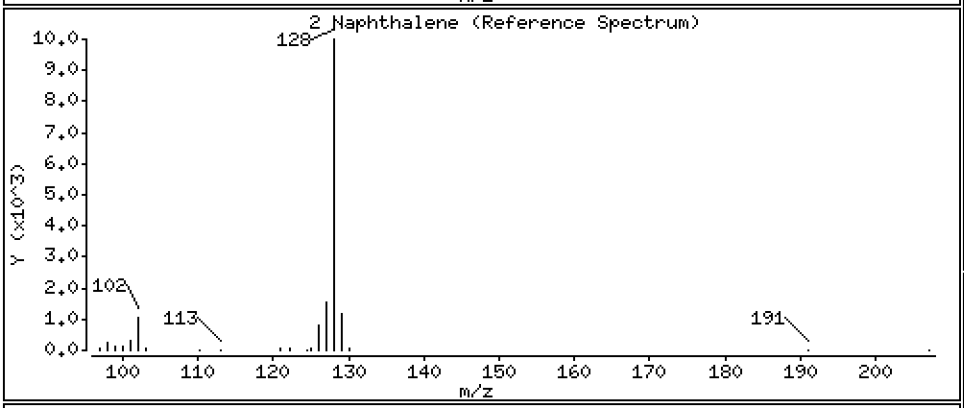
Concentration: 2.626 ug/L

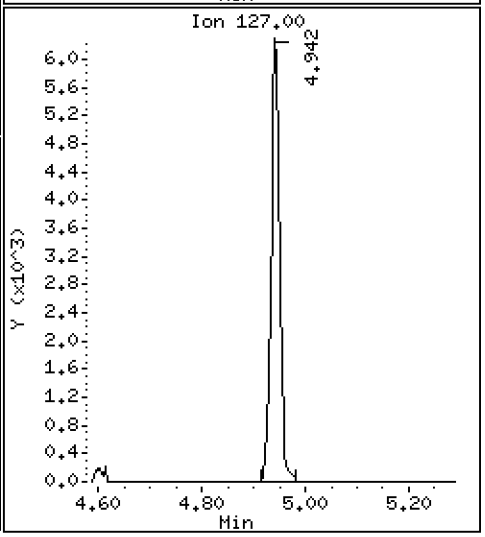


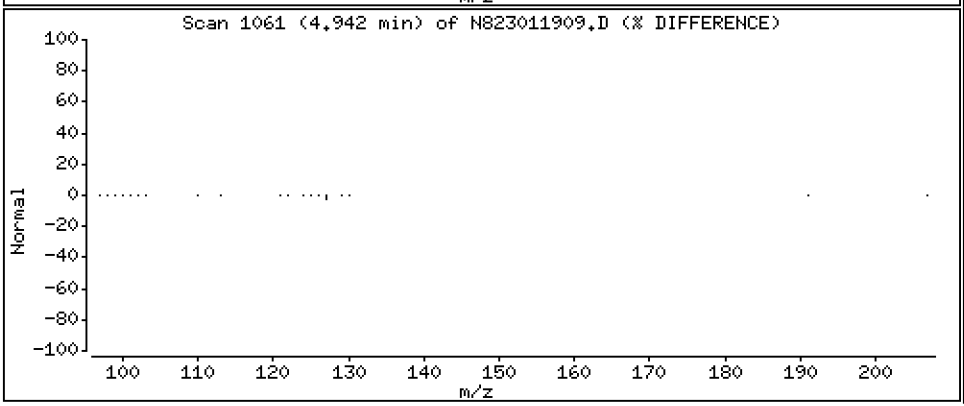












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

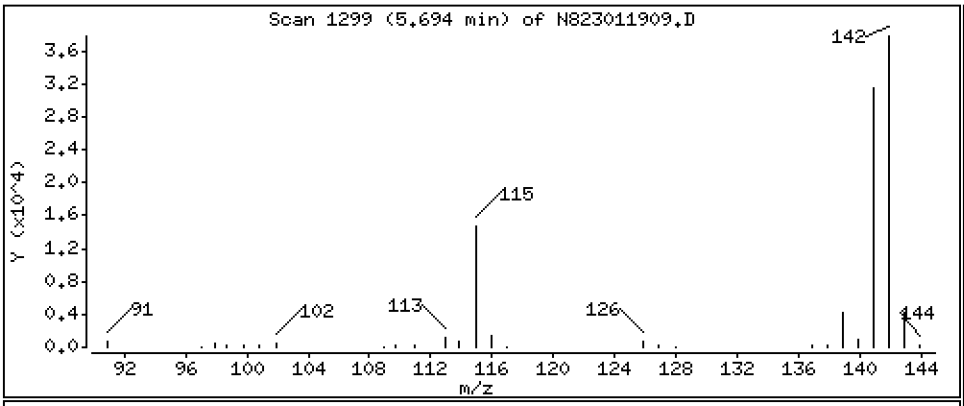
Operator: JZ

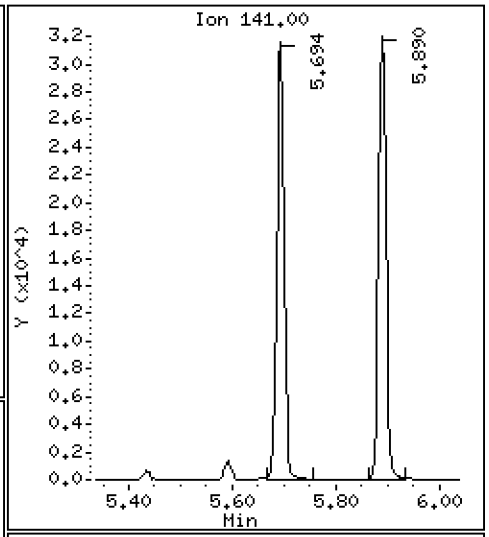
Column phase: Rxi-17sil

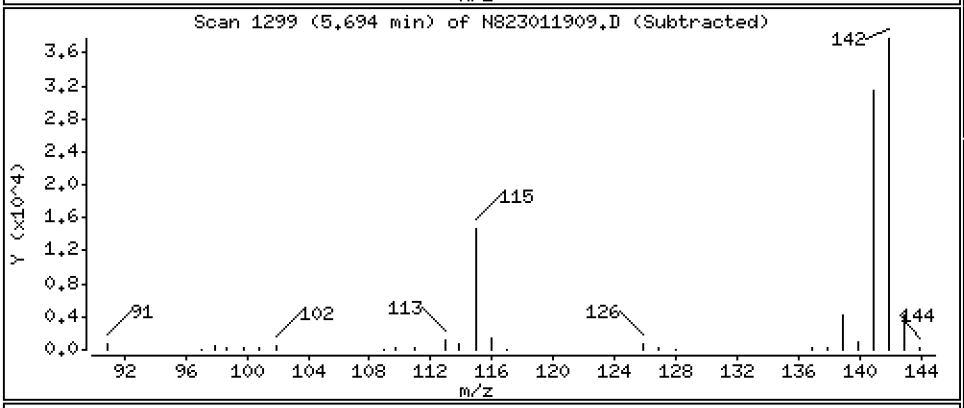
Column diameter: 0.25

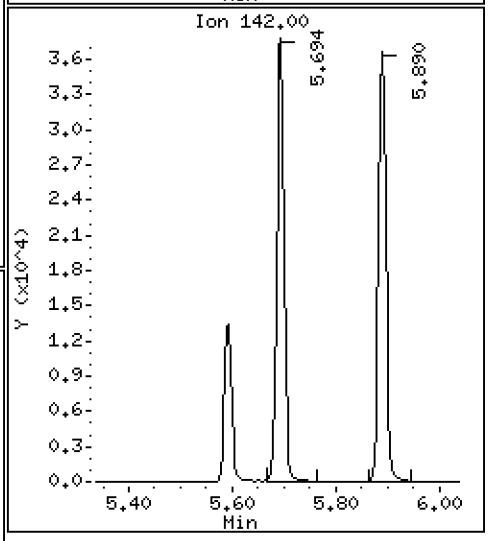
4 2-Methylnaphthalene

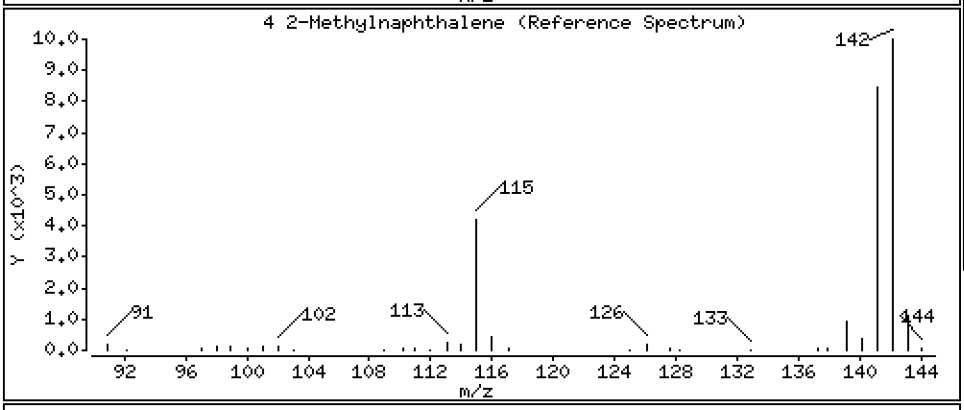
Concentration: 2.670 ug/L

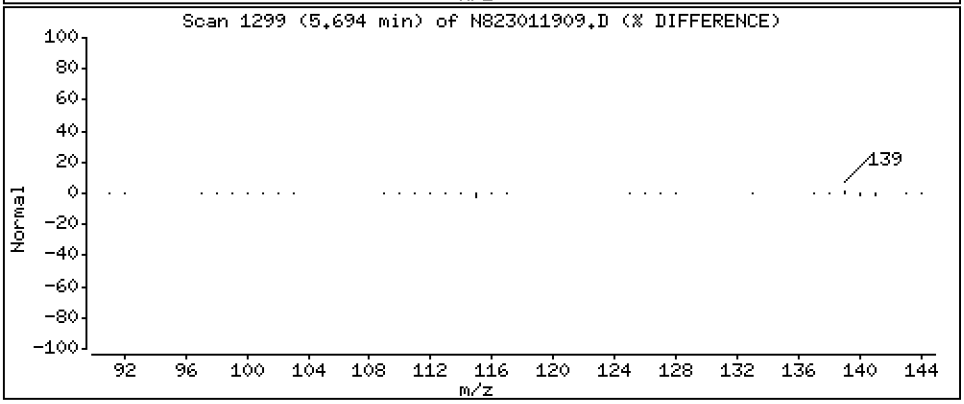












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

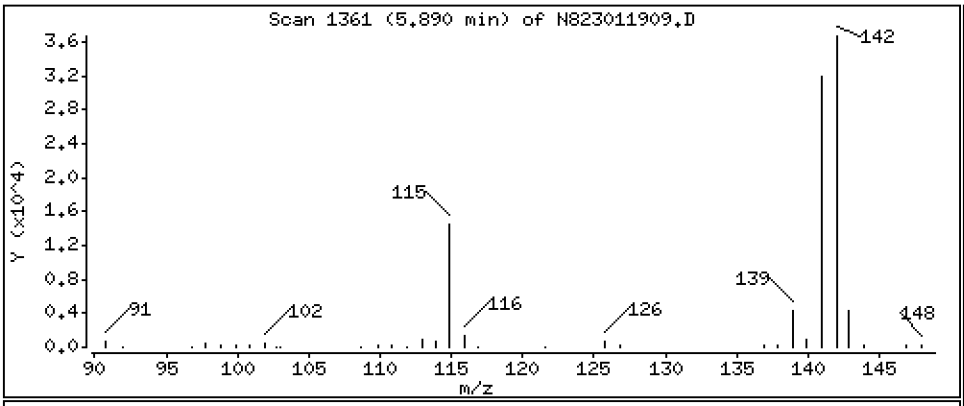
Operator: JZ

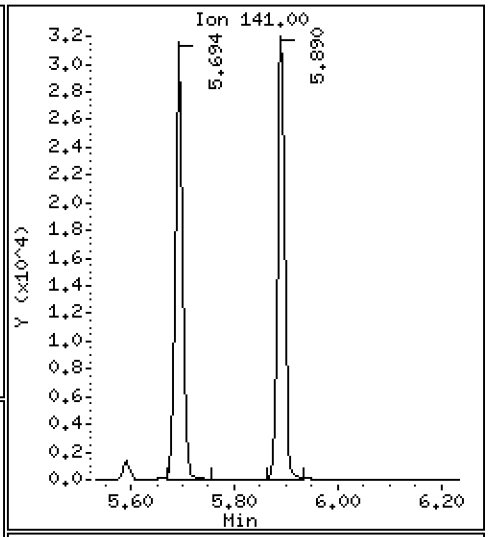
Column phase: Rxi-17sil

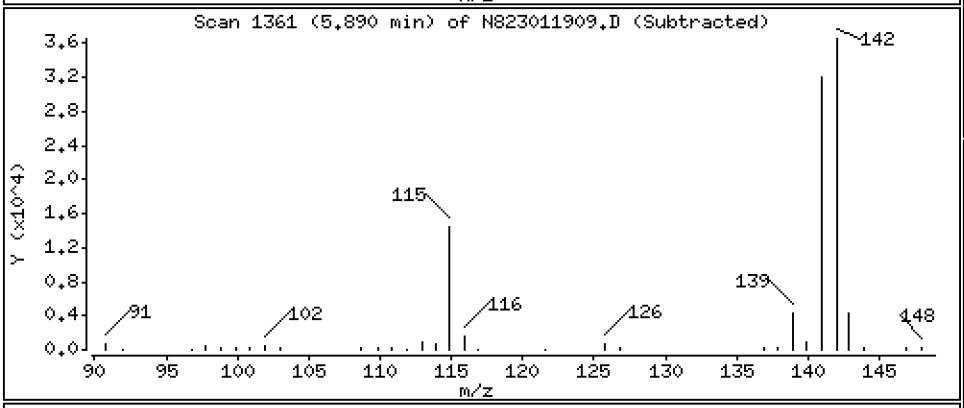
Column diameter: 0.25

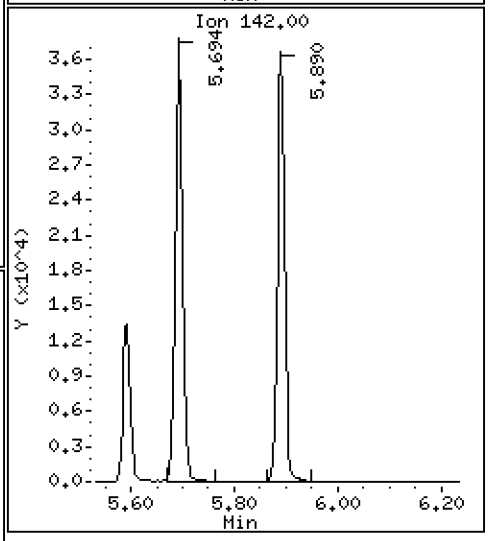
5 1-methylnaphthalene

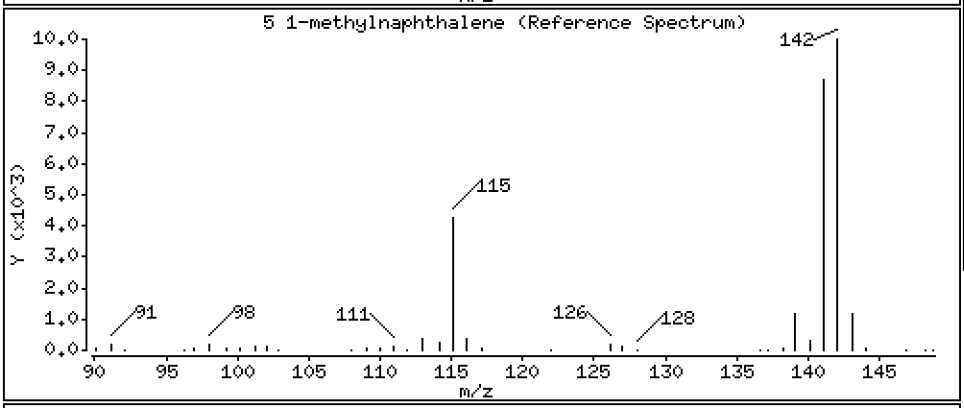
Concentration: 2.649 ug/L

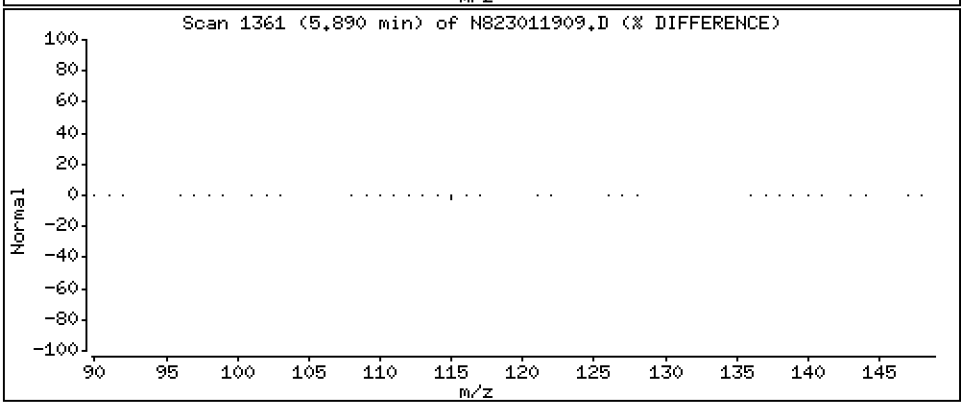












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

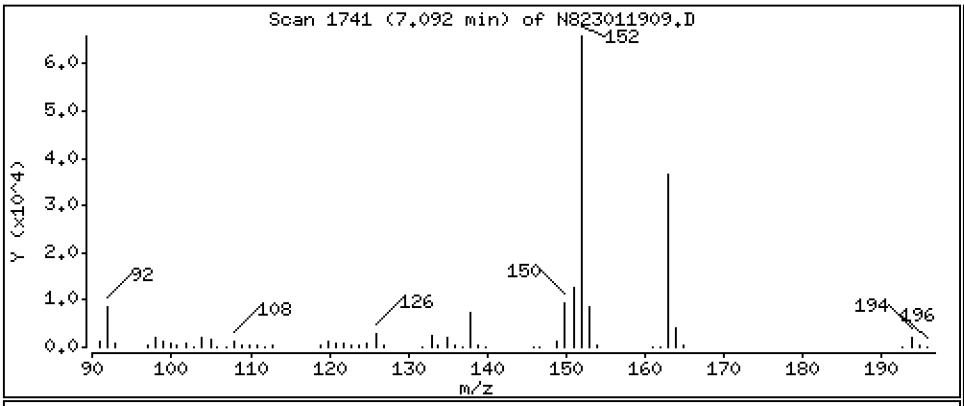
Operator: JZ

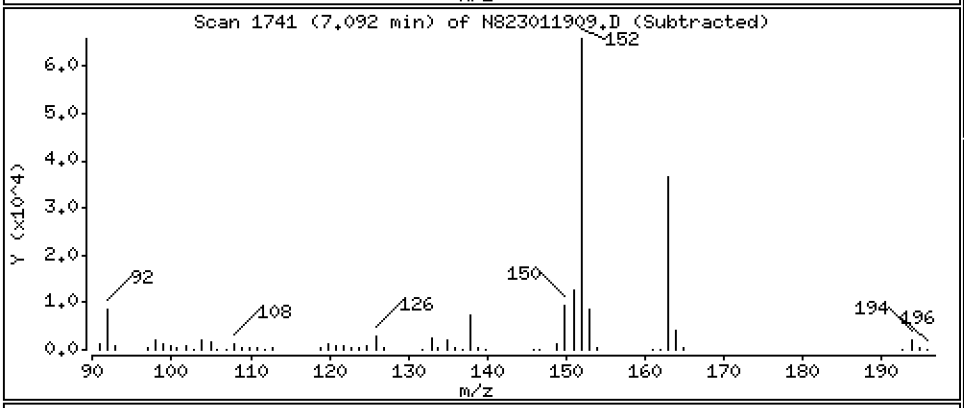
Column phase: Rxi-17sil

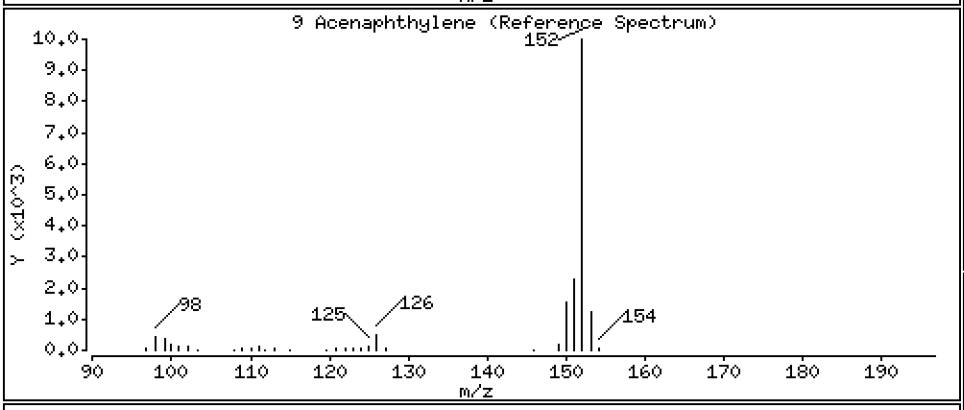
Column diameter: 0.25

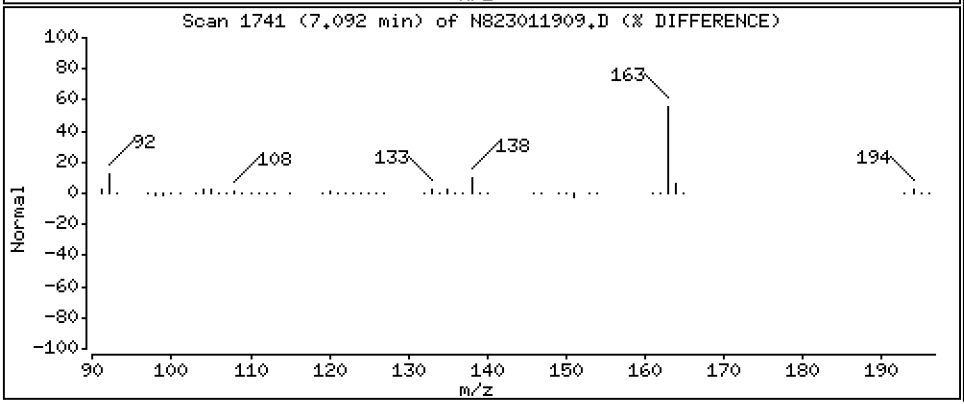
9 Acenaphthylene

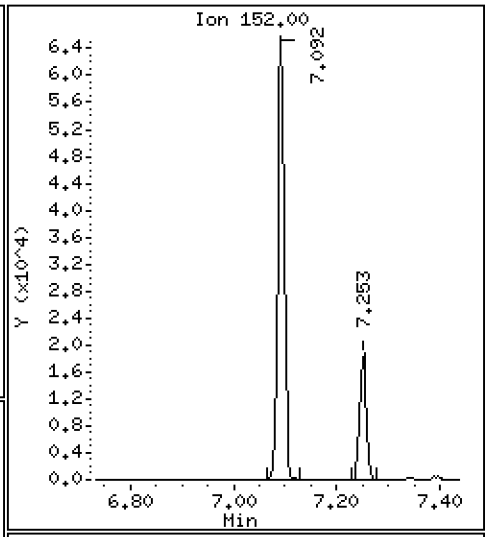
Concentration: 2.821 ug/L

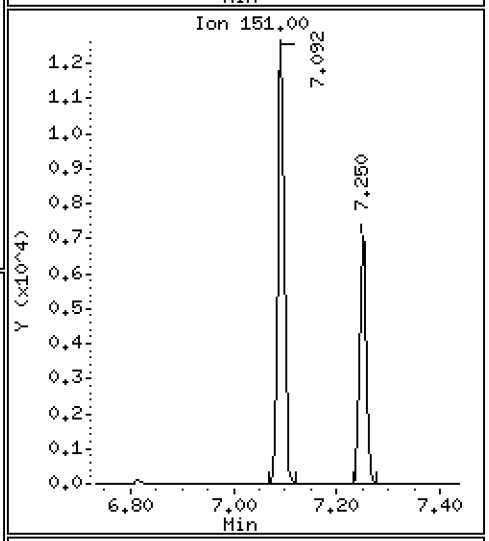


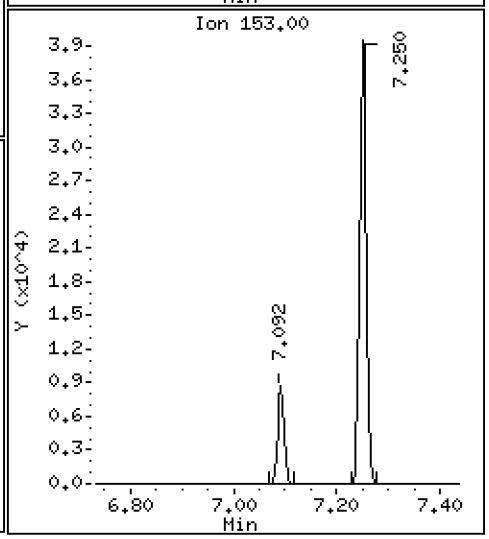












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

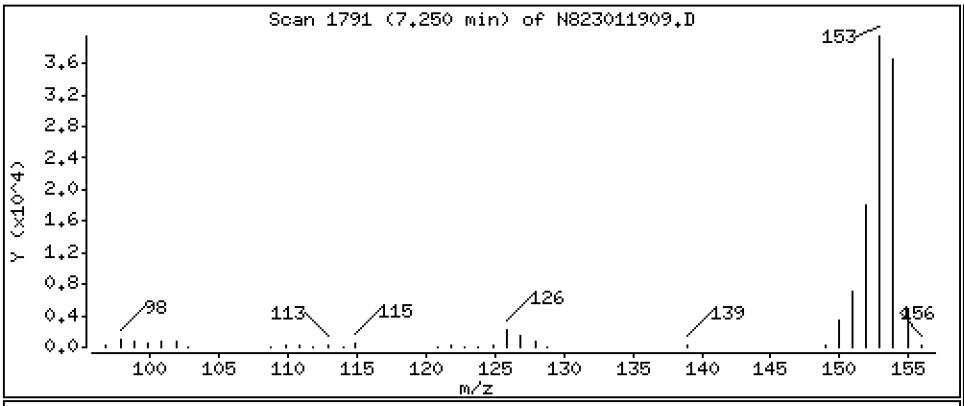
Operator: JZ

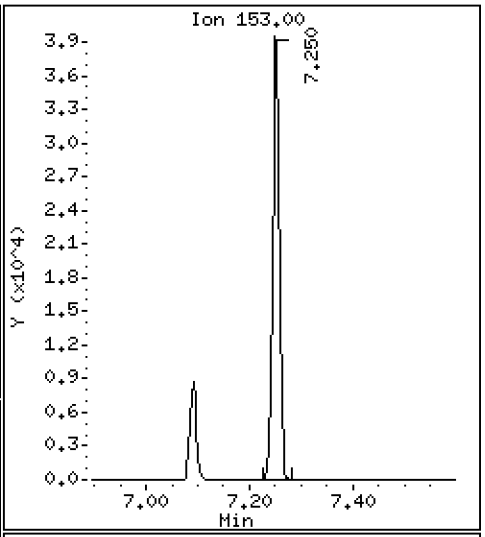
Column phase: Rxi-17sil

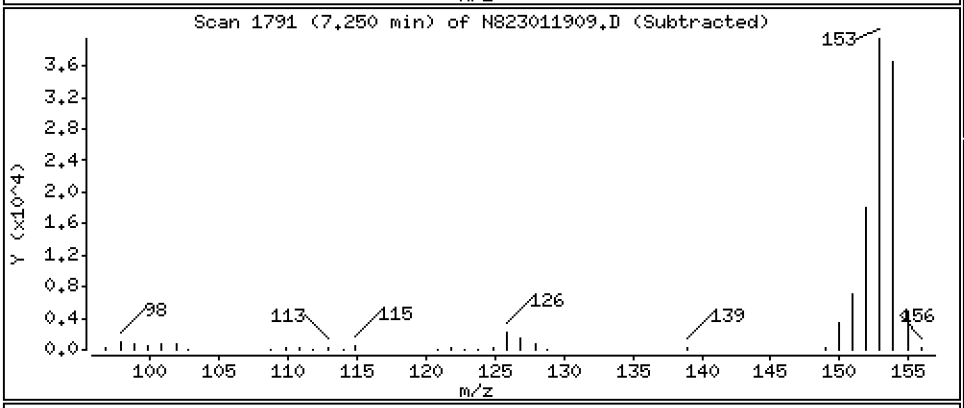
Column diameter: 0.25

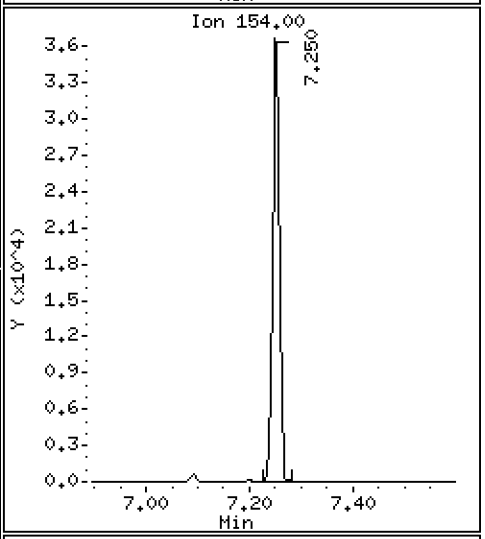
11 Acenaphthene

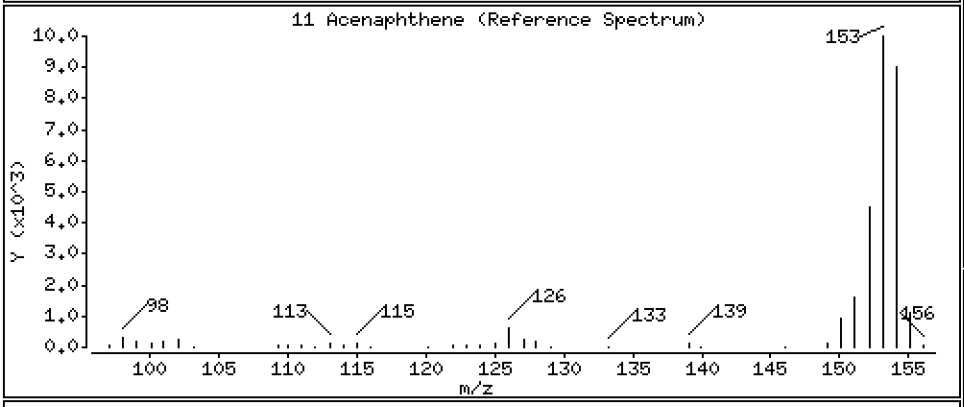
Concentration: 2.600 ug/L

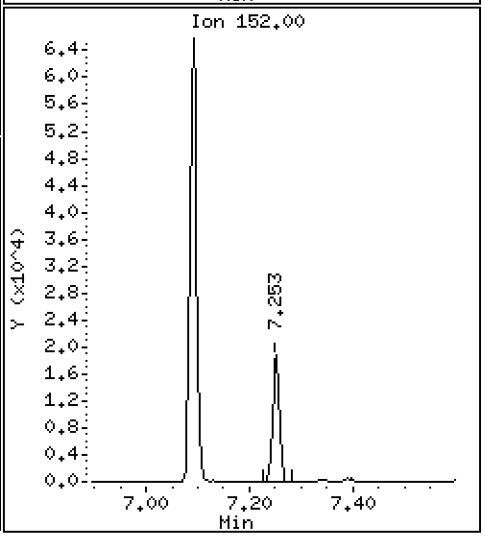


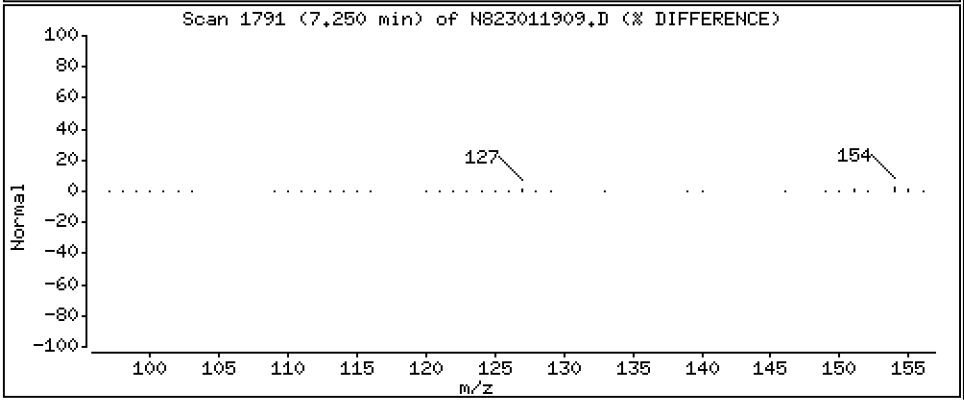












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

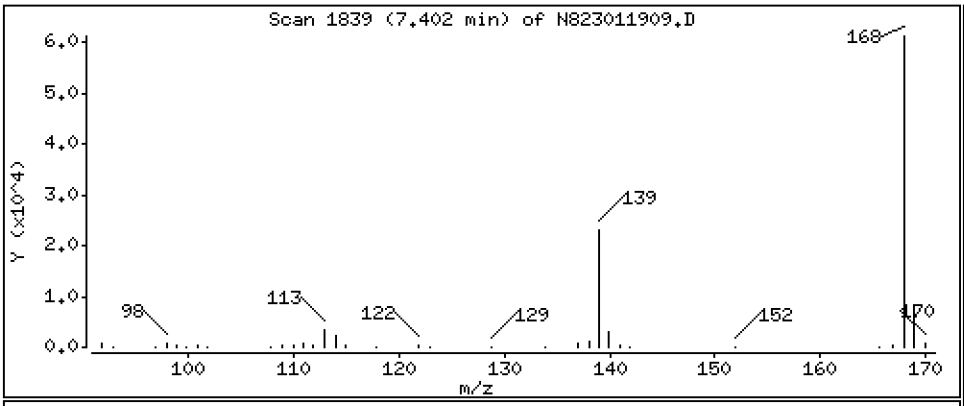
Operator: JZ

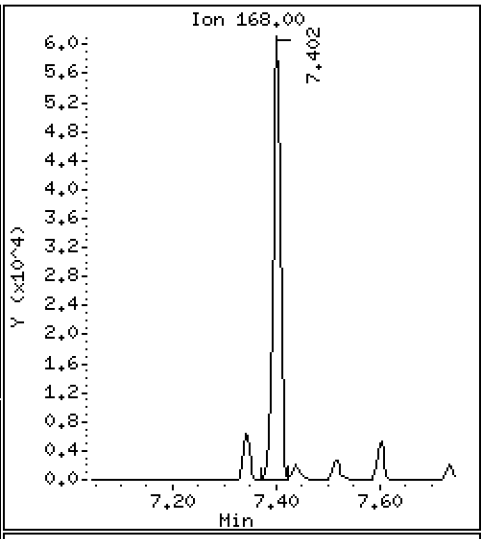
Column phase: Rxi-17sil

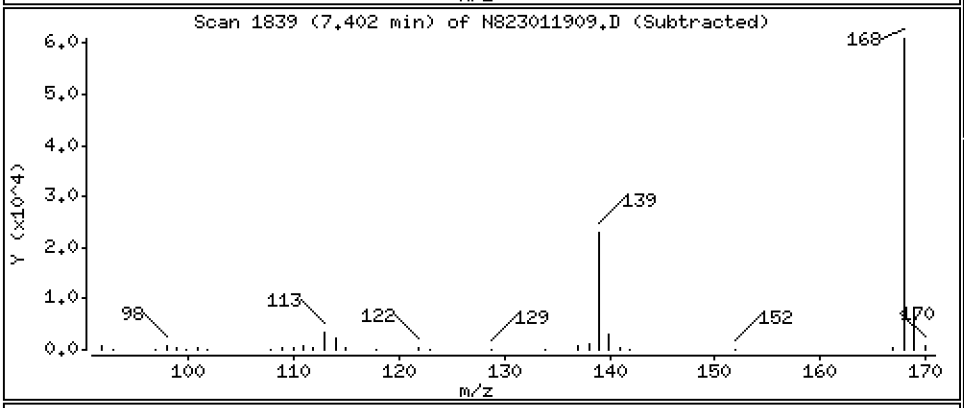
Column diameter: 0.25

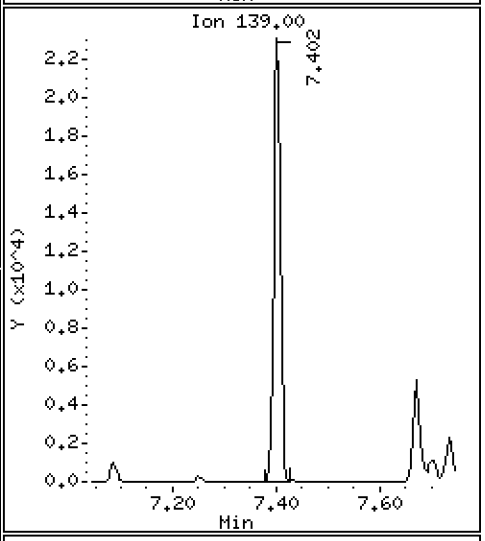
12 Dibenzofuran

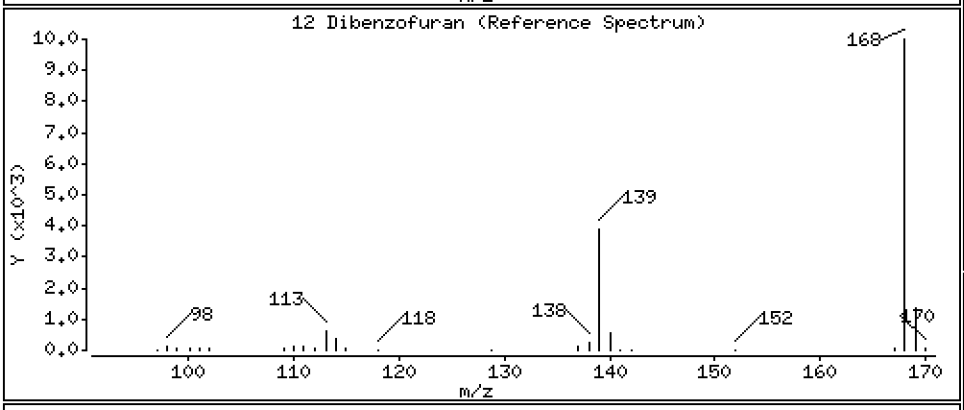
Concentration: 2.860 ug/L

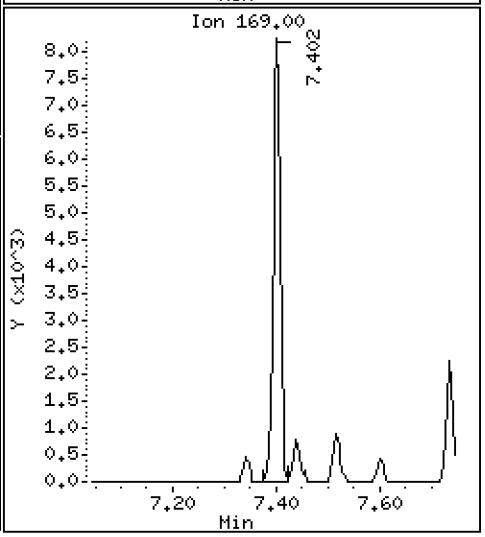


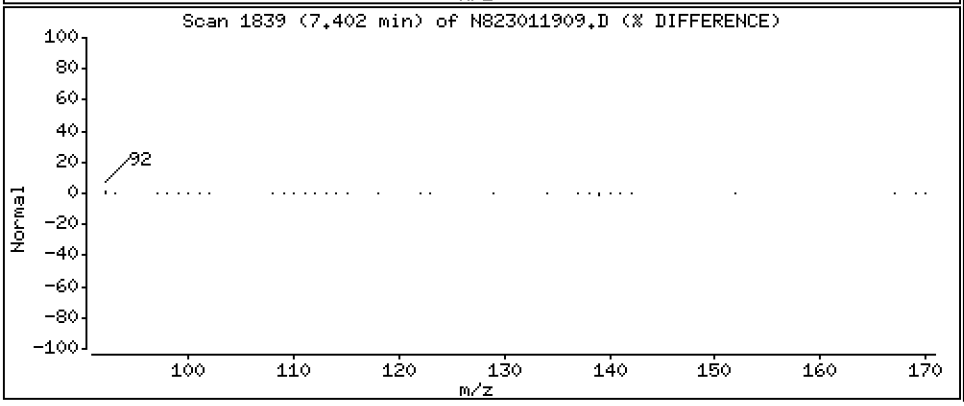












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

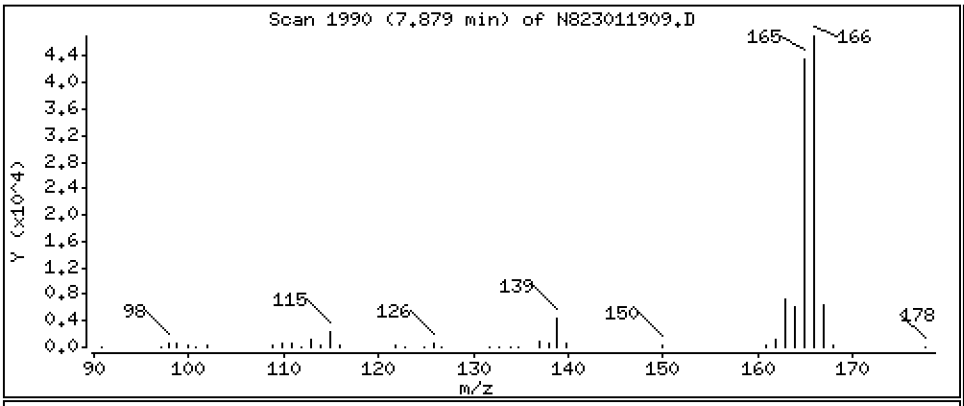
Operator: JZ

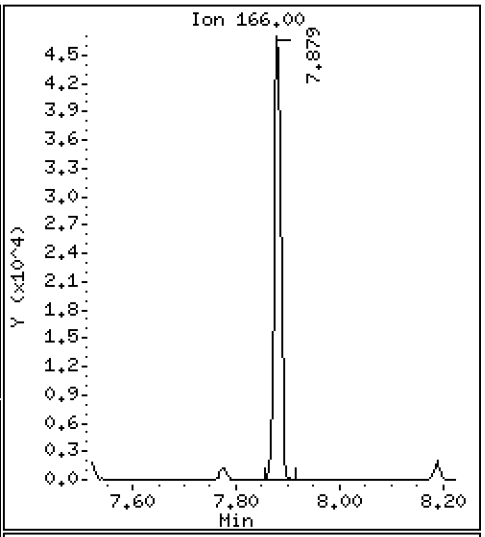
Column phase: Rxi-17sil

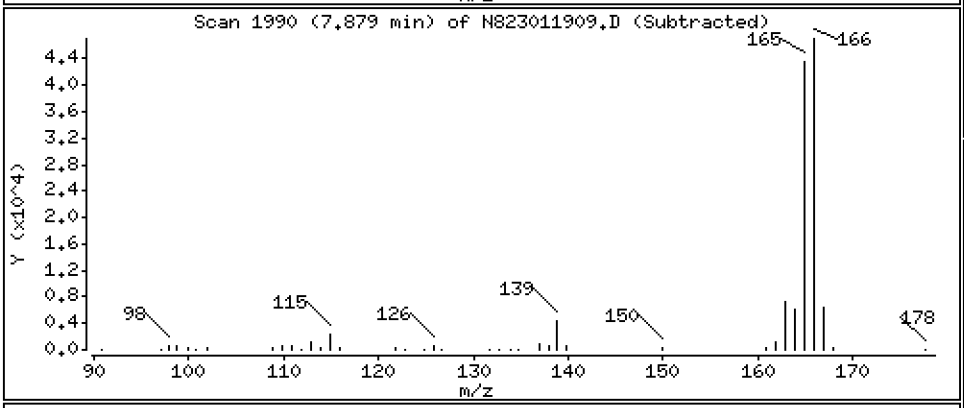
Column diameter: 0.25

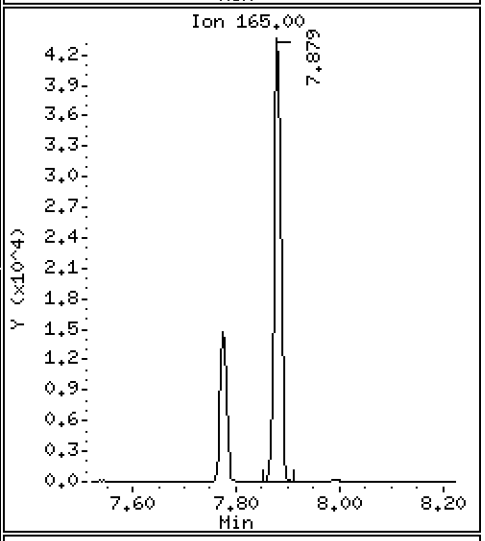
14 Fluorene

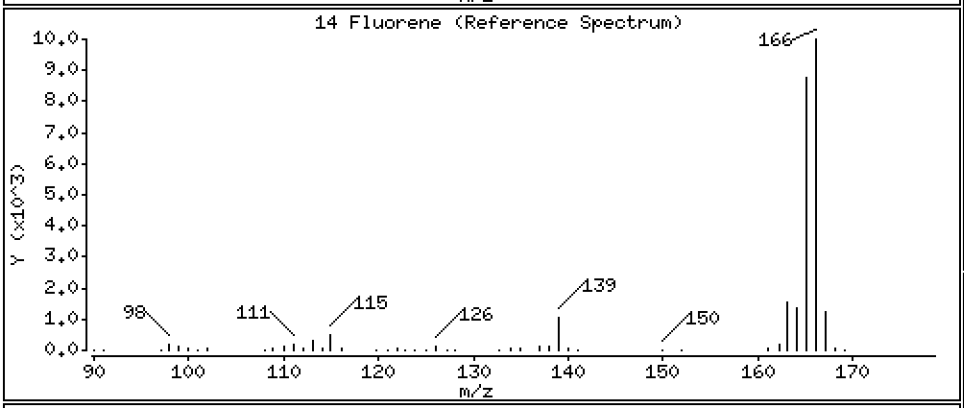
Concentration: 2.631 ug/L

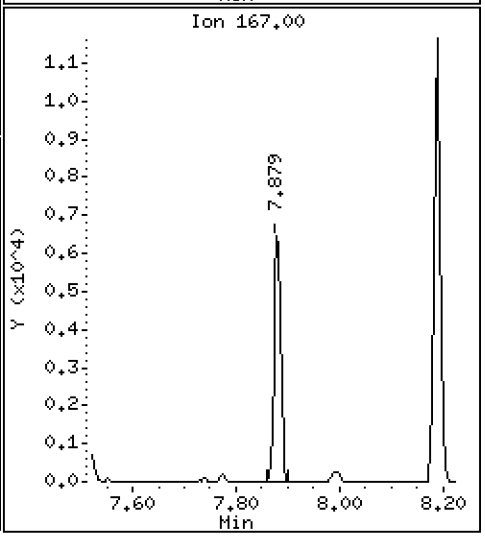


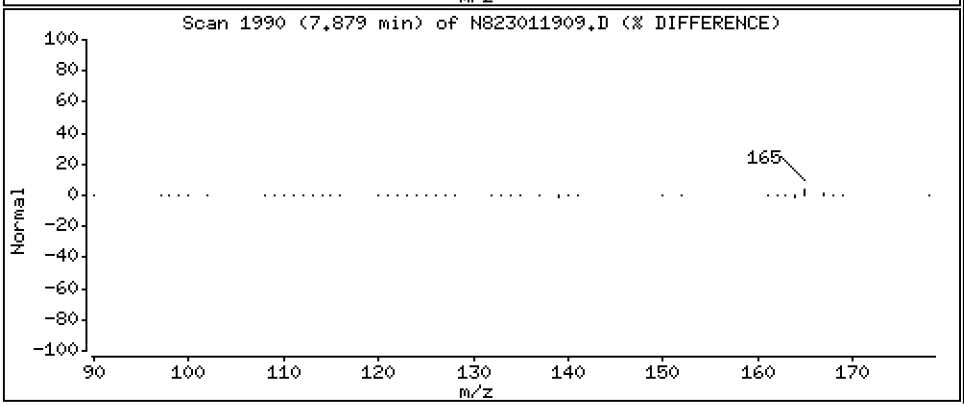












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

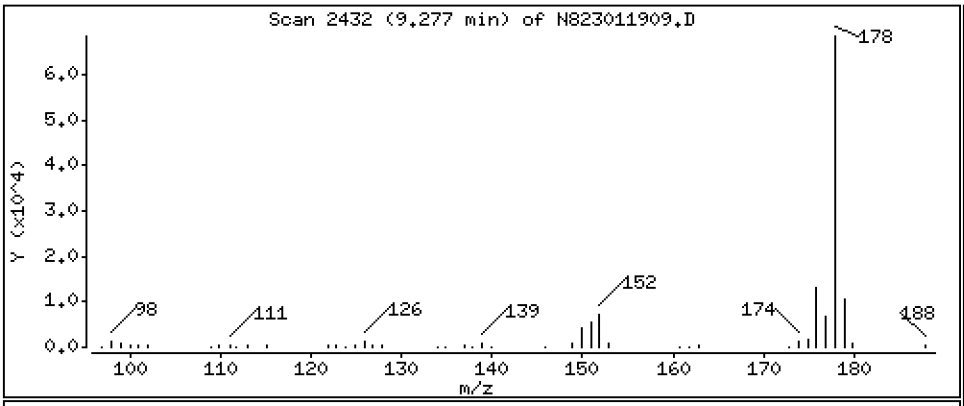
Operator: JZ

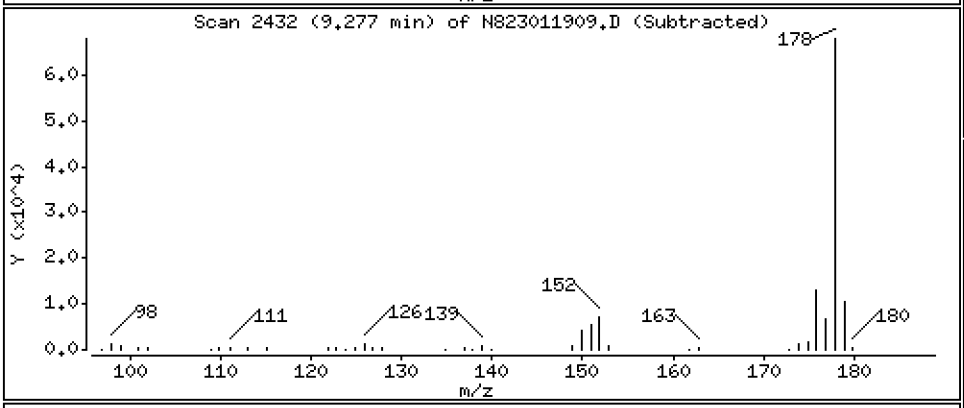
Column phase: Rxi-17sil

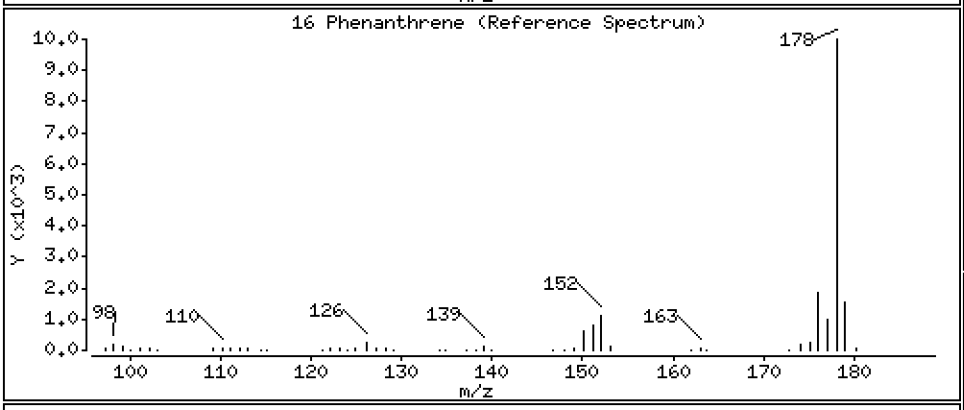
Column diameter: 0.25

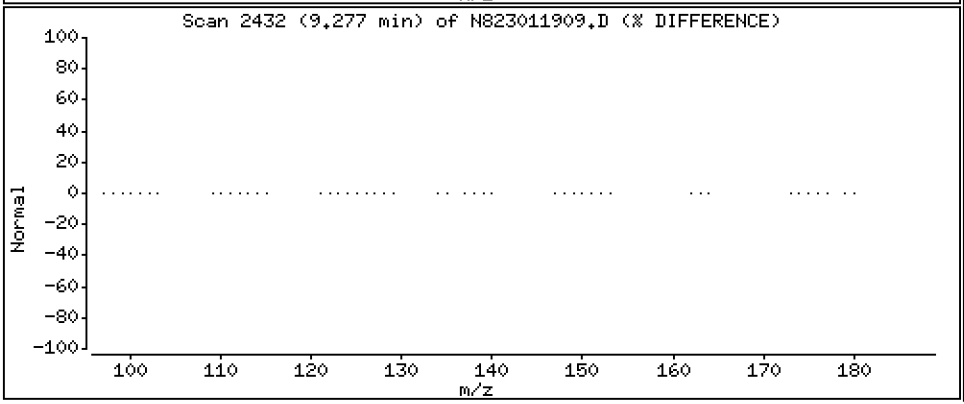
16 Phenanthrene

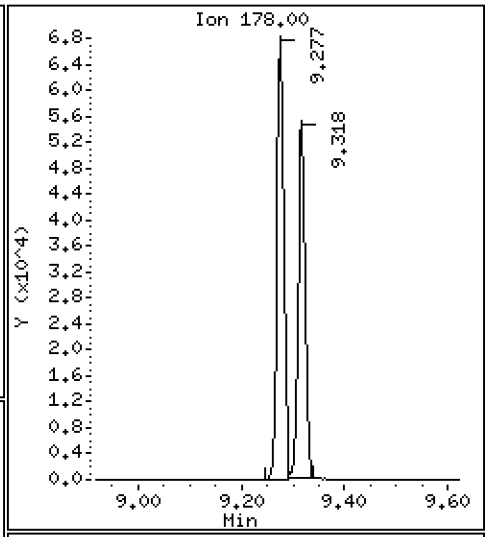
Concentration: 2.448 ug/L

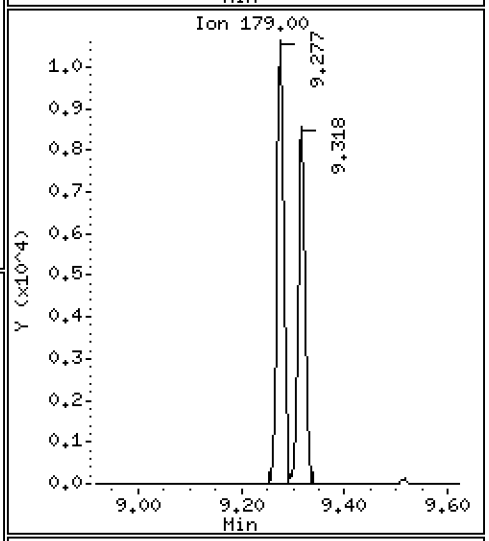


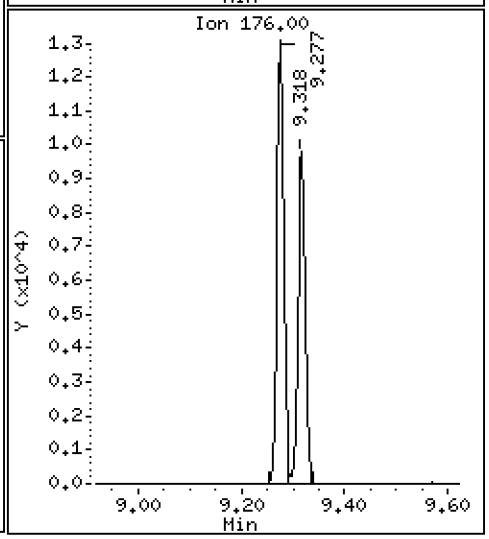












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

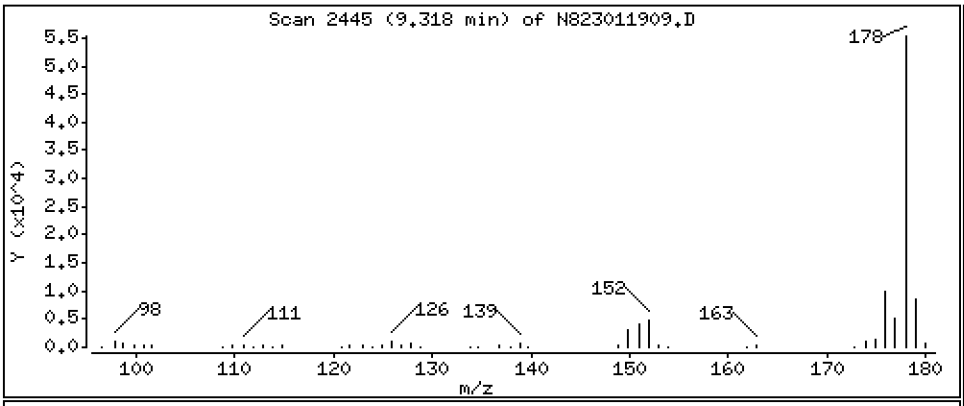
Operator: JZ

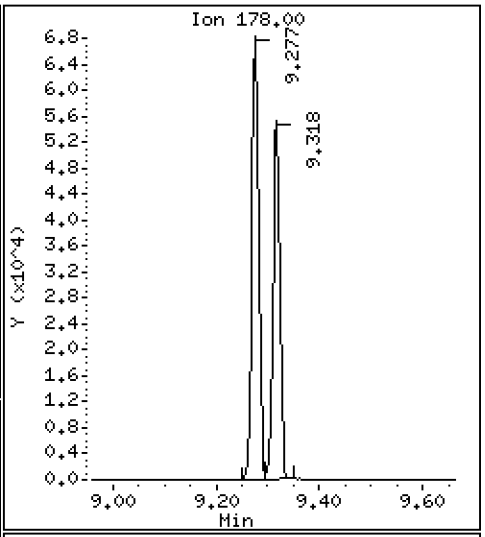
Column phase: Rxi-17sil

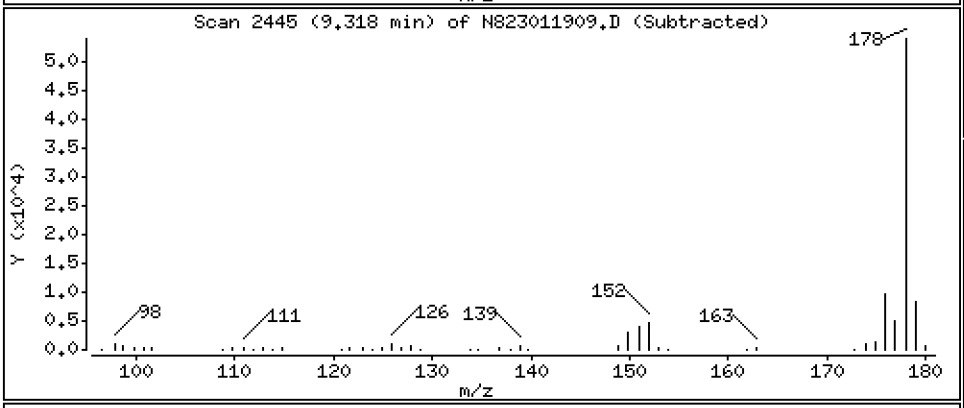
Column diameter: 0.25

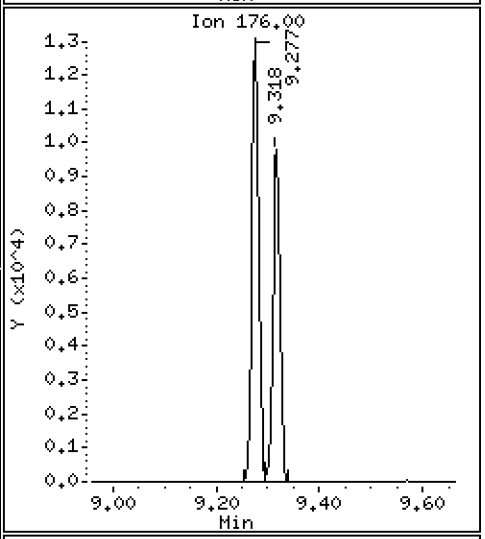
17 Anthracene

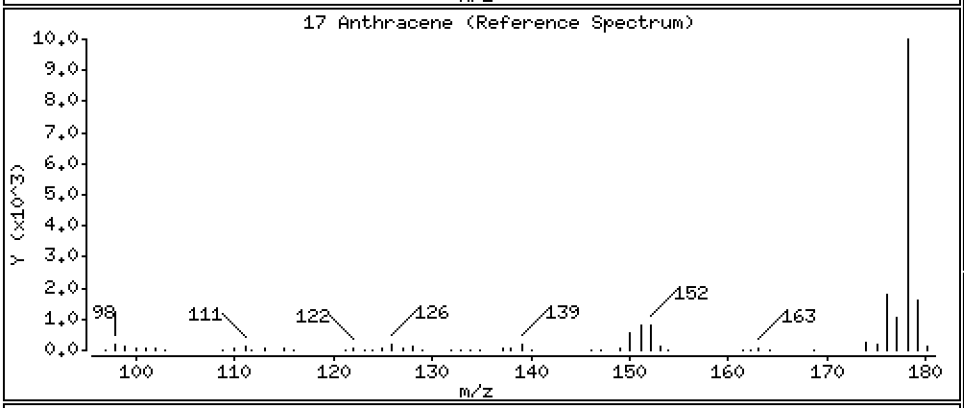
Concentration: 2.270 ug/L

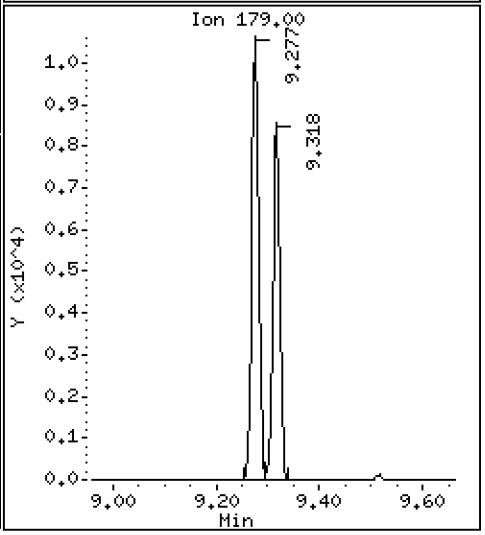


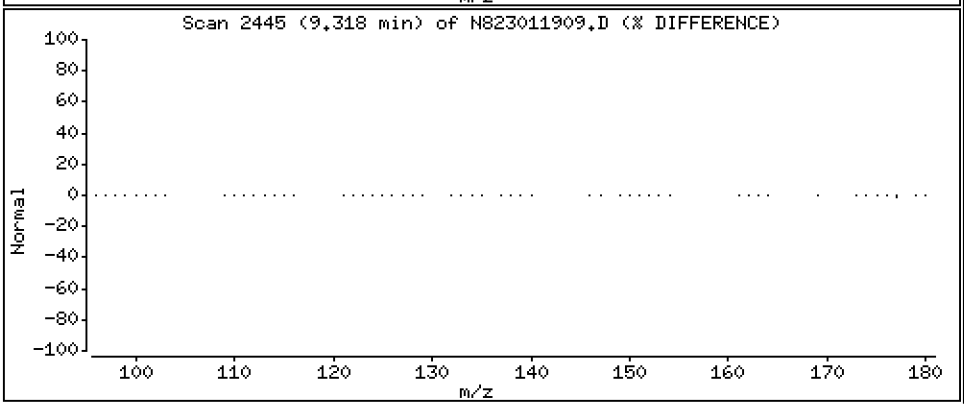












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

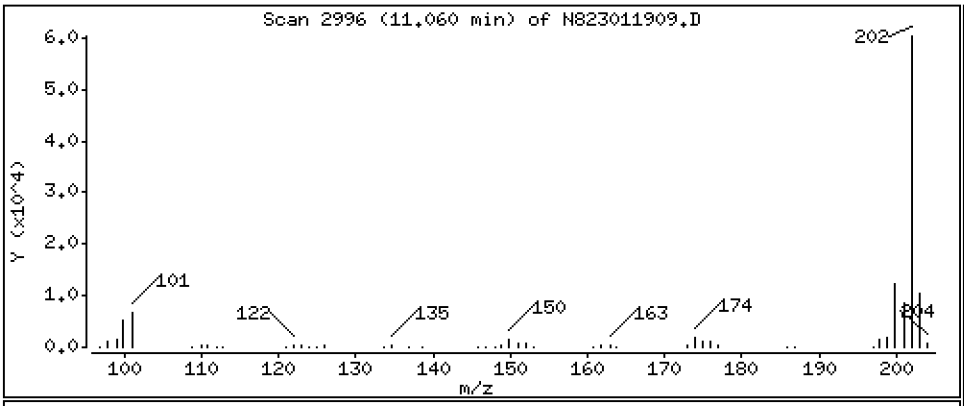
Operator: JZ

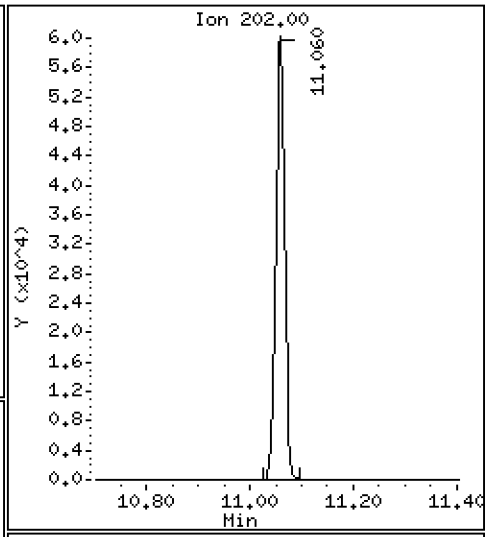
Column phase: Rxi-17sil

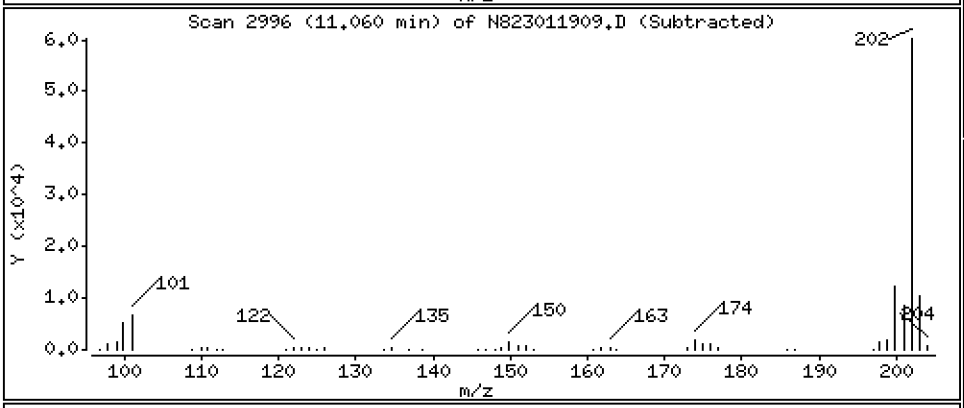
Column diameter: 0.25

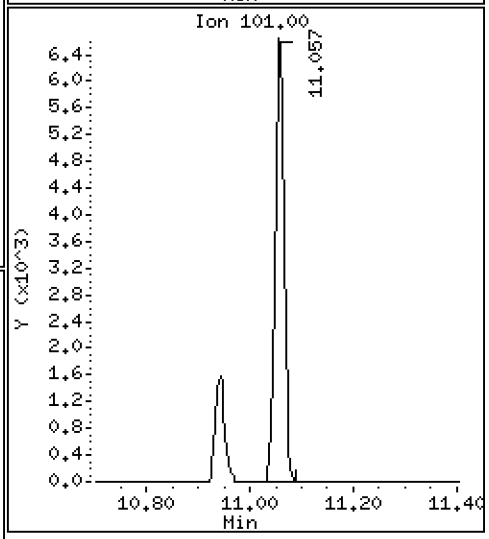
22 Fluoranthene

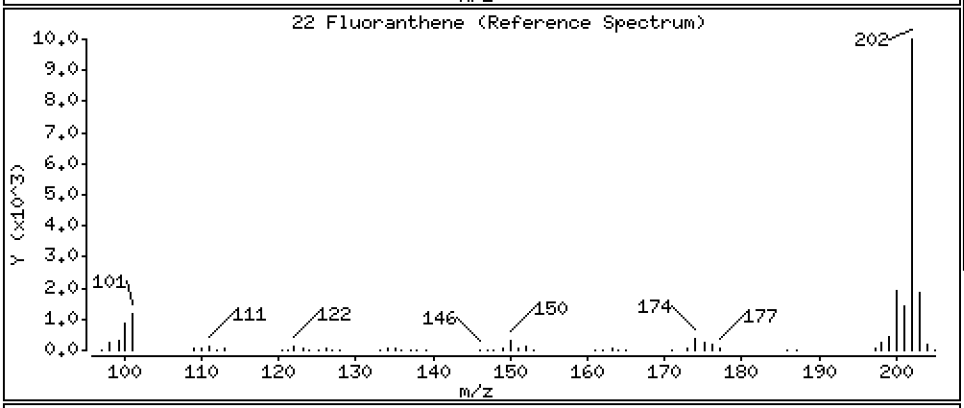
Concentration: 2.653 ug/L

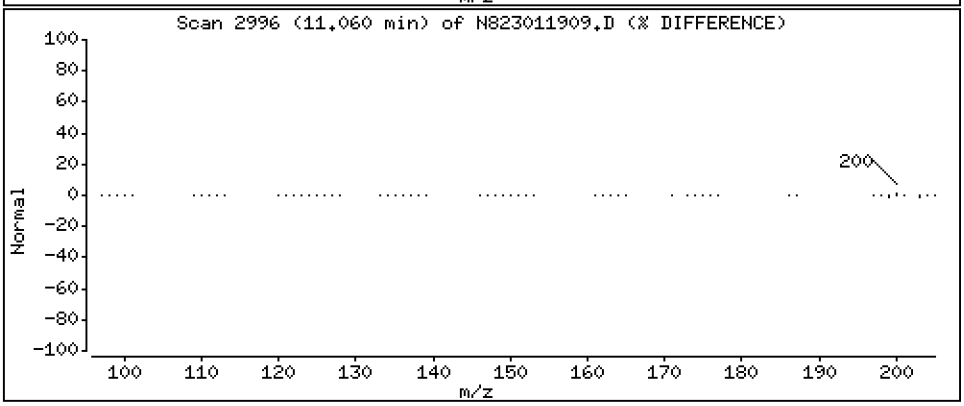












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

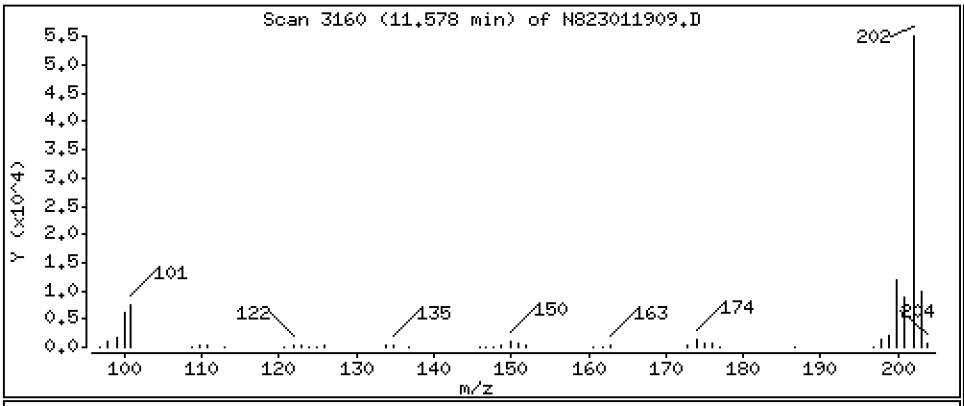
Operator: JZ

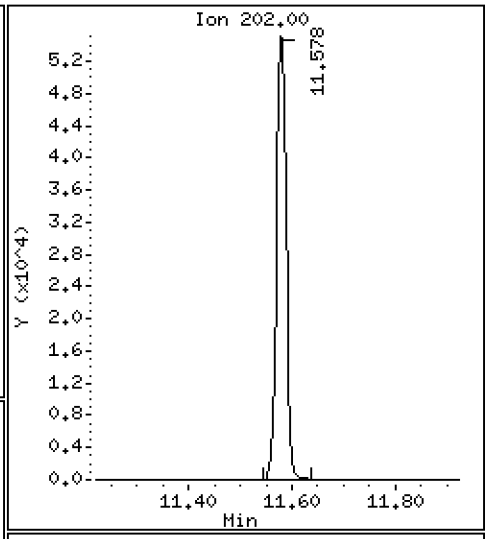
Column phase: Rxi-17sil

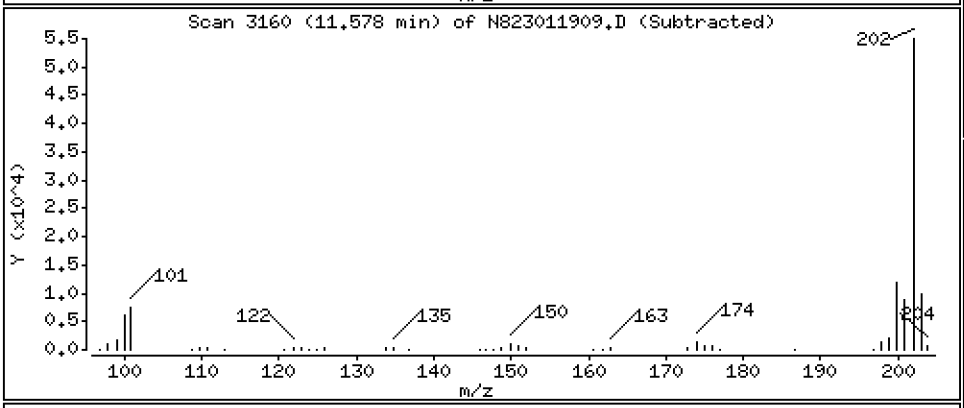
Column diameter: 0.25

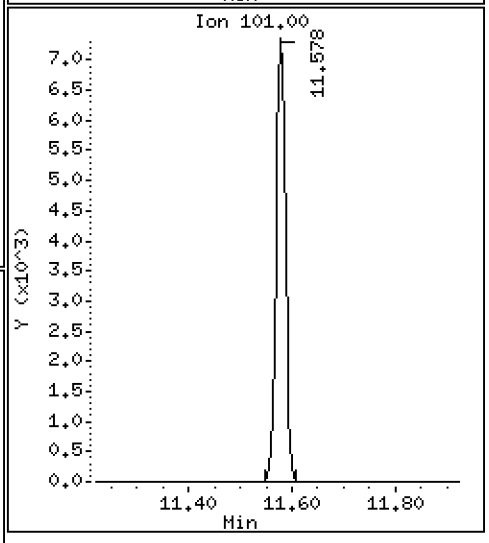
23 Pyrene

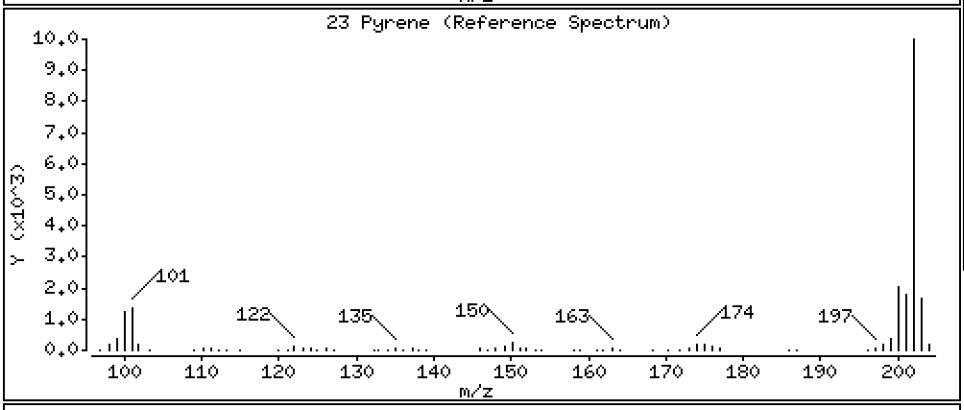
Concentration: 2.462 ug/L

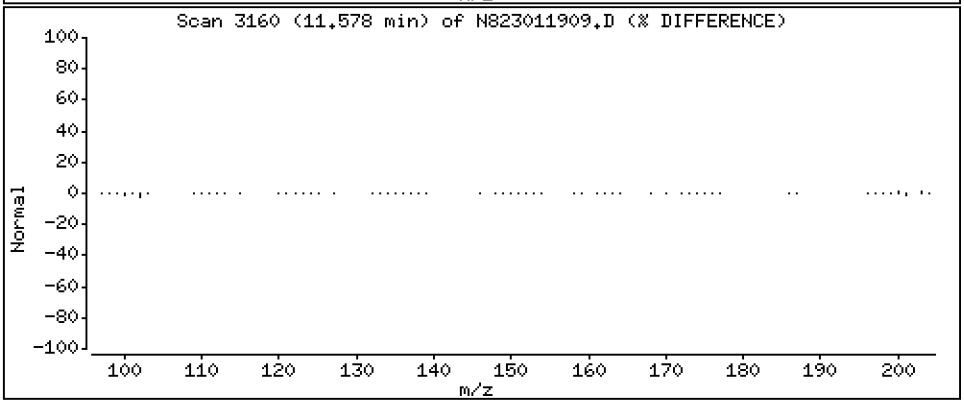












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

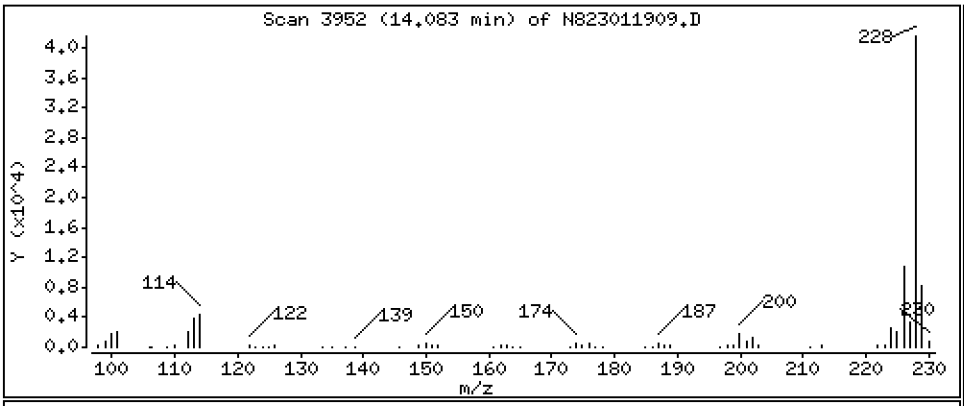
Operator: JZ

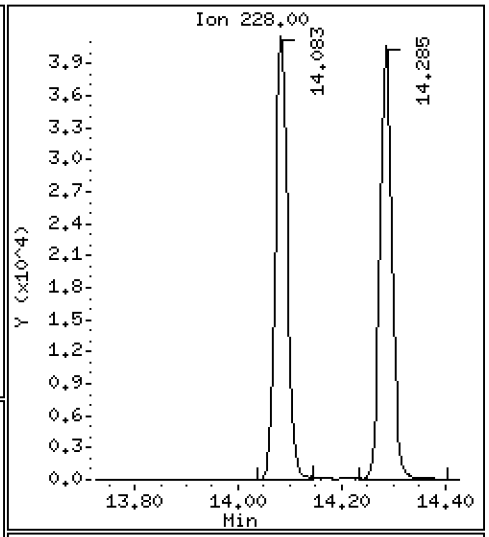
Column phase: Rxi-17sil

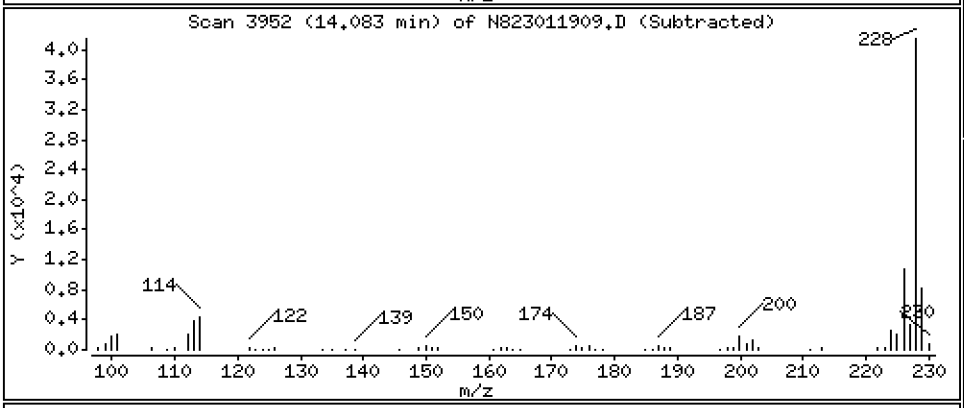
Column diameter: 0.25

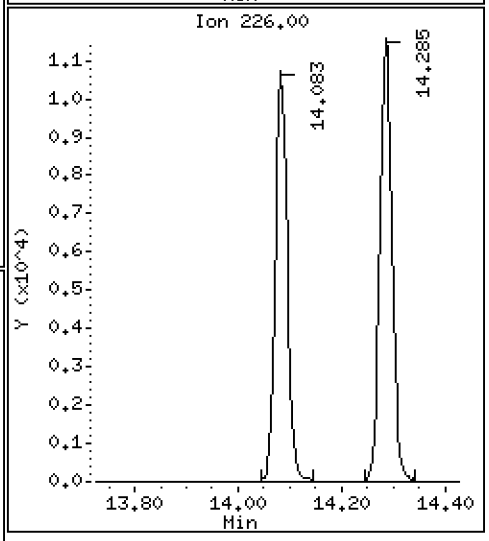
24 Benzo(a)anthracene

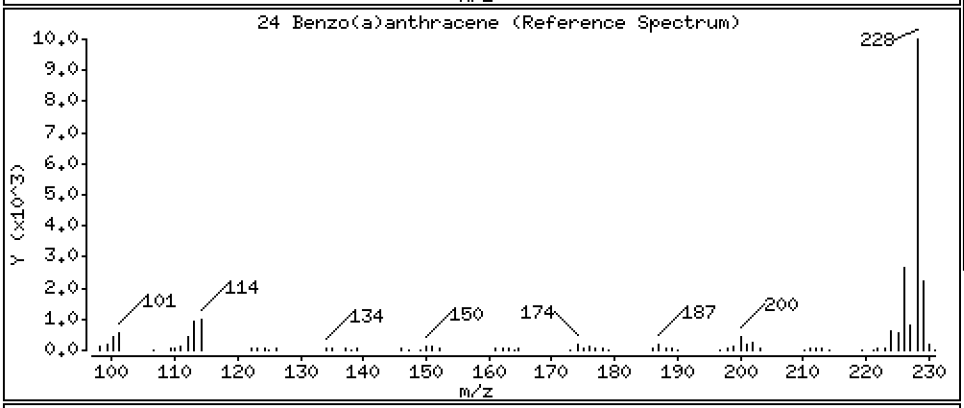
Concentration: 2.587 ug/L

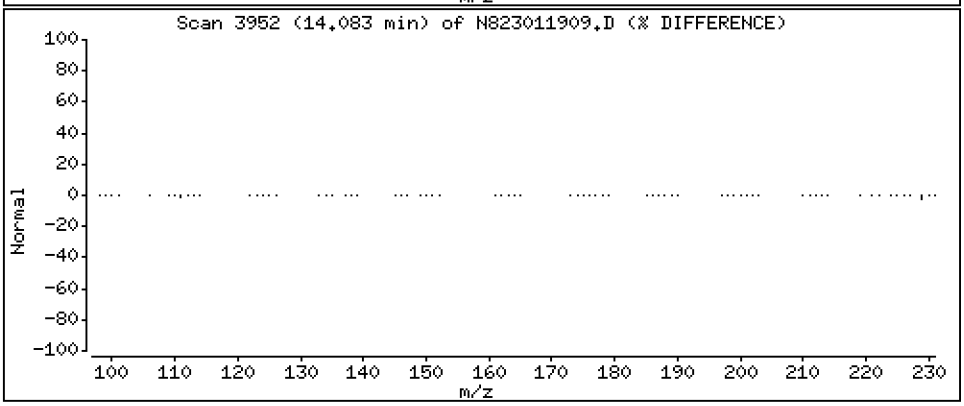












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

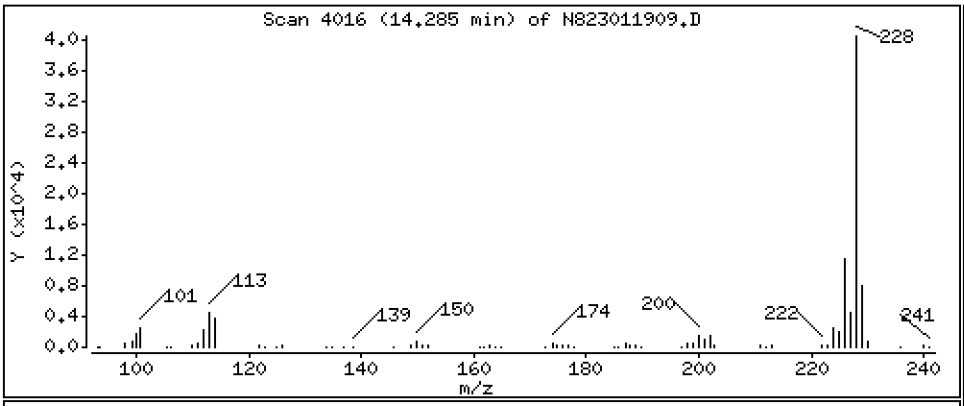
Operator: JZ

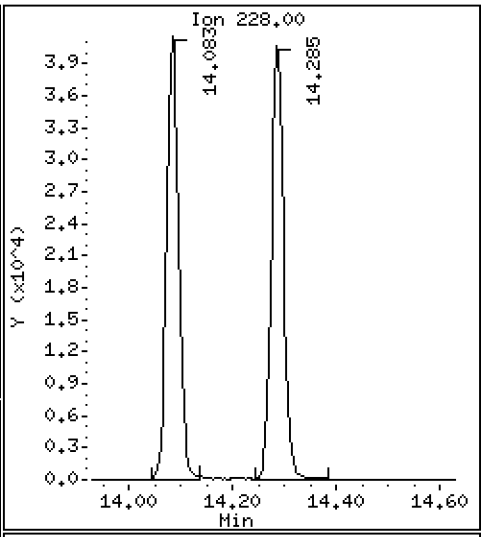
Column phase: Rxi-17sil

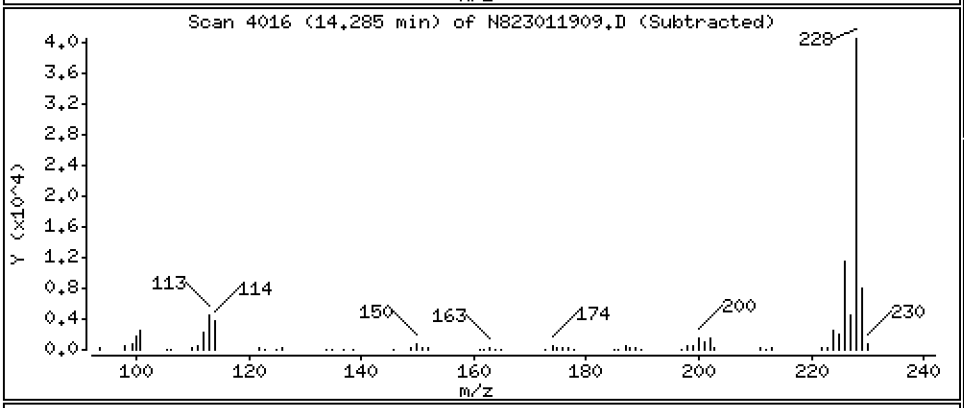
Column diameter: 0.25

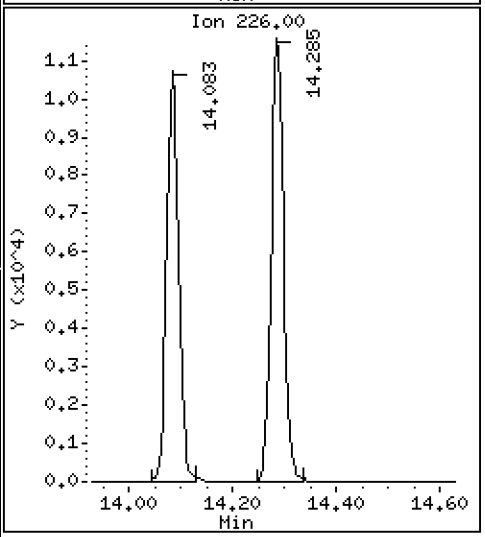
27 Chrysene

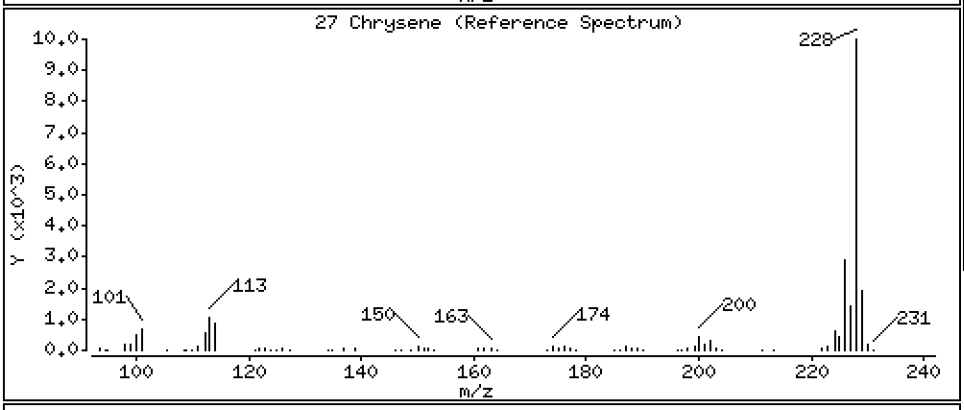
Concentration: 2.400 ug/L

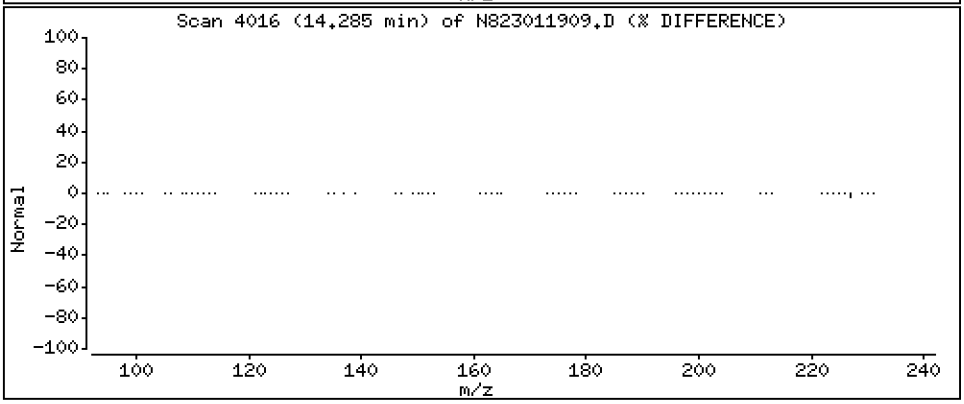












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

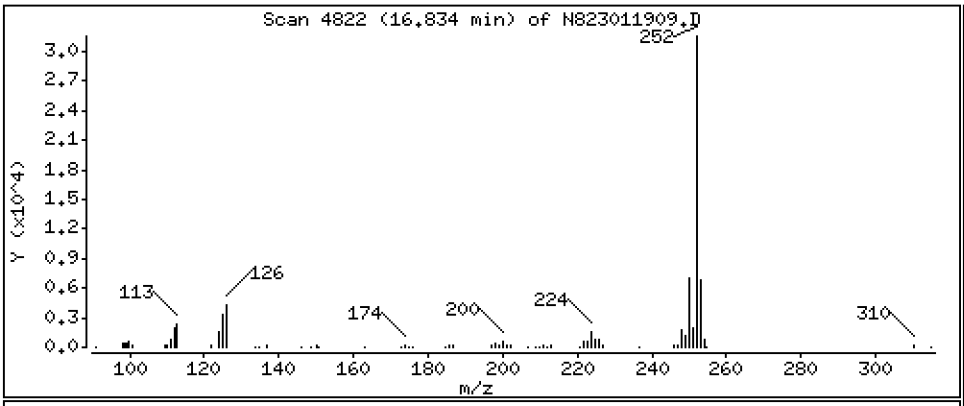
Operator: JZ

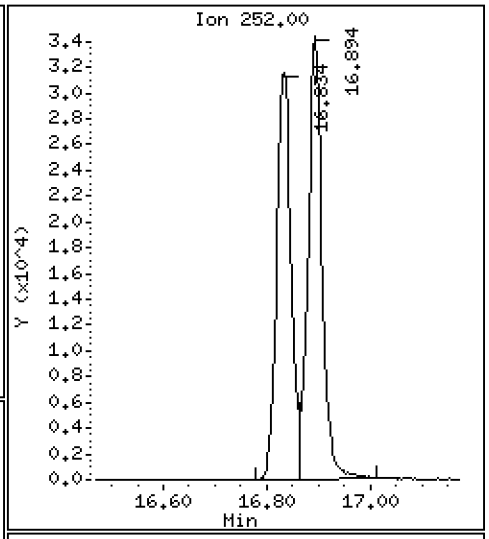
Column phase: Rxi-17sil

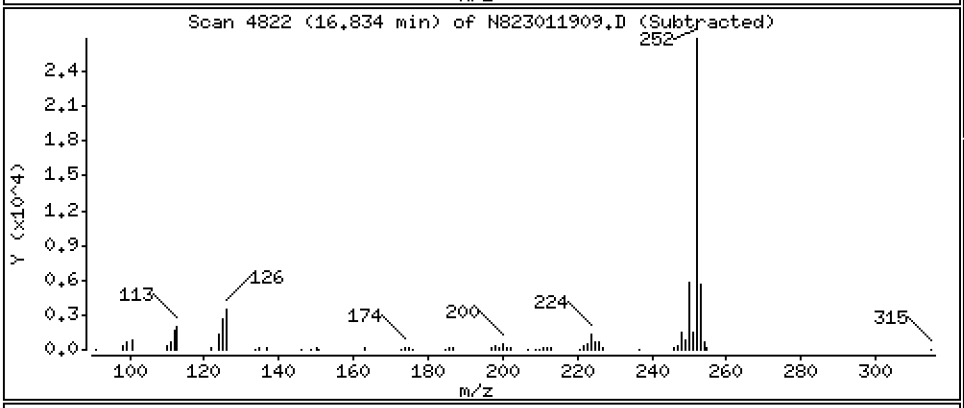
Column diameter: 0.25

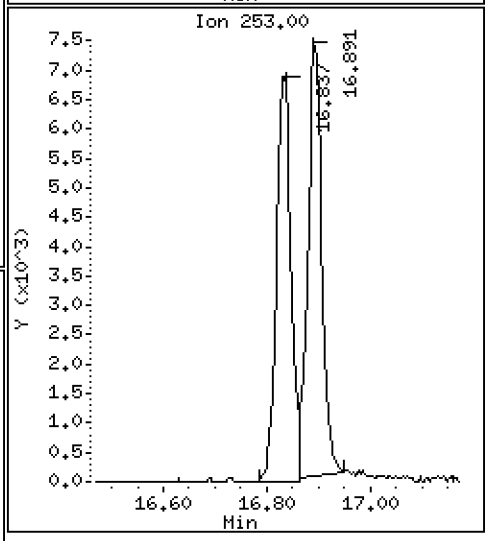
28 Benzo(b)fluoranthene

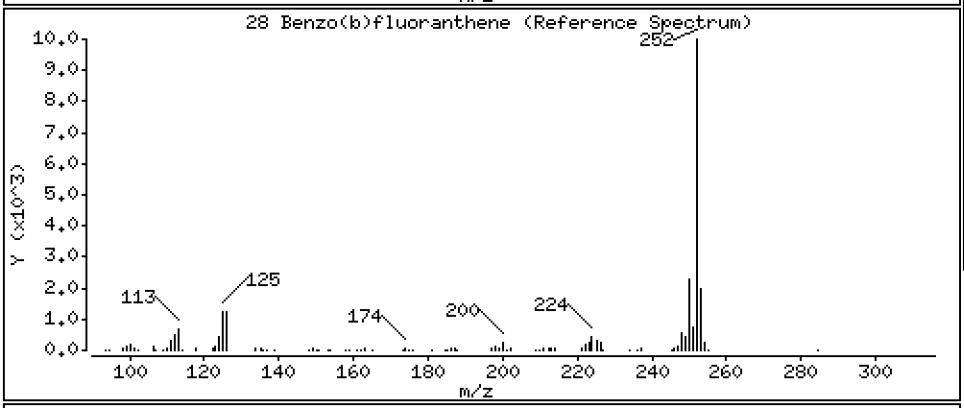
Concentration: 2.507 ug/L

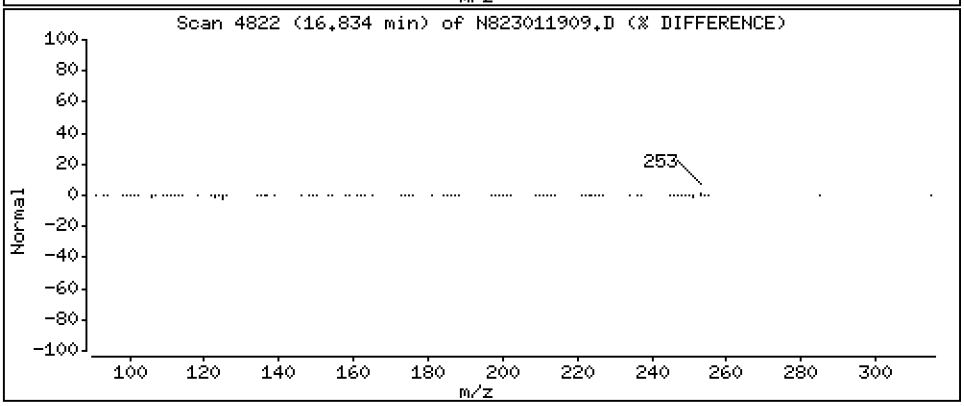












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

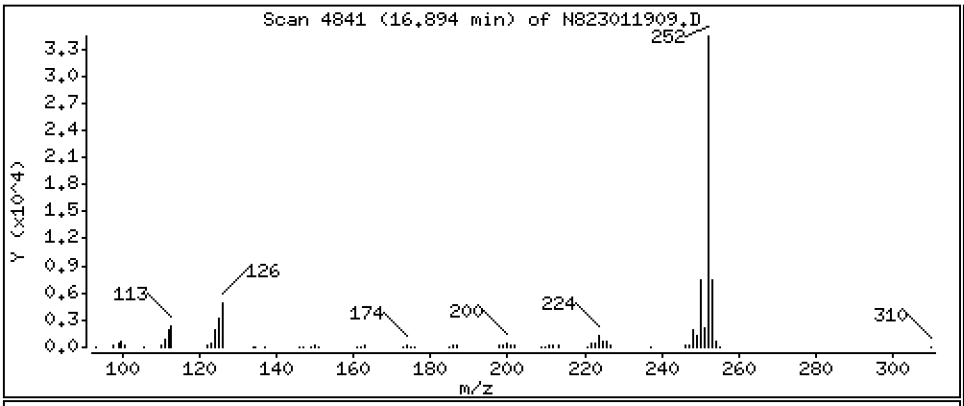
Operator: JZ

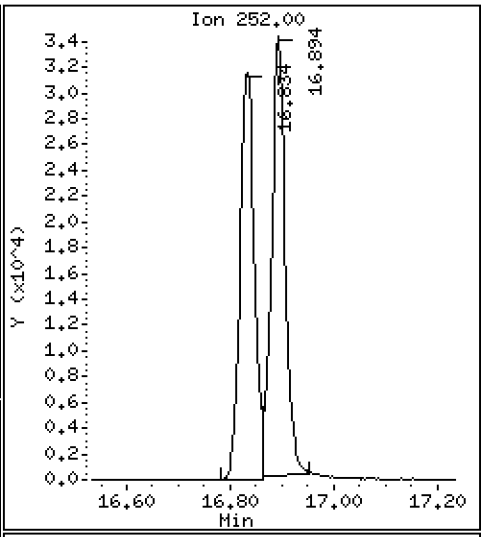
Column phase: Rxi-17sil

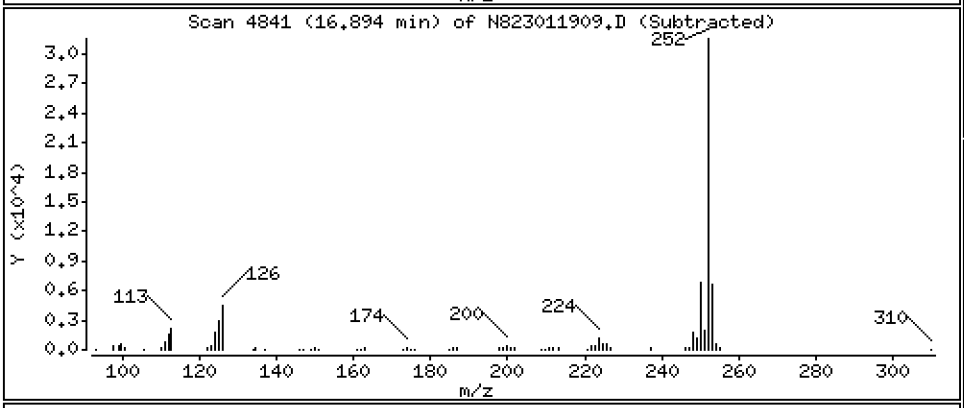
Column diameter: 0.25

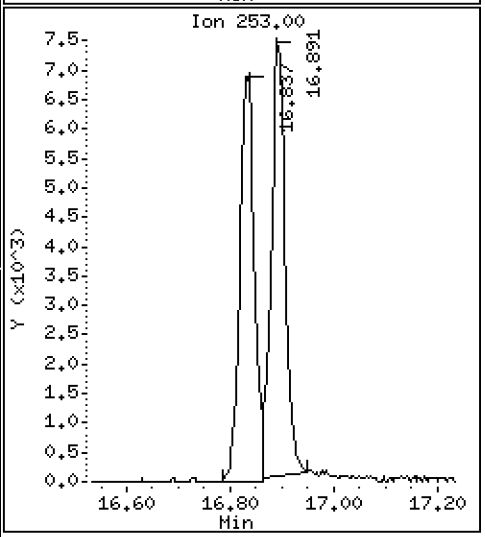
29 Benzo(k)fluoranthene

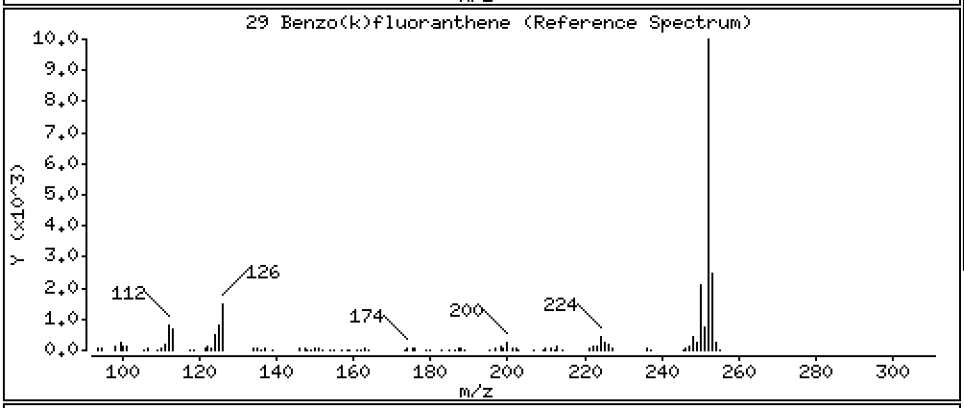
Concentration: 2.656 ug/L

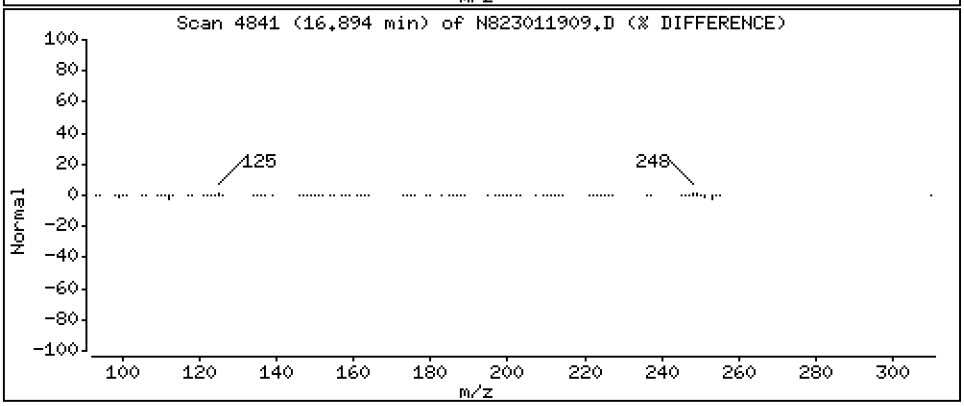












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

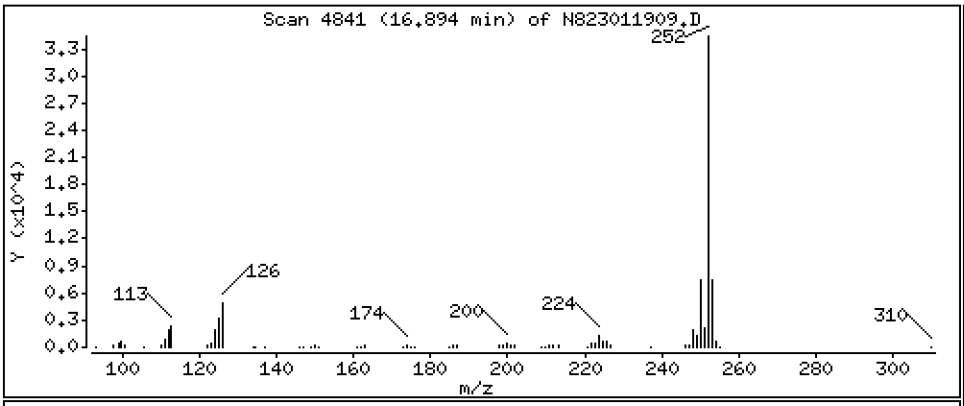
Operator: JZ

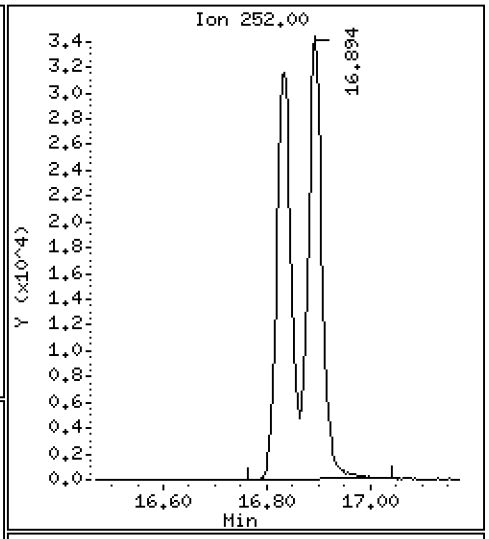
Column phase: Rxi-17sil

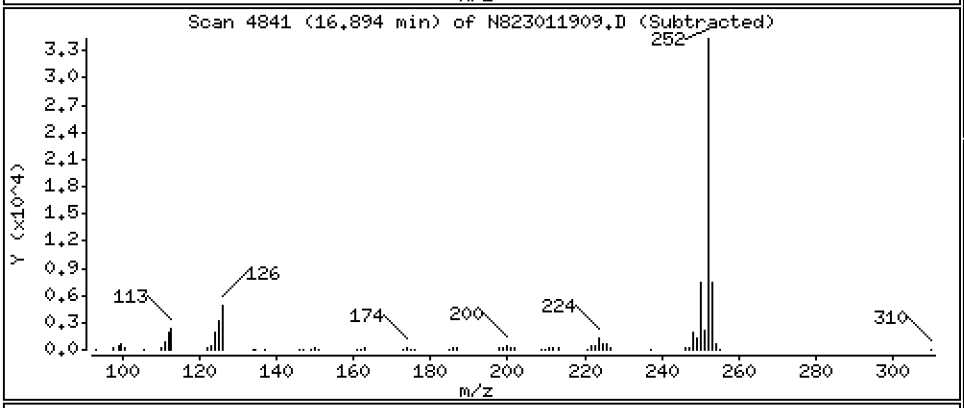
Column diameter: 0.25

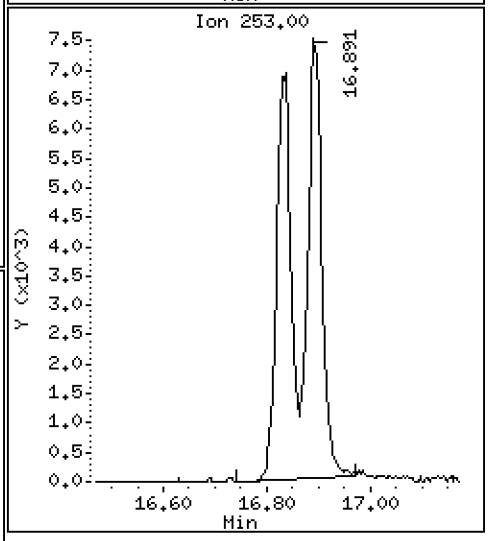
31 Total Benzofluoranthenes

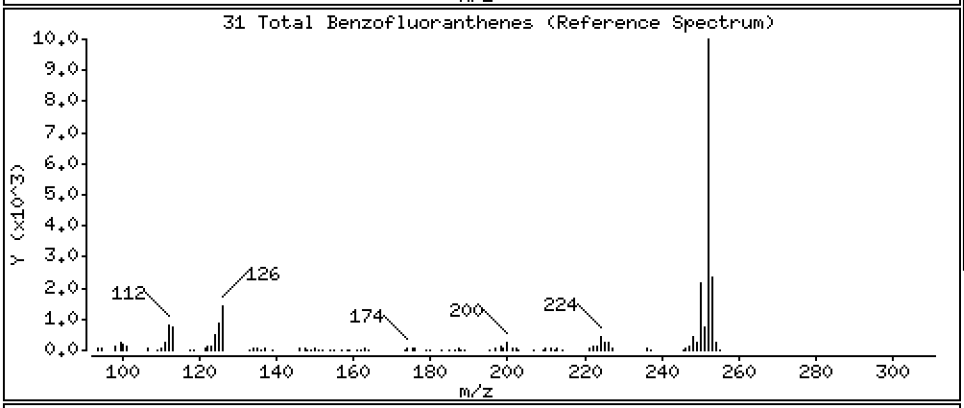
Concentration: 5.480 ug/L

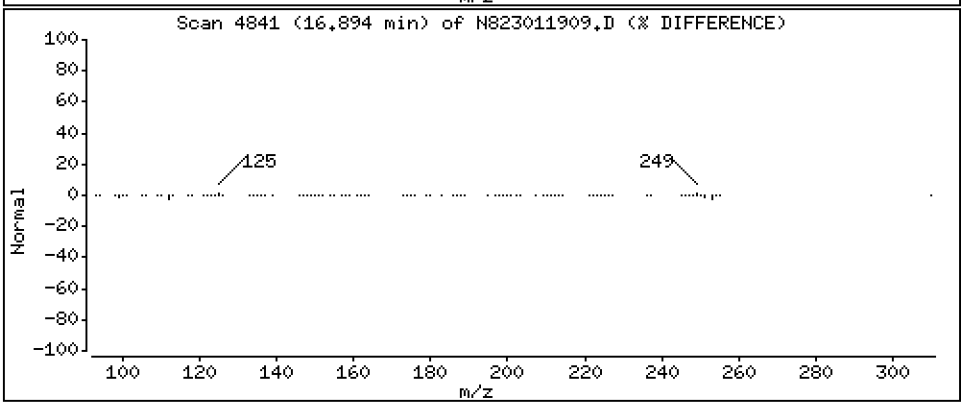












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

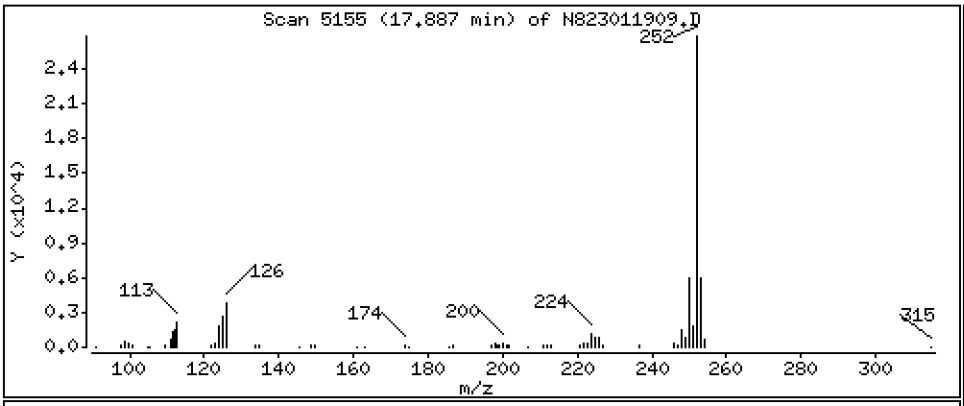
Operator: JZ

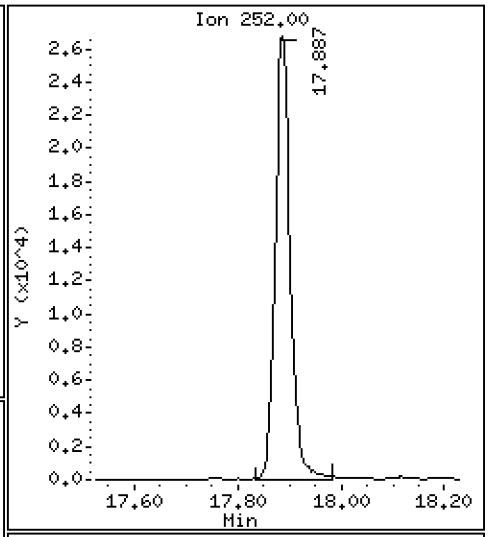
Column phase: Rxi-17sil

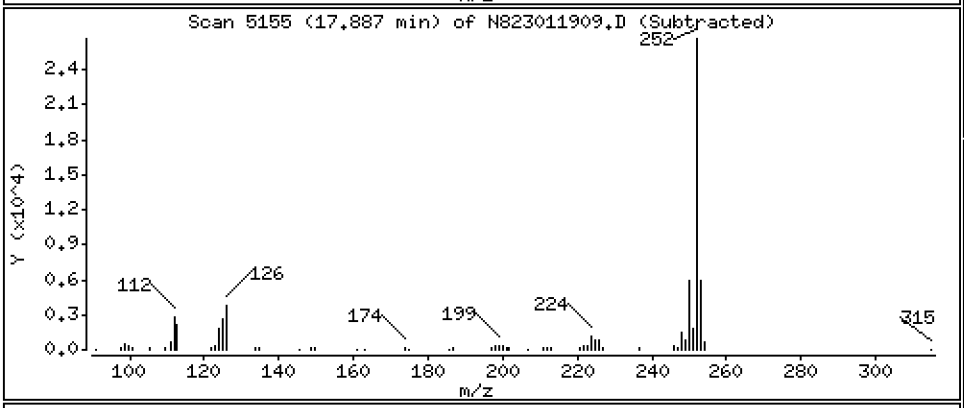
Column diameter: 0.25

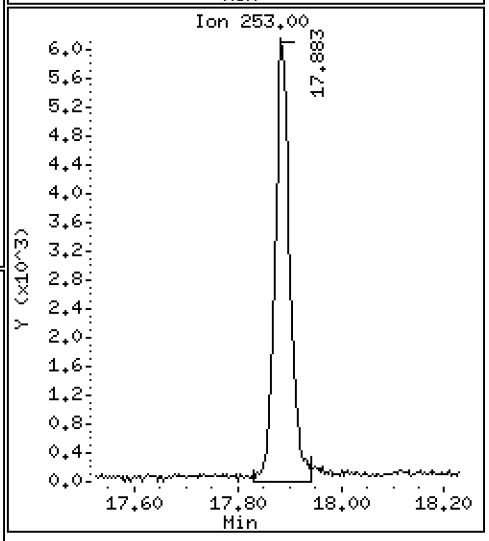
32 Benzo(a)pyrene

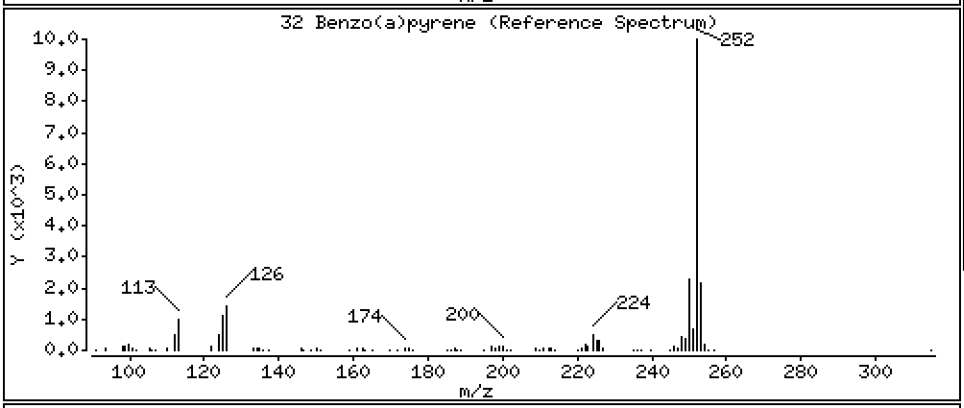
Concentration: 2.572 ug/L

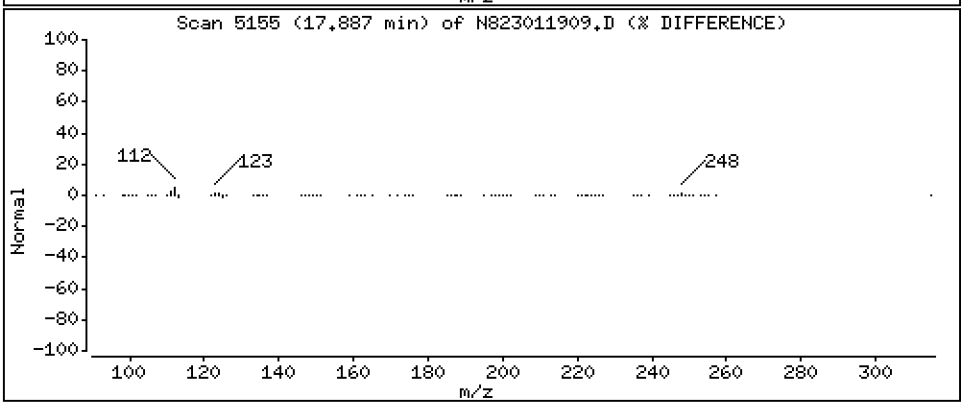












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

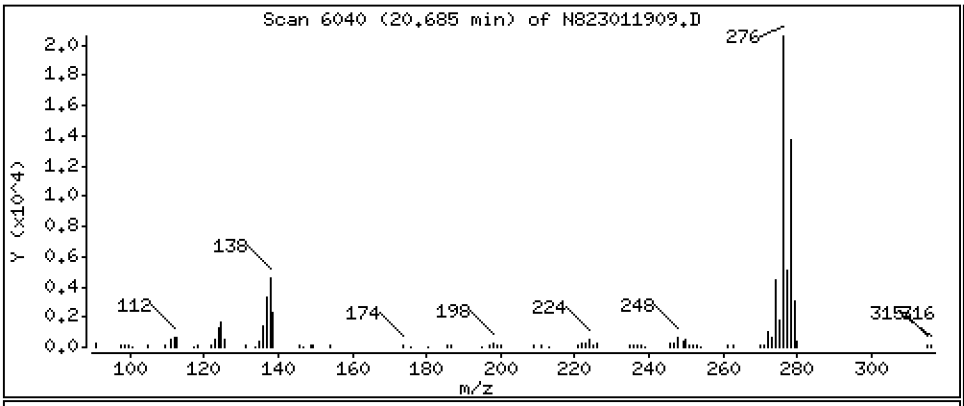
Operator: JZ

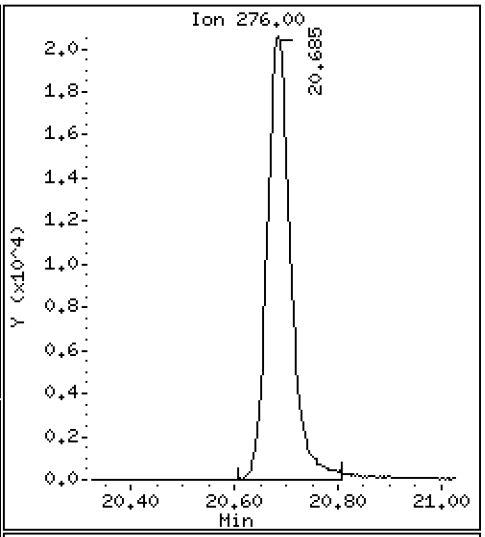
Column phase: Rxi-17sil

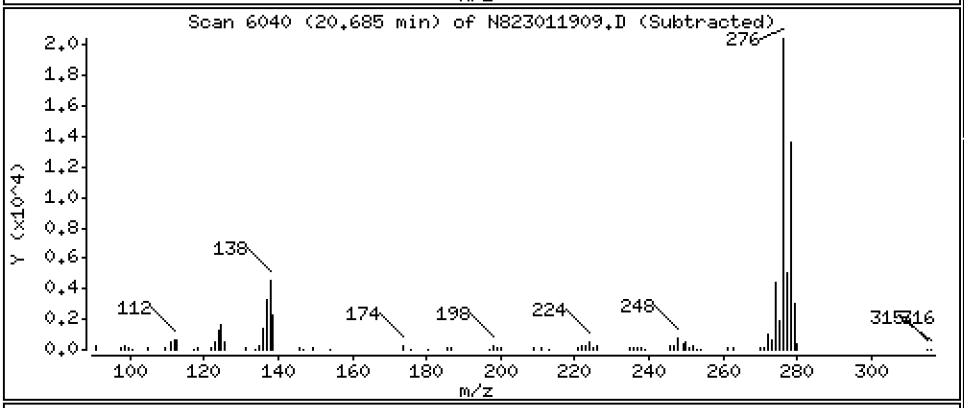
Column diameter: 0.25

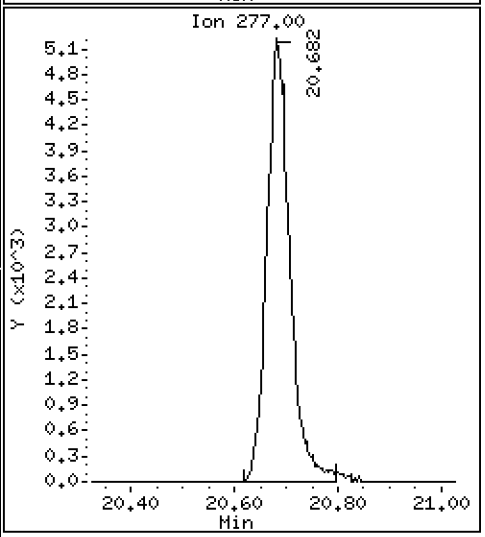
37 Indeno(1,2,3-cd)pyrene

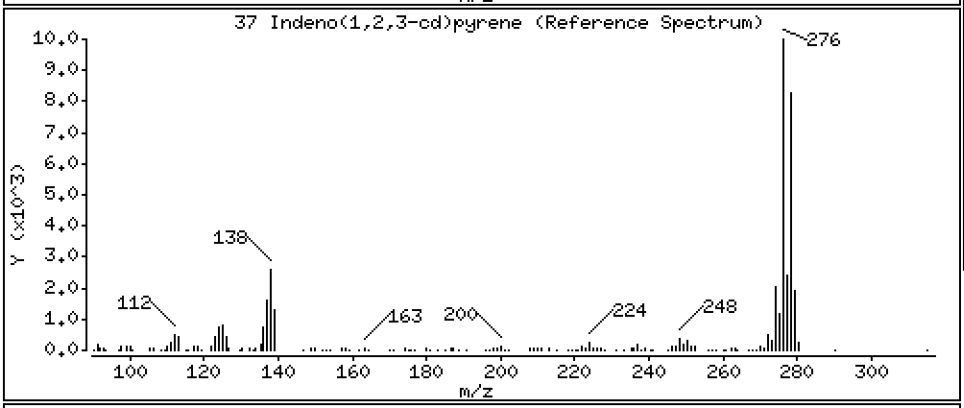
Concentration: 2.689 ug/L

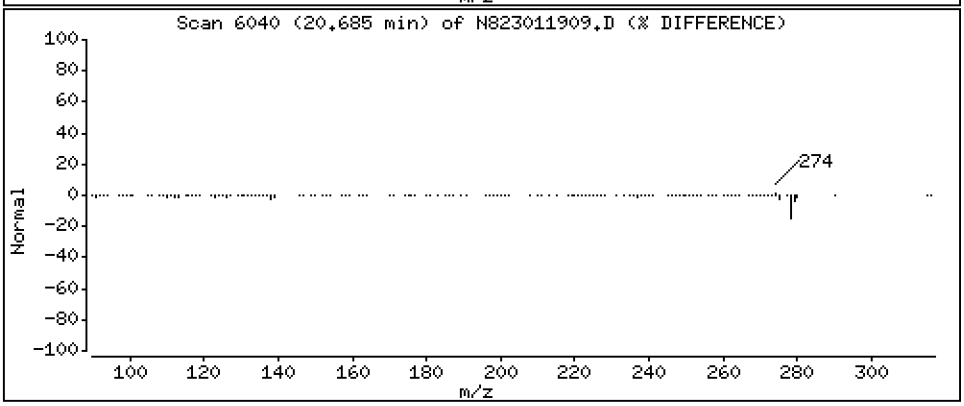












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

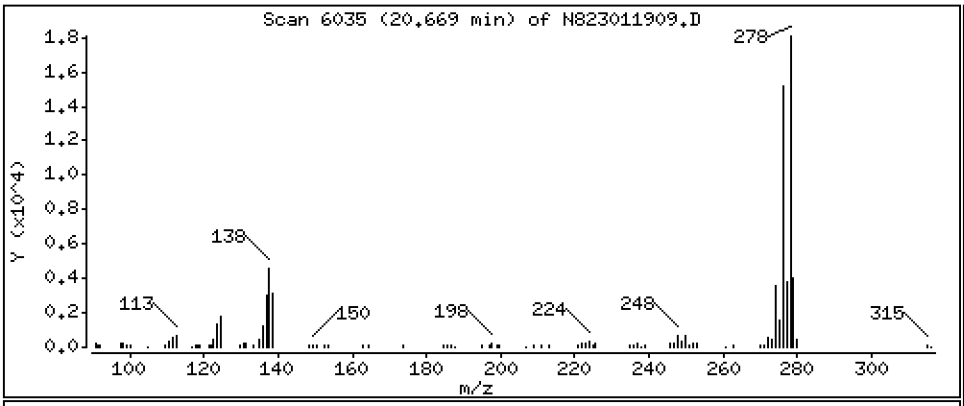
Operator: JZ

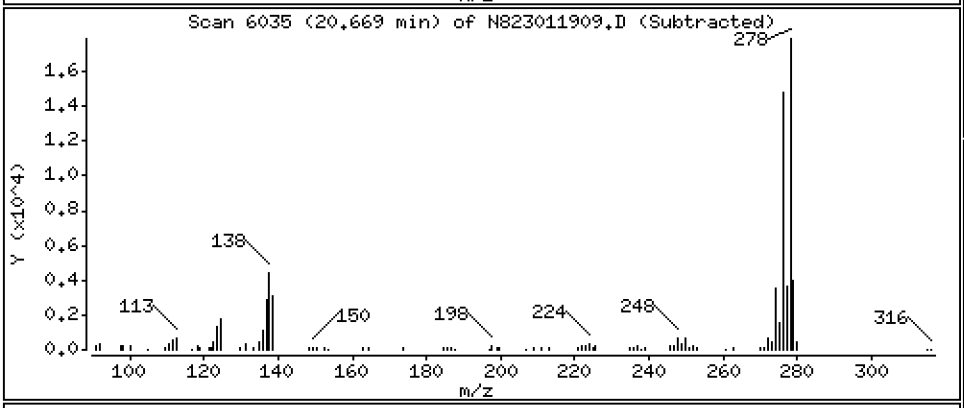
Column phase: Rxi-17sil

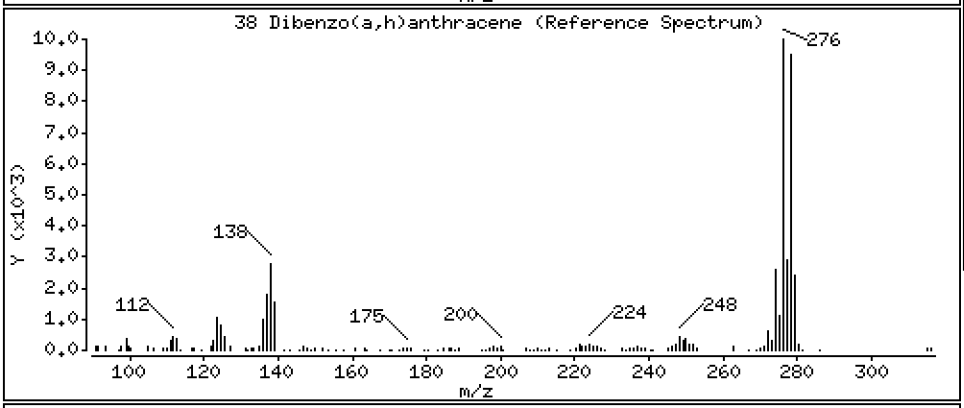
Column diameter: 0.25

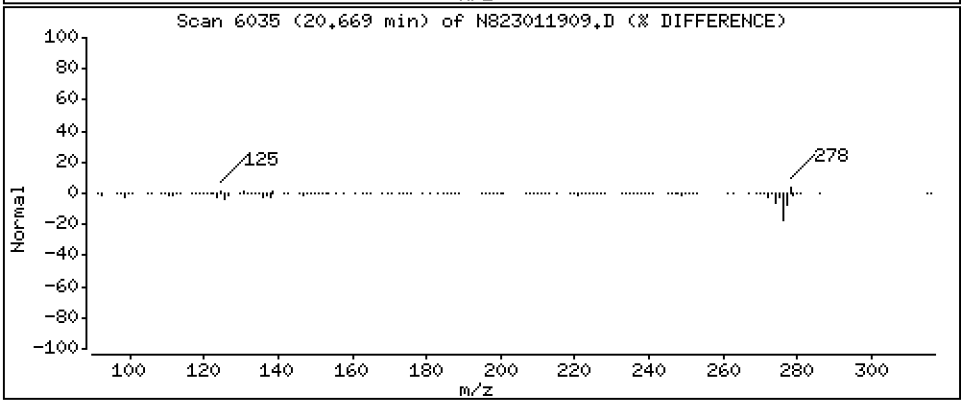
38 Dibenzo(a,h)anthracene

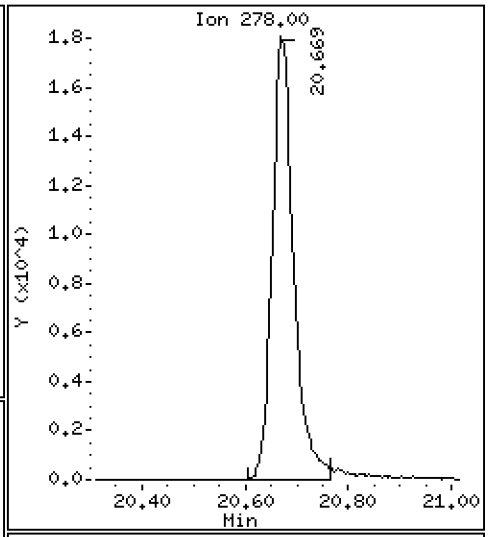
Concentration: 2.493 ug/L

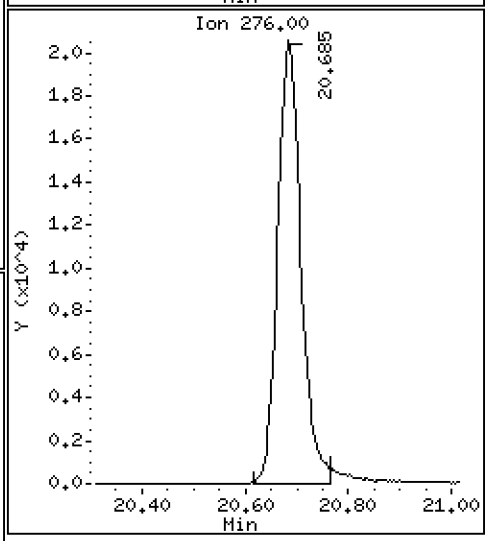












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

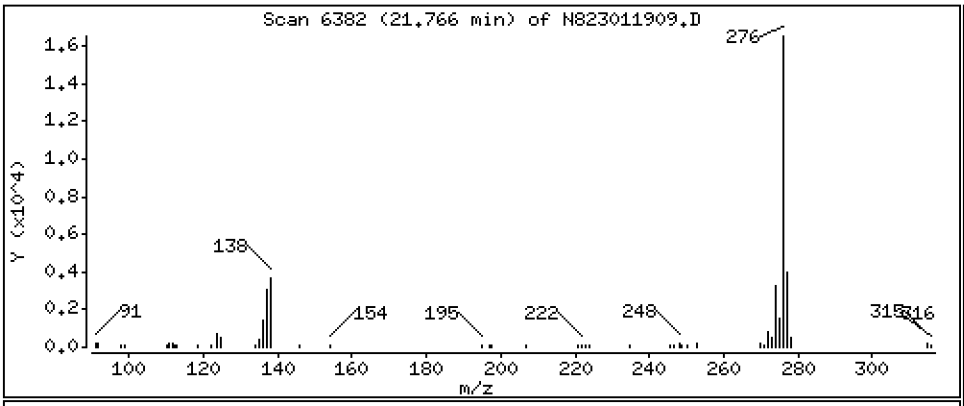
Operator: JZ

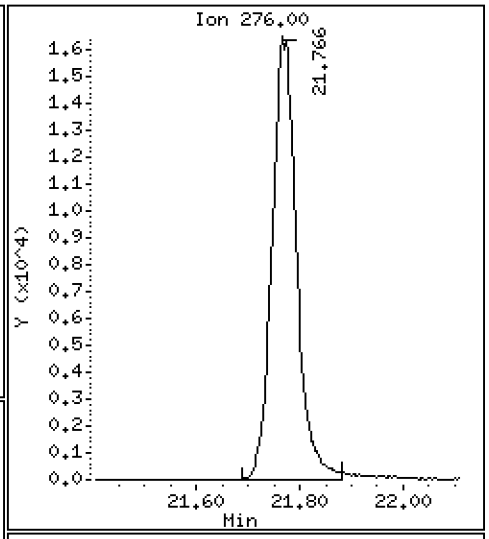
Column phase: Rxi-17sil

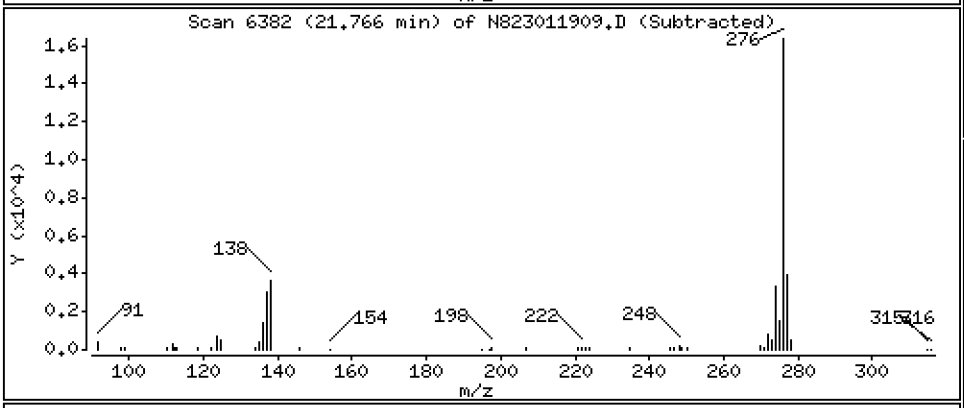
Column diameter: 0.25

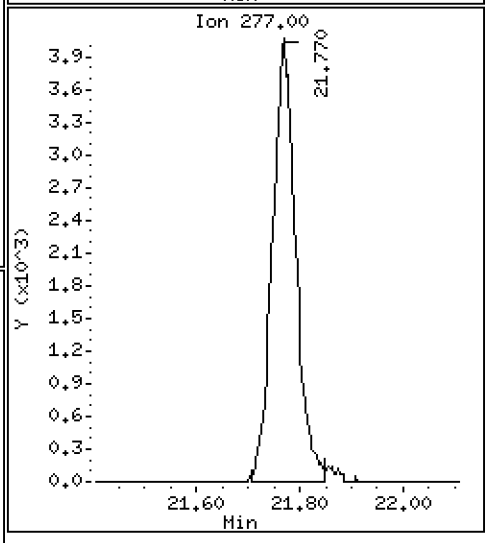
39 Benzo(g,h,i)perylene

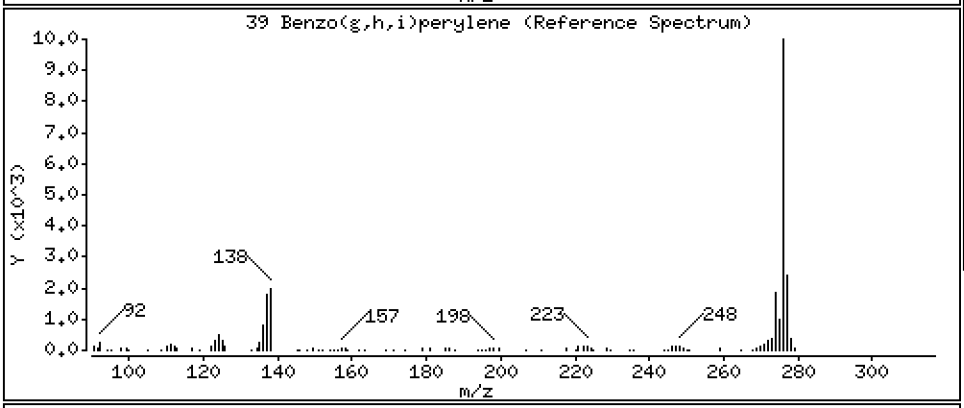
Concentration: 2.483 ug/L

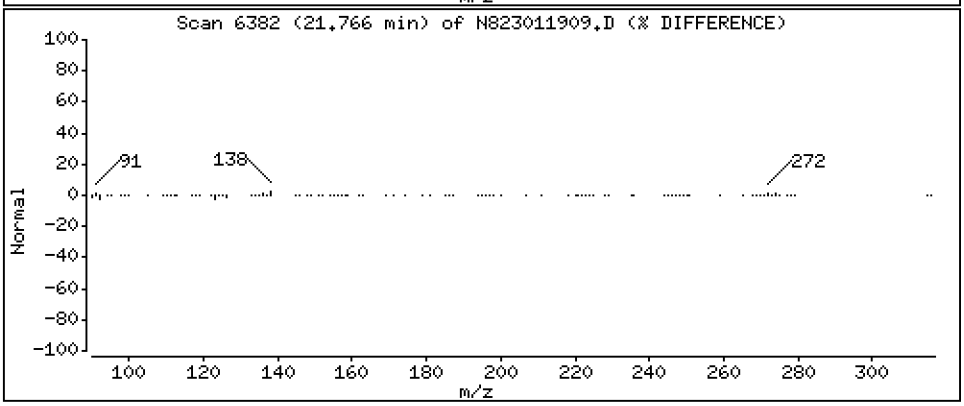












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230119.b\N823011909.D
Lab Smp Id: SLA0213-SCV1
Inj Date : 19-JAN-2023 14:58
Operator : JZ Inst ID: nt8.i
Smp Info : SCV230119
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230119.b\FSIMPNA230119.m
Meth Date : 25-Jan-2023 21:57 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 9 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnascv.sub
Target Version: 4.14
Processing Host: JIANQING-202105

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Vo	500.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/L)
*	1 Naphthalene-d8	136	4.913	4.906	(1.000)	46346	2.00000	
	2 Naphthalene	128	4.941	4.938	(1.006)	56587	2.62597	2.626
$	3 2-Methylnaphthalene-d10	152	Compound Not Detected.					
	4 2-Methylnaphthalene	141	5.694	5.687	(1.159)	31650	2.67019	2.670
	5 1-methylnaphthalene	141	5.890	5.883	(1.199)	31873	2.64949	2.649
	9 Acenaphthylene	152	7.091	7.085	(0.985)	59018	2.82060	2.821
*	10 Acenaphthene-d10	164	7.202	7.196	(1.000)	27709	2.00000	
	11 Acenaphthene	153	7.249	7.246	(1.007)	36454	2.60022	2.600
	12 Dibenzofuran	168	7.401	7.395	(1.028)	60898	2.85987	2.860
	14 Fluorene	166	7.878	7.872	(1.094)	43507	2.63066	2.631
*	15 Phenanthrene-d10	188	9.238	9.235	(1.000)	51685	2.00000	
	16 Phenanthrene	178	9.276	9.270	(1.004)	61815	2.44841	2.448
	17 Anthracene	178	9.317	9.311	(1.009)	52064	2.27006	2.270
	22 Fluoranthene	202	11.059	11.053	(1.197)	72902	2.65276	2.653
$	21 Fluoranthene-d10	212	Compound Not Detected.					
	23 Pyrene	202	11.578	11.572	(0.815)	71115	2.46242	2.462
	24 Benzo(a)anthracene	228	14.082	14.076	(0.991)	67725	2.58725	2.587
*	25 Chrysene-d12	240	14.212	14.202	(1.000)	46582	2.00000	
	27 Chrysene	228	14.285	14.278	(1.005)	66872	2.39976	2.400
	28 Benzo(b)fluoranthene	252	16.833	16.821	(0.929)	60946	2.50689	2.507
	29 Benzo(k)fluoranthene	252	16.893	16.884	(0.932)	63249	2.65606	2.656
	31 Total Benzofluoranthenes	252	16.893	16.821	(0.932)	126178	5.48025	5.480(M)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)
	32 Benzo(a)pyrene	252	17.886	17.877	(0.987)	55026	2.57205	2.572
*	33 Perylene-d12	264	18.117	18.111	(1.000)	41743	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	20.684	20.675	(1.142)	65545	2.68928	2.689
$	36 Dibenzo(a,h)anthracene-d14	292	Compound Not Detected.					
	38 Dibenzo(a,h)anthracene	278	20.669	20.662	(1.141)	52293	2.49315	2.493
	39 Benzo(g,h,i)perylene	276	21.766	21.756	(1.201)	54821	2.48258	2.483
	35 Perylene	252	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823011909.D
Lab Smp Id: SLA0213-SCV1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230119.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 19-JAN-2023
Calibration Time: 12:52
Level: LOW
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	44704	22352	89408	46346	3.67
10 Acenaphthene-d10	26411	13206	52822	27709	4.91
15 Phenanthrene-d10	49210	24605	98420	51685	5.03
25 Chrysene-d12	42994	21497	85988	46582	8.35
33 Perylene-d12	40520	20260	81040	41743	3.02

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.91	4.41	5.41	4.91	0.13
10 Acenaphthene-d10	7.20	6.70	7.70	7.20	0.09
15 Phenanthrene-d10	9.24	8.74	9.74	9.24	0.03
25 Chrysene-d12	14.20	13.70	14.70	14.21	0.07
33 Perylene-d12	18.11	17.61	18.61	18.12	0.03

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

REVIEW SUMMARY FOR FILE - N823011909.D

Lab ID: SLA0213-SCV1
nt8.i, 20230119.b\FSIMPNA230119.m,   19-JAN-2023 14:58

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

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

No RRT check performed

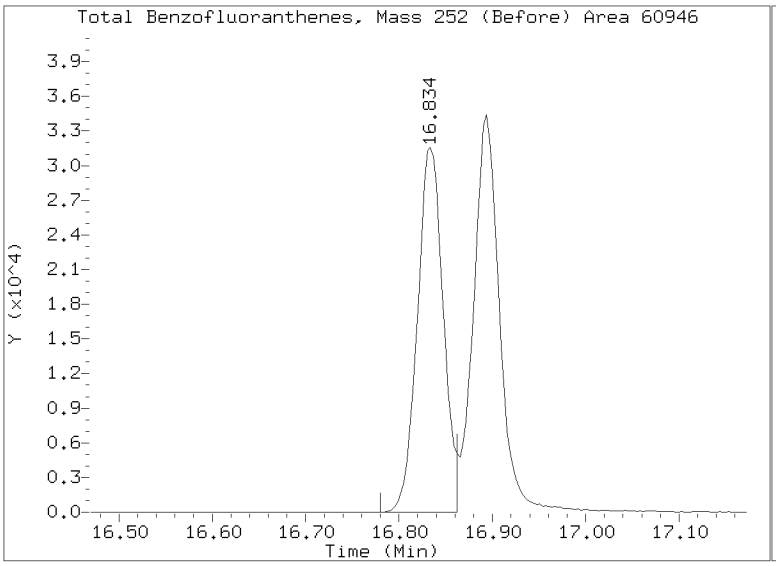
On Column LOD for nt8.i, 20230119.b\FSIMPNA230119.m, pnascv.sub = 0.0500

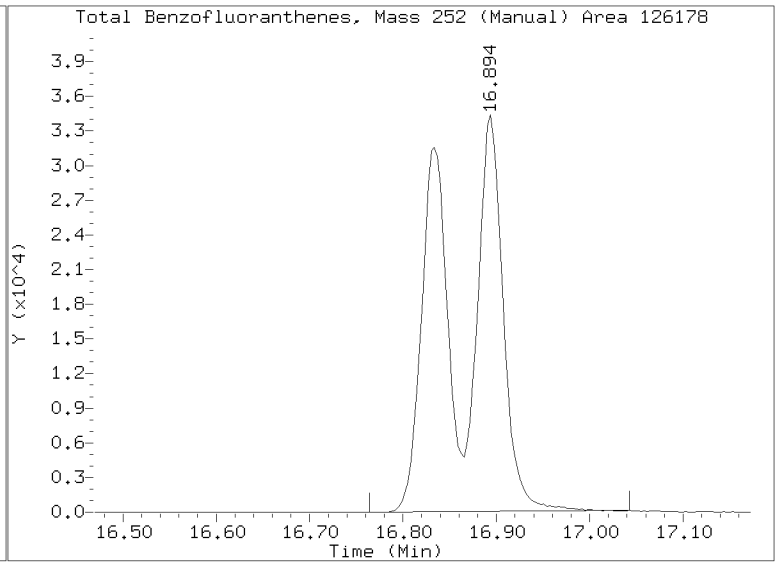
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

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

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20230119.b/N823011909.D
Injection Date: 19-JAN-2023 14:58
Lab ID:SLA0213-SCV1 Client ID:
Report Date: 01/25/2023 22:00





SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270E-SIM

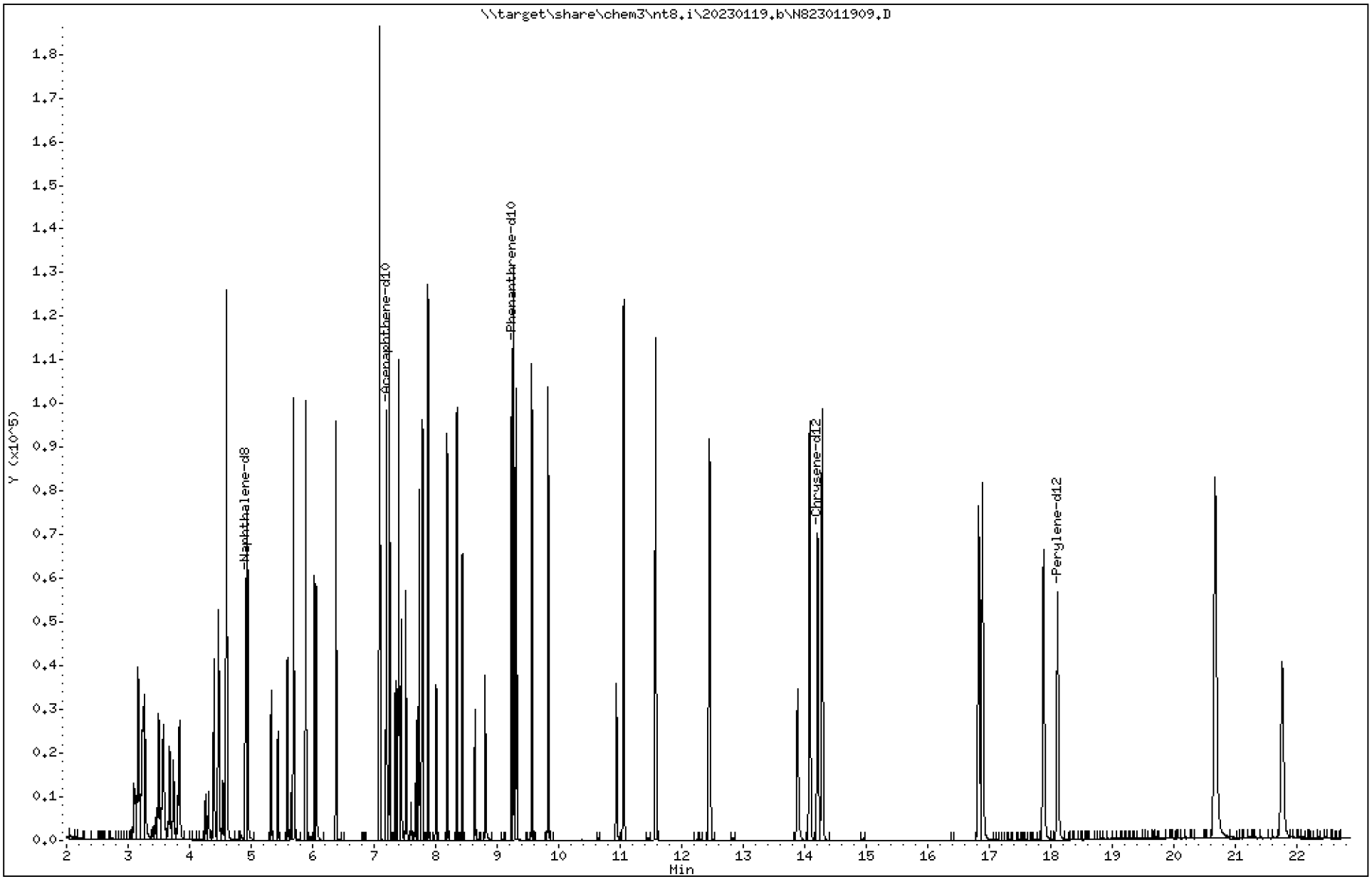
Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GA00050
Laboratory ID: SLA0213-SCV1
Sequence: SLA0213
Standard ID: L000686

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DRIFT	QC LIMIT
Naphthalene	2.5000	2.63	5.0	
2-Methylnaphthalene	2.5000	2.67	6.8	
1-Methylnaphthalene	2.5000	2.65	6.0	
Acenaphthylene	2.5000	2.82	12.8	
Acenaphthene	2.5000	2.60	4.0	
Dibenzofuran	2.5000	2.86	14.4	
Fluorene	2.5000	2.63	5.2	
Phenanthrene	2.5000	2.45	-2.1	
Anthracene	2.5000	2.27	-9.2	
Fluoranthene	2.5000	2.65	6.1	
Pyrene	2.5000	2.46	-1.5	
Benzo(a)anthracene	2.5000	2.59	3.5	
Chrysene	2.5000	2.40	-4.0	
Benzo(b)fluoranthene	2.5000	2.51	0.3	
Benzo(k)fluoranthene	2.5000	2.66	6.2	
Benzofluoranthenes, Total	5.0000	5.48	9.6	
Benzo(a)pyrene	2.5000	2.57	2.9	
Indeno(1,2,3-cd)pyrene	2.5000	2.69	7.6	
Dibenzo(a,h)anthracene	2.5000	2.49	-0.3	
Benzo(g,h,i)perylene	2.5000	2.48	-0.7	

* Values outside of QC limits

Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D
Date : 19-JAN-2023 14:58
Client ID:
Sample Info: SCV230119
Volume Injected (uL): 1.0
Column phase: Rxi-17sil

Instrument: nt8.i
Operator: JZ
Column diameter: 0.25



Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

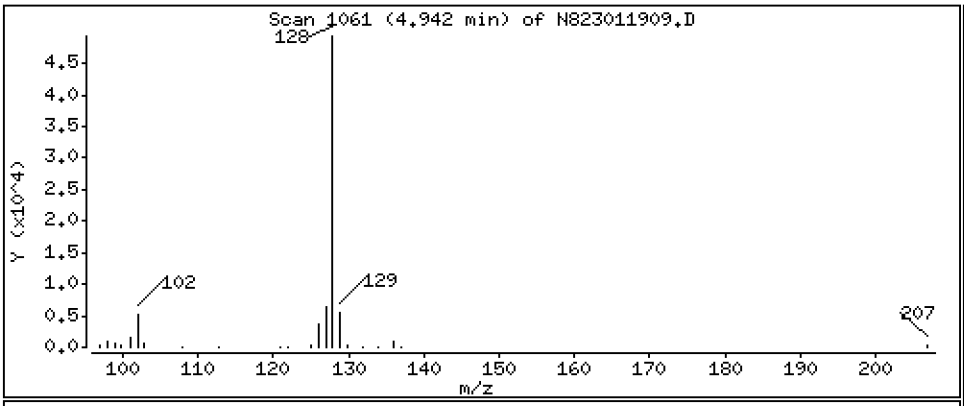
Operator: JZ

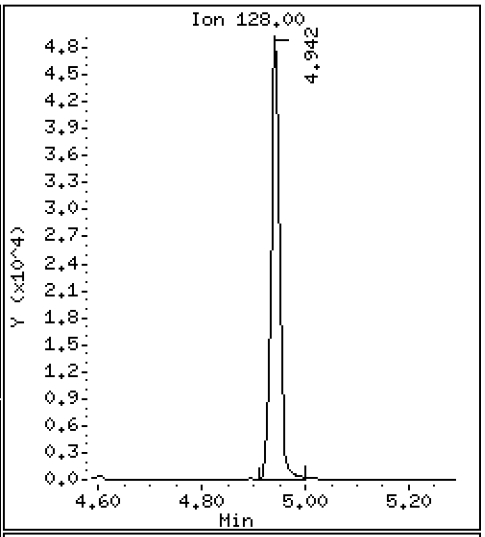
Column phase: Rxi-17sil

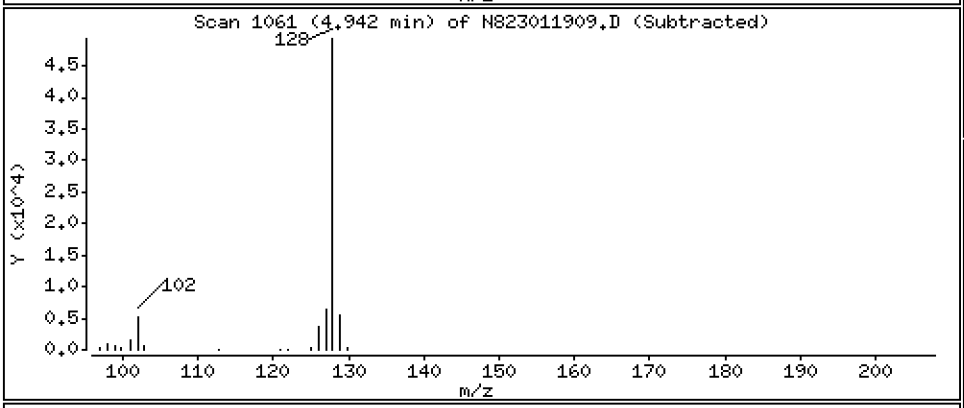
Column diameter: 0.25

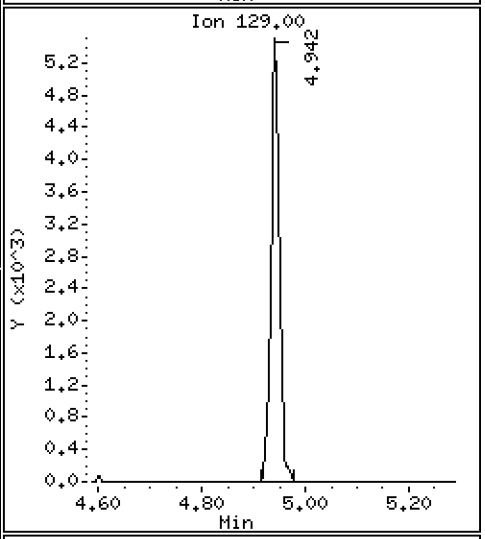
2 Naphthalene

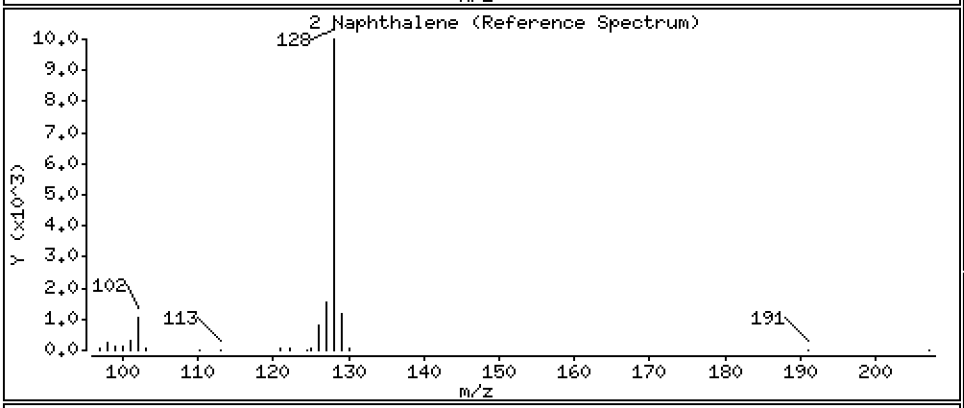
Concentration: 2.626 ug/L

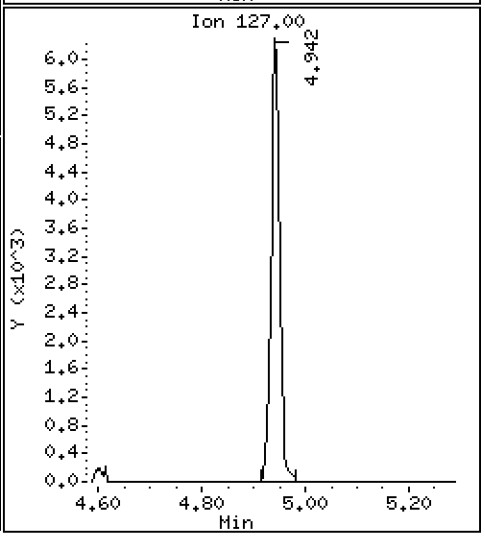


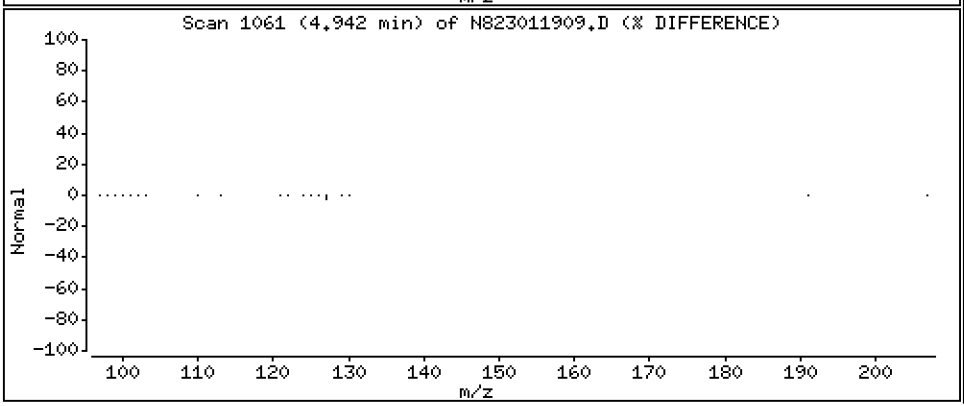












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

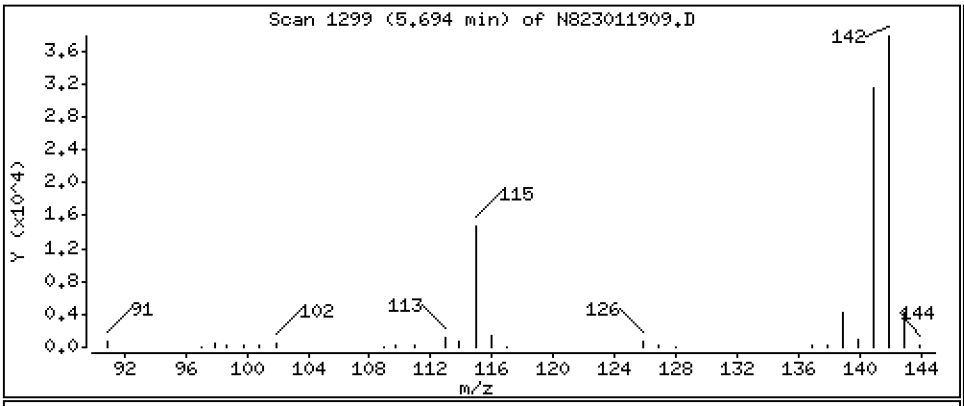
Operator: JZ

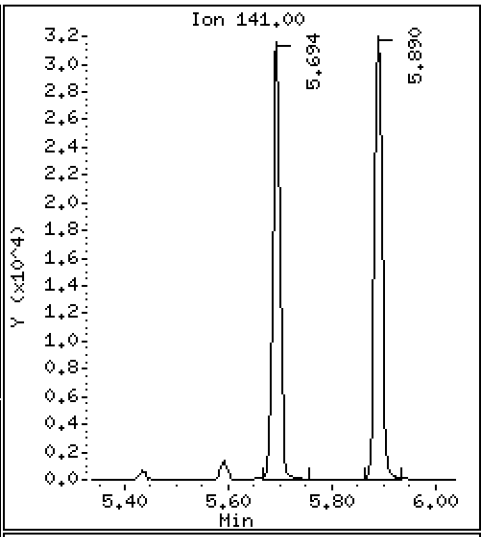
Column phase: Rxi-17sil

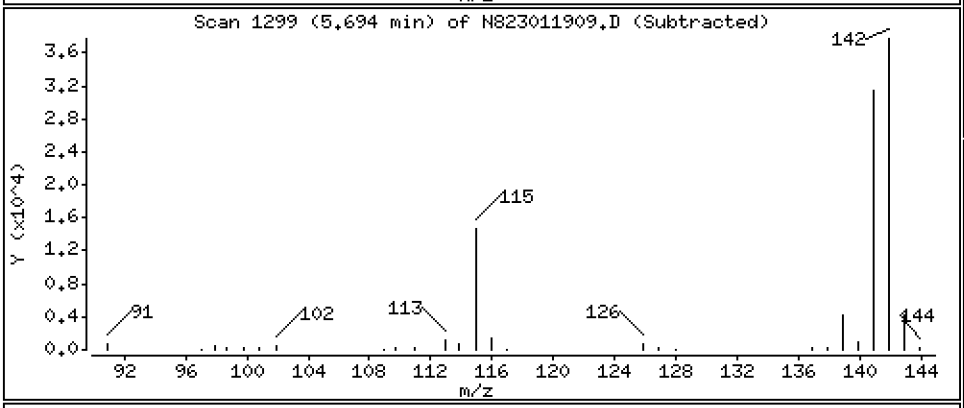
Column diameter: 0.25

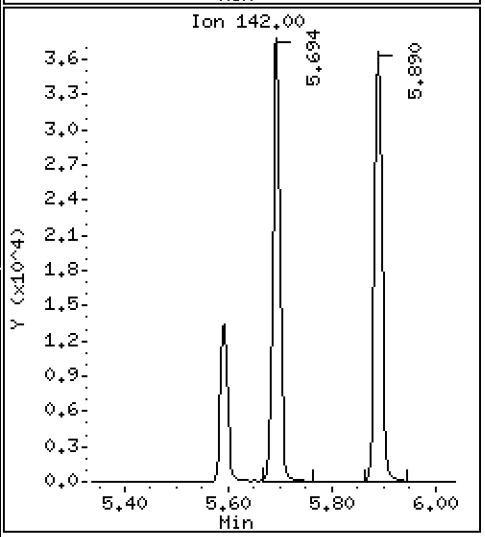
4 2-Methylnaphthalene

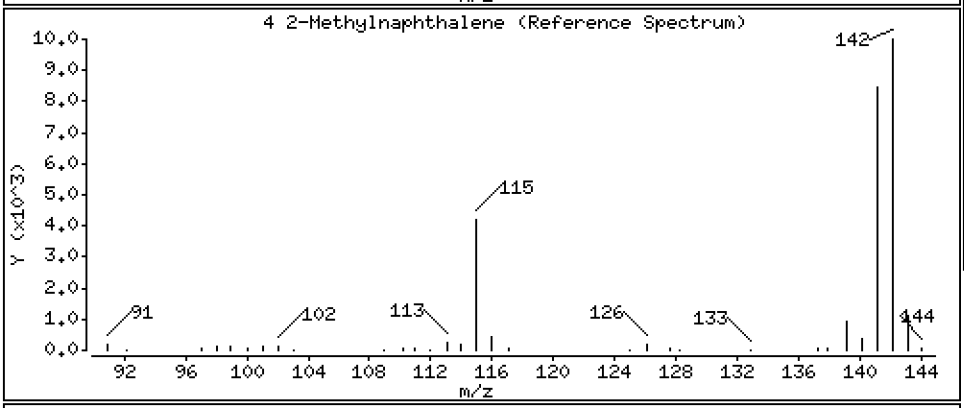
Concentration: 2.670 ug/L

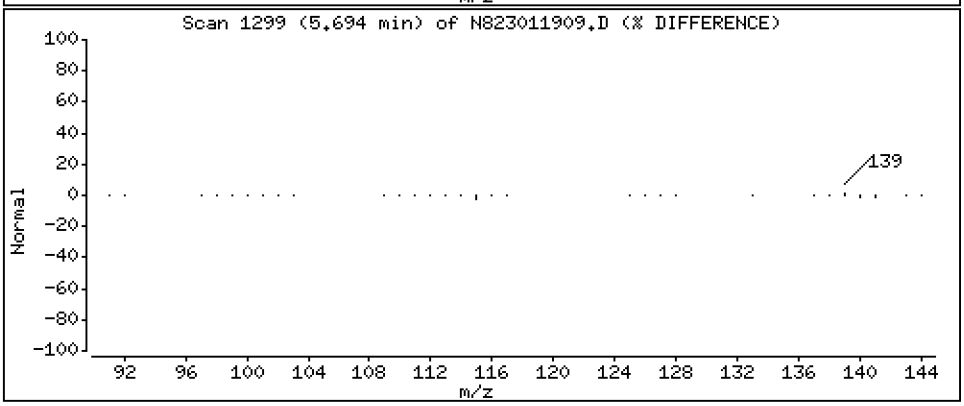












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

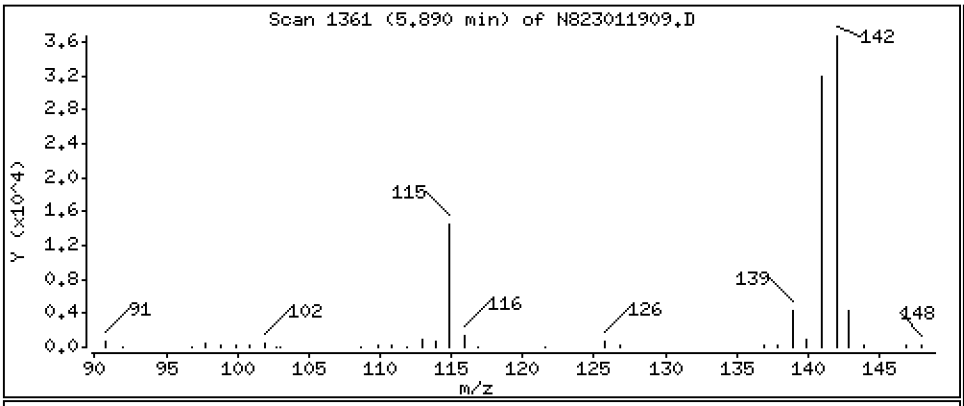
Operator: JZ

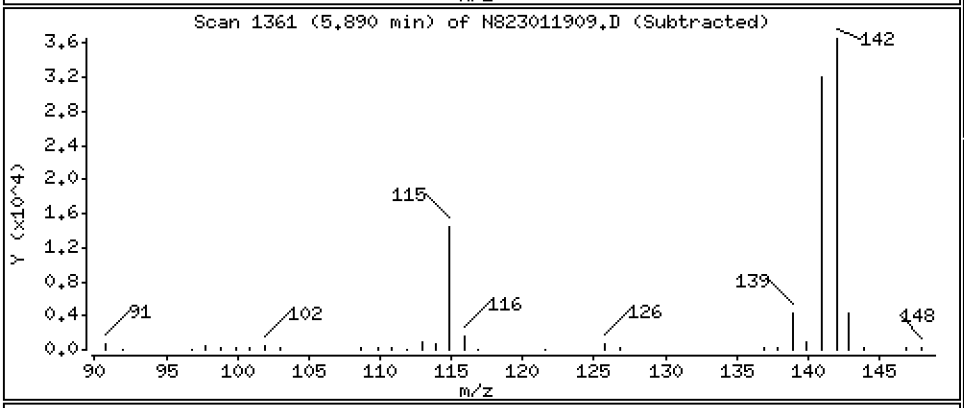
Column phase: Rxi-17sil

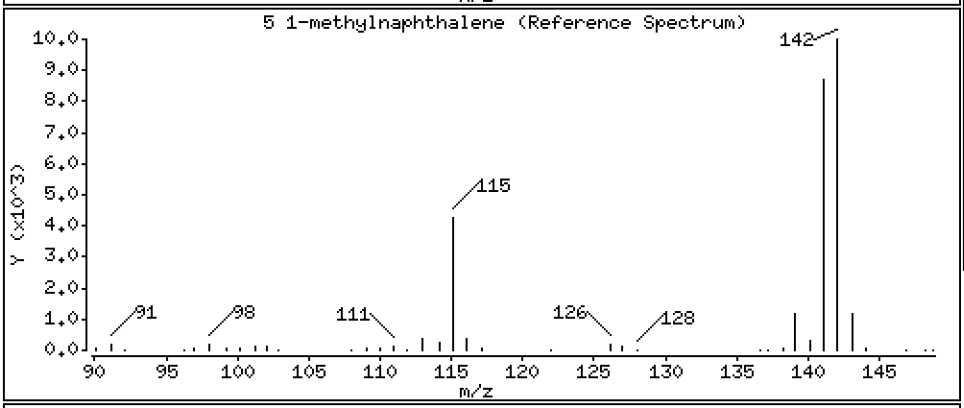
Column diameter: 0.25

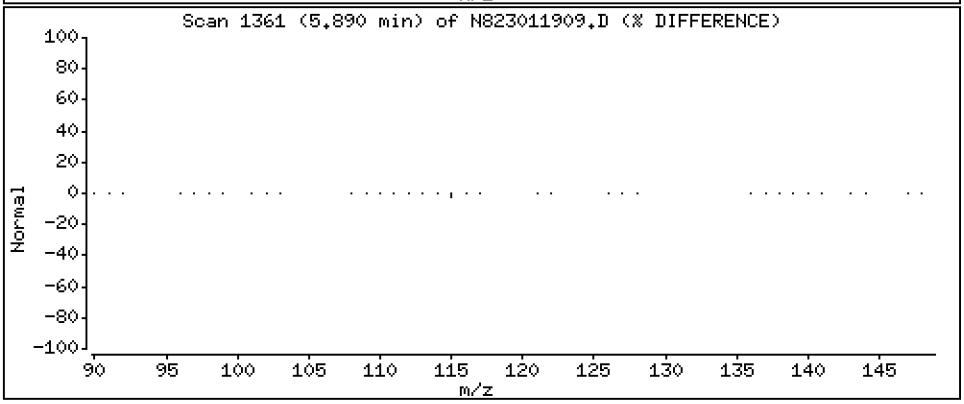
5 1-methylnaphthalene

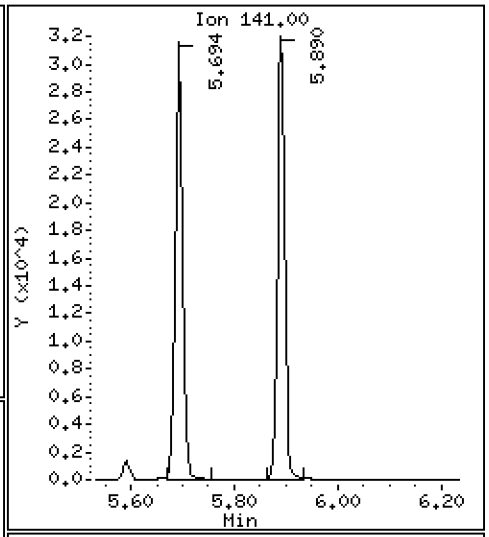
Concentration: 2.649 ug/L

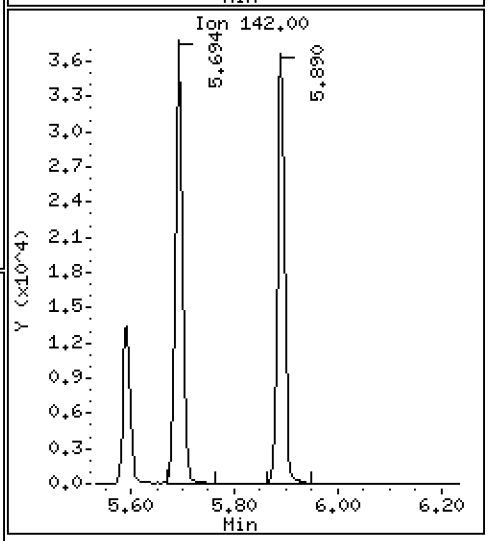












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

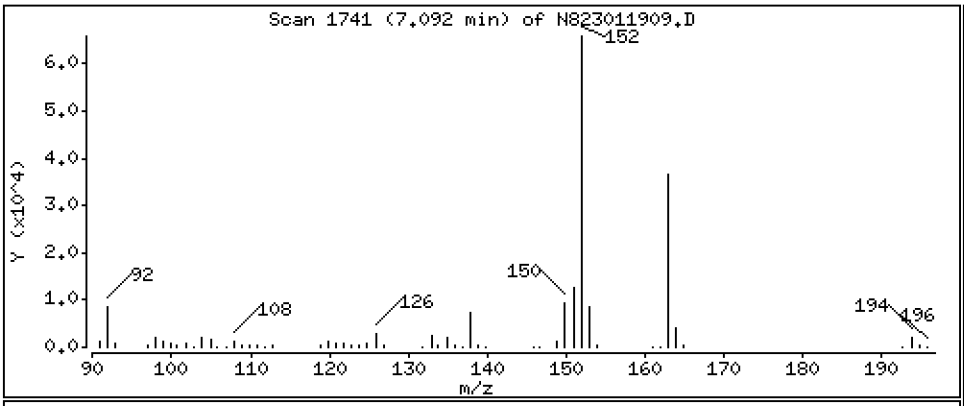
Operator: JZ

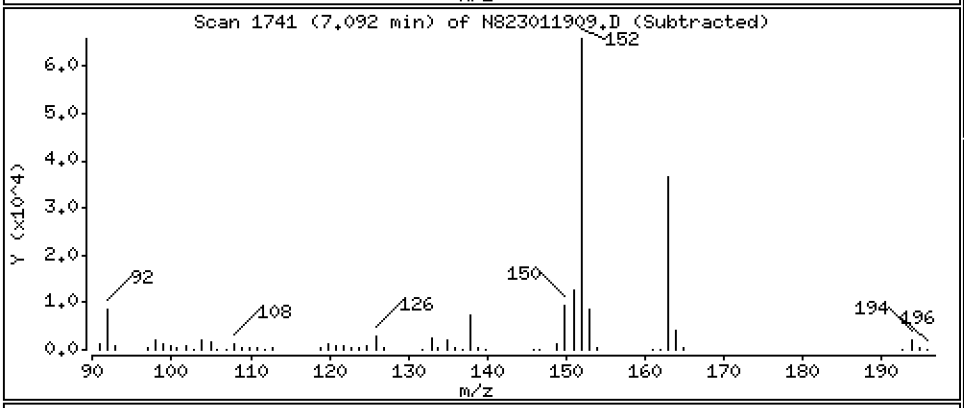
Column phase: Rxi-17sil

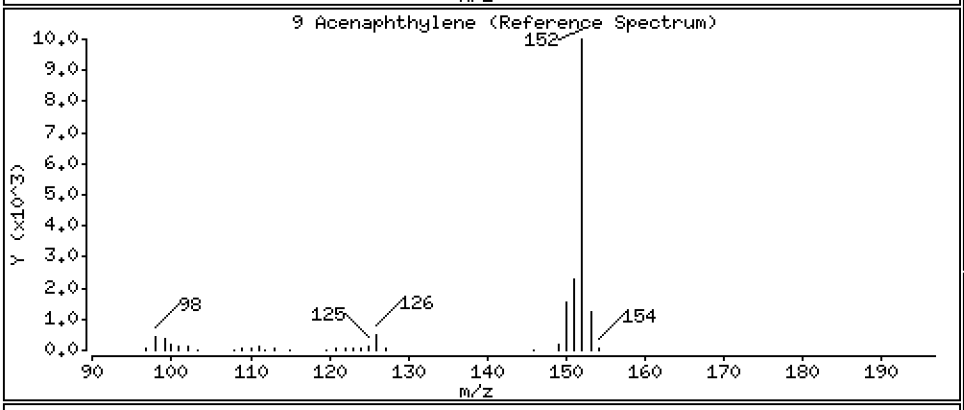
Column diameter: 0.25

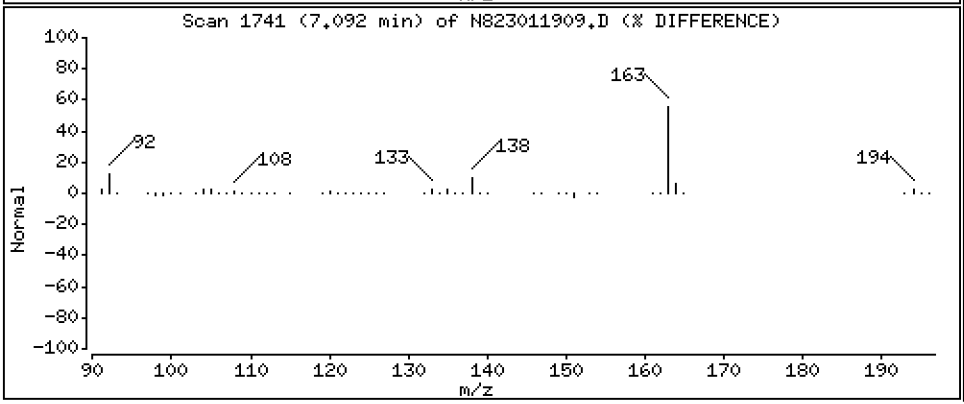
9 Acenaphthylene

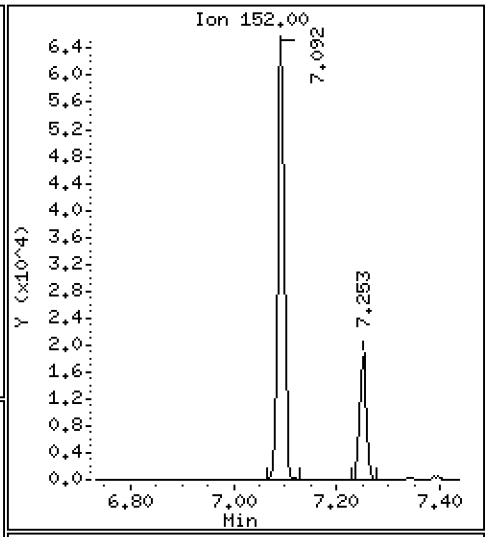
Concentration: 2.821 ug/L

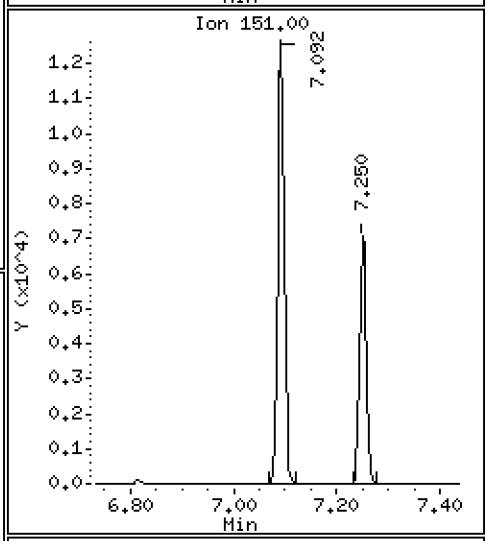


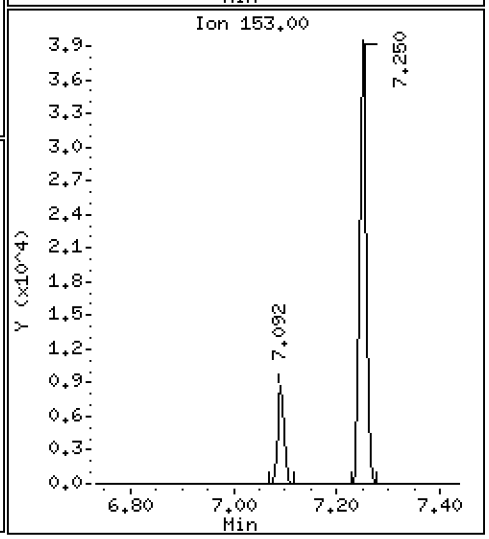












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

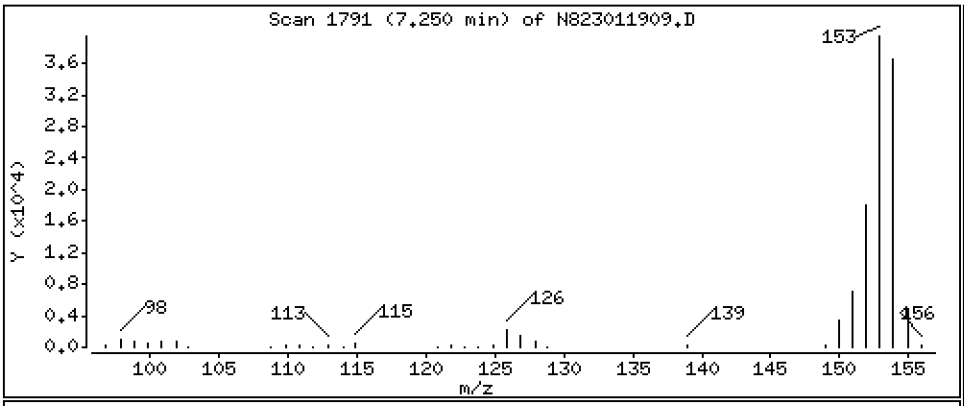
Operator: JZ

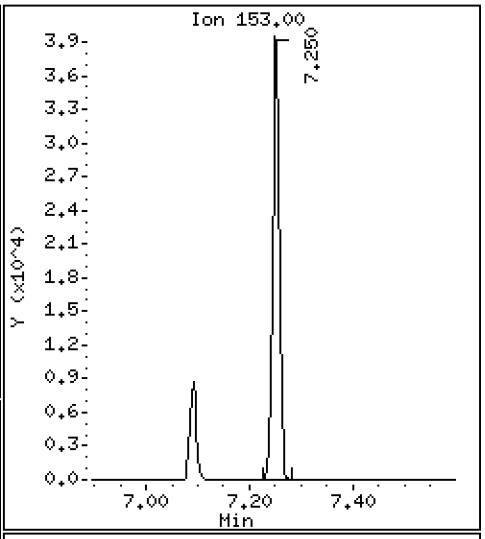
Column phase: Rxi-17sil

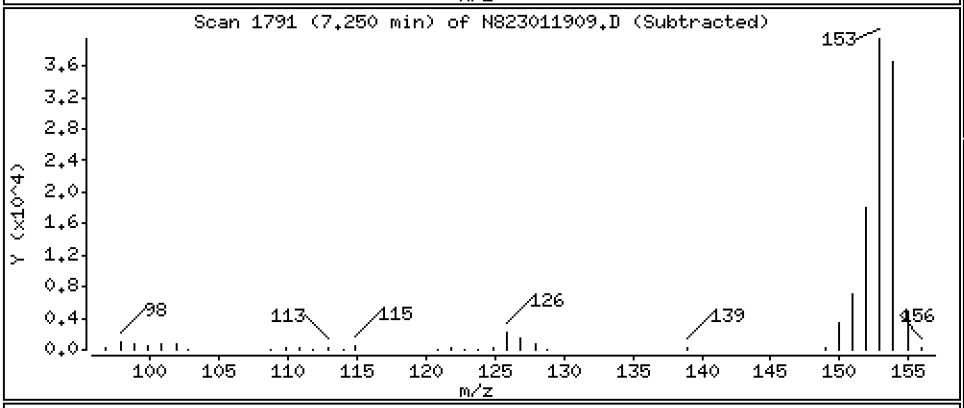
Column diameter: 0.25

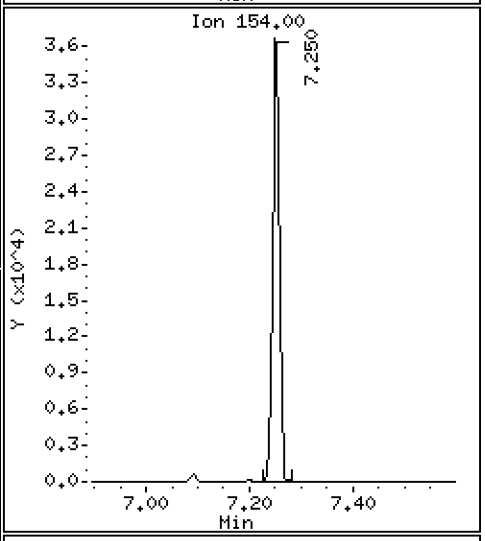
11 Acenaphthene

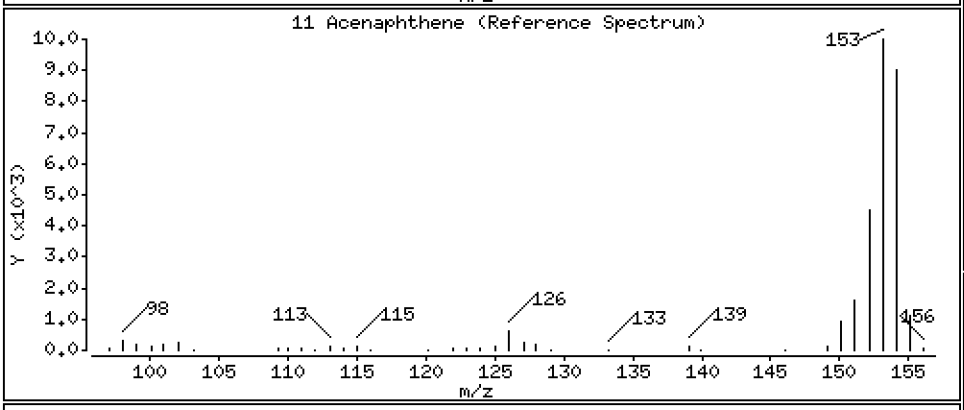
Concentration: 2.600 ug/L

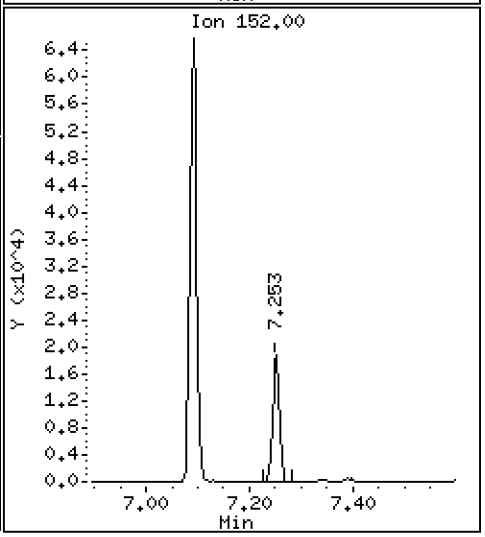


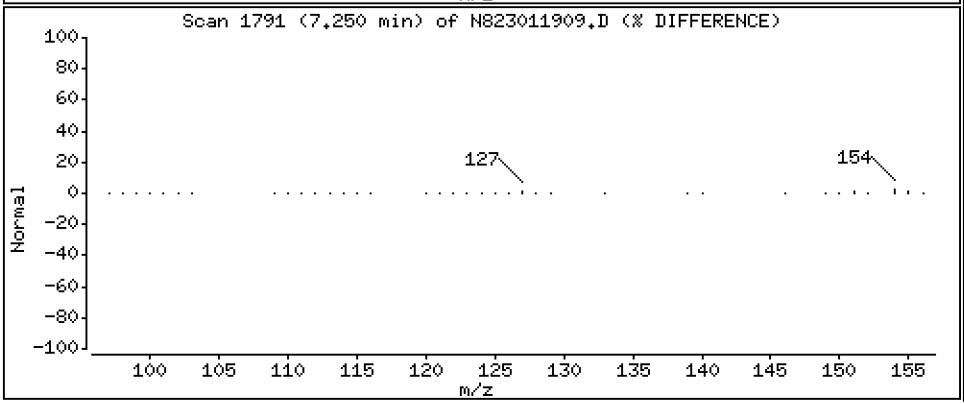












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

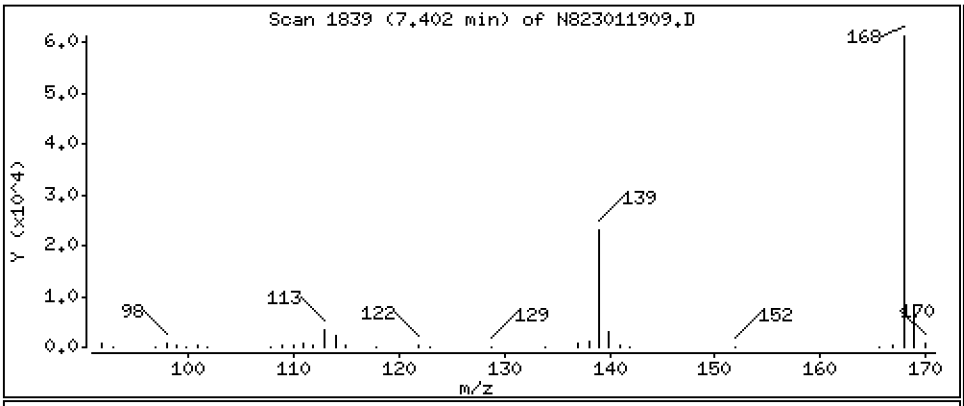
Operator: JZ

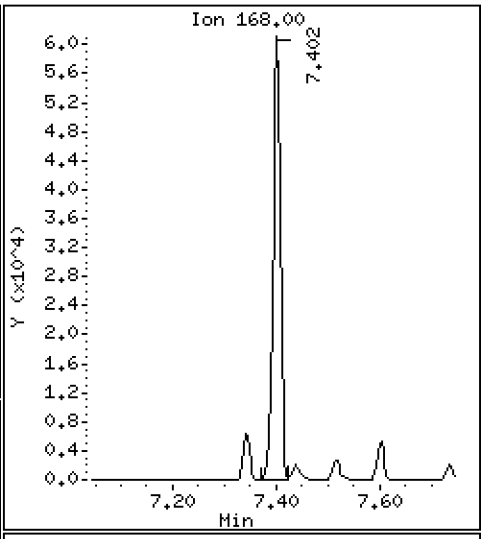
Column phase: Rxi-17sil

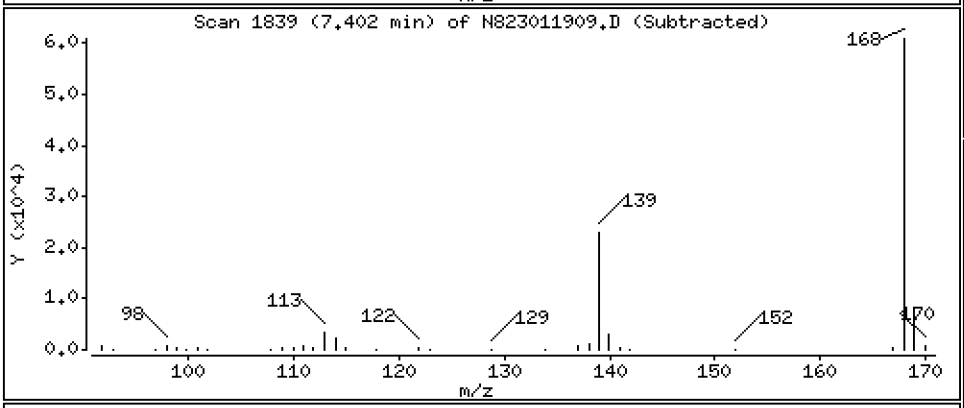
Column diameter: 0.25

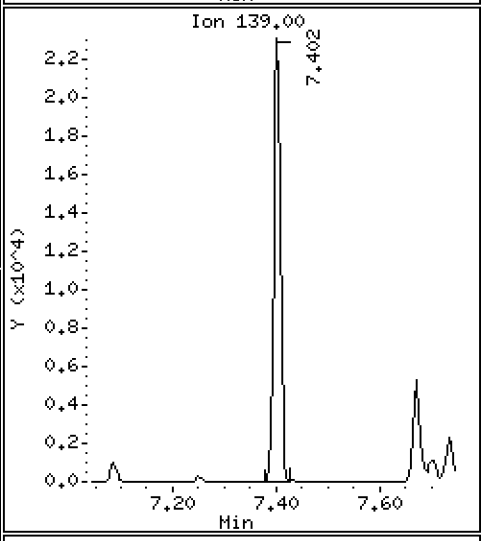
12 Dibenzofuran

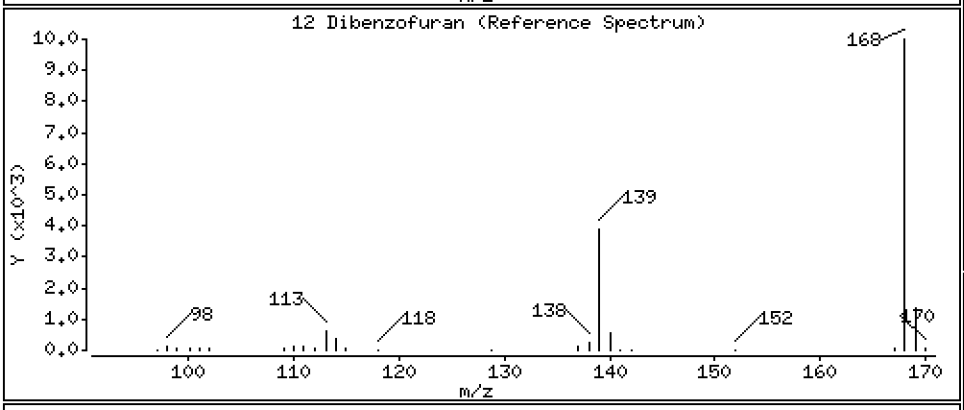
Concentration: 2.860 ug/L

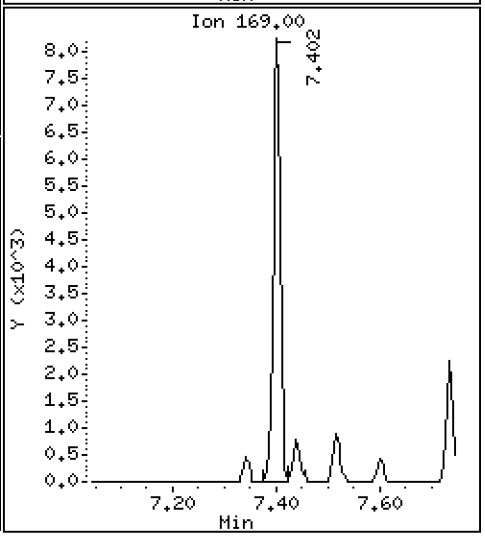


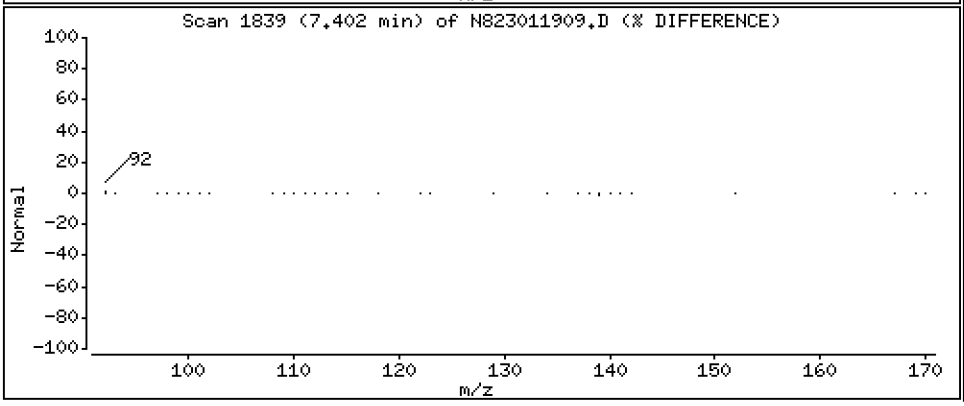












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

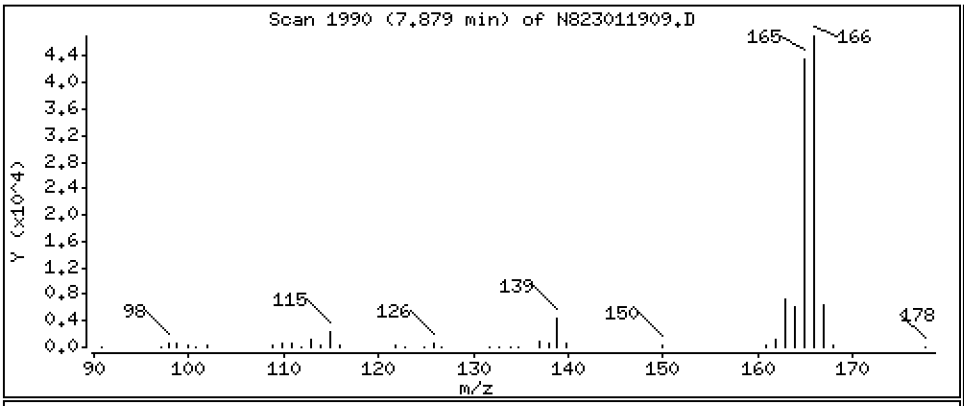
Operator: JZ

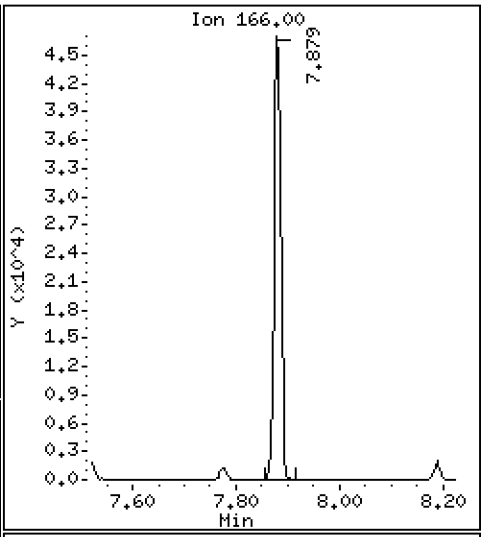
Column phase: Rxi-17sil

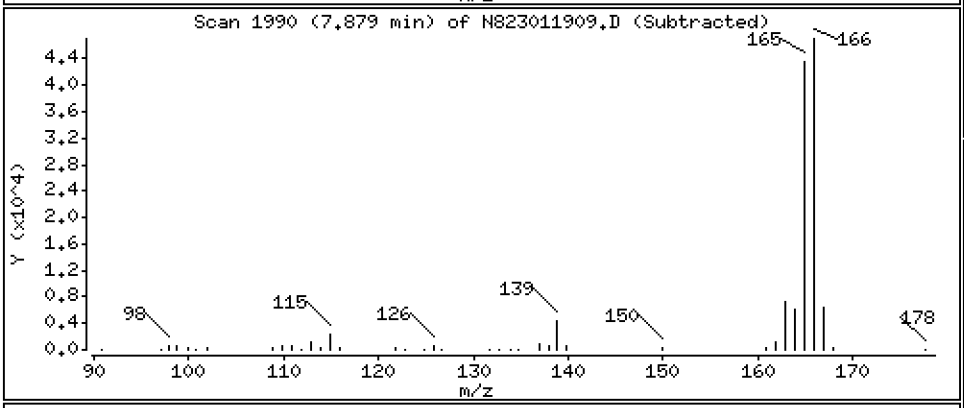
Column diameter: 0.25

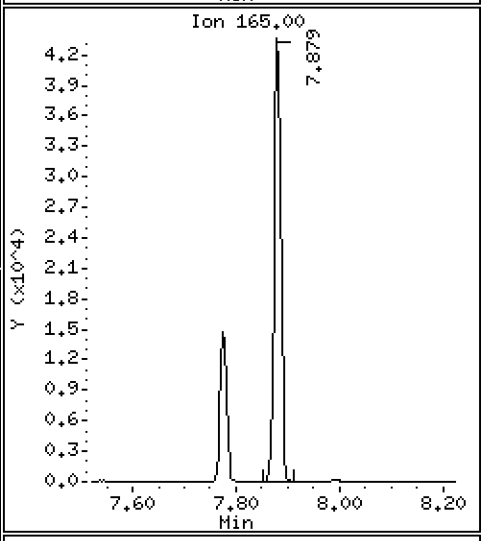
14 Fluorene

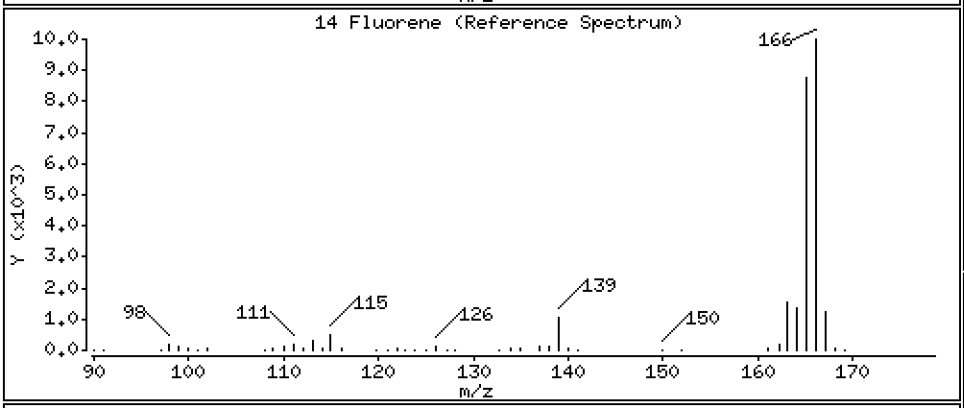
Concentration: 2.631 ug/L

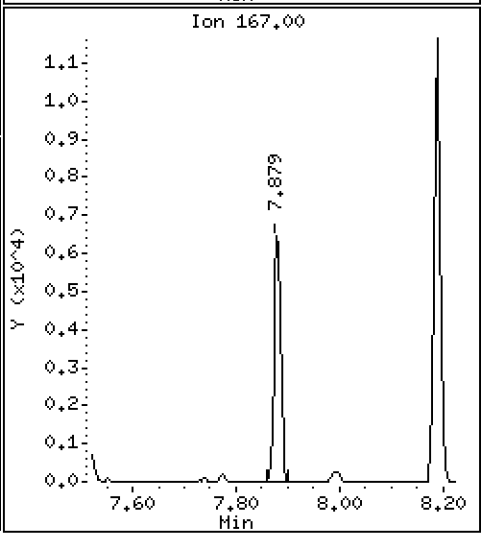


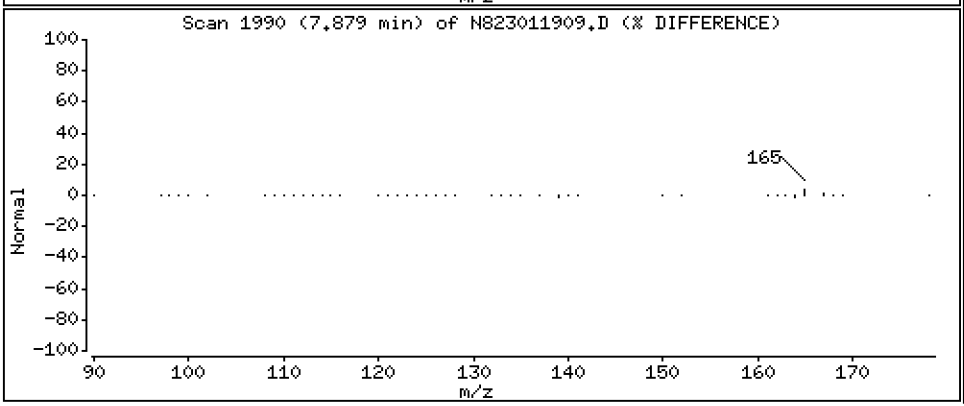












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

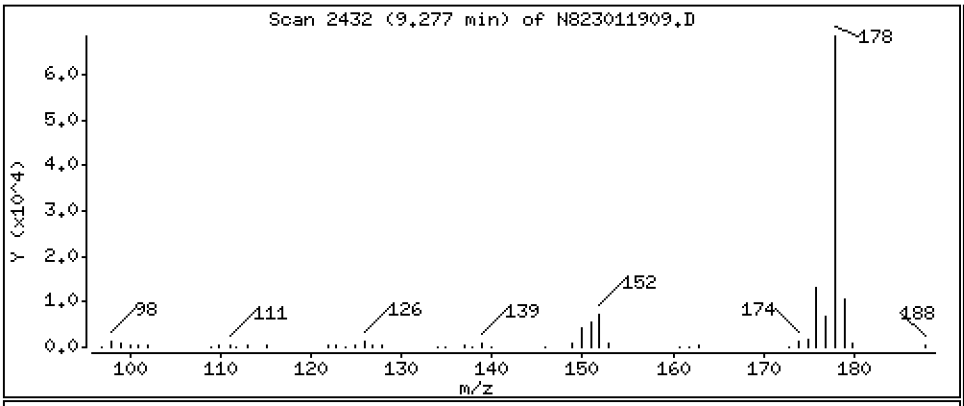
Operator: JZ

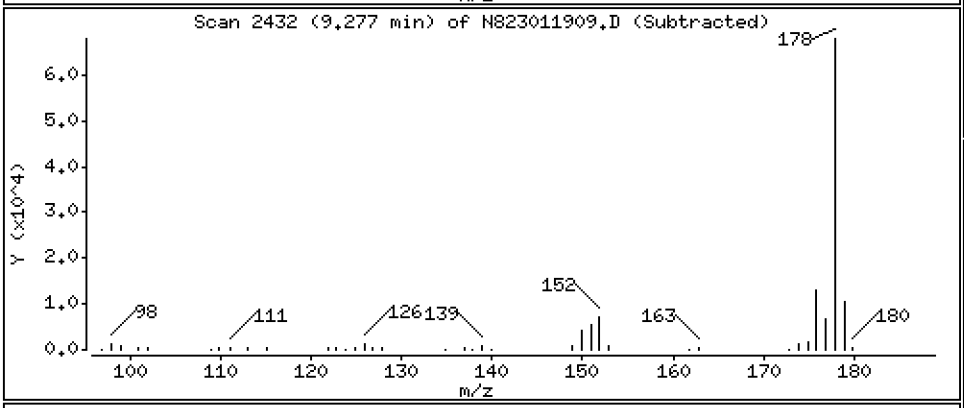
Column phase: Rxi-17sil

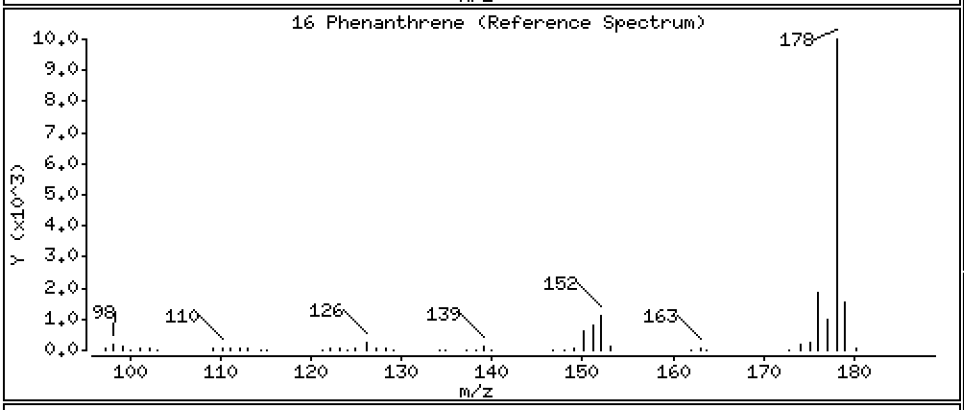
Column diameter: 0.25

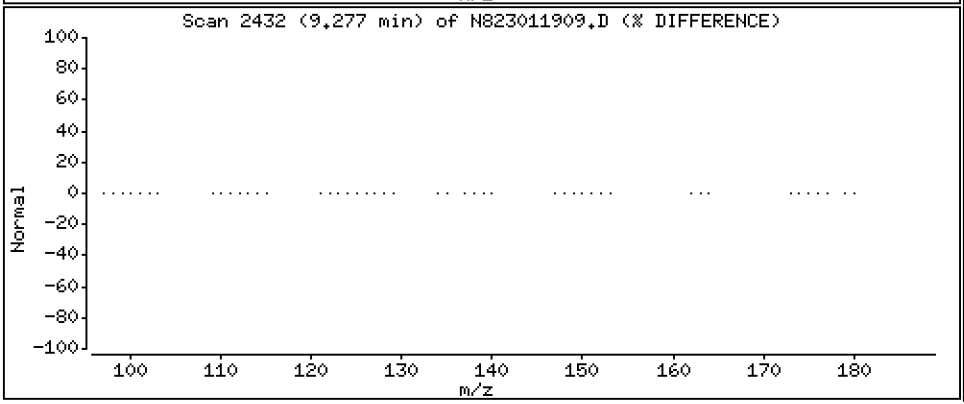
16 Phenanthrene

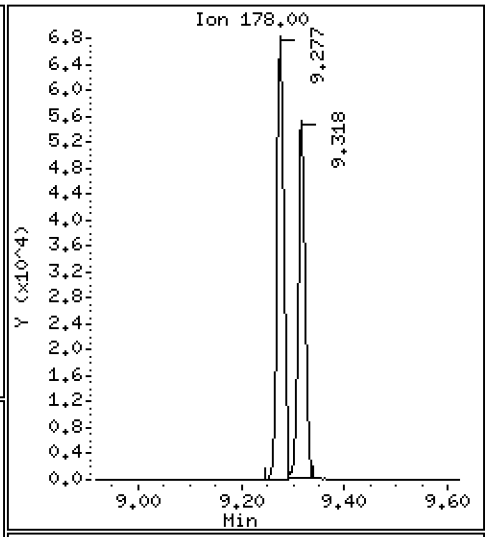
Concentration: 2.448 ug/L

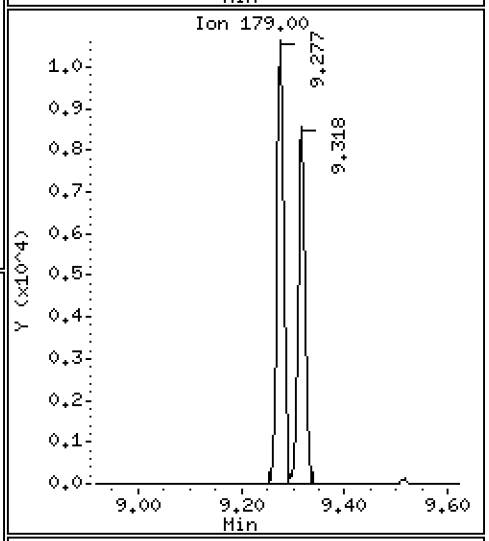


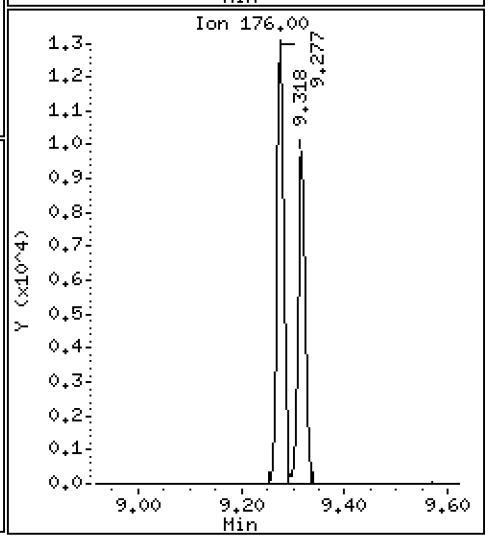












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

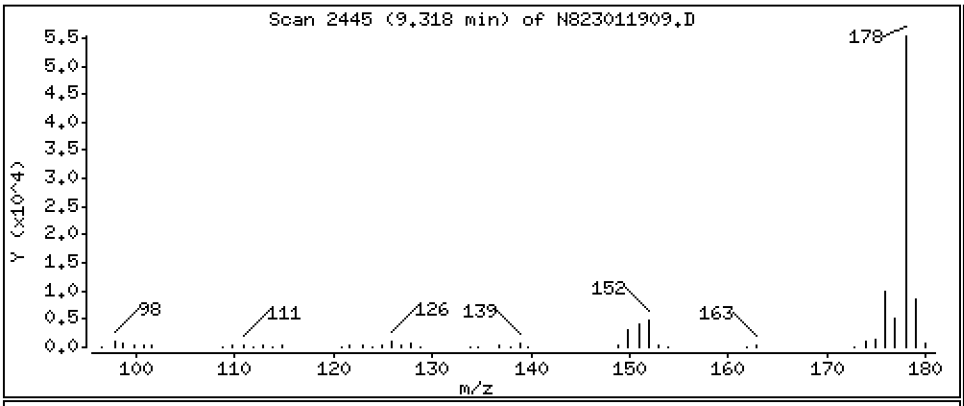
Operator: JZ

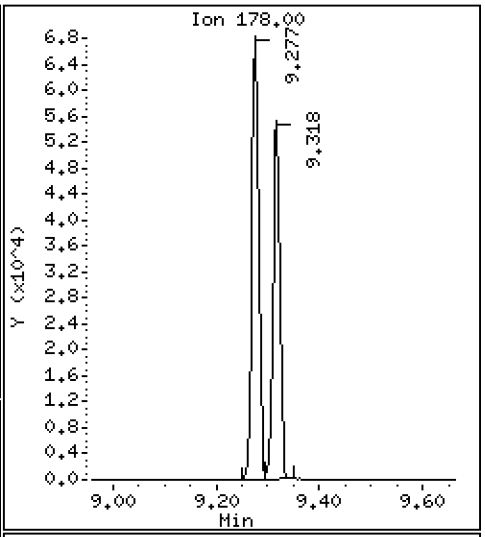
Column phase: Rxi-17sil

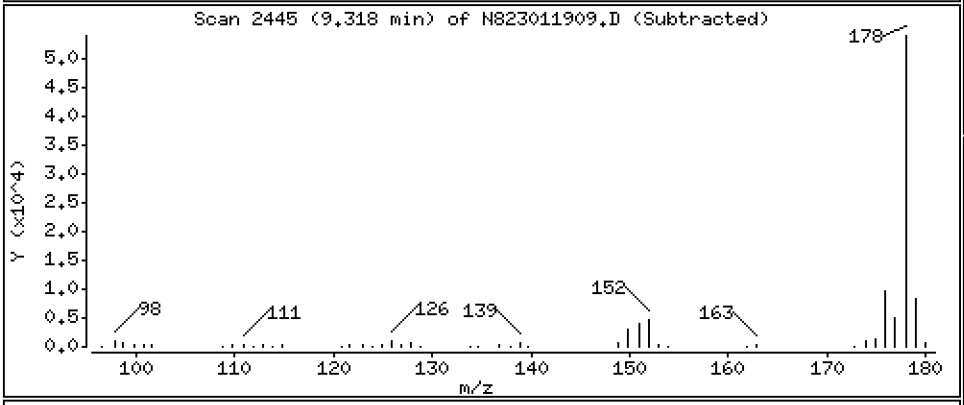
Column diameter: 0.25

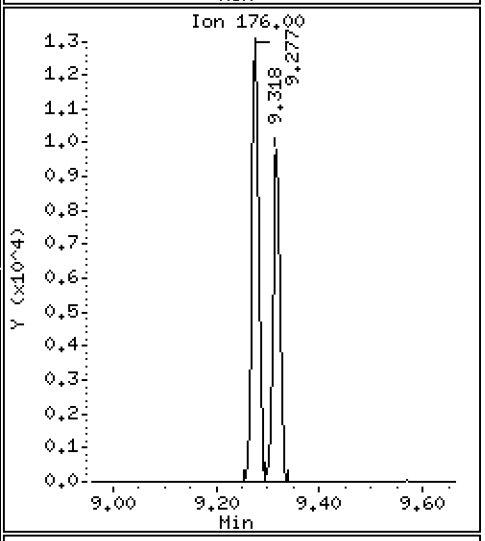
17 Anthracene

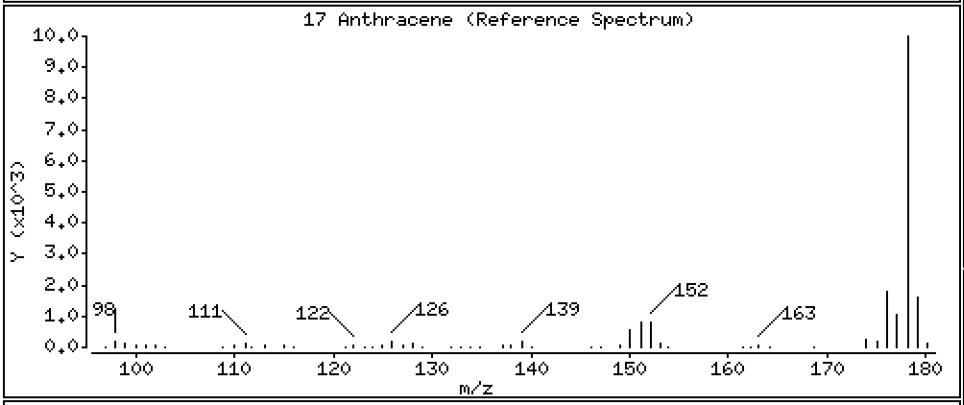
Concentration: 2.270 ug/L

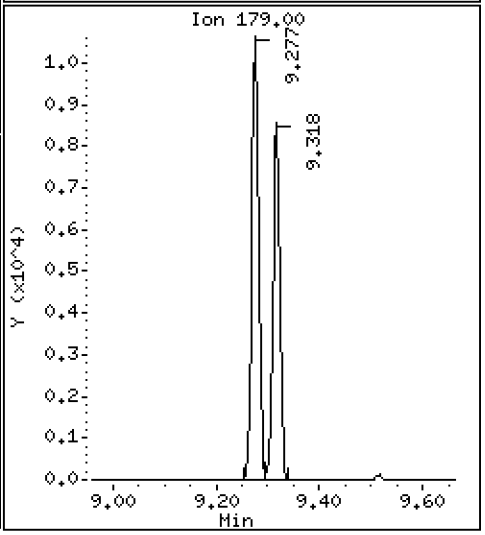


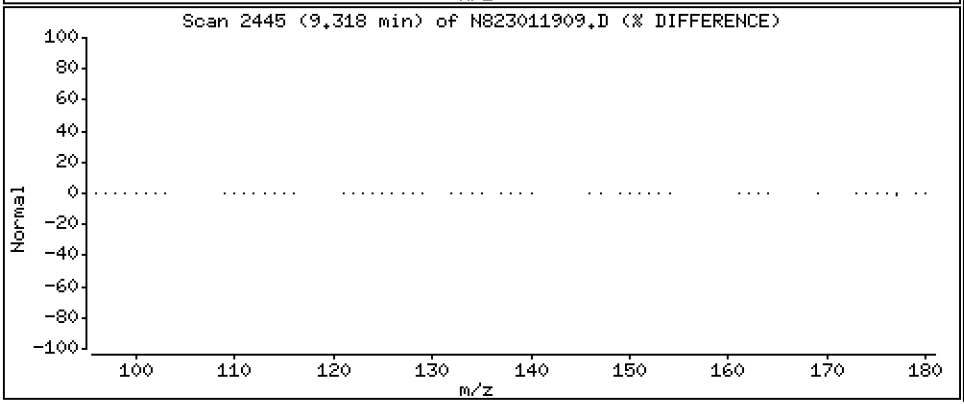












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

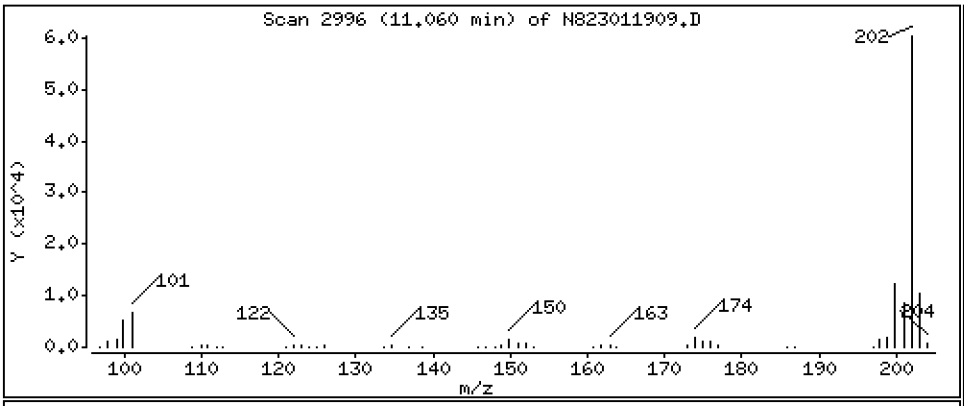
Operator: JZ

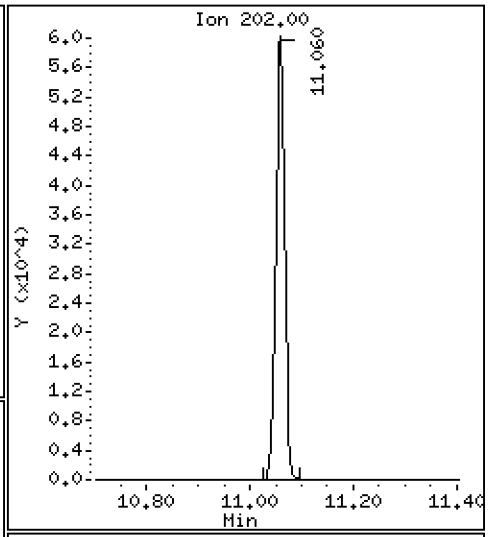
Column phase: Rxi-17sil

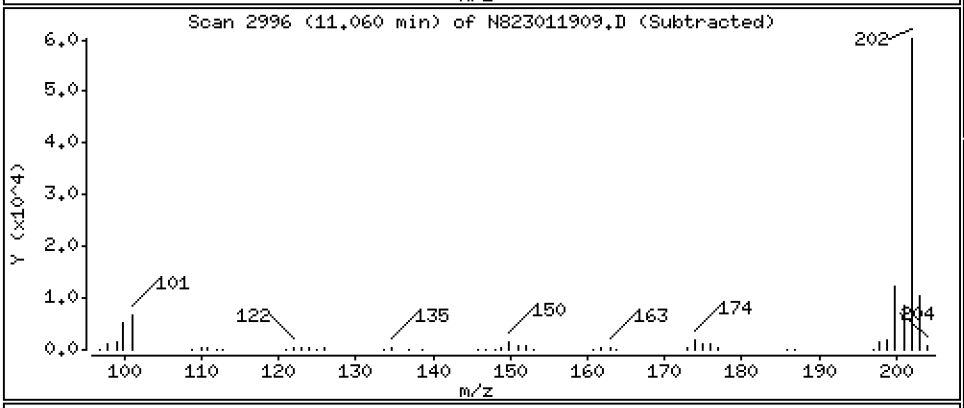
Column diameter: 0.25

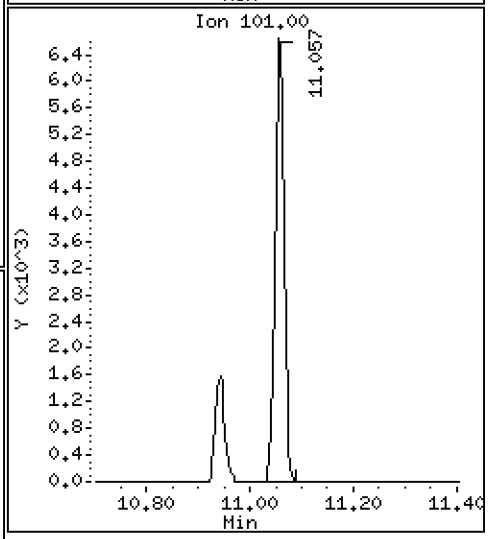
22 Fluoranthene

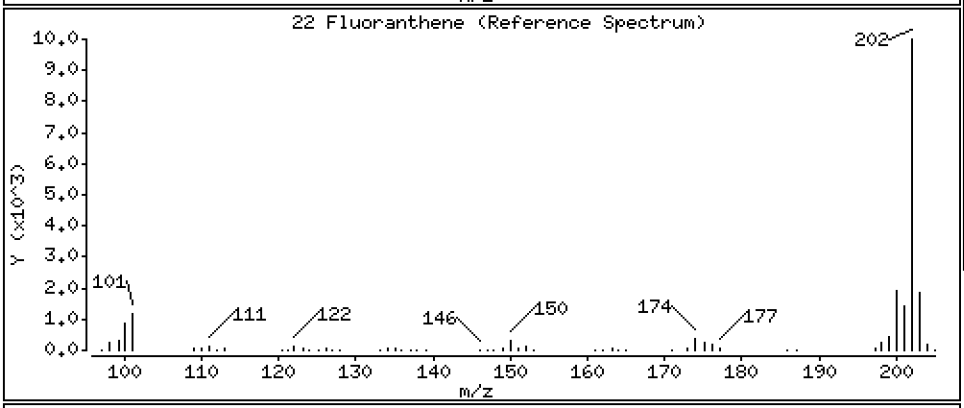
Concentration: 2.653 ug/L

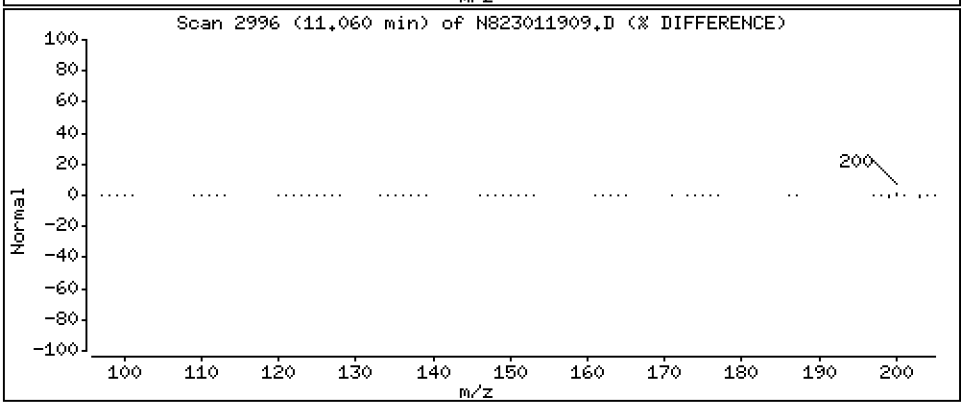












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

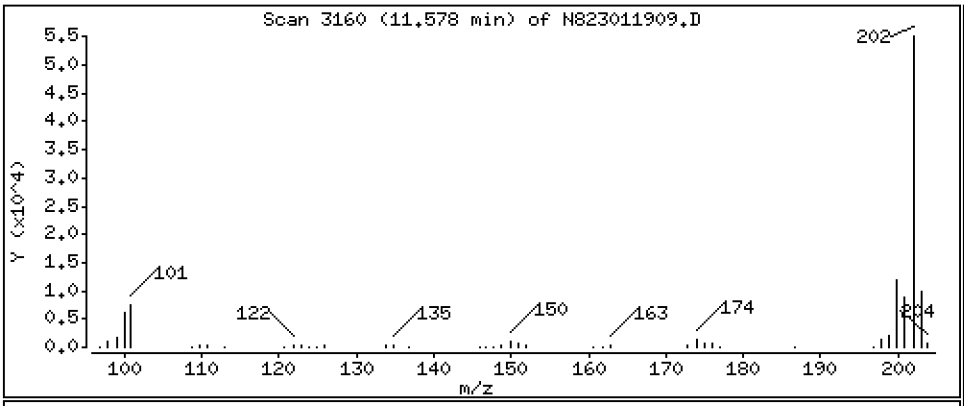
Operator: JZ

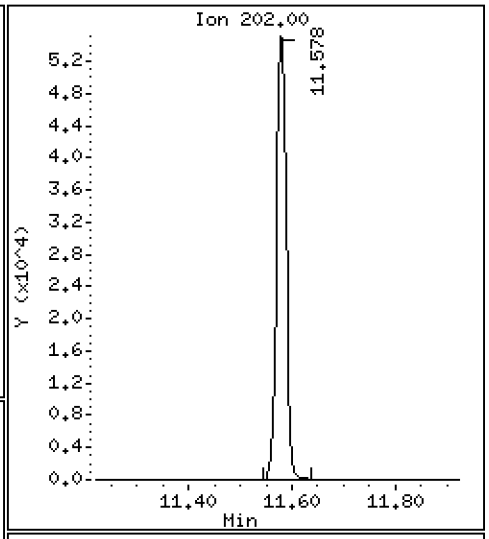
Column phase: Rxi-17sil

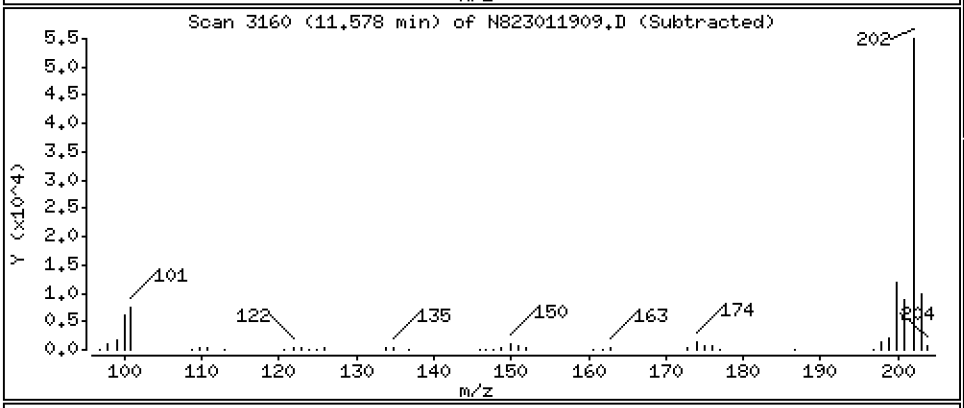
Column diameter: 0.25

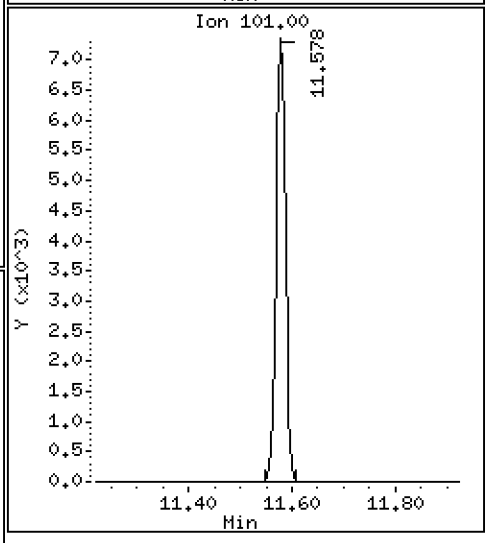
23 Pyrene

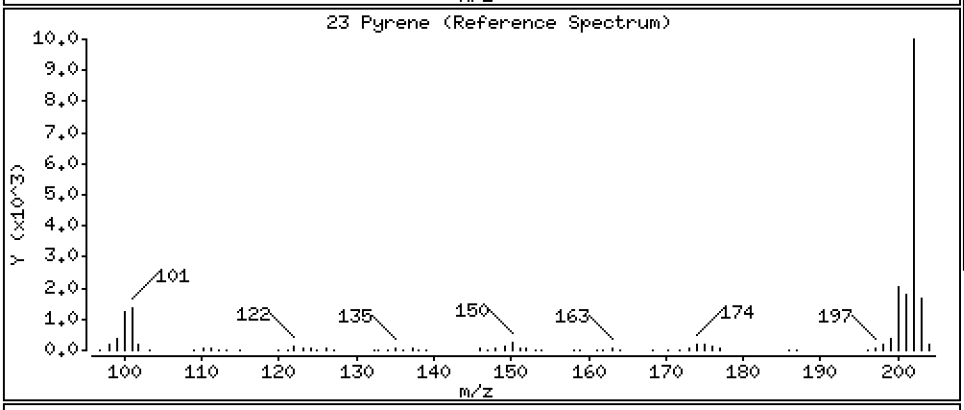
Concentration: 2.462 ug/L

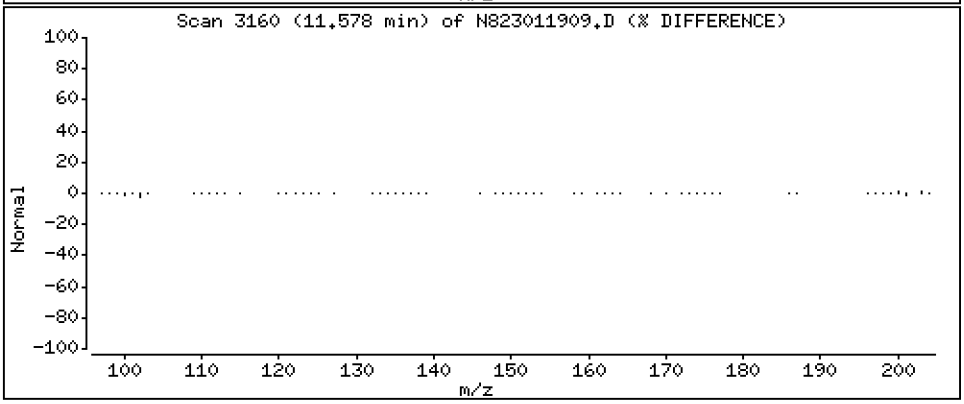












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

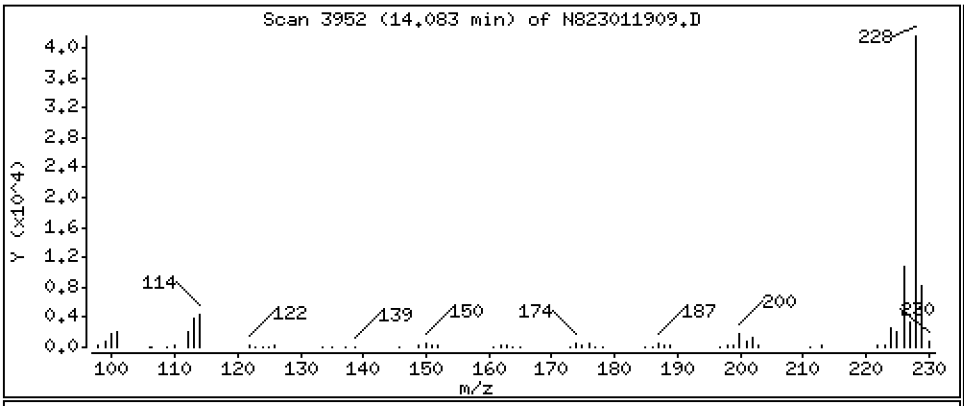
Operator: JZ

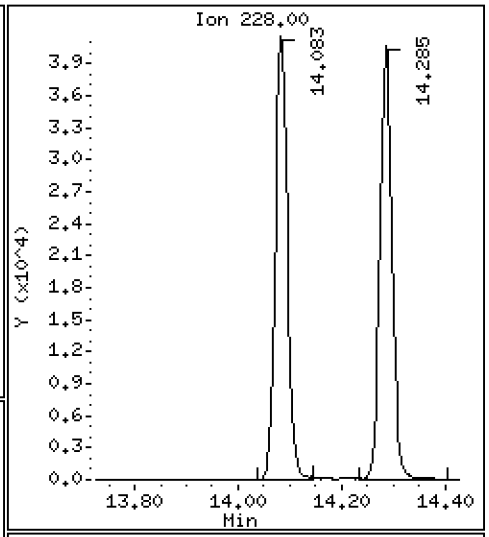
Column phase: Rxi-17sil

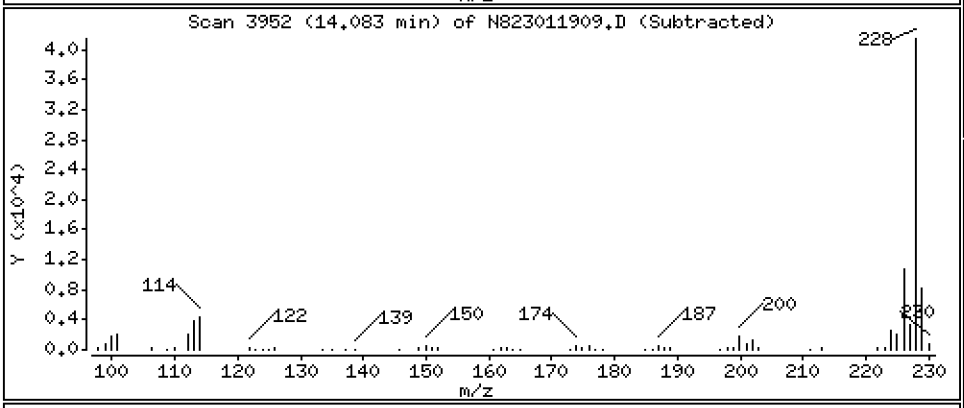
Column diameter: 0.25

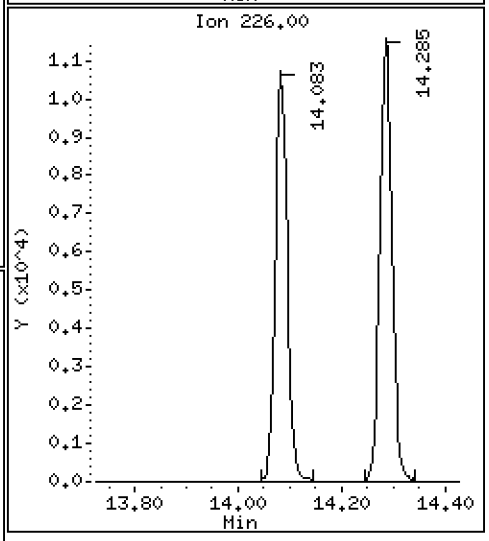
24 Benzo(a)anthracene

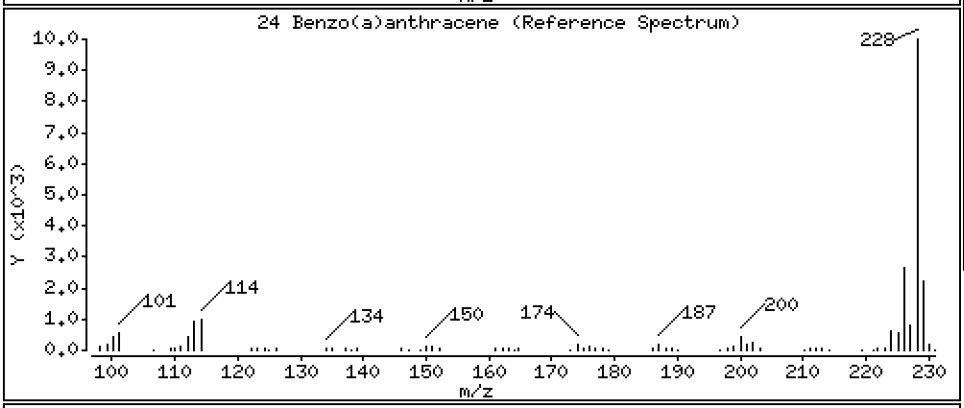
Concentration: 2.587 ug/L

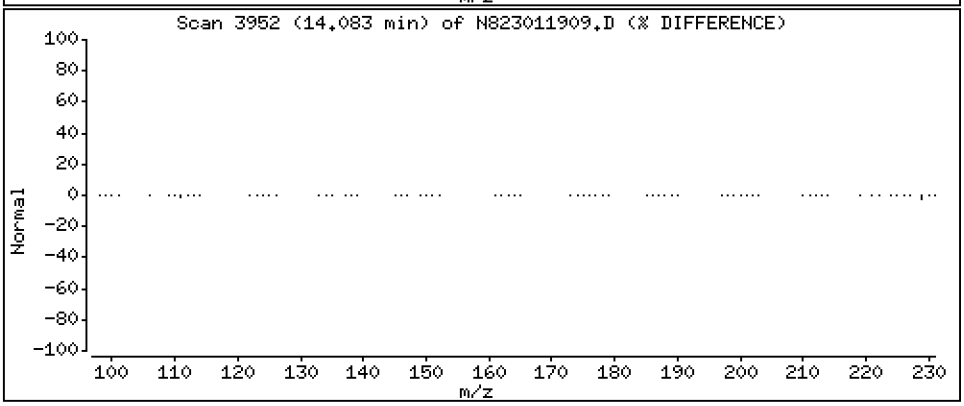












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

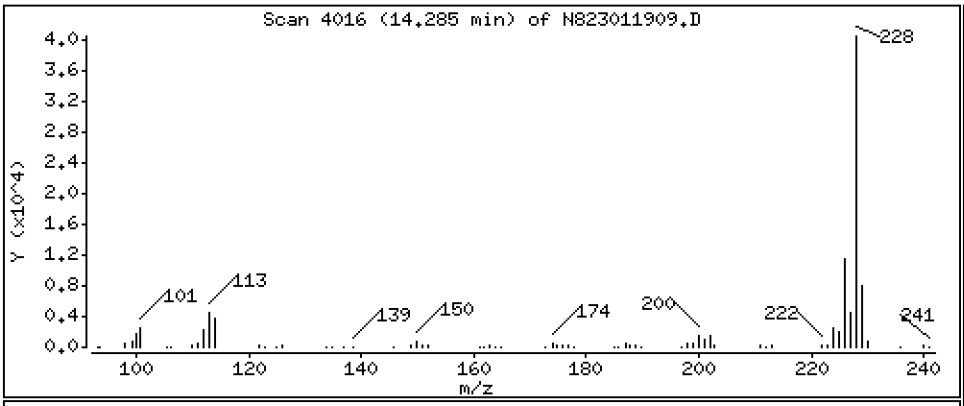
Operator: JZ

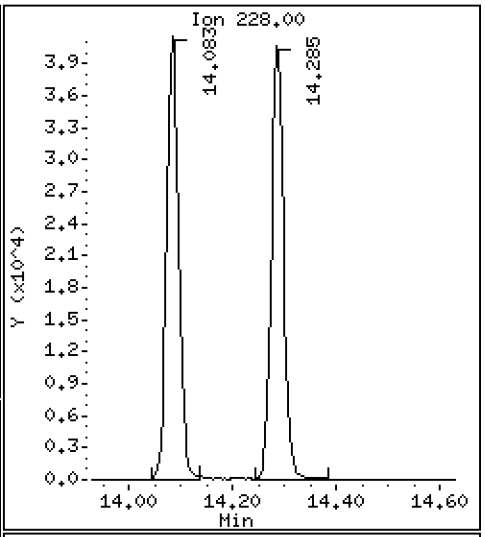
Column phase: Rxi-17sil

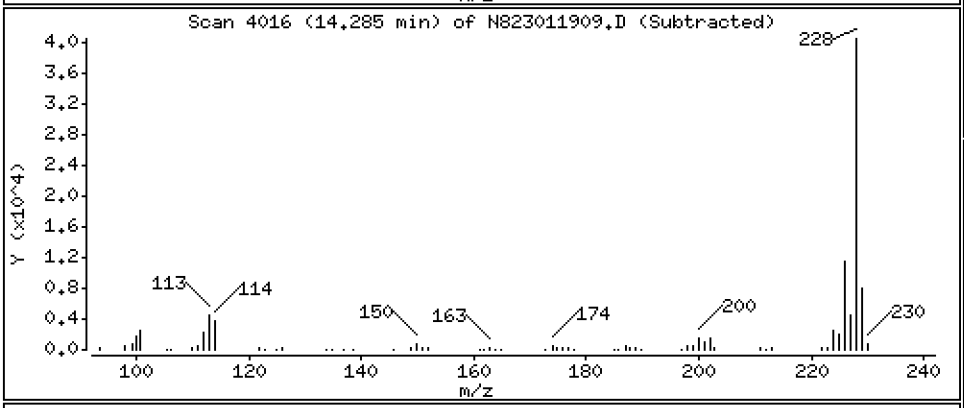
Column diameter: 0.25

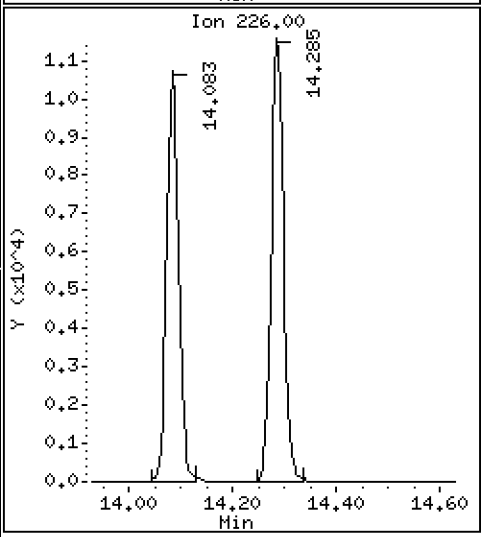
27 Chrysene

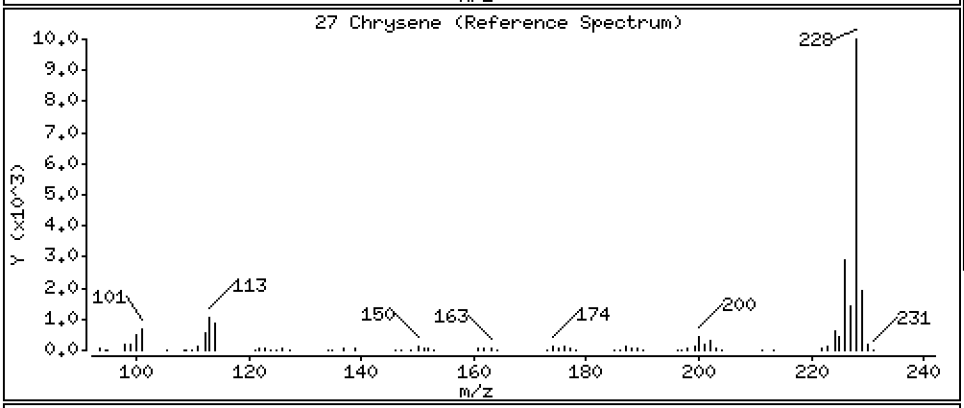
Concentration: 2.400 ug/L

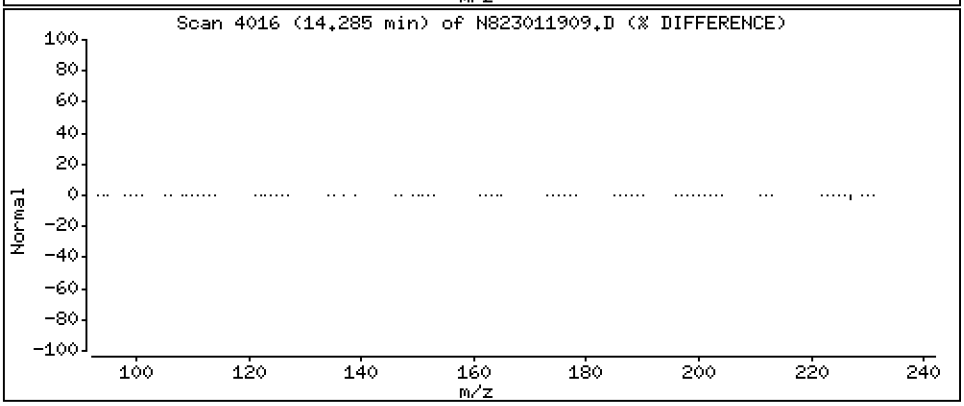












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

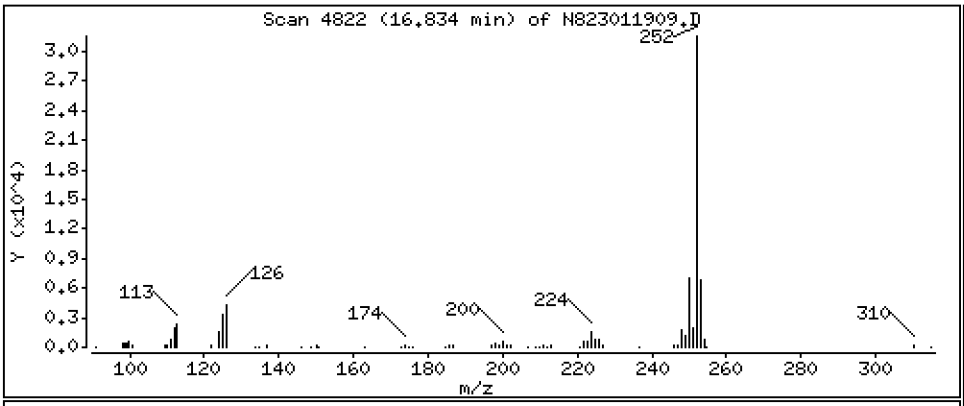
Operator: JZ

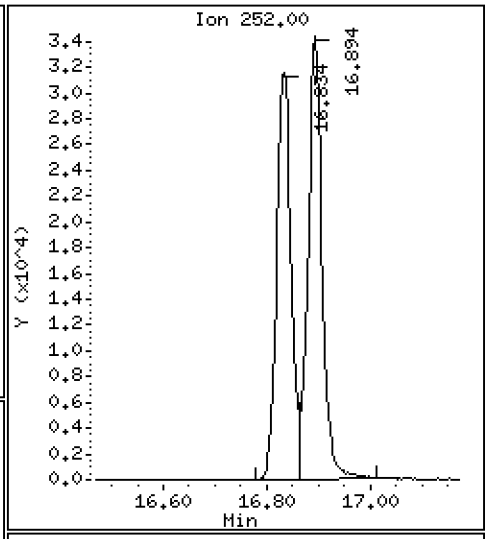
Column phase: Rxi-17sil

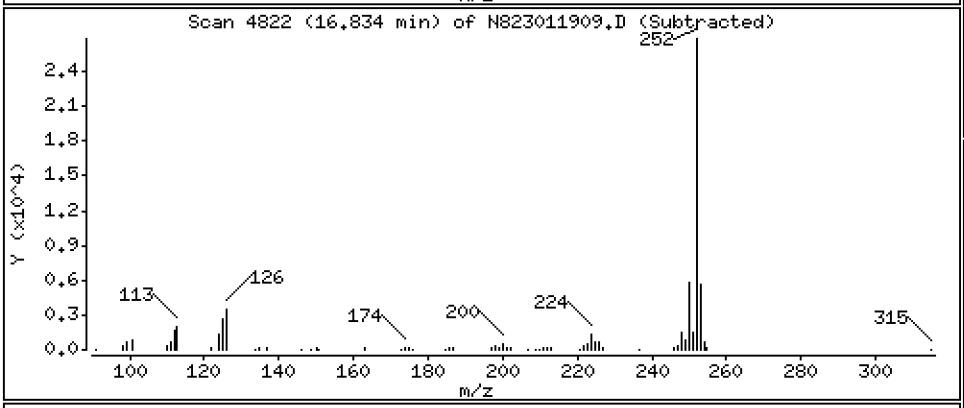
Column diameter: 0.25

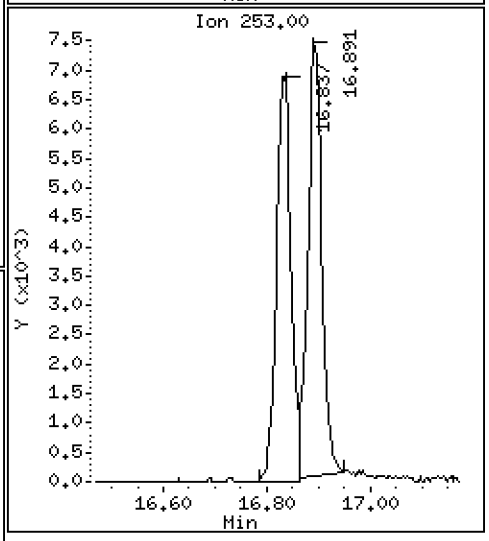
28 Benzo(b)fluoranthene

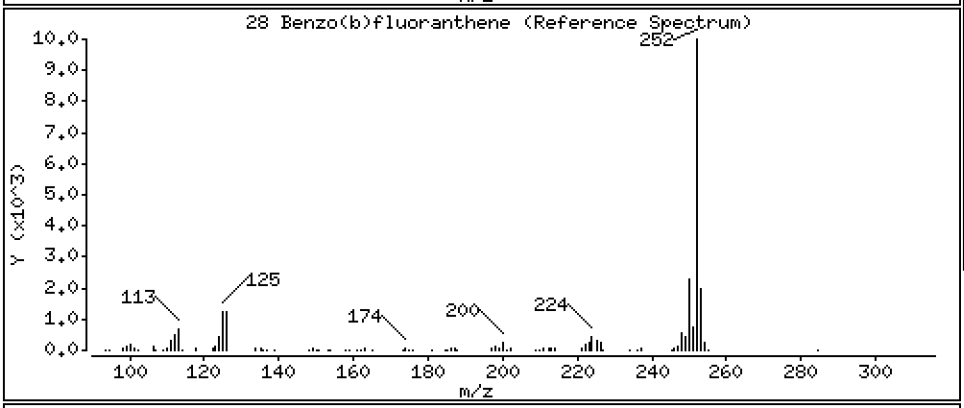
Concentration: 2.507 ug/L

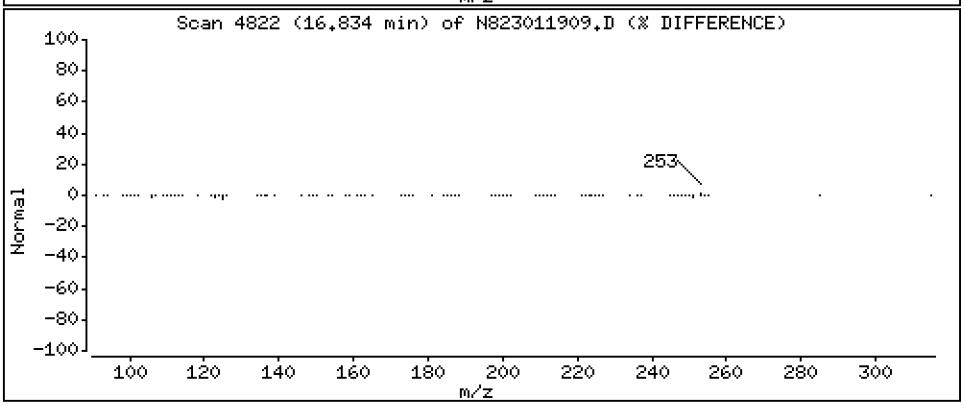












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

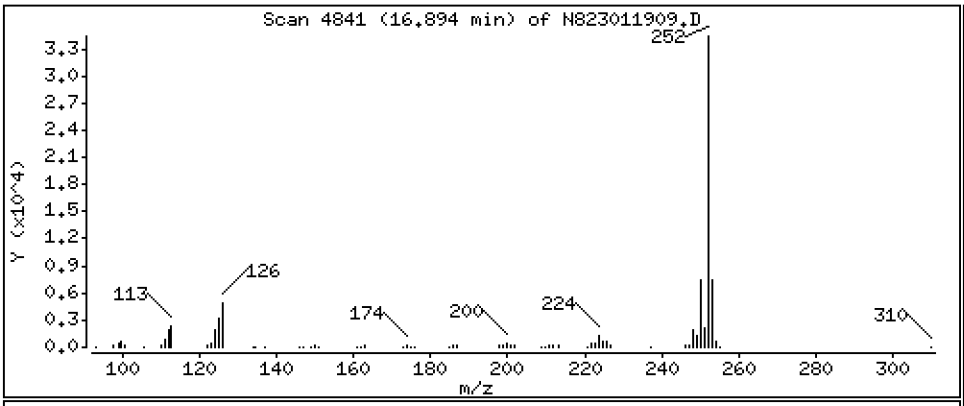
Operator: JZ

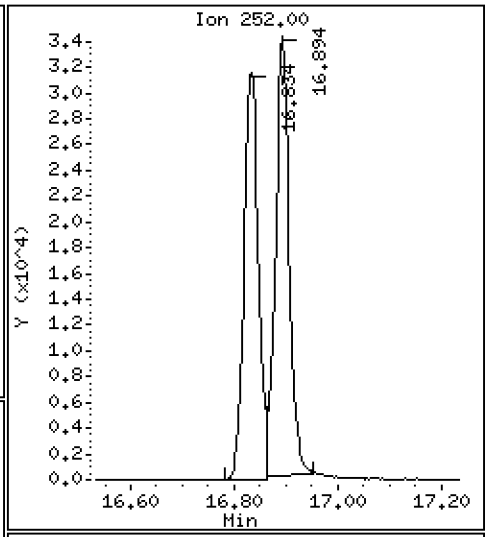
Column phase: Rxi-17sil

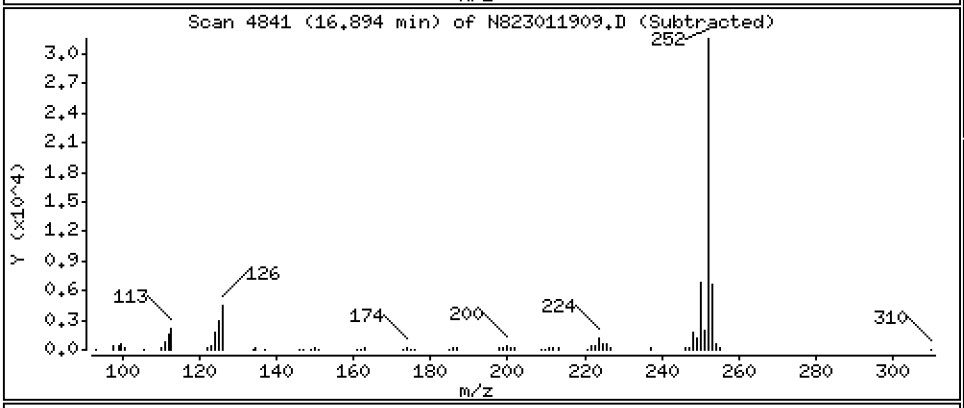
Column diameter: 0.25

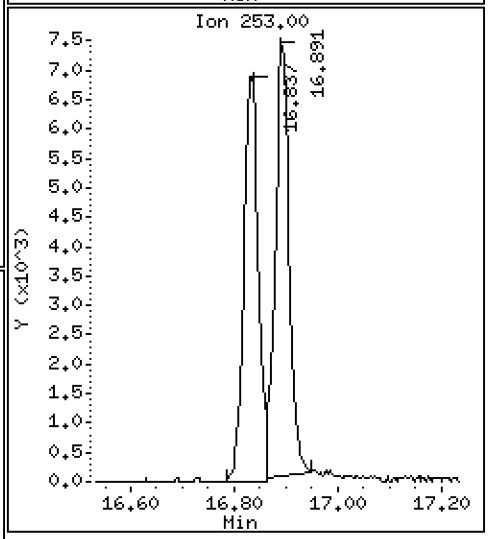
29 Benzo(k)fluoranthene

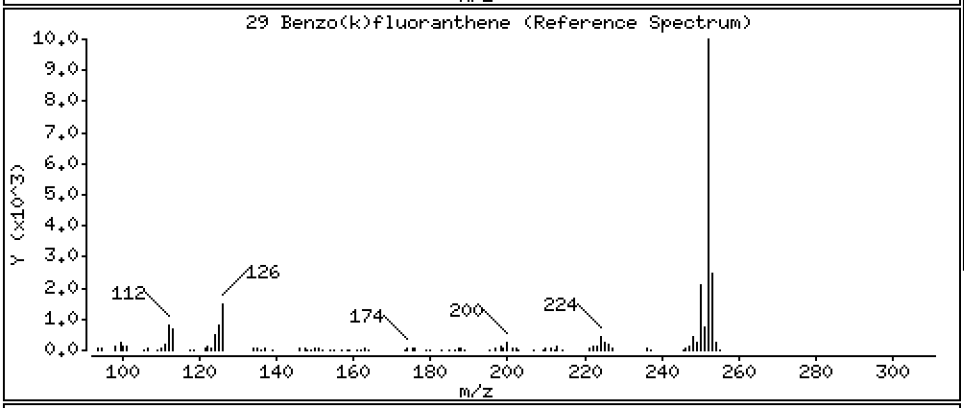
Concentration: 2.656 ug/L

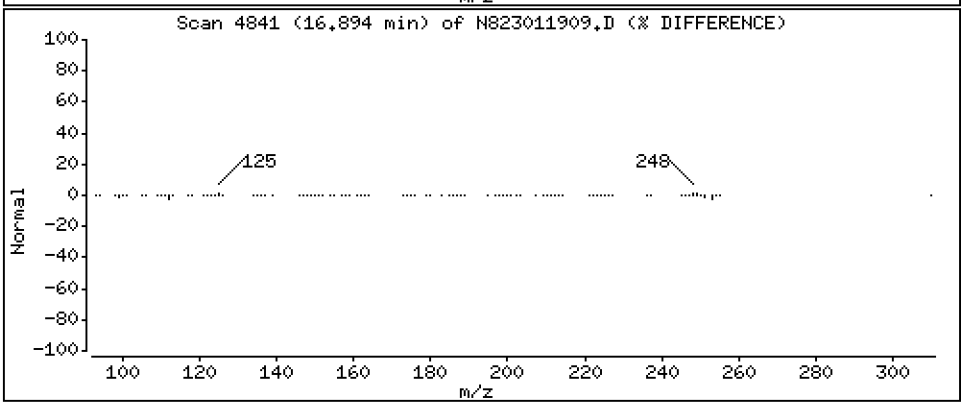












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

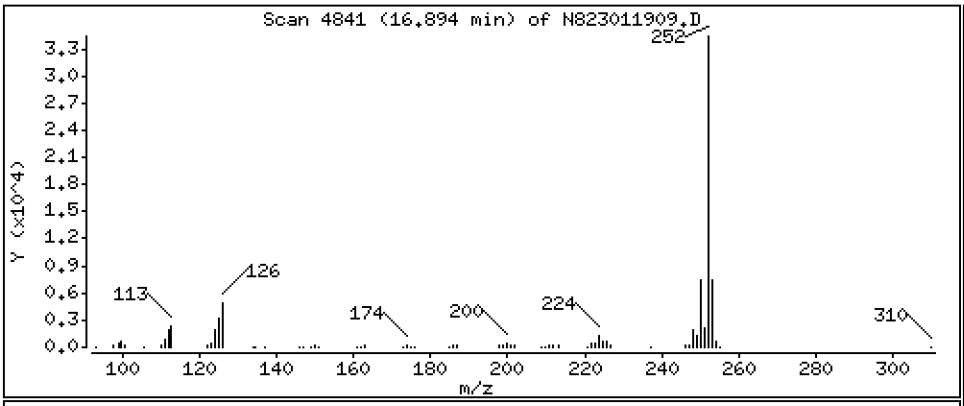
Operator: JZ

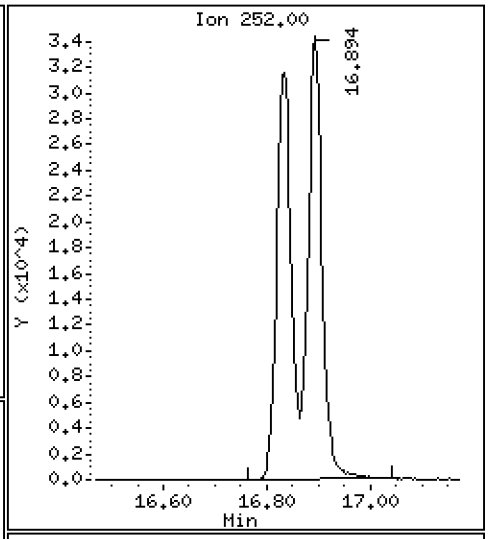
Column phase: Rxi-17sil

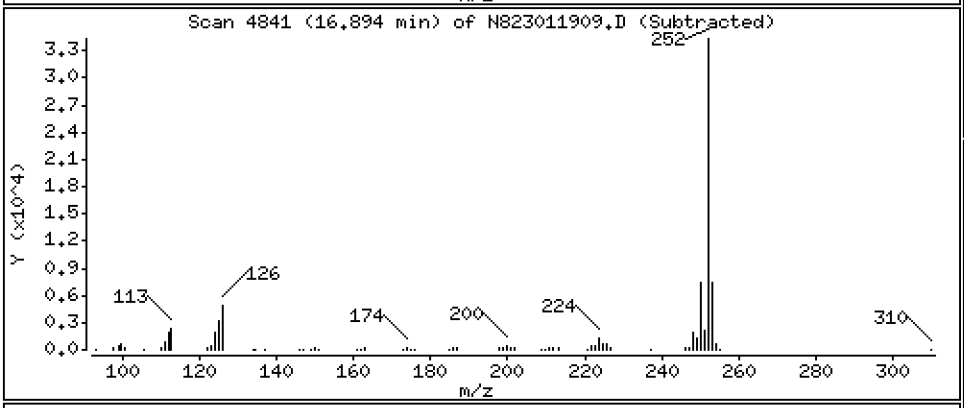
Column diameter: 0.25

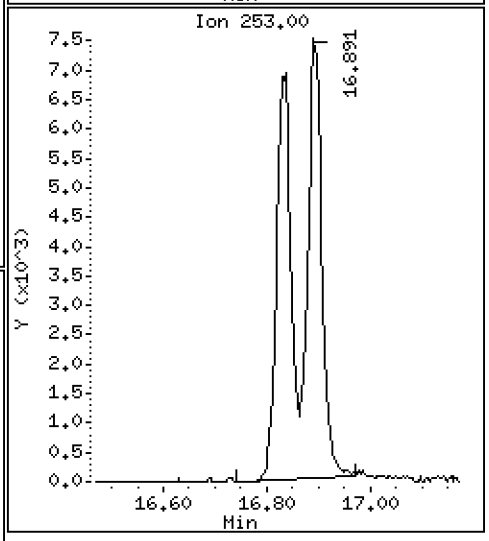
31 Total Benzofluoranthenes

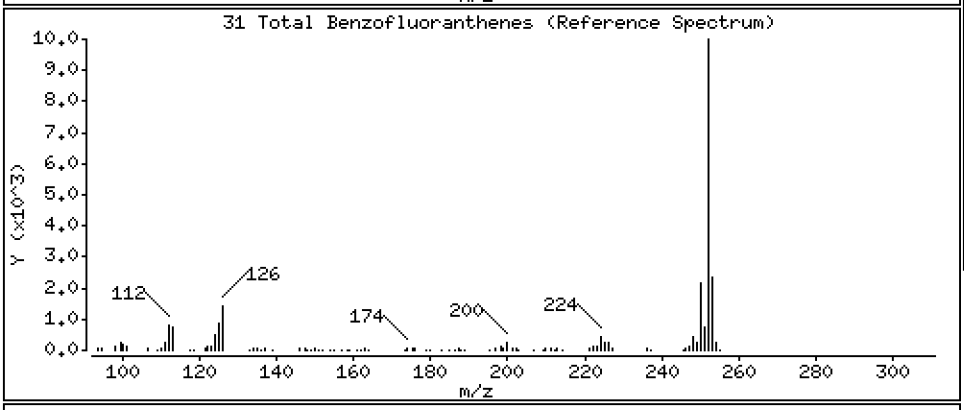
Concentration: 5.480 ug/L

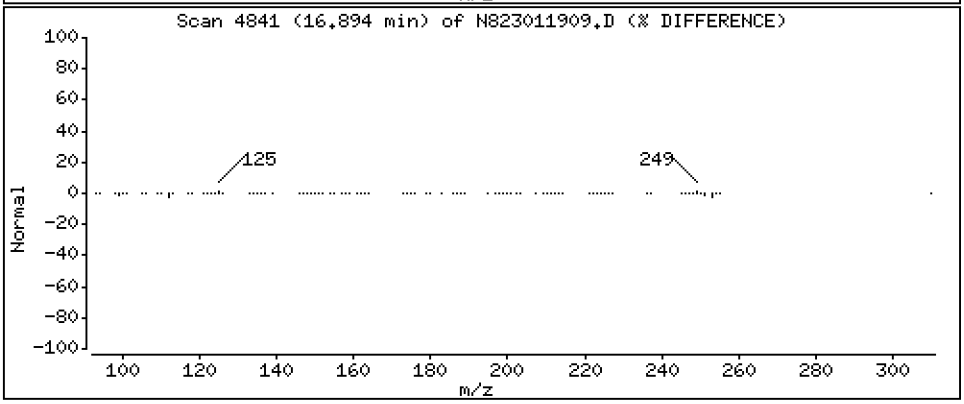












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

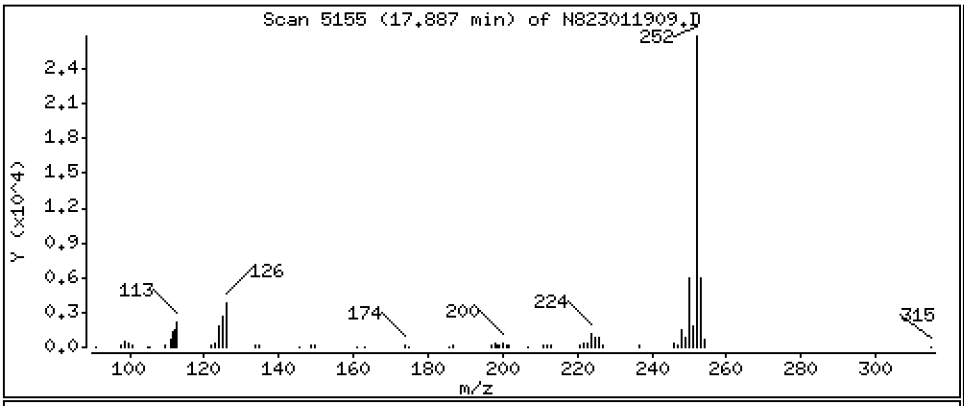
Operator: JZ

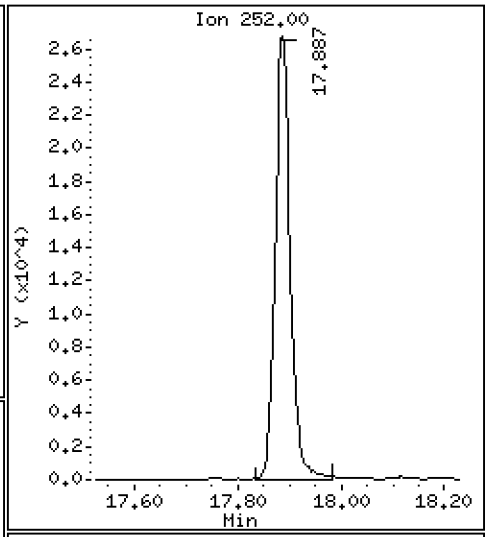
Column phase: Rxi-17sil

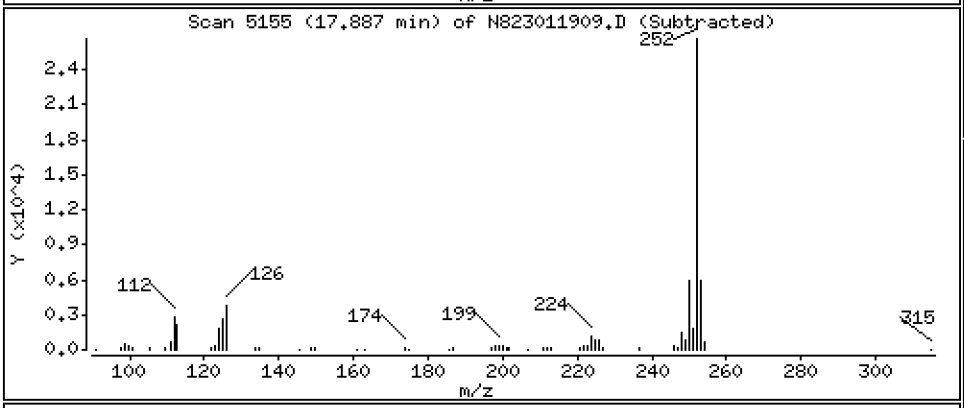
Column diameter: 0.25

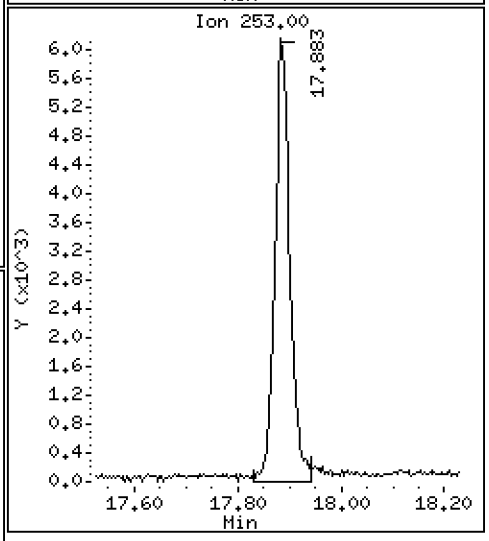
32 Benzo(a)pyrene

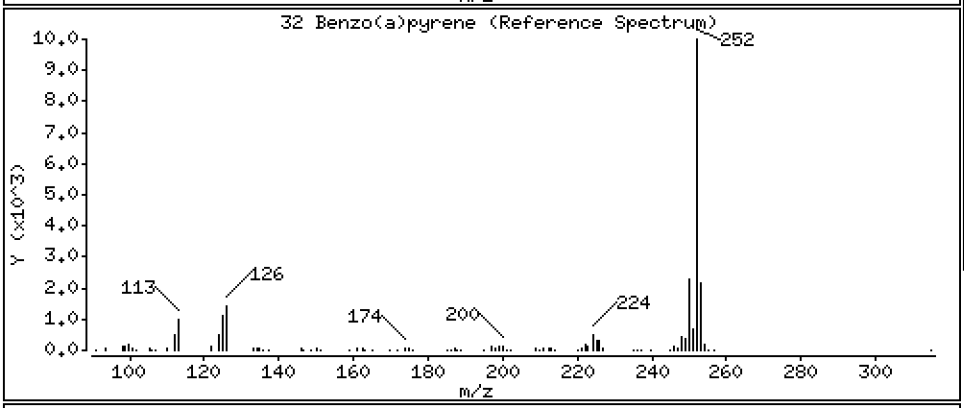
Concentration: 2.572 ug/L

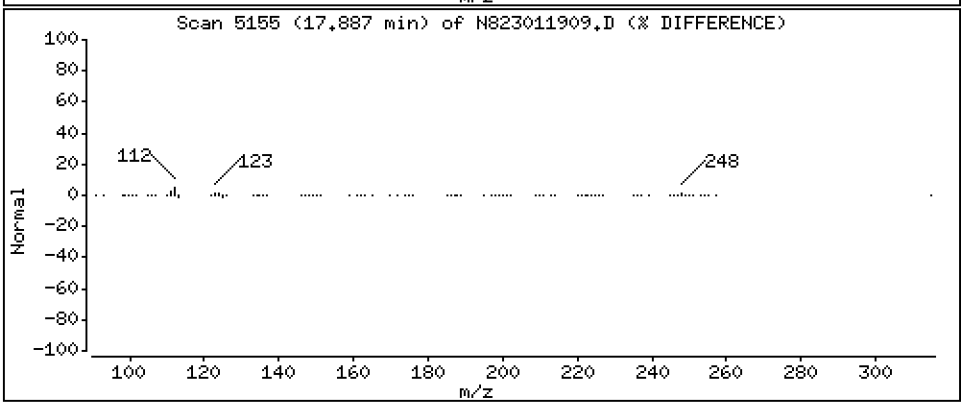












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

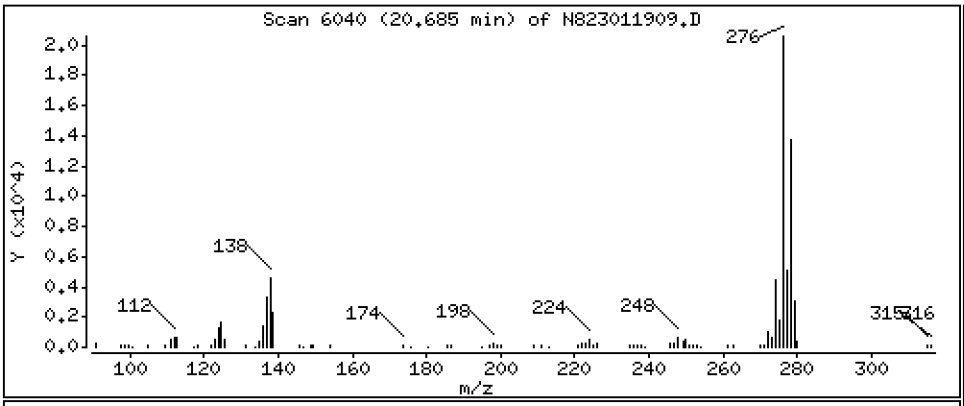
Operator: JZ

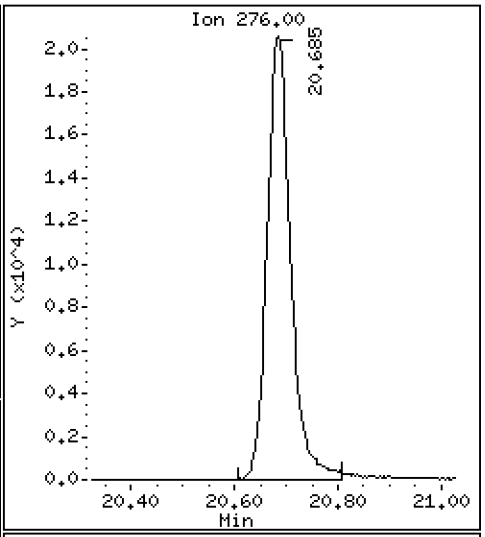
Column phase: Rxi-17sil

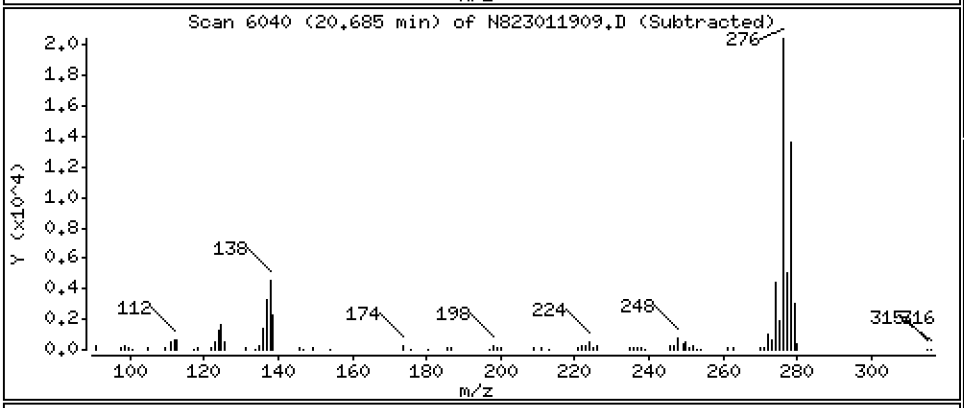
Column diameter: 0.25

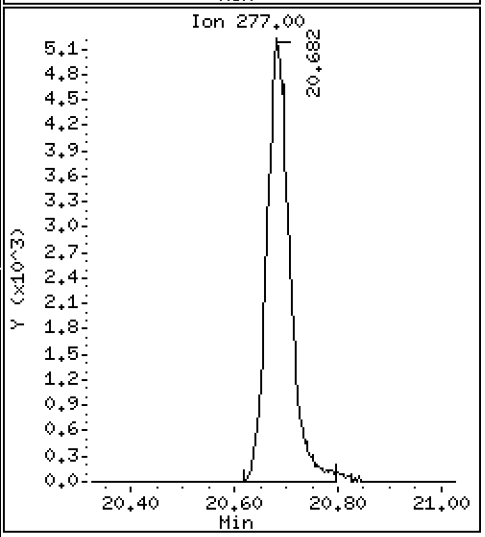
37 Indeno(1,2,3-cd)pyrene

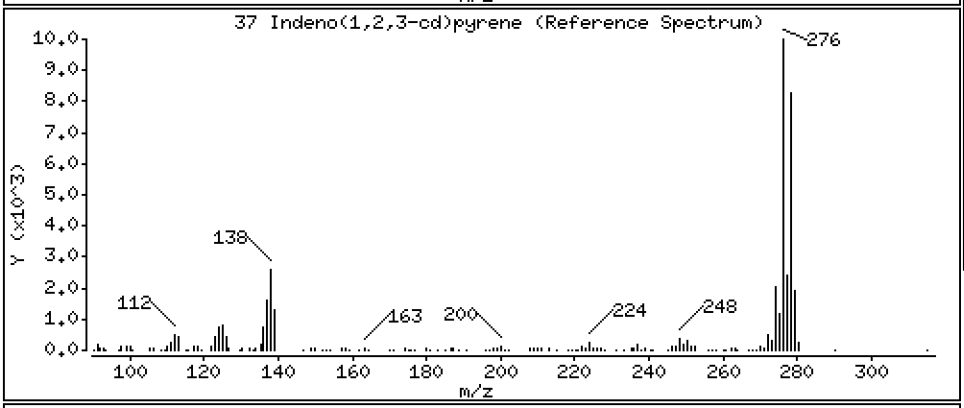
Concentration: 2.689 ug/L

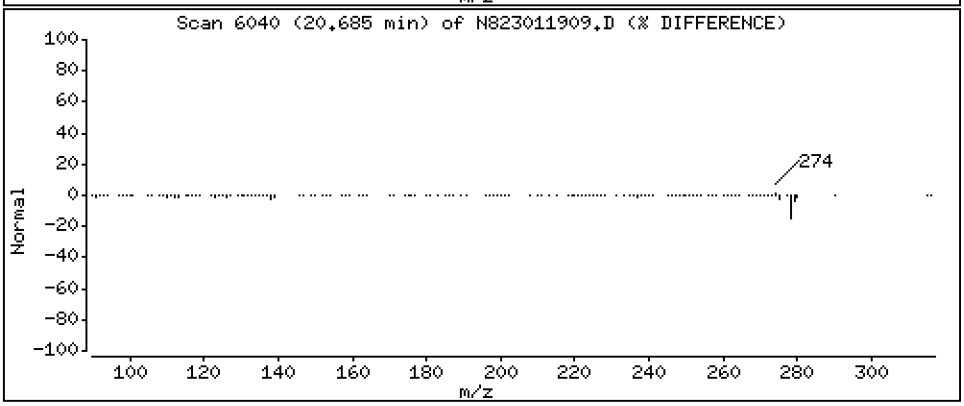












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

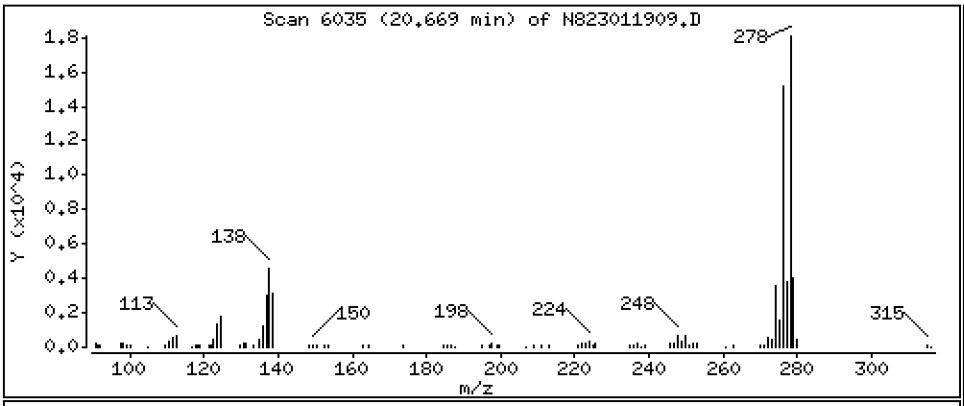
Operator: JZ

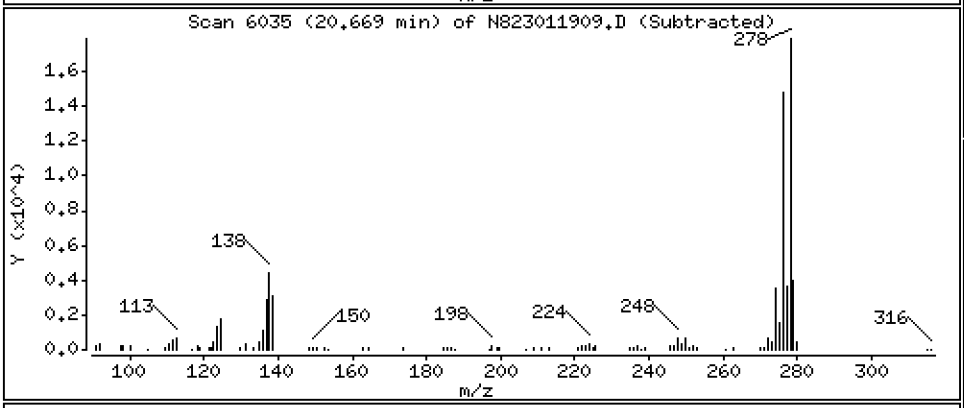
Column phase: Rxi-17sil

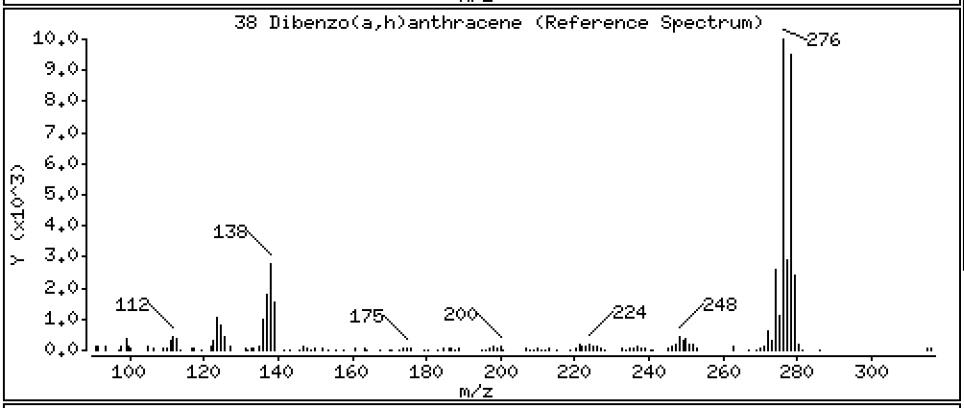
Column diameter: 0.25

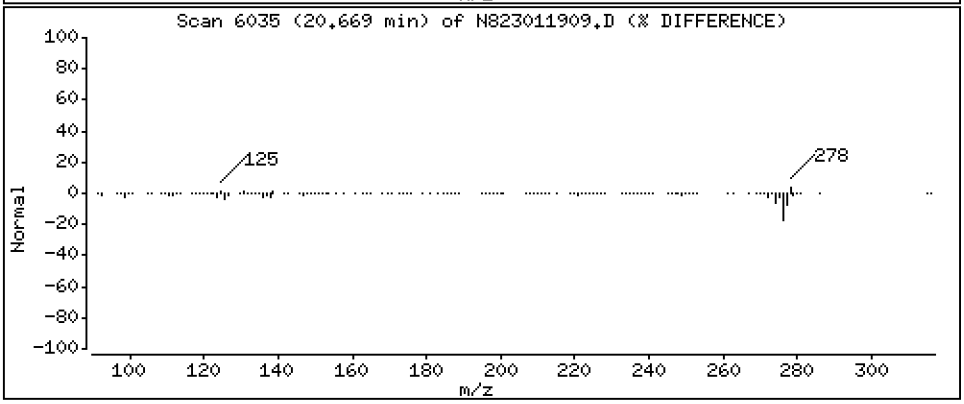
38 Dibenzo(a,h)anthracene

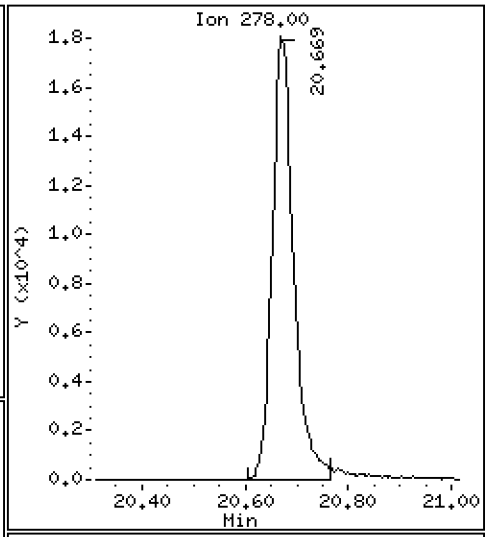
Concentration: 2.493 ug/L

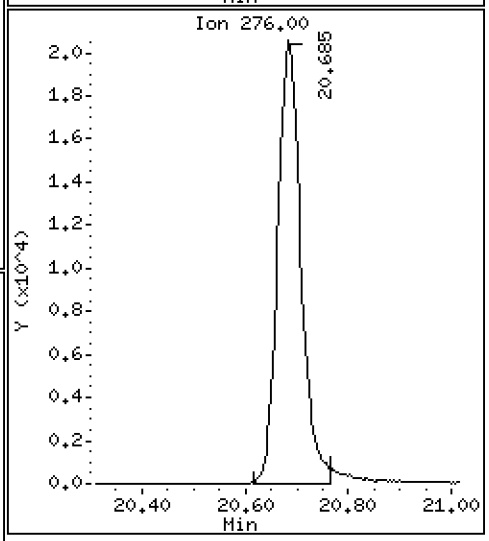












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

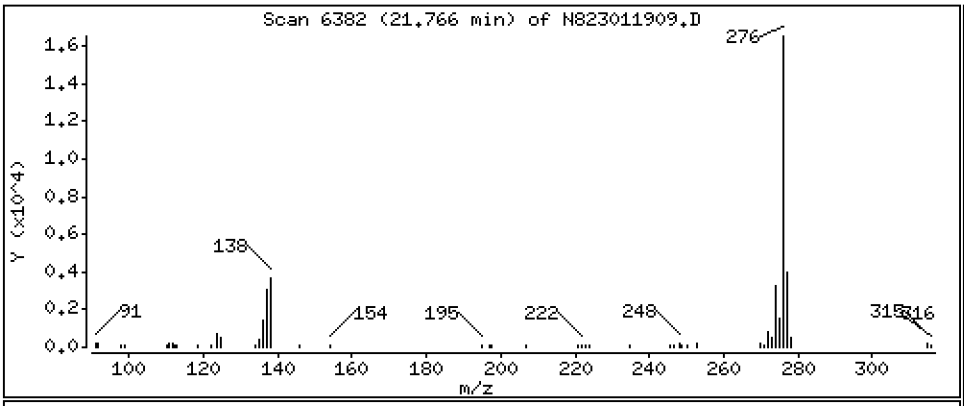
Operator: JZ

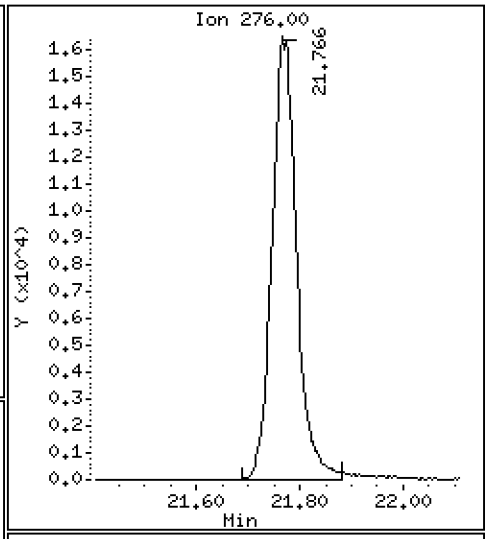
Column phase: Rxi-17sil

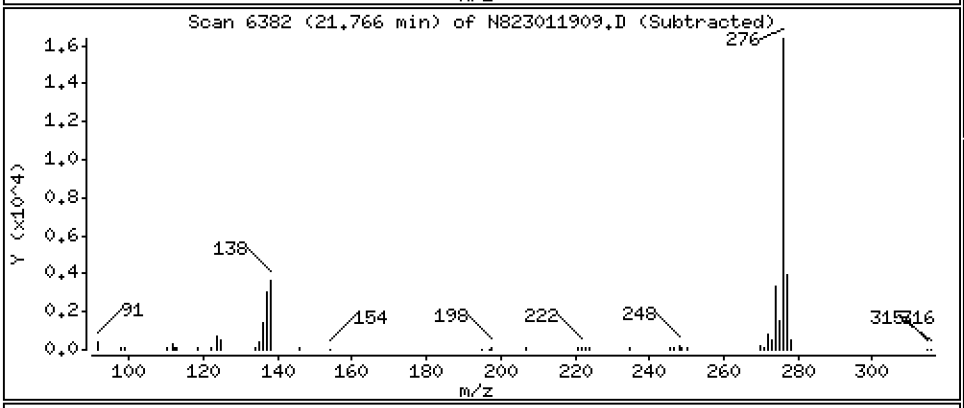
Column diameter: 0.25

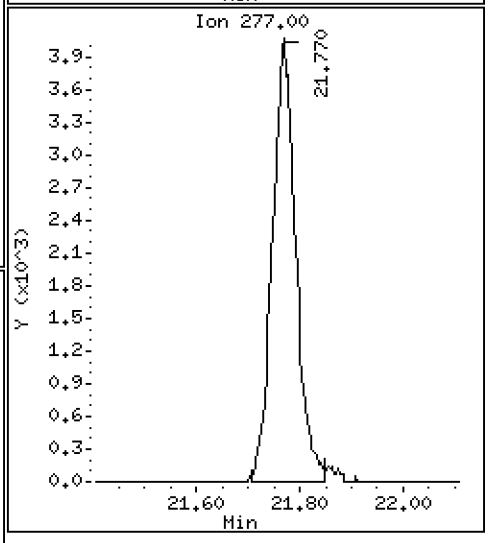
39 Benzo(g,h,i)perylene

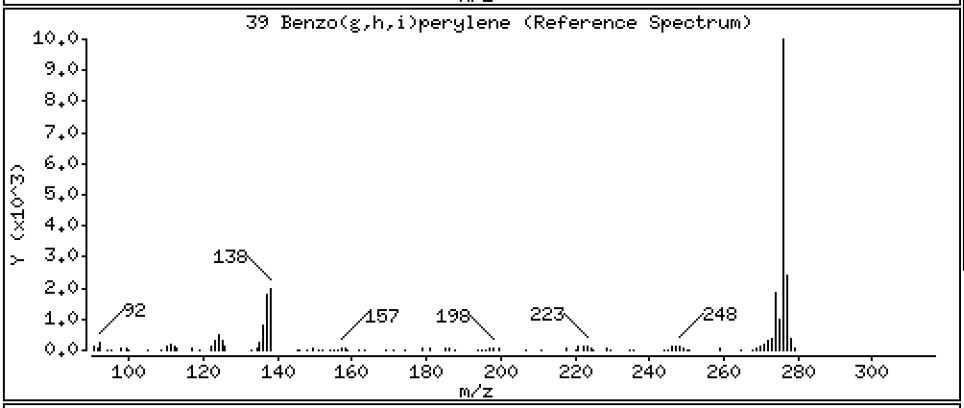
Concentration: 2.483 ug/L

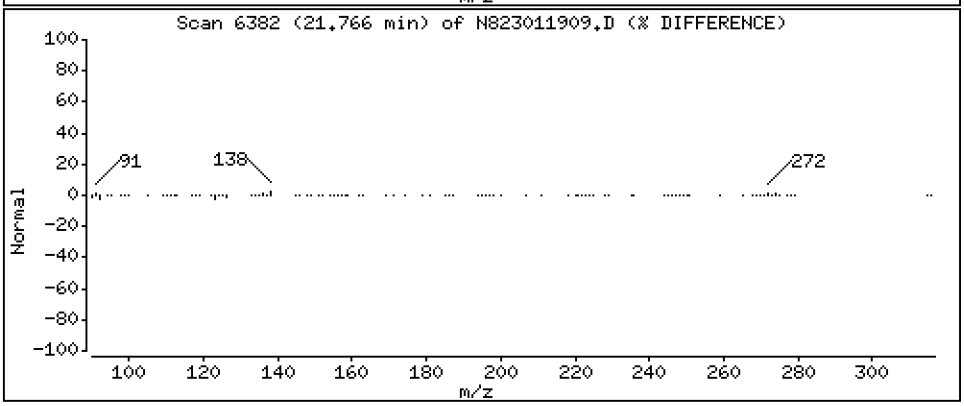












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230119.b\N823011909.D
Lab Smp Id: SLA0213-SCV1
Inj Date : 19-JAN-2023 14:58
Operator : JZ Inst ID: nt8.i
Smp Info : SCV230119
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230119.b\FSIMPNA230119.m
Meth Date : 25-Jan-2023 21:57 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 9 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnascv.sub
Target Version: 4.14
Processing Host: JIANQING-202105

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Vo	500.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/L)
* 1 Naphthalene-d8	136	4.913	4.906	(1.000)	46346	2.00000	
2 Naphthalene	128	4.941	4.938	(1.006)	56587	2.62597	2.626
$ 3 2-Methylnaphthalene-d10	152	Compound Not Detected.					
4 2-Methylnaphthalene	141	5.694	5.687	(1.159)	31650	2.67019	2.670
5 1-methylnaphthalene	141	5.890	5.883	(1.199)	31873	2.64949	2.649
9 Acenaphthylene	152	7.091	7.085	(0.985)	59018	2.82060	2.821
* 10 Acenaphthene-d10	164	7.202	7.196	(1.000)	27709	2.00000	
11 Acenaphthene	153	7.249	7.246	(1.007)	36454	2.60022	2.600
12 Dibenzofuran	168	7.401	7.395	(1.028)	60898	2.85987	2.860
14 Fluorene	166	7.878	7.872	(1.094)	43507	2.63066	2.631
* 15 Phenanthrene-d10	188	9.238	9.235	(1.000)	51685	2.00000	
16 Phenanthrene	178	9.276	9.270	(1.004)	61815	2.44841	2.448
17 Anthracene	178	9.317	9.311	(1.009)	52064	2.27006	2.270
22 Fluoranthene	202	11.059	11.053	(1.197)	72902	2.65276	2.653
$ 21 Fluoranthene-d10	212	Compound Not Detected.					
23 Pyrene	202	11.578	11.572	(0.815)	71115	2.46242	2.462
24 Benzo(a)anthracene	228	14.082	14.076	(0.991)	67725	2.58725	2.587
* 25 Chrysene-d12	240	14.212	14.202	(1.000)	46582	2.00000	
27 Chrysene	228	14.285	14.278	(1.005)	66872	2.39976	2.400
28 Benzo(b)fluoranthene	252	16.833	16.821	(0.929)	60946	2.50689	2.507
29 Benzo(k)fluoranthene	252	16.893	16.884	(0.932)	63249	2.65606	2.656
31 Total Benzofluoranthenes	252	16.893	16.821	(0.932)	126178	5.48025	5.480(M)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)
	32 Benzo(a)pyrene	252	17.886	17.877	(0.987)	55026	2.57205	2.572
*	33 Perylene-d12	264	18.117	18.111	(1.000)	41743	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	20.684	20.675	(1.142)	65545	2.68928	2.689
$	36 Dibenzo(a,h)anthracene-d14	292	Compound Not Detected.					
	38 Dibenzo(a,h)anthracene	278	20.669	20.662	(1.141)	52293	2.49315	2.493
	39 Benzo(g,h,i)perylene	276	21.766	21.756	(1.201)	54821	2.48258	2.483
	35 Perylene	252	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823011909.D
Lab Smp Id: SLA0213-SCV1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230119.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 19-JAN-2023
Calibration Time: 12:52
Level: LOW
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	44704	22352	89408	46346	3.67
10 Acenaphthene-d10	26411	13206	52822	27709	4.91
15 Phenanthrene-d10	49210	24605	98420	51685	5.03
25 Chrysene-d12	42994	21497	85988	46582	8.35
33 Perylene-d12	40520	20260	81040	41743	3.02

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.91	4.41	5.41	4.91	0.13
10 Acenaphthene-d10	7.20	6.70	7.70	7.20	0.09
15 Phenanthrene-d10	9.24	8.74	9.74	9.24	0.03
25 Chrysene-d12	14.20	13.70	14.70	14.21	0.07
33 Perylene-d12	18.11	17.61	18.61	18.12	0.03

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

REVIEW SUMMARY FOR FILE - N823011909.D

Lab ID: SLA0213-SCV1
nt8.i, 20230119.b\FSIMPNA230119.m,   19-JAN-2023 14:58

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

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

No RRT check performed

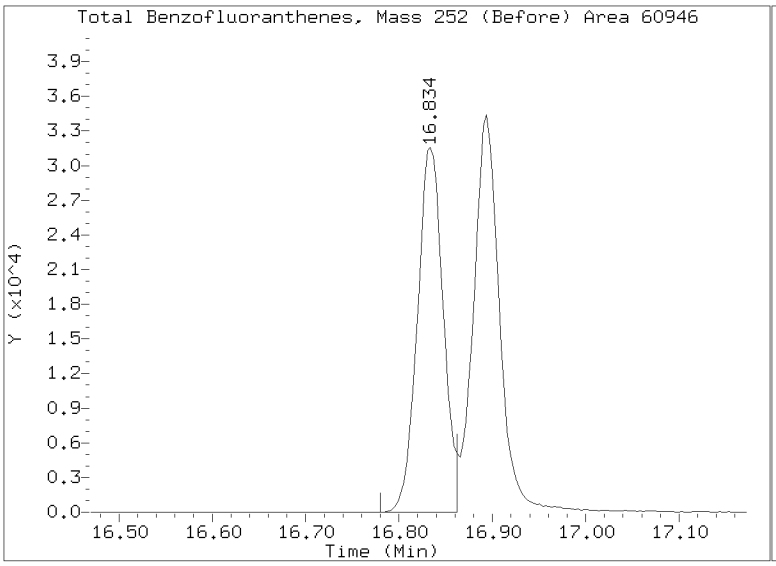
On Column LOD for nt8.i, 20230119.b\FSIMPNA230119.m, pnascv.sub = 0.0500

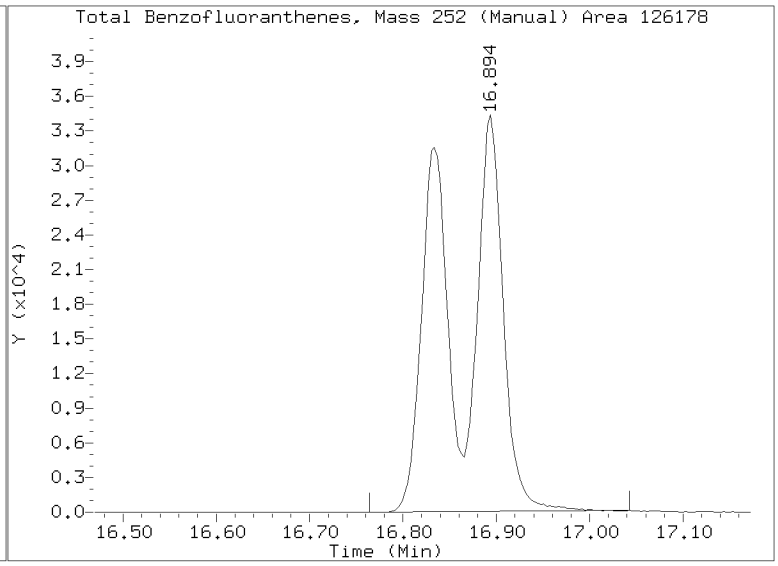
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

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

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20230119.b/N823011909.D
Injection Date: 19-JAN-2023 14:58
Lab ID:SLA0213-SCV1 Client ID:
Report Date: 01/25/2023 22:00





Analytical Resources, LLC
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK
EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	NT8	Calibration:	GA00050
Lab File ID:	N823022302.D	Calibration Date:	01/19/2023
Sequence:	SLB0310	Injection Date:	02/23/23
Lab Sample ID:	SLB0310-ICV1	Injection Time:	11:46
Sequence Name:	Initial Cal Check		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Benzo(a)anthracene	A	2.5000	2.71	1.1238870	1.2191740		8.5	+/-20
Chrysene	A	2.5000	2.52	1.1964350	1.2051920		0.7	+/-20
Benzo(b)fluoranthene	A	2.5000	2.52	1.1648110	1.1750190		0.9	+/-20
Benzo(k)fluoranthene	A	2.5000	2.48	1.1409370	1.1335460		-0.6	+/-20
Benzo(a)pyrene	A	2.5000	2.53	1.0250270	1.0385730		1.3	+/-20
Indeno(1,2,3-cd)pyrene	A	2.5000	2.67	1.1677520	1.2447480		6.6	+/-20
Dibenzo(a,h)anthracene	A	2.5000	2.66	1.0049440	1.0678190		6.2	+/-20
2-Methylnaphthalene-d10	A	2.5000	2.67	0.5454499	0.5832208		6.9	+/-20
Dibenzo[a,h]anthracene-d14	A	2.5000	2.41	0.6679424	0.7561215		-3.5	+/-20
Fluoranthene-d10	A	2.5000	2.80	0.8823923	0.9891443		12.1	+/-20
Naphthalene-d8	A	2.0000	2.00	22973.6700	1.0000		0.0	
Acenaphthene-d10	A	2.0000	2.00	13579.2500	1.0000		0.0	
Phenanthrene-d10	A	2.0000	2.00	25616.1700	1.0000		0.0	
Chrysene-d12	A	2.0000	2.00	22313.2500	1.0000		0.0	
Perylene-d12	A	2.0000	2.00	21012.9200	1.0000		0.0	

* Values outside of QC limits

Data File: \\target\share\chem3\nt8.i\20230223.b\N823022302.D

Page 1

Date : 23-FEB-2023 11:46

Client ID:

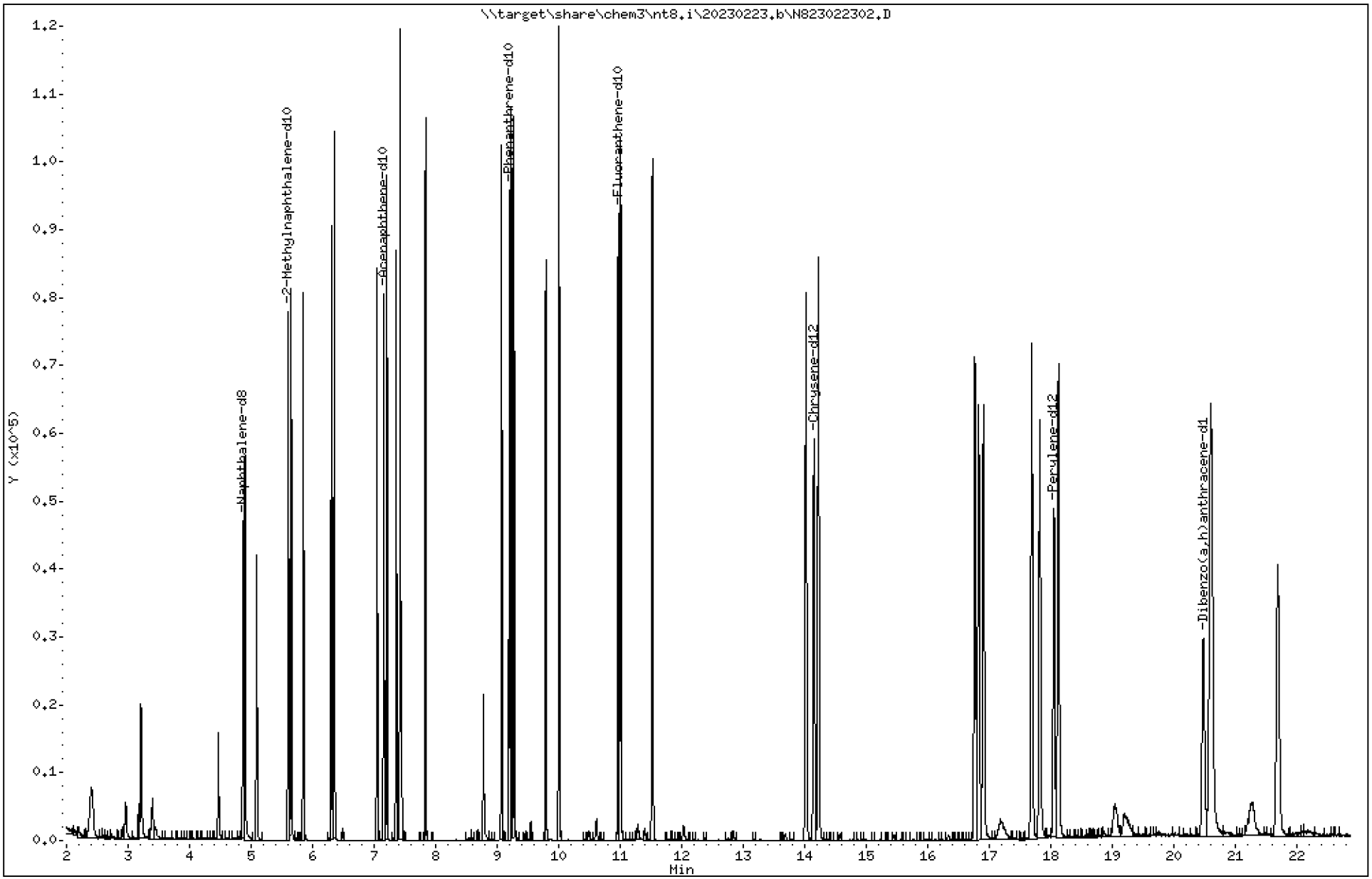
Instrument: nt8.i

Sample Info: ICV230223

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230223.b\N823022302.D
Lab Smp Id: SLB0310-ICV1
Inj Date : 23-FEB-2023 11:46
Operator : JZ Inst ID: nt8.i
Smp Info : ICV230223
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Meth Date : 26-Feb-2023 11:31 Jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICLA.sub
Target Version: 4.14
Processing Host: JIANQING-202105

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
*	1 Naphthalene-d8	136	4.871	4.871	(1.000)	37022	2.00000	
	2 Naphthalene	128	4.903	4.903	(1.006)	44406	2.50000	2.580
$	3 2-Methylnaphthalene-d10	152	5.605	5.605	(1.151)	26990	2.50000	2.673
	4 2-Methylnaphthalene	141	5.652	5.652	(1.160)	24939	2.50000	2.634
	5 1-methylnaphthalene	141	5.849	5.849	(1.201)	24816	2.50000	2.582
	7 Biphenyl	154	6.310	6.310	(0.882)	37052	2.50000	2.501
	8 2,6-Dimethylnaphthalene	156	6.354	6.354	(0.888)	27578	2.50000	2.630
	9 Acenaphthylene	152	7.050	7.050	(0.985)	45358	2.50000	2.675
*	10 Acenaphthene-d10	164	7.158	7.158	(1.000)	22454	2.00000	
	11 Acenaphthene	153	7.208	7.208	(1.007)	28890	2.50000	2.543
	12 Dibenzofuran	168	7.360	7.360	(1.028)	43204	2.50000	2.504
	13 1,6,7-Trimethylnaphthalene	170	7.423	7.423	(1.037)	28527	2.50000	2.622
	14 Fluorene	166	7.837	7.837	(1.095)	35442	2.50000	2.645
	18 Dibenzothiophene	184	9.074	9.074	(0.987)	49261	2.50000	2.576
*	15 Phenanthrene-d10	188	9.197	9.197	(1.000)	43277	2.00000	
	16 Phenanthrene	178	9.235	9.235	(1.004)	51988	2.50000	2.459
	17 Anthracene	178	9.276	9.276	(1.009)	50413	2.50000	2.625
	19 Carbazole	167	9.791	9.791	(1.065)	45533	2.50000	2.586
	20 1-Methylphenanthrene	192	10.010	10.010	(1.088)	40291	2.50000	2.645
	22 Fluoranthene	202	11.009	11.009	(1.197)	60798	2.50000	2.642
$	21 Fluoranthene-d10	212	10.971	10.971	(1.193)	53509	2.50000	2.802
	23 Pyrene	202	11.527	11.527	(0.815)	62612	2.50000	2.596
	24 Benzo(a)anthracene	228	14.025	14.025	(0.991)	59293	2.50000	2.712
*	25 Chrysene-d12	240	14.152	14.152	(1.000)	38907	2.00000	
	27 Chrysene	228	14.225	14.225	(1.005)	58613	2.50000	2.518
	28 Benzo(b)fluoranthene	252	16.770	16.770	(0.929)	58137	2.50000	2.522
	29 Benzo(k)fluoranthene	252	16.833	16.833	(0.932)	56085	2.50000	2.484
	30 Benzo(j)fluoranthene	252	16.912	16.912	(0.937)	51296	2.50000	2.523
	31 Total Benzofluoranthenes	252	16.770	16.770	(0.929)	160650	7.50000	7.358(M)
	34 Benzo(e)pyrene	252	17.696	17.696	(0.980)	56189	2.50000	2.444
	32 Benzo(a)pyrene	252	17.826	17.826	(0.987)	51386	2.50000	2.533
*	33 Perylene-d12	264	18.057	18.057	(1.000)	39582	2.00000	
	35 Perylene	252	18.130	18.130	(1.004)	53836	2.50000	2.473

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
$ 36 Dibenzo(a,h)anthracene-d14	292	20.485	20.485	(1.134)	37411	2.50000	2.412
37 Indeno(1,2,3-cd)pyrene	276	20.624	20.624	(1.142)	61587	2.50000	2.665
38 Dibenzo(a,h)anthracene	278	20.596	20.596	(1.141)	52833	2.50000	2.656
39 Benzo(g,h,i)perylene	276	21.696	21.696	(1.202)	54924	2.50000	2.623

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823022302.D
Lab Smp Id: SLB0310-ICV1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 22-FEB-2023
Calibration Time: 11:14
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	44704	22352	89408	37022	-17.18
10 Acenaphthene-d10	26411	13206	52822	22454	-14.98
15 Phenanthrene-d10	49210	24605	98420	43277	-12.06
25 Chrysene-d12	42994	21497	85988	38907	-9.51
33 Perylene-d12	40520	20260	81040	39582	-2.31

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.87	4.37	5.37	4.87	0.00
10 Acenaphthene-d10	7.16	6.66	7.66	7.16	0.00
15 Phenanthrene-d10	9.20	8.70	9.70	9.20	0.00
25 Chrysene-d12	14.15	13.65	14.65	14.15	0.00
33 Perylene-d12	18.06	17.56	18.56	18.06	0.00

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

REVIEW SUMMARY FOR FILE - N823022302.D

Lab ID: SLB0310-ICV1
nt8.i, 20230223.b\FSIMPNA230119.m,   23-FEB-2023 11:46

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

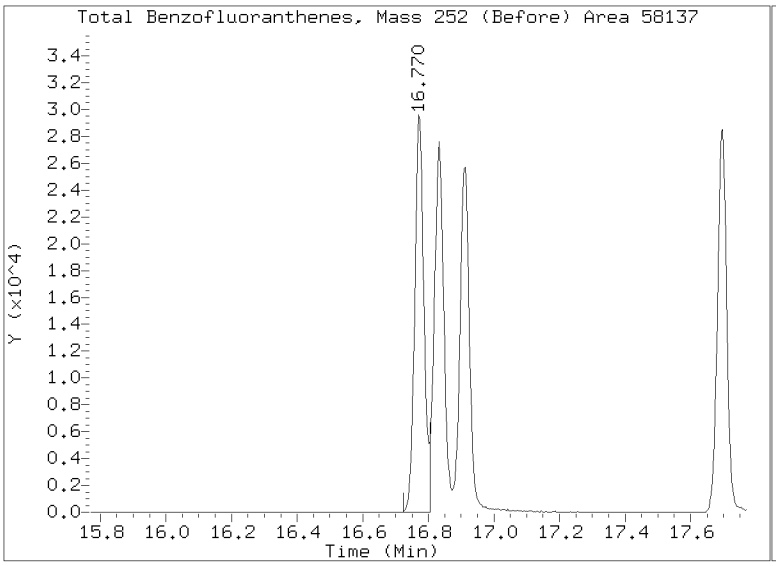
No RRT check performed

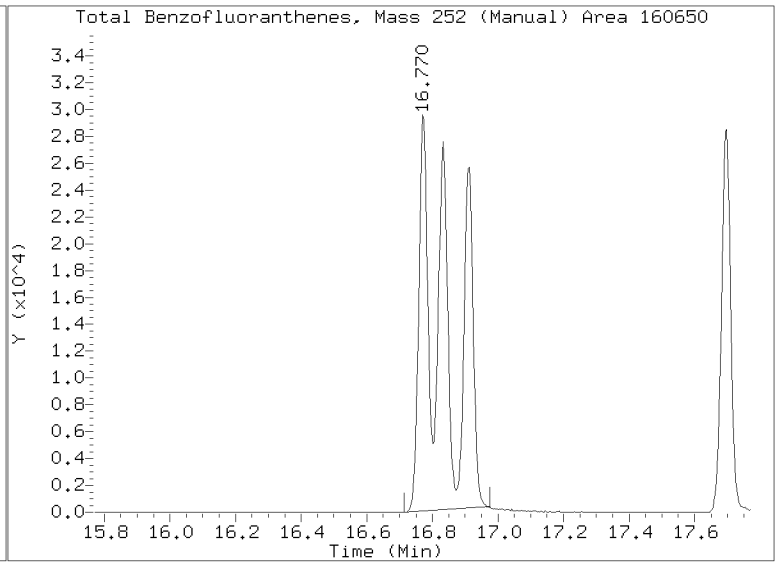
On Column LOD for nt8.i, 20230223.b\FSIMPNA230119.m, FSIMPNAICLA.sub = 0.0000

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

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20230223.b/N823022302.D
Injection Date: 23-FEB-2023 11:46
Lab ID:SLB0310-ICV1 Client ID:
Report Date: 02/26/2023 11:31





Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20230223.b

Instrument: nt8.i Date: 23-FEB-2023 Method: 20230223.b\FSIMPNA230119.m

INITIAL CAL: 19-JAN-2023

Compound	%RSD or R^2
NO Q-FLAGS	

ICV CAL: N823022302.D 23-FEB-2023 11:46

Compound	%D
NO Q-FLAGS	

Analytical Resources, LLC
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	NT8	Calibration:	GA00050
Lab File ID:	N823011909.D	Calibration Date:	01/19/2023
Sequence:	SLA0213	Injection Date:	01/19/23
Lab Sample ID:	SLA0213-SCV1	Injection Time:	14:58
Sequence Name:	8270 SIM PNA SCV		

		CONC. (ug/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Naphthalene	A	2.5000	2.63	0.9299181	0.9767747		5.0	
2-Methylnaphthalene	A	2.5000	2.67	0.5115033	0.5463255		6.8	
1-Methylnaphthalene	A	2.5000	2.65	0.5191318	0.5501748		6.0	
Acenaphthylene	A	2.5000	2.82	1.5102600	1.7039370		12.8	
Acenaphthene	A	2.5000	2.60	1.0119150	1.0524810		4.0	
Dibenzofuran	A	2.5000	2.86	1.5369690	1.7582160		14.4	
Fluorene	A	2.5000	2.63	1.1937240	1.2561120		5.2	
Phenanthrene	A	2.5000	2.45	0.9769567	0.9567960		-2.1	
Anthracene	A	2.5000	2.27	0.8874960	0.8058663		-9.2	
Fluoranthene	A	2.5000	2.65	1.0634260	1.1284050		6.1	
Pyrene	A	2.5000	2.46	1.2399700	1.2213300		-1.5	
Benzo(a)anthracene	A	2.5000	2.59	1.1238870	1.1631100		3.5	
Chrysene	A	2.5000	2.40	1.1964350	1.1484610		-4.0	
Benzo(b)fluoranthene	A	2.5000	2.51	1.1648110	1.1680230		0.3	
Benzo(k)fluoranthene	A	2.5000	2.66	1.1409370	1.2121600		6.2	
Benzofluoranthenes, Total	A	5.0000	5.48	1.1031370	1.2090940		9.6	
Benzo(a)pyrene	A	2.5000	2.57	1.0250270	1.0545670		2.9	
Indeno(1,2,3-cd)pyrene	A	2.5000	2.69	1.1677520	1.2561630		7.6	
Dibenzo(a,h)anthracene	A	2.5000	2.49	1.0049440	1.0021900		-0.3	
Benzo(g,h,i)perylene	A	2.5000	2.48	1.0580110	1.0506380		-0.7	

* Values outside of QC limits

Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

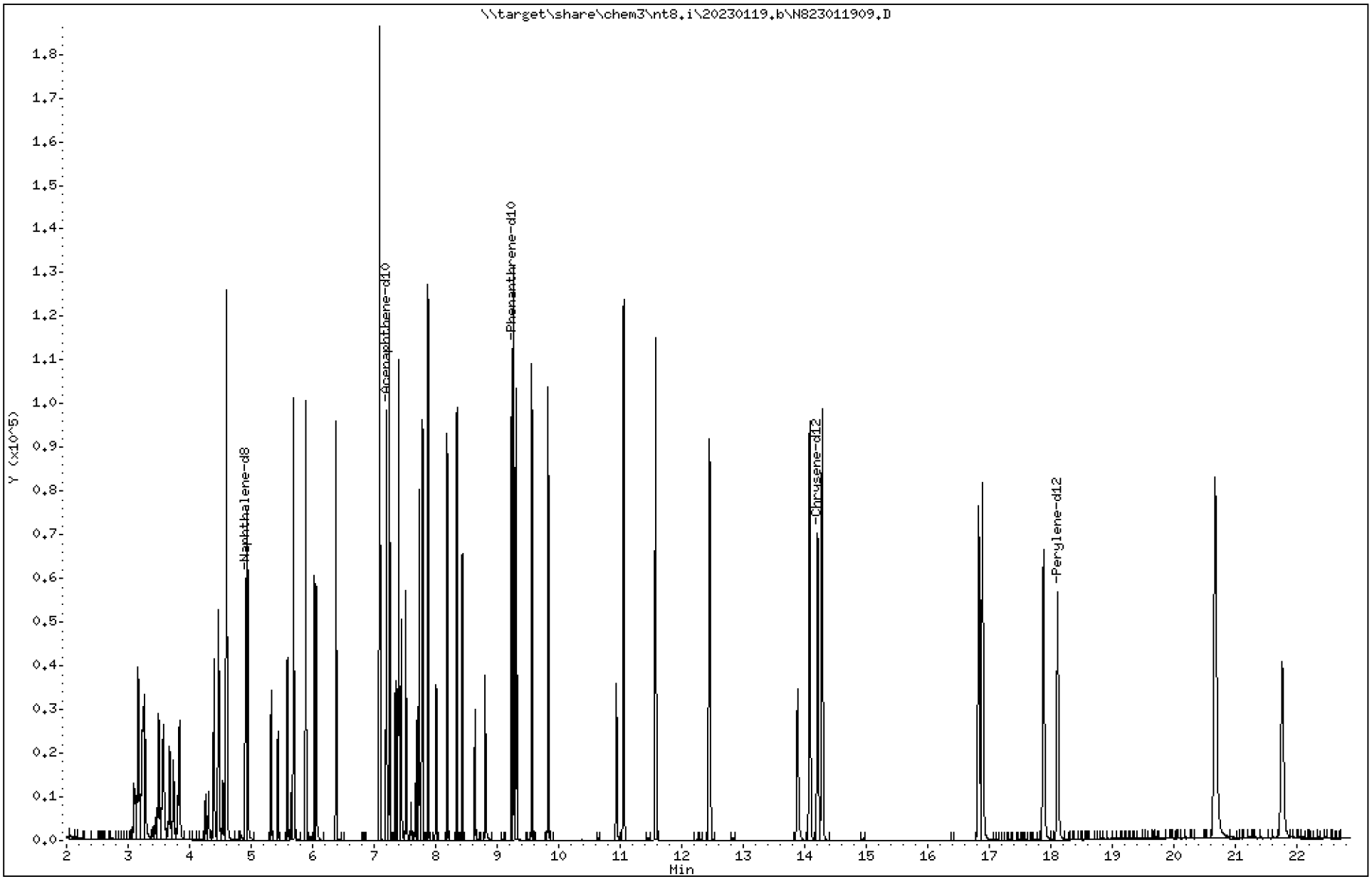
Sample Info: SCV230119

Volume Injected (uL): 1.0

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

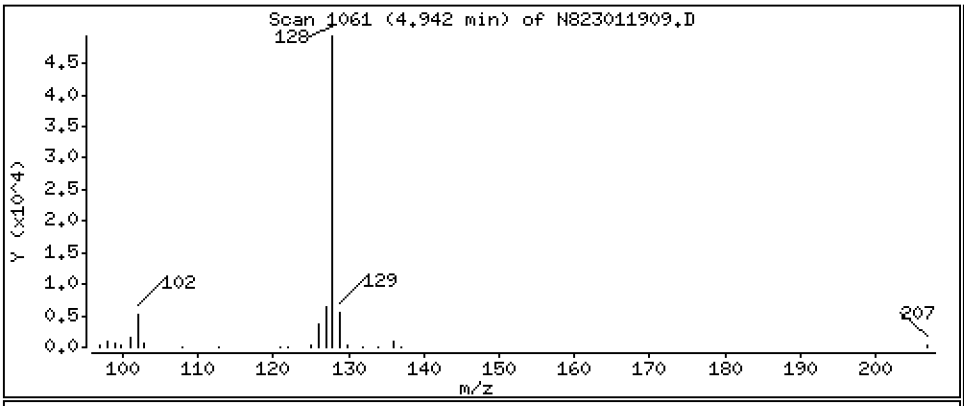
Operator: JZ

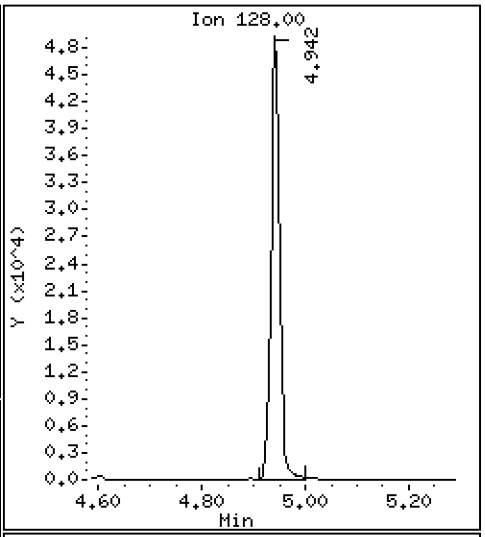
Column phase: Rxi-17sil

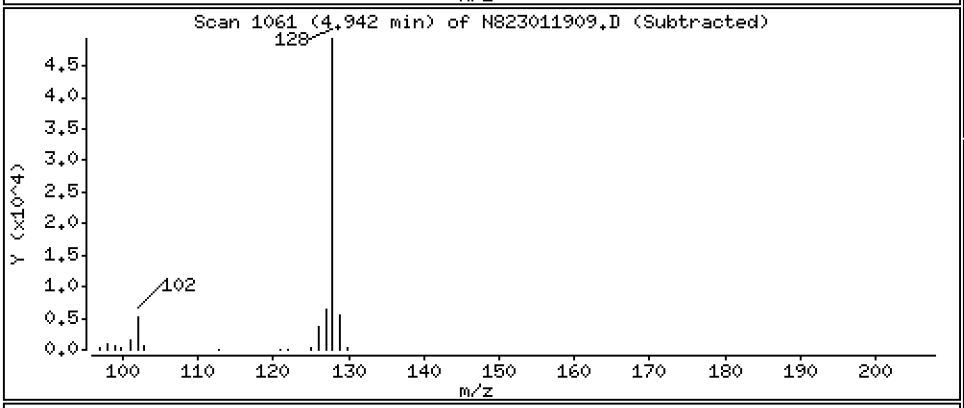
Column diameter: 0.25

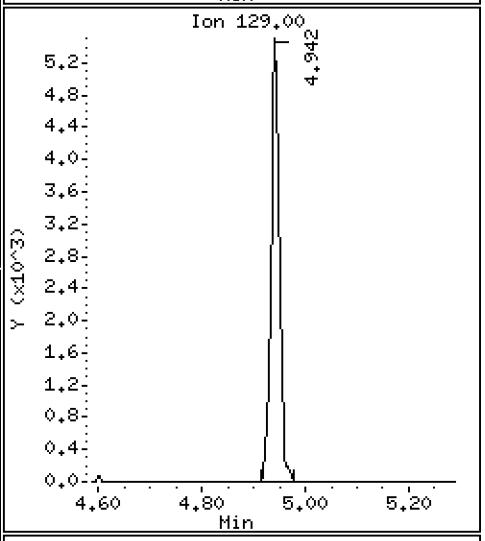
2 Naphthalene

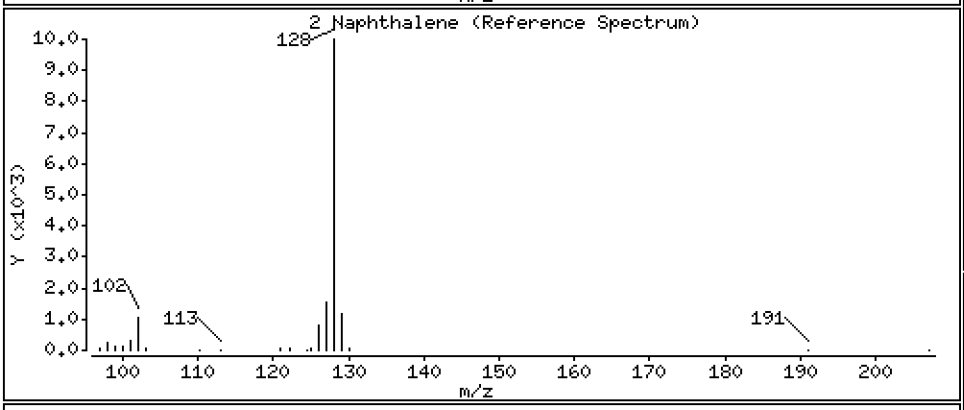
Concentration: 2.626 ug/L

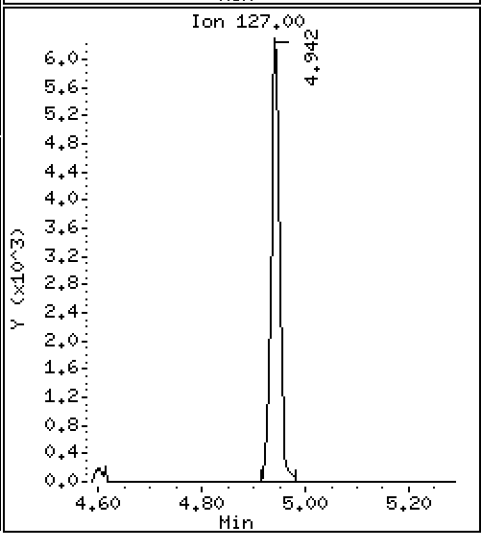


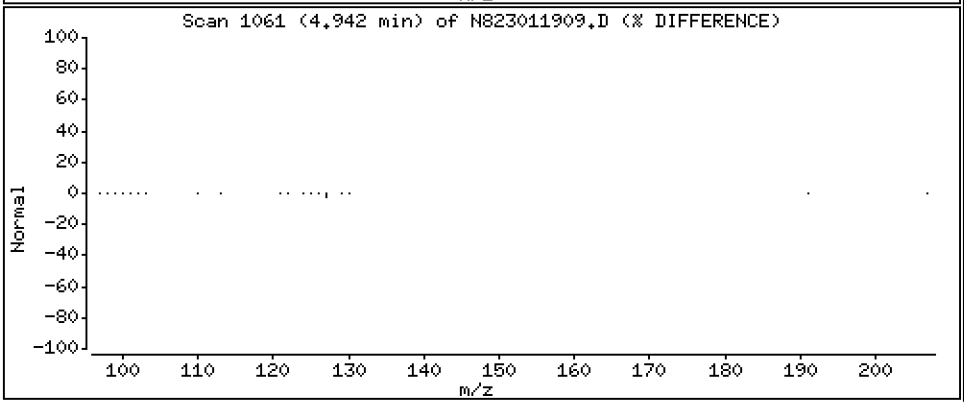












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

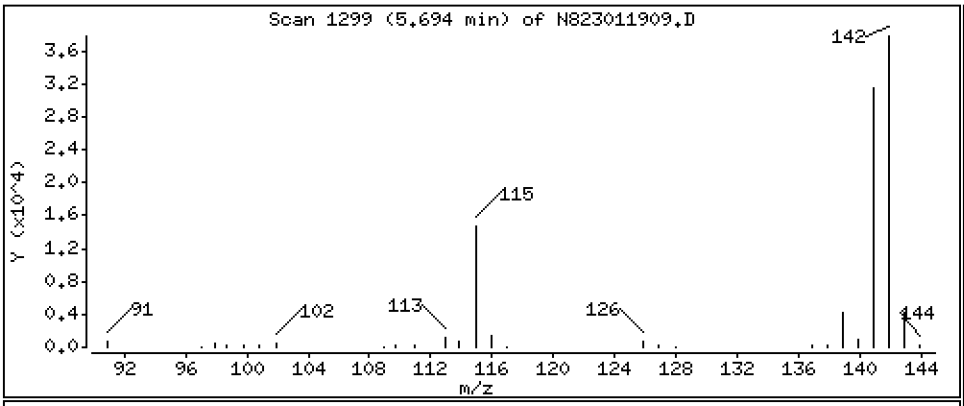
Operator: JZ

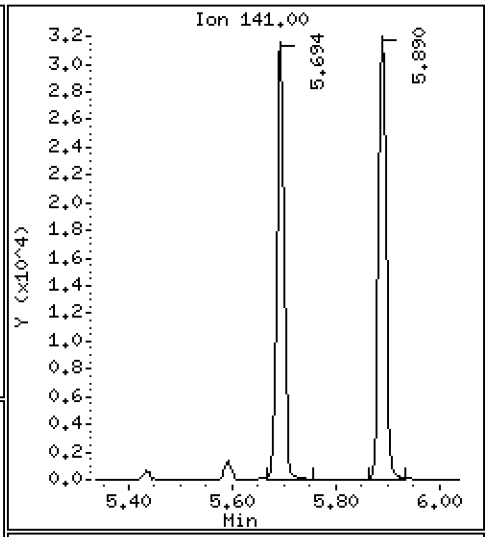
Column phase: Rxi-17sil

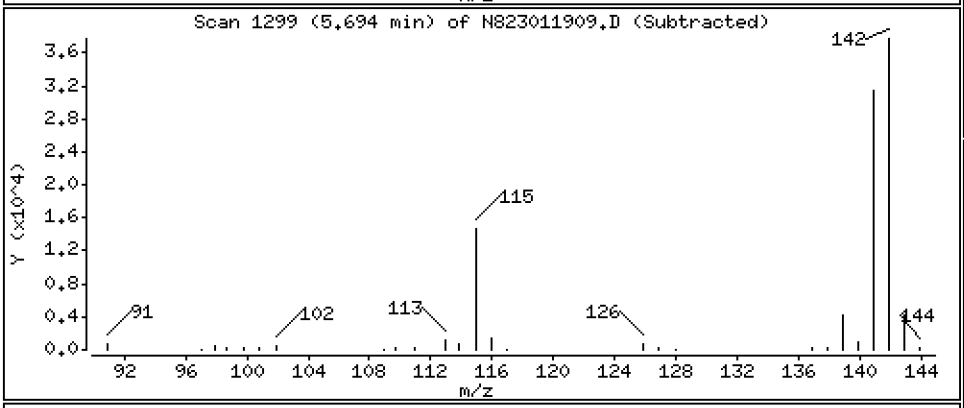
Column diameter: 0.25

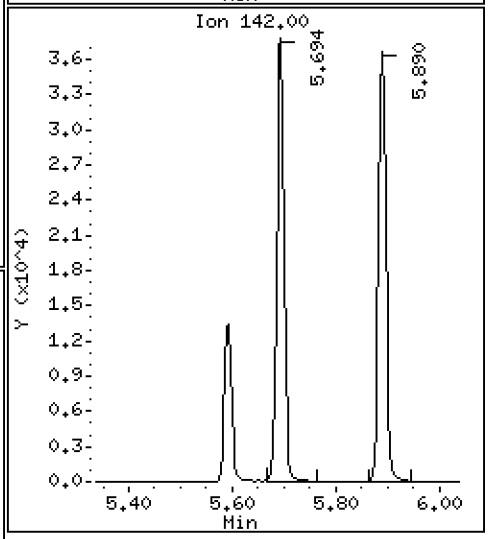
4 2-Methylnaphthalene

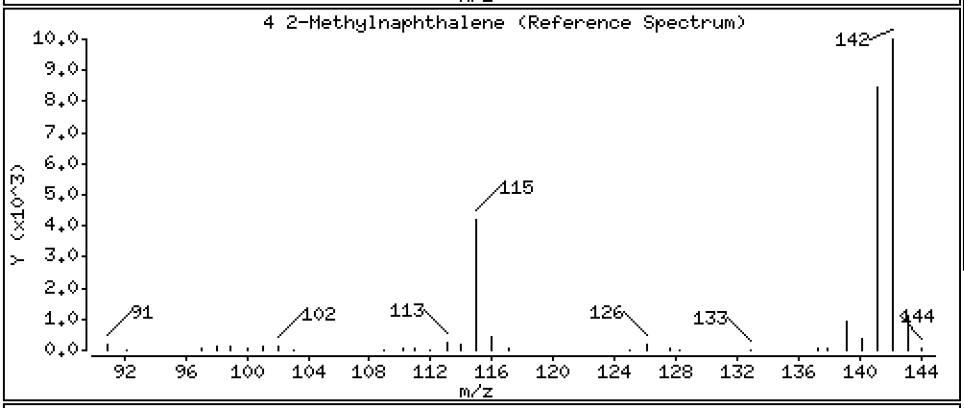
Concentration: 2.670 ug/L

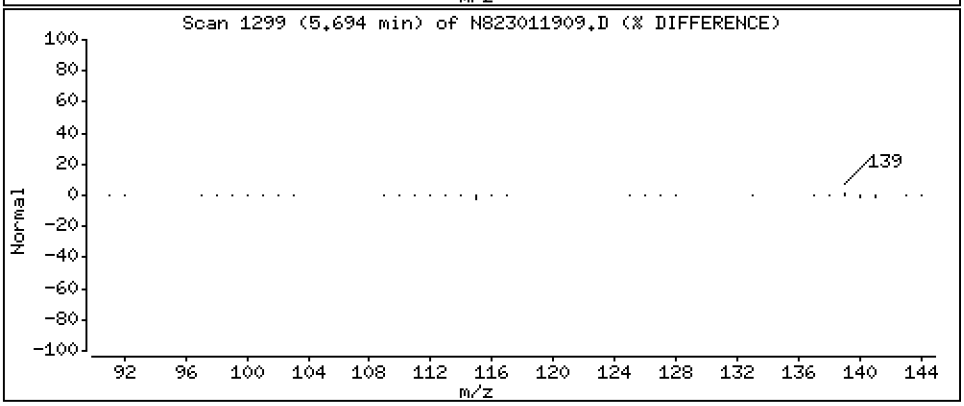












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

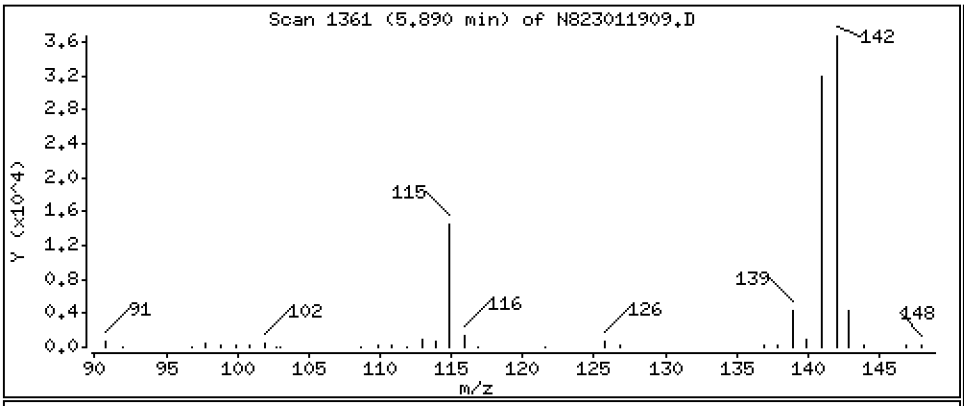
Operator: JZ

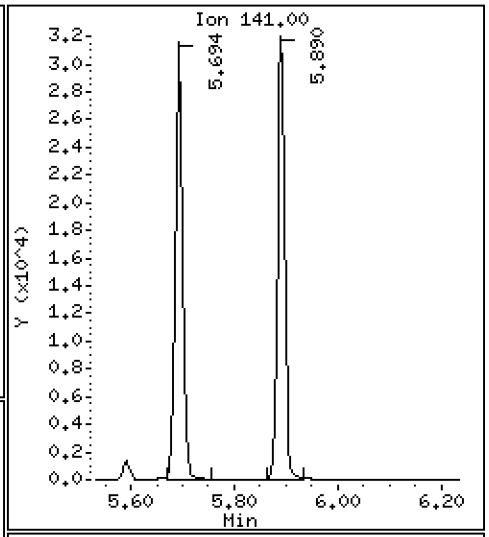
Column phase: Rxi-17sil

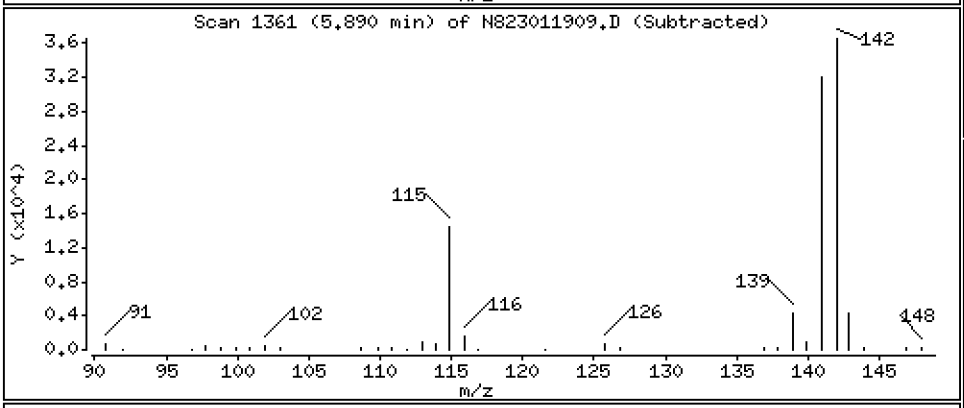
Column diameter: 0.25

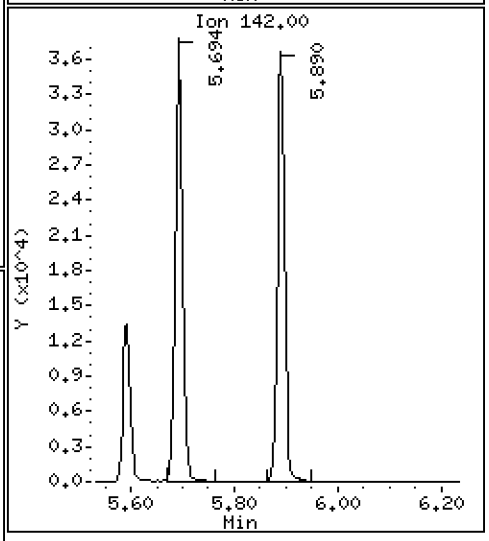
5 1-methylnaphthalene

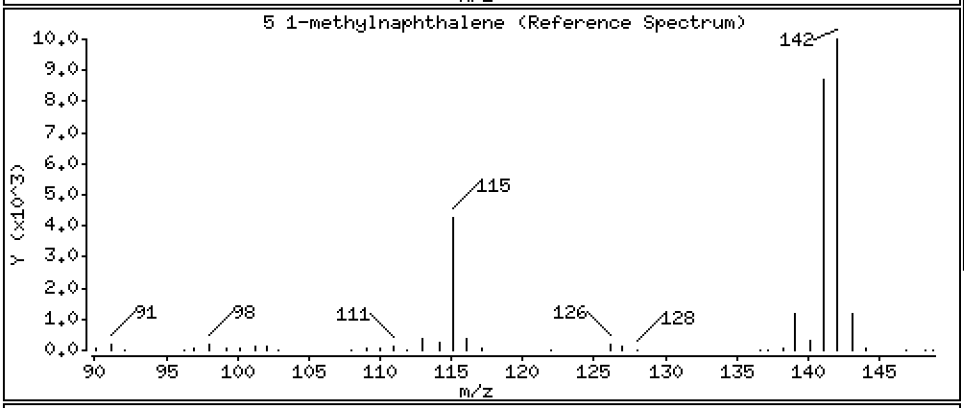
Concentration: 2.649 ug/L

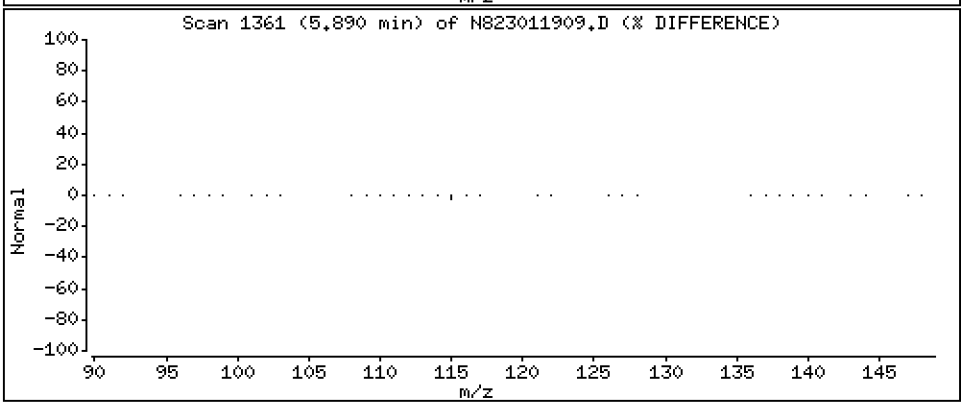












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

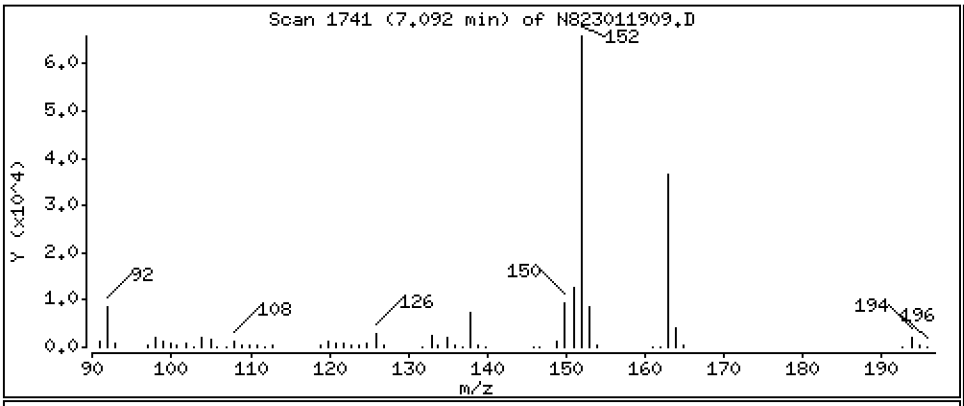
Operator: JZ

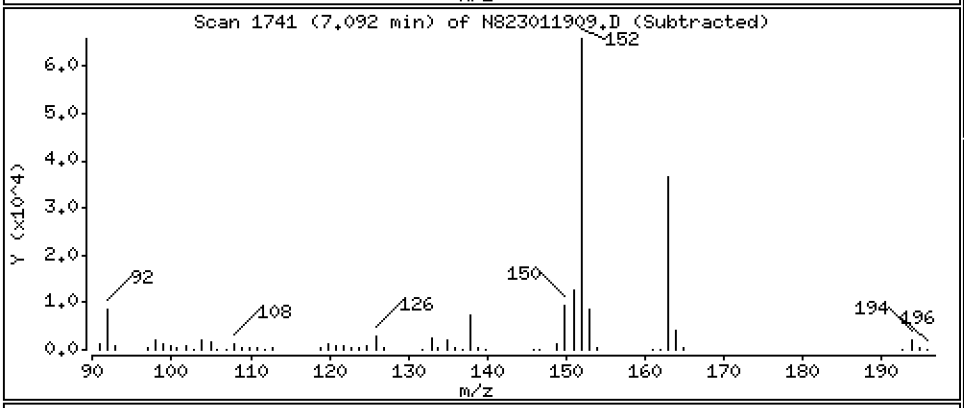
Column phase: Rxi-17sil

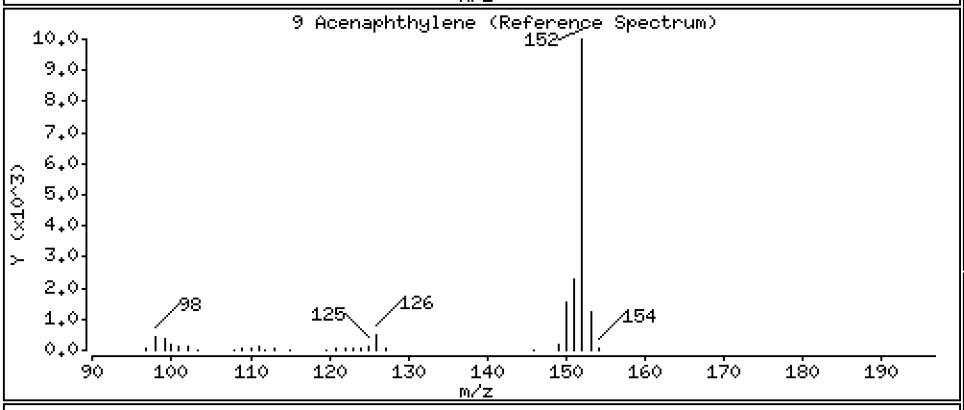
Column diameter: 0.25

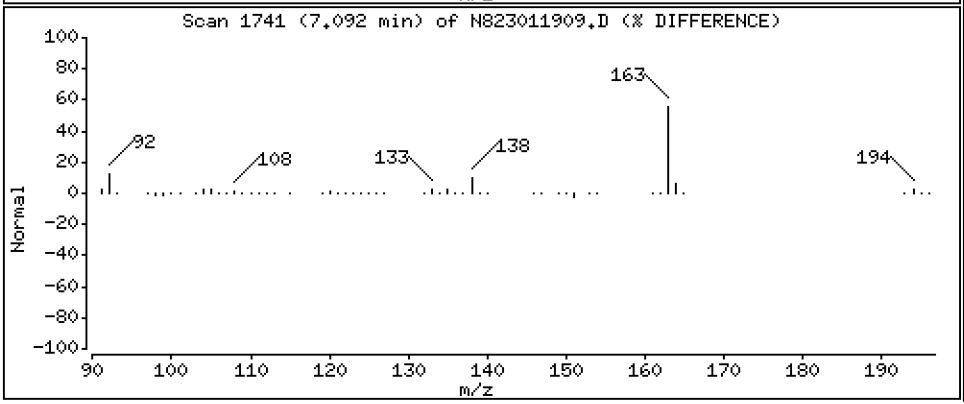
9 Acenaphthylene

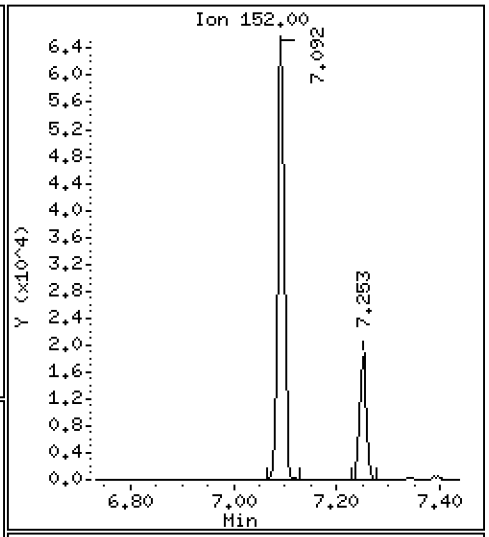
Concentration: 2.821 ug/L

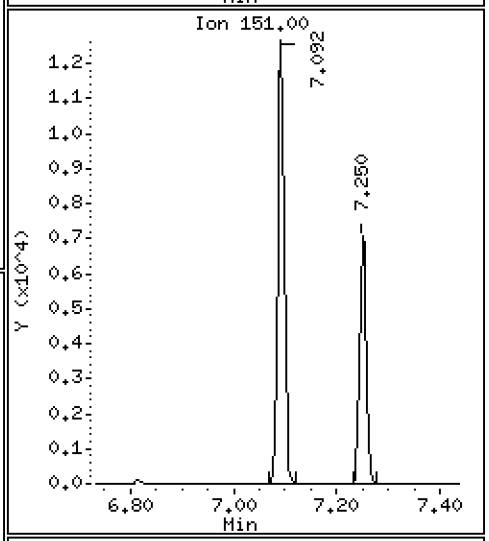


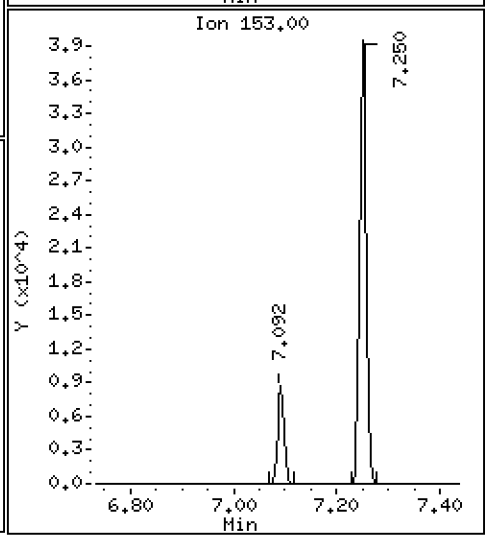












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

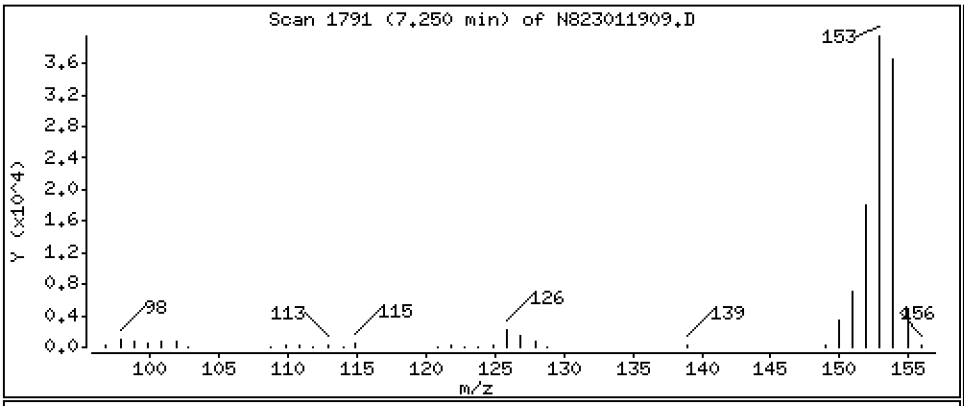
Operator: JZ

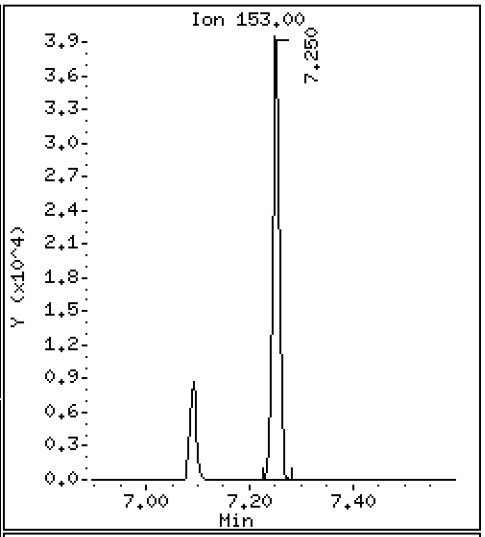
Column phase: Rxi-17sil

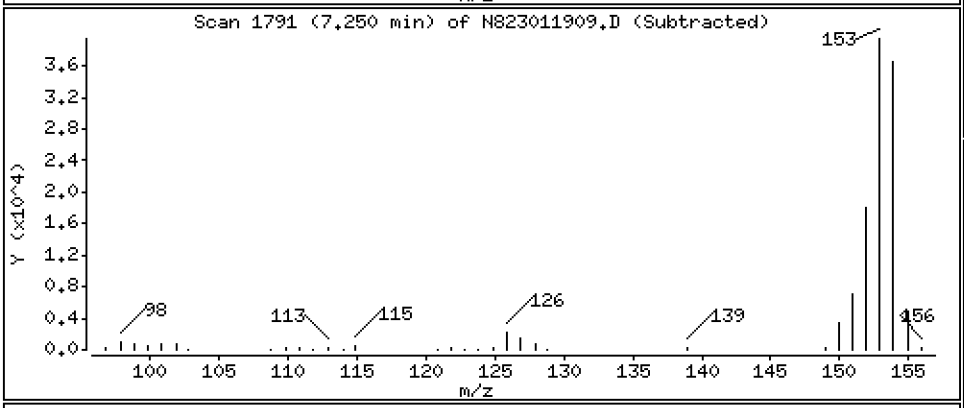
Column diameter: 0.25

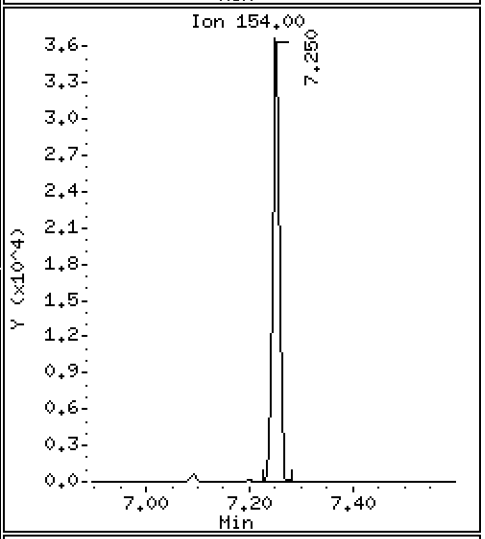
11 Acenaphthene

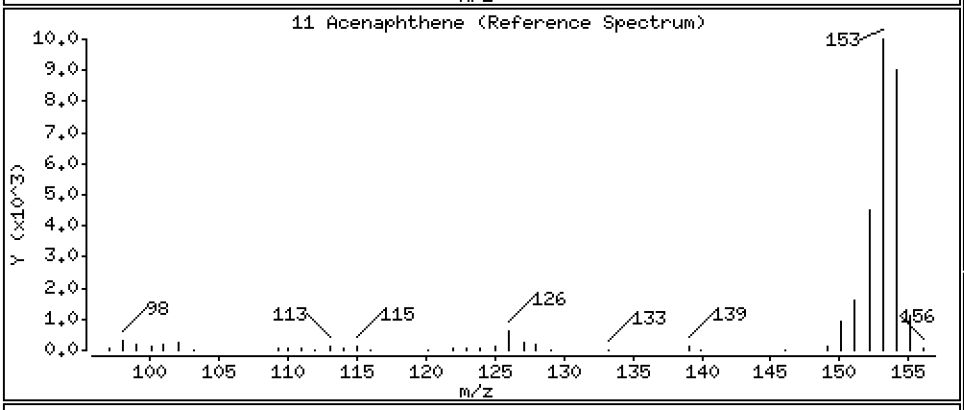
Concentration: 2.600 ug/L

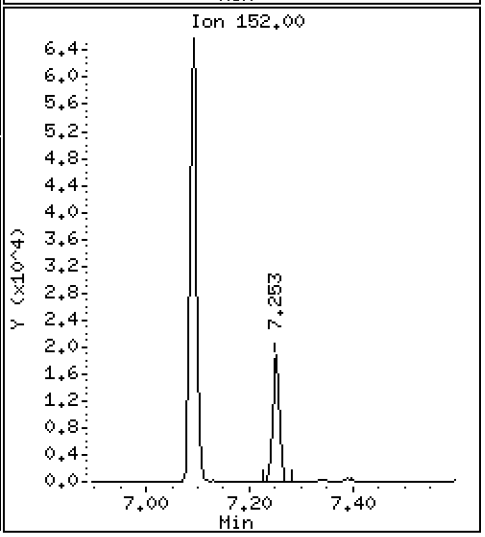


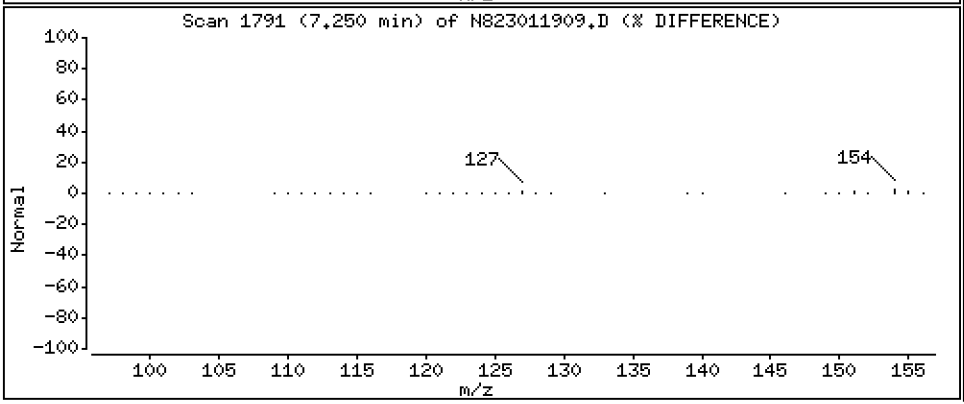












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

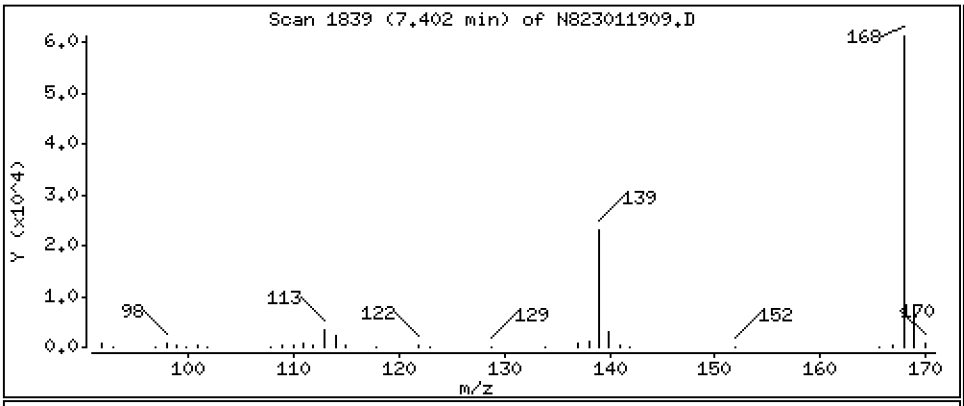
Operator: JZ

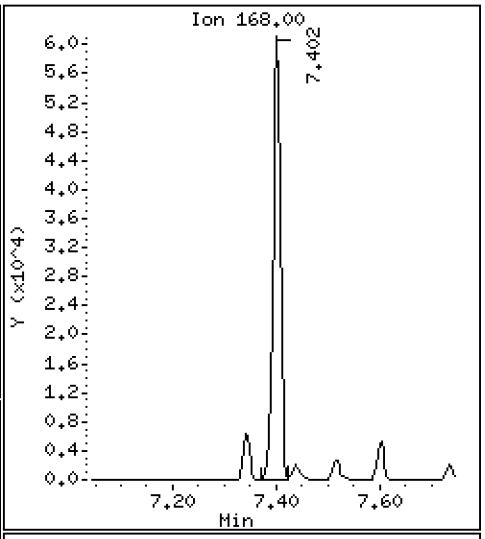
Column phase: Rxi-17sil

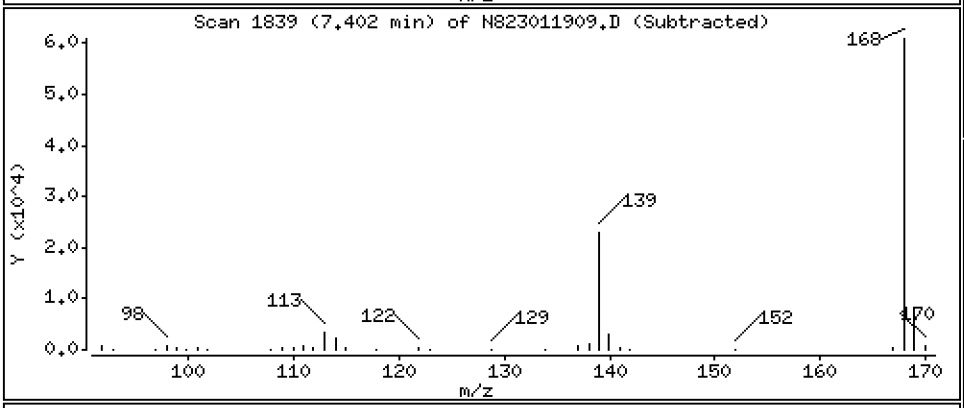
Column diameter: 0.25

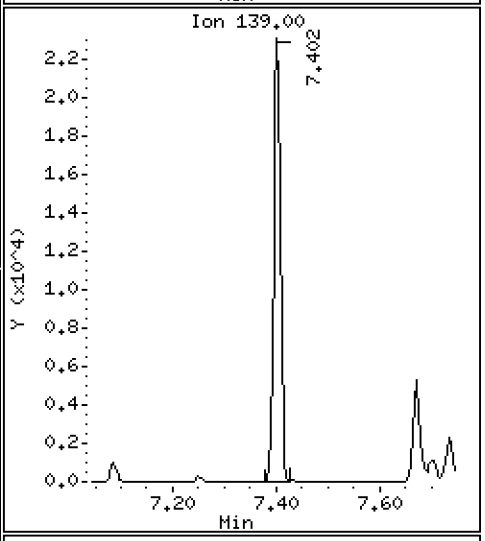
12 Dibenzofuran

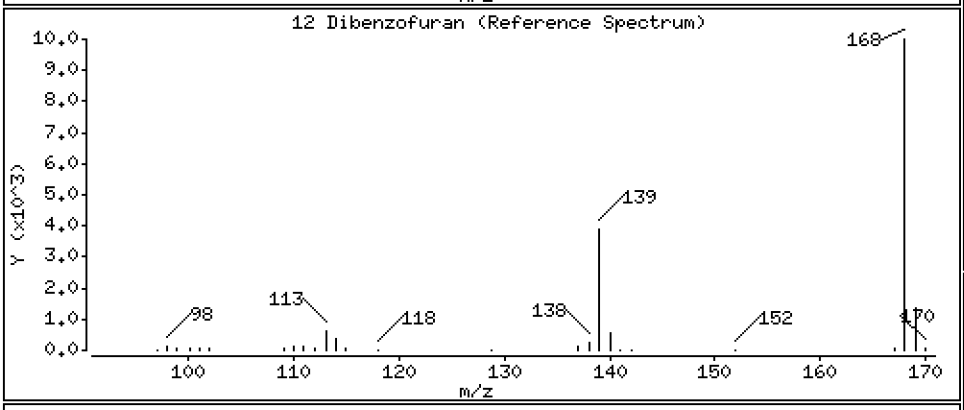
Concentration: 2.860 ug/L

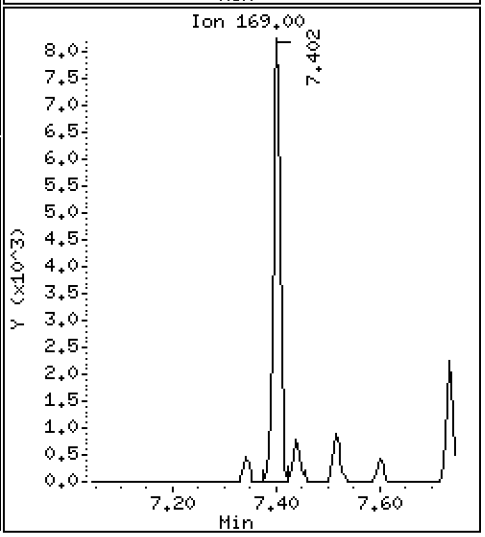


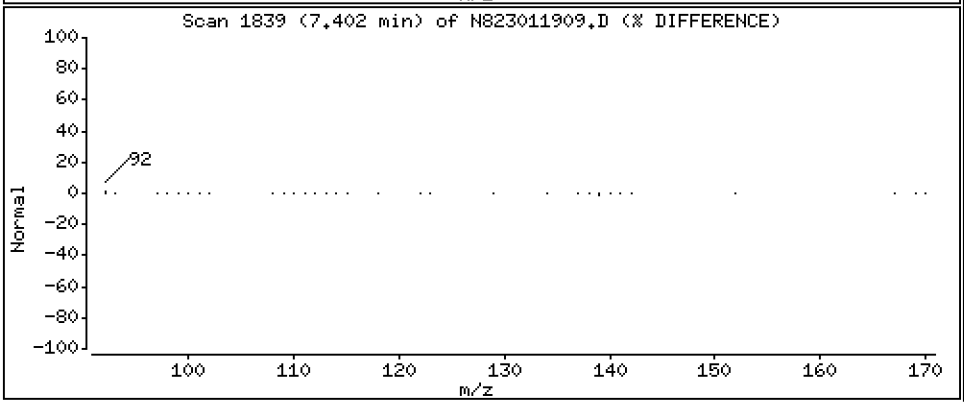












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

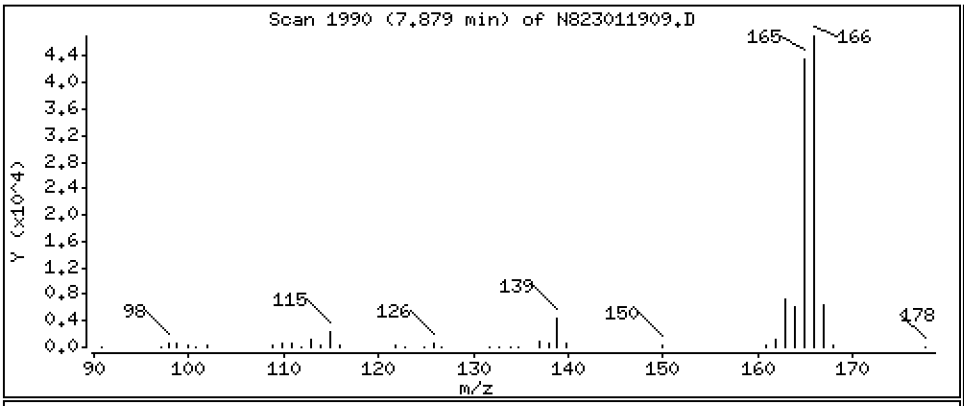
Operator: JZ

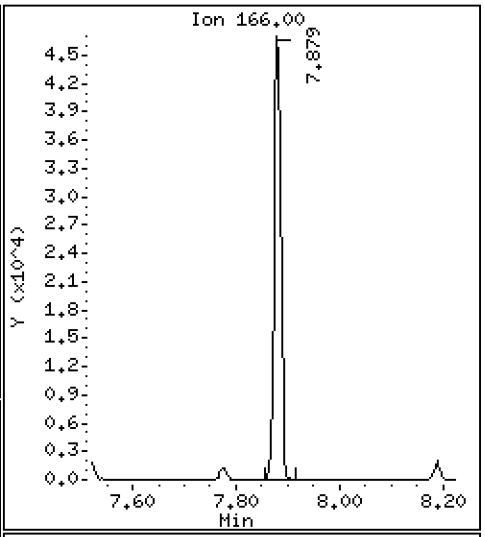
Column phase: Rxi-17sil

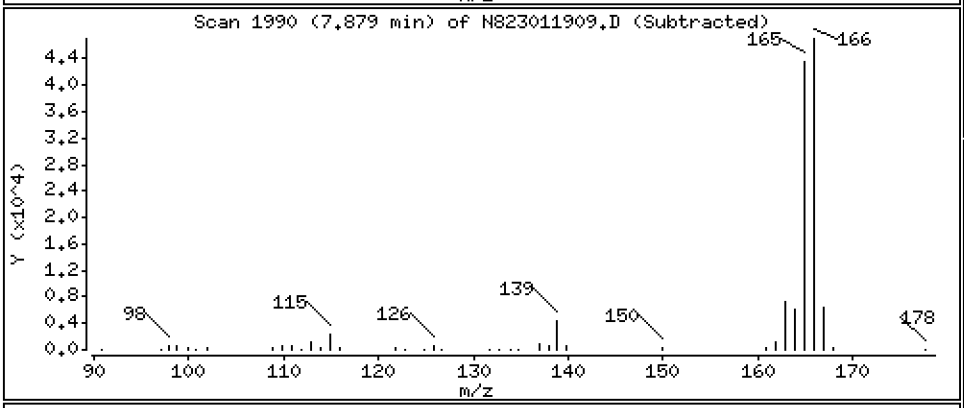
Column diameter: 0.25

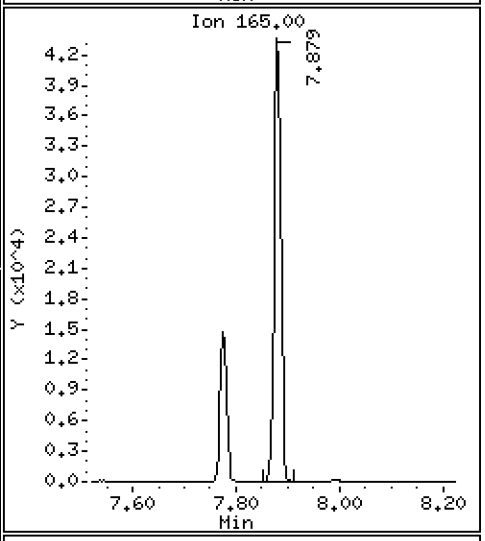
14 Fluorene

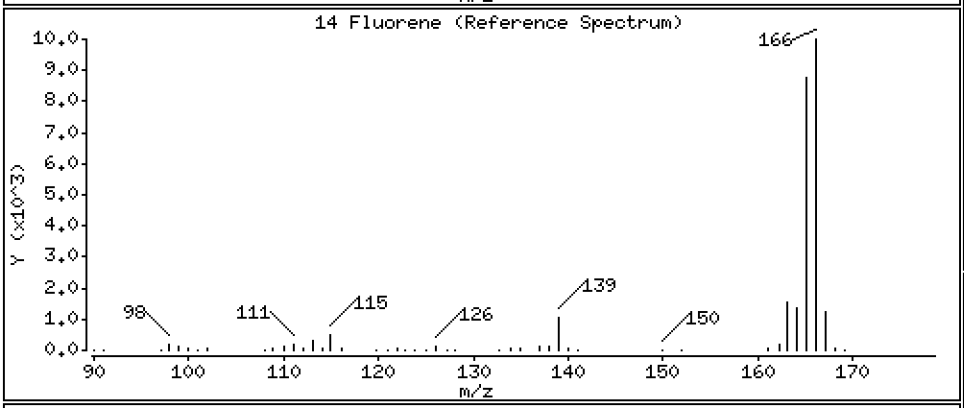
Concentration: 2.631 ug/L

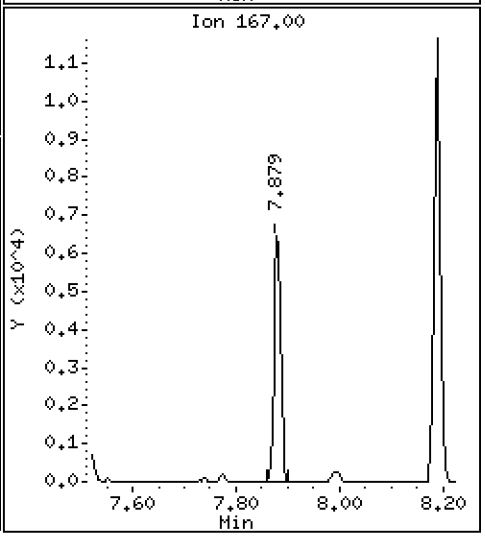


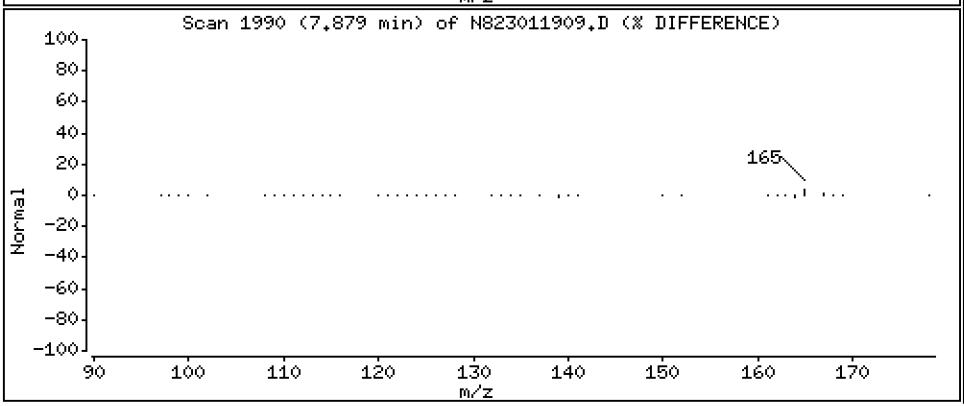












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

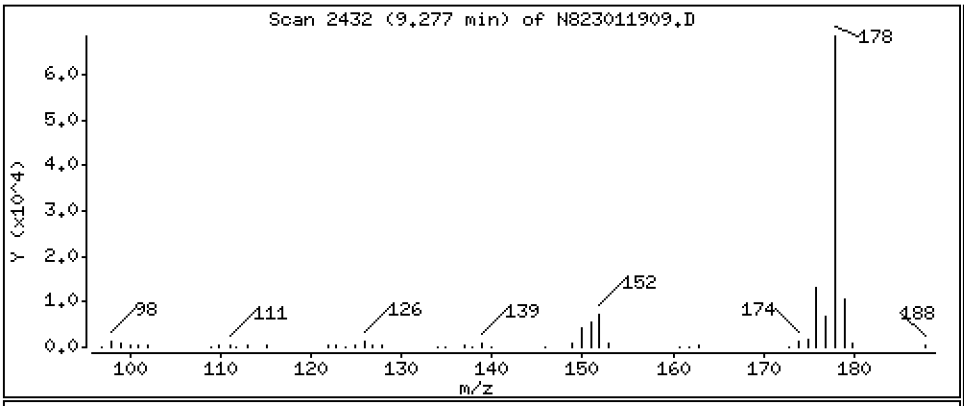
Operator: JZ

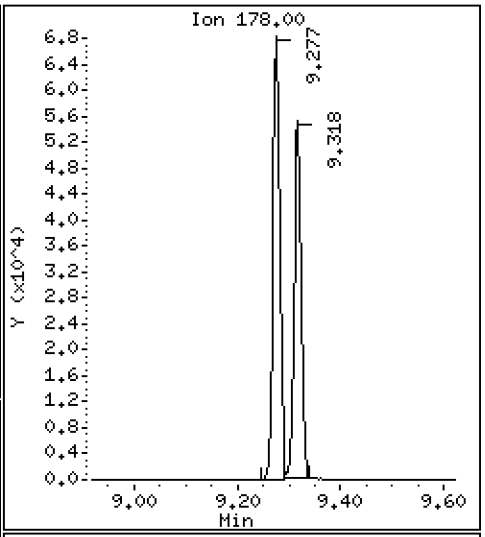
Column phase: Rxi-17sil

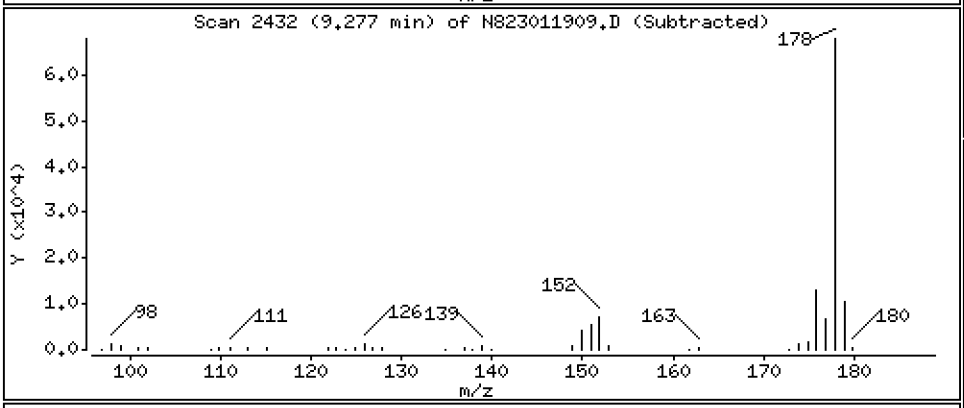
Column diameter: 0.25

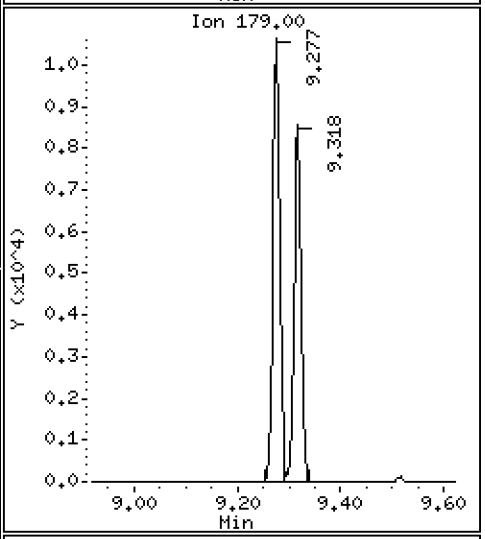
16 Phenanthrene

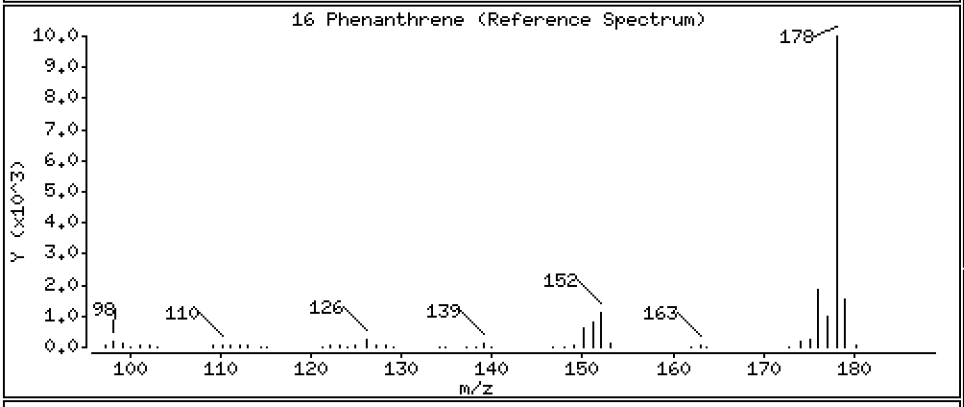
Concentration: 2.448 ug/L

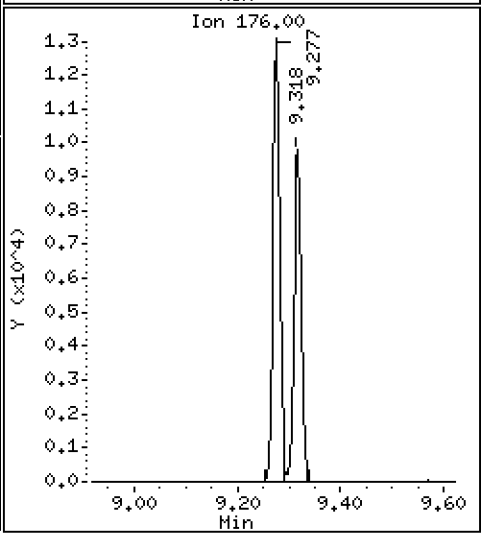


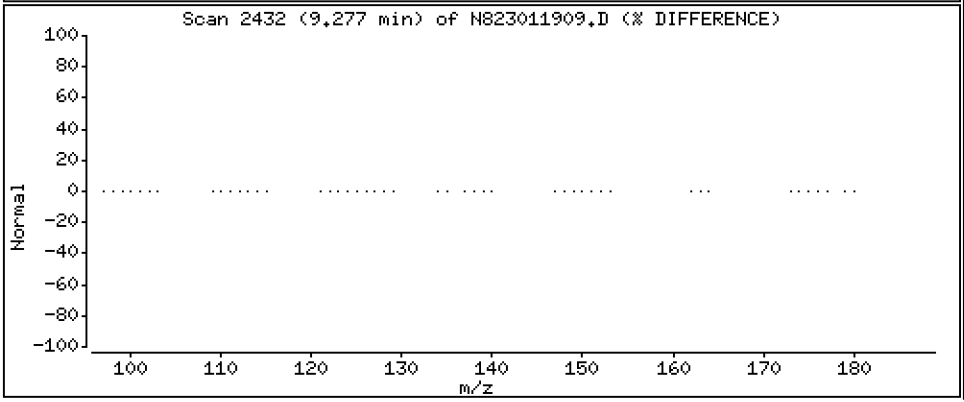












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

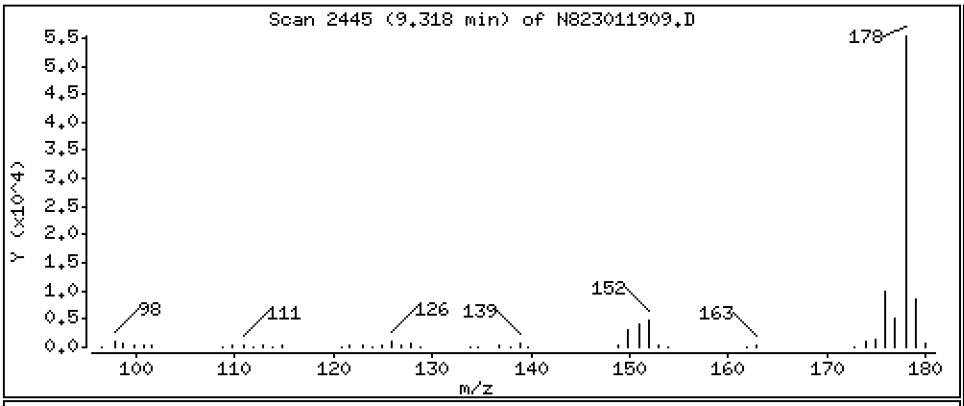
Operator: JZ

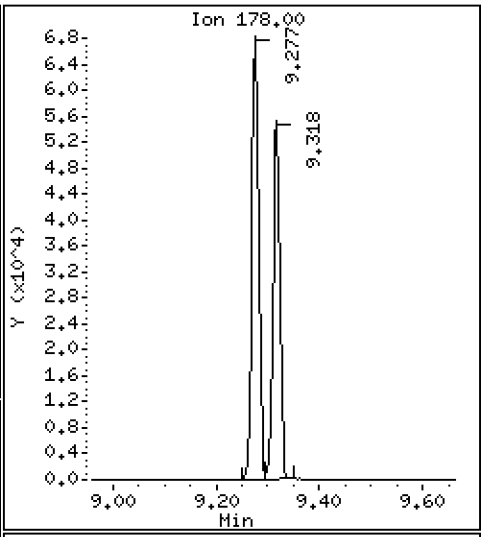
Column phase: Rxi-17sil

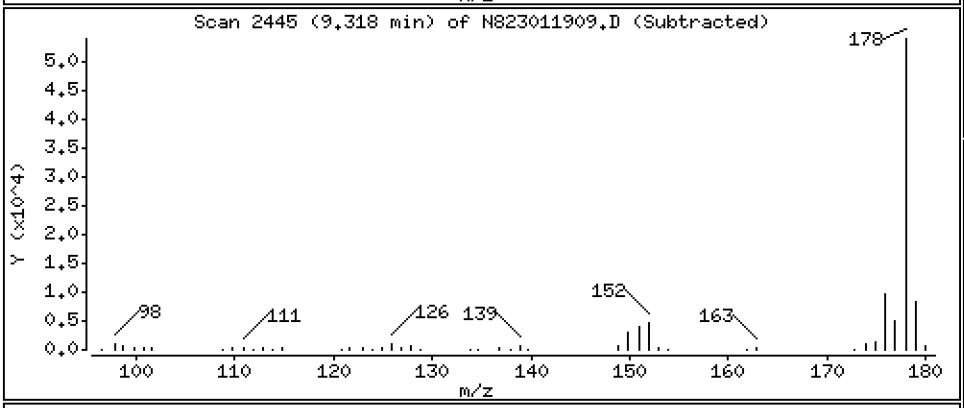
Column diameter: 0.25

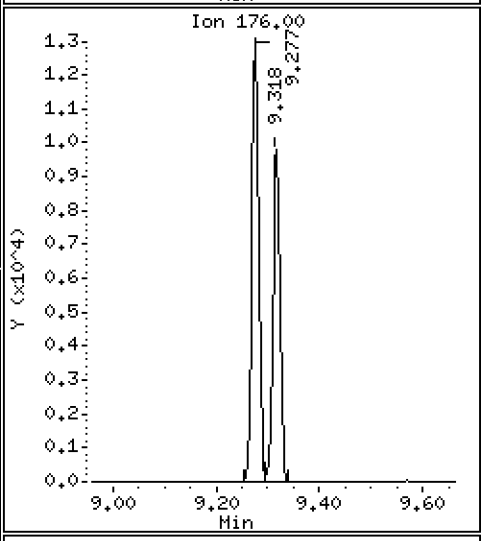
17 Anthracene

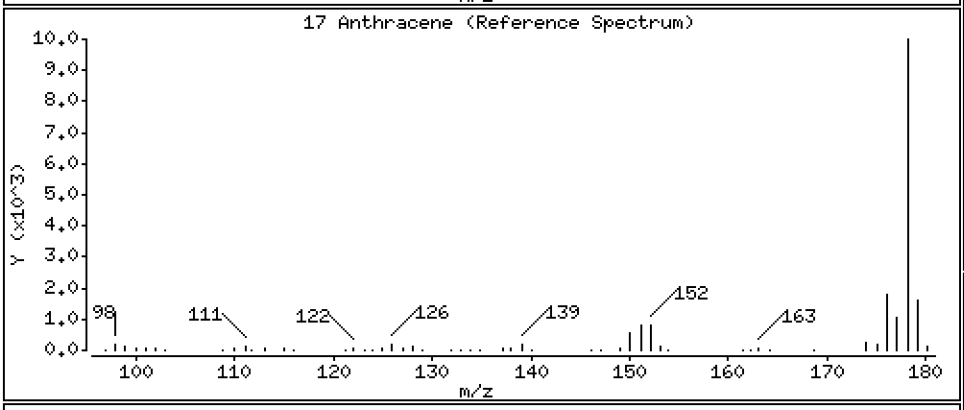
Concentration: 2.270 ug/L

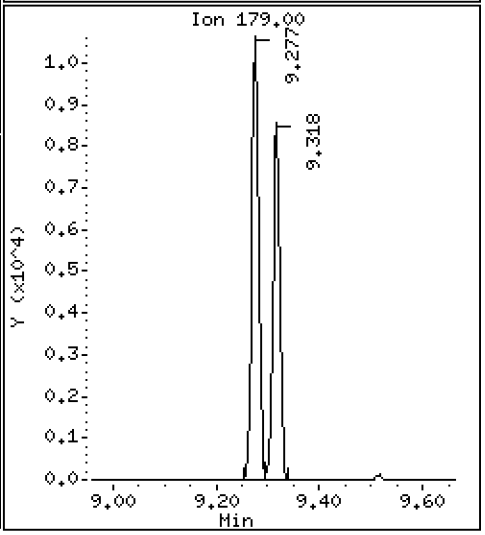


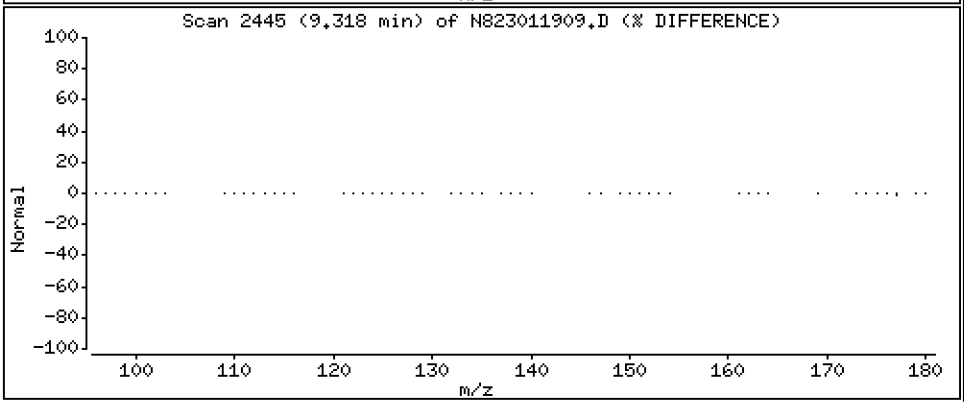












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

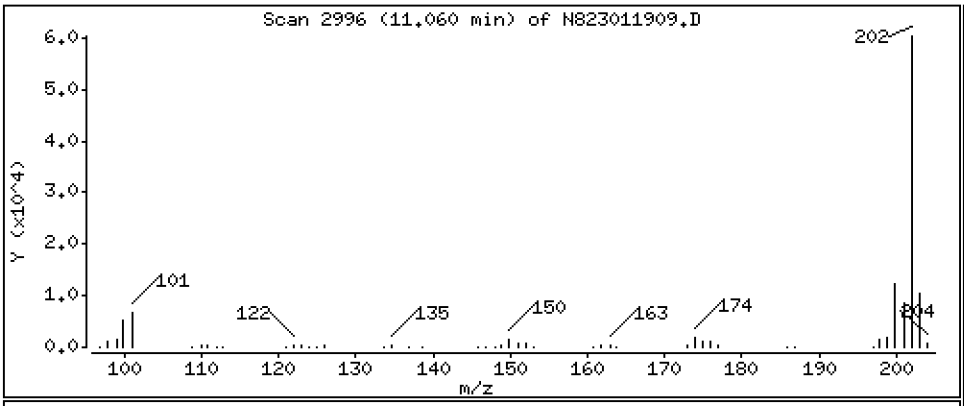
Operator: JZ

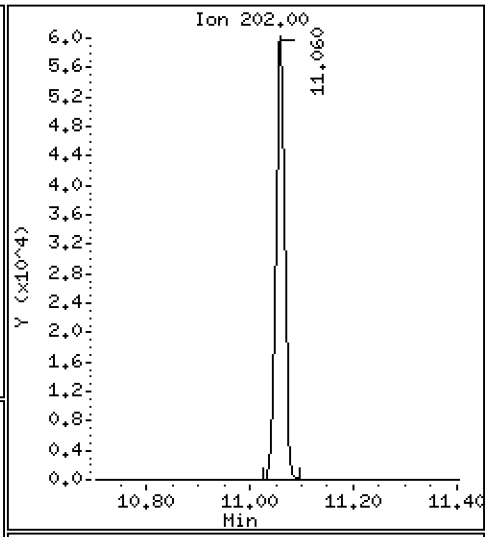
Column phase: Rxi-17sil

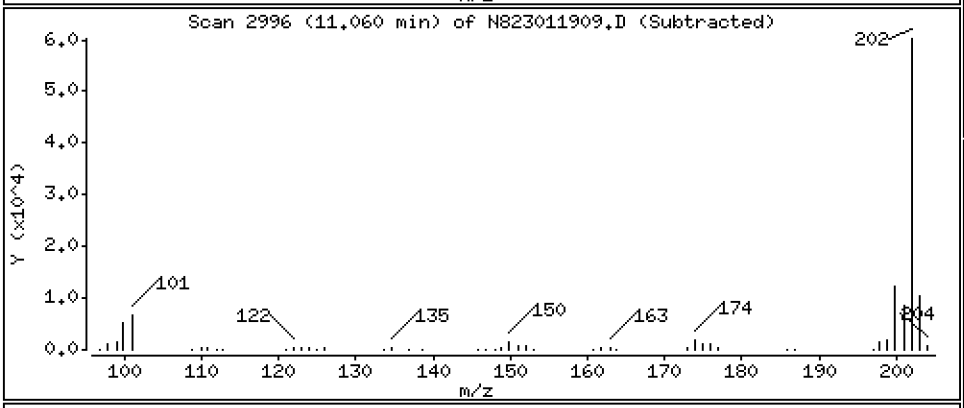
Column diameter: 0.25

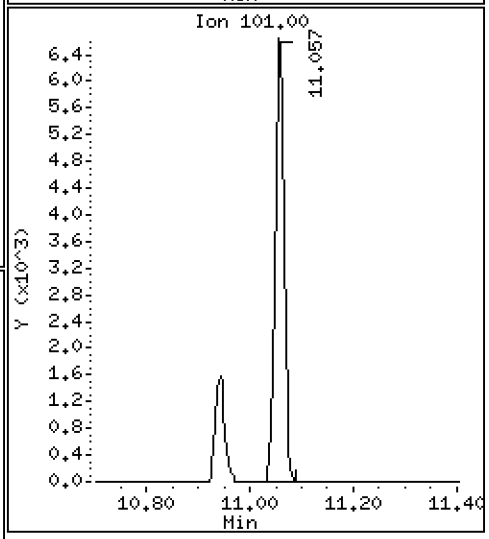
22 Fluoranthene

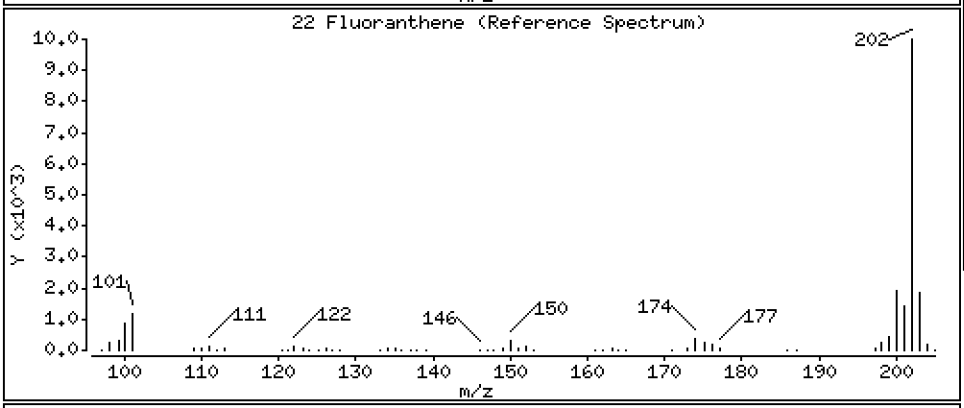
Concentration: 2.653 ug/L

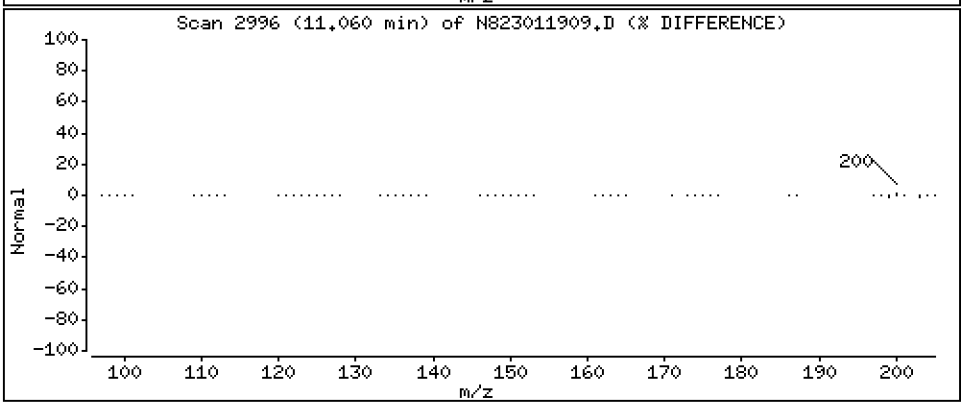












Data File: \\target\share\chem3\nt8.i\20230119.b\N823011909.D

Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

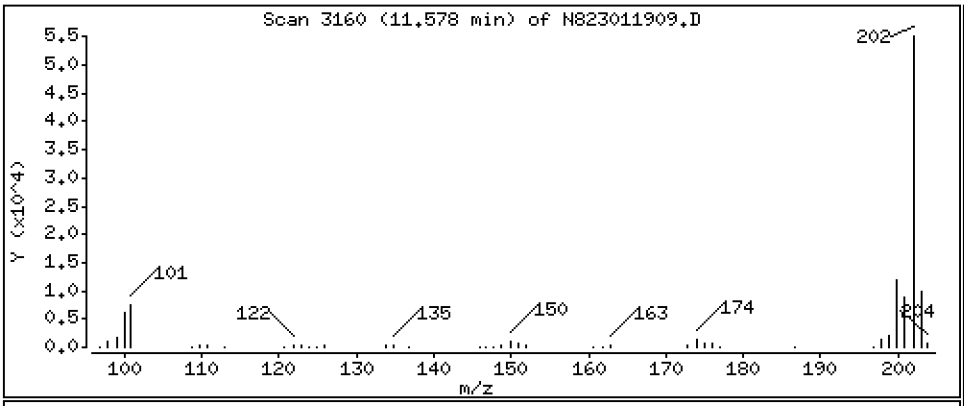
Operator: JZ

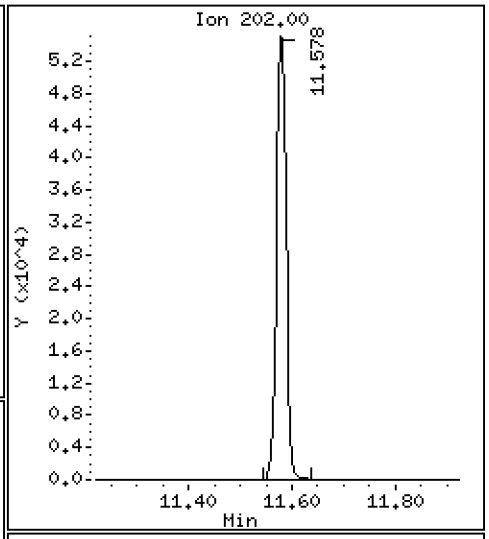
Column phase: Rxi-17sil

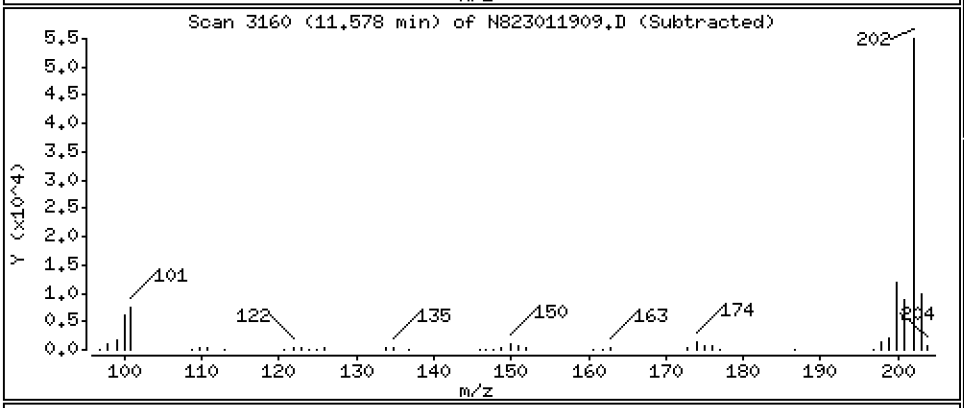
Column diameter: 0.25

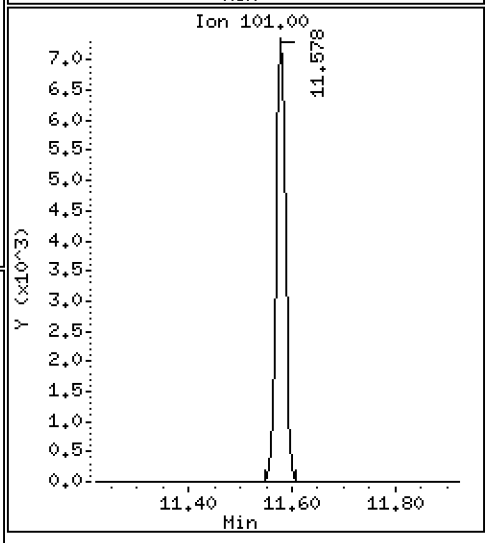
23 Pyrene

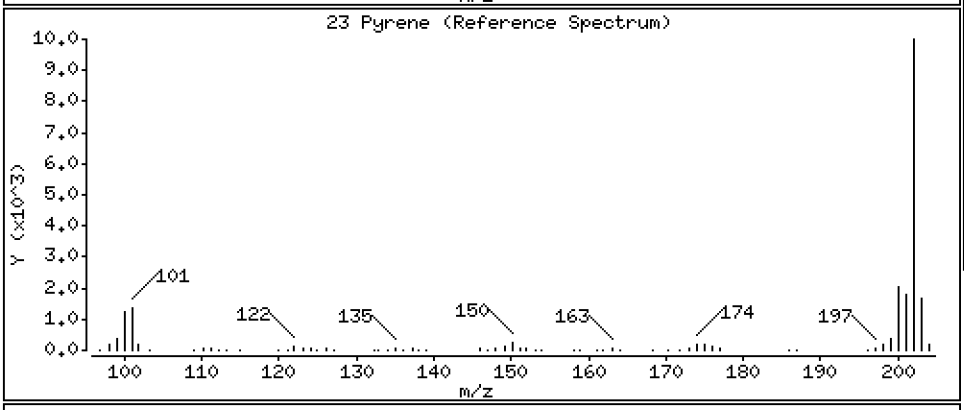
Concentration: 2.462 ug/L

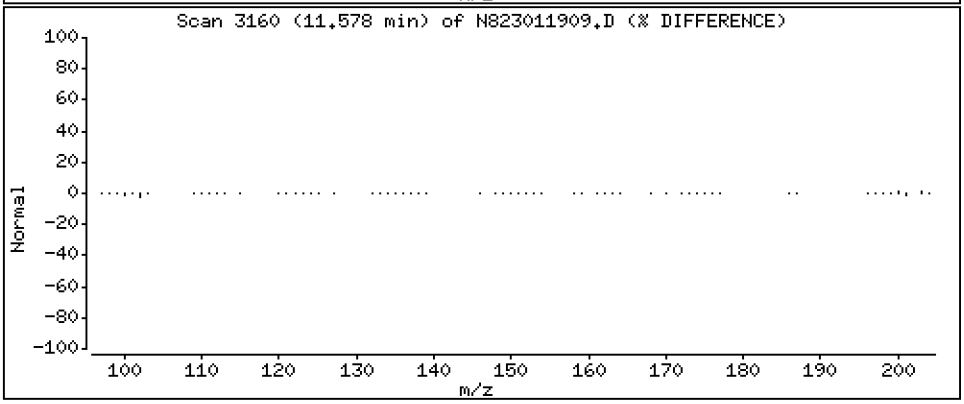












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

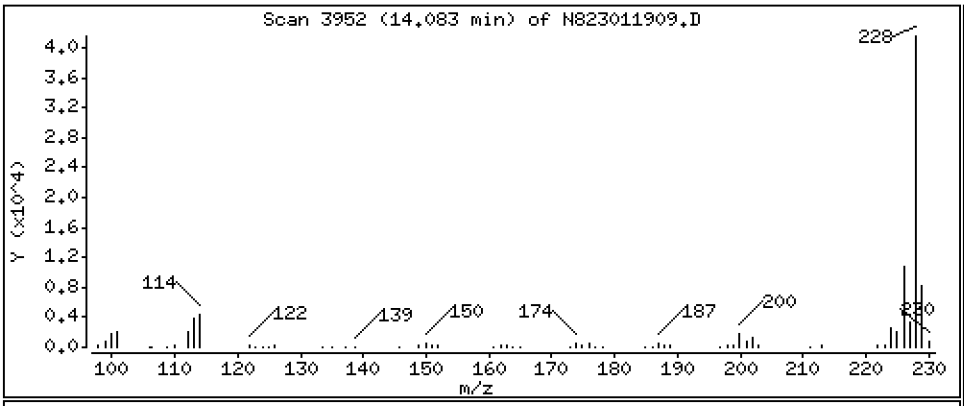
Operator: JZ

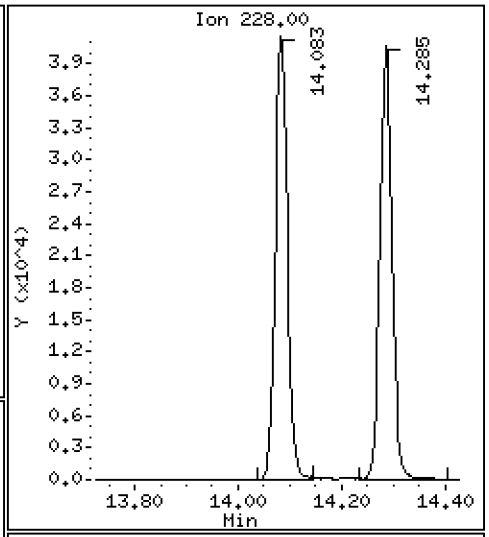
Column phase: Rxi-17sil

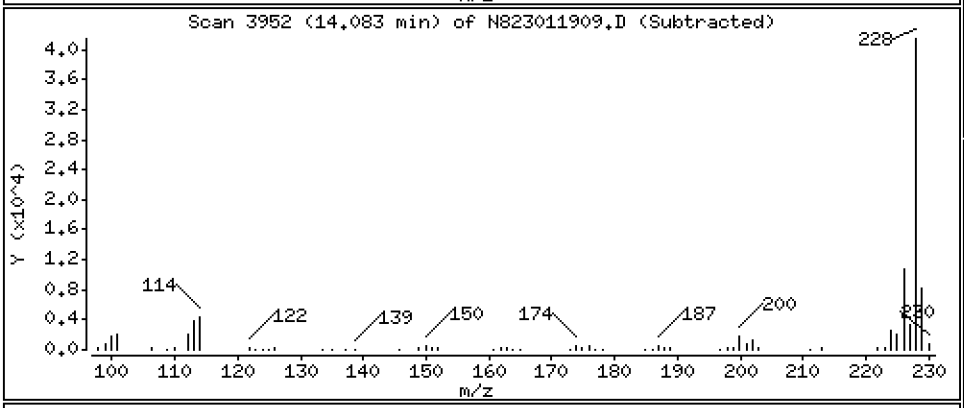
Column diameter: 0.25

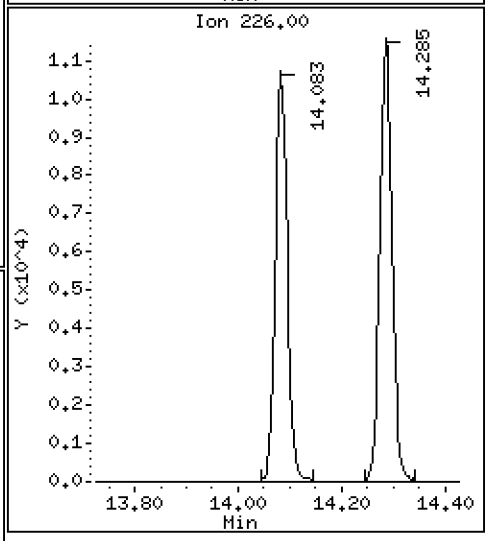
24 Benzo(a)anthracene

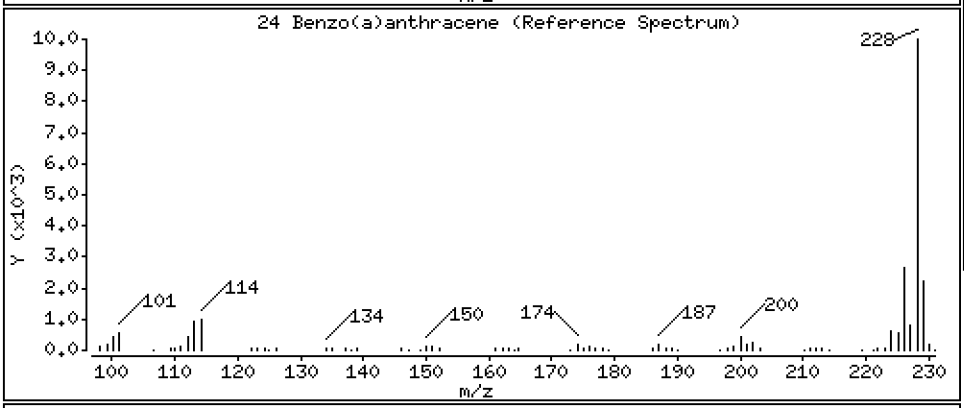
Concentration: 2.587 ug/L

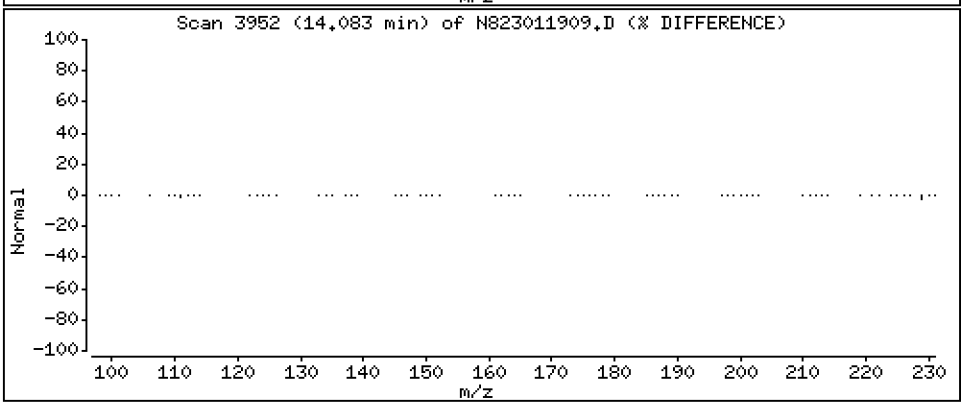












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

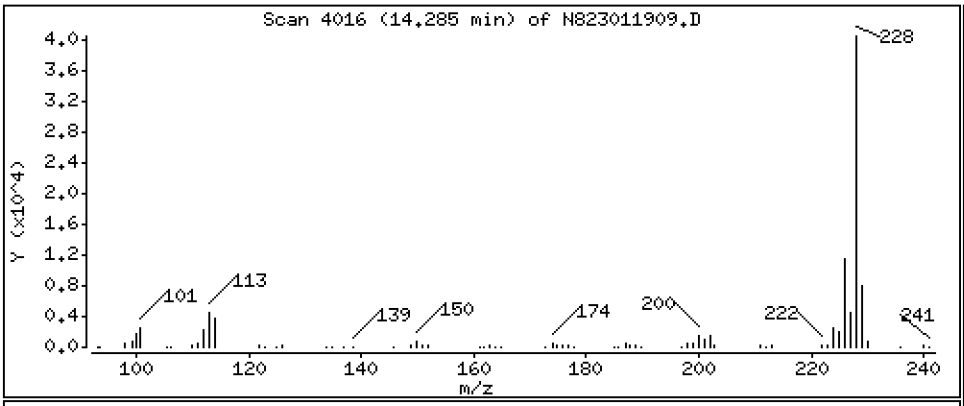
Operator: JZ

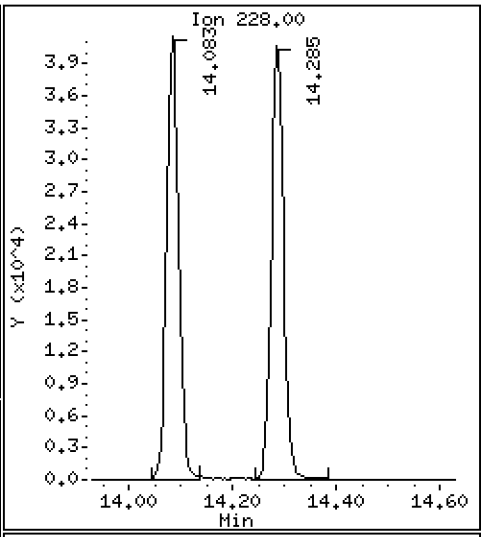
Column phase: Rxi-17sil

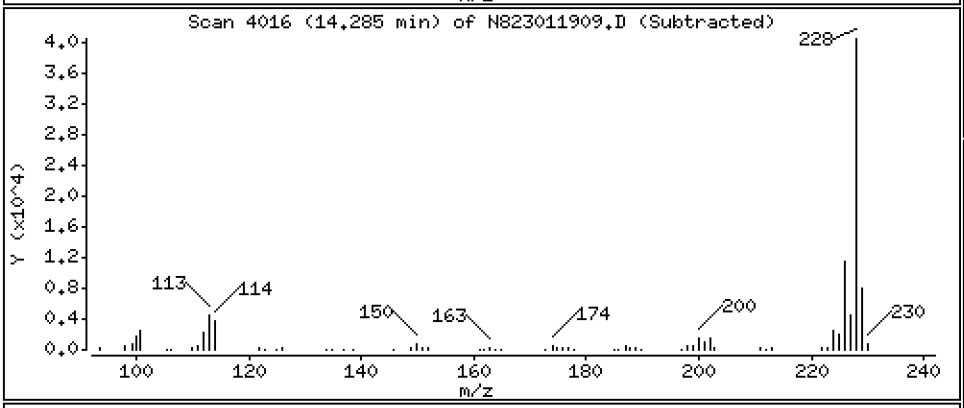
Column diameter: 0.25

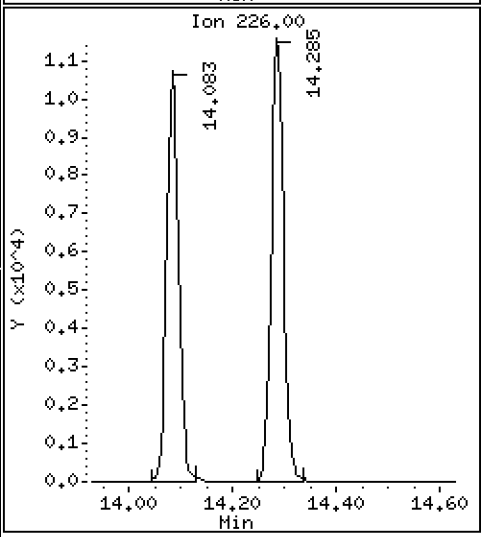
27 Chrysene

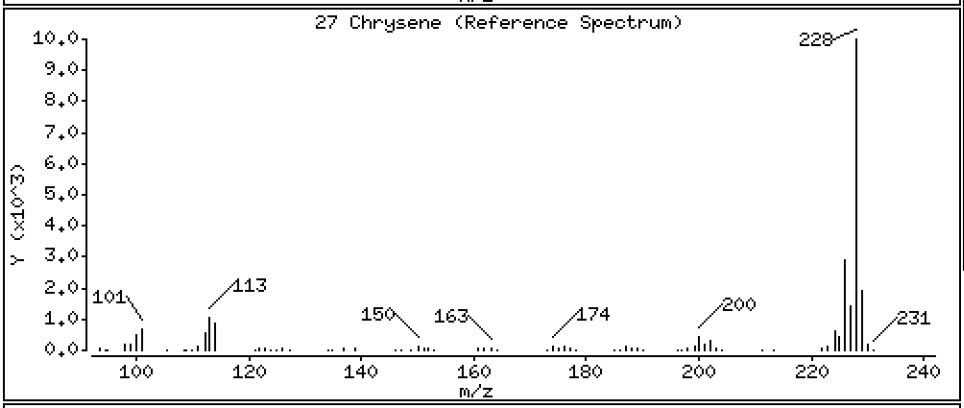
Concentration: 2.400 ug/L

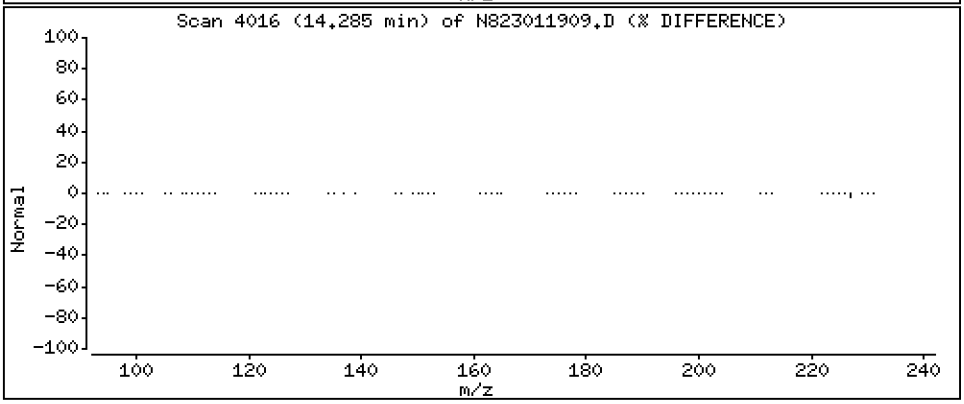












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

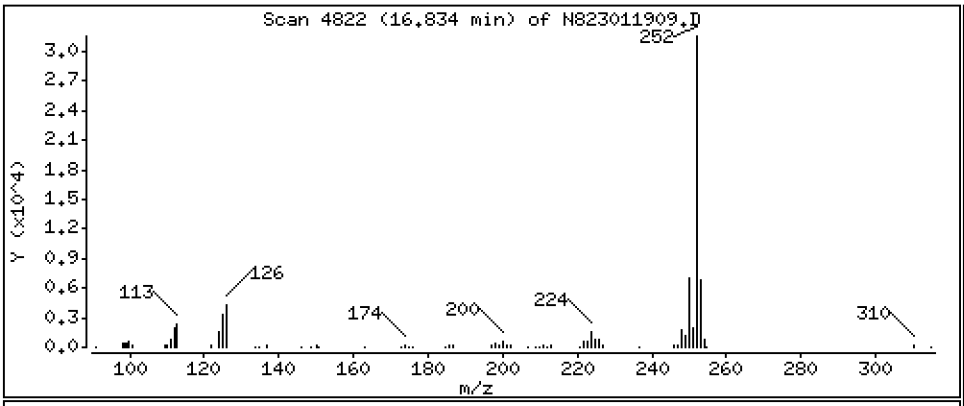
Operator: JZ

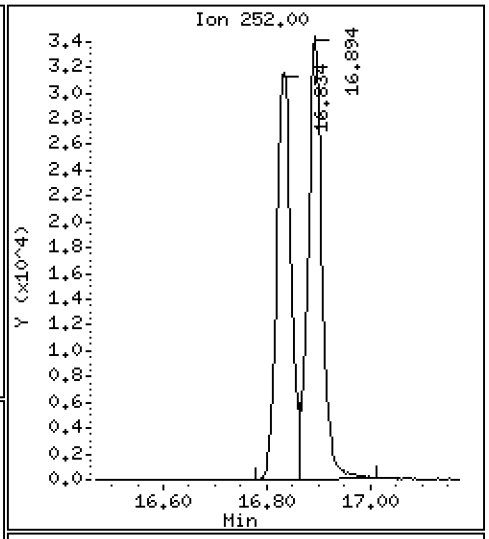
Column phase: Rxi-17sil

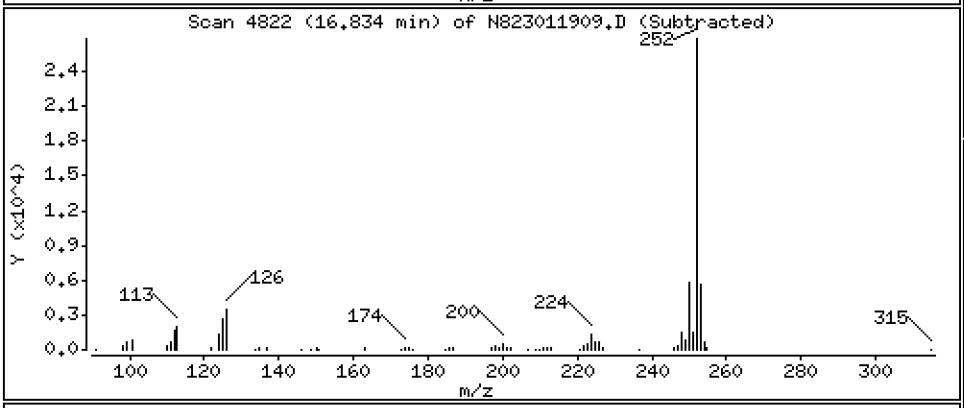
Column diameter: 0.25

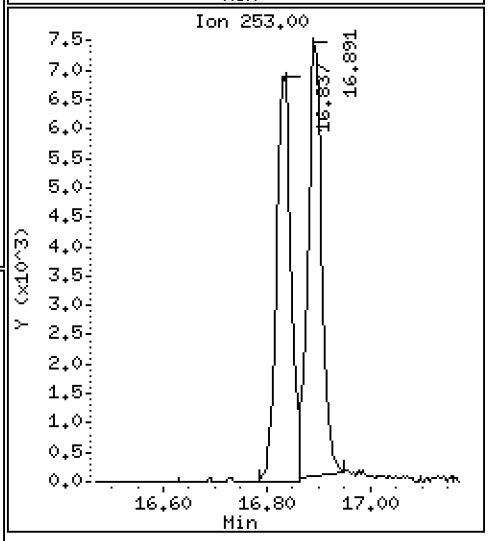
28 Benzo(b)fluoranthene

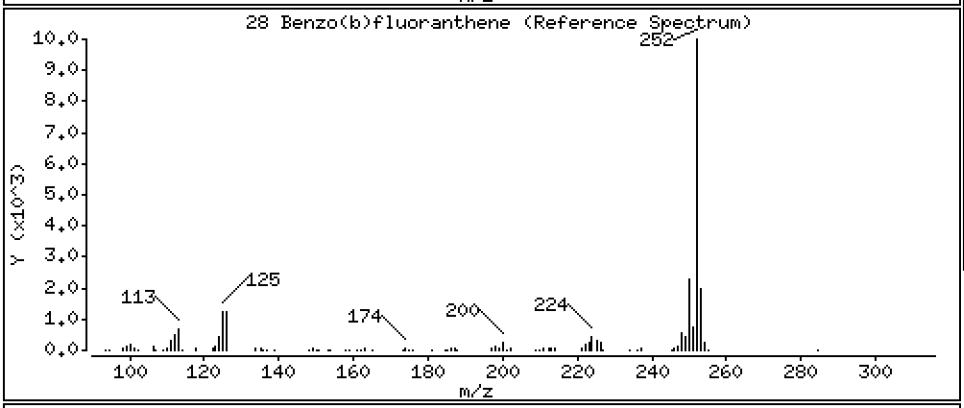
Concentration: 2.507 ug/L

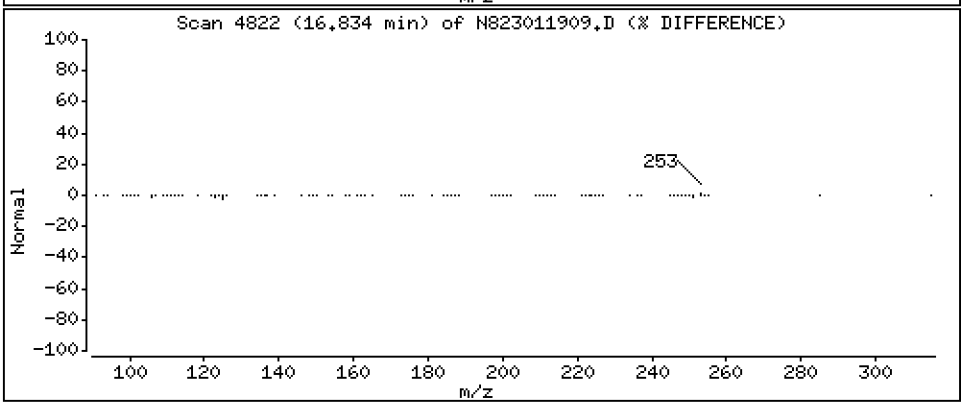












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

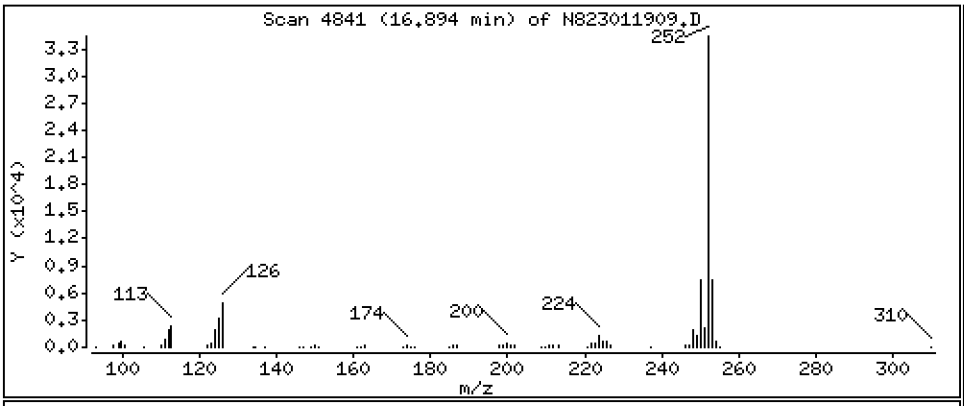
Operator: JZ

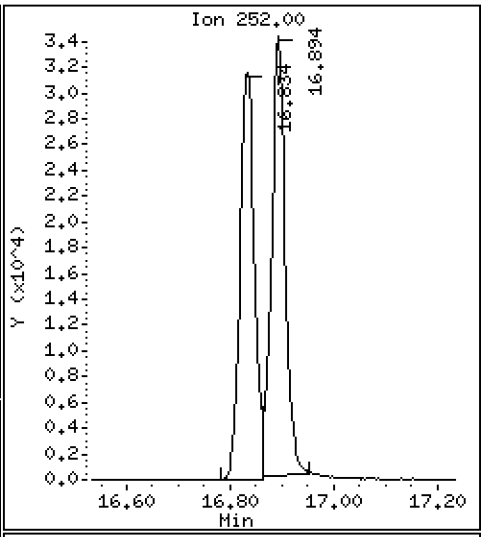
Column phase: Rxi-17sil

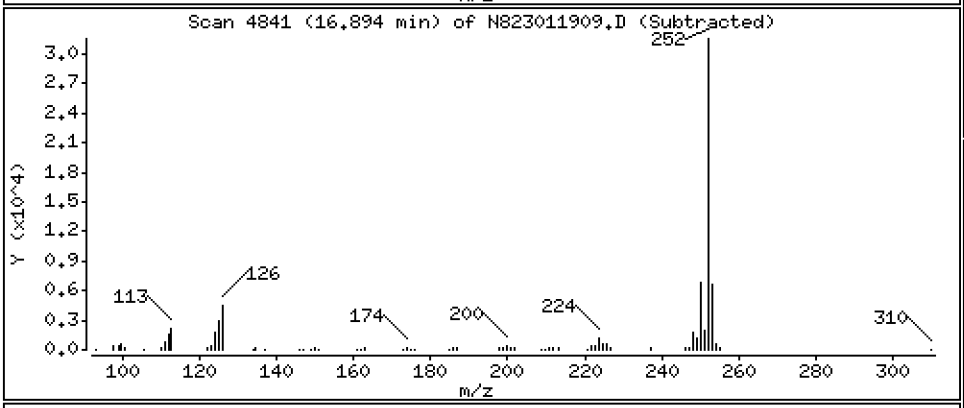
Column diameter: 0.25

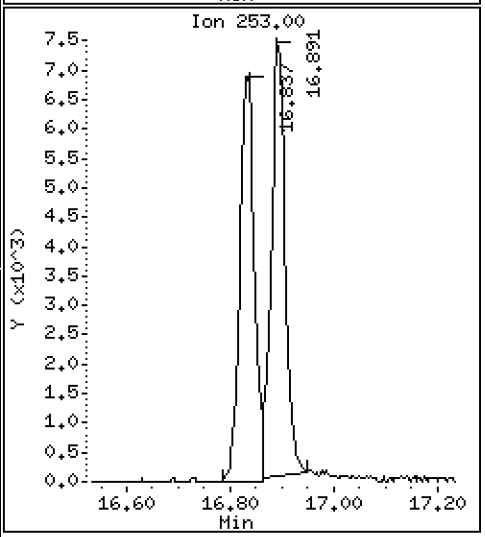
29 Benzo(k)fluoranthene

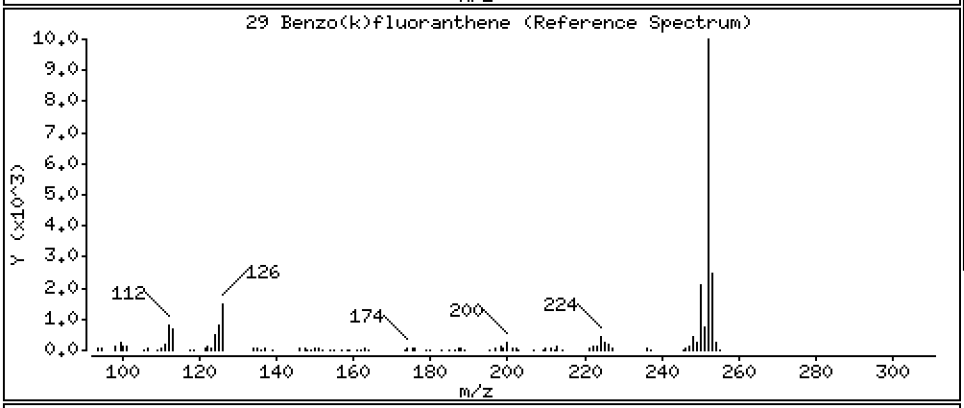
Concentration: 2.656 ug/L

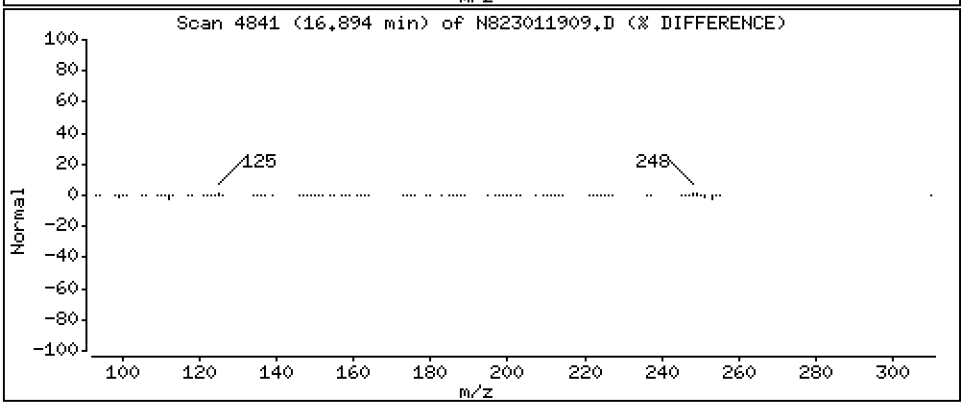












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Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

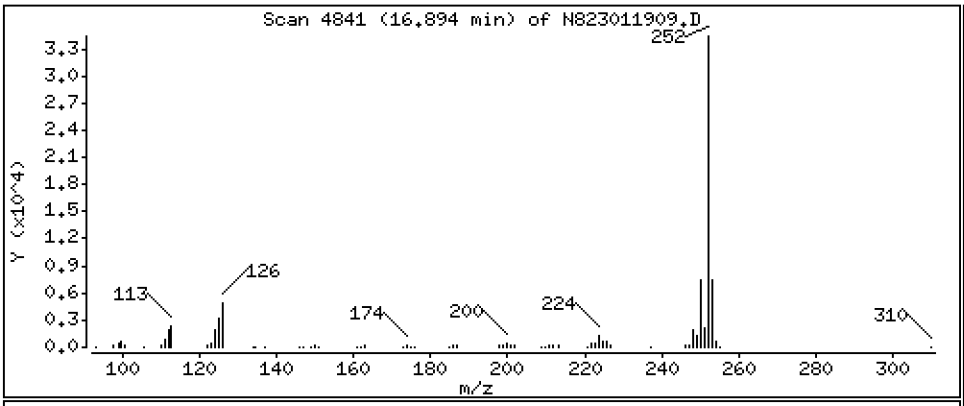
Operator: JZ

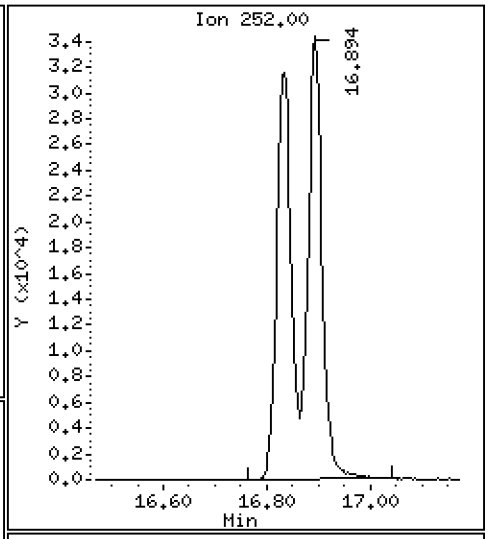
Column phase: Rxi-17sil

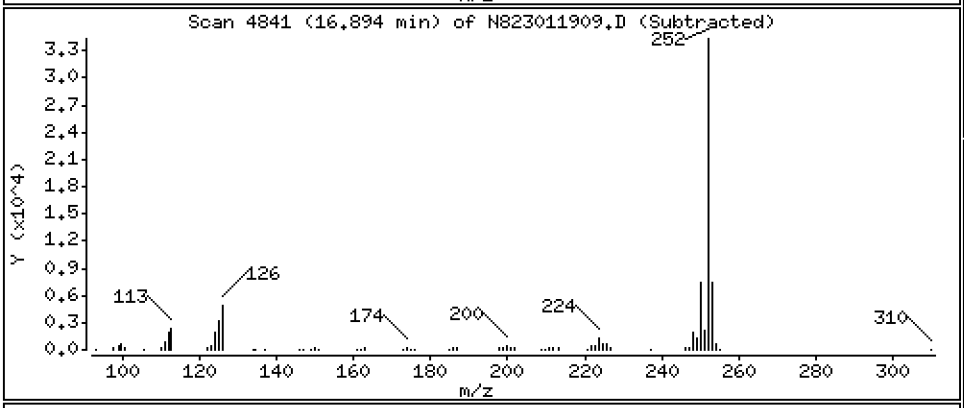
Column diameter: 0.25

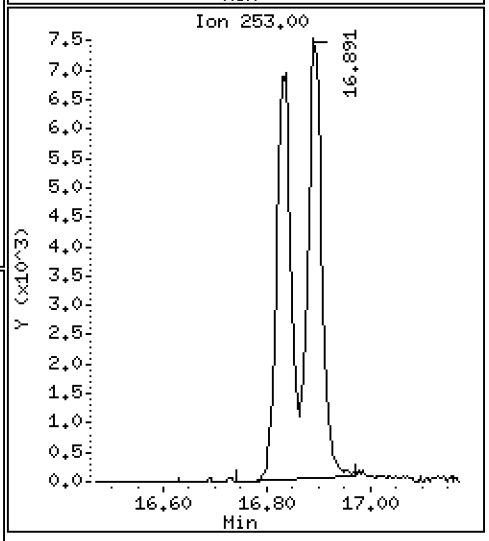
31 Total Benzofluoranthenes

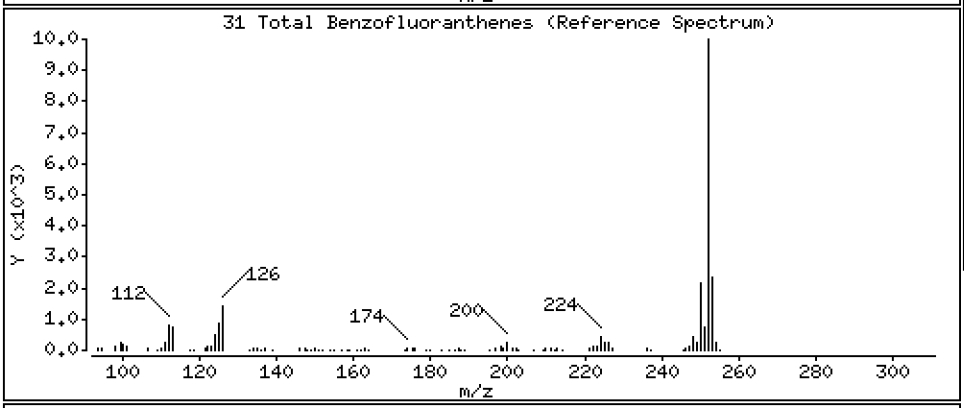
Concentration: 5.480 ug/L

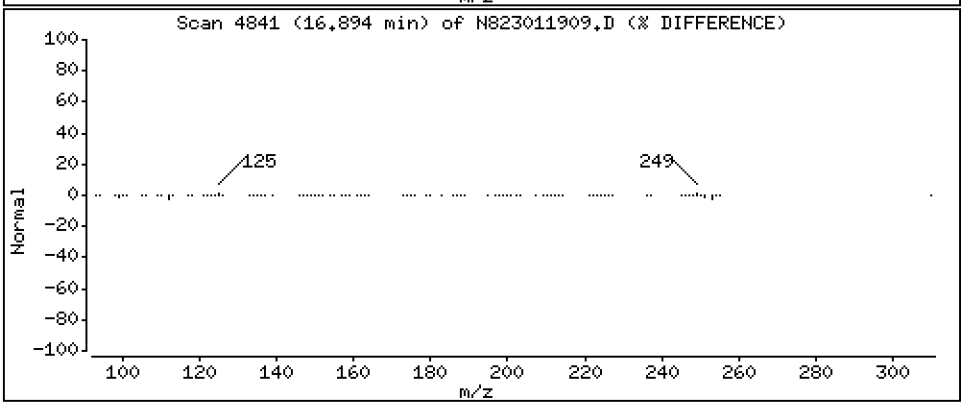












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Date : 19-JAN-2023 14:58

Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

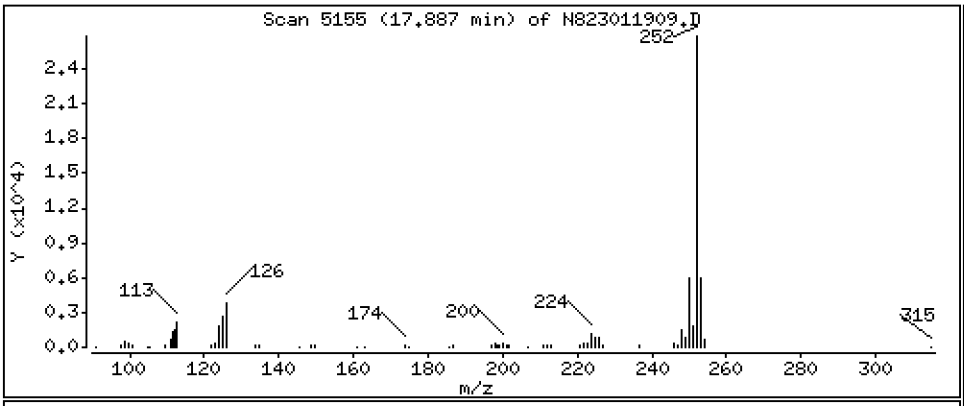
Operator: JZ

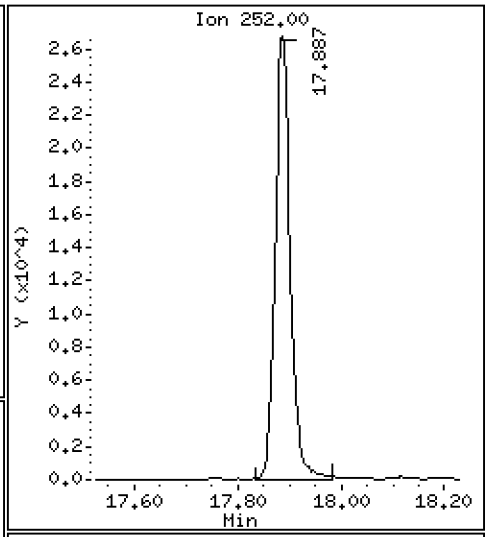
Column phase: Rxi-17sil

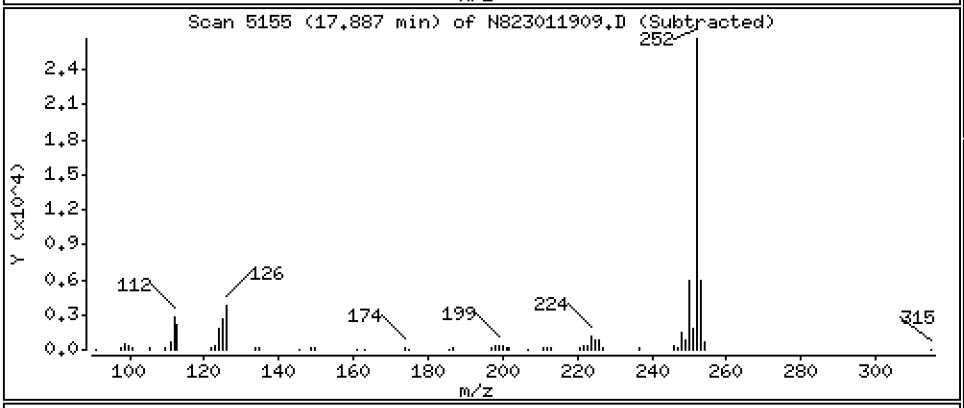
Column diameter: 0.25

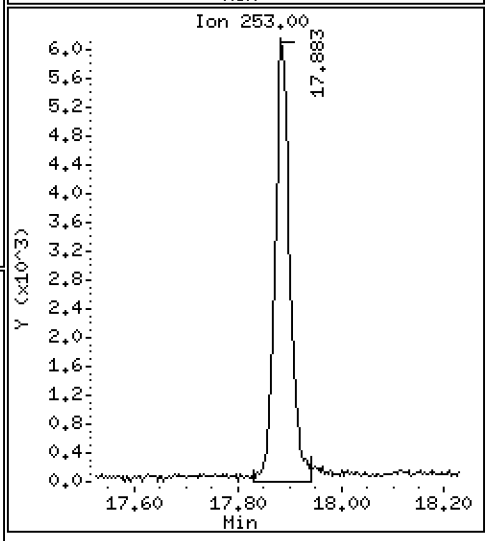
32 Benzo(a)pyrene

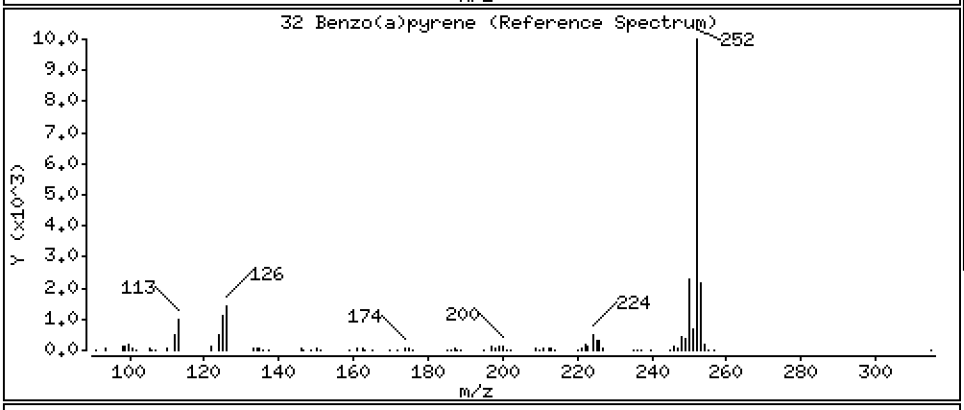
Concentration: 2.572 ug/L

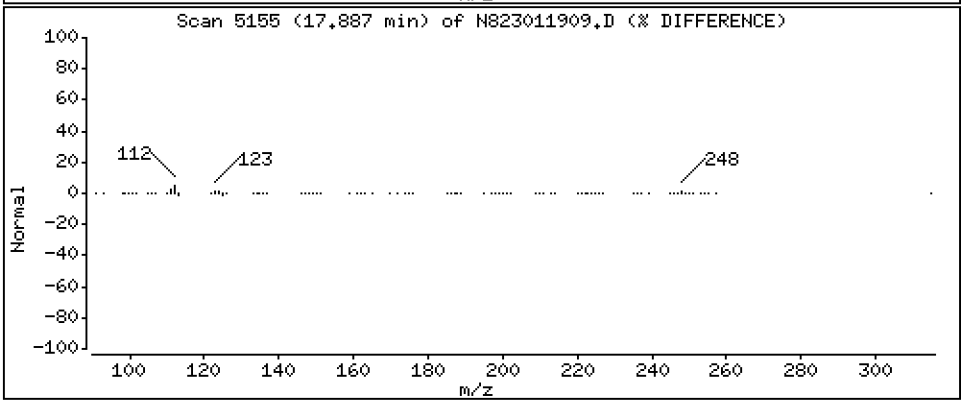












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Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

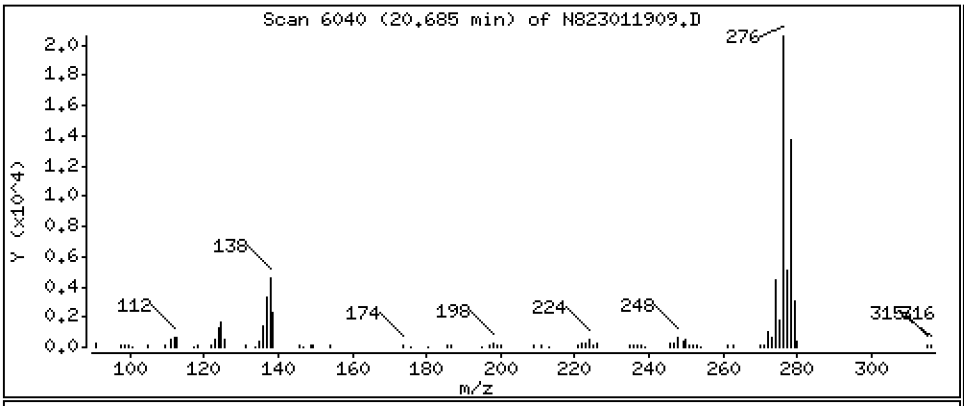
Operator: JZ

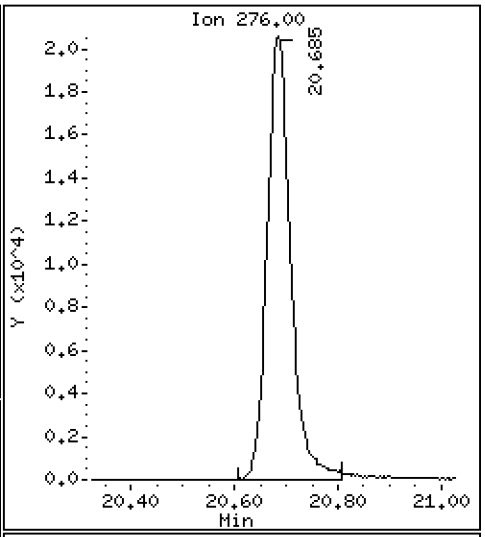
Column phase: Rxi-17sil

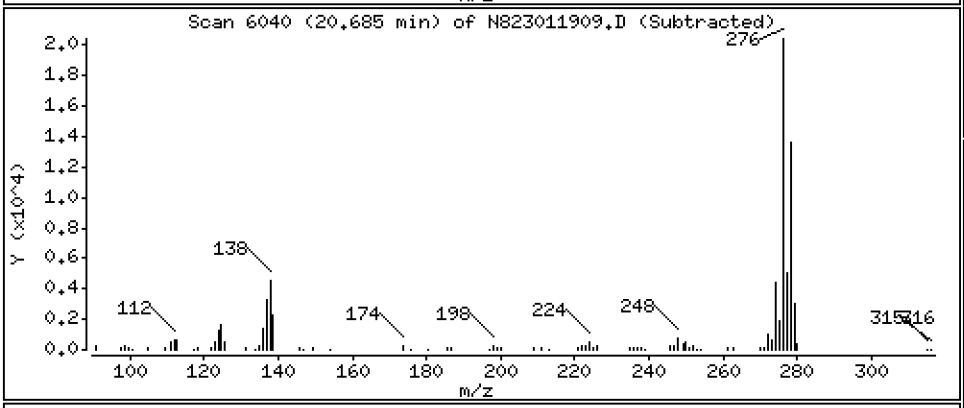
Column diameter: 0.25

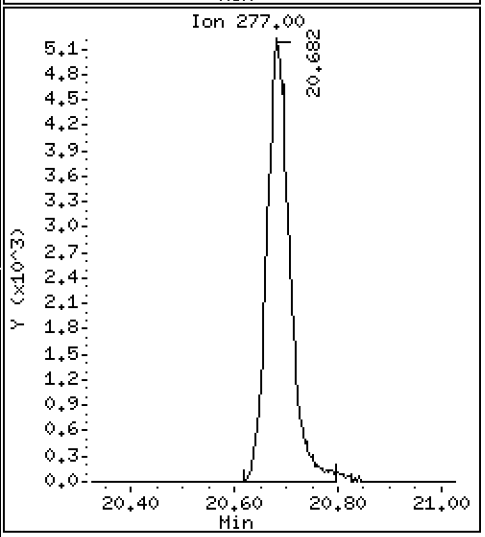
37 Indeno(1,2,3-cd)pyrene

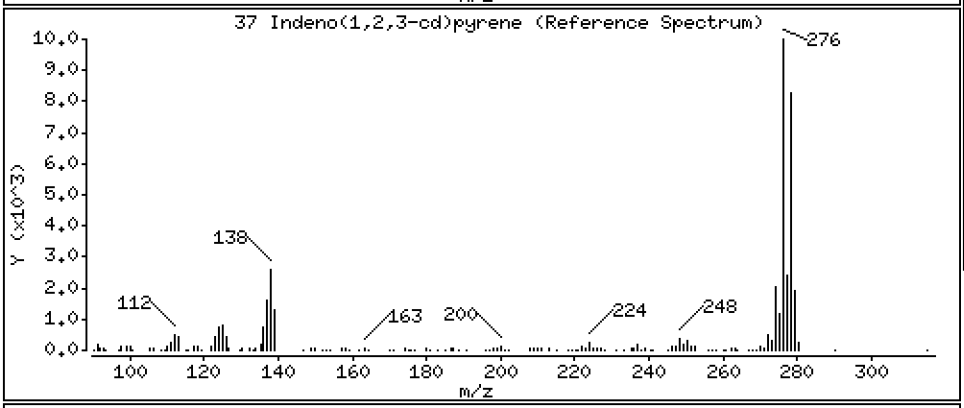
Concentration: 2.689 ug/L

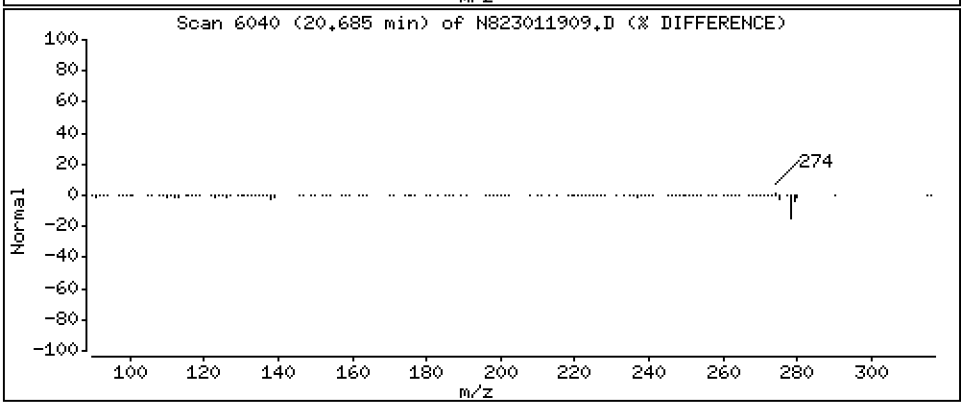












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Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

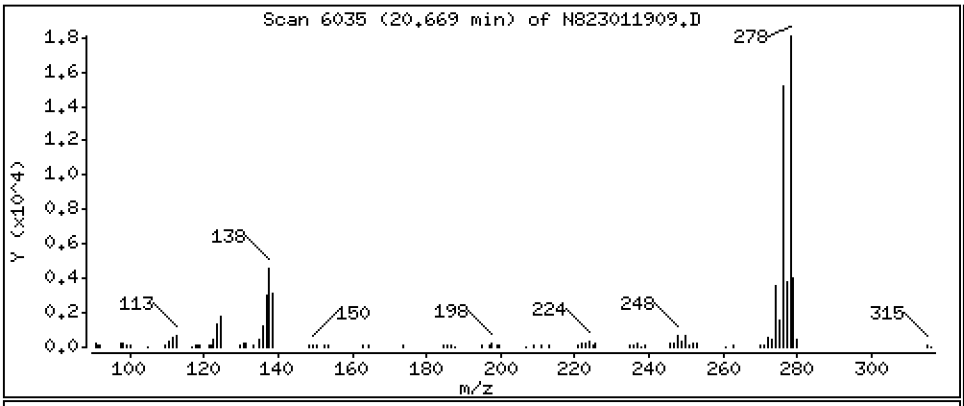
Operator: JZ

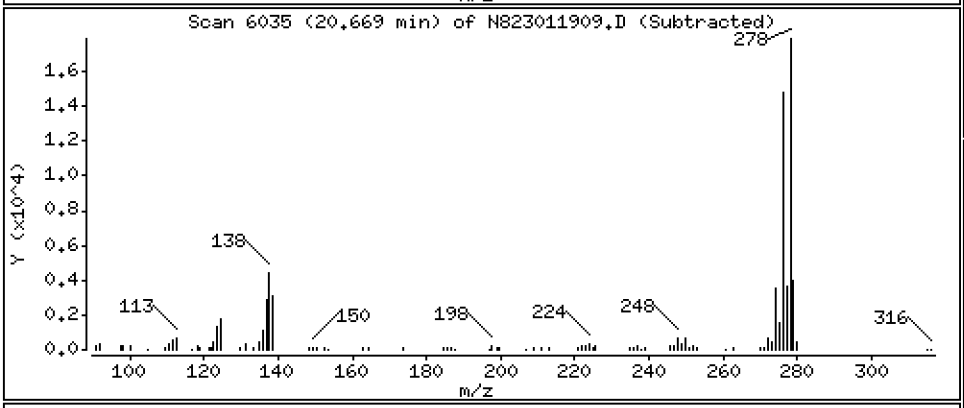
Column phase: Rxi-17sil

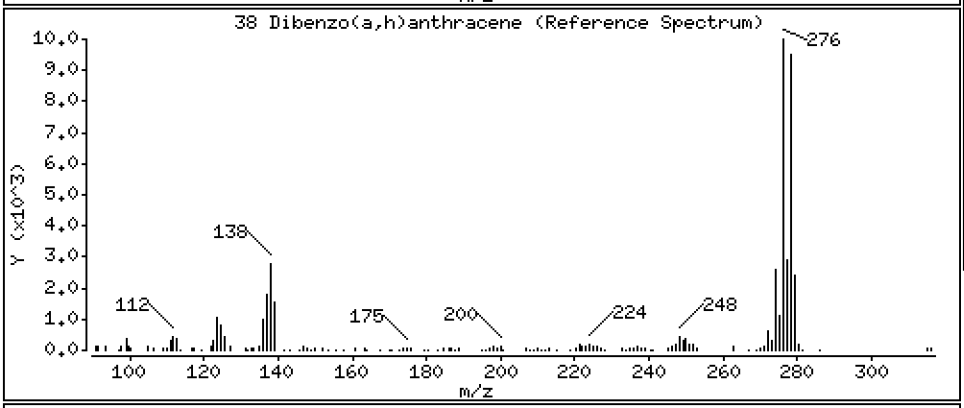
Column diameter: 0.25

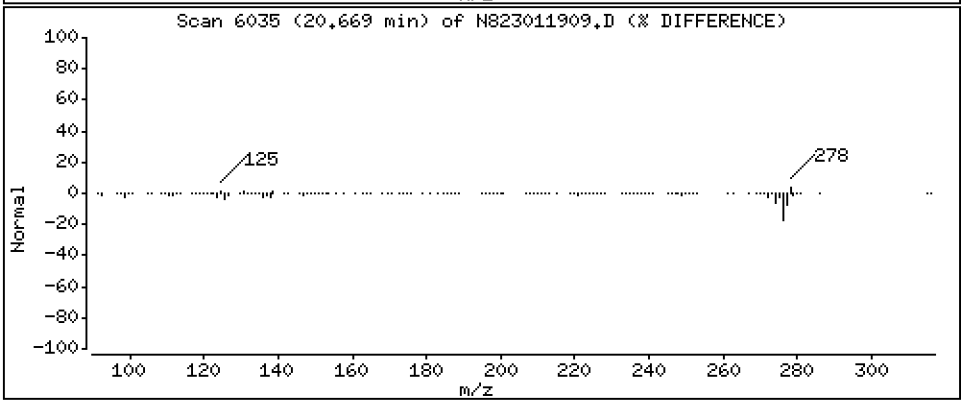
38 Dibenzo(a,h)anthracene

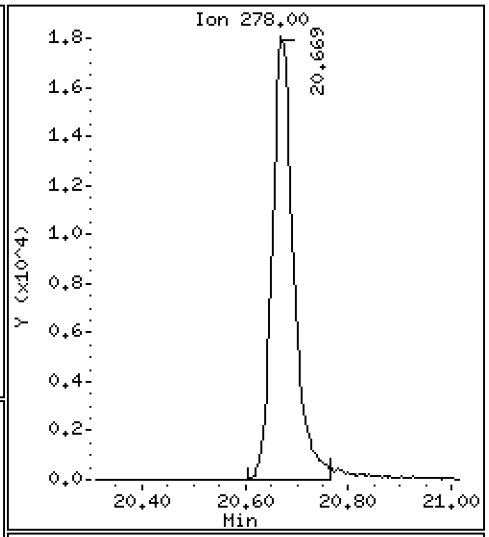
Concentration: 2.493 ug/L

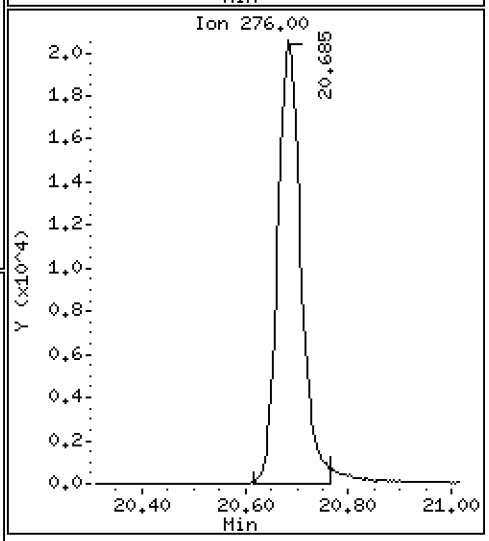












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Client ID:

Instrument: nt8.i

Sample Info: SCV230119

Volume Injected (uL): 1.0

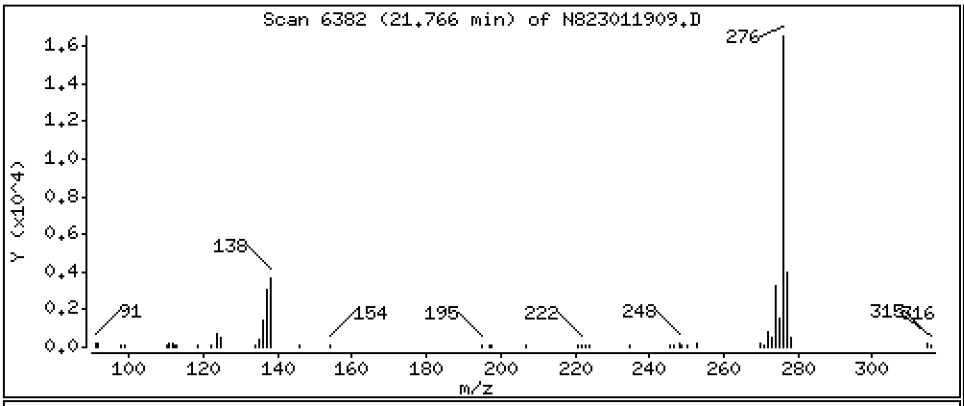
Operator: JZ

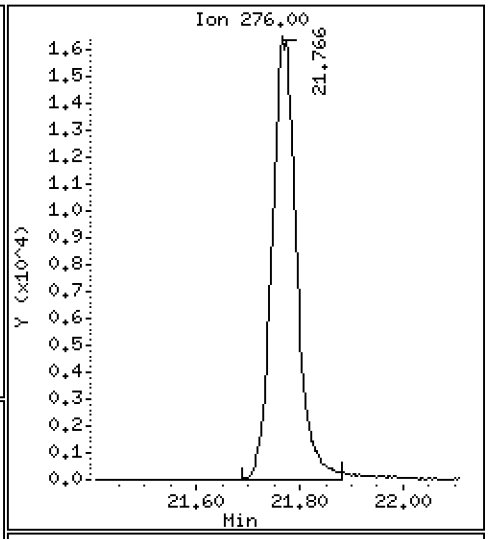
Column phase: Rxi-17sil

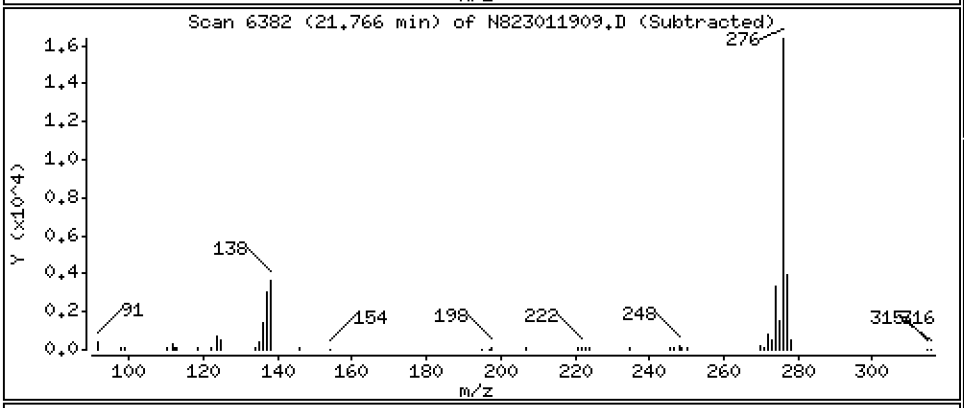
Column diameter: 0.25

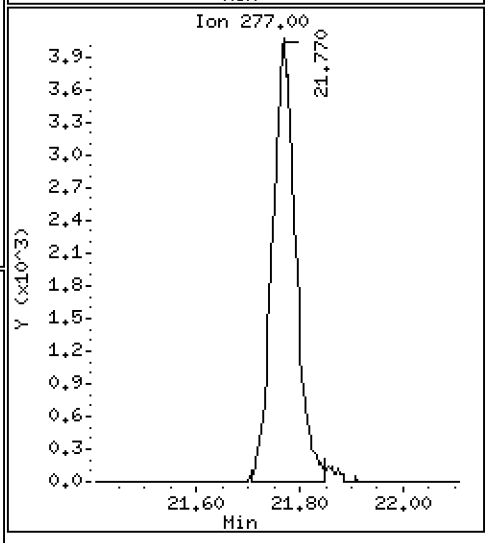
39 Benzo(g,h,i)perylene

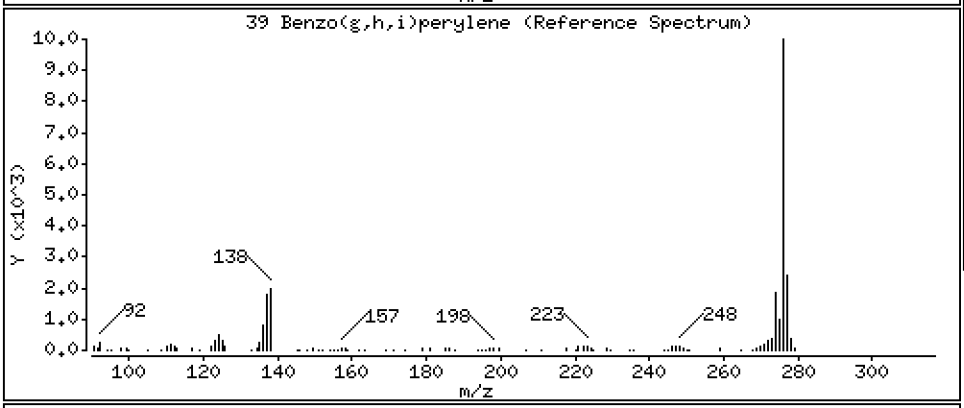
Concentration: 2.483 ug/L

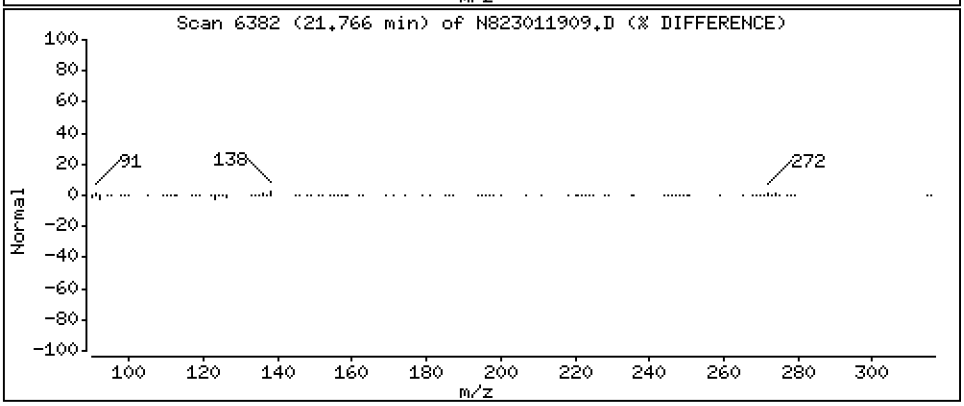












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230119.b\N823011909.D
Lab Smp Id: SLA0213-SCV1
Inj Date : 19-JAN-2023 14:58
Operator : JZ Inst ID: nt8.i
Smp Info : SCV230119
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230119.b\FSIMPNA230119.m
Meth Date : 25-Jan-2023 21:57 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 9 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: pnascv.sub
Target Version: 4.14
Processing Host: JIANQING-202105

Concentration Formula: Amt * DF * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	500.000	Volume of final extract (uL)
Vo	500.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/L)
* 1 Naphthalene-d8	136	4.913	4.906	(1.000)	46346	2.00000	
2 Naphthalene	128	4.941	4.938	(1.006)	56587	2.62597	2.626
$ 3 2-Methylnaphthalene-d10	152	Compound Not Detected.					
4 2-Methylnaphthalene	141	5.694	5.687	(1.159)	31650	2.67019	2.670
5 1-methylnaphthalene	141	5.890	5.883	(1.199)	31873	2.64949	2.649
9 Acenaphthylene	152	7.091	7.085	(0.985)	59018	2.82060	2.821
* 10 Acenaphthene-d10	164	7.202	7.196	(1.000)	27709	2.00000	
11 Acenaphthene	153	7.249	7.246	(1.007)	36454	2.60022	2.600
12 Dibenzofuran	168	7.401	7.395	(1.028)	60898	2.85987	2.860
14 Fluorene	166	7.878	7.872	(1.094)	43507	2.63066	2.631
* 15 Phenanthrene-d10	188	9.238	9.235	(1.000)	51685	2.00000	
16 Phenanthrene	178	9.276	9.270	(1.004)	61815	2.44841	2.448
17 Anthracene	178	9.317	9.311	(1.009)	52064	2.27006	2.270
22 Fluoranthene	202	11.059	11.053	(1.197)	72902	2.65276	2.653
$ 21 Fluoranthene-d10	212	Compound Not Detected.					
23 Pyrene	202	11.578	11.572	(0.815)	71115	2.46242	2.462
24 Benzo(a)anthracene	228	14.082	14.076	(0.991)	67725	2.58725	2.587
* 25 Chrysene-d12	240	14.212	14.202	(1.000)	46582	2.00000	
27 Chrysene	228	14.285	14.278	(1.005)	66872	2.39976	2.400
28 Benzo(b)fluoranthene	252	16.833	16.821	(0.929)	60946	2.50689	2.507
29 Benzo(k)fluoranthene	252	16.893	16.884	(0.932)	63249	2.65606	2.656
31 Total Benzofluoranthenes	252	16.893	16.821	(0.932)	126178	5.48025	5.480(M)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/L)
	32 Benzo(a)pyrene	252	17.886	17.877	(0.987)	55026	2.57205	2.572
*	33 Perylene-d12	264	18.117	18.111	(1.000)	41743	2.00000	
	37 Indeno(1,2,3-cd)pyrene	276	20.684	20.675	(1.142)	65545	2.68928	2.689
$	36 Dibenzo(a,h)anthracene-d14	292	Compound Not Detected.					
	38 Dibenzo(a,h)anthracene	278	20.669	20.662	(1.141)	52293	2.49315	2.493
	39 Benzo(g,h,i)perylene	276	21.766	21.756	(1.201)	54821	2.48258	2.483
	35 Perylene	252	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823011909.D
Lab Smp Id: SLA0213-SCV1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230119.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 19-JAN-2023
Calibration Time: 12:52
Level: LOW
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	44704	22352	89408	46346	3.67
10 Acenaphthene-d10	26411	13206	52822	27709	4.91
15 Phenanthrene-d10	49210	24605	98420	51685	5.03
25 Chrysene-d12	42994	21497	85988	46582	8.35
33 Perylene-d12	40520	20260	81040	41743	3.02

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.91	4.41	5.41	4.91	0.13
10 Acenaphthene-d10	7.20	6.70	7.70	7.20	0.09
15 Phenanthrene-d10	9.24	8.74	9.74	9.24	0.03
25 Chrysene-d12	14.20	13.70	14.70	14.21	0.07
33 Perylene-d12	18.11	17.61	18.61	18.12	0.03

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

REVIEW SUMMARY FOR FILE - N823011909.D

Lab ID: SLA0213-SCV1
nt8.i, 20230119.b\FSIMPNA230119.m,   19-JAN-2023 14:58

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

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

No RRT check performed

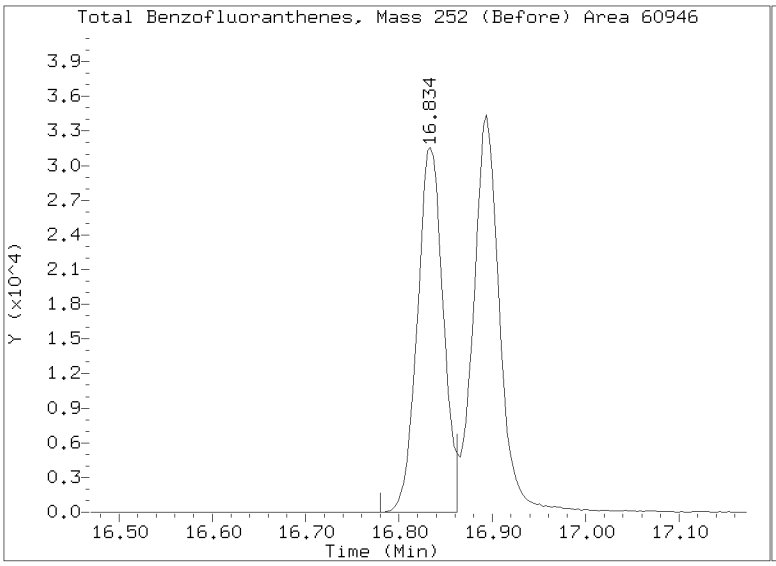
On Column LOD for nt8.i, 20230119.b\FSIMPNA230119.m, pnascv.sub = 0.0500

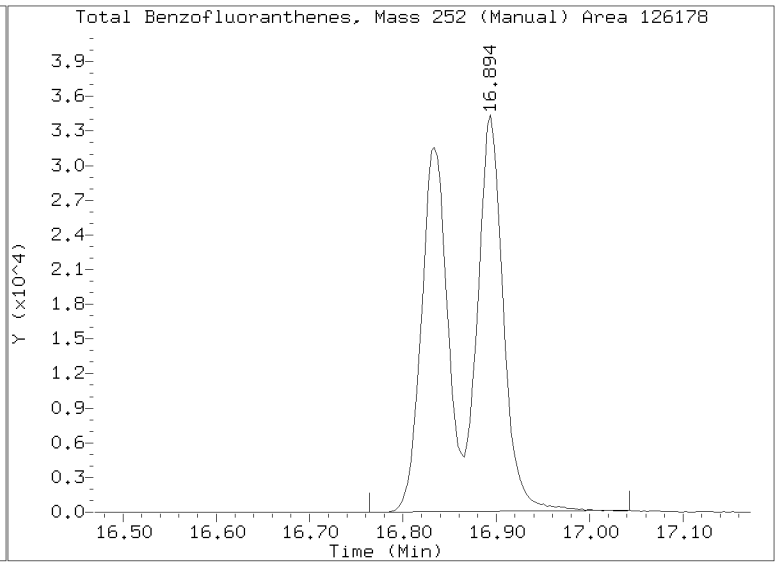
Exception: Benzo(b)fluoranthene 0.0300
Exception: Benzo(k)fluoranthene 0.0300
Exception: Total Benzofluoranthenes 0.0300
Exception: Fluoranthene-d10 (Surr) 0.0000

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

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20230119.b/N823011909.D
Injection Date: 19-JAN-2023 14:58
Lab ID:SLA0213-SCV1 Client ID:
Report Date: 01/25/2023 22:00





Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK

EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	NT8	Calibration:	GA00050
Lab File ID:	N823022321.D	Calibration Date:	01/19/2023
Sequence:	SLB0310	Injection Date:	02/23/23
Lab Sample ID:	SLB0310-CCV1	Injection Time:	20:32
Sequence Name:	Calibration Check		

		CONC. (ug/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Benzo(a)anthracene	A	2.5000	2.75	1.1238870	1.2347510		9.9	+/-50
Chrysene	A	2.5000	2.49	1.1964350	1.1923090		-0.3	+/-50
Benzo(b)fluoranthene	A	2.5000	2.50	1.1648110	1.1668950		0.2	+/-50
Benzo(k)fluoranthene	A	2.5000	2.49	1.1409370	1.1353920		-0.5	+/-50
Benzo(a)pyrene	A	2.5000	2.59	1.0250270	1.0600750		3.4	+/-50
Indeno(1,2,3-cd)pyrene	A	2.5000	2.50	1.1677520	1.1657140		-0.2	+/-50
Dibenzo(a,h)anthracene	A	2.5000	2.53	1.0049440	1.0153210		1.0	+/-50
2-Methylnaphthalene-d10	A	2.5000	2.65	0.5454499	0.5790486		6.2	+/-50
Dibenzo[a,h]anthracene-d14	A	2.5000	2.39	0.6679424	0.7493820		-4.4	+/-50
Fluoranthene-d10	A	2.5000	2.81	0.8823923	0.9915547		12.4	+/-50

* Values outside of QC limits

Data File: \\target\share\chem3\nt8.i\20230223.b\N823022321.D

Page 1

Date : 23-FEB-2023 20:32

Client ID:

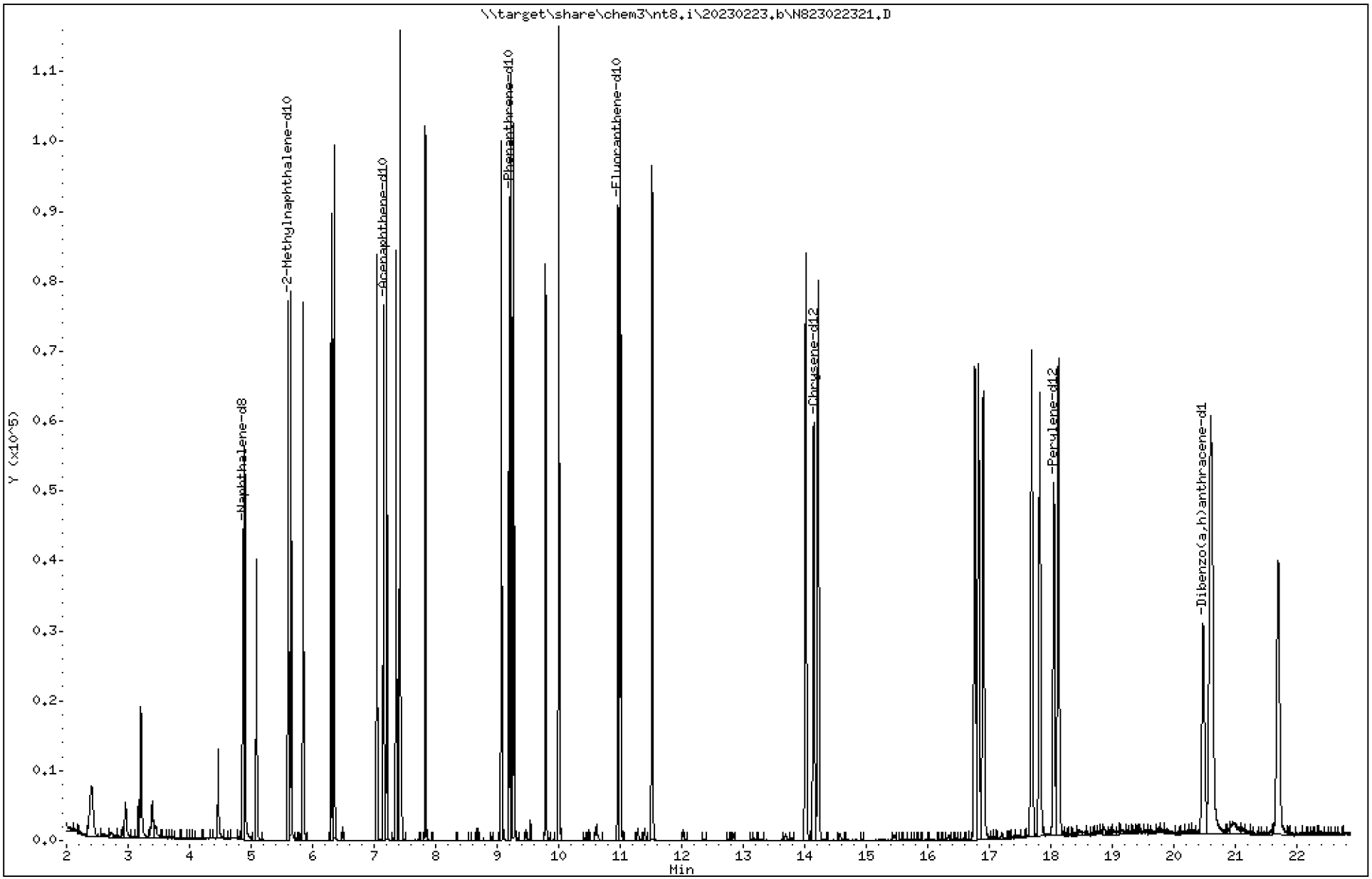
Instrument: nt8.i

Sample Info: CCV230223,

Operator: JZ

Column phase: Rxi-17sil

Column diameter: 0.25



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Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

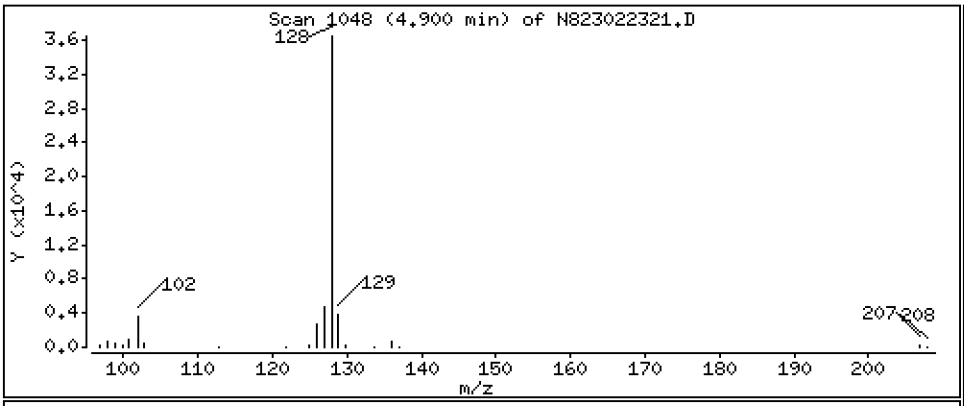
Operator: JZ

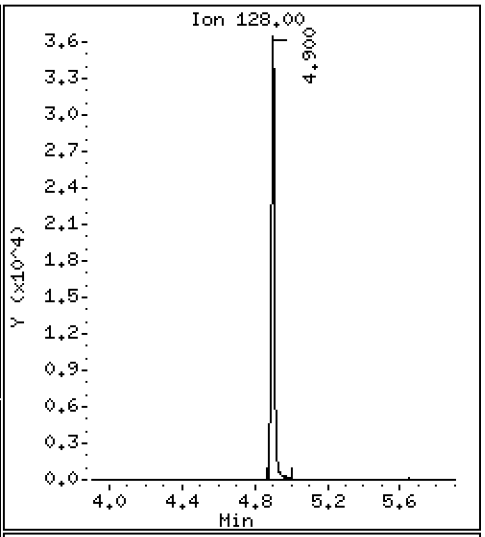
Column phase: Rxi-17sil

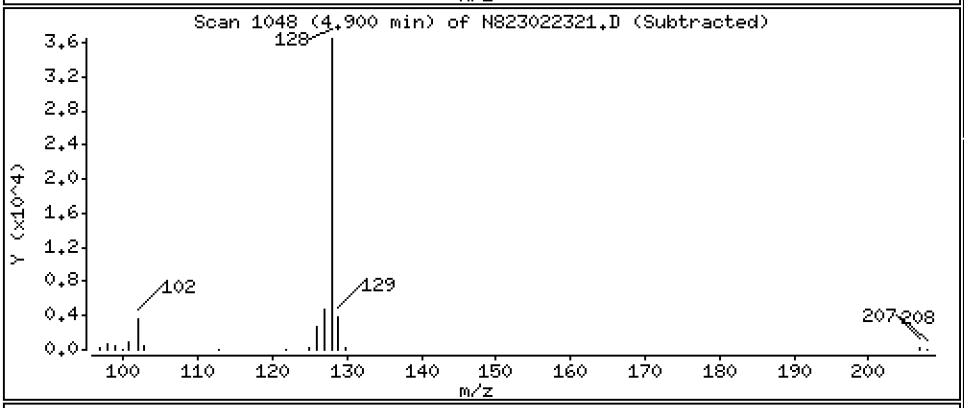
Column diameter: 0.25

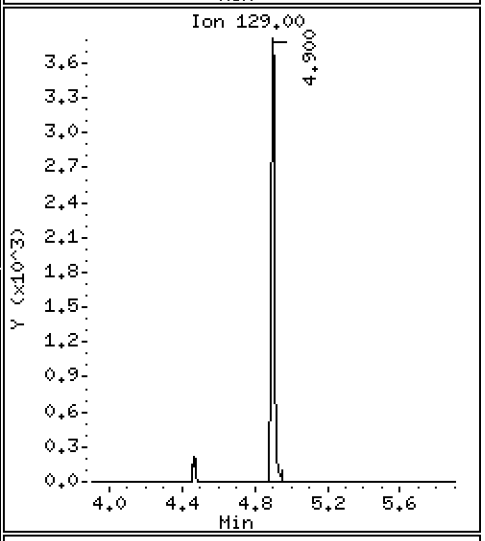
2 Naphthalene

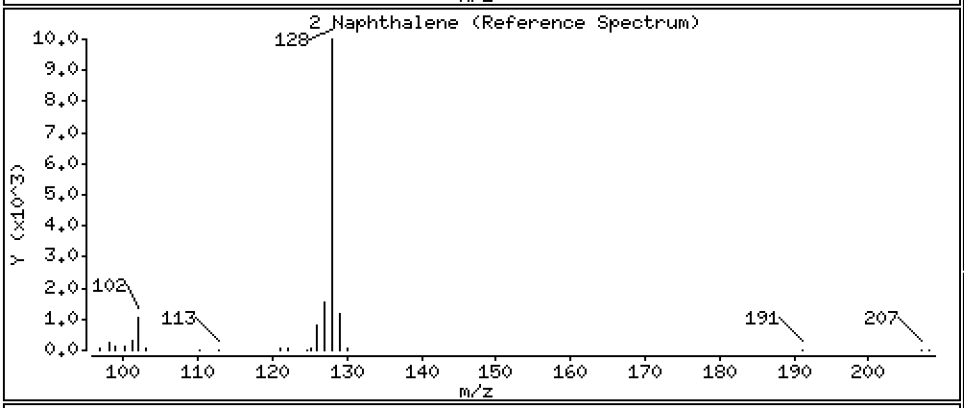
Concentration: 2.538 ug/mL

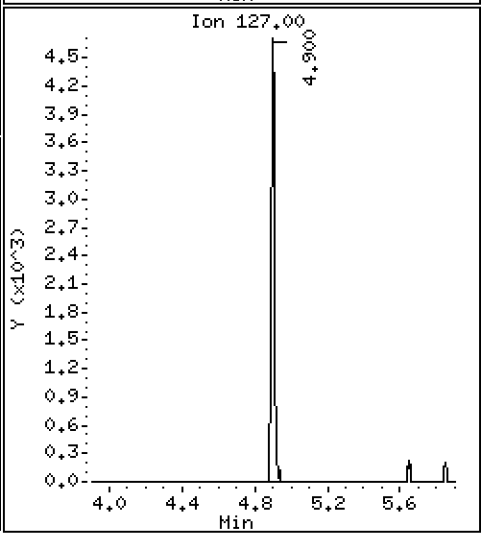


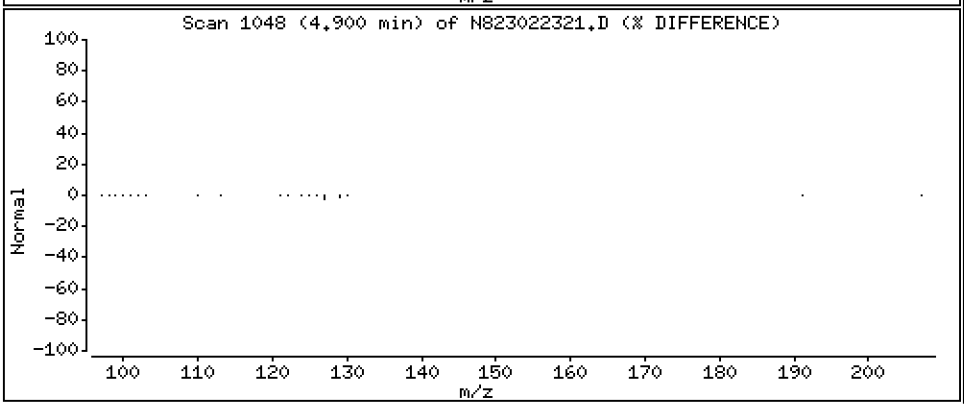












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Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

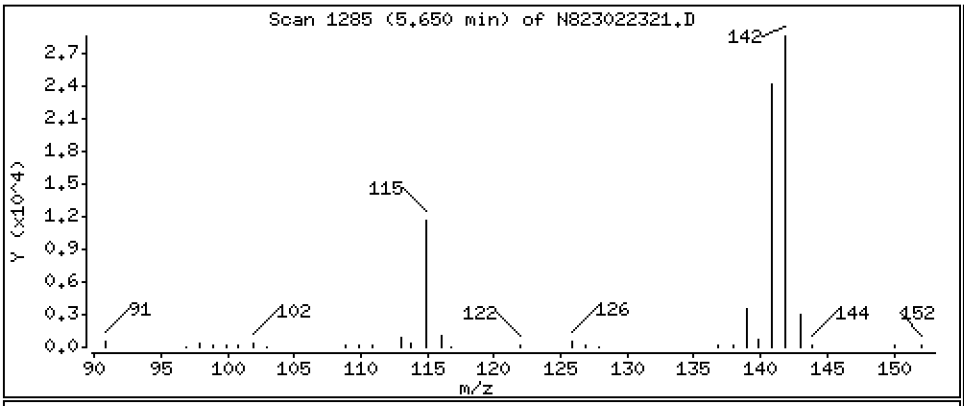
Operator: JZ

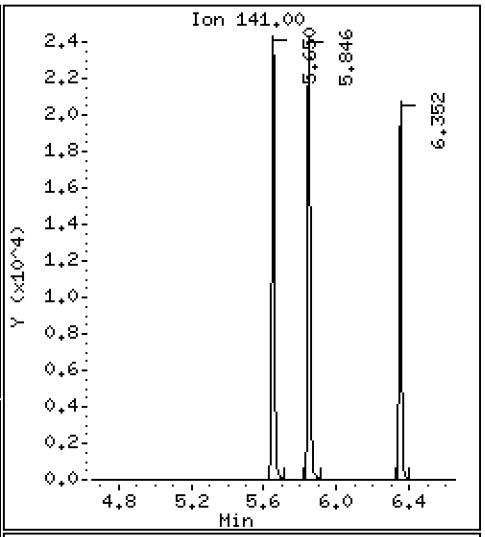
Column phase: Rxi-17sil

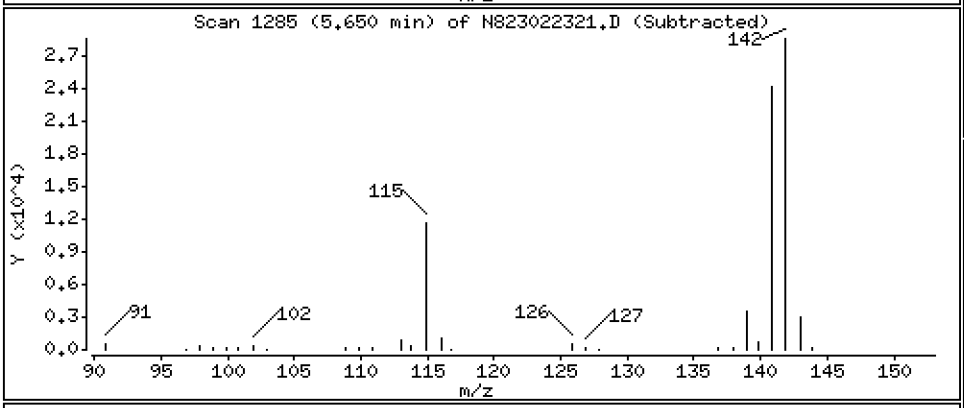
Column diameter: 0.25

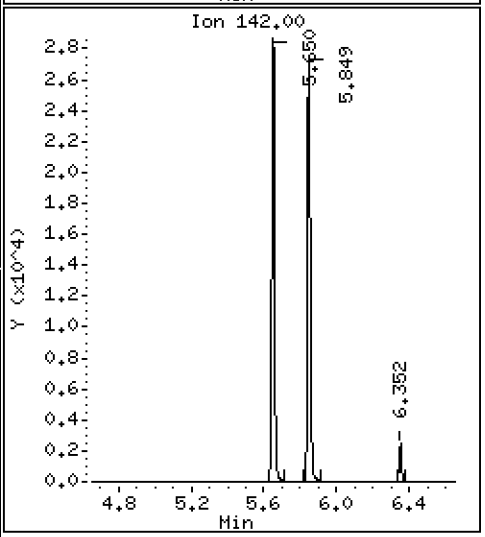
4 2-Methylnaphthalene

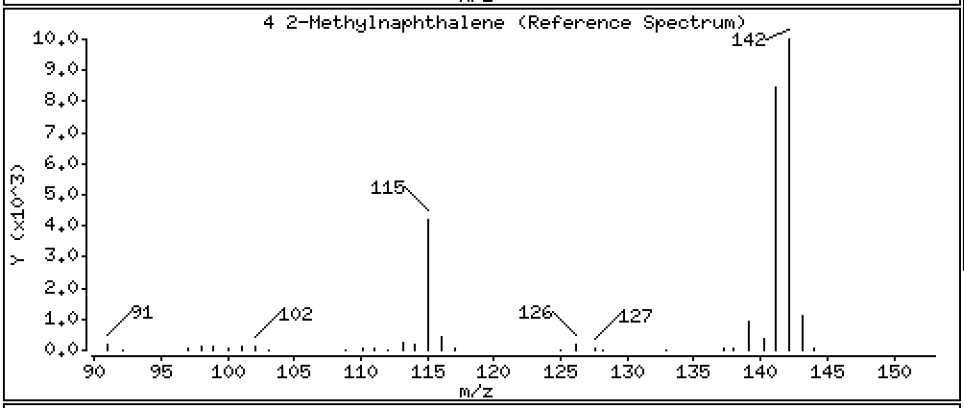
Concentration: 2.641 ug/mL

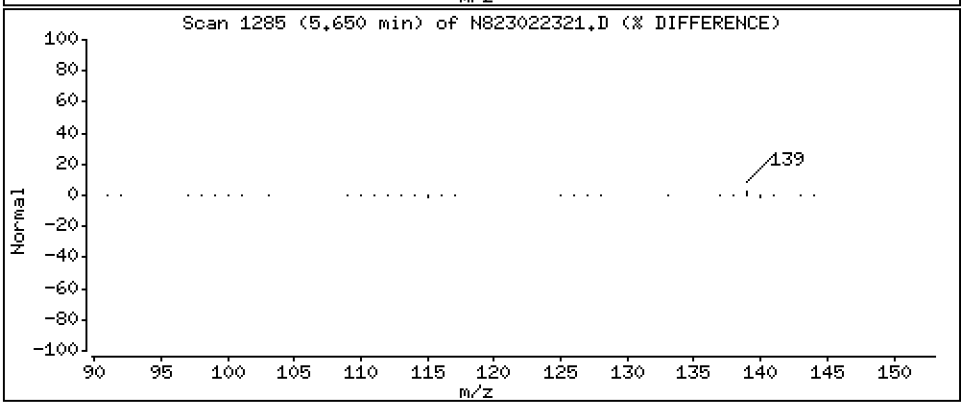












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Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

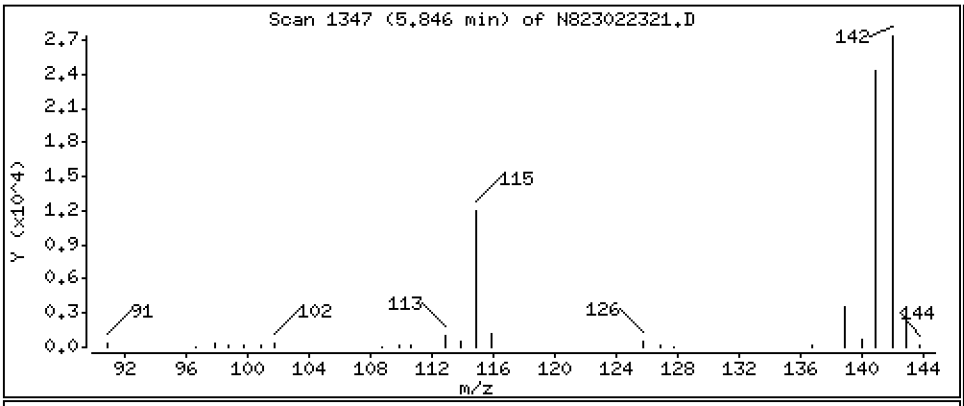
Operator: JZ

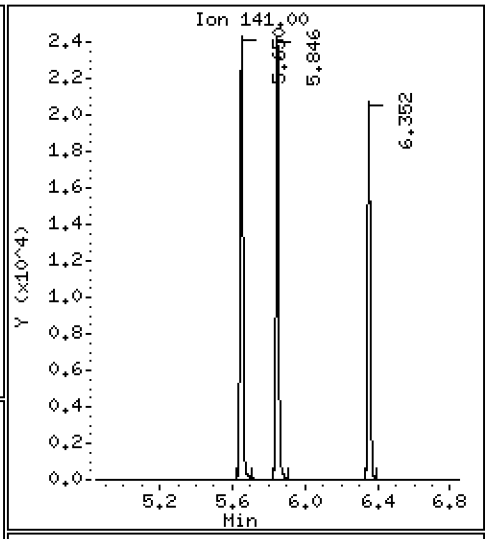
Column phase: Rxi-17sil

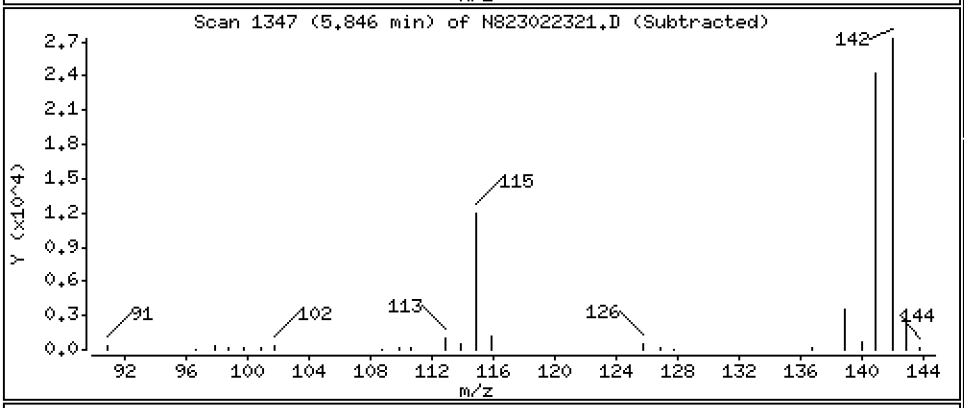
Column diameter: 0.25

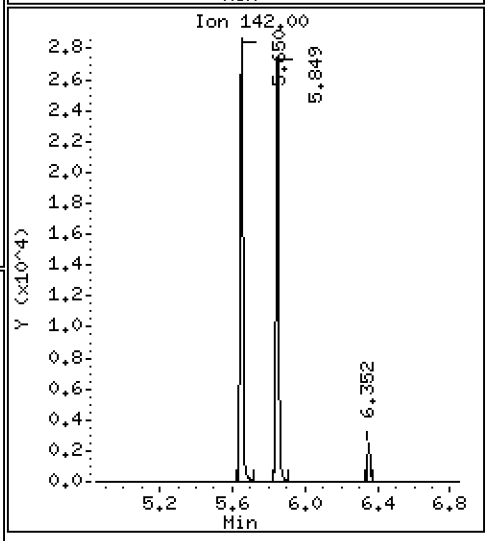
5 1-methylnaphthalene

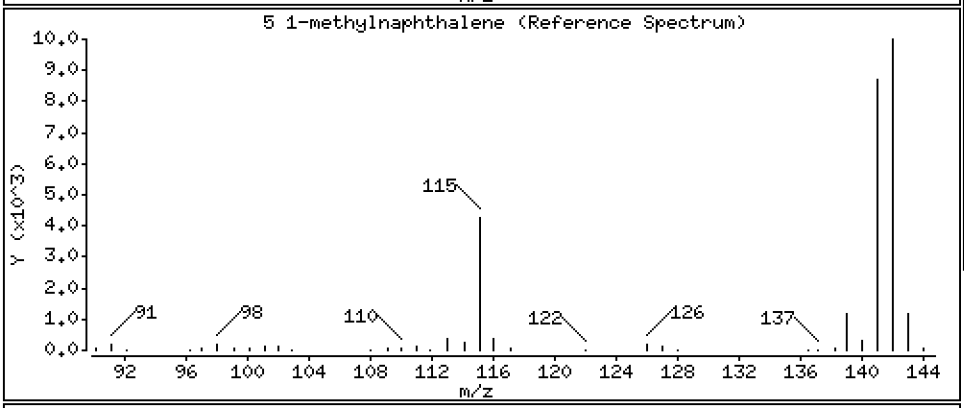
Concentration: 2.599 ug/mL

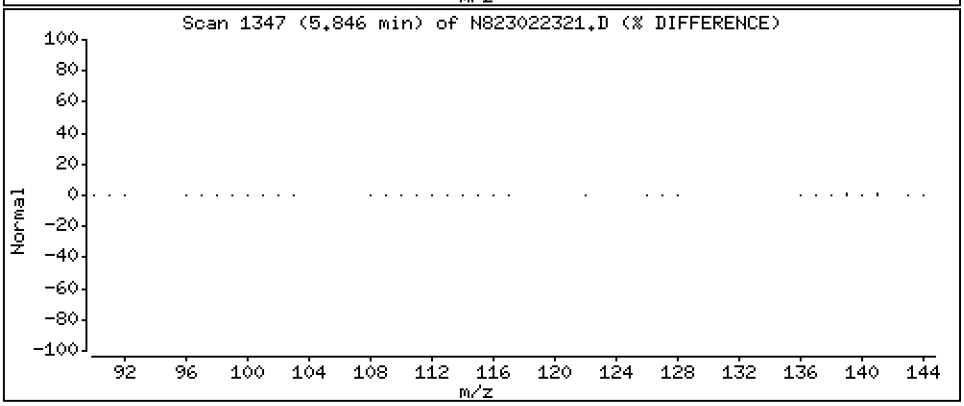












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Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

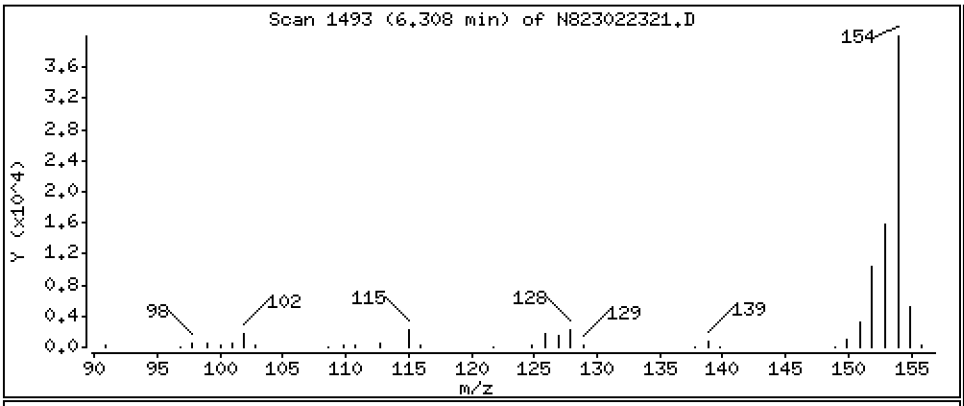
Operator: JZ

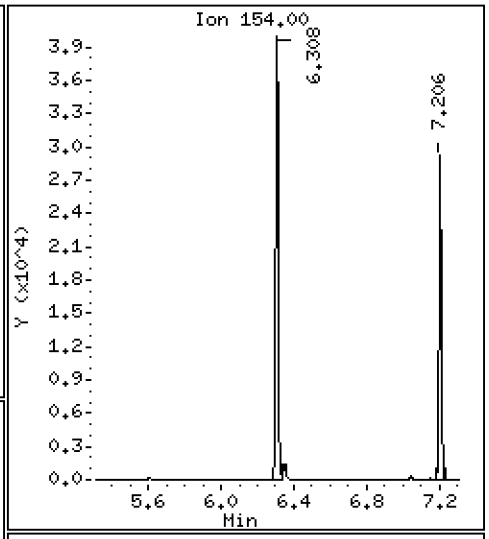
Column phase: Rxi-17sil

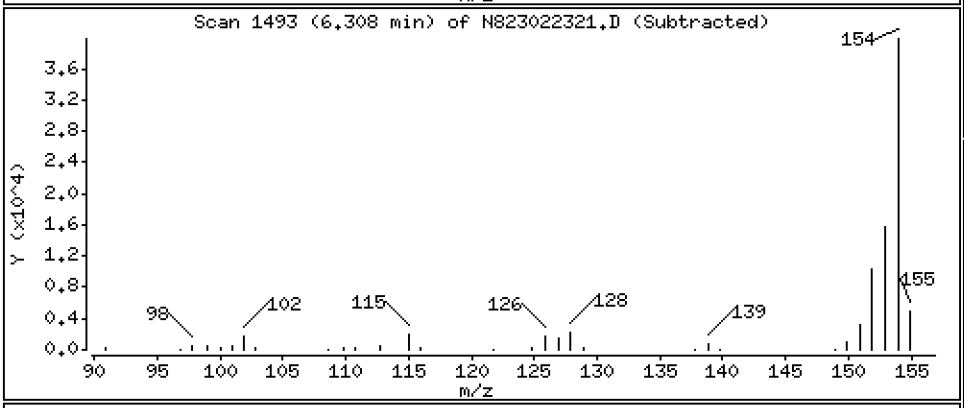
Column diameter: 0.25

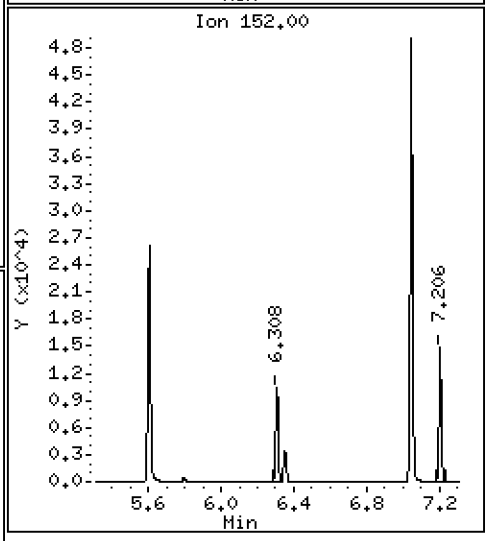
7 Biphenyl

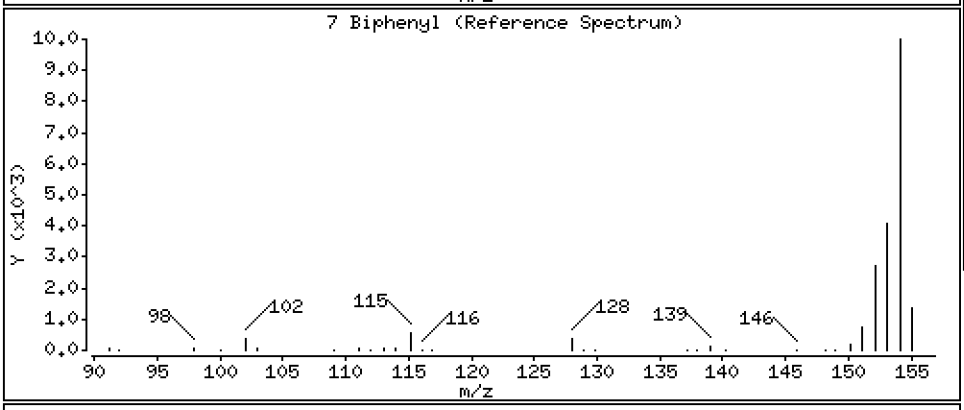
Concentration: 2.496 ug/mL

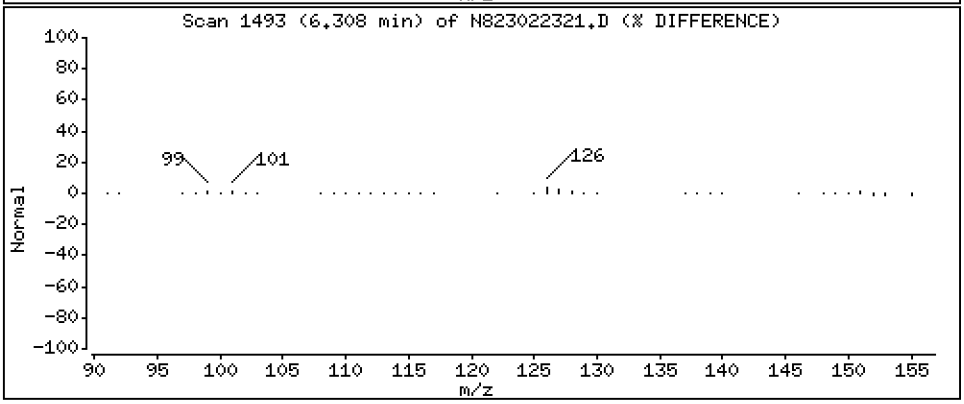












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Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

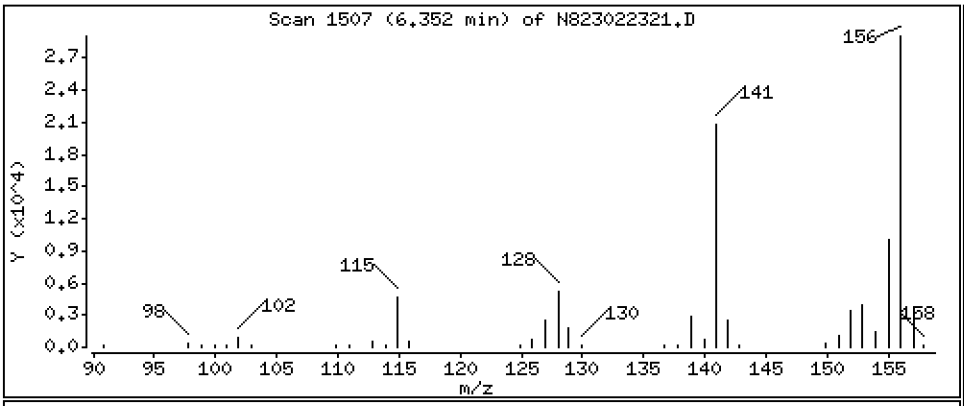
Operator: JZ

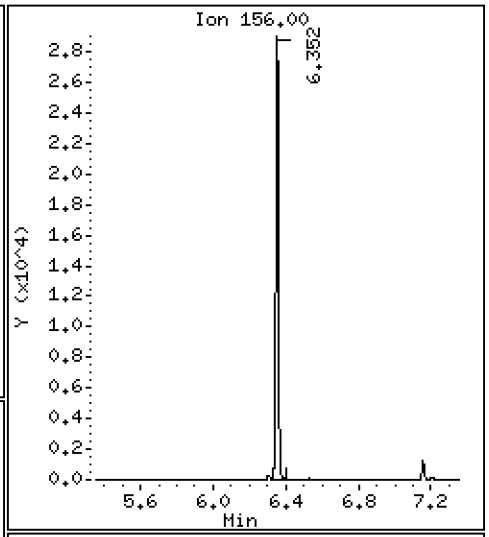
Column phase: Rxi-17sil

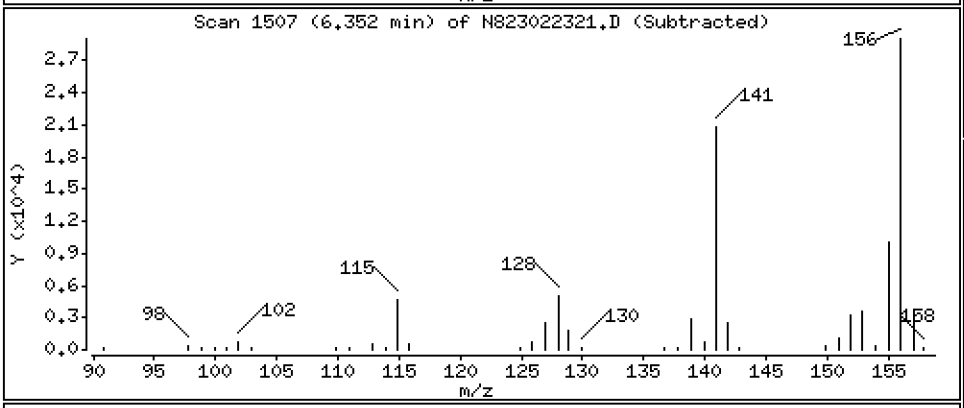
Column diameter: 0.25

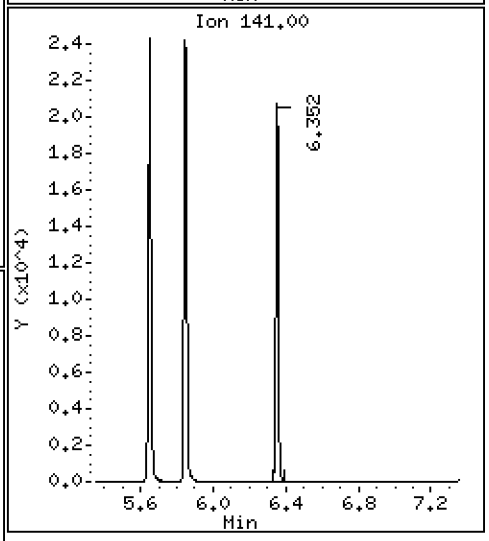
8 2,6-Dimethylnaphthalene

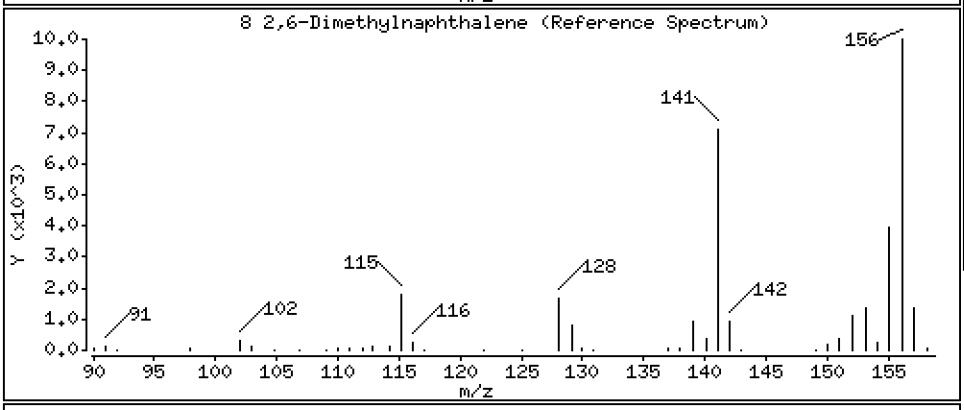
Concentration: 2.607 ug/mL

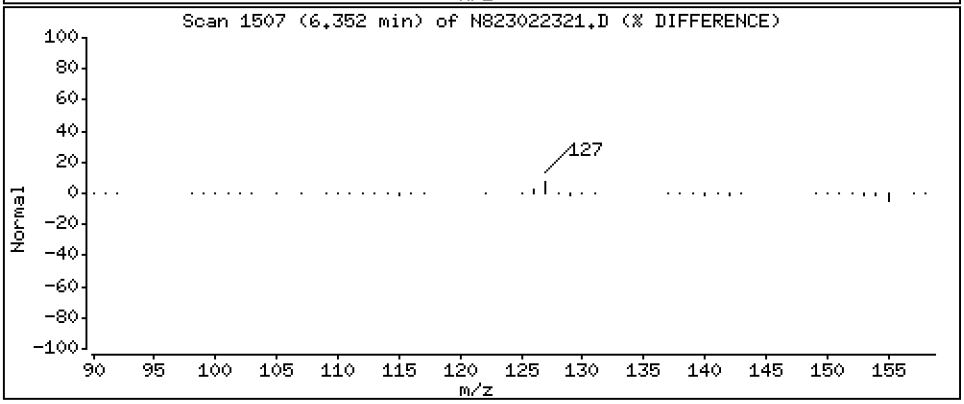












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022321.D

Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

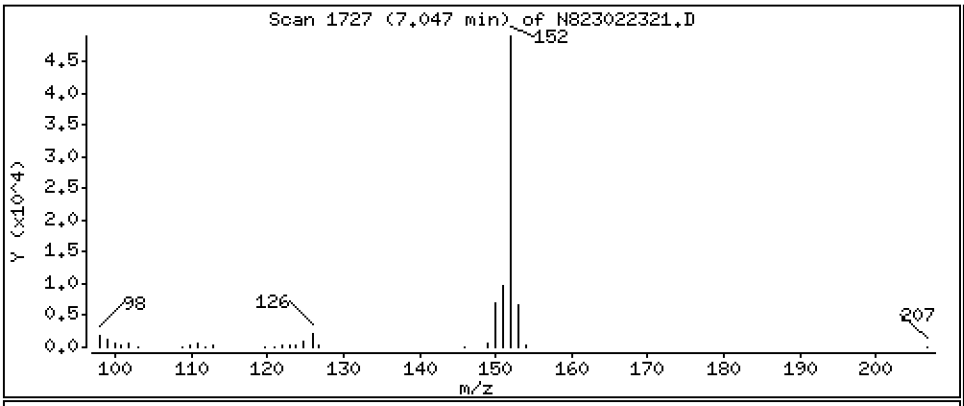
Operator: JZ

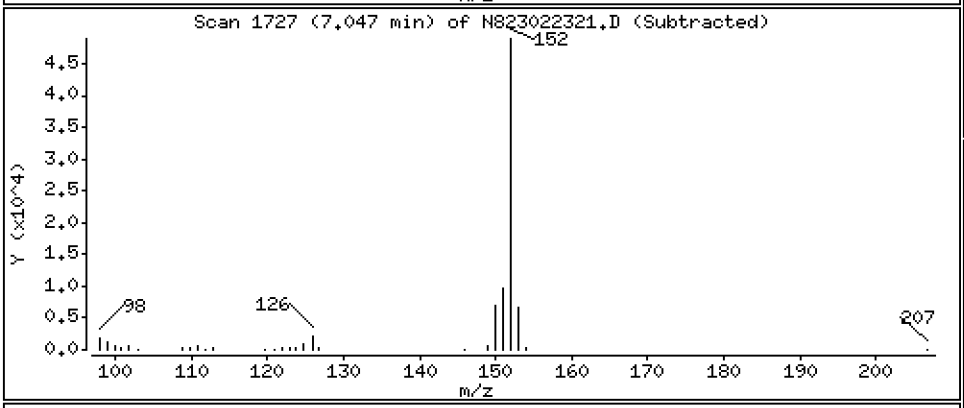
Column phase: Rxi-17sil

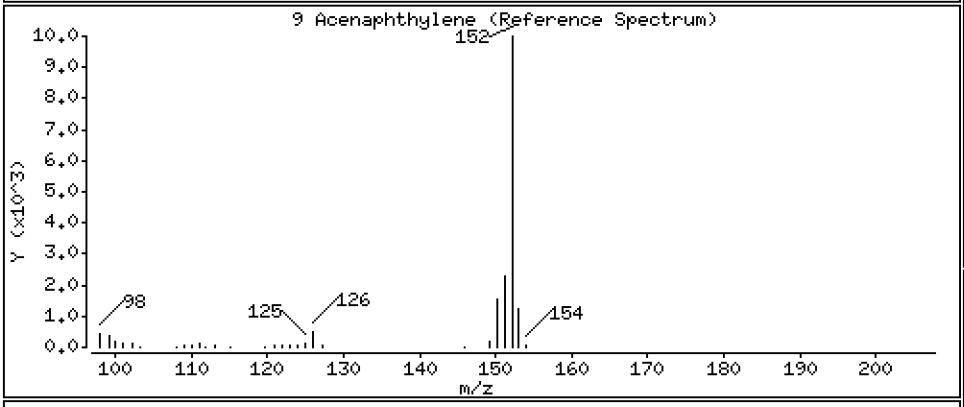
Column diameter: 0.25

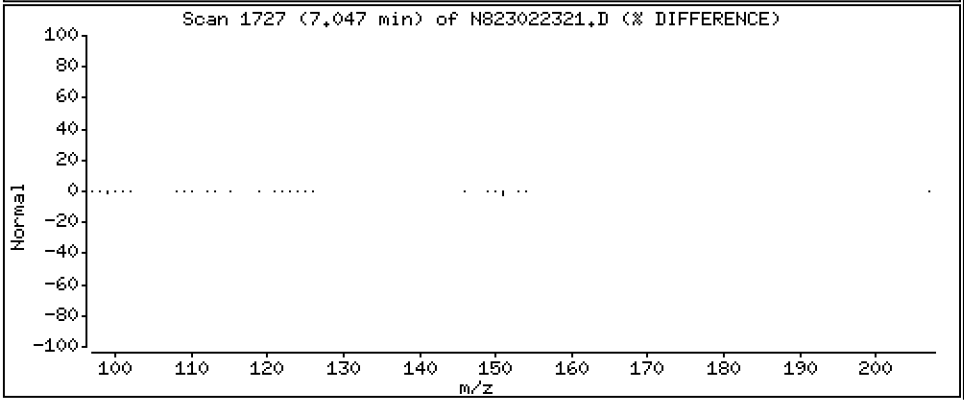
9 Acenaphthylene

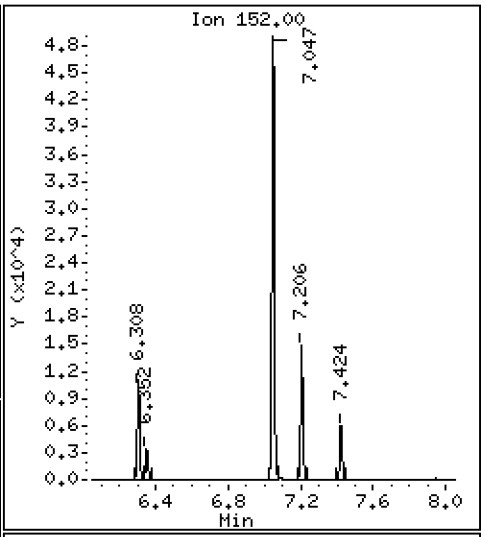
Concentration: 2.675 ug/mL

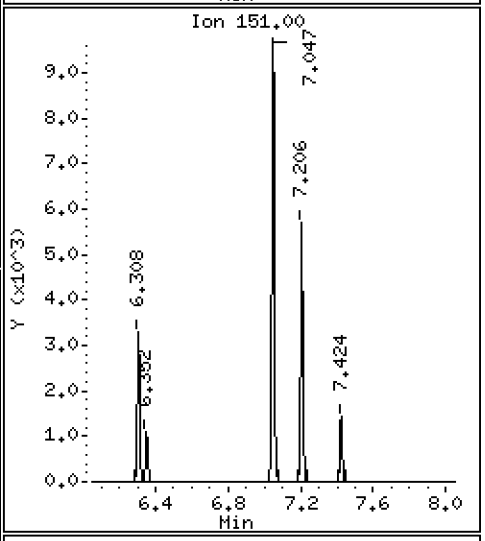


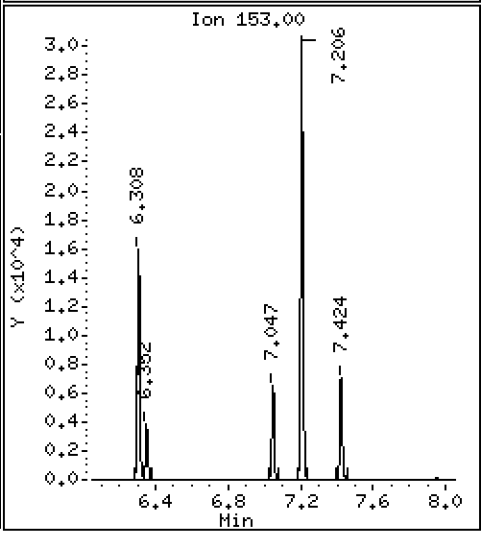












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022321.D

Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

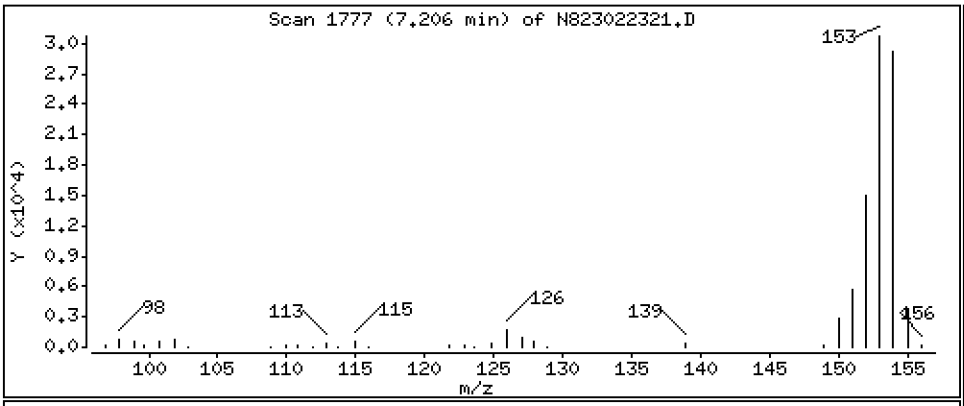
Operator: JZ

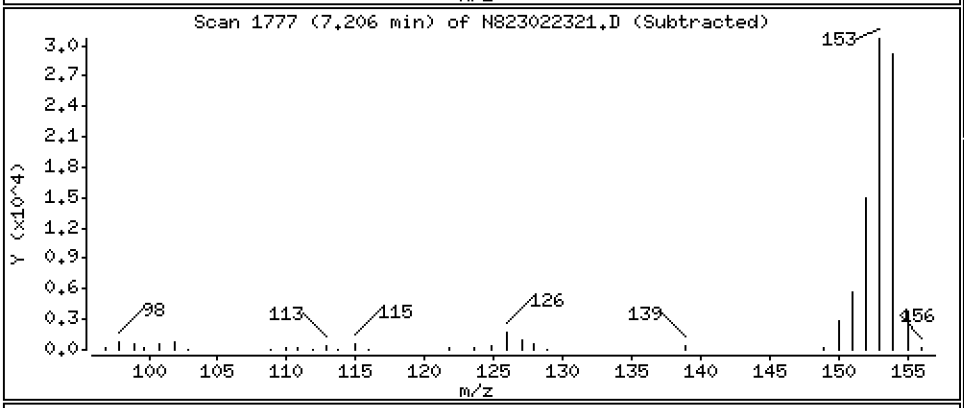
Column phase: Rxi-17sil

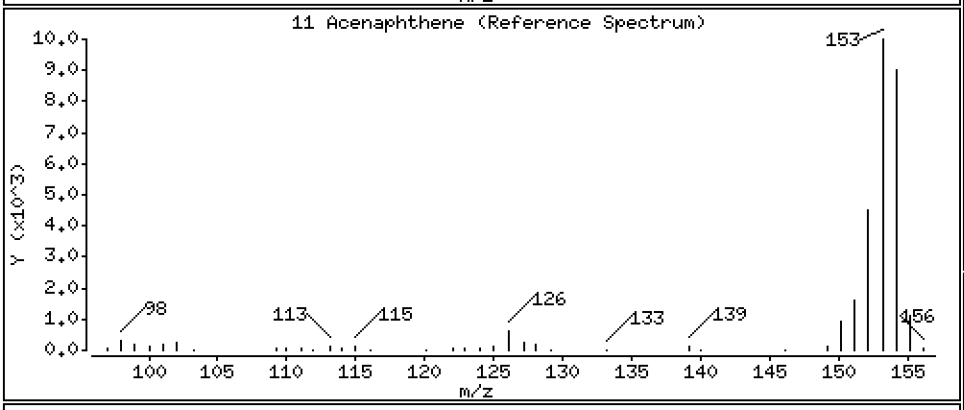
Column diameter: 0.25

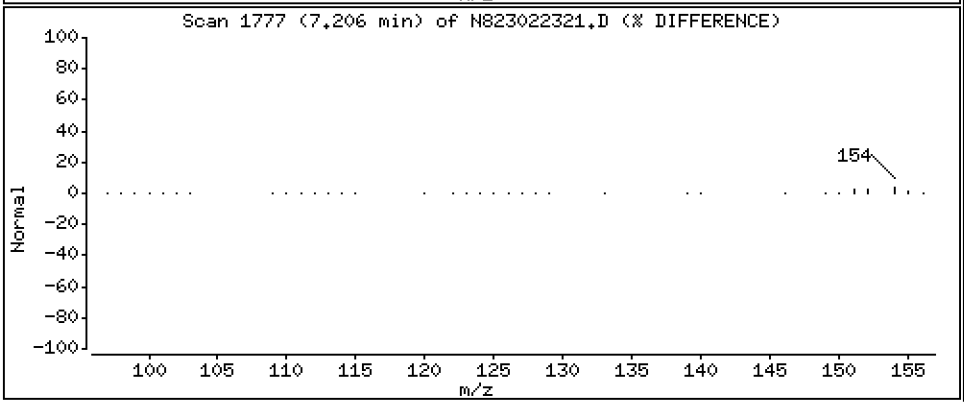
11 Acenaphthene

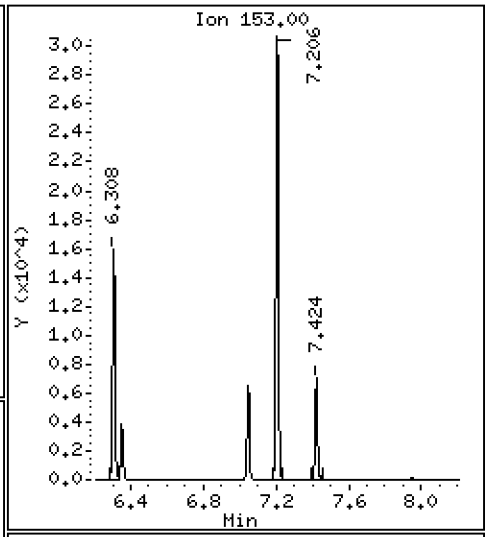
Concentration: 2.533 ug/mL

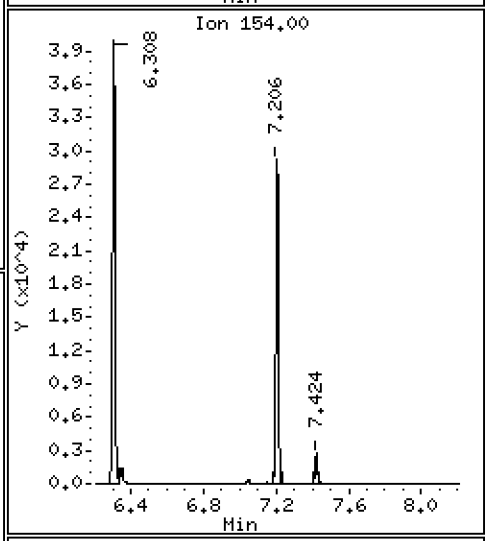


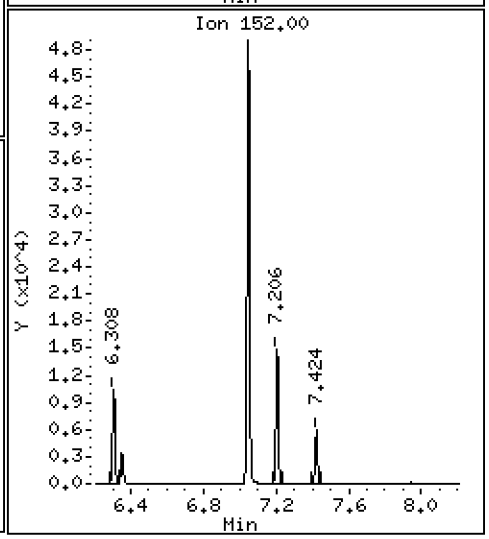












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Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

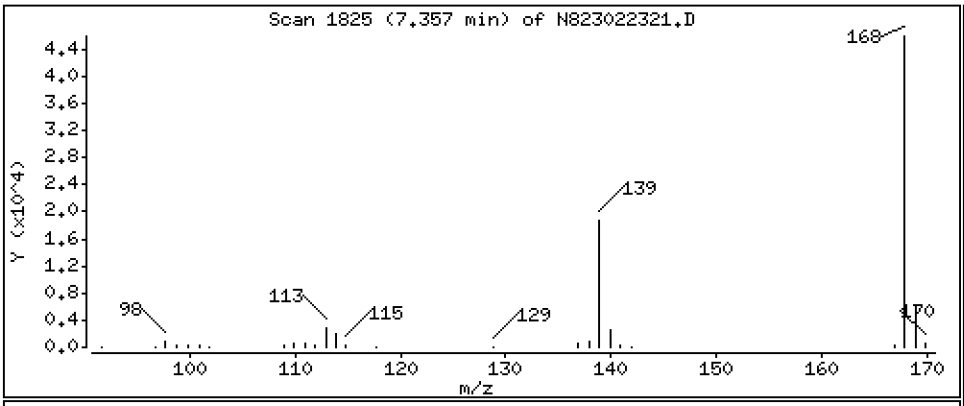
Operator: JZ

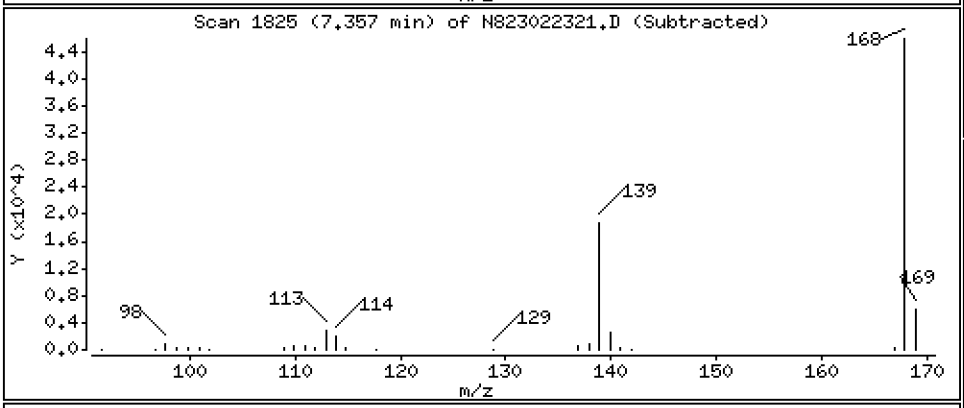
Column phase: Rxi-17sil

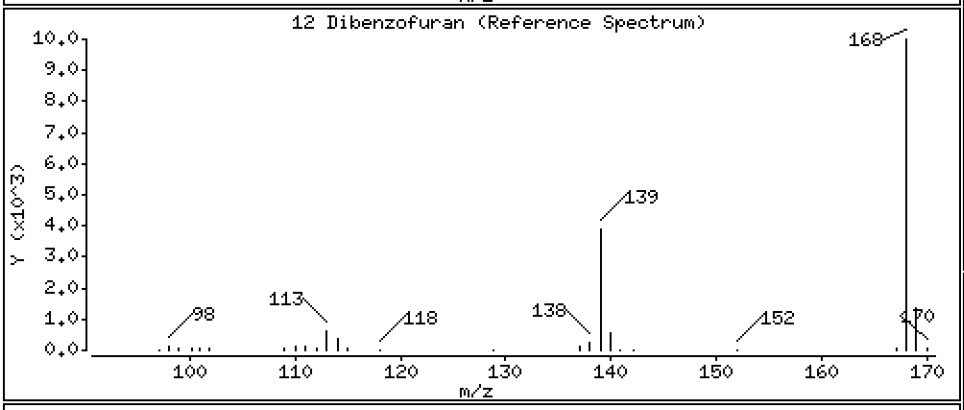
Column diameter: 0.25

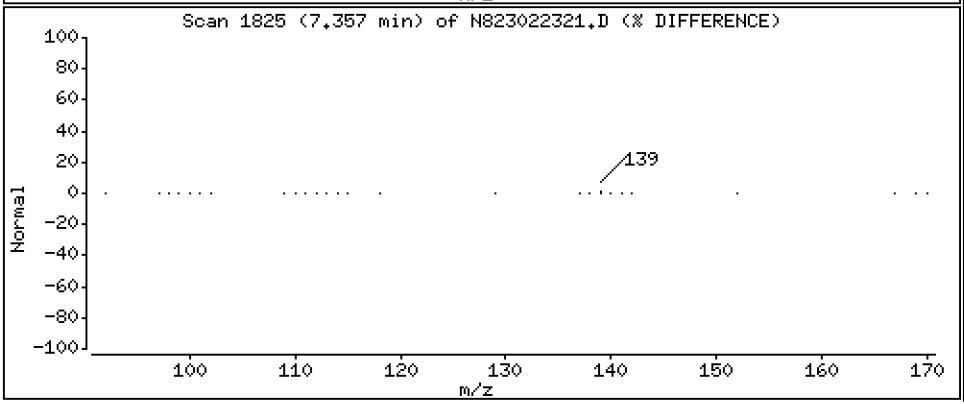
12 Dibenzofuran

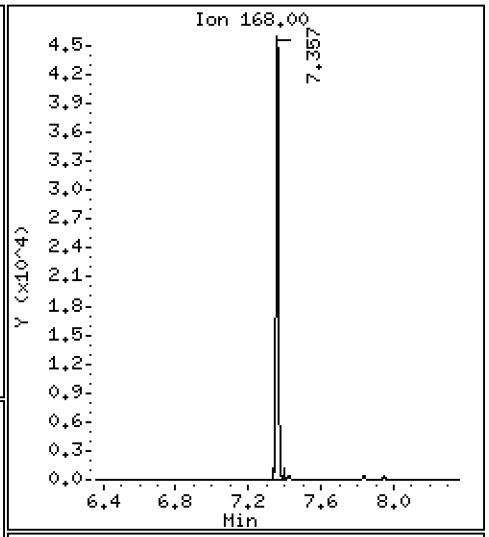
Concentration: 2.508 ug/mL

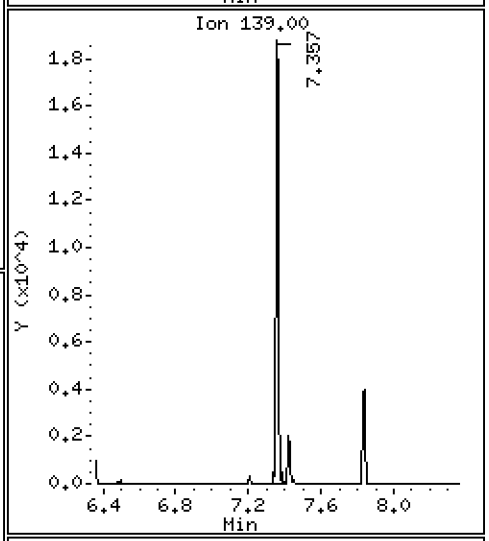


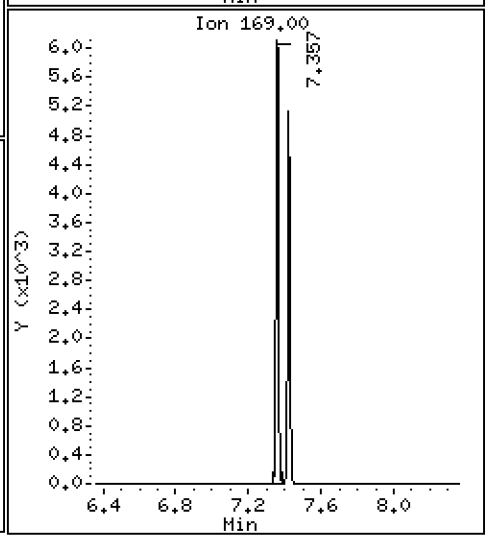












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Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

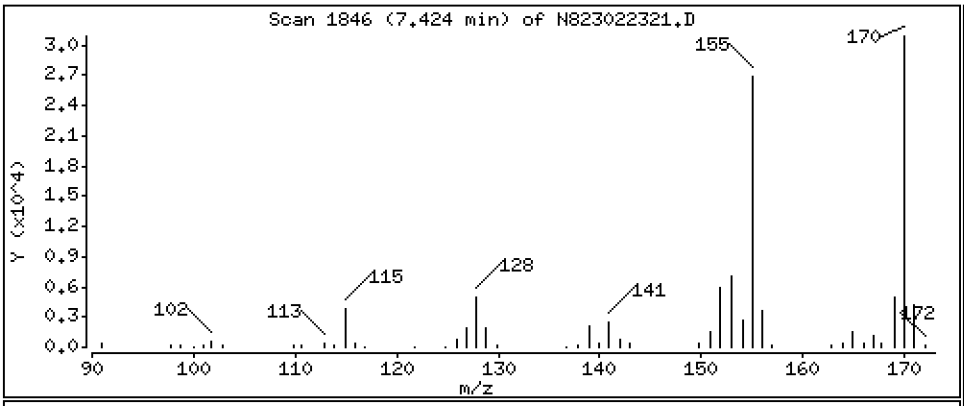
Operator: JZ

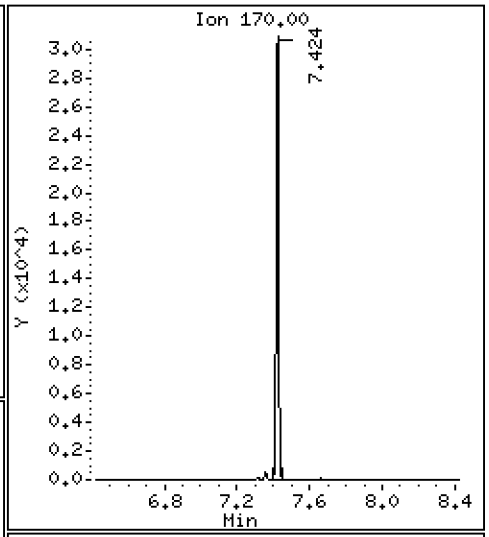
Column phase: Rxi-17sil

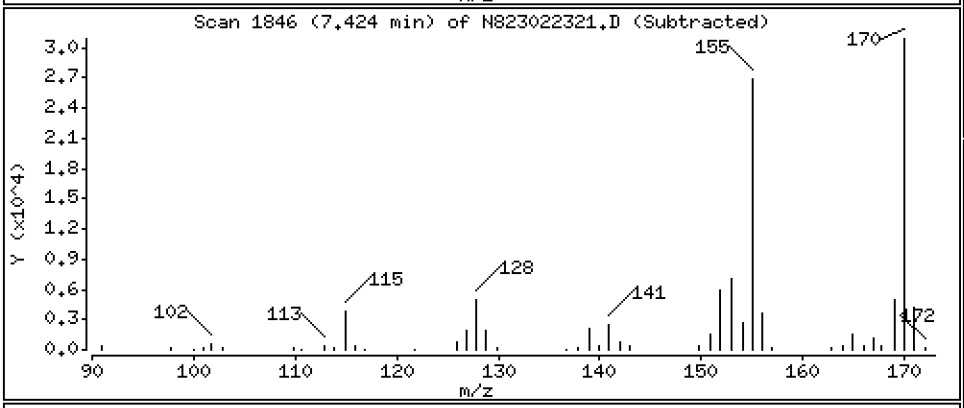
Column diameter: 0.25

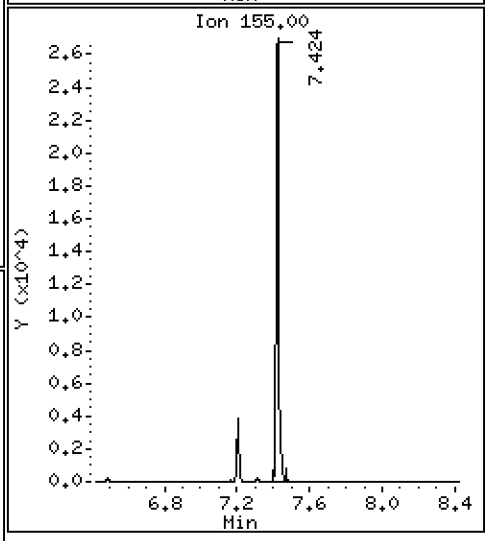
13 1,6,7-Trimethylnaphthalene

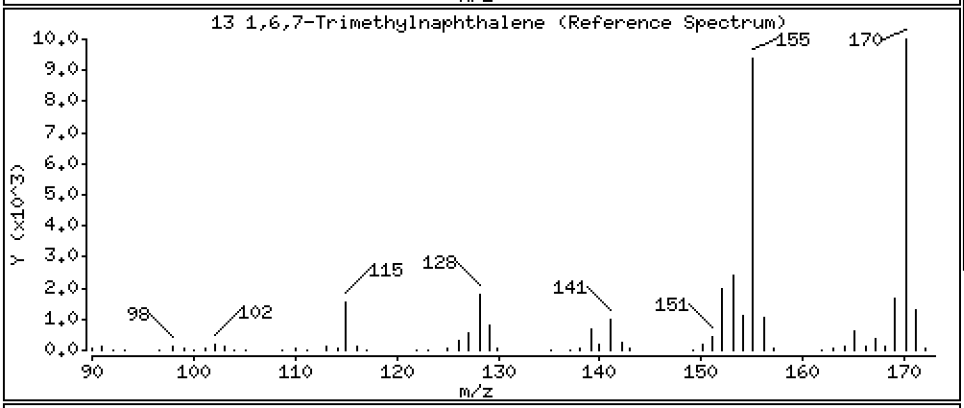
Concentration: 2.625 ug/mL

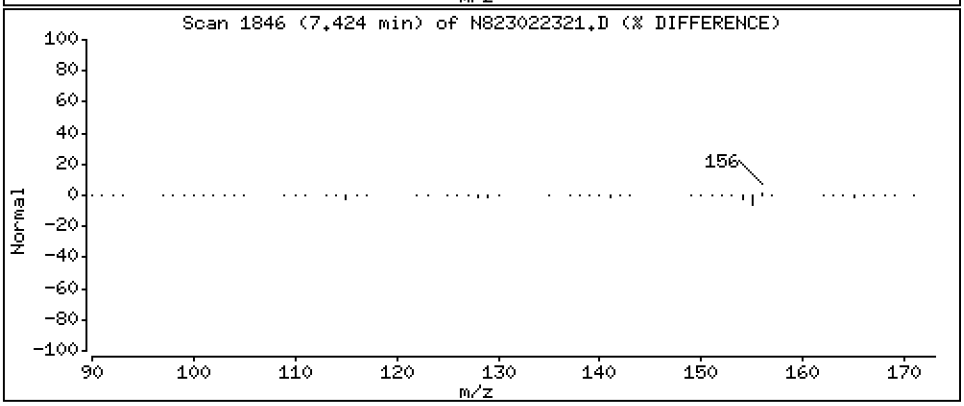












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Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

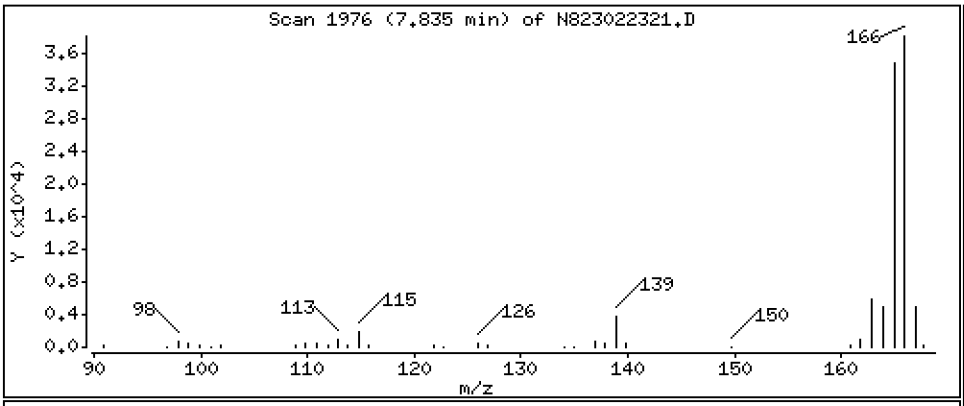
Operator: JZ

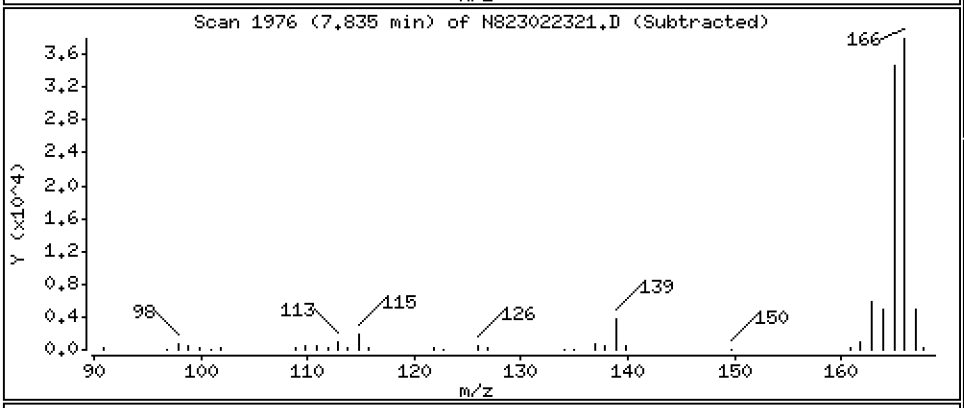
Column phase: Rxi-17sil

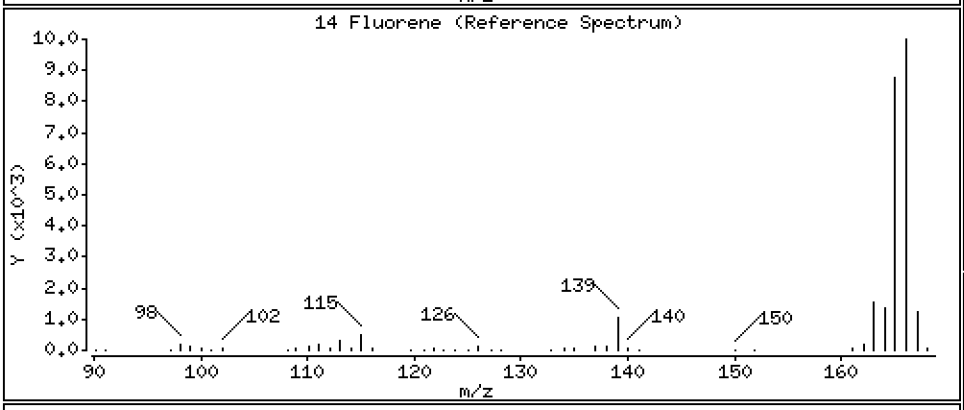
Column diameter: 0.25

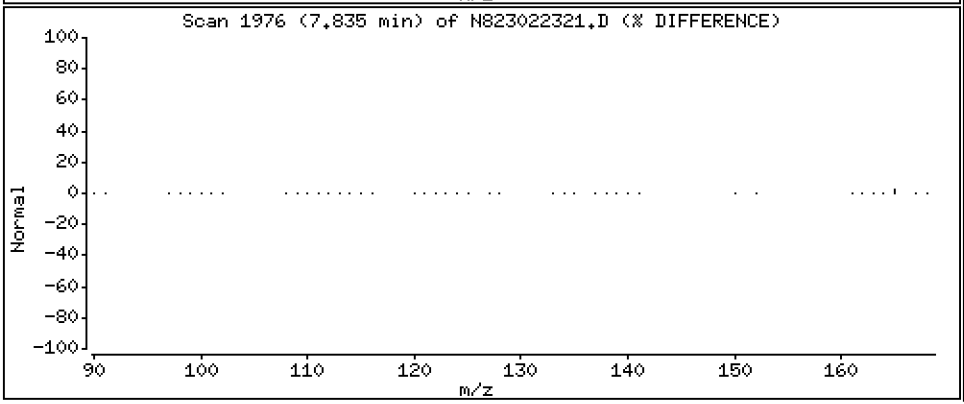
14 Fluorene

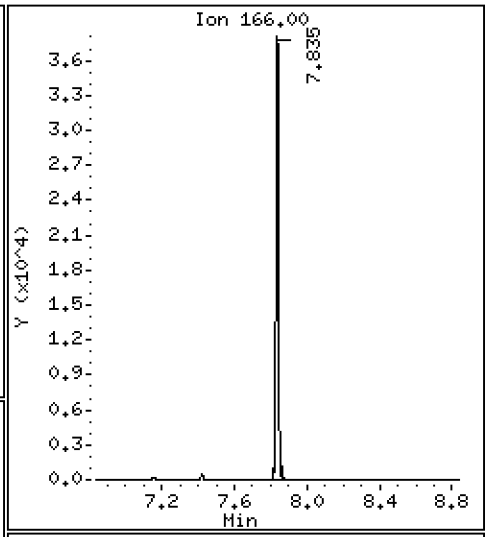
Concentration: 2.639 ug/mL

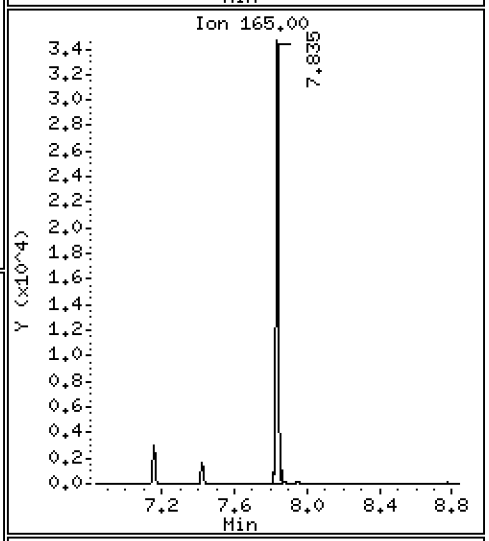


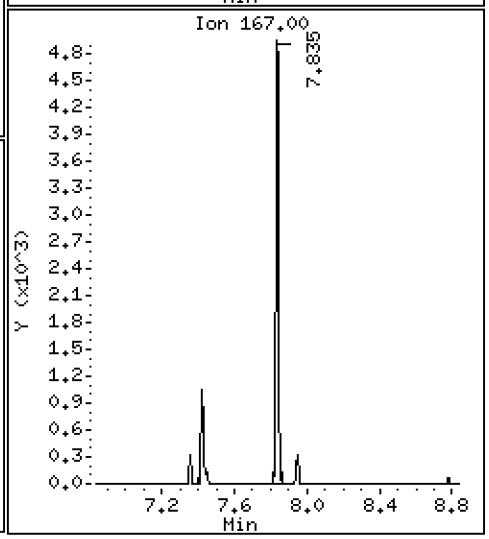












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022321.D

Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

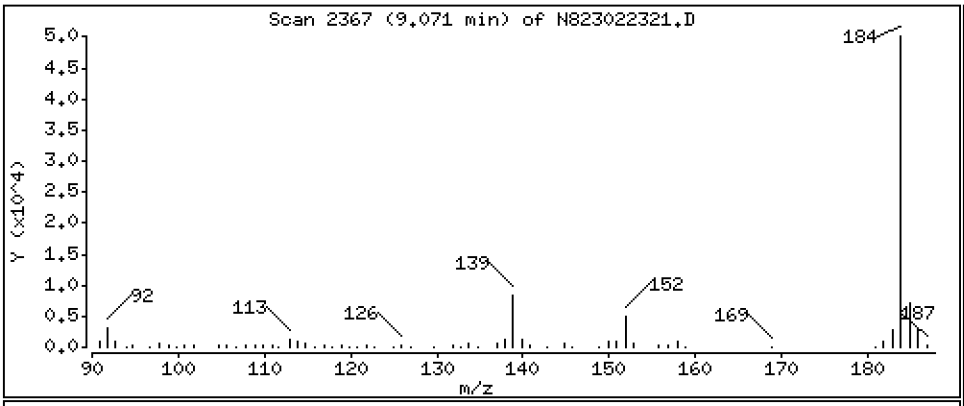
Operator: JZ

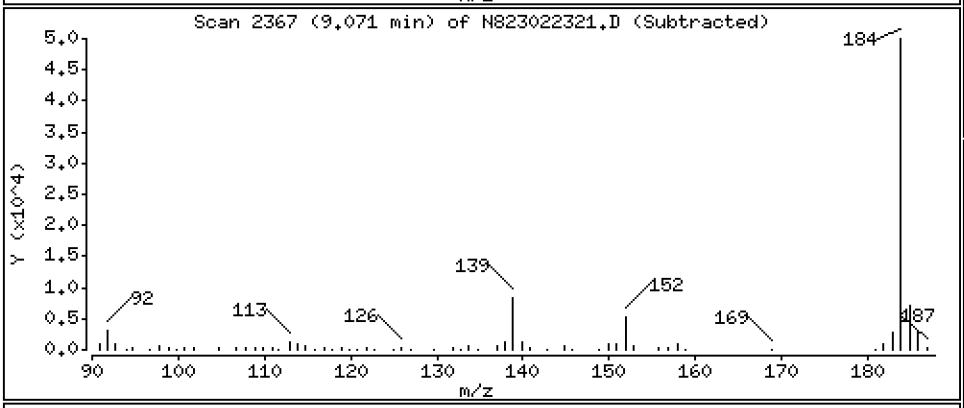
Column phase: Rxi-17sil

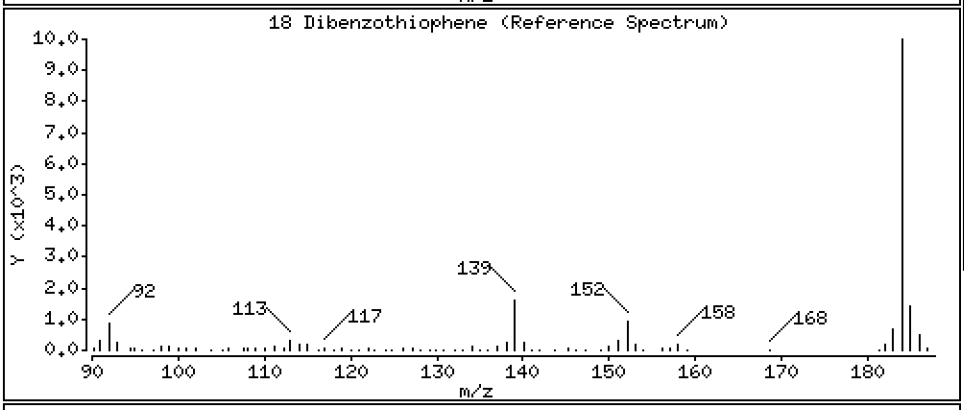
Column diameter: 0.25

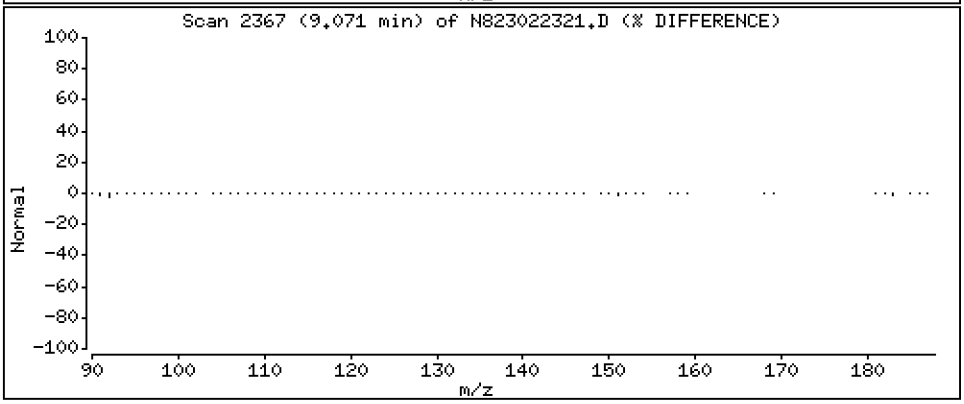
18 Dibenzothiophene

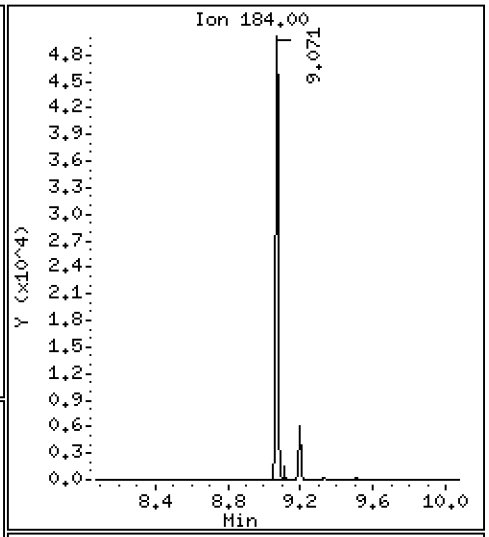
Concentration: 2.539 ug/mL

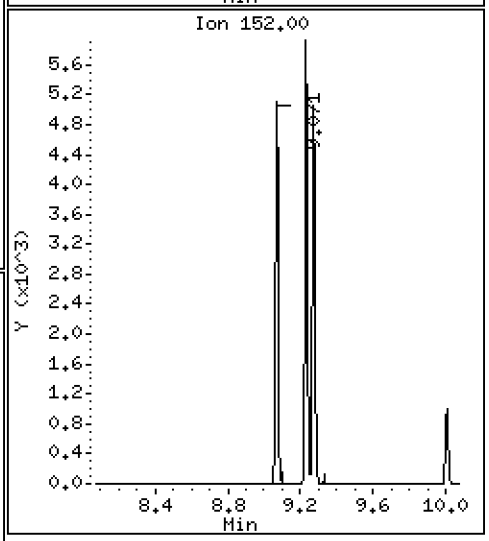












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Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

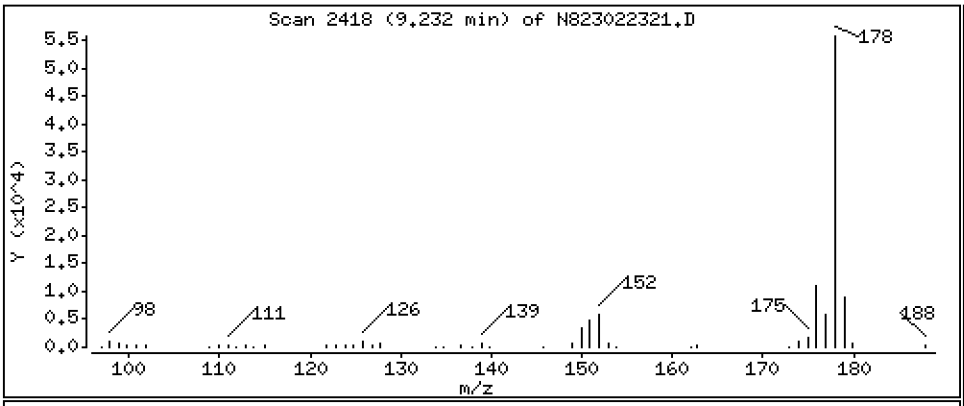
Operator: JZ

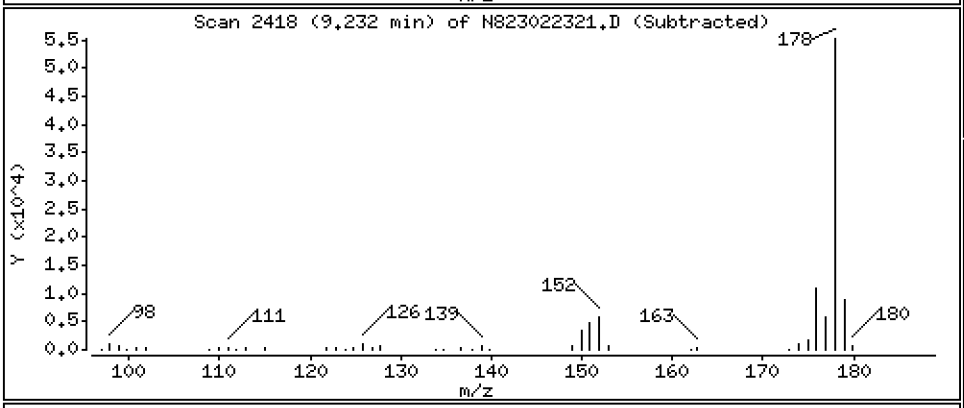
Column phase: Rxi-17sil

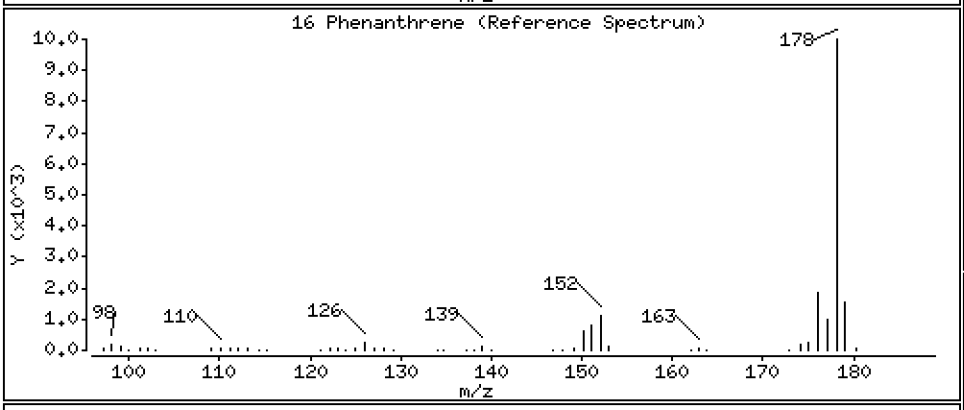
Column diameter: 0.25

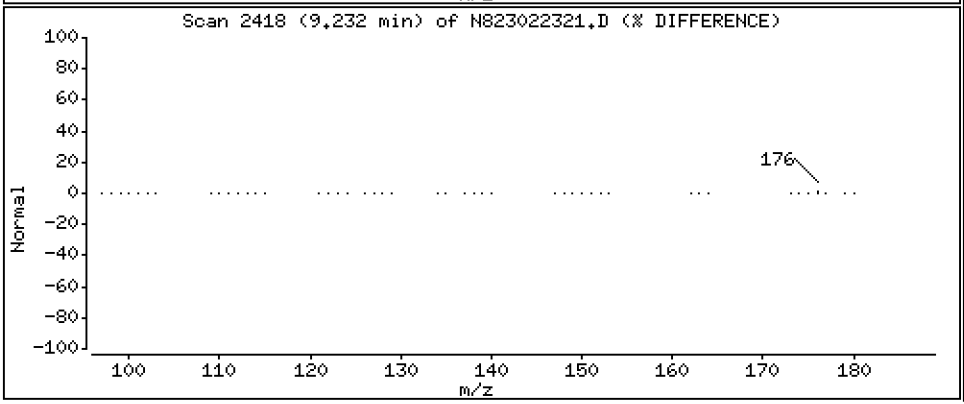
16 Phenanthrene

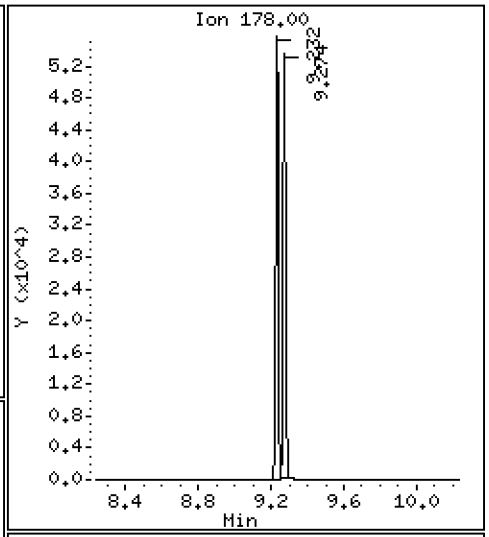
Concentration: 2.466 ug/mL

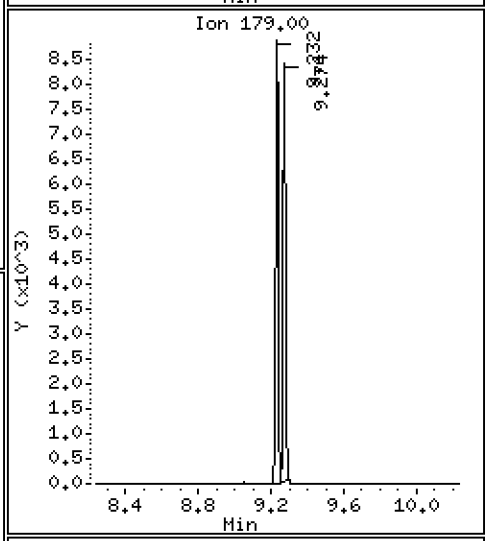


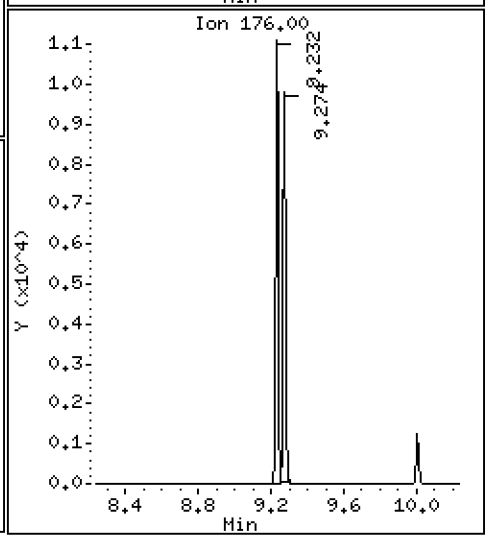












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022321.D

Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

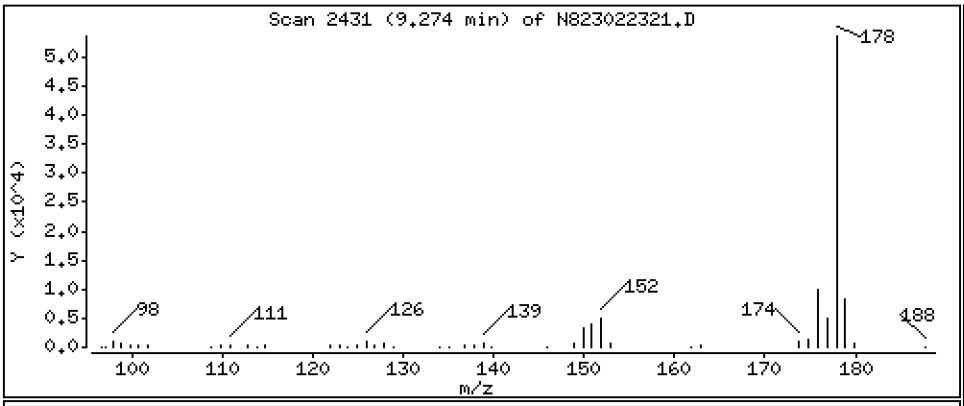
Operator: JZ

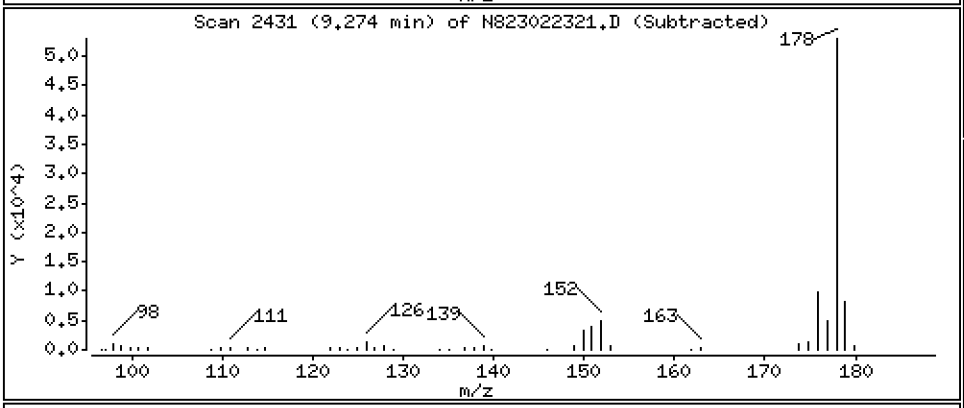
Column phase: Rxi-17sil

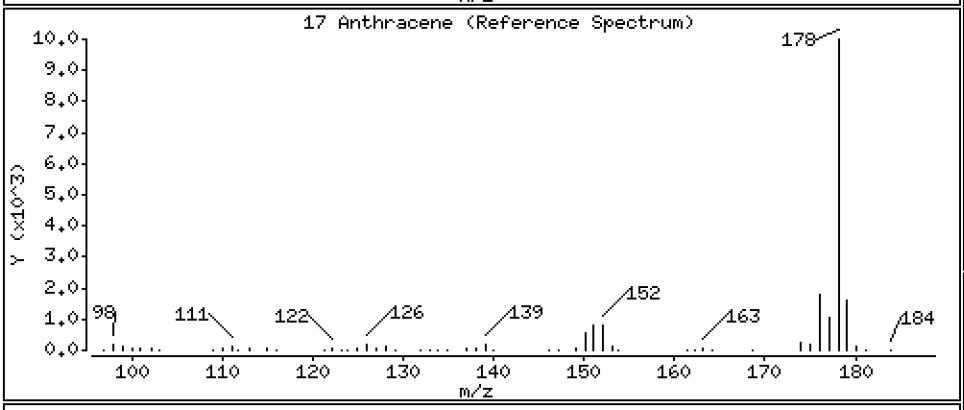
Column diameter: 0.25

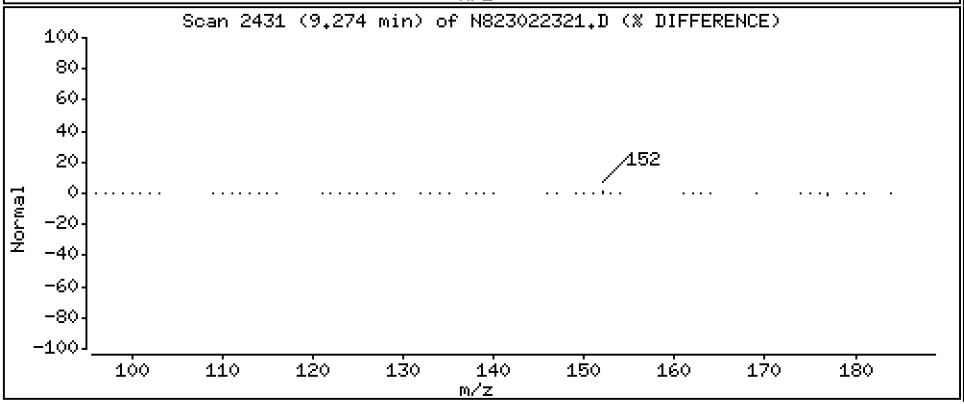
17 Anthracene

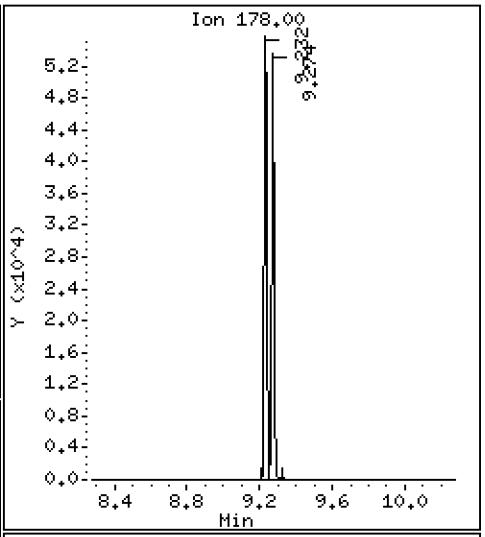
Concentration: 2.660 ug/mL

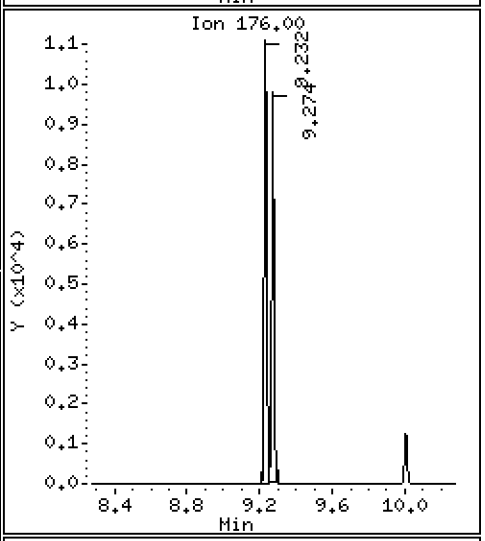


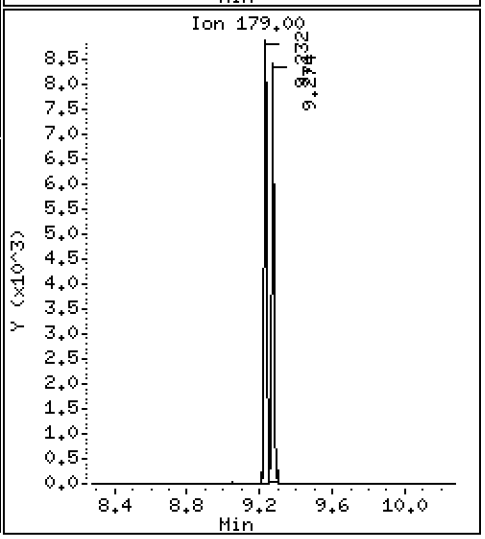












Data File: \\target\share\chem3\nt8.i\20230223.b\N823022321.D

Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

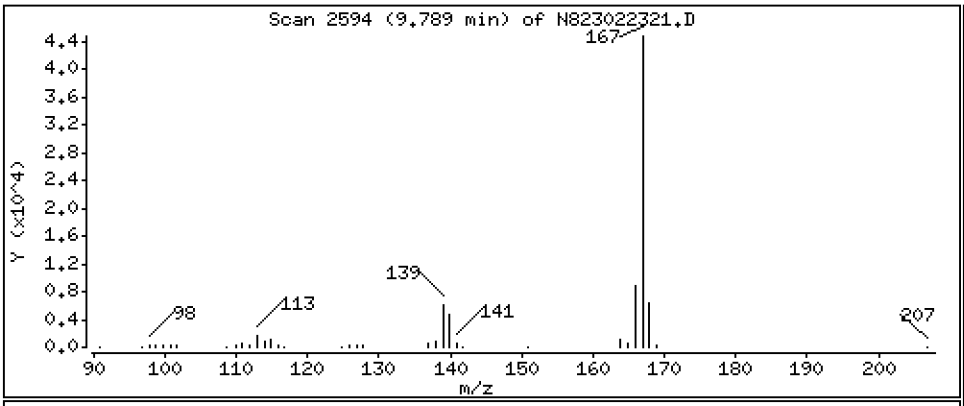
Operator: JZ

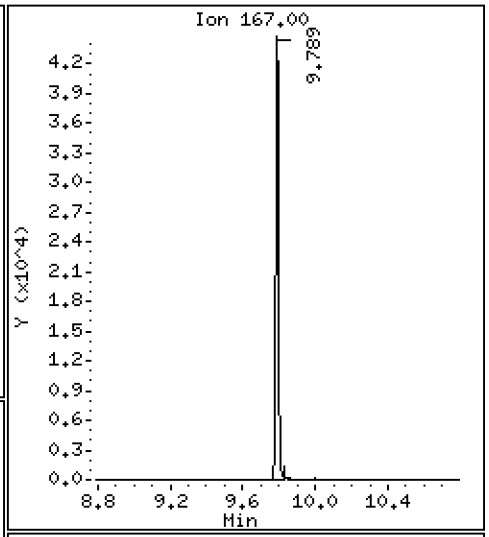
Column phase: Rxi-17sil

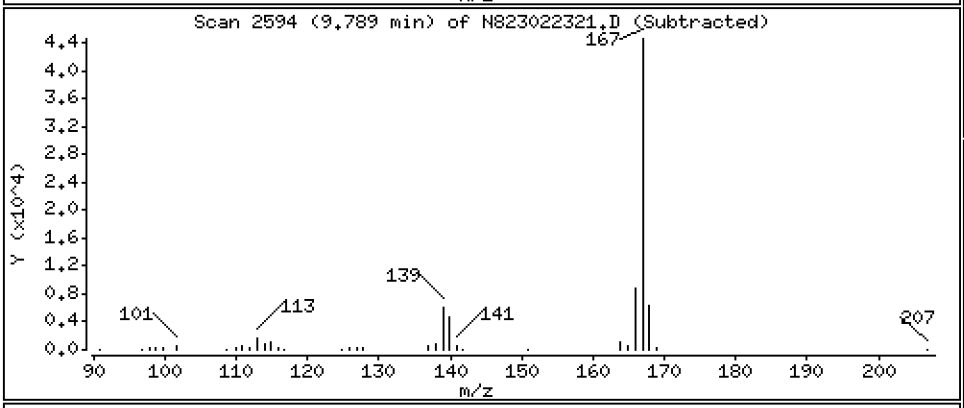
Column diameter: 0.25

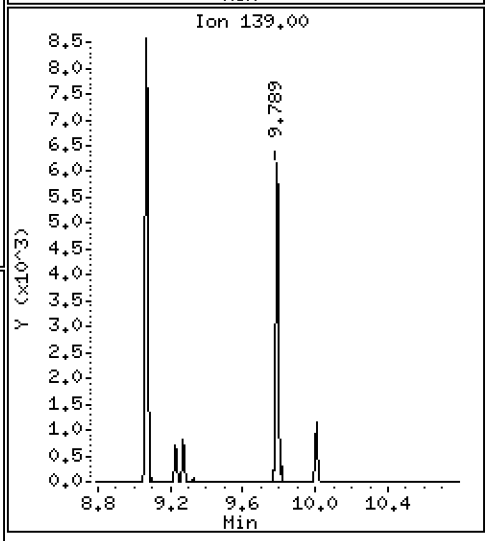
19 Carbazole

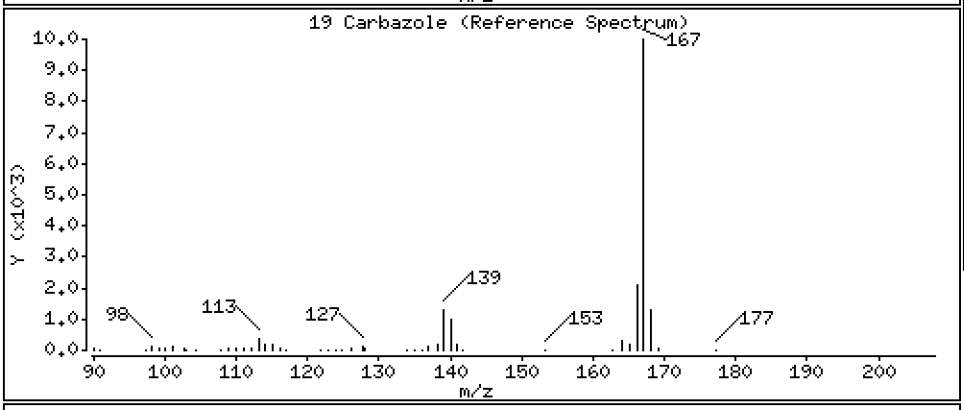
Concentration: 2.593 ug/mL

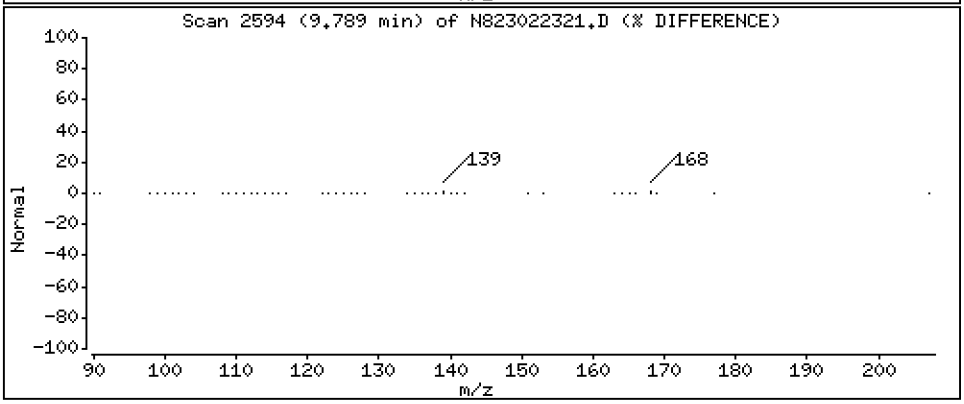












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Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

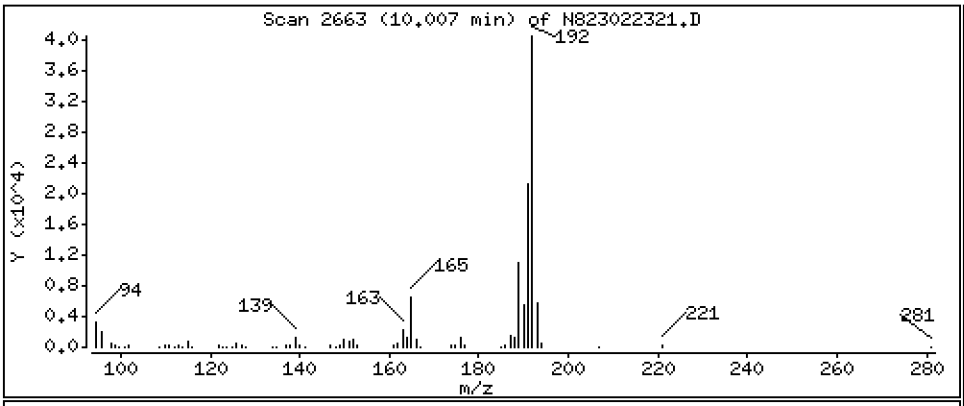
Operator: JZ

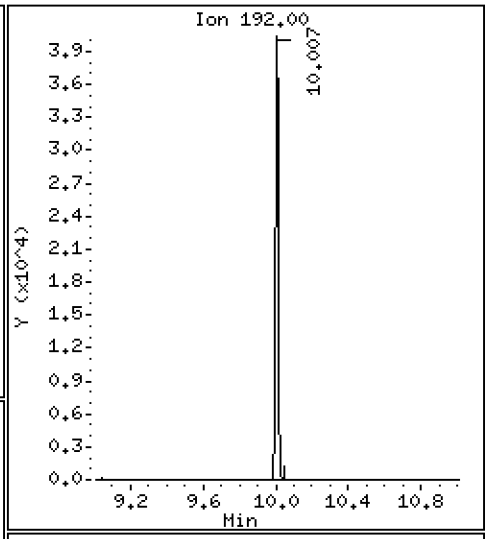
Column phase: Rxi-17sil

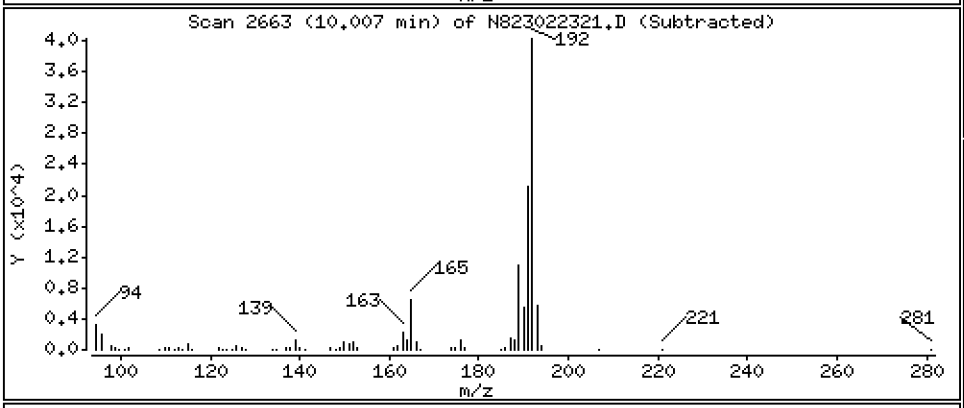
Column diameter: 0.25

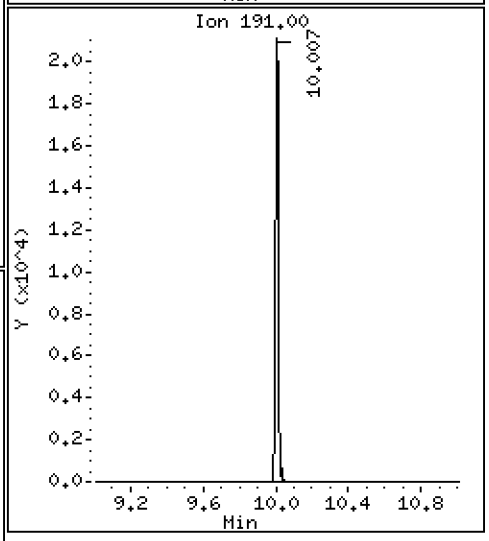
20 1-Methylphenanthrene

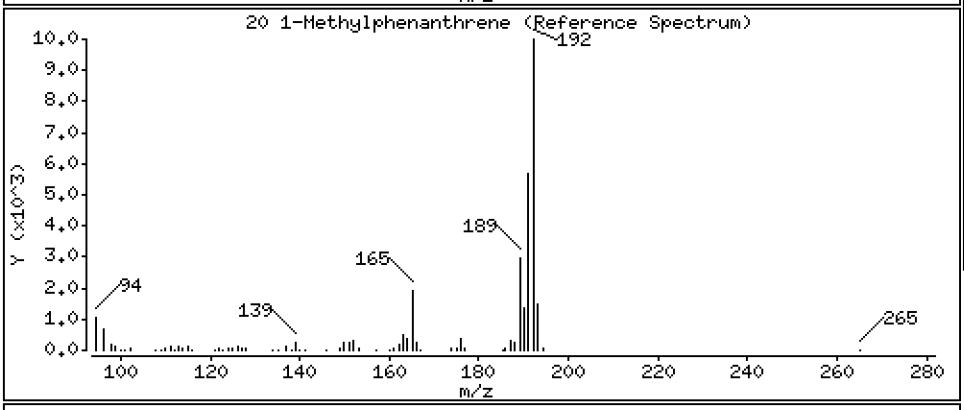
Concentration: 2.686 ug/mL

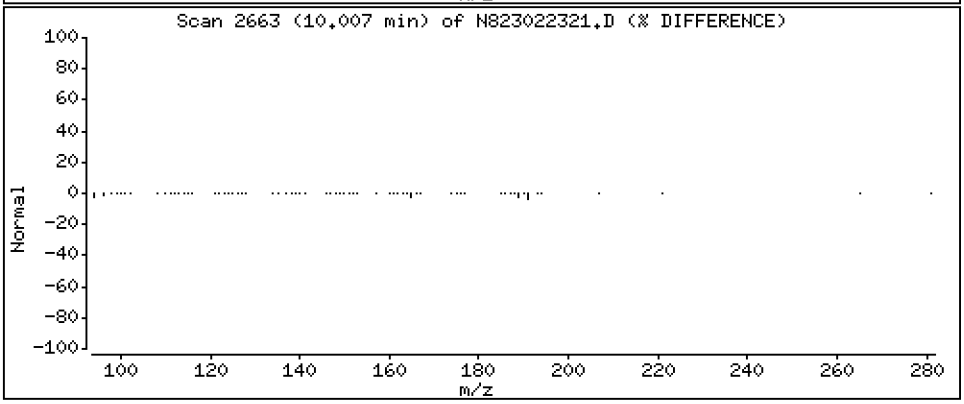












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Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

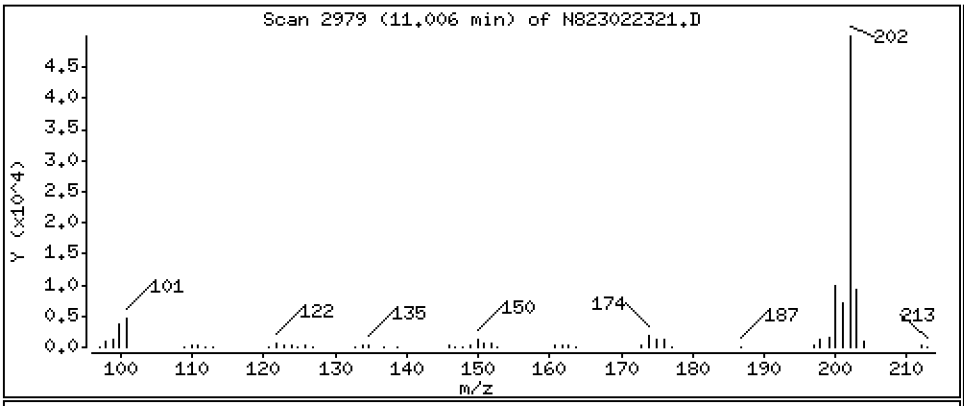
Operator: JZ

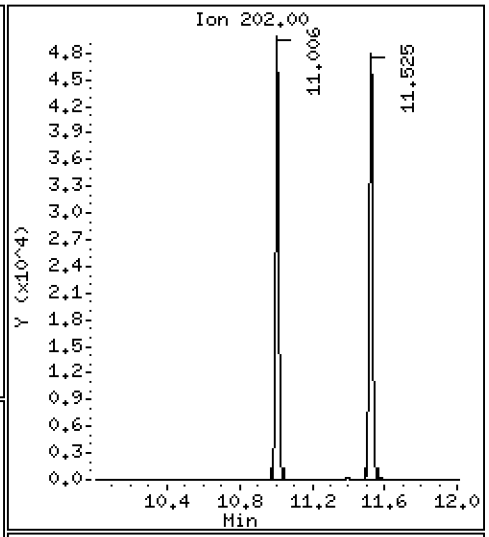
Column phase: Rxi-17sil

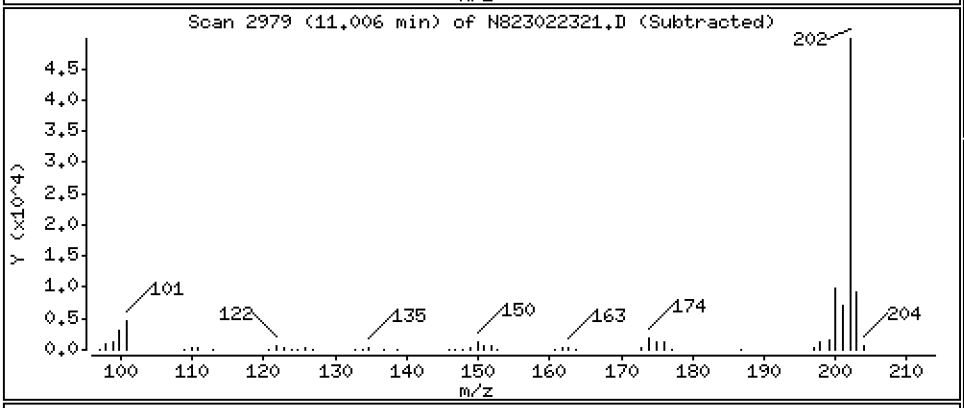
Column diameter: 0.25

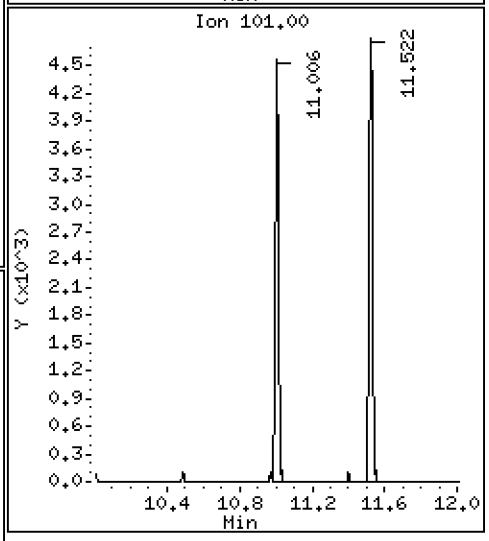
22 Fluoranthene

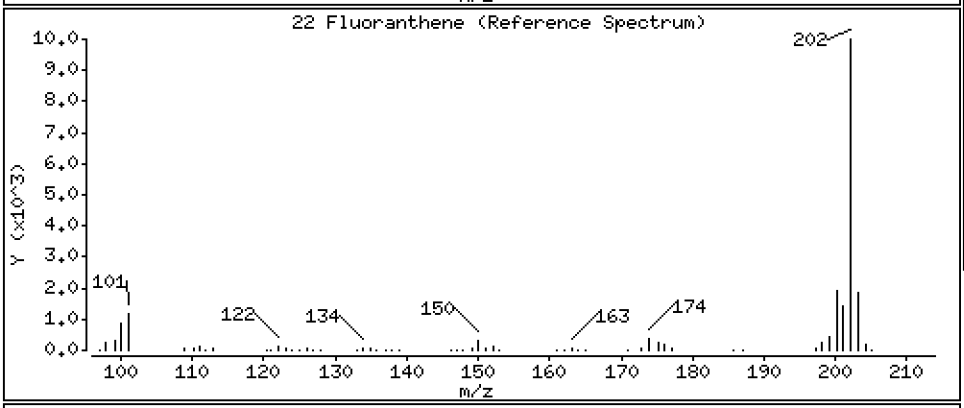
Concentration: 2.655 ug/mL

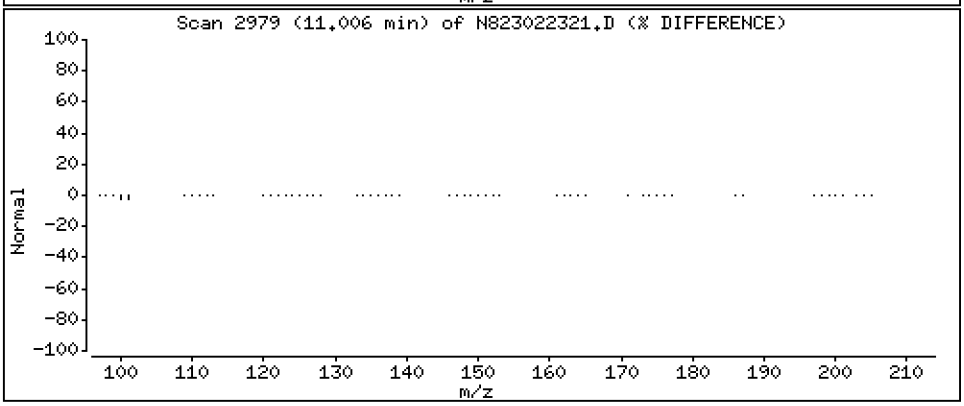












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Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

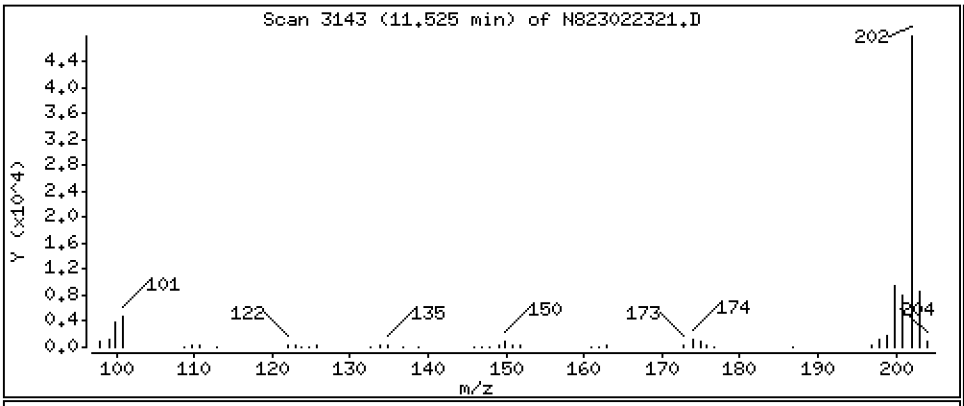
Operator: JZ

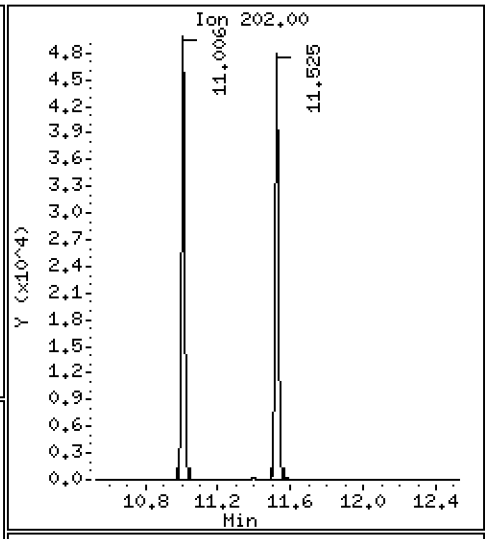
Column phase: Rxi-17sil

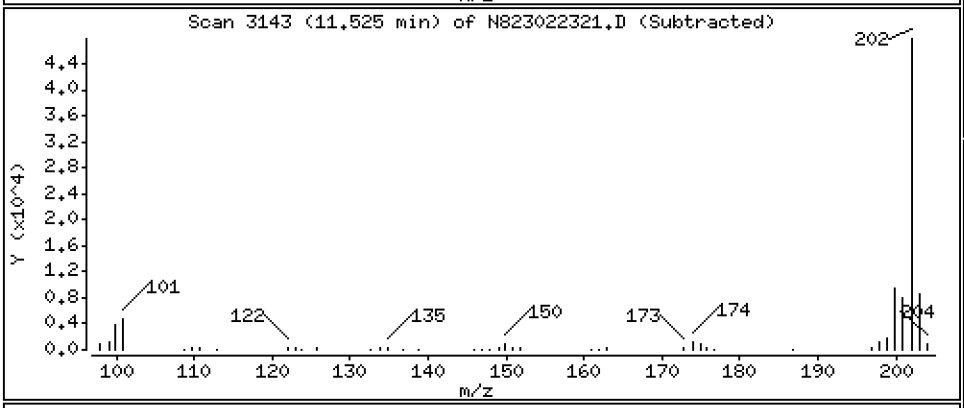
Column diameter: 0.25

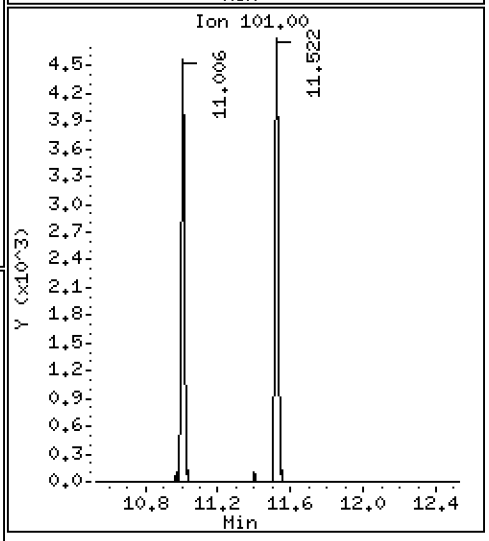
23 Pyrene

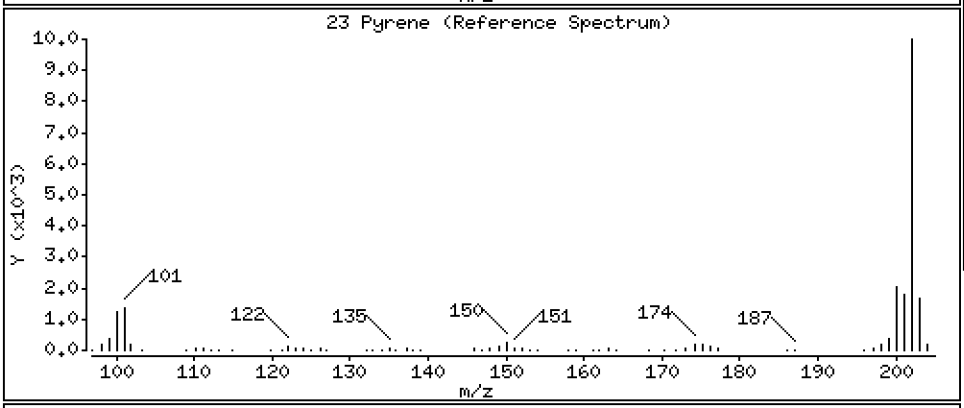
Concentration: 2.590 ug/mL

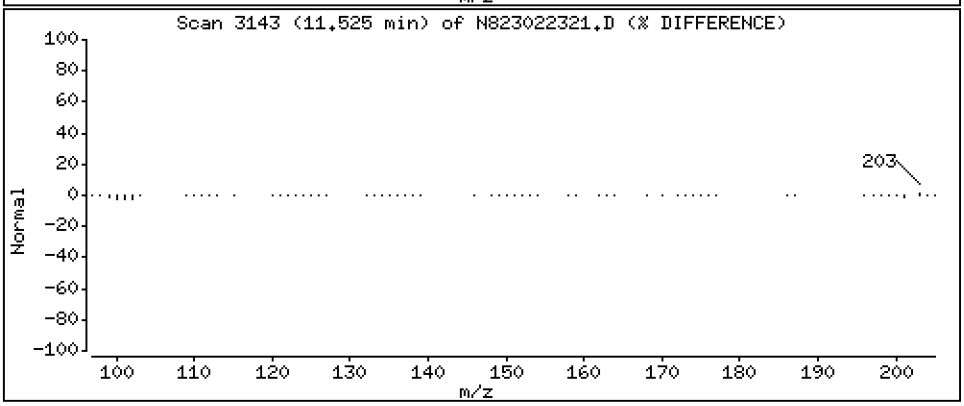












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Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

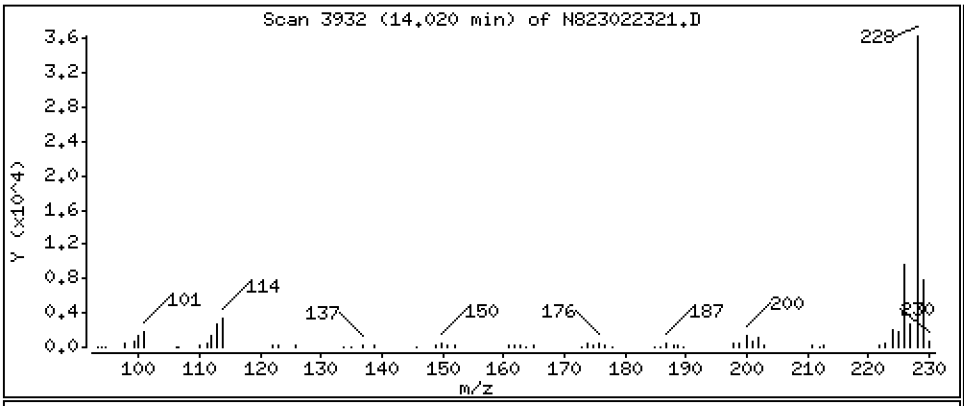
Operator: JZ

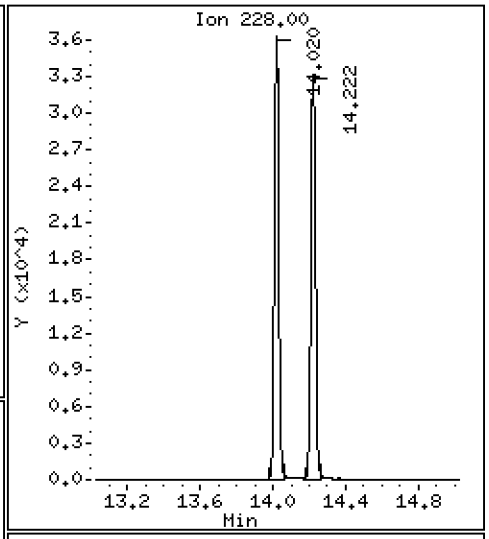
Column phase: Rxi-17sil

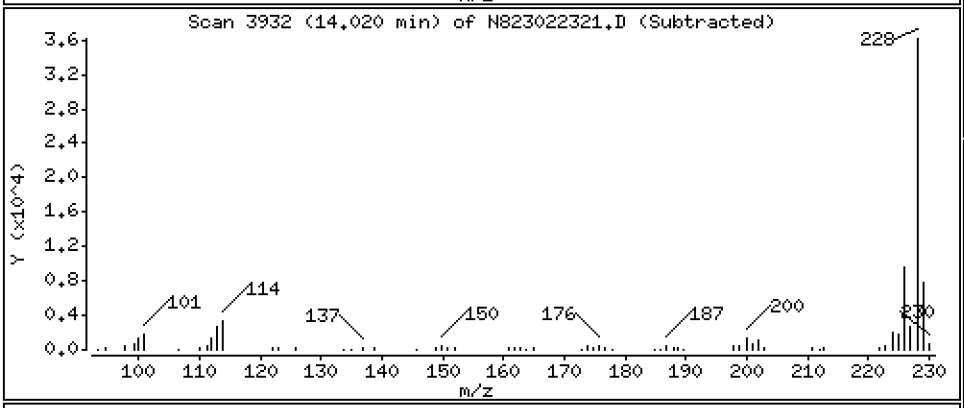
Column diameter: 0.25

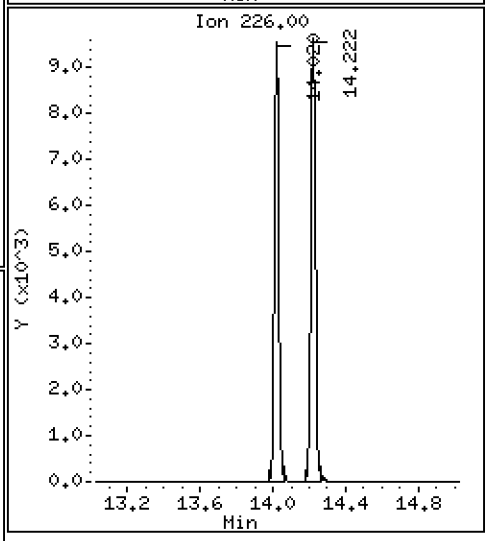
24 Benzo(a)anthracene

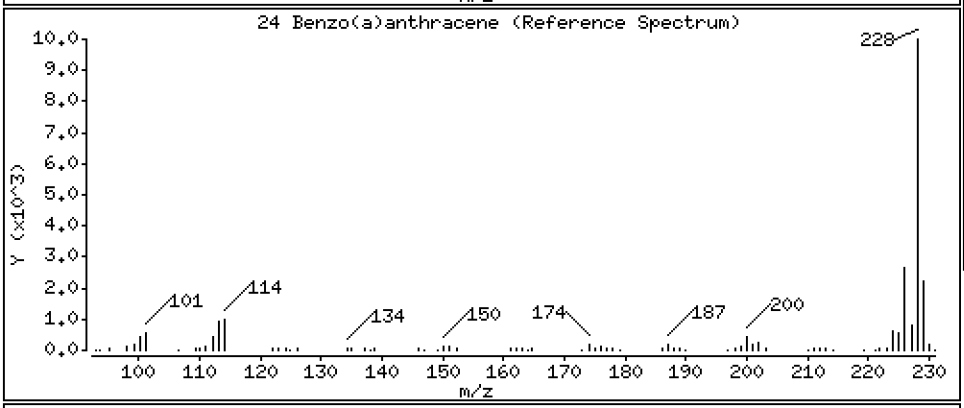
Concentration: 2.747 ug/mL

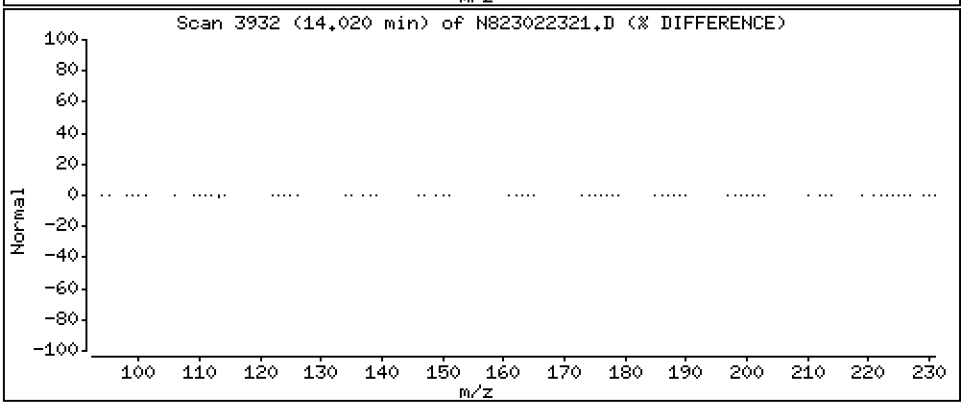












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Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

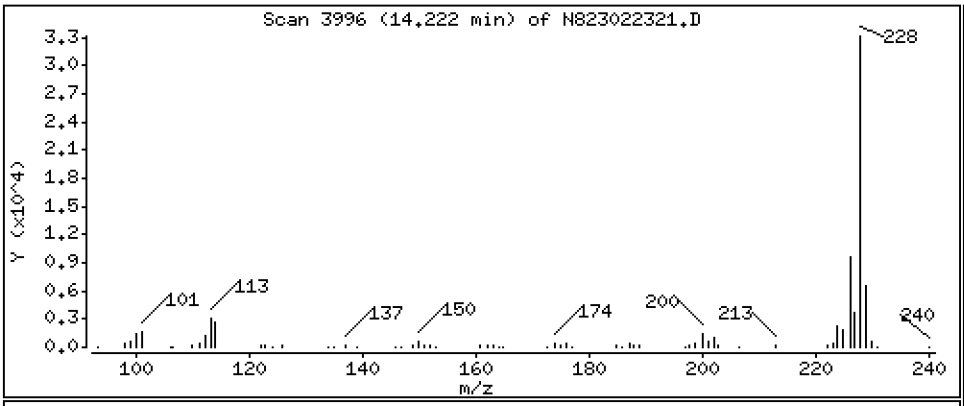
Operator: JZ

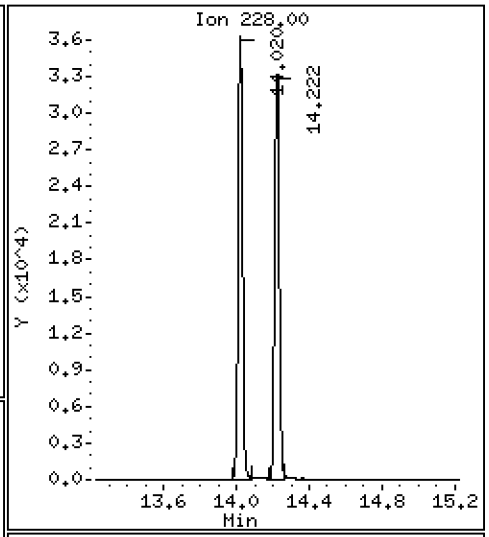
Column phase: Rxi-17sil

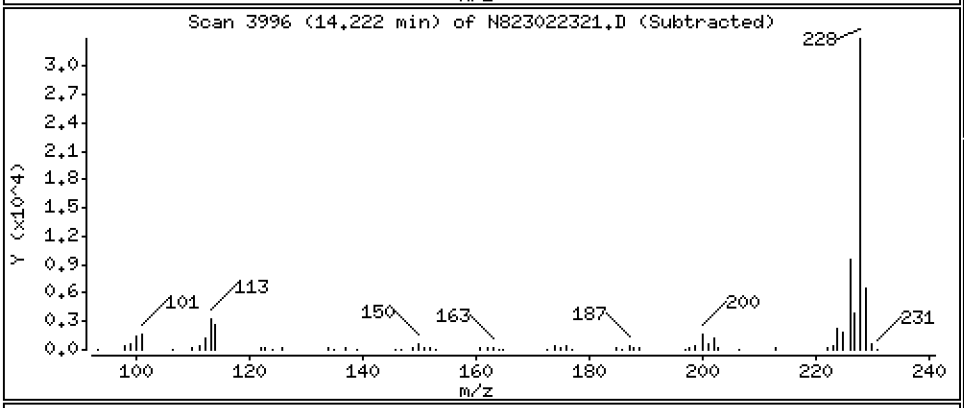
Column diameter: 0.25

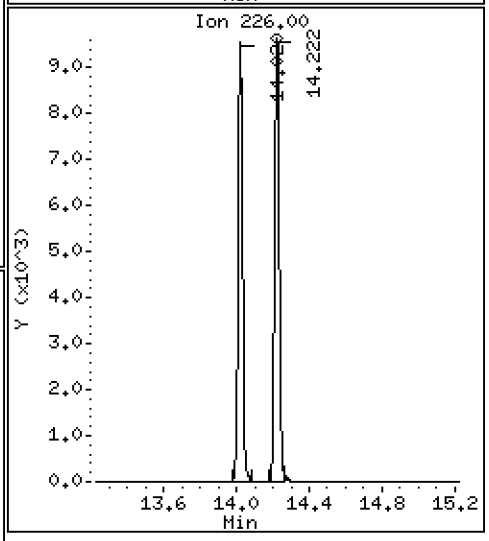
27 Chrysene

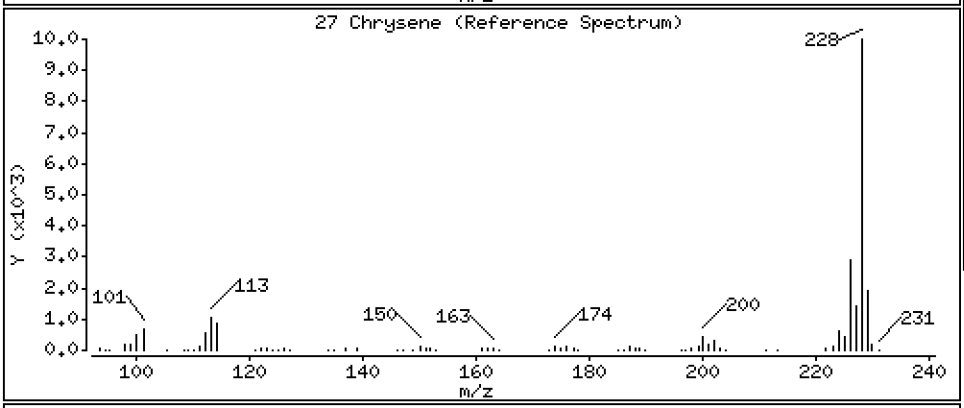
Concentration: 2.491 ug/mL

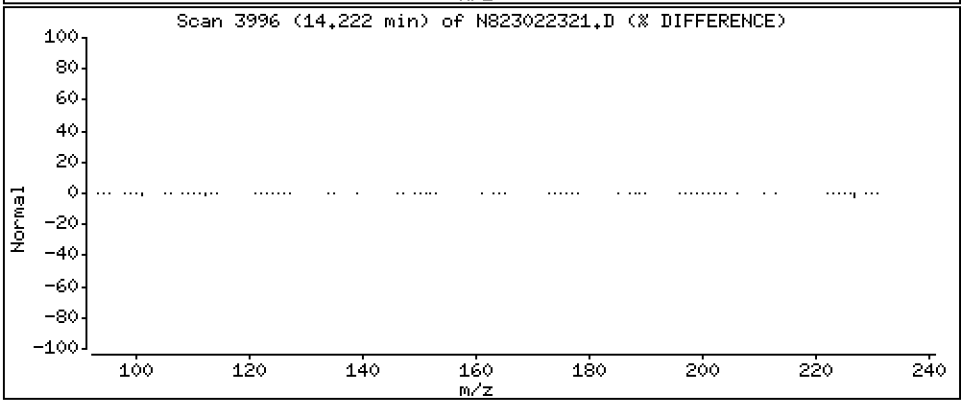












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Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

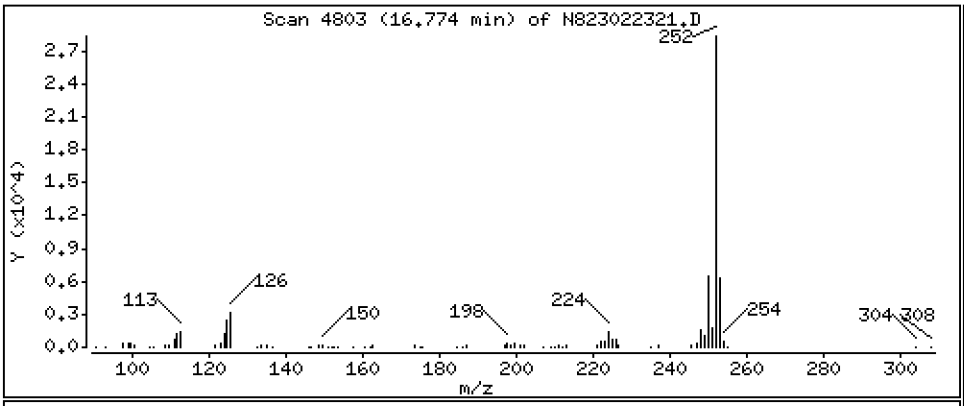
Operator: JZ

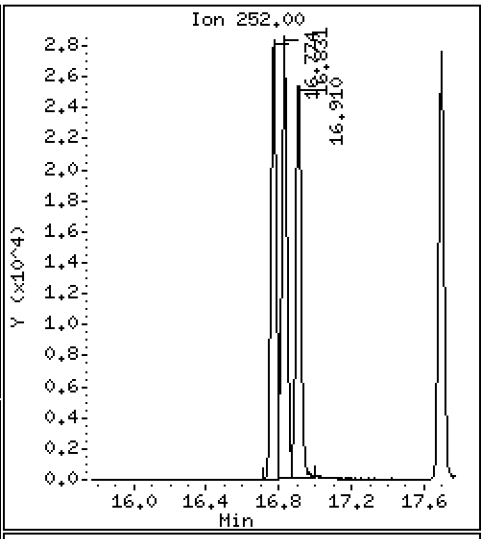
Column phase: Rxi-17sil

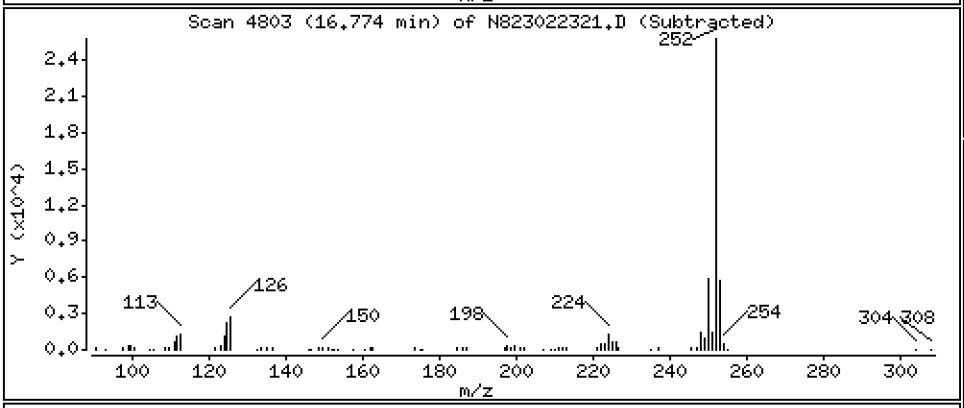
Column diameter: 0.25

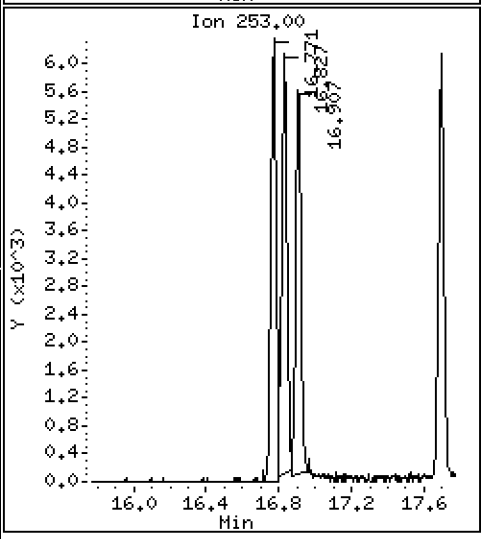
28 Benzo(b)fluoranthene

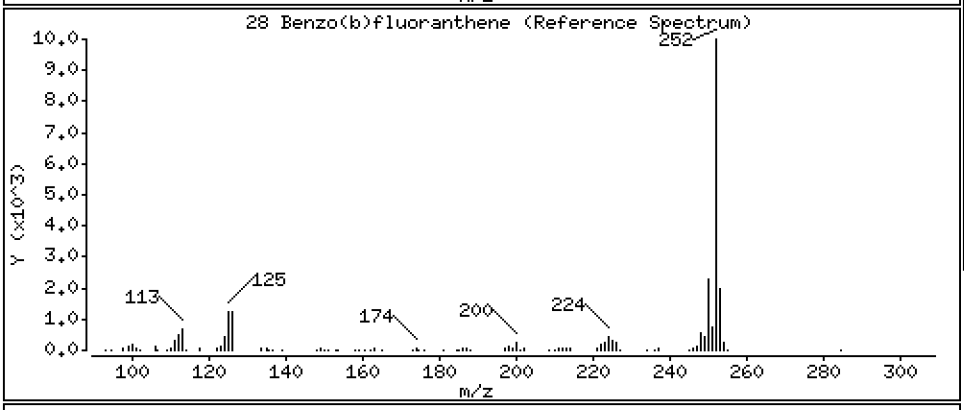
Concentration: 2.504 ug/mL

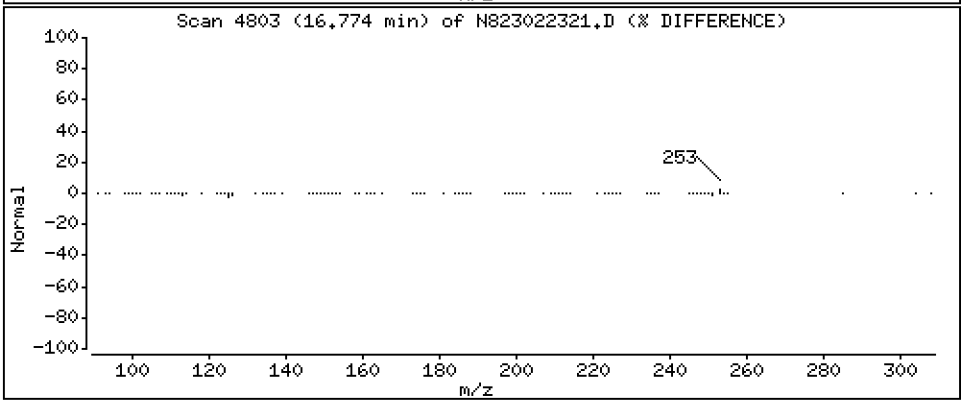












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Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

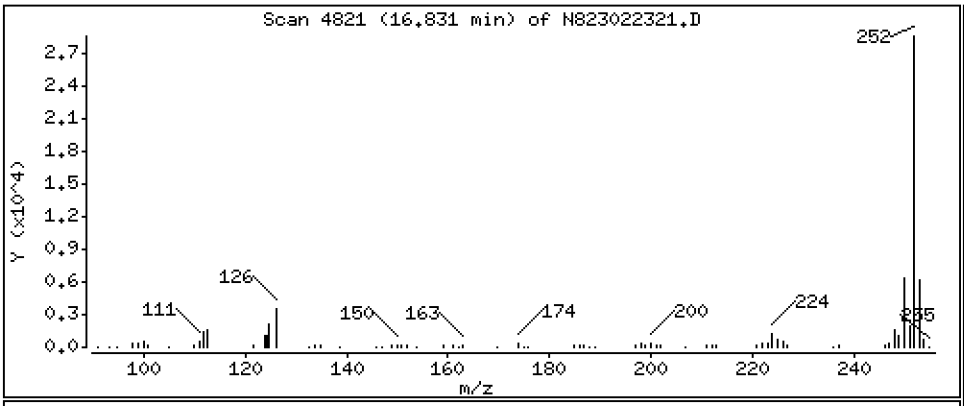
Operator: JZ

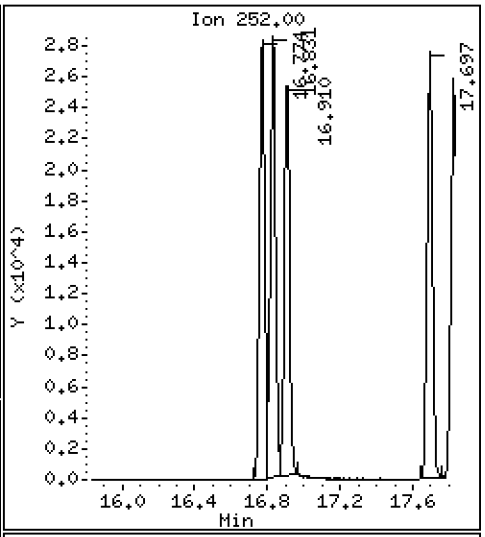
Column phase: Rxi-17sil

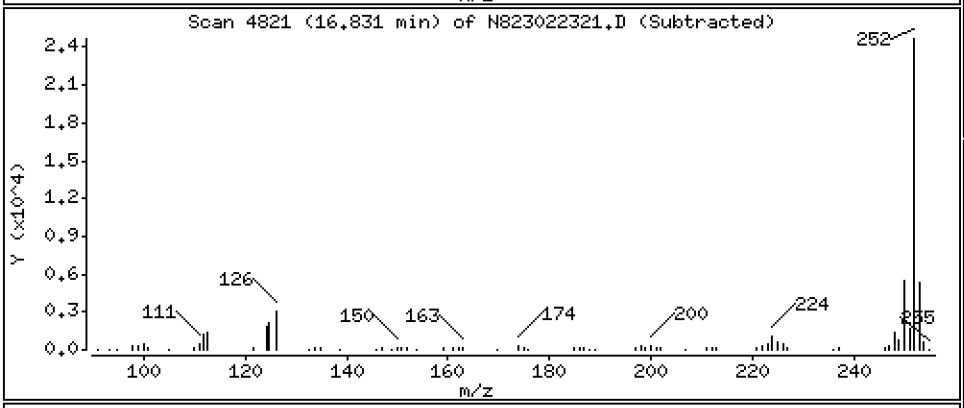
Column diameter: 0.25

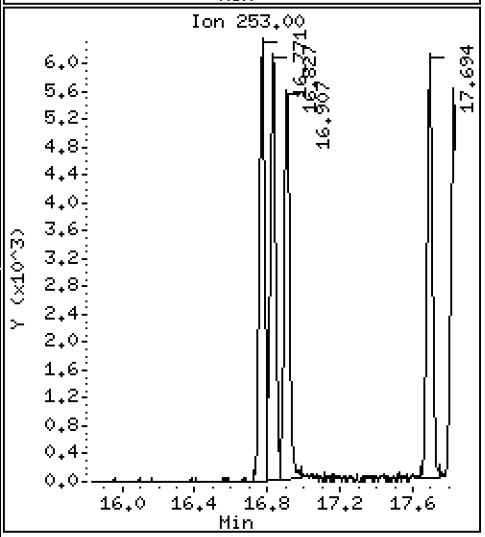
29 Benzo(k)fluoranthene

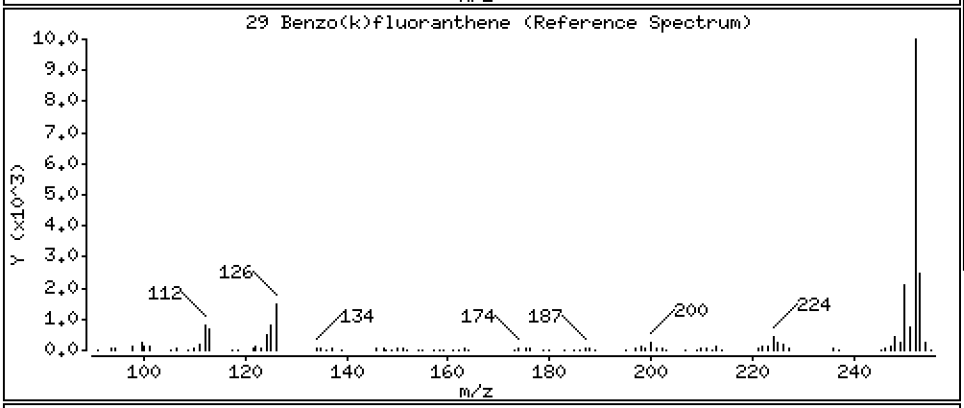
Concentration: 2.488 ug/mL

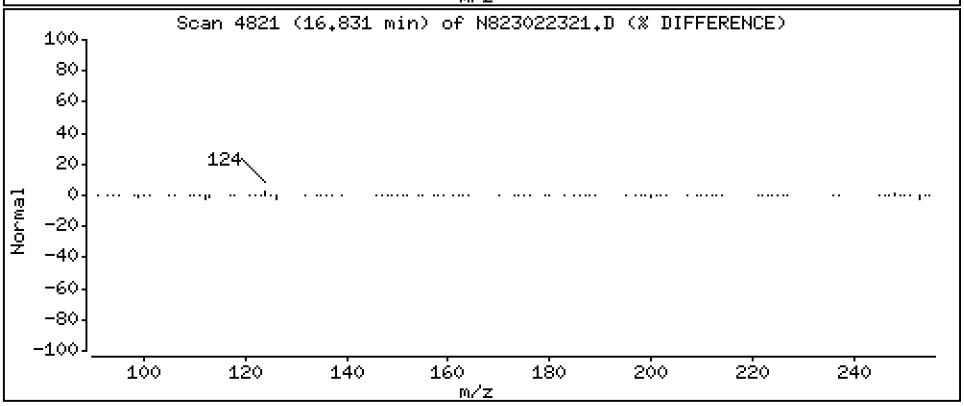












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Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

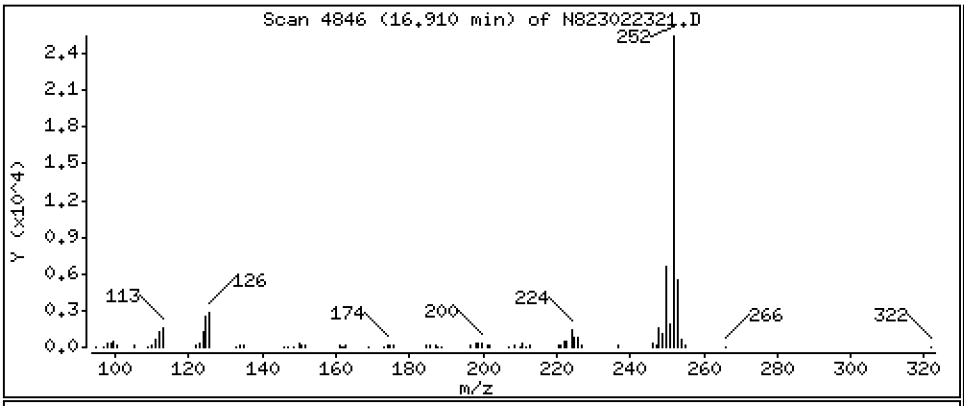
Operator: JZ

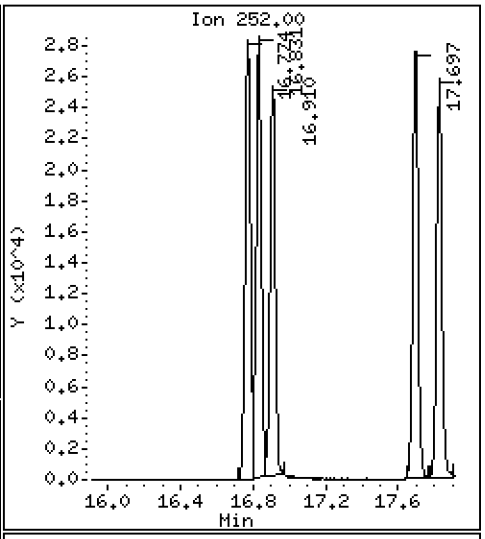
Column phase: Rxi-17sil

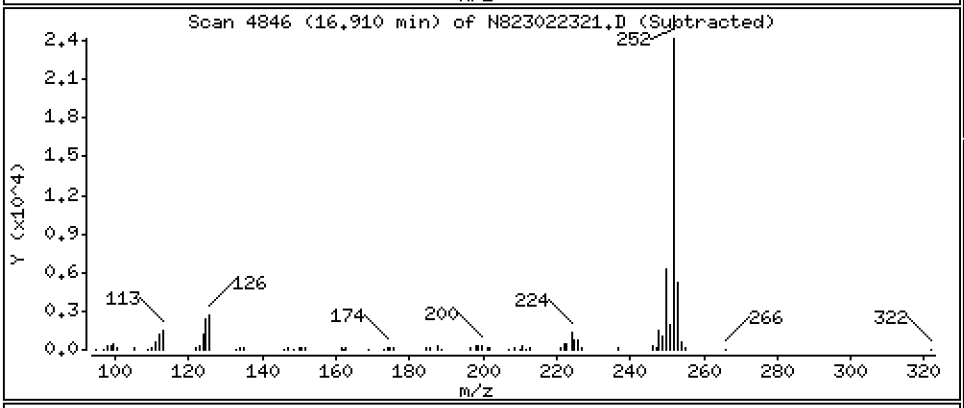
Column diameter: 0.25

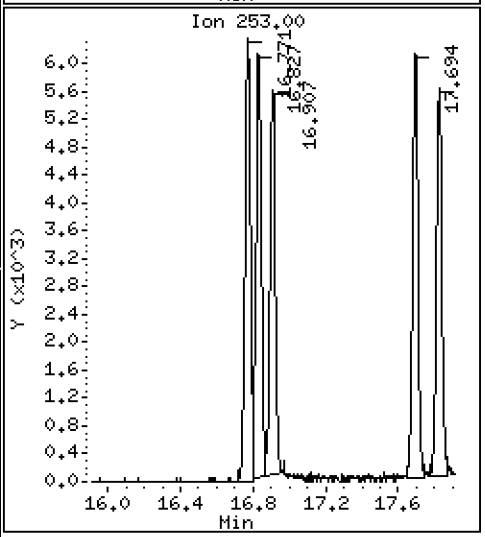
30 Benzo(j)fluoranthene

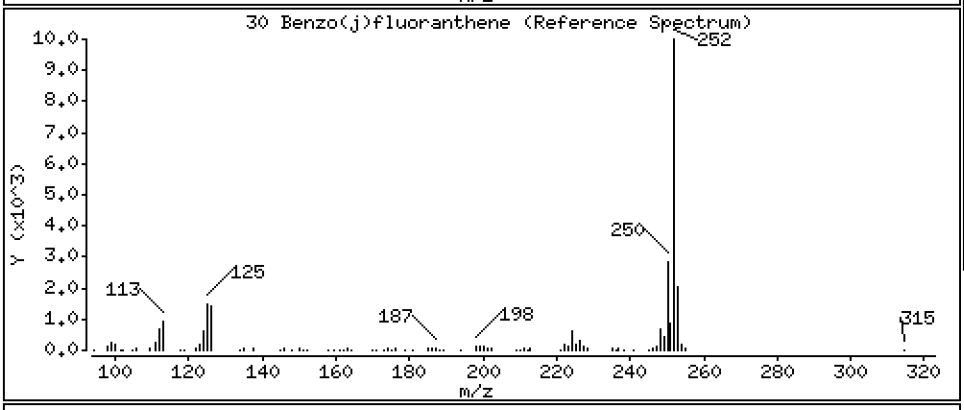
Concentration: 2.486 ug/mL

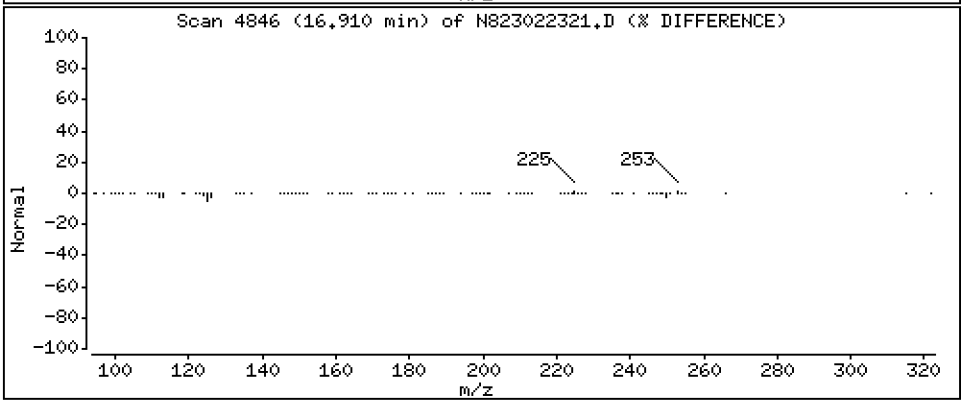












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Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

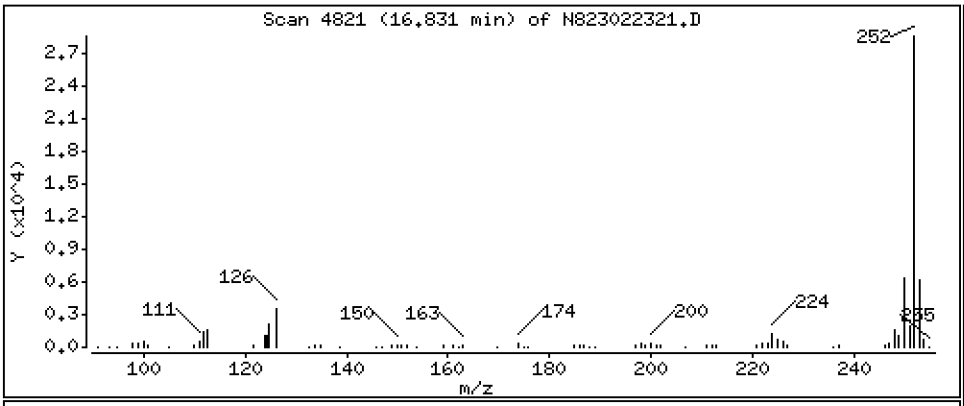
Operator: JZ

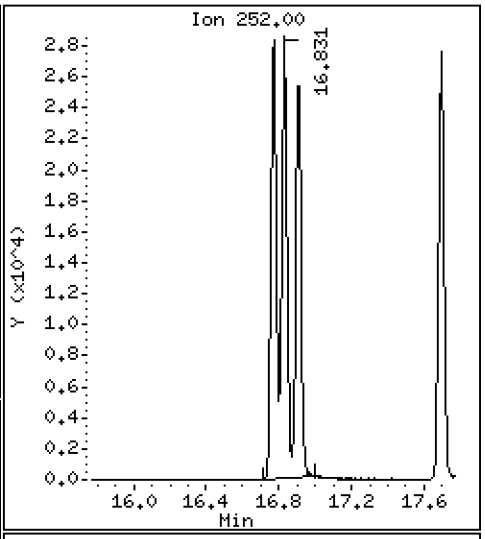
Column phase: Rxi-17sil

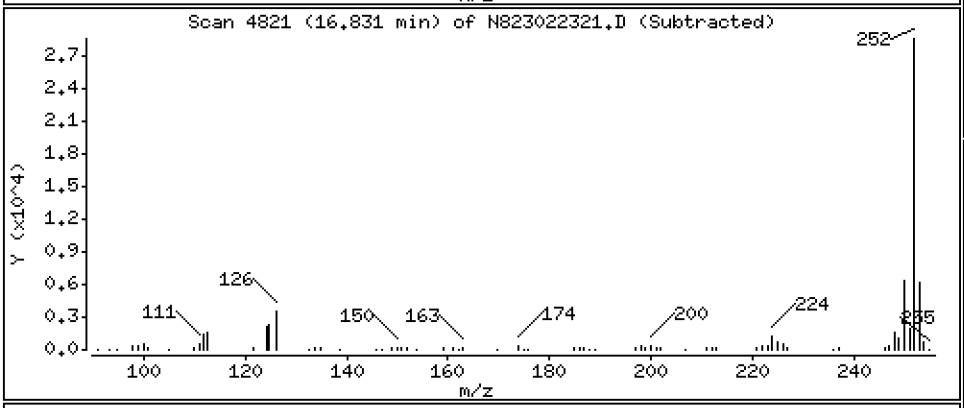
Column diameter: 0.25

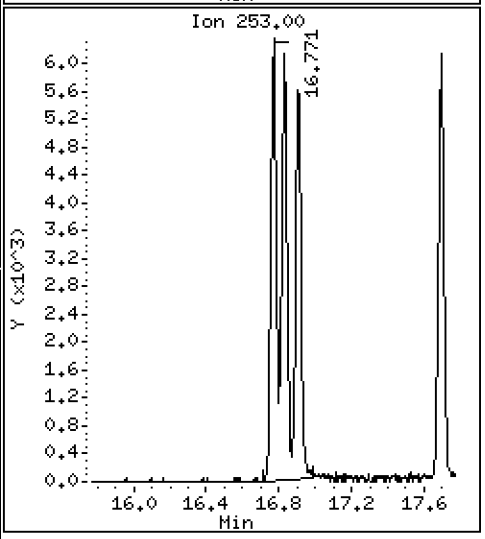
31 Total Benzofluoranthenes

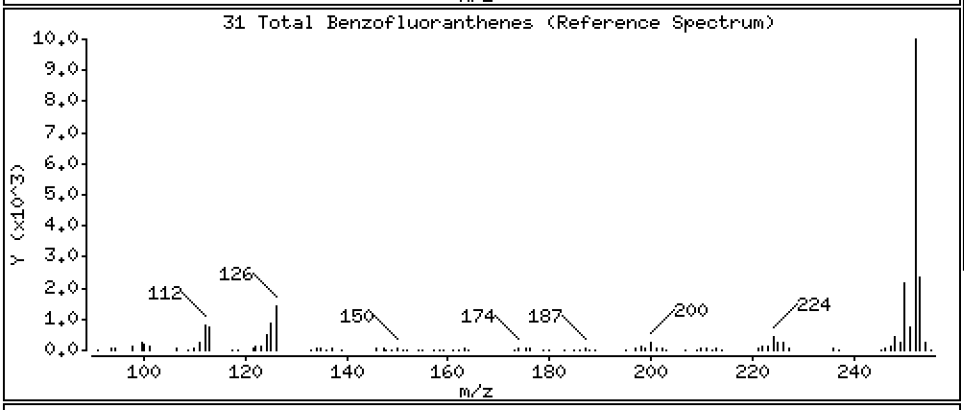
Concentration: 7.512 ug/mL

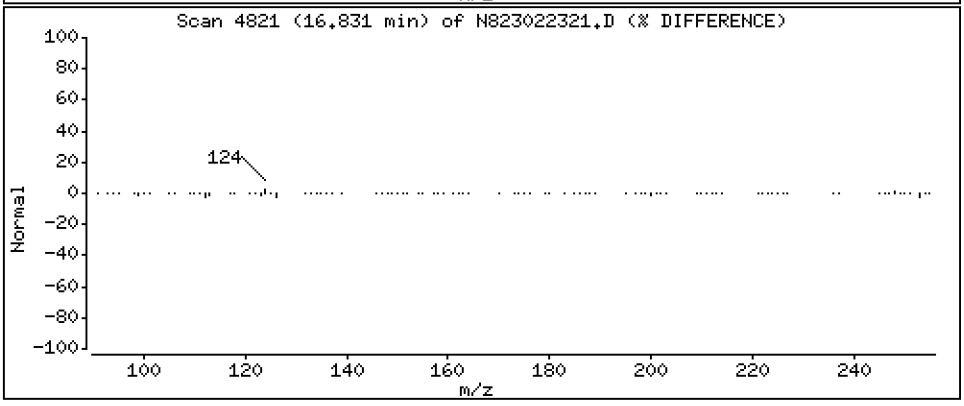












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Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

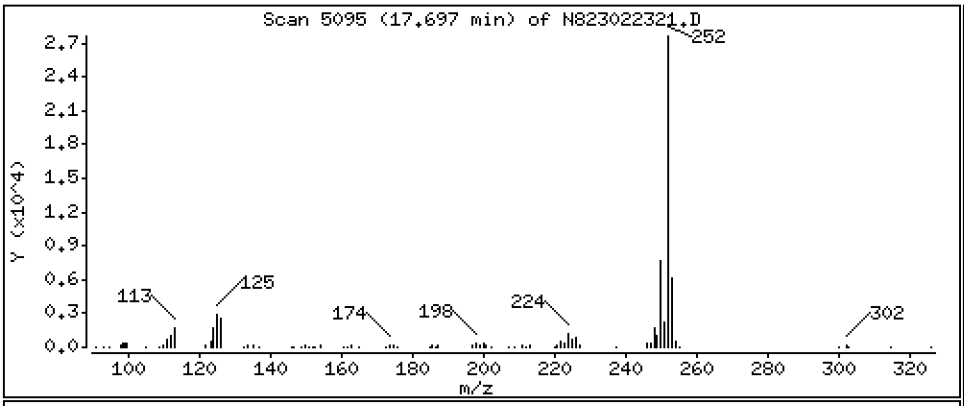
Operator: JZ

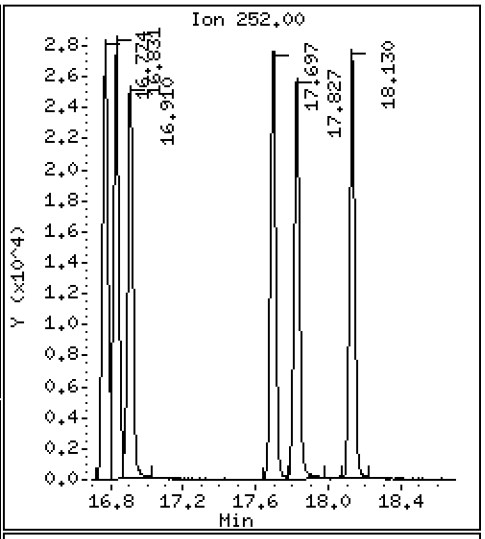
Column phase: Rxi-17sil

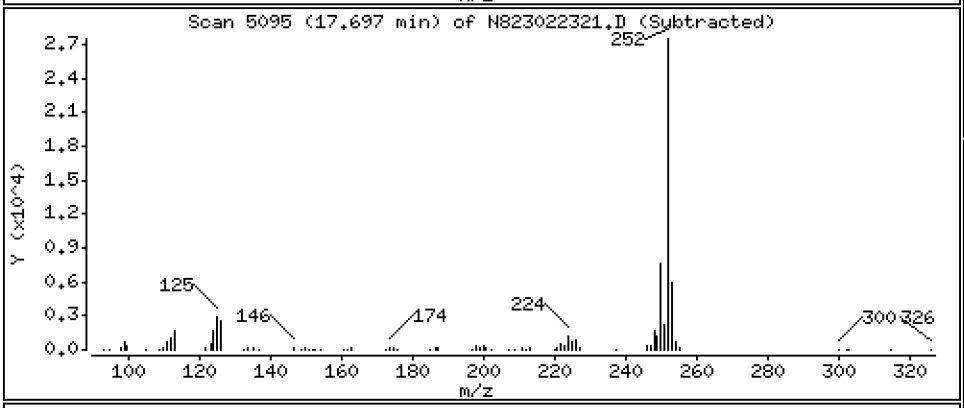
Column diameter: 0.25

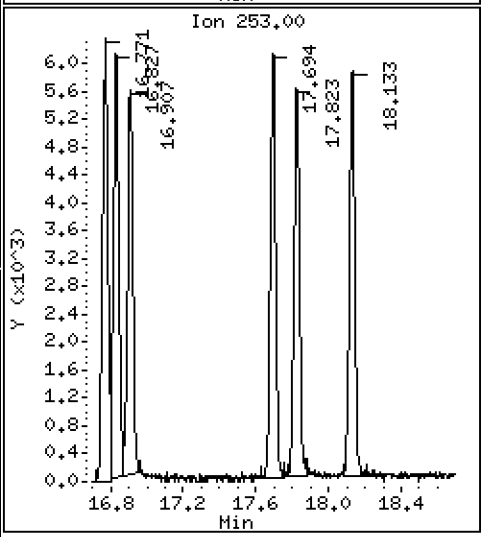
34 Benzo(e)pyrene

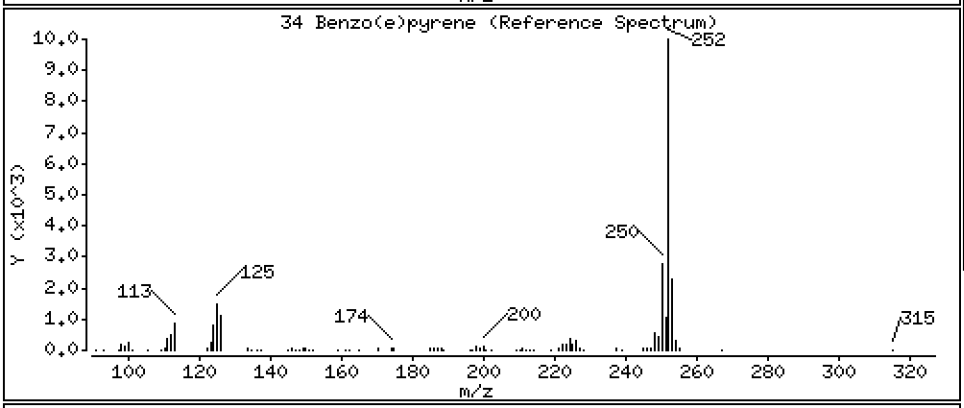
Concentration: 2.472 ug/mL

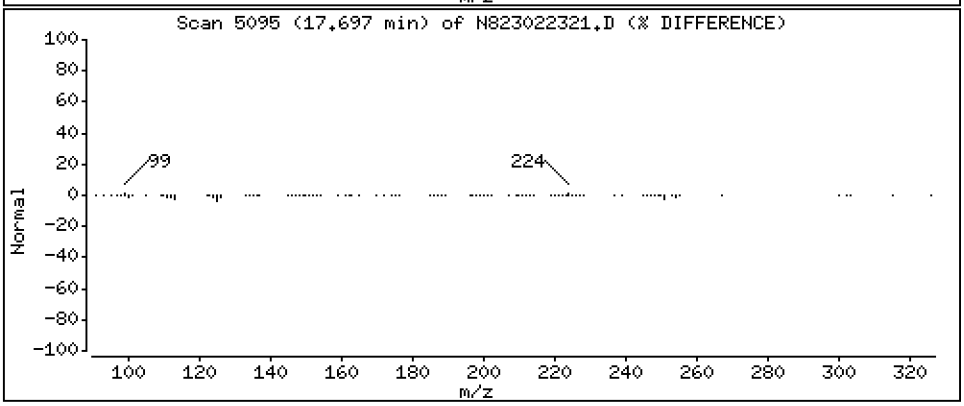












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Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

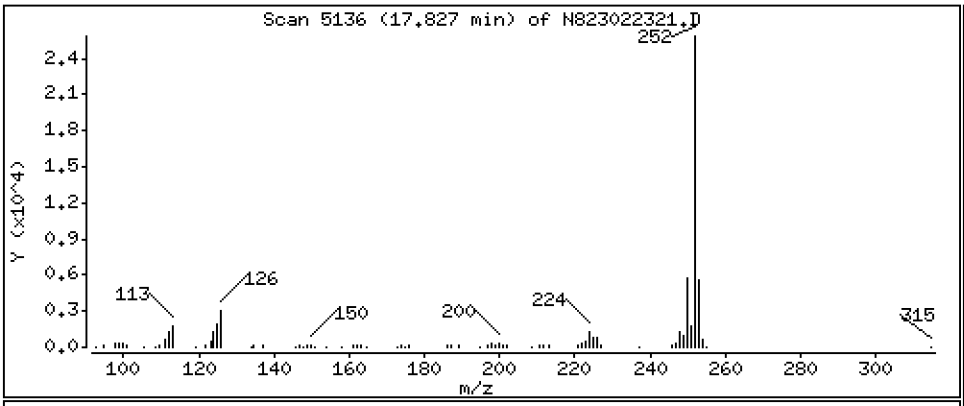
Operator: JZ

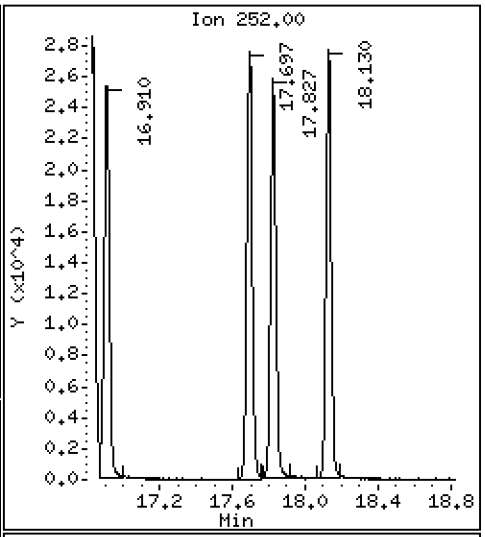
Column phase: Rxi-17sil

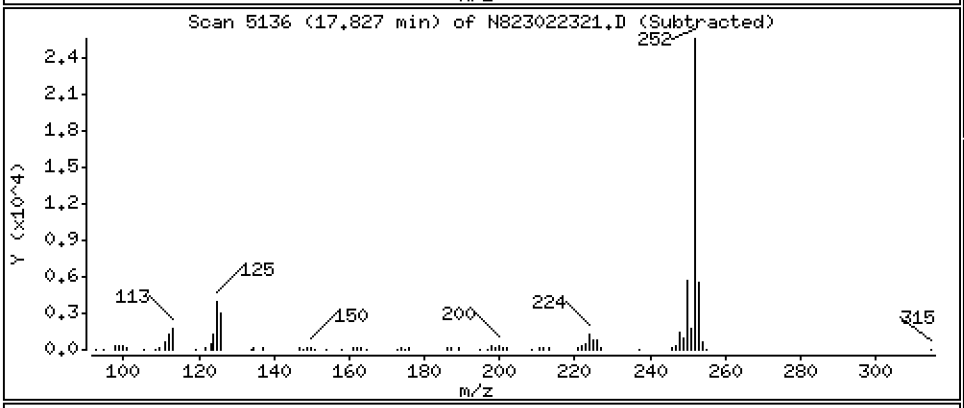
Column diameter: 0.25

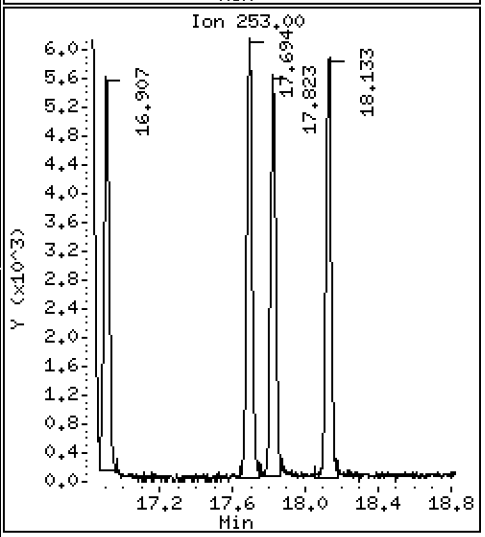
32 Benzo(a)pyrene

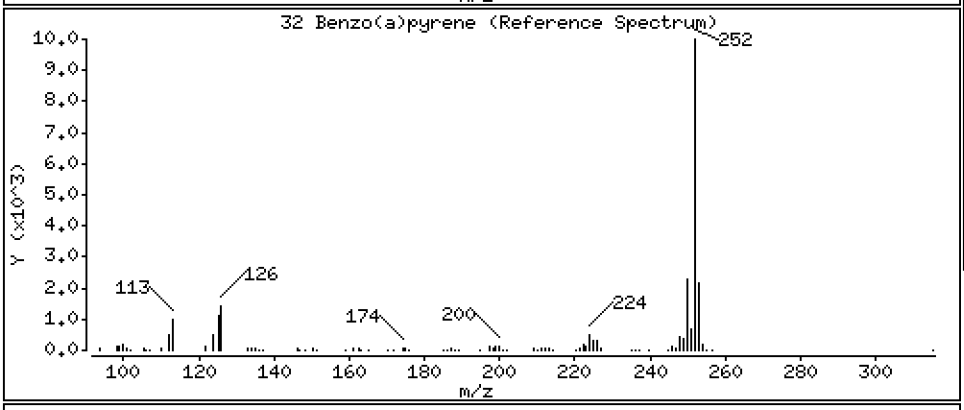
Concentration: 2.585 ug/mL

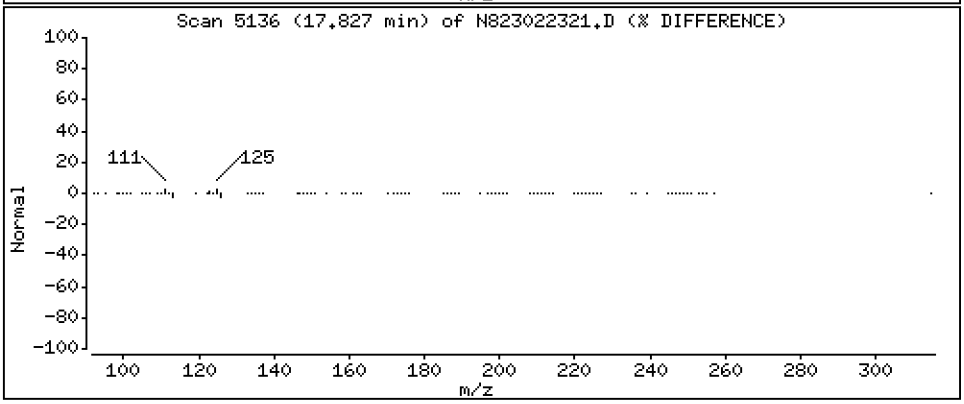












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Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

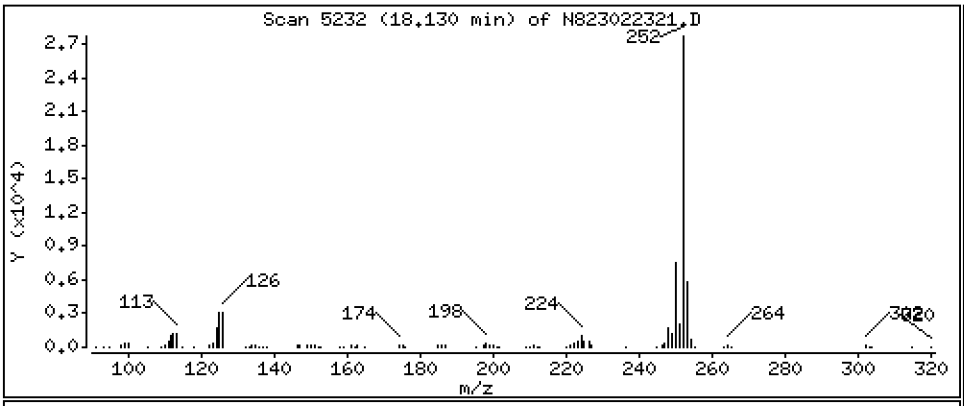
Operator: JZ

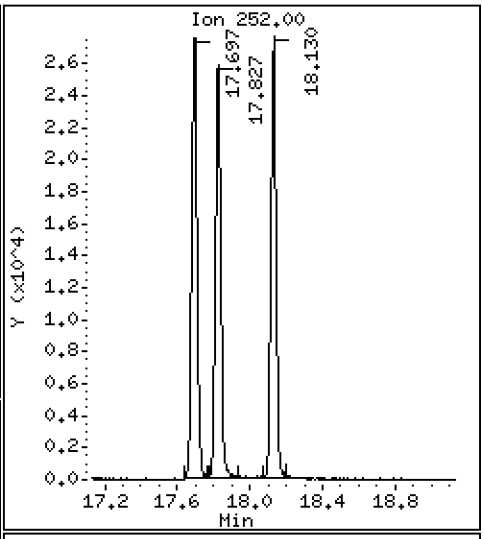
Column phase: Rxi-17sil

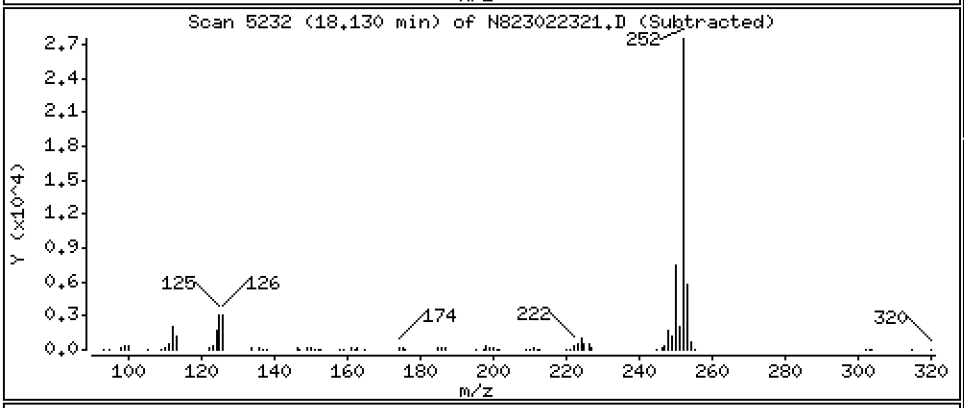
Column diameter: 0.25

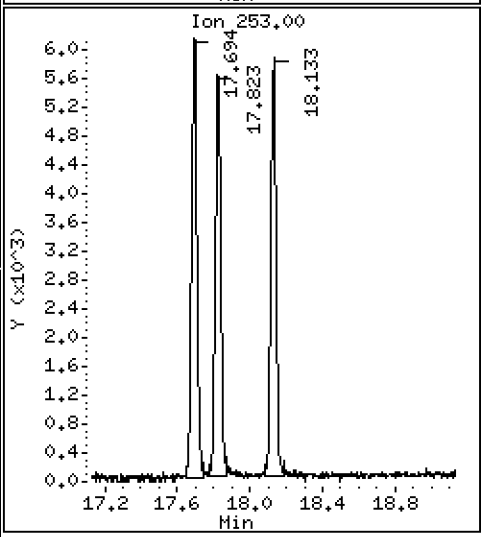
35 Perylene

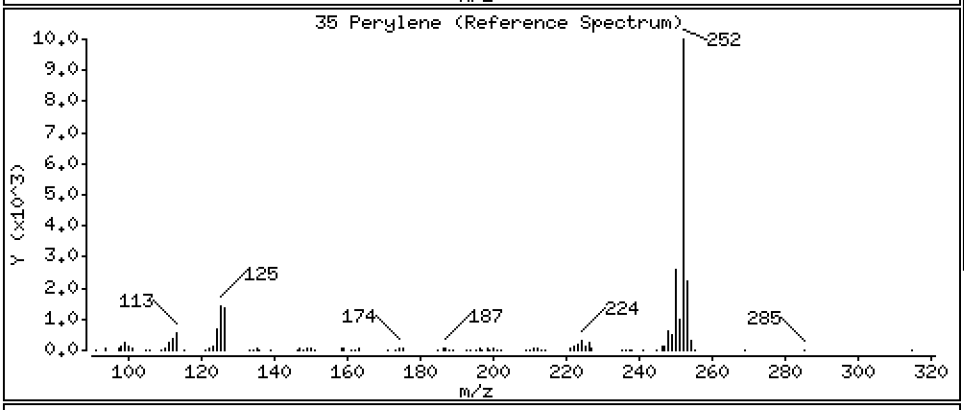
Concentration: 2.454 ug/mL

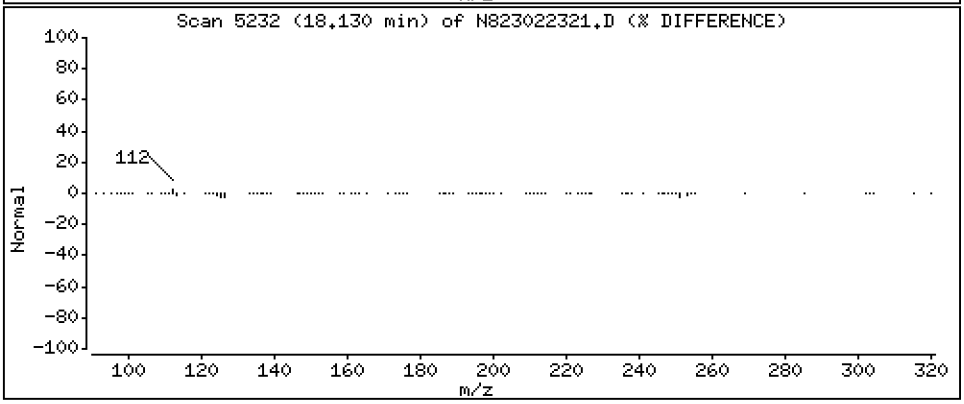












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Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

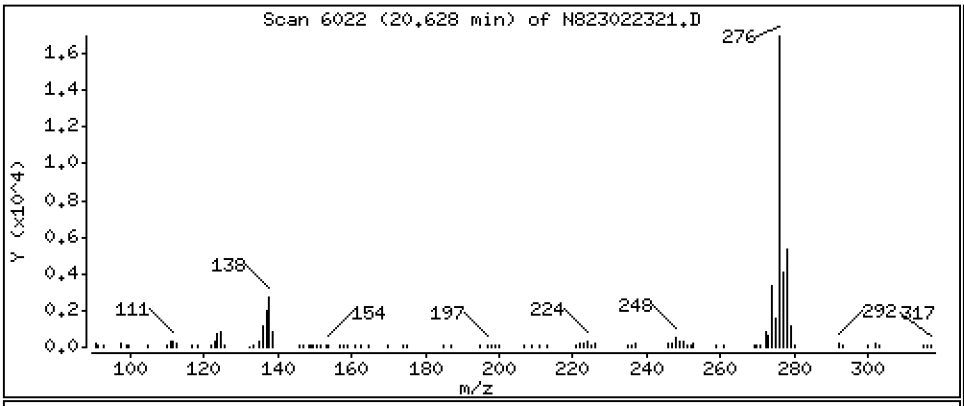
Operator: JZ

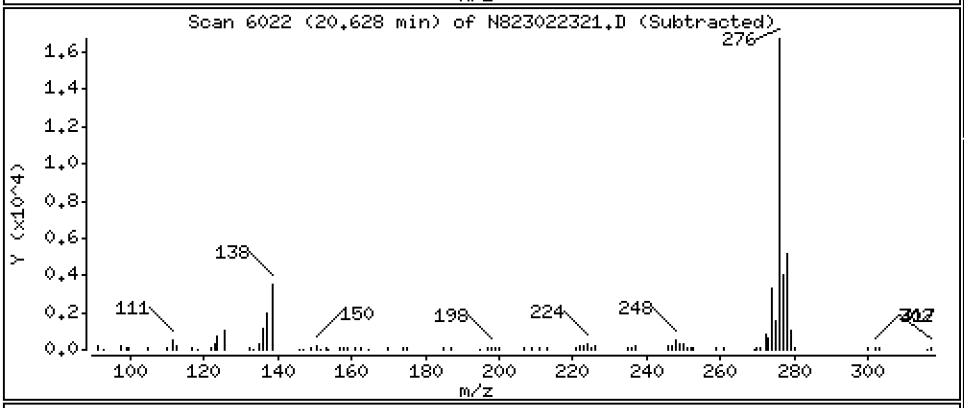
Column phase: Rxi-17sil

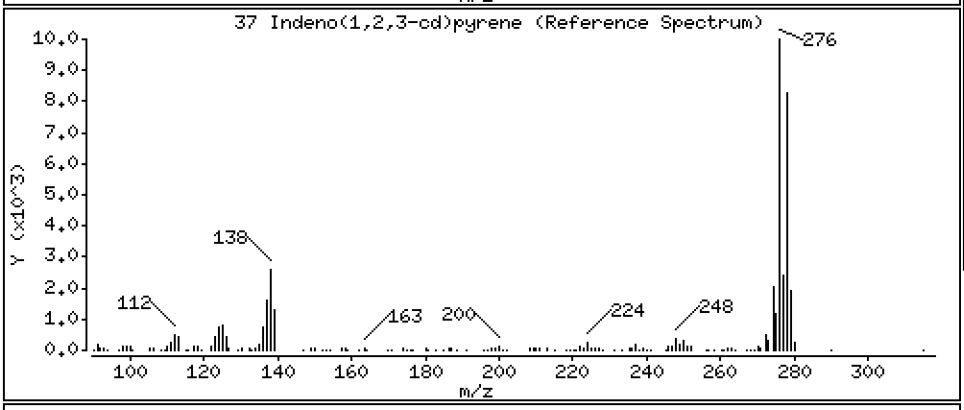
Column diameter: 0.25

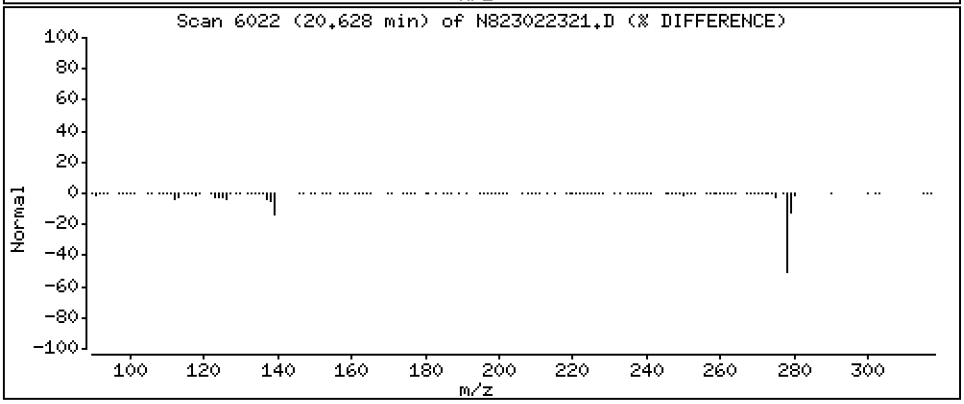
37 Indeno(1,2,3-cd)pyrene

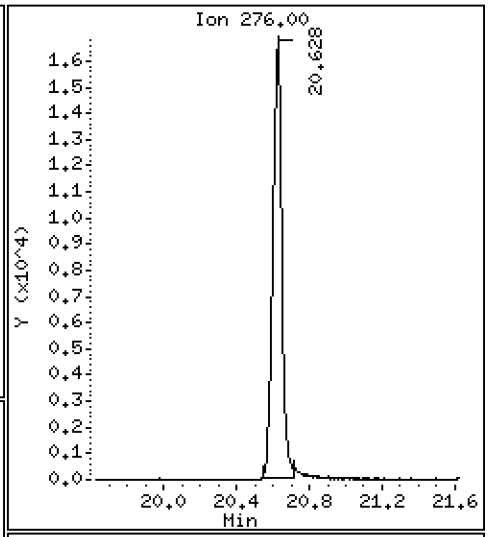
Concentration: 2.496 ug/mL

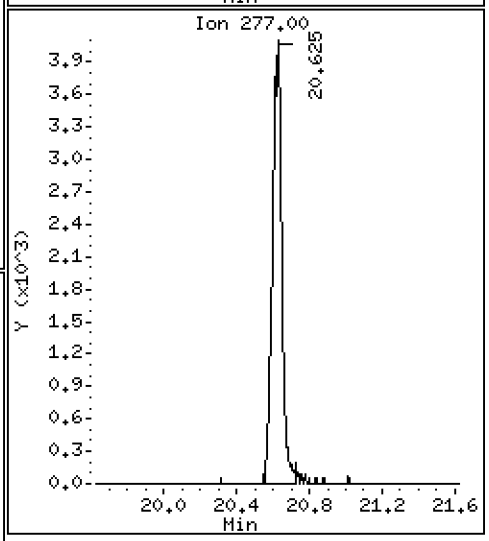












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Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

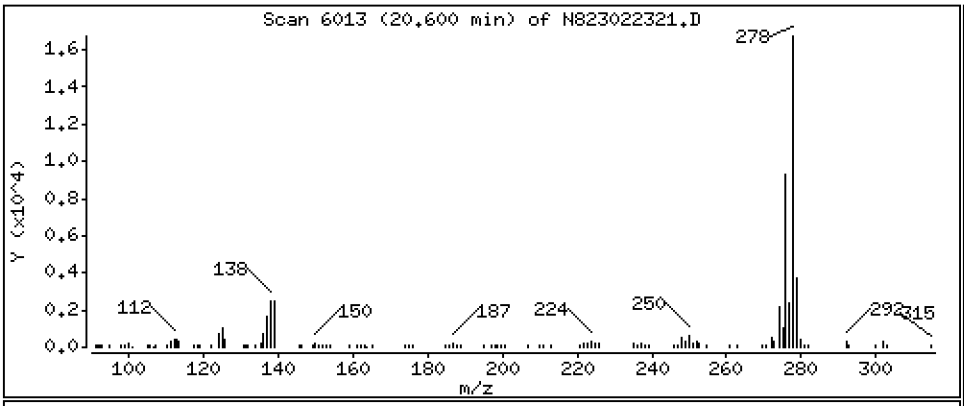
Operator: JZ

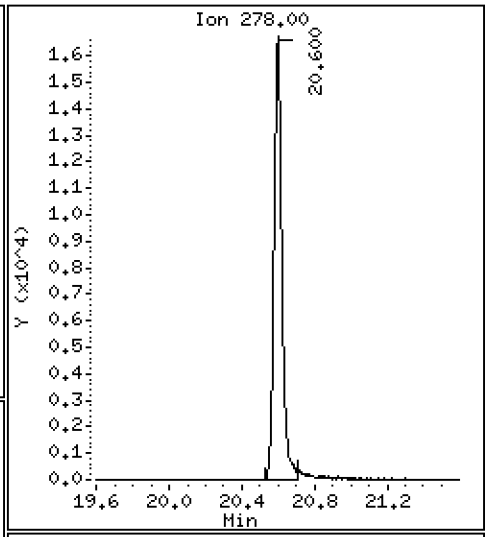
Column phase: Rxi-17sil

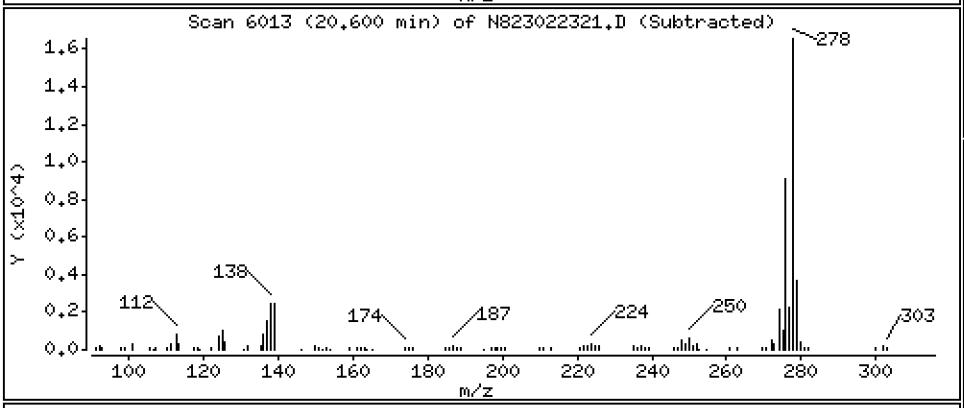
Column diameter: 0.25

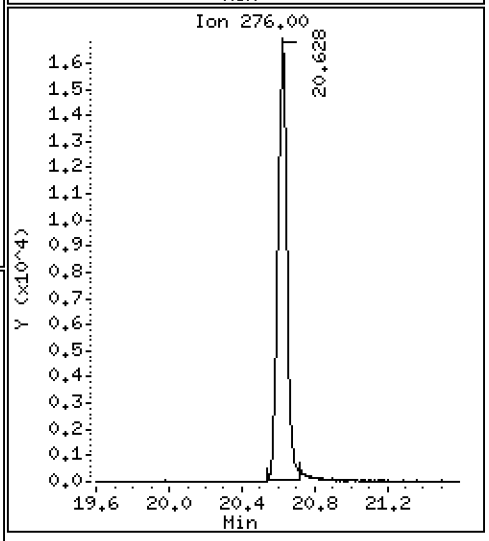
38 Dibenzo(a,h)anthracene

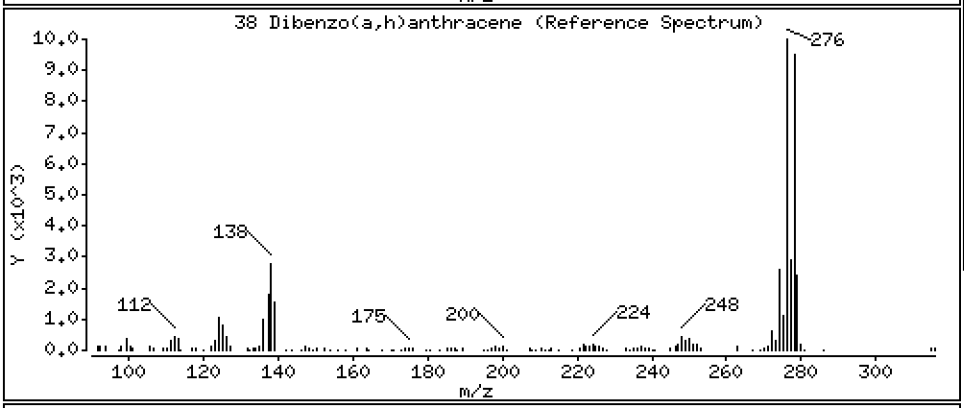
Concentration: 2.526 ug/mL

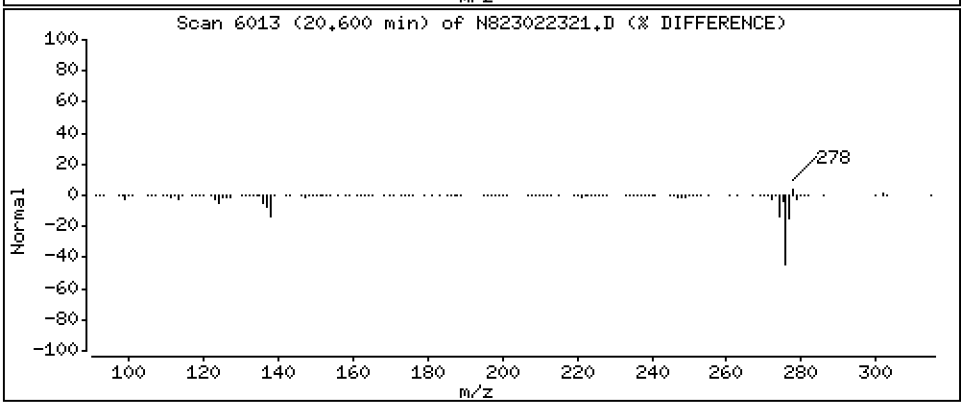












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Date : 23-FEB-2023 20:32

Client ID:

Instrument: nt8.i

Sample Info: CCV230223,

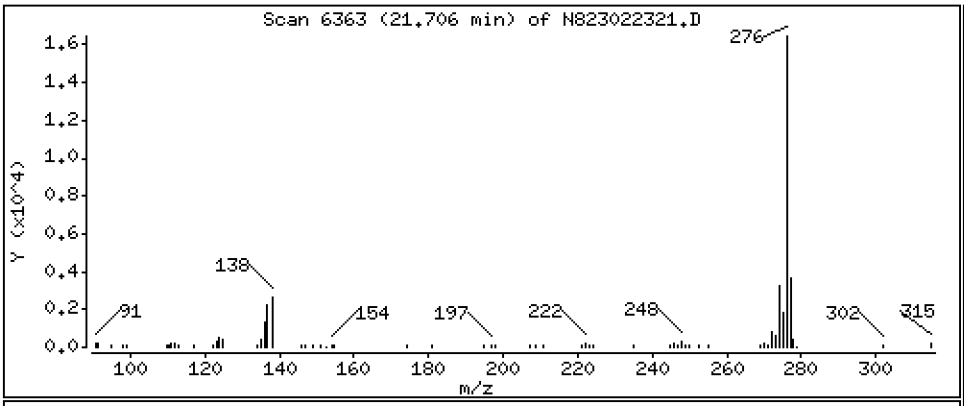
Operator: JZ

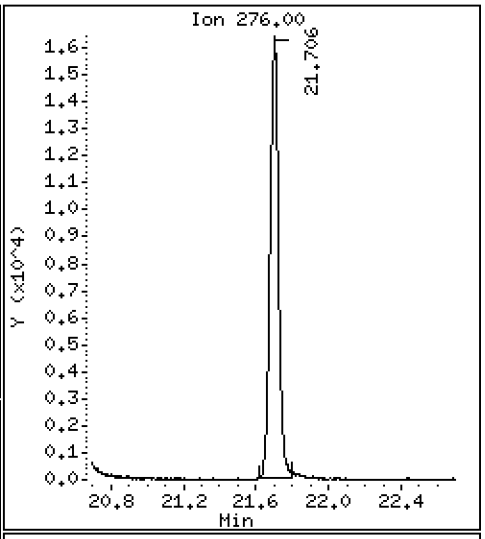
Column phase: Rxi-17sil

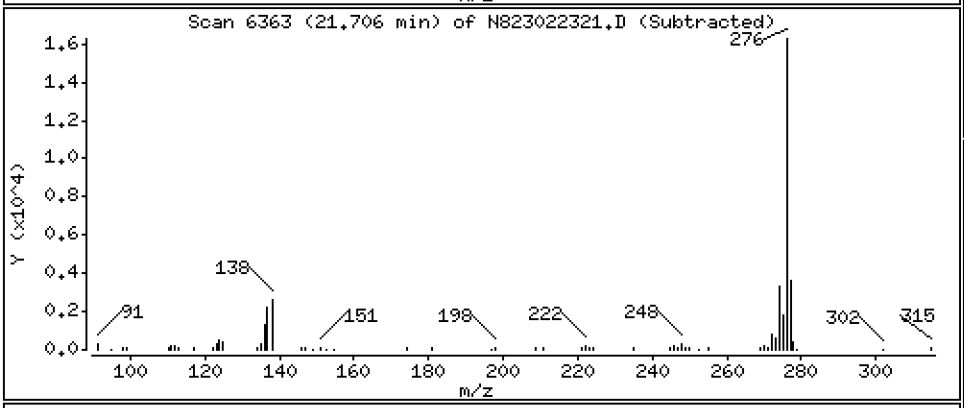
Column diameter: 0.25

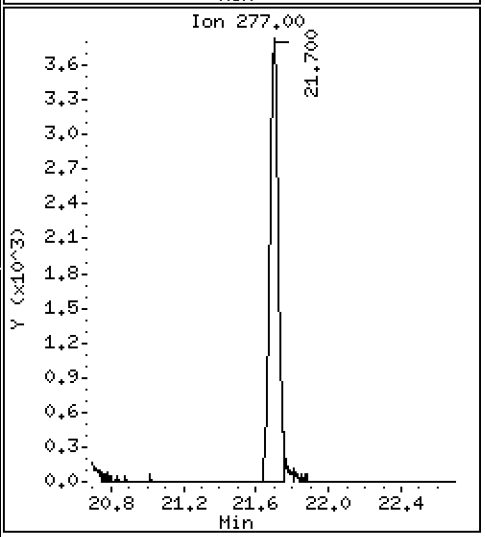
39 Benzo(g,h,i)perylene

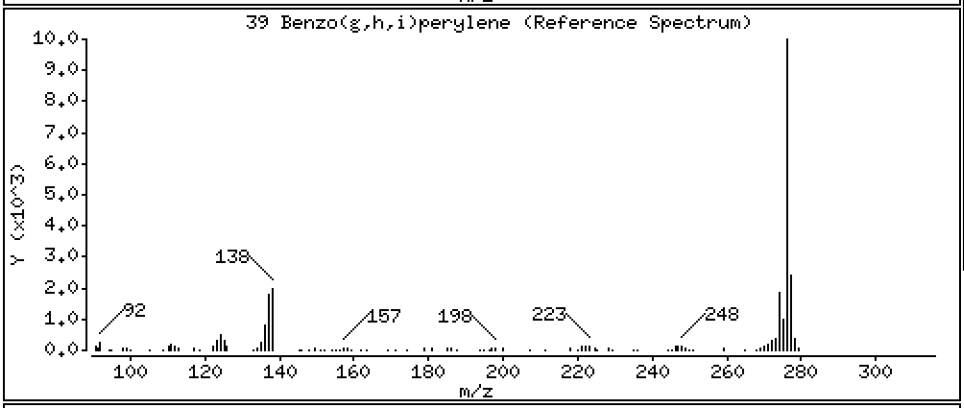
Concentration: 2.540 ug/mL

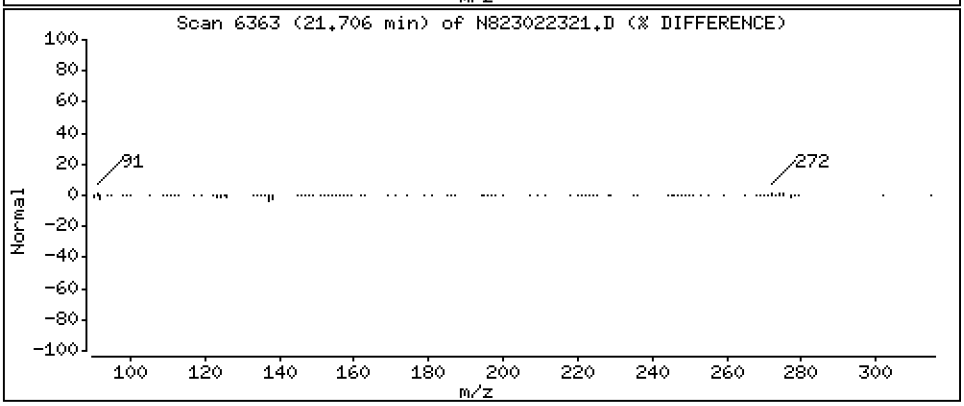












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt8.i\20230223.b\N823022321.D
Lab Smp Id: SLB0310-CCV1
Inj Date : 23-FEB-2023 20:32
Operator : JZ Inst ID: nt8.i
Smp Info : CCV230223,
Misc Info : 23-
Comment   : 1ul Injection
Method   : \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Meth Date : 26-Feb-2023 12:40 jianqing Quant Type: ISTD
Cal Date : 19-JAN-2023 13:46 Cal File: N823011908.D
Als bottle: 21
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FSIMPNAICLA.sub
Target Version: 4.14
Processing Host: JIANQING-202105

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
*	1 Naphthalene-d8	136	4.868	4.871	(1.000)	37105	2.00000	
	2 Naphthalene	128	4.900	4.903	(1.006)	43782	2.53775	2.538
$	3 2-Methylnaphthalene-d10	152	5.602	5.605	(1.151)	26857	2.65400	2.654
	4 2-Methylnaphthalene	141	5.649	5.652	(1.160)	25058	2.64056	2.641
	5 1-methylnaphthalene	141	5.845	5.849	(1.201)	25034	2.59926	2.599
	7 Biphenyl	154	6.307	6.310	(0.882)	37394	2.49569	2.496
	8 2,6-Dimethylnaphthalene	156	6.351	6.354	(0.888)	27645	2.60692	2.607
	9 Acenaphthylene	152	7.047	7.050	(0.985)	45882	2.67526	2.675
*	10 Acenaphthene-d10	164	7.154	7.158	(1.000)	22712	2.00000	
	11 Acenaphthene	153	7.205	7.208	(1.007)	29105	2.53278	2.533
	12 Dibenzofuran	168	7.357	7.360	(1.028)	43766	2.50753	2.508
	13 1,6,7-Trimethylnaphthalene	170	7.423	7.423	(1.038)	28890	2.62488	2.625
	14 Fluorene	166	7.834	7.837	(1.095)	35769	2.63862	2.639
	18 Dibenzothiophene	184	9.071	9.074	(0.986)	48712	2.53946	2.539
*	15 Phenanthrene-d10	188	9.197	9.197	(1.000)	43409	2.00000	
	16 Phenanthrene	178	9.232	9.235	(1.004)	52284	2.46572	2.466
	17 Anthracene	178	9.273	9.276	(1.008)	51238	2.65997	2.660
	19 Carbazole	167	9.788	9.791	(1.064)	45797	2.59341	2.593
	20 1-Methylphenanthrene	192	10.007	10.010	(1.088)	41040	2.68580	2.686
	22 Fluoranthene	202	11.006	11.009	(1.197)	61280	2.65498	2.655
$	21 Fluoranthene-d10	212	10.971	10.971	(1.193)	53803	2.80928	2.809
	23 Pyrene	202	11.524	11.527	(0.815)	63135	2.58986	2.590
	24 Benzo(a)anthracene	228	14.019	14.025	(0.991)	60688	2.74661	2.747
*	25 Chrysene-d12	240	14.146	14.152	(1.000)	39320	2.00000	
	27 Chrysene	228	14.221	14.225	(1.005)	58602	2.49138	2.491
	28 Benzo(b)fluoranthene	252	16.773	16.770	(0.929)	58301	2.50447	2.504
	29 Benzo(k)fluoranthene	252	16.830	16.833	(0.932)	56727	2.48785	2.488
	30 Benzo(j)fluoranthene	252	16.909	16.912	(0.937)	51036	2.48631	2.486
	31 Total Benzofluoranthenes	252	16.830	16.770	(0.932)	165600	7.51150	7.512(M)
	34 Benzo(e)pyrene	252	17.696	17.696	(0.980)	57380	2.47185	2.472
	32 Benzo(a)pyrene	252	17.826	17.826	(0.987)	52964	2.58548	2.585
*	33 Perylene-d12	264	18.054	18.057	(1.000)	39970	2.00000	
	35 Perylene	252	18.130	18.130	(1.004)	53941	2.45380	2.454

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
$ 36 Dibenzo(a,h)anthracene-d14	292	20.479	20.485	(1.134)	37441	2.39070	2.391
37 Indeno(1,2,3-cd)pyrene	276	20.628	20.624	(1.143)	58242	2.49564	2.496
38 Dibenzo(a,h)anthracene	278	20.599	20.596	(1.141)	50728	2.52582	2.526
39 Benzo(g,h,i)perylene	276	21.706	21.696	(1.202)	53701	2.53973	2.540

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: N823022321.D
Lab Smp Id: SLB0310-CCV1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20230223.b\FSIMPNA230119.m
Misc Info: 23-

Calibration Date: 23-FEB-2023
Calibration Time: 11:46
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	37022	18511	74044	37105	0.22
10 Acenaphthene-d10	22454	11227	44908	22712	1.15
15 Phenanthrene-d10	43277	21639	86554	43409	0.31
25 Chrysene-d12	38907	19454	77814	39320	1.06
33 Perylene-d12	39582	19791	79164	39970	0.98

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Naphthalene-d8	4.87	4.37	5.37	4.87	-0.06
10 Acenaphthene-d10	7.16	6.66	7.66	7.15	-0.04
15 Phenanthrene-d10	9.20	8.70	9.70	9.20	0.00
25 Chrysene-d12	14.15	13.65	14.65	14.15	-0.04
33 Perylene-d12	18.06	17.56	18.56	18.05	-0.02

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

REVIEW SUMMARY FOR FILE - N823022321.D

Lab ID: SLB0310-CCV1
nt8.i, 20230223.b\FSIMPNA230119.m,   23-FEB-2023 20:32

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

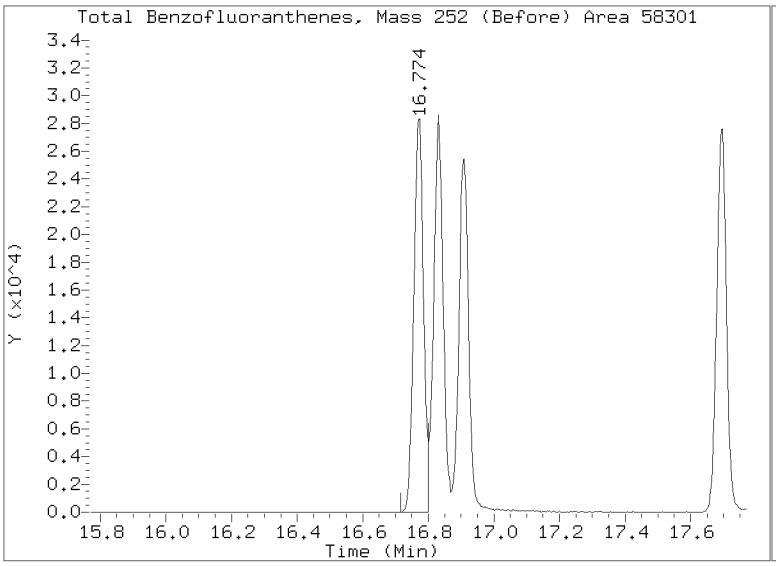
No RRT check performed

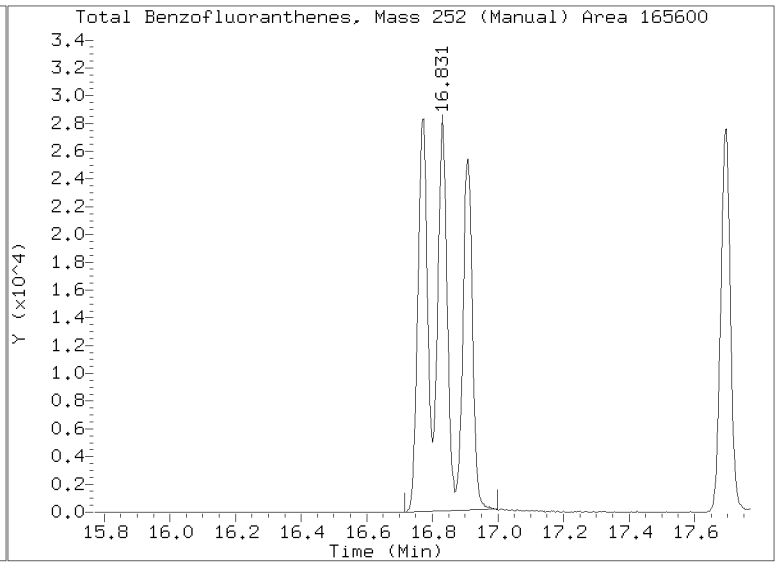
On Column LOD for nt8.i, 20230223.b\FSIMPNA230119.m, FSIMPNAICLA.sub = 0.0000

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

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20230223.b/N823022321.D
Injection Date: 23-FEB-2023 20:32
Lab ID:SLB0310-CCV1 Client ID:
Report Date: 02/26/2023 14:18





Analytical Resources, LLC
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLA0213	Instrument:	NT8
		Calibration:	GA00050

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SLA0213-TUN1	N823011901.D	NA	01/19/23 10:28
Initial Cal Blank	SLA0213-ICB1	N823011902.D	NA	01/19/23 10:59
8270 SIM PNA 0.1	SLA0213-CAL1	N823011903.D	NA	01/19/23 11:26
8270 SIM PNA 0.5	SLA0213-CAL2	N823011904.D	NA	01/19/23 11:58
8270 SIM PNA 1.0	SLA0213-CAL3	N823011905.D	NA	01/19/23 12:25
8270 SIM PNA 2.5	SLA0213-CAL4	N823011906.D	NA	01/19/23 12:52
8270 SIM PNA 5	SLA0213-CAL5	N823011907.D	NA	01/19/23 13:19
8270 SIM PNA 10	SLA0213-CAL6	N823011908.D	NA	01/19/23 13:46
8270 SIM PNA SCV	SLA0213-SCV1	N823011909.D	NA	01/19/23 14:58

Printed: 1/19/2023 8:45:16PM

ANALYSIS SEQUENCE

SLA0213

Instrument: NT8 Element Column ID: J006458
Calibration ID: GA00050

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Analyzed	Comments
SLA0213-TUN1	MS Tune	QC		1	K004775			
SLA0213-ICB1	Initial Cal Blank	QC		2		K008540		
SLA0213-CAL1	8270 SIM PNA 0.1	QC		3	L000603	K008540		
SLA0213-CAL2	8270 SIM PNA 0.5	QC		4	L000604	K008540		
SLA0213-CAL3	8270 SIM PNA 1.0	QC		5	L000605	K008540		
SLA0213-CAL4	8270 SIM PNA 2.5	QC		6	L000606	K008540		
SLA0213-CAL5	8270 SIM PNA 5	QC		7	L000607	K008540		
SLA0213-CAL6	8270 SIM PNA 10	QC		8	L000608	K008540		
SLA0213-SCV1	8270 SIM PNA SCV	QC		9	L000686	K008540		

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20230119.b

	Time	Filename	LabID	ClientId	DF										
1	1028	N823011901.D	SLA0213-TUN1		1	NO ISTDS FOUND									
2	1059	N823011902.D	SLA0213-ICB1		1	4.92	52082	7.20	30936	9.24	59030	14.22	50944	18.12	47418
3	1126	N823011903.D	SLA0213-CAL1		1	4.91	46132	7.20	27261	9.24	52158	14.20	44953	18.11	41635
4	1158	N823011904.D	SLA0213-CAL2		1	4.91	45056	7.20	26746	9.24	50759	14.21	44658	18.11	42567
5	1225	N823011905.D	SLA0213-CAL3		1	4.91	47180	7.20	28206	9.24	53233	14.20	46493	18.11	44587
6	1252	N823011906.D	SLA0213-CAL4		1	4.91	44704	7.20	26411	9.24	49210	14.20	42994	18.11	40520
7	1319	N823011907.D	SLA0213-CAL5		1	4.91	46542	7.20	27638	9.23	51351	14.20	44781	18.11	42187
8	1346	N823011908.D	SLA0213-CAL6		1	4.91	46070	7.20	26689	9.24	50683	14.21	43880	18.11	40659
9	1458	N823011909.D	SLA0213-SCV1		1	4.91	46346	7.20	27709	9.24	51685	14.21	46582	18.12	41743

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20230119.b

ARI Job No.: SLA0 Method: FSIMPNA230119.m Instrument: nt8.i Date: 19-JAN-2023

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1059	N823011902.D	SLA0213-ICB1		1	NO MANUAL INTEGRATION
1126	N823011903.D	SLA0213-CAL1		1	Total Benzofluoranthenes, Dibenzo(a,h)anthracene-d14,
1158	N823011904.D	SLA0213-CAL2		1	Total Benzofluoranthenes, Dibenzo(a,h)anthracene, Dibenzo(a,h)anthracene-d14,
1225	N823011905.D	SLA0213-CAL3		1	Total Benzofluoranthenes,
1252	N823011906.D	SLA0213-CAL4		1	Total Benzofluoranthenes,
1319	N823011907.D	SLA0213-CAL5		1	Total Benzofluoranthenes,
1346	N823011908.D	SLA0213-CAL6		1	Total Benzofluoranthenes,
1458	N823011909.D	SLA0213-SCV1		1	Total Benzofluoranthenes,

Security Status Report

Date: 19-Jan-2023 20:43

N823011901.D	Data Locked	jianqing, 19-Jan-2023 20:43
N823011902.D	Data Locked	jianqing, 19-Jan-2023 20:43
N823011903.D	Data Locked	jianqing, 19-Jan-2023 20:43
N823011904.D	Data Locked	jianqing, 19-Jan-2023 20:43
N823011905.D	Data Locked	jianqing, 19-Jan-2023 20:43
N823011906.D	Data Locked	jianqing, 19-Jan-2023 20:43
N823011907.D	Data Locked	jianqing, 19-Jan-2023 20:43
N823011908.D	Data Locked	jianqing, 19-Jan-2023 20:43
N823011909.D	Data Locked	jianqing, 19-Jan-2023 20:43

Analytical Resources, LLC
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLB0310	Instrument:	NT8
		Calibration:	GA00050

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SLB0310-TUN1	N823022301.D	NA	02/23/23 11:33
Initial Cal Check	SLB0310-ICV1	N823022302.D	NA	02/23/23 11:46
Blank	BLB0386-BLK1	N823022303.D	Solid	02/23/23 12:28
LCS	BLB0386-BS1	N823022304.D	Solid	02/23/23 12:55
LCS Dup	BLB0386-BSD1	N823022305.D	Solid	02/23/23 13:21
Reference	BLB0386-SRM1	N823022306.D	Solid	02/23/23 13:48
LDW23-IT1136	23A0418-01	N823022307.D	Solid	02/23/23 14:15
LDW23-IT1142	23A0418-02	N823022308.D	Solid	02/23/23 14:42
LDW23-IT1141	23A0418-04	N823022309.D	Solid	02/23/23 15:09
LDW23-IT1133	23A0418-05	N823022310.D	Solid	02/23/23 15:36
LDW23-IT1133-FD	23A0418-06	N823022311.D	Solid	02/23/23 16:03
LDW23-IT1180	23A0418-07	N823022312.D	Solid	02/23/23 16:30
LDW23-IT1218	23A0418-08	N823022313.D	Solid	02/23/23 16:57
LDW23-IT1218	BLB0386-MS1	N823022314.D	Solid	02/23/23 17:24
LDW23-IT1218	BLB0386-MSD1	N823022315.D	Solid	02/23/23 17:51
LDW23-IT1216	23A0418-09	N823022316.D	Solid	02/23/23 18:18
LDW23-IT1135	23A0418-10	N823022317.D	Solid	02/23/23 18:44
LDW23-IT1140	23A0418-11	N823022318.D	Solid	02/23/23 19:11
LDW23-IT1275	23A0418-12	N823022319.D	Solid	02/23/23 19:38
ZZZZZ	23A0420-04	N823022320.D	Solid	02/23/23 20:05
Calibration Check	SLB0310-CCV1	N823022321.D	NA	02/23/23 20:32

ANALYSIS SEQUENCE

SLB0310

Instrument: NT8
Calibration ID: GA00050
GC Description: Agilent 6890N/MS
GC Column 1 ID: RXI-17Sil ms
GC Column 2 ID:

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Analyzed	File ID	Analyst	Comments
SLB0310-TUN1	MS Tune	QC		1	K004775		02/23/2023 11:33	N823022301.D	JZ	
SLB0310-ICV1	Initial Cal Check	QC		2	L000606	K008540	02/23/2023 11:46	N823022302.D	JZ	
BLB0386-BLK1	Blank	QC		3		K008540	02/23/2023 12:28	N823022303.D	JZ	
BLB0386-BS1	LCS	QC		4		K008540	02/23/2023 12:55	N823022304.D	JZ	
BLB0386-BSD1	LCS Dup	QC		5		K008540	02/23/2023 13:21	N823022305.D	JZ	
BLB0386-SRM1	Reference	QC		6		K008540	02/23/2023 13:48	N823022306.D	JZ	
23A0418-01	LDW23-IT1136	E-SIM PAH (0.1ug/L or 5u	A 02	7		K008540	02/23/2023 14:15	N823022307.D	JZ	
23A0418-02	LDW23-IT1142	E-SIM PAH (0.1ug/L or 5u	A 02	8		K008540	02/23/2023 14:42	N823022308.D	JZ	
23A0418-04	LDW23-IT1141	E-SIM PAH (0.1ug/L or 5u	A 02	9		K008540	02/23/2023 15:09	N823022309.D	JZ	
23A0418-05	LDW23-IT1133	E-SIM PAH (0.1ug/L or 5u	A 02	10		K008540	02/23/2023 15:36	N823022310.D	JZ	
23A0418-06	LDW23-IT1133-FD	E-SIM PAH (0.1ug/L or 5u	A 02	11		K008540	02/23/2023 16:03	N823022311.D	JZ	
23A0418-07	LDW23-IT1180	E-SIM PAH (0.1ug/L or 5u	A 02	12		K008540	02/23/2023 16:30	N823022312.D	JZ	
23A0418-08	LDW23-IT1218	E-SIM PAH (0.1ug/L or 5u	A 02	13		K008540	02/23/2023 16:57	N823022313.D	JZ	
BLB0386-MS1	Matrix Spike	QC		14		K008540	02/23/2023 17:24	N823022314.D	JZ	
BLB0386-MSD1	Matrix Spike Dup	QC		15		K008540	02/23/2023 17:51	N823022315.D	JZ	
23A0418-09	LDW23-IT1216	E-SIM PAH (0.1ug/L or 5u	A 02	16		K008540	02/23/2023 18:18	N823022316.D	JZ	
23A0418-10	LDW23-IT1135	E-SIM PAH (0.1ug/L or 5u	A 02	17		K008540	02/23/2023 18:44	N823022317.D	JZ	
23A0418-11	LDW23-IT1140	E-SIM PAH (0.1ug/L or 5u	A 02	18		K008540	02/23/2023 19:11	N823022318.D	JZ	
23A0418-12	LDW23-IT1275	E-SIM PAH (0.1ug/L or 5u	A 02	19		K008540	02/23/2023 19:38	N823022319.D	JZ	
23A0420-04	LDW23-IT1051	E-SIM PAH (0.1ug/L or 5u	A 02	20		K008540	02/23/2023 20:05	N823022320.D	JZ	
SLB0310-CCV1	Calibration Check	QC		21	L000606	K008540	02/23/2023 20:32	N823022321.D	JZ	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20230223.b

	Time	Filename	LabID	ClientId	DF											
1	1133	N823022301.D	SLB0310-TUN1		1	|NO ISTDS FOUND||										
2	1146	N823022302.D	SLB0310-ICV1		1	| 4.87	37022||	7.16	22454||	9.20	43277||	14.15	38907||	18.06	39582|
3	1228	N823022303.D	BLB0386-BLK1		1	| 4.87	36588||	7.16	22657||	9.20	43370||	14.15	37533||	18.06	38522|
4	1255	N823022304.D	BLB0386-BS1		1	| 4.86	36805||	7.15	22686||	9.20	43305||	14.15	38188||	18.05	30254|
5	1321	N823022305.D	BLB0386-BSD1		1	| 4.86	37656||	7.15	23269||	9.20	44748||	14.15	39778||	18.05	31109|
6	1348	N823022306.D	BLB0386-SRM1		1	| 4.86	36781||	7.16	23087||	9.20	44202||	14.15	39564||	18.05	33596|
7	1415	N823022307.D	23A0418-01		1	| 4.86	34909||	7.15	21723||	9.20	42015||	14.15	36420||	18.05	30625|
8	1442	N823022308.D	23A0418-02		3	| 4.87	39912||	7.15	24830||	9.20	47393||	14.15	27515||	18.05	26898|
9	1509	N823022309.D	23A0418-04		1	| 4.86	40283||	7.15	24794||	9.20	46052||	14.16	27196||	18.06	27771|
10	1536	N823022310.D	23A0418-05		1	| 4.86	38607||	7.16	23678||	9.20	45069||	14.16	25346||	18.06	25404|
11	1603	N823022311.D	23A0418-06		3	| 4.87	37337||	7.16	22199||	9.20	42144||	14.16	24006||	18.06	23503|
12	1630	N823022312.D	23A0418-07		1	| 4.86	36376||	7.16	22491||	9.20	42544||	14.16	26277||	18.06	27027|
13	1657	N823022313.D	23A0418-08		1	| 4.86	40119||	7.16	23154||	9.20	41927||	14.17	21633||	18.07	21156|
14	1724	N823022314.D	BLB0386-MS1		1	| 4.86	39215||	7.16	22683||	9.20	40075||	14.17	20596||	18.07	20230|
15	1751	N823022315.D	BLB0386-MSD1		1	| 4.86	40625||	7.16	24116||	9.21	43556||	14.17	21468||	18.07	21995|
16	1818	N823022316.D	23A0418-09		1	| 4.86	40358||	7.16	23127||	9.20	40697||	14.15	28585||	18.06	30181|
17	1844	N823022317.D	23A0418-10		1	| 4.86	38644||	7.15	24337||	9.20	46427||	14.15	39684||	18.05	37490|
18	1911	N823022318.D	23A0418-11		1	| 4.86	40470||	7.15	24867||	9.20	45442||	14.15	27221||	18.06	30286|
19	1938	N823022319.D	23A0418-12		1	| 4.86	40111||	7.15	24513||	9.20	47710||	14.15	42597||	18.05	38662|
20	2005	N823022320.D	23A0420-04		3	| 4.87	39884||	7.16	24554||	9.20	46229||	14.16	23780||	18.06	27597|

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20230223.b

	Time	Filename	LabID	ClientId	DF											
21	2032	N823022321.D	SLB0310-CCV1		1	4.87	37105	7.15	22712	9.20	43409	14.15	39320	18.05	39970	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20230223.b

ARI Job No.: SLB0 Method: FSIMPNA230119.m Instrument: nt8.i Date: 23-FEB-2023

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1146	N823022302.D	SLB0310-ICV1		1	Total Benzofluoranthenes,
1228	N823022303.D	BLB0386-BLK1		1	NO MANUAL INTEGRATION
1255	N823022304.D	BLB0386-BS1		1	Total Benzofluoranthenes,
1321	N823022305.D	BLB0386-BSD1		1	Total Benzofluoranthenes,
1348	N823022306.D	BLB0386-SRM1		1	Total Benzofluoranthenes,
1415	N823022307.D	23A0418-01		1	Indeno(1,2,3-cd)pyrene, Anthracene, Total Benzofluoranthenes, Benzo(g,h,i)perylene, Chrysene,
1442	N823022308.D	23A0418-02		3	Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene, Fluorene, Total Benzofluoranthenes, Benzo(e)pyrene,
1509	N823022309.D	23A0418-04		1	Dibenzo(a,h)anthracene, Acenaphthylene, Acenaphthene, Fluorene, Total Benzofluoranthenes,
1536	N823022310.D	23A0418-05		1	Dibenzo(a,h)anthracene, Total Benzofluoranthenes, Carbazole,
1603	N823022311.D	23A0418-06		3	Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene, Fluorene, Total Benzofluoranthenes, Dibenzo(a,h)anthracene-d14,
1630	N823022312.D	23A0418-07		1	Dibenzo(a,h)anthracene, Acenaphthylene, Acenaphthene, Fluorene, Total Benzofluoranthenes,
1657	N823022313.D	23A0418-08		1	Acenaphthene, Dibenzofuran, Fluorene, Total Benzofluoranthenes,
1724	N823022314.D	BLB0386-MS1		1	Dibenzo(a,h)anthracene, Total Benzofluoranthenes, Benzo(g,h,i)perylene, Dibenzo(a,h)anthracene-d14,
1751	N823022315.D	BLB0386-MSD1		1	Dibenzo(a,h)anthracene, Total Benzofluoranthenes,
1818	N823022316.D	23A0418-09		1	Dibenzo(a,h)anthracene, 2-Methylnaphthalene, Acenaphthene, Dibenzofuran, Fluorene, Total Benzofluoranthenes, Benzo(g,h,i)perylene, Benzo(j)fluoranthene, Benzo(e)pyrene,
1844	N823022317.D	23A0418-10		1	Pyrene, Indeno(1,2,3-cd)pyrene, Phenanthrene, Anthracene, Benzo(a)pyrene, Fluoranthene, Total Benzofluoranthenes, Benzo(g,h,i)perylene, Benzo(a)anthracene, Benzo(j)fluoranthene, Chrysene, Benzo(k)fluoranthene,
1911	N823022318.D	23A0418-11		1	Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene, Acenaphthene, Benzo(a)pyrene, Total Benzofluoranthenes, Benzo(e)pyrene,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20230223.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1938	N823022319.D	23A0418-12		1	Indeno(1,2,3-cd)pyrene, Anthracene, Total Benzofluoranthenes, Benzo(g,h,i)perylene,
2005	N823022320.D	23A0420-04		3	Dibenzo(a,h)anthracene, Acenaphthylene, Acenaphthene, Fluorene, Total Benzofluoranthenes, Benzo(g,h,i)perylene, Benzo(a)anthracene, Carbazole, Benzo(e)pyrene,
2032	N823022321.D	SLB0310-CCV1		1	Total Benzofluoranthenes,

Security Status Report

Date: 26-Feb-2023 18:24

N823022301.D	Data Locked	jianqing, 26-Feb-2023 18:24
N823022302.D	Data Locked	jianqing, 26-Feb-2023 18:24
N823022303.D	Data Locked	jianqing, 26-Feb-2023 18:24
N823022304.D	Data Locked	jianqing, 26-Feb-2023 18:24
N823022305.D	Data Locked	jianqing, 26-Feb-2023 18:24
N823022306.D	Data Locked	jianqing, 26-Feb-2023 18:24
N823022307.D	Data Locked	jianqing, 26-Feb-2023 18:24
N823022308.D	Data Locked	jianqing, 26-Feb-2023 18:24
N823022309.D	Data Locked	jianqing, 26-Feb-2023 18:24
N823022310.D	Data Locked	jianqing, 26-Feb-2023 18:24
N823022311.D	Data Locked	jianqing, 26-Feb-2023 18:24
N823022312.D	Data Locked	jianqing, 26-Feb-2023 18:24
N823022313.D	Data Locked	jianqing, 26-Feb-2023 18:24
N823022314.D	Data Locked	jianqing, 26-Feb-2023 18:24
N823022315.D	Data Locked	jianqing, 26-Feb-2023 18:24
N823022316.D	Data Locked	jianqing, 26-Feb-2023 18:24
N823022317.D	Data Locked	jianqing, 26-Feb-2023 18:24
N823022318.D	Data Locked	jianqing, 26-Feb-2023 18:24
N823022319.D	Data Locked	jianqing, 26-Feb-2023 18:24
N823022320.D	Data Locked	jianqing, 26-Feb-2023 18:24
N823022321.D	Data Locked	jianqing, 26-Feb-2023 18:24

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Extract Dilution Bench Sheet

Sequence: SLB0310
Analyst: JZ Date: 2/23/23

Sample ID	Primary Dilution				Secondary Dilution			
	Extract Volume (uL)	Diluent ID	Diluent Volume (uL)	Dilution Factor	Extract Volume (uL)	Diluent ID	Diluent Volume (uL)	Dilution Factor
23A0418-02	100	L000808	200	3				
23A0418-06	100		200	3				
23A0420-04	100		200	3				

Form 12010F Version 002 03/01/2018

SURROGATE RECOVERY AND RT SUMMARY
EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG/WO:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLA0213	Instrument:	NT8
Calibration:	GA00050	Calibration Date:	01/19/2023

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SLA0213-ICB1 (Water)			Lab File ID: N823011902.D			Analyzed: 01/19/23 10:59		
2-Methylnaphthalene-d10			31 - 120		5.6415	-5.6415	N/A	
Dibenzo[a,h]anthracene-d14			10 - 125		20.5525	-20.5525	N/A	
Fluoranthene-d10			46 - 121		11.016	-11.0160	N/A	

Analytical Resources, LLC
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY
EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG/WO:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLB0310	Instrument:	NT8
Calibration:	GA00050	Calibration Date:	01/19/2023

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SLB0310-ICV1 (Solid)				Lab File ID: N823022302.D			Analyzed: 02/23/23 11:46	
2-Methylnaphthalene-d10	2.5000	107	80 - 120	5.605	5.6415	-0.0365	N/A	
Dibenzo[a,h]anthracene-d14	2.5000	96.5	80 - 120	20.485	20.5525	-0.0675	N/A	
Fluoranthene-d10	2.5000	112	80 - 120	10.971	11.016	-0.0450	N/A	
BLB0386-BLK1 (Solid)				Lab File ID: N823022303.D			Analyzed: 02/23/23 12:28	
2-Methylnaphthalene-d10	150.00	80.5	32 - 120	5.602	5.6415	-0.0395	N/A	
Dibenzo[a,h]anthracene-d14	150.00	97.2	21 - 133	20.486	20.5525	-0.0665	N/A	
Fluoranthene-d10	150.00	99.3	36 - 134	10.974	11.016	-0.0420	N/A	
BLB0386-BS1 (Solid)				Lab File ID: N823022304.D			Analyzed: 02/23/23 12:55	
2-Methylnaphthalene-d10	150.00	101	32 - 120	5.599	5.6415	-0.0425	N/A	
Dibenzo[a,h]anthracene-d14	150.00	154	21 - 133	20.482	20.5525	-0.0705	N/A	*
Fluoranthene-d10	150.00	123	36 - 134	10.968	11.016	-0.0480	N/A	
BLB0386-BSD1 (Solid)				Lab File ID: N823022305.D			Analyzed: 02/23/23 13:21	
2-Methylnaphthalene-d10	150.00	101	32 - 120	5.599	5.6415	-0.0425	N/A	
Dibenzo[a,h]anthracene-d14	150.00	148	21 - 133	20.485	20.5525	-0.0675	N/A	*
Fluoranthene-d10	150.00	118	36 - 134	10.968	11.016	-0.0480	N/A	
BLB0386-SRM1 (Solid)				Lab File ID: N823022306.D			Analyzed: 02/23/23 13:48	
2-Methylnaphthalene-d10	300.00	106	32 - 120	5.599	5.6415	-0.0425	N/A	
Dibenzo[a,h]anthracene-d14	300.00	139	21 - 133	20.476	20.5525	-0.0765	N/A	*
Fluoranthene-d10	300.00	123	36 - 134	10.968	11.016	-0.0480	N/A	
23A0418-01 (Solid)				Lab File ID: N823022307.D			Analyzed: 02/23/23 14:15	
2-Methylnaphthalene-d10	143.48	99.8	32 - 120	5.599	5.6415	-0.0425	N/A	
Dibenzo[a,h]anthracene-d14	143.48	139	21 - 133	20.479	20.5525	-0.0735	N/A	*
Fluoranthene-d10	143.48	117	36 - 134	10.968	11.016	-0.0480	N/A	
23A0418-02 (Solid)				Lab File ID: N823022308.D			Analyzed: 02/23/23 14:42	
2-Methylnaphthalene-d10	146.85	91.3	32 - 120	5.602	5.6415	-0.0395	N/A	
Dibenzo[a,h]anthracene-d14	146.85	115	21 - 133	20.482	20.5525	-0.0705	N/A	
Fluoranthene-d10	146.85	85.2	36 - 134	10.968	11.016	-0.0480	N/A	

SURROGATE RECOVERY AND RT SUMMARY
EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG/WO:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLB0310	Instrument:	NT8
Calibration:	GA00050	Calibration Date:	01/19/2023

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
23A0418-04 (Solid)				Lab File ID: N823022309.D			Analyzed: 02/23/23 15:09	
2-Methylnaphthalene-d10	143.11	64.8	32 - 120	5.599	5.6415	-0.0425	N/A	
Dibenzo[a,h]anthracene-d14	143.11	82.1	21 - 133	20.485	20.5525	-0.0675	N/A	
Fluoranthene-d10	143.11	77.1	36 - 134	10.987	11.016	-0.0290	N/A	
23A0418-05 (Solid)				Lab File ID: N823022310.D			Analyzed: 02/23/23 15:36	
2-Methylnaphthalene-d10	149.83	63.9	32 - 120	5.599	5.6415	-0.0425	N/A	
Dibenzo[a,h]anthracene-d14	149.83	83.9	21 - 133	20.485	20.5525	-0.0675	N/A	
Fluoranthene-d10	149.83	78.5	36 - 134	10.987	11.016	-0.0290	N/A	
23A0418-06 (Solid)				Lab File ID: N823022311.D			Analyzed: 02/23/23 16:03	
2-Methylnaphthalene-d10	147.76	93.6	32 - 120	5.602	5.6415	-0.0395	N/A	
Dibenzo[a,h]anthracene-d14	147.76	113	21 - 133	20.485	20.5525	-0.0675	N/A	
Fluoranthene-d10	147.76	102	36 - 134	10.977	11.016	-0.0390	N/A	
23A0418-07 (Solid)				Lab File ID: N823022312.D			Analyzed: 02/23/23 16:30	
2-Methylnaphthalene-d10	146.53	86.1	32 - 120	5.599	5.6415	-0.0425	N/A	
Dibenzo[a,h]anthracene-d14	146.53	114	21 - 133	20.482	20.5525	-0.0705	N/A	
Fluoranthene-d10	146.53	109	36 - 134	10.987	11.016	-0.0290	N/A	
23A0418-08 (Solid)				Lab File ID: N823022313.D			Analyzed: 02/23/23 16:57	
2-Methylnaphthalene-d10	150.03	68.3	32 - 120	5.602	5.6415	-0.0395	N/A	
Dibenzo[a,h]anthracene-d14	150.03	90.1	21 - 133	20.495	20.5525	-0.0575	N/A	
Fluoranthene-d10	150.03	89.9	36 - 134	10.996	11.016	-0.0200	N/A	
BLB0386-MS1 (Solid)				Lab File ID: N823022314.D			Analyzed: 02/23/23 17:24	
2-Methylnaphthalene-d10	150.03	72.2	32 - 120	5.602	5.6415	-0.0395	N/A	
Dibenzo[a,h]anthracene-d14	150.03	89.7	21 - 133	20.501	20.5525	-0.0515	N/A	
Fluoranthene-d10	150.03	97.2	36 - 134	10.996	11.016	-0.0200	N/A	
BLB0386-MSD1 (Solid)				Lab File ID: N823022315.D			Analyzed: 02/23/23 17:51	
2-Methylnaphthalene-d10	150.03	70.8	32 - 120	5.602	5.6415	-0.0395	N/A	
Dibenzo[a,h]anthracene-d14	150.03	93.9	21 - 133	20.501	20.5525	-0.0515	N/A	
Fluoranthene-d10	150.03	92.8	36 - 134	10.999	11.016	-0.0170	N/A	

SURROGATE RECOVERY AND RT SUMMARY
EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG/WO:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLB0310	Instrument:	NT8
Calibration:	GA00050	Calibration Date:	01/19/2023

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
23A0418-09 (Solid)				Lab File ID: N823022316.D			Analyzed: 02/23/23 18:18	
2-Methylnaphthalene-d10	146.81	93.3	32 - 120	5.599	5.6415	-0.0425	N/A	
Dibenzo[a,h]anthracene-d14	146.81	122	21 - 133	20.485	20.5525	-0.0675	N/A	
Fluoranthene-d10	146.81	117	36 - 134	10.971	11.016	-0.0450	N/A	
23A0418-10 (Solid)				Lab File ID: N823022317.D			Analyzed: 02/23/23 18:44	
2-Methylnaphthalene-d10	148.63	93.7	32 - 120	5.599	5.6415	-0.0425	N/A	
Dibenzo[a,h]anthracene-d14	148.63	109	21 - 133	20.479	20.5525	-0.0735	N/A	
Fluoranthene-d10	148.63	109	36 - 134	10.971	11.016	-0.0450	N/A	
23A0418-11 (Solid)				Lab File ID: N823022318.D			Analyzed: 02/23/23 19:11	
2-Methylnaphthalene-d10	146.87	101	32 - 120	5.599	5.6415	-0.0425	N/A	
Dibenzo[a,h]anthracene-d14	146.87	136	21 - 133	20.482	20.5525	-0.0705	N/A	*
Fluoranthene-d10	146.87	114	36 - 134	10.974	11.016	-0.0420	N/A	
23A0418-12 (Solid)				Lab File ID: N823022319.D			Analyzed: 02/23/23 19:38	
2-Methylnaphthalene-d10	145.78	85.4	32 - 120	5.599	5.6415	-0.0425	N/A	
Dibenzo[a,h]anthracene-d14	145.78	108	21 - 133	20.482	20.5525	-0.0705	N/A	
Fluoranthene-d10	145.78	104	36 - 134	10.971	11.016	-0.0450	N/A	
SLB0310-CCV1 (Solid)				Lab File ID: N823022321.D			Analyzed: 02/23/23 20:32	
2-Methylnaphthalene-d10	2.5000	106	50 - 150	5.602	5.6415	-0.0395	N/A	
Dibenzo[a,h]anthracene-d14	2.5000	95.6	50 - 150	20.479	20.5525	-0.0735	N/A	
Fluoranthene-d10	2.5000	112	50 - 150	10.971	11.016	-0.0450	N/A	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270E-SIM

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLA0213
Instrument: NT8
Calibration: GA00050

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Blank (SLA0213-ICB1)		(Water)		Lab File ID: N823011902.D				Analyzed: 01/19/23 10:59	
Naphthalene-d8	52082	4.916	44704	4.906	117	50 - 200	0.010	+/-0.50	
Acenaphthene-d10	30936	7.202	26411	7.196	117	50 - 200	0.006	+/-0.50	
Phenanthrene-d10	59030	9.241	49210	9.235	120	50 - 200	0.006	+/-0.50	
Chrysene-d12	50944	14.215	42994	14.202	118	50 - 200	0.013	+/-0.50	
Perylene-d12	47418	18.12	40520	18.111	117	50 - 200	0.009	+/-0.50	
Secondary Cal Check (SLA0213-SCV1)		(Water)		Lab File ID: N823011909.D				Analyzed: 01/19/23 14:58	
Naphthalene-d8	46346	4.913	44704	4.906	104	50 - 200	0.007	+/-0.50	
Acenaphthene-d10	27709	7.202	26411	7.196	105	50 - 200	0.006	+/-0.50	
Phenanthrene-d10	51685	9.238	49210	9.235	105	50 - 200	0.003	+/-0.50	
Chrysene-d12	46582	14.212	42994	14.202	108	50 - 200	0.010	+/-0.50	
Perylene-d12	41743	18.117	40520	18.111	103	50 - 200	0.006	+/-0.50	

Analytical Resources, LLC
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLB0310	Instrument:	NT8
		Calibration:	GA00050

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SLB0310-ICV1)		(Solid)		Lab File ID: N823022302.D				Analyzed: 02/23/23 11:46	
Naphthalene-d8	37022	4.871	37022	4.871	100	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	22454	7.158	22454	7.158	100	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	43277	9.197	43277	9.197	100	50 - 200	0.000	+/-0.50	
Chrysene-d12	38907	14.152	38907	14.152	100	50 - 200	0.000	+/-0.50	
Perylene-d12	39582	18.057	39582	18.057	100	50 - 200	0.000	+/-0.50	
Blank (BLB0386-BLK1)		(Solid)		Lab File ID: N823022303.D				Analyzed: 02/23/23 12:28	
Naphthalene-d8	36588	4.865	37022	4.871	99	50 - 200	-0.006	+/-0.50	
Acenaphthene-d10	22657	7.161	22454	7.158	101	50 - 200	0.003	+/-0.50	
Phenanthrene-d10	43370	9.2	43277	9.197	100	50 - 200	0.003	+/-0.50	
Chrysene-d12	37533	14.152	38907	14.152	96	50 - 200	0.000	+/-0.50	
Perylene-d12	38522	18.06	39582	18.057	97	50 - 200	0.003	+/-0.50	
LCS (BLB0386-BS1)		(Solid)		Lab File ID: N823022304.D				Analyzed: 02/23/23 12:55	
Naphthalene-d8	36805	4.862	37022	4.871	99	50 - 200	-0.009	+/-0.50	
Acenaphthene-d10	22686	7.154	22454	7.158	101	50 - 200	-0.004	+/-0.50	
Phenanthrene-d10	43305	9.197	43277	9.197	100	50 - 200	0.000	+/-0.50	
Chrysene-d12	38188	14.146	38907	14.152	98	50 - 200	-0.006	+/-0.50	
Perylene-d12	30254	18.051	39582	18.057	76	50 - 200	-0.006	+/-0.50	
LCS Dup (BLB0386-BSD1)		(Solid)		Lab File ID: N823022305.D				Analyzed: 02/23/23 13:21	
Naphthalene-d8	37656	4.862	37022	4.871	102	50 - 200	-0.009	+/-0.50	
Acenaphthene-d10	23269	7.154	22454	7.158	104	50 - 200	-0.004	+/-0.50	
Phenanthrene-d10	44748	9.197	43277	9.197	103	50 - 200	0.000	+/-0.50	
Chrysene-d12	39778	14.146	38907	14.152	102	50 - 200	-0.006	+/-0.50	
Perylene-d12	31109	18.054	39582	18.057	79	50 - 200	-0.003	+/-0.50	
Reference (BLB0386-SRM1)		(Solid)		Lab File ID: N823022306.D				Analyzed: 02/23/23 13:48	
Naphthalene-d8	36781	4.862	37022	4.871	99	50 - 200	-0.009	+/-0.50	
Acenaphthene-d10	23087	7.155	22454	7.158	103	50 - 200	-0.003	+/-0.50	
Phenanthrene-d10	44202	9.197	43277	9.197	102	50 - 200	0.000	+/-0.50	
Chrysene-d12	39564	14.146	38907	14.152	102	50 - 200	-0.006	+/-0.50	
Perylene-d12	33596	18.048	39582	18.057	85	50 - 200	-0.009	+/-0.50	

Analytical Resources, LLC
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLB0310	Instrument:	NT8
		Calibration:	GA00050

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LDW23-IT1136 (23A0418-01)		(Solid)		Lab File ID: N823022307.D				Analyzed: 02/23/23 14:15	
Naphthalene-d8	34909	4.862	37022	4.871	94	50 - 200	-0.009	+/-0.50	
Acenaphthene-d10	21723	7.154	22454	7.158	97	50 - 200	-0.004	+/-0.50	
Phenanthrene-d10	42015	9.197	43277	9.197	97	50 - 200	0.000	+/-0.50	
Chrysene-d12	36420	14.149	38907	14.152	94	50 - 200	-0.003	+/-0.50	
Perylene-d12	30625	18.047	39582	18.057	77	50 - 200	-0.010	+/-0.50	
LDW23-IT1142 (23A0418-02)		(Solid)		Lab File ID: N823022308.D				Analyzed: 02/23/23 14:42	
Naphthalene-d8	39912	4.865	37022	4.871	108	50 - 200	-0.006	+/-0.50	
Acenaphthene-d10	24830	7.154	22454	7.158	111	50 - 200	-0.004	+/-0.50	
Phenanthrene-d10	47393	9.197	43277	9.197	110	50 - 200	0.000	+/-0.50	
Chrysene-d12	27515	14.149	38907	14.152	71	50 - 200	-0.003	+/-0.50	
Perylene-d12	26898	18.051	39582	18.057	68	50 - 200	-0.006	+/-0.50	
LDW23-IT1141 (23A0418-04)		(Solid)		Lab File ID: N823022309.D				Analyzed: 02/23/23 15:09	
Naphthalene-d8	40283	4.862	37022	4.871	109	50 - 200	-0.009	+/-0.50	
Acenaphthene-d10	24794	7.154	22454	7.158	110	50 - 200	-0.004	+/-0.50	
Phenanthrene-d10	46052	9.2	43277	9.197	106	50 - 200	0.003	+/-0.50	
Chrysene-d12	27196	14.155	38907	14.152	70	50 - 200	0.003	+/-0.50	
Perylene-d12	27771	18.057	39582	18.057	70	50 - 200	0.000	+/-0.50	
LDW23-IT1133 (23A0418-05)		(Solid)		Lab File ID: N823022310.D				Analyzed: 02/23/23 15:36	
Naphthalene-d8	38607	4.862	37022	4.871	104	50 - 200	-0.009	+/-0.50	
Acenaphthene-d10	23678	7.155	22454	7.158	105	50 - 200	-0.003	+/-0.50	
Phenanthrene-d10	45069	9.197	43277	9.197	104	50 - 200	0.000	+/-0.50	
Chrysene-d12	25346	14.155	38907	14.152	65	50 - 200	0.003	+/-0.50	
Perylene-d12	25404	18.06	39582	18.057	64	50 - 200	0.003	+/-0.50	
LDW23-IT1133-FD (23A0418-06)		(Solid)		Lab File ID: N823022311.D				Analyzed: 02/23/23 16:03	
Naphthalene-d8	37337	4.865	37022	4.871	101	50 - 200	-0.006	+/-0.50	
Acenaphthene-d10	22199	7.158	22454	7.158	99	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	42144	9.197	43277	9.197	97	50 - 200	0.000	+/-0.50	
Chrysene-d12	24006	14.155	38907	14.152	62	50 - 200	0.003	+/-0.50	
Perylene-d12	23503	18.063	39582	18.057	59	50 - 200	0.006	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLB0310	Instrument:	NT8
		Calibration:	GA00050

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LDW23-IT1180 (23A0418-07)		(Solid)		Lab File ID: N823022312.D				Analyzed: 02/23/23 16:30	
Naphthalene-d8	36376	4.862	37022	4.871	98	50 - 200	-0.009	+/-0.50	
Acenaphthene-d10	22491	7.158	22454	7.158	100	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	42544	9.2	43277	9.197	98	50 - 200	0.003	+/-0.50	
Chrysene-d12	26277	14.155	38907	14.152	68	50 - 200	0.003	+/-0.50	
Perylene-d12	27027	18.057	39582	18.057	68	50 - 200	0.000	+/-0.50	
LDW23-IT1218 (23A0418-08)		(Solid)		Lab File ID: N823022313.D				Analyzed: 02/23/23 16:57	
Naphthalene-d8	40119	4.862	37022	4.871	108	50 - 200	-0.009	+/-0.50	
Acenaphthene-d10	23154	7.158	22454	7.158	103	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	41927	9.203	43277	9.197	97	50 - 200	0.006	+/-0.50	
Chrysene-d12	21633	14.168	38907	14.152	56	50 - 200	0.016	+/-0.50	
Perylene-d12	21156	18.07	39582	18.057	53	50 - 200	0.013	+/-0.50	
Matrix Spike (BLB0386-MS1)		(Solid)		Lab File ID: N823022314.D				Analyzed: 02/23/23 17:24	
Naphthalene-d8	39215	4.862	37022	4.871	106	50 - 200	-0.009	+/-0.50	
Acenaphthene-d10	22683	7.158	22454	7.158	101	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	40075	9.203	43277	9.197	93	50 - 200	0.006	+/-0.50	
Chrysene-d12	20596	14.171	38907	14.152	53	50 - 200	0.019	+/-0.50	
Perylene-d12	20230	18.07	39582	18.057	51	50 - 200	0.013	+/-0.50	
Matrix Spike Dup (BLB0386-MSD1)		(Solid)		Lab File ID: N823022315.D				Analyzed: 02/23/23 17:51	
Naphthalene-d8	40625	4.862	37022	4.871	110	50 - 200	-0.009	+/-0.50	
Acenaphthene-d10	24116	7.158	22454	7.158	107	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	43556	9.207	43277	9.197	101	50 - 200	0.010	+/-0.50	
Chrysene-d12	21468	14.174	38907	14.152	55	50 - 200	0.022	+/-0.50	
Perylene-d12	21995	18.073	39582	18.057	56	50 - 200	0.016	+/-0.50	
LDW23-IT1216 (23A0418-09)		(Solid)		Lab File ID: N823022316.D				Analyzed: 02/23/23 18:18	
Naphthalene-d8	40358	4.862	37022	4.871	109	50 - 200	-0.009	+/-0.50	
Acenaphthene-d10	23127	7.155	22454	7.158	103	50 - 200	-0.003	+/-0.50	
Phenanthrene-d10	40697	9.197	43277	9.197	94	50 - 200	0.000	+/-0.50	
Chrysene-d12	28585	14.149	38907	14.152	73	50 - 200	-0.003	+/-0.50	
Perylene-d12	30181	18.057	39582	18.057	76	50 - 200	0.000	+/-0.50	

Analytical Resources, LLC
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLB0310	Instrument:	NT8
		Calibration:	GA00050

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LDW23-IT1135 (23A0418-10)		(Solid)		Lab File ID: N823022317.D				Analyzed: 02/23/23 18:44	
Naphthalene-d8	38644	4.862	37022	4.871	104	50 - 200	-0.009	+/-0.50	
Acenaphthene-d10	24337	7.154	22454	7.158	108	50 - 200	-0.004	+/-0.50	
Phenanthrene-d10	46427	9.197	43277	9.197	107	50 - 200	0.000	+/-0.50	
Chrysene-d12	39684	14.149	38907	14.152	102	50 - 200	-0.003	+/-0.50	
Perylene-d12	37490	18.054	39582	18.057	95	50 - 200	-0.003	+/-0.50	
LDW23-IT1140 (23A0418-11)		(Solid)		Lab File ID: N823022318.D				Analyzed: 02/23/23 19:11	
Naphthalene-d8	40470	4.862	37022	4.871	109	50 - 200	-0.009	+/-0.50	
Acenaphthene-d10	24867	7.154	22454	7.158	111	50 - 200	-0.004	+/-0.50	
Phenanthrene-d10	45442	9.197	43277	9.197	105	50 - 200	0.000	+/-0.50	
Chrysene-d12	27221	14.152	38907	14.152	70	50 - 200	0.000	+/-0.50	
Perylene-d12	30286	18.057	39582	18.057	77	50 - 200	0.000	+/-0.50	
LDW23-IT1275 (23A0418-12)		(Solid)		Lab File ID: N823022319.D				Analyzed: 02/23/23 19:38	
Naphthalene-d8	40111	4.862	37022	4.871	108	50 - 200	-0.009	+/-0.50	
Acenaphthene-d10	24513	7.154	22454	7.158	109	50 - 200	-0.004	+/-0.50	
Phenanthrene-d10	47710	9.197	43277	9.197	110	50 - 200	0.000	+/-0.50	
Chrysene-d12	42597	14.149	38907	14.152	109	50 - 200	-0.003	+/-0.50	
Perylene-d12	38662	18.054	39582	18.057	98	50 - 200	-0.003	+/-0.50	
Calibration Check (SLB0310-CCV1)		(Water)		Lab File ID: N823022321.D				Analyzed: 02/23/23 20:32	
Naphthalene-d8	37105	4.868	37022	4.871	100	50 - 200	-0.003	+/-0.50	
Acenaphthene-d10	22712	7.154	22454	7.158	101	50 - 200	-0.004	+/-0.50	
Phenanthrene-d10	43409	9.197	43277	9.197	100	50 - 200	0.000	+/-0.50	
Chrysene-d12	39320	14.146	38907	14.152	101	50 - 200	-0.006	+/-0.50	
Perylene-d12	39970	18.054	39582	18.057	101	50 - 200	-0.003	+/-0.50	

HOLDING TIME SUMMARY

Analysis: EPA 8270E-SIM

Laboratory: Analytical Resources, LLC SDG: 23A0418

Client: Anchor QEA, LLC Project: AOC5 MR Phase 1

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW23-IT1136 23A0418-01	01/18/23 08:28	01/18/23 16:36	02/16/23 14:32	29	365	02/23/23 14:15	7	40	
LDW23-IT1142 23A0418-02	01/18/23 08:47	01/18/23 16:36	02/16/23 14:32	29	365	02/23/23 14:42	7	40	
LDW23-IT1141 23A0418-04	01/18/23 11:03	01/18/23 16:36	02/16/23 14:32	29	365	02/23/23 15:09	7	40	
LDW23-IT1133 23A0418-05	01/18/23 11:13	01/18/23 16:36	02/16/23 14:32	29	365	02/23/23 15:36	7	40	
LDW23-IT1133-FD 23A0418-06	01/18/23 11:13	01/18/23 16:36	02/16/23 14:32	29	365	02/23/23 16:03	7	40	
LDW23-IT1180 23A0418-07	01/18/23 13:14	01/18/23 16:36	02/16/23 14:32	29	365	02/23/23 16:30	7	40	
LDW23-IT1218 23A0418-08	01/18/23 13:42	01/18/23 16:36	02/16/23 14:32	29	365	02/23/23 16:57	7	40	
LDW23-IT1216 23A0418-09	01/18/23 13:57	01/18/23 16:36	02/16/23 14:32	29	365	02/23/23 18:18	7	40	
LDW23-IT1135 23A0418-10	01/18/23 14:23	01/18/23 16:36	02/16/23 14:32	29	365	02/23/23 18:44	7	40	
LDW23-IT1140 23A0418-11	01/18/23 14:47	01/18/23 16:36	02/16/23 14:32	28	365	02/23/23 19:11	7	40	
LDW23-IT1275 23A0418-12	01/18/23 15:09	01/18/23 16:36	02/16/23 14:32	28	365	02/23/23 19:38	7	40	
Matrix Spike BLB0386-MS1	01/18/23 13:42	01/18/23 16:36	02/16/23 14:32	29	365	02/23/23 17:24	7	40	
Matrix Spike Dup BLB0386-MSD1	01/18/23 13:42	01/18/23 16:36	02/16/23 14:32	29	365	02/23/23 17:51	7	40	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

EPA 8270E-SIM

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Instrument: NT8

Analyte	MDL	RL	Units
Benzo(a)anthracene	0.82	5.00	ug/kg
Chrysene	1.05	5.00	ug/kg
Benzo(b)fluoranthene	1.37	5.00	ug/kg
Benzo(k)fluoranthene	0.76	5.00	ug/kg
Benzo(a)pyrene	0.61	5.00	ug/kg
Indeno(1,2,3-cd)pyrene	1.05	5.00	ug/kg
Dibenzo(a,h)anthracene	0.89	5.00	ug/kg

I-8227

Certificate of Analysis

SIGMA-ALDRICH

Product Name	Pentachlorophenol, 97%
Product Number	P2604
Product Brand	ALDRICH
CAS Number	87-86-5
Molecular Formula	C_6Cl_5OH
Molecular Weight	266.34

TEST	SPECIFICATION	LOT 07119HO RESULTS
APPEARANCE	WHITE TO OFF-WHITE OR LIGHT BLUE POWDER	OFF-WHITE POWDER
INFRARED SPECTRUM	CONFORMS TO STRUCTURE.	CONFORMS TO STRUCTURE AND STANDARD
TITRATION	97.5% - 102.5% (WITH AGNO3 AFTER OXYGEN	100.5 % (WITH AGNO3 AFTER OXYGEN COMBUSTION)
GAS LIQUID CHROMATOGRAPHY	97.5% (MINIMUM)	99.9 %
SOLUBILITY		100 MG/ML, 95% ETOH: VERY HAZY, FAINT YELLOW SOLUTION
QUALITY CONTROL ACCEPTANCE DATE		JUNE 2001

Barbara Rajzer, Supervisor
Quality Control
Milwaukee, Wisconsin USA

Cambridge Isotope Laboratories, Inc.

50 Frontage Road, Andover, MA 01810-5413 USA
800.322.1174 (N.AMERICA) 978.749.8000 (INTERNATIONAL)
www.isotope.com

CERTIFICATE OF ANALYSIS

Product Name: DIBENZ[A,H]ANTHRACENE
(Isotopic Label & Enrichment Specification) (D14, 97%)

Lot Number: PR-14764/09163DA2

Catalog Number: DLM-677-0

I295

Product Information

Chemical Purity Specification:	≥ 98%
Labeled CAS Number:	NA
Unlabeled CAS Number:	53-70-3
Molecular Weight:	292.5
Chemical Formula:	C22D14
Storage:	Store at room temperature away from light and moisture.
Stability:	Stable if stored under recommended conditions.

Certification

Cambridge Isotope Laboratories, Inc. guarantees that this material meets or exceeds the specifications stated. Absolute identity as well as chemical and isotopic purities are assured by the use of unambiguous synthetic routes and multiple chemical analyses whenever possible.

Approved by: Deborah E. Costa

Deborah E. Costa, Quality Assurance

Quality Control Tests and Results

GC/MS for Chemical Purity	99.3%
GC/MS for Isotopic Enrichment	97.4%
Melting Point Range Determination	263-265°C
1H NMR for Chemical Purity	Pass

E006466

SVOA-d14-Dibenz(a,h)anthracene-NEAT
Solvent / Lot: NA
Prep: 11/9/2016 by VS
Exp: 5/8/2030
Location:

660 Tower Lane • P.O. Box 599 • West Chester, PA 19381-0599
1-800-452-9994 • 1-610-692-3026 • Fax 1-610-692-8729
info@chemservice.com • www.chemservice.com

CERTIFICATE OF ANALYSIS

2-Chloronaphthalene

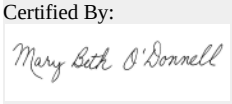
CATALOG NUMBER	N-10323-100MG
LOT NUMBER	10816400
DATE CERTIFIED	05/22/18
EXPIRATION DATE	05/31/24
CAS NUMBER	91-58-7
MOLECULAR FORMULA	C10H7Cl
MOLECULAR WEIGHT	162.62
STORAGE	Store at room temperature (20 - 25 °C).
HANDLING	See Safety Data Sheet
INTENDED USE	For laboratory use only.

I010152
2-Chloronaphthalene NEAT
Expires 12/31/2079
Prepared By Joshua Rains 10/29/2020

Analytical Test	Value
% PURITY (GC/FID)	99.5

Chem Service, Inc. guarantees the purity to be +/- 0.5% deviation prior to the expiration date shown on the label and exclusive of any customer contamination.

Certified By:



Mary Beth O'Donnell
CSM/TC

Chem Service is accredited to ISO 17034:2016, ISO/IEC 17025:2017 and certified to ISO 9001:2015

PJLA Reference Material Producer PJLA Testing

COA Form
Revision 3 (3/2015)

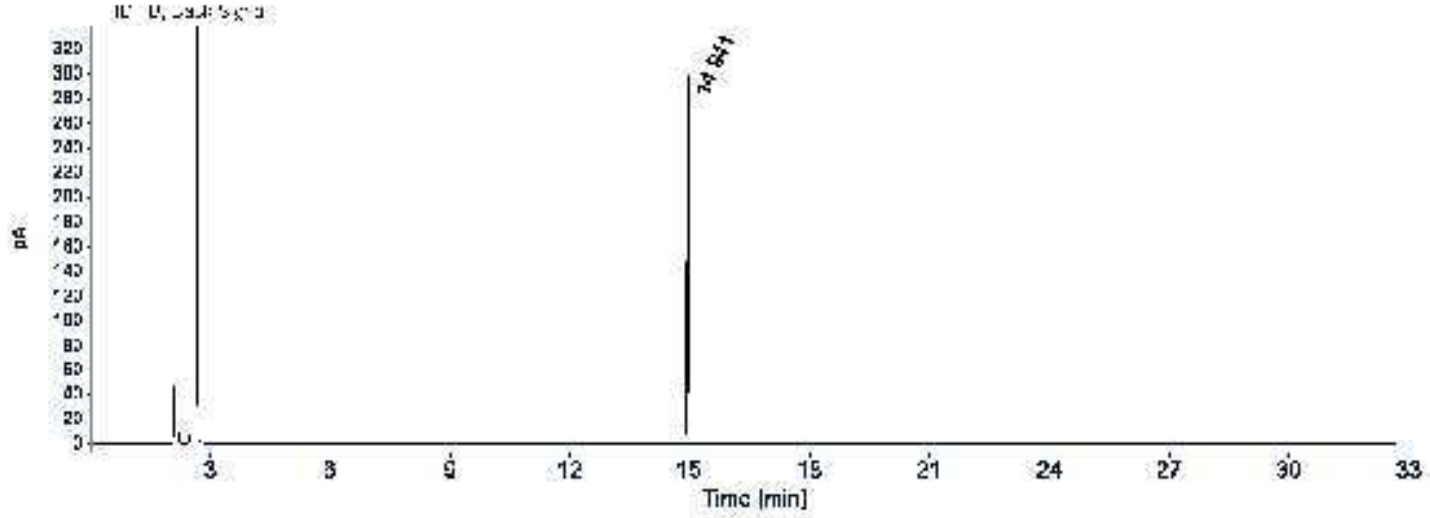
660 Tower Lane • P.O. Box 599 • West Chester, PA 19381-0599
1-800-452-9994 • 1-610-692-3026 • Fax 1-610-692-8729
info@chemservice.com • www.chemservice.com

CERTIFICATE OF ANALYSIS

Gas Chromatography / Flame Ionization Detector (GC/FID)

Data file: C:\Chem32\1\Data\2018 Data\0518\2-Chloronaphtthalene.D
Sample name: 2-Chloronaphthalene

Instrument: GC3
Injection date: 5/22/2018 1:12:52 PM
Acq. method: REAR_SCREEN.M
Location: 209
Injection volume: 1.0uL
Col Type: pn# 7HG-G006-17-C **Diameter** 250.000 **Length** 30.000



Signal: FID1 B, Back Signal

RT [min]	Type	Width [min]	Area	Height	Area%
14.941	BB	0.0410	808.8124	308.5675	100.0000
		Sum	808.8124		

Certificate of Analysis - Certified Reference Material

PAHs by HPLC

Product no.: SQC017-40G
Lot no.: LRAC9745
Expiry Date: April 2024
Manufacturing Date: April 2021
Storage: REFRIGERATE
Solvent/Matrix: SOIL
Certificate version: LRAC9745.01 (*Note: Certificates may be updated due to the availability of new data. Check our website at: www.sigma-aldrich.com for the most current version.)*

Certified Values:

Analyte	*Units*	*Certified Value*
Dibenzo(a,h)anthracene	µg/Kg	177 ± 21
Acenaphthylene	µg/Kg	609 ± 49
Anthracene	µg/Kg	239 ± 22
Benzo(a)anthracene	µg/Kg	109 ± 8
Benzo(a)pyrene	µg/Kg	65.5 ± 5.2
Benzo(b)fluoranthene	µg/Kg	295 ± 20
Benzo(g,h,i)perylene	µg/Kg	176 ± 17
Naphthalene	µg/Kg	566 ± 47
Chrysene	µg/Kg	210 ± 19
Benzo(b+k)fluoranthene	µg/Kg	662 ± 81
Fluoranthene	µg/Kg	273 ± 17
Fluorene	µg/Kg	326 ± 20
Indeno(1,2,3-cd) pyrene	µg/Kg	208 ± 23
Phenanthrene	µg/Kg	220 ± 13
Pyrene	µg/Kg	380 ± 25
Acenaphthene	µg/Kg	459 ± 33
Benzo(k)fluoranthene	µg/Kg	259 ± 23

Sigma-Aldrich RTC, 2931 Soldier Springs Rd. Laramie, WY 82070, USA;
Tel. 1 307-742-5452; Fax 1 855-831-9211; www.sigmaaldrich.com
Sigma-Aldrich RTC is a subsidiary of Merck KGaA, Darmstadt, Germany.

Informational Values:

Analyte	*Units*	*Suggested Acceptance Windows*	*Standard Deviation*
Dibenzo(a,h)anthracene	µg/Kg	0.00 to 379	67.4
Acenaphthylene	µg/Kg	140 to 1078	156
Anthracene	µg/Kg	26.0 to 452	71.1
Benzo(a)anthracene	µg/Kg	33.4 to 185	25.3
Benzo(a)pyrene	µg/Kg	15.6 to 115	16.6
Benzo(b)fluoranthene	µg/Kg	98.7 to 492	65.6
Benzo(g,h,i)perylene	µg/Kg	16.5 to 336	53.3
Naphthalene	µg/Kg	99.8 to 1032	155
Chrysene	µg/Kg	27.9 to 391	60.6
Benzo(b+k)fluoranthene	µg/Kg	265 to 1059	132
Fluoranthene	µg/Kg	113 to 433	53.3
Fluorene	µg/Kg	135 to 517	63.6
Indeno(1,2,3-cd) pyrene	µg/Kg	0.00 to 432	74.5
Phenanthrene	µg/Kg	92.8 to 346	42.2
Pyrene	µg/Kg	138 to 622	80.7
Acenaphthene	µg/Kg	154 to 764	102
Benzo(k)fluoranthene	µg/Kg	36.2 to 482	74.3

Additional Information:

DESCRIPTION

This product consist of a 4 vials each containing 10g of soil for analysis of PAHs. Each vial is identical and has been tested show homogeneity.

Four samples have been provided for your convenience (multiple methods, multiple analysts, etc.)

The soil has been chemically stabilized with 1 mL of acetone to minimize degradation of the sample.

SAMPLE PREPARATION

Extract the complete contents of a single vial. Transfer entire contents of one vial to extraction vessel. Rinse vial and cap with extraction solvent.

Note: Sample extracts and calibration solutions should be in the same solvent.

All values are based on a wet weight basis, do not correct for moisture.

Assume a 10g sample size for all calculations.

Metrological traceability: Traceable to the SI and higher order standards from NIST through an unbroken chain of comparisons. The balance used to weigh raw materials is accurate to +/-0.0001 g and calibrated regularly using mass standards traceable to NIST. All dilutions were performed gravimetrically. Additionally, individual analytes are traceable to NIST SRMs where available and specified above.

Measurement method: Where applicable, the assigned value is based on a purity determination by mass balance and gravimetrically prepared value.

Intended use: Intended for R&D and Analytical Use only. Not for drug, household or other uses.

Packaging: Package of 4 units of 10 g in amber jar

Instructions for handling and correct use: Use on the as is basis. The internal pressure of the container may be slightly different from the atmospheric pressure at the user`s location. Open slowly and carefully to avoid dispersion of the material.

Health and safety information: All chemical reference materials should be considered potentially hazardous and should be used only by qualified laboratory personnel. Please refer to the Safety Data Sheet for detailed information about the nature of any hazard and appropriate precautions to be taken.

Accreditation: Sigma-Aldrich RTC is accredited by the US accreditation authority ANAB as a registered reference material producer AR-1470 in accordance with ISO 17034.

Certificate issue date: 19-Apr-2021

Andy Ommen - QC Manager

Mark Pooler - QA Supervisor

Details on metrological traceability: This standard has been gravimetrically prepared using balances that have been fully qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error. Fill volume to predetermined specifications is gravimetrically verified throughout the dispensing process using qualified and calibrated balances. Further traceability to a corresponding Primary Standard may be achieved through a direct comparison assay. Where a Primary Standard is available, the assay value will be included in the specified section of the COA.

Associated uncertainty: Ucrm - Uncertainty values in this document are expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k, which is obtained from a *t*-distribution and degrees of freedom. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long term stability, and short term stability (transport). The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies. The mathematical representation of the Ucrm calculation is as follows:

$$u_{CRM} = \sqrt{u_{char}^2 + u_{\text{hom } ogeneity}^2 + u_{stability}^2}$$

Homogeneity assessment: Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared by Single Factor Analysis of Variance (ANOVA). The uncertainty due to homogeneity was derived from the ANOVA. Heterogeneity was not detected under the conditions of the ANOVA.

Stability assessment: Significance of the stability assessment will be demonstrated if the analytical result of the study and the range of values represented by the Expanded Uncertainty do not overlap the result of the original assay and the range of its values represented by the Expanded Uncertainty. The method employed will usually be the same method used to characterize the assay value in the initial

Certificate of analysis revision history:

Certificate version	Date	Reason for version
LRAC9745.01	19-Apr-2021	Original Release Date

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Disclaimer: The purchaser is required to determine the suitability of this product for any particular application. Sigma-Aldrich RTC makes no warranty of any kind, express or implied, other than its products meet all quality control standards set by Sigma-Aldrich RTC. We do not guarantee that the product can be used for any particular application.

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT

Part Number: **70476**
Lot Number: 092220
Description: Benzo(j)fluoranthene

Expiration Date: 092225
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 1000
NIST Test ID#: 23060

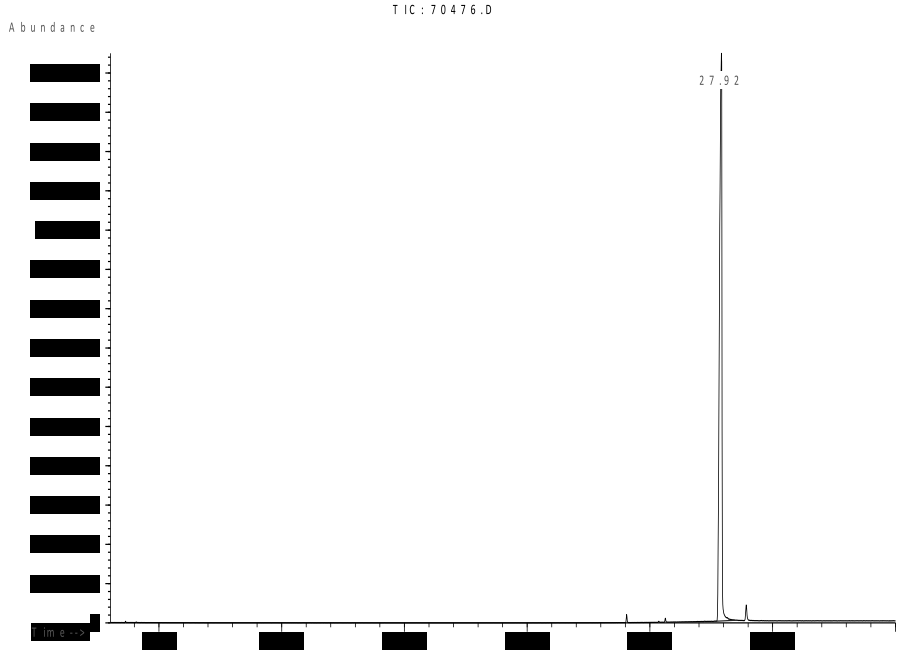
Solvent(s): **Lot#**
Methylene chloride 104929

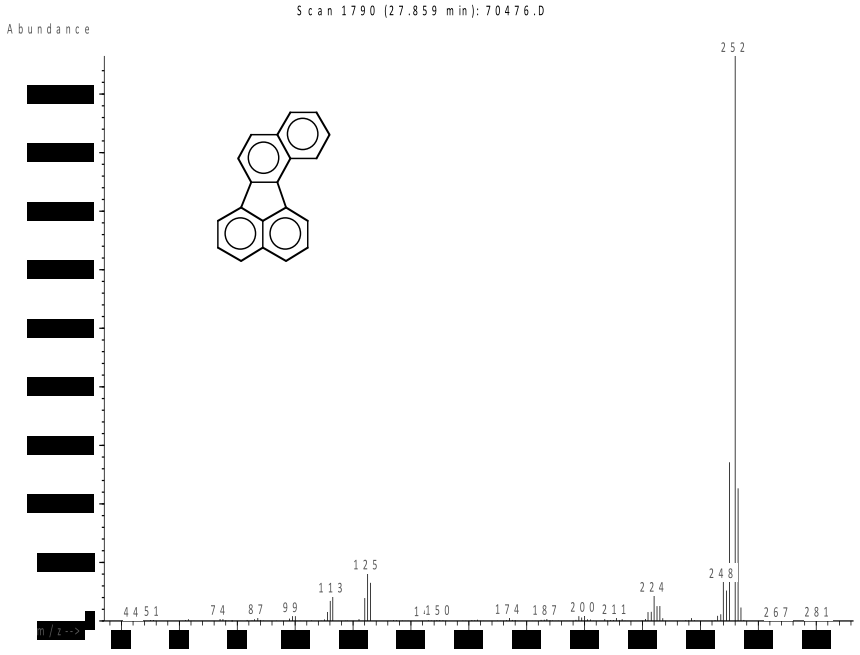
5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 25.0 0.001 Flask Uncertainty

092220	
Formulated By: Benson Chan	DATE
092220	
Reviewed By: Pedro L. Rentas	DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Benzo(j)fluoranthene	476	3-CSZ-153-20	1000	98.1	0.2	0.02547	0.02552	1001.8	5.7	205-82-3	0.2mg/m3	N/A

Method GC8MSD1M: Column:SBB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (9 min.), Rate = 10°C/min., Injector B= 200°C, Detector B = 290°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by Candice Warren.





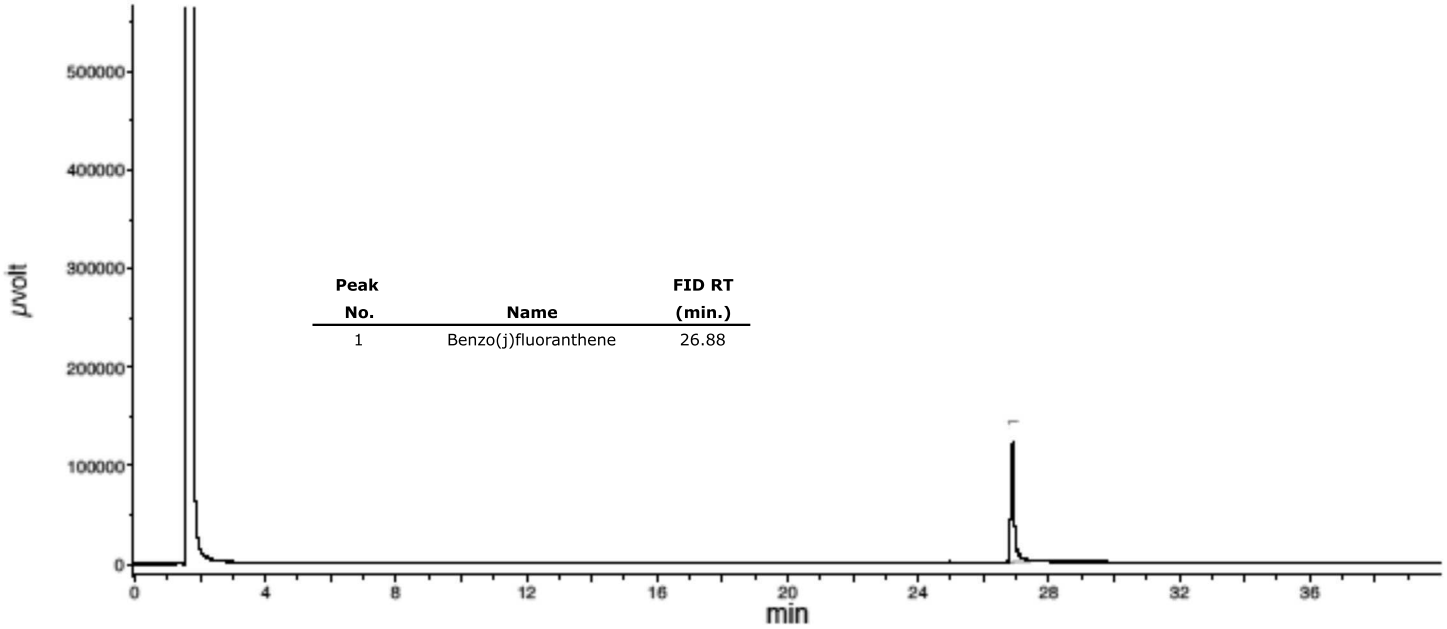
- **The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.**
- **Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).**
- **Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.**
- **All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.**
- **Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).**

Run 31, "P70476 L092220 [1000µg/mL in MeCl2]"

Run Length: 40.00 min, 23999 points at 10 points/second.
Created: Thu, Sep 24, 2020 at 2:33:43 AM.
Sampled: Sequence "092120-GC9M2", Method "GC9-M2".
Analyzed using Method "GC9-M2".

Comments

GC9-M2 Analysis by Melissa Stonier
Column ID SPB-5 30 meter x 0.53mm x 1.5um Film Thickness.
Flow rates; Total Flow = 300 ml/min, Helium (carrier) = 6.5 mL, Helium (make-up) = 25 mL.
Hydrogen (detector) = 30 mL, Air (detector) =360 mLOven Temp 1 = 50°C (1 min).
Rate = 10°C/min, Oven Temp 2 = 300°C (14 min), Total Run Time = 40 Minutes. Injector Temp = 250°C.
FID Temp = 300°C, FID Signal = eDaq Channel 1.
Gas Chromatograph = HP 5890, Auto Sampler = HP 7673, Standard Injection = 0.5 uL, Range = 3



Peak No.	Name	FID RT (min.)
1	Benzo(j)fluoranthene	26.88

Certificate of Analysis

Sigma-Aldrich

Product Name:	2,4,6-Tribromophenol
Product Description:	99%
Product Brand:	Sigma-Aldrich
Product Number:	137715
Molecular Weight:	330.80
Molecular Formula:	$Br_3C_6H_2OH$
CAS Number:	118-79-6

TEST	SPECIFICATION	LOT 05110PD RESULTS
APPEARANCE:	WHITE TO OFF-WHITE TO PINK FLAKES, CHUNKS,	PINK BEADS
INFRARED SPECTRUM:		CONFORMS TO STRUCTURE.
GAS LIQUID:	98.5% (MINIMUM)	99.9%
QUALITY CONTROL:		NOVEMBER 2005

Barbara Rajzer

Barbara Rajzer, Supervisor
Quality Control
Milwaukee, Wisconsin USA

J010541
SVOA-Tribromophenol-NEAT
Solvent / Lot: 05110PD
Prep: 10/1/2021 by VS
Exp: 3/30/2040
Location: voa freezer

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT

Part Number: 93462
Lot Number: 081021
Description: PAH Standard
30 components
Expiration Date: 081026
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 1000
NIST Test ID#: 6UTB

Solvent(s): Methylene chloride **Lot#** 105345

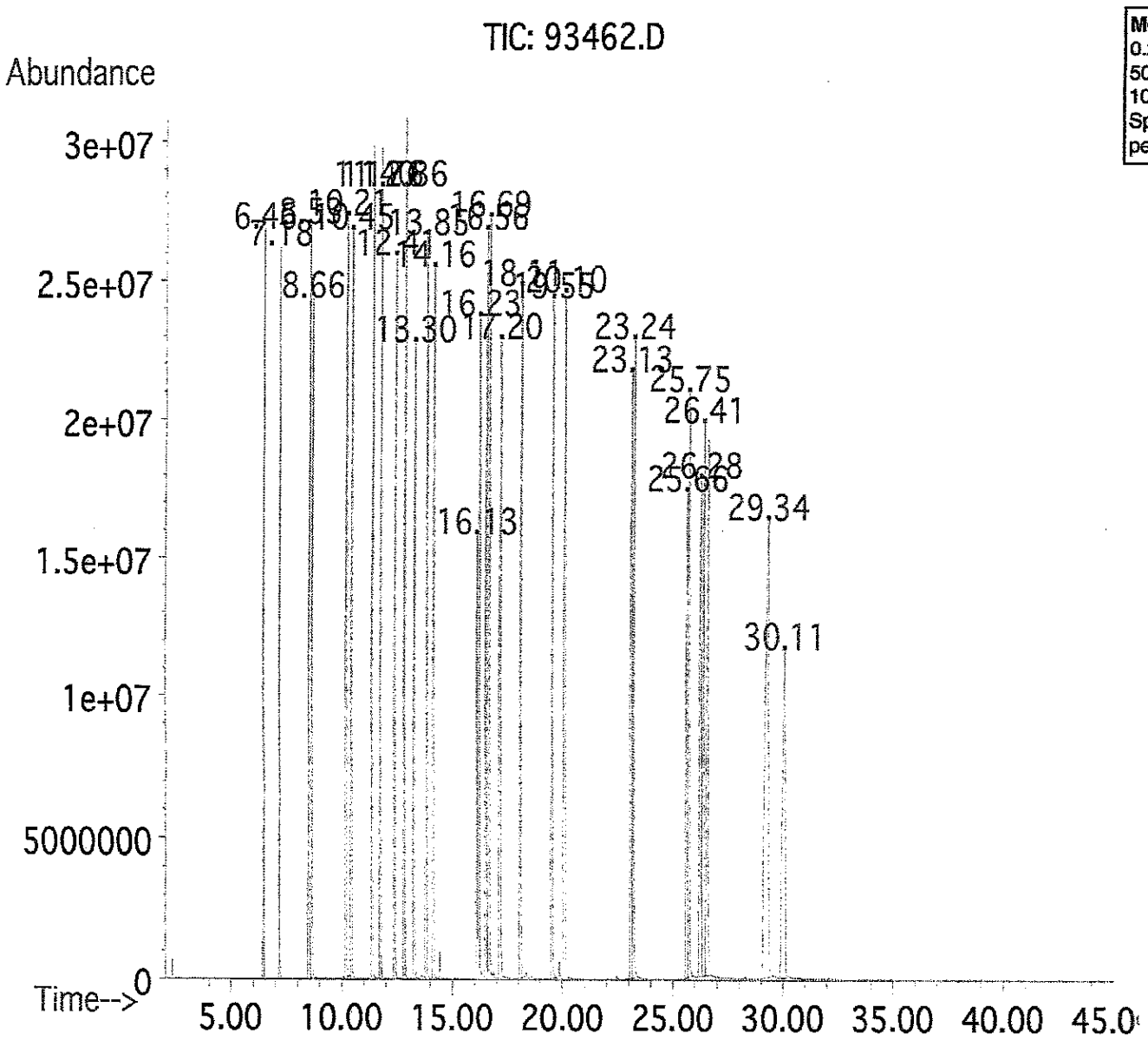
K3587

5E-05 Balance Uncertainty
Volume(s) shown below were combined and diluted to (mL): 20.0 0.001 Flask Uncertainty

Formulated By:	Prashant Chauhan	081021 DATE
Reviewed By:	Pedro L. Rentas	081021 DATE

Compound	Part Number	Lot Number	Dil. Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Initial Conc.(ug/mL)	Final Conc.(ug/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Acenaphthene	10007	042420	0.50	10.00	0.042	2001.2	1000.4	9.4	83-32-9	N/A	ipr-rat 600mg/kg
2. Acenaphthylene	10007	042420	0.50	10.00	0.042	2000.2	999.9	9.4	208-96-8	N/A	N/A
3. Anthracene	10007	042420	0.50	10.00	0.042	2000.3	999.9	9.3	120-12-7	0.2mg/m3 (8H)	ipr-mus 430mg/kg
4. Benzo(a)anthracene	10007	042420	0.50	10.00	0.042	2001.3	1000.4	9.4	56-55-3	N/A	N/A
5. Benzo(a)pyrene	10007	042420	0.50	10.00	0.042	2000.0	999.8	9.3	50-32-8	0.2mg/m3 (8H)	scu-rat 50mg/kg
6. Benzo(b)fluoranthene	10007	042420	0.50	10.00	0.042	2000.9	1000.2	9.3	205-99-2	N/A	N/A
7. Benzo(k)fluoranthene	10007	042420	0.50	10.00	0.042	2001.2	1000.4	9.4	207-08-9	N/A	N/A
8. Benzo(g,h,i)perylene	10007	042420	0.50	10.00	0.042	2000.0	999.8	9.3	191-24-2	N/A	N/A
9. Carbazole	10007	042420	0.50	10.00	0.042	2000.3	999.9	9.4	86-74-8	N/A	ipr-mus 200mg/kg
10. Chrysene	10007	042420	0.50	10.00	0.042	2000.8	1000.2	9.4	218-01-9	0.2mg/m3	N/A
11. Dibenzo(a,h)anthracene	10007	042420	0.50	10.00	0.042	2000.8	1000.2	9.4	53-70-3	0.2mg/m3	N/A
12. Fluoranthene	10007	042420	0.50	10.00	0.042	2000.3	999.9	9.4	206-44-0	N/A	orl-rat 2000mg/kg
13. Fluorene	10007	042420	0.50	10.00	0.042	2000.9	1000.2	9.4	86-73-7	N/A	ipr-mus 2 g/kg
14. Indeno(1,2,3-cd)pyrene	10007	042420	0.50	10.00	0.042	2000.1	999.8	9.3	193-39-5	N/A	N/A
15. Naphthalene	10007	042420	0.50	10.00	0.042	2000.9	1000.2	9.3	91-20-3	10 ppm (50mg/m3/8H)	orl-rat 490mg/kg
16. Phenanthrene	10007	042420	0.50	10.00	0.042	2000.9	1000.2	9.4	85-01-8	0.2mg/m3/8H	orl-mus 700mg/kg
17. Pyrene	10007	042420	0.50	10.00	0.042	2001.0	1000.3	9.4	129-00-0	0.2mg/m3/8H	orl-rat 2700mg/kg
18. Benzo(e)pyrene	94851	081021	0.50	10.00	0.042	2002.1	1000.8	9.4	192-97-2	N/A	N/A
19. Biphenyl	94851	081021	0.50	10.00	0.042	2001.5	1000.5	9.4	92-52-4	0.2 ppm(1mg/m3/8H)	orl-rat 2400mg/kg
20. Decalin (49% cis, 51% trans)	94851	081021	0.50	10.00	0.042	2002.5	1001.0	9.4	91-17-8	N/A	N/A
21. Dibenzofuran	94851	081021	0.50	10.00	0.042	2002.3	1000.9	9.4	132-64-9	N/A	N/A
22. Dibenzothiophene	94851	081021	0.50	10.00	0.042	2002.5	1001.0	9.4	132-65-0	N/A	orl-mus 470 mg/kg
23. 2,6-Dimethylnaphthalene	94851	081021	0.50	10.00	0.042	2001.9	1000.7	9.4	581-42-0	N/A	N/A
24. 1-Methylnaphthalene	94851	081021	0.50	10.00	0.042	2002.2	1000.9	9.4	90-12-0	N/A	orl-rat 1840mg/kg
25. 2-Methylnaphthalene	94851	081021	0.50	10.00	0.042	2000.6	1000.1	9.4	91-57-6	N/A	orl-rat 1630mg/kg
26. 1-Methylphenanthrene	94851	081021	0.50	10.00	0.042	2002.3	1000.9	13.2	832-69-9	N/A	N/A
27. Pentachlorophenol	94851	081021	0.50	10.00	0.042	3961.5	1980.3	18.6	87-86-5	0.5mg/m3/8H (skin)	orl-rat 27mg/kg
28. Perylene	94851	081021	0.50	10.00	0.042	2001.9	1000.7	9.4	198-55-0	N/A	N/A
29. Thianaphthene	94851	081021	0.50	10.00	0.042	2003.1	1001.3	9.4	95-15-8	N/A	N/A
30. 2,3,5-Trimethylnaphthalene	94851	081021	0.50	10.00	0.042	2003.1	1001.3	9.5	2245-38-7	N/A	N/A

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).



Method GC8MSD-2Long: Column:SPB-5 (30m X 0.25mm ID X 0.25μm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (14min.), Rate = 10°C/min., Injector B= 250°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by: Gina McLane.

Retention Time (min.)	
Decahydronaphthalene (Decalin) (isomer)	6.46
Decahydronaphthalene (Decalin) (isomer)	7.18
Naphthalene	8.53
Thianaphthene	8.66
2-Methylnaphthalene	10.21
1-Methylnaphthalene	10.45
Biphenyl	11.4
2,6-Dimethylnaphthalene	11.76
Acenaphthylene	12.41
Acenaphthene	12.86
Dibenzofuran	13.3
2,3,5-Trimethylnaphthalene	13.85
Fluorene	14.16
Pentachlorophenol	16.13
Dibenzothiophene	16.23
Phenanthrene	16.56
Anthracene	16.69
Carbazole	17.2
1-Methylphenanthrene	18.11
Fluoranthene	19.55
Pyrene	20.1
Benzo(a)anthracene	23.13
Chrysene	23.24
Benzo(b)fluoranthene	25.66
Benzo(k)fluoranthene	25.75
Perylene	26.28
Benzo(a)pyrene	26.41
Benzo(e)pyrene	26.61
Indeno(1,2,3-cd)pyrene	29.34
Dibenzo(a,h)anthracene	29.34
Benzo(g,h,i)perylene	30.11

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
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Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.:	AL0-101291	**Lot Number:**	CL11000
Description:	GC/MS Tuning Mix	**Certification Date:**	May 9, 2014
Storage:	4 °C	**Expiration Date:**	December 31, 2023
Provided As:	1 mL in 2 mL Ampoule in Methylene chloride	**Revision Date:**	August 5, 2015

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty (%)
Benzidine	92-87-5	1000	± 0.208%
Decafluorotriphenylphosphine (DFTPP)	5074-71-5	1000	± 0.057%
4,4'-DDT	50-29-3	1000	± 0.056%
Pentachlorophenol	87-86-5	1000	± 0.061%

K003891
GC/MS Tune solution-1000ug/ml
Solvent / Lot: CL11000
Prep: 4/22/2022 by VS
Exp: 12/31/2023
Location:

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

phenova® Certified Reference Materials

Manufactured by Phenova, Inc.

Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ilac-MRA ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL111110613_us

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 33913 **Lot No.:** A0183500

Description : SOM01.0 SIM Analysis Standard

SOM01.0 SIM Analysis Standard 2000µg/mL, Methylene chloride, 1mL /ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 29, 2028 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2-Methylnaphthalene-d10	2,003.5 µg/mL	+/- 11.7578 µg/mL	Gravimetric
	CAS # 7297-45-2 (Lot EF-135)		+/- 90.2539 µg/mL	Unstressed
	Purity 96%		+/- 100.1449 µg/mL	Stressed
2	Fluoranthene-d10	2,006.0 µg/mL	+/- 11.7723 µg/mL	Gravimetric
	CAS # 93951-69-0 (Lot PR-20668)		+/- 90.3656 µg/mL	Unstressed
	Purity 99%		+/- 100.2689 µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

K004605
SOMO 1.0 SIM DMC
Solvent / Lot: A0183500
Prep: 5/14/2022 by VS
Exp: 2/29/2028
Location:

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

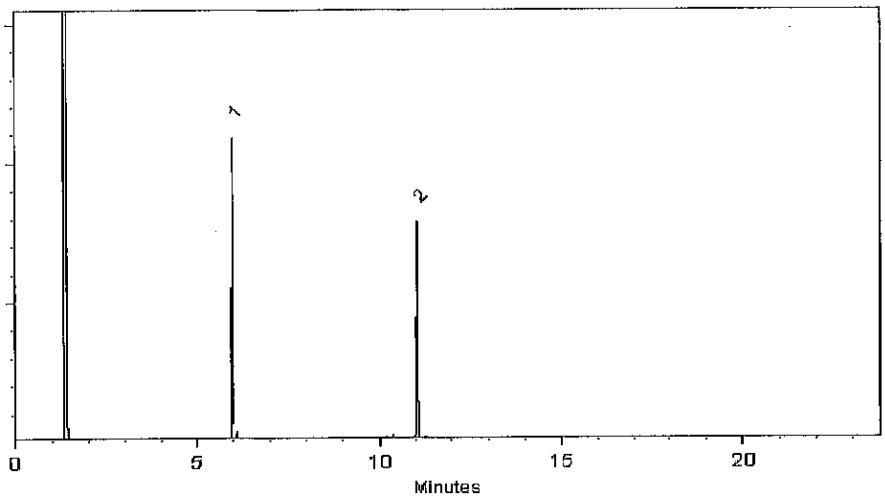
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cathleen Soltis - Mix Technician

Date Mixed: 29-Mar-2022 **Balance:** B345965662

Clara Windle - Operations Technician I

Date Passed: 01-Apr-2022

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer) -20°C or colder (Deep Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.

Certificate of Analysis

Produced by Phenova
6390 Joyce Drive STE 100, Golden, CO 80403 USA ■ Tel: 303-940-0033 ■ Fax: 303-940-0043 ■ info@phenova.com
Access your Safety Data Sheets and digital Certificates at **www.phenova.com/documents.**

Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL18355
Certification Date: July 25, 2022
Expiration Date: August 31, 2023

K007995
SVOA-8270 LCS MIX 1000ug/ml
Solvent / Lot: N/A
Prep: 8/29/2022 by JZ
Exp: 8/31/2023
Location: FREEZER 44

Aaron Dukes, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Acenaphthene	83-32-9	1000	± 0.300%
Acenaphthylene	208-96-8	1000	± 0.225%
Anthracene	120-12-7	1000	± 6.858%
Azobenzene	103-33-3	1000	± 0.224%
Benzo(a)anthracene	56-55-3	1000	± 0.247%
Benzo(a)pyrene	50-32-8	1000	± 0.270%
Benzo(b)fluoranthene	205-99-2	1000	± 0.635%
Benzo(k)fluoranthene	207-08-9	1000	± 0.682%
Benzo(g,h,i)perylene	191-24-2	1000	± 0.272%
Benzyl alcohol	100-51-6	1000	± 0.231%
Benzyl butyl phthalate	85-68-7	1000	± 0.480%
bis(2-Chloroethoxy)methane	111-91-1	1000	± 0.479%
bis(2-Chloroethyl) ether	111-44-4	1000	± 0.479%
bis(2-Chloroisopropyl) ether	108-60-1	1000	± 0.550%
bis(2-Ethylhexyl) adipate	103-23-1	1000	± 0.479%
bis(2-Ethylhexyl) phthalate	117-81-7	1000	± 0.479%
4-Bromophenyl phenyl ether	101-55-3	1000	± 0.479%
Carbazole	86-74-8	1000	± 0.146%

Produced by Phenova
6390 Joyce Drive STE 100, Golden, CO 80403 USA ■ Tel: 303-940-0033 ■ Fax: 303-940-0043 ■ info@phenova.com
Access your Safety Data Sheets and digital Certificates at **www.phenova.com/documents.**

Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101444
Lot Number: CL18355
Description: 8270 Calibration Standard
Certification Date: July 25, 2022
Storage: -18 °C
Expiration Date: August 31, 2023
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
4-Chloroaniline	106-47-8	1000	± 0.300%
4-Chloro-3-methylphenol	59-50-7	1000	± 0.545%
2-Chloronaphthalene	91-58-7	1000	± 0.224%
2-Chlorophenol	95-57-8	1000	± 0.507%
4-Chlorophenyl phenyl ether	7005-72-3	1000	± 0.479%
Chrysene	218-01-9	1000	± 0.145%
Dibenz(a,h)anthracene	53-70-3	1000	± 1.058%
Dibenzofuran	132-64-9	1000	± 0.302%
Di-n-butyl phthalate	84-74-2	1000	± 0.518%
1,2-Dichlorobenzene	95-50-1	1000	± 0.247%
1,3-Dichlorobenzene	541-73-1	1000	± 0.225%
1,4-Dichlorobenzene	106-46-7	1000	± 0.224%
2,4-Dichlorophenol	120-83-2	1000	± 0.545%
Diethyl phthalate	84-66-2	1000	± 0.518%
2,4-Dimethylphenol	105-67-9	1000	± 0.507%
Dimethyl phthalate	131-11-3	1000	± 0.518%
1,2-Dinitrobenzene	528-29-0	1000	± 0.361%
1,3-Dinitrobenzene	99-65-0	1000	± 0.300%
1,4-Dinitrobenzene	100-25-4	1000	± 0.242%
2,4-Dinitrophenol	51-28-5	1000	± 0.545%
2,4-Dinitrotoluene	121-14-2	1000	± 1.128%

Produced by Phenova
6390 Joyce Drive STE 100, Golden, CO 80403 USA ■ Tel: 303-940-0033 ■ Fax: 303-940-0043 ■ info@phenova.com
Access your Safety Data Sheets and digital Certificates at **www.phenova.com/documents.**

Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101444
Lot Number: CL18355
Description: 8270 Calibration Standard
Certification Date: July 25, 2022
Storage: -18 °C
Expiration Date: August 31, 2023
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
2,6-Dinitrotoluene	606-20-2	1000	± 0.224%
Di-n-octyl phthalate	117-84-0	1000	± 0.486%
Fluoranthene	206-44-0	1000	± 0.224%
Fluorene	86-73-7	1000	± 0.224%
Hexachlorobenzene	118-74-1	1000	± 0.152%
Hexachlorobutadiene	87-68-3	1000	± 0.746%
Hexachlorocyclopentadiene	77-47-4	1000	± 0.153%
Hexachloroethane	67-72-1	1000	± 0.300%
Indeno(1,2,3-cd)pyrene	193-39-5	1000	± 0.883%
Isophorone	78-59-1	1000	± 0.145%
2-Methyl-4,6-dinitrophenol	534-52-1	1000	± 0.508%
1-Methylnaphthalene	90-12-0	1000	± 0.479%
2-Methylnaphthalene	91-57-6	1000	± 0.487%
2-Methylphenol	95-48-7	1000	± 0.545%
3-Methylphenol	108-39-4	500	± 0.279%
4-Methylphenol	106-44-5	500	± 0.399%
Naphthalene	91-20-3	1000	± 0.226%
2-Nitroaniline	88-74-4	1000	± 0.224%
3-Nitroaniline	99-09-2	1000	± 0.235%
4-Nitroaniline	100-01-6	1000	± 0.300%
Nitrobenzene	98-95-3	1000	± 0.300%

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Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101444
Lot Number: CL18355
Description: 8270 Calibration Standard
Certification Date: July 25, 2022
Storage: -18 °C
Expiration Date: August 31, 2023
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
2-Nitrophenol	88-75-5	1000	± 0.514%
4-Nitrophenol	100-02-7	1000	± 0.519%
N-Nitrosodimethylamine	62-75-9	1000	± 0.503%
N-Nitrosodiphenylamine	86-30-6	1000	± 0.476%
N-Nitrosodi-n-propylamine	621-64-7	1000	± 0.461%
Pentachlorophenol	87-86-5	1000	± 0.202%
Phenanthrene	85-01-8	1000	± 0.145%
Phenol	108-95-2	1000	± 0.545%
Pyrene	129-00-0	1000	± 0.147%
Pyridine	110-86-1	1000	± 0.503%
2,3,4,6-Tetrachlorophenol	58-90-2	1000	± 0.247%
2,3,5,6-Tetrachlorophenol	935-95-5	1000	± 0.247%
1,2,4-Trichlorobenzene	120-82-1	1000	± 0.224%
2,4,5-Trichlorophenol	95-95-4	1000	± 0.507%
2,4,6-Trichlorophenol	88-06-2	1000	± 0.509%

Notes: The proper chemical name for Bis(2-Chloroiospropyl) ether is 2,2'-oxybis(1-chloropropane). The analytical uncertainty contribution to the expanded uncertainty for 3 and 4-Methylphenol is measured as the total of the two analytes. N-Nitrosodiphenylamine presents as Diphenylamine at 854 µg/mL.

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1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO 17034[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.

4. Handling and Usage Notes: Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

   Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.

12. Period of Validity: The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.
[3] ISO 17034 – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

LDW23-IT1136

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Solid	Laboratory ID:	23A0418-01 A	File ID:	03012361ECD7.D
Sampled:	01/18/23 08:28	Prepared:	02/14/23 11:38	Analyzed:	03/02/23 07:54
% Solids:	81.17	Preparation:	EPA 3546 (Microwave)	Initial/Final:	15.47 g Wet / 2.5 mL
Batch:	BLB0280	Sequence:	SLC0019	Calibration:	GB00069
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	1	1	4.0	1.6	4.0	U
11097-69-1	Aroclor 1254	1	1	4.0	1.6	4.0	U
11096-82-5	Aroclor 1260	1	1	4.0	0.6	4.0	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9637*	*7.87*	*98.8*	*40 - 126*	
Tetrachlorometaxylene	*1*	*7.9637*	*6.26*	*78.7*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012361ECD7.D
Data file 2: /230301.b/230301.b/03012361ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23A0418-01
Client ID:
Injection Date: 02-MAR-2023 07:54
Report Date: 03/02/2023 13:00
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.807	-0.001	202386	5.686	-0.000	170628	31.5	31.1	1.2	Tetrachloro-m-xylene
13.891	-0.004	260395	14.117	-0.002	288052	39.5	37.0	6.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	430777	-36.1
Hexabromobiphenyl	1429847	668847	-53.2 <-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	374092	18.7
Hexabromobiphenyl	513946	510892	-0.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	ZB5 Col Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	---			0.0	1	---			0.0
Aroclor-1248	2	---			0.0	2	---			0.0
Aroclor-1248	3	---			0.0	3	---			0.0
Aroclor-1248	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1254	1	---			0.0	1	---			0.0
Aroclor-1254	2	---			0.0	2	---			0.0
Aroclor-1254	3	---			0.0	3	---			0.0
Aroclor-1254	4	---			0.0	4	---			0.0
Aroclor-1254	5	---			0.0	5	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1260	1	---			0.0	1	---			0.0
Aroclor-1260	2	---			0.0	2	---			0.0
Aroclor-1260	3	---			0.0	3	---			0.0
Aroclor-1260	4	---			0.0	4	---			0.0
Aroclor-1260	5	---			0.0	NS	---			----
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (5.908 - 13.795) = 255643 Col1 Total PCB = 0.0 ppm*

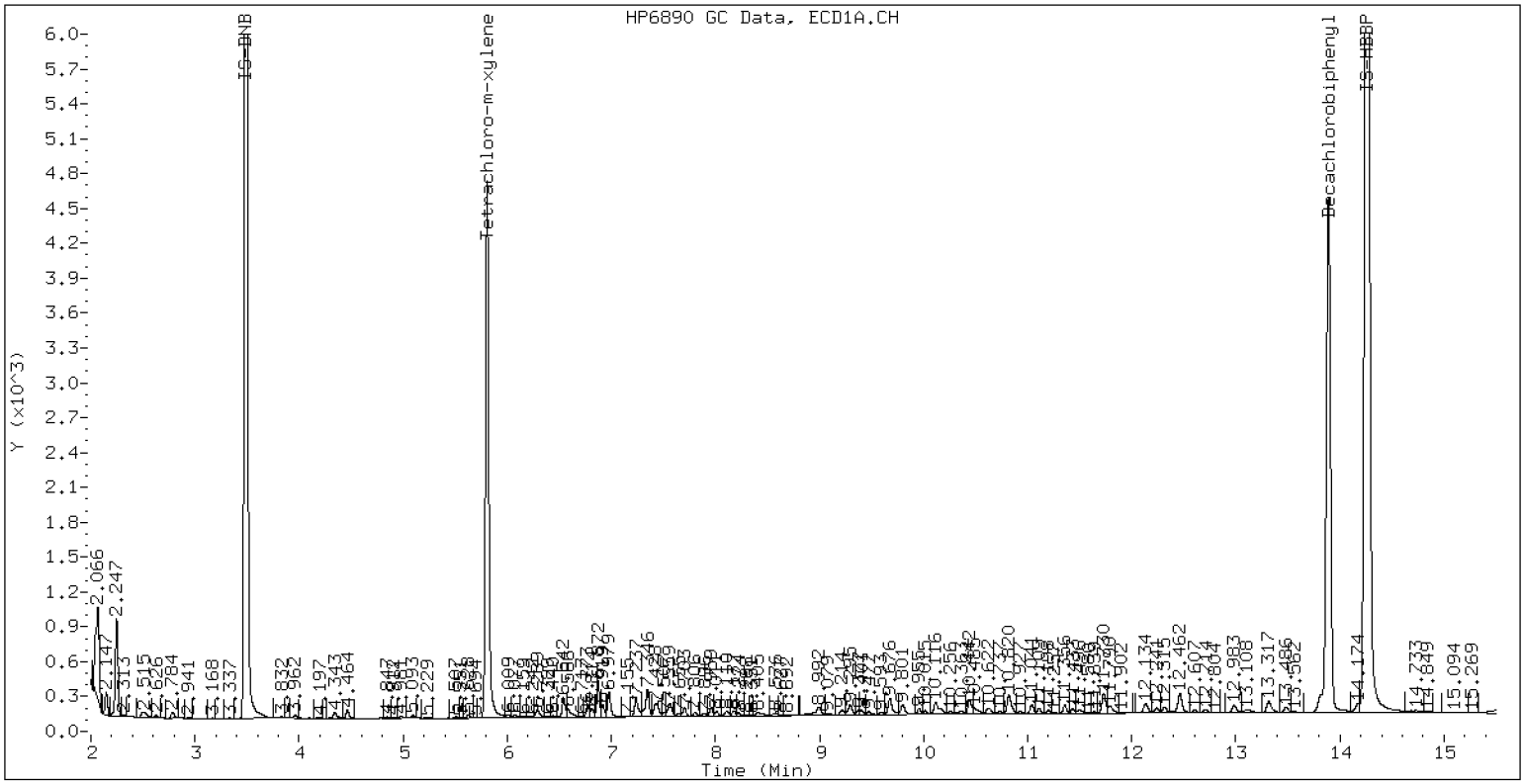
Total PCB Area Col2 (5.787 - 14.019) = 203303 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

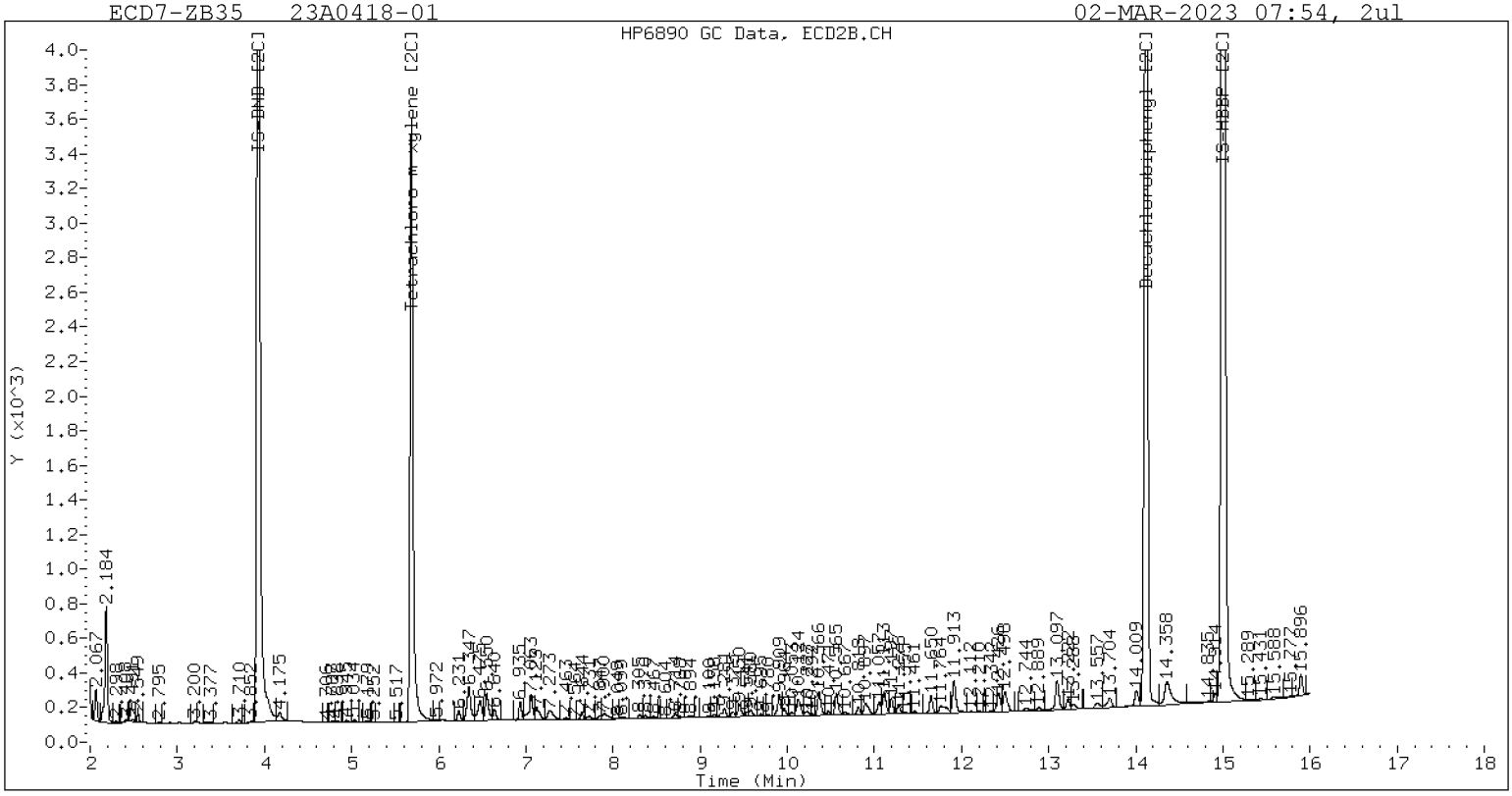
PCB Dual Column Chromatograms

ECD7-ZB5 23A0418-01 02-MAR-2023 07:54, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 23A0418-01 02-MAR-2023 07:54, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

LDW23-IT1142

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Solid	Laboratory ID:	23A0418-02 A	File ID:	03012379ECD7.D
Sampled:	01/18/23 08:47	Prepared:	02/14/23 11:38	Analyzed:	03/02/23 14:13
% Solids:	75.44	Preparation:	EPA 3546 (Microwave)	Initial/Final:	16.62 g Wet / 2.5 mL
Batch:	BLB0280	Sequence:	SLC0019	Calibration:	GB00069
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	20	79.8	31.1	79.8	U
11104-28-2	Aroclor 1221	1	20	79.8	31.1	79.8	U
11141-16-5	Aroclor 1232	1	20	79.8	31.1	79.8	U
53469-21-9	Aroclor 1242	1	20	79.8	31.1	79.8	U
12672-29-6	Aroclor 1248	1	20	79.8	31.1	79.8	U
11097-69-1	Aroclor 1254	1	20	536	31.1	79.8	D
11096-82-5	Aroclor 1260	2	20	150	11.7	79.8	D

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9757*	*10.2*	*127*	*40 - 126*	
Tetrachlorometaxylene	*1*	*7.9757*	*8.18*	*103*	*44 - 120*	
Decachlorobiphenyl	*2*	*7.9757*	*8.96*	*112*	*40 - 126*	
Tetrachlorometaxylene	*2*	*7.9757*	*8.41*	*106*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012379ECD7.D
Data file 2: /230301.b/230301.b/03012379ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23A0418-02RE1
Client ID:
Injection Date: 02-MAR-2023 14:13
Report Date: 03/02/2023 15:17
Matrix: NONE
Dilution Factor: 20.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.808	0.001	11923	5.687	0.001	10357	2.1	2.1	2.8	Tetrachloro-m-xylene
13.890	-0.002	13759	14.116	-0.003	15386	2.5	2.2	12.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	389125	-42.2
Hexabromobiphenyl	1429847	548090	-61.7 <-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	334555	6.1
Hexabromobiphenyl	513946	449490	-12.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks				Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
		Col1Ave: <3 Quant Peaks				Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks				Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks				Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	---			0.0	1	---			0.0
Aroclor-1248	2	---			0.0	2	---			0.0
Aroclor-1248	3	---			0.0	3	---			0.0
Aroclor-1248	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks				Col2Ave: <3 Quant Peaks				
Aroclor-1254	1	9.292	-0.007	57299	146.6	1	9.461	0.009	98043	385.6
Aroclor-1254	2	9.409	0.031	111194	632.7	2	9.967	-0.004	24114	117.9
Aroclor-1254	3	9.668	-0.001	35192	140.1	3	10.119	-0.006	57463	129.8
Aroclor-1254	4	9.802	-0.006	57792	118.3	4	10.367	-0.007	65928	152.8
Aroclor-1254	5	10.160	-0.017	40478	132.2	5	10.568	-0.002	46340	176.4
		Total Col1Ave (5 peaks):			234.0		Total Col2Ave (5 peaks):			192.5 RPD = 19
		Corrected Ave (4 peaks):			134.3		Corrected Ave (4 peaks):			144.2 RPD = 7
Aroclor-1260	1	11.040	-0.004	7052	35.8	1	11.655	0.002	20300	76.8
Aroclor-1260	2	11.359	-0.001	6202	30.1	2	11.915	-0.002	17898	26.5
Aroclor-1260	3	11.730	-0.004	14719	26.9	3	12.434	-0.002	3819	21.3
Aroclor-1260	4	12.132	-0.006	10126	36.8	4	12.497	-0.004	11825	26.0
Aroclor-1260	5	12.241	-0.002	1917	16.2	NS	---			----
		Total Col1Ave (5 peaks):			29.2		Total Col2Ave (4 peaks):			37.7 RPD = 25
		Corrected Ave (4 peaks):			27.2		Corrected Ave (3 peaks):			24.6 RPD = 10
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks				Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks				Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (5.907 - 13.792) = 1099177 Col1 Total PCB = 0.2 ppm*

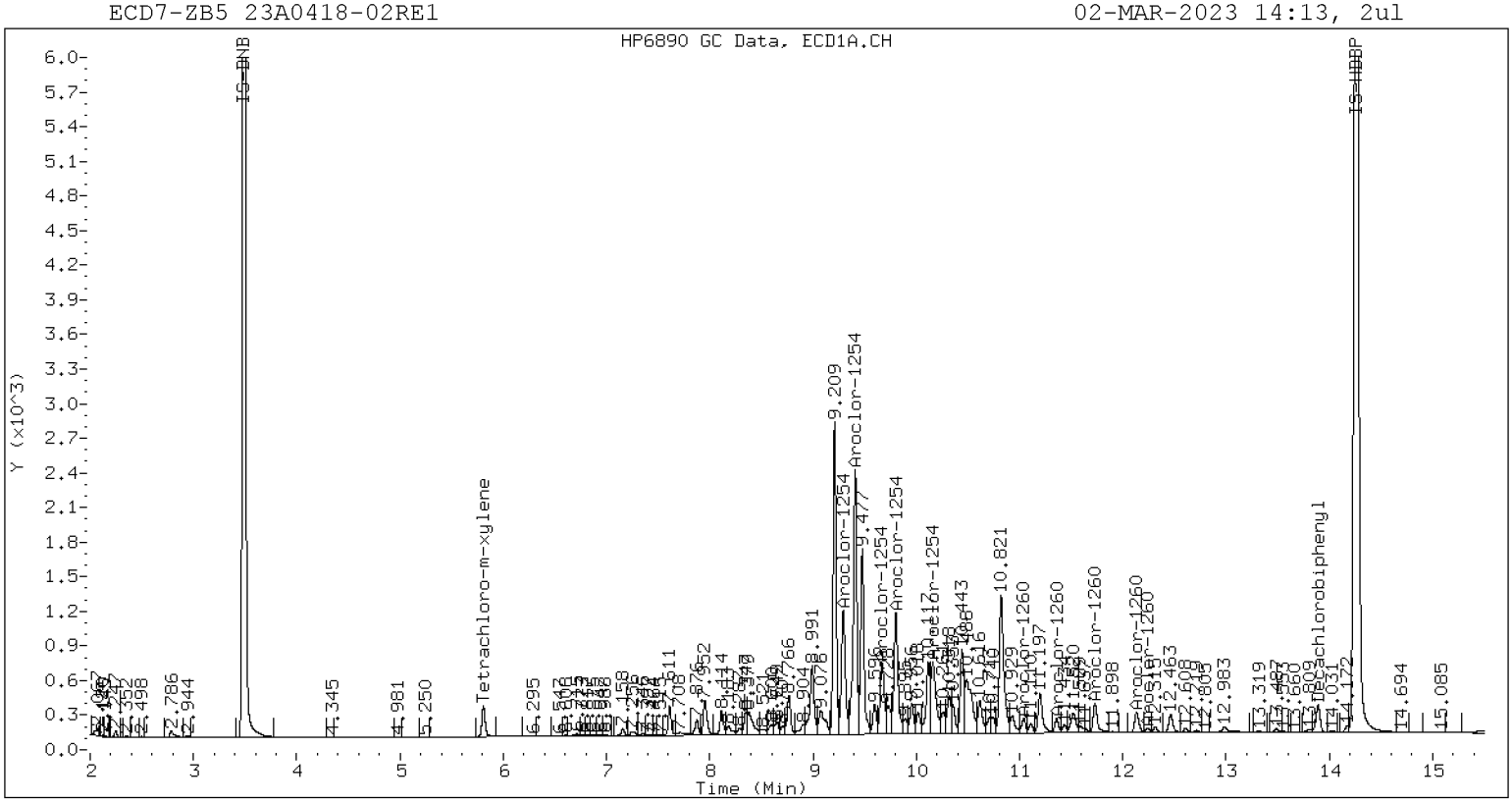
Total PCB Area Col2 (5.787 - 14.019) = 969601 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

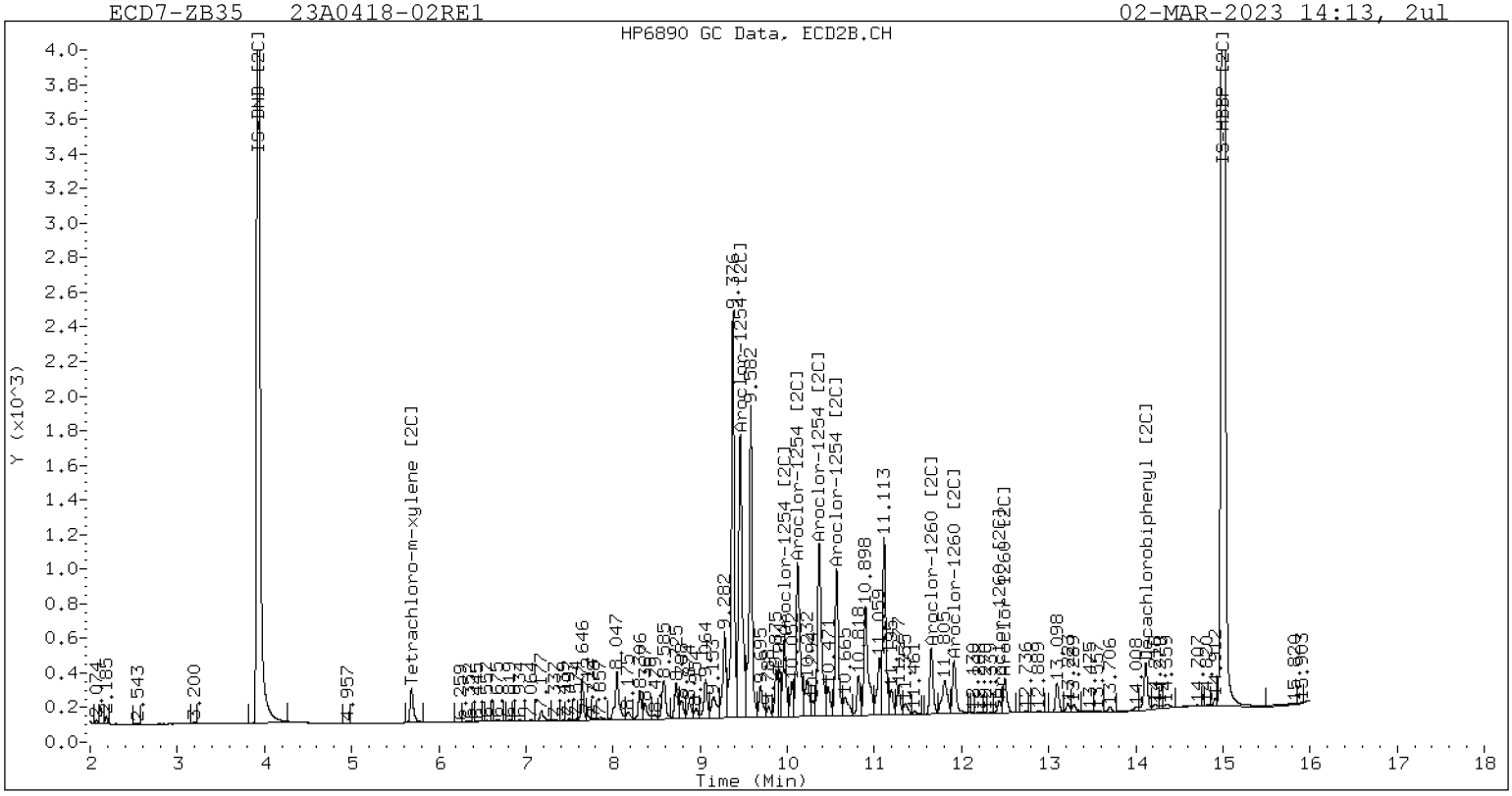
PCB Dual Column Chromatograms

ECD7-ZB5 23A0418-02RE1 02-MAR-2023 14:13, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 23A0418-02RE1 02-MAR-2023 14:13, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

LDW23-SC1122

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Solid	Laboratory ID:	23A0418-03 A	File ID:	03012363ECD7.D
Sampled:	01/18/23 10:39	Prepared:	02/14/23 11:38	Analyzed:	03/02/23 08:36
% Solids:	49.47	Preparation:	EPA 3546 (Microwave)	Initial/Final:	25.29 g Wet / 2.5 mL
Batch:	BLB0280	Sequence:	SLC0019	Calibration:	GB00069
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	2	1	48.0	1.6	4.0	
11097-69-1	Aroclor 1254	2	1	62.6	1.6	4.0	
11096-82-5	Aroclor 1260	2	1	59.1	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9930*	*6.67*	*83.4*	*40 - 126*	
Tetrachlorometaxylene	*1*	*7.9930*	*5.10*	*63.8*	*44 - 120*	
Decachlorobiphenyl	*2*	*7.9930*	*6.15*	*76.9*	*40 - 126*	
Tetrachlorometaxylene	*2*	*7.9930*	*5.78*	*72.3*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012363ECD7.D
Data file 2: /230301.b/230301.b/03012363ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23A0418-03
Client ID:
Injection Date: 02-MAR-2023 08:36
Report Date: 03/02/2023 13:00
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.805	-0.003	164530	5.683	-0.004	146887	25.5	28.9	12.6	Tetrachloro-m-xylene
13.886	-0.009	142242	14.111	-0.008	182917	33.4	30.8	8.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	432063	-35.9
Hexabromobiphenyl	1429847	432920	-69.7 <-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	346127	9.8
Hexabromobiphenyl	513946	390296	-24.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1248	1	8.395	-0.012	38149	181.0	1	8.298	-0.011	46615	282.1
Aroclor-1248	2	8.563	-0.020	33633	125.5	2	8.704	-0.012	34147	199.8
Aroclor-1248	3	8.983	-0.017	95007	187.9	3	9.138	-0.028	46926	238.6
Aroclor-1248	4	9.285	-0.011	104554	406.3	4	9.530	-0.064	41333	~~175~~.1
		Total Col1Ave (4 peaks):			225.2		Total Col2Ave (4 peaks):			223.9 RPD = 1
		Corrected Ave (3 peaks):			164.8		Corrected Ave (3 peaks):			204.5 RPD = 22
										240.17
Aroclor-1254	1	9.285	-0.016	104554	241.0	1	9.436	-0.016	78191	297.2
Aroclor-1254	2	9.360	-0.020	41414	212.2	2	9.954	-0.016	40958	193.5
Aroclor-1254	3	9.659	-0.012	83938	300.9	3	10.104	-0.021	139547	304.7
Aroclor-1254	4	9.786	-0.025	144026	265.6	4	10.349	-0.025	170118	381.1
Aroclor-1254	5	10.118	-0.059	92619	2~~72~~.5	5	10.552	-0.018	106149	390.6
		Total Col1Ave (5 peaks):			258.4		Total Col2Ave (5 peaks):			313.4 RPD = 19
		Corrected Ave (4 peaks):			247.8		Corrected Ave (4 peaks):			294.1 RPD = 17
					254.925					
Aroclor-1260	1	11.032	-0.014	50021	321.2	1	11.641	-0.012	63351	276.0
Aroclor-1260	2	11.347	-0.015	41229	253.4	2	11.903	-0.014	126926	216.7
Aroclor-1260	3	11.718	-0.018	111888	259.3	3	12.417	-0.018	72809	468.4
Aroclor-1260	4	12.119	-0.021	61146	281.4	4	12.486	-0.015	87323	221.2
Aroclor-1260	5	12.234	-0.011	29837	319.0	NS	---			----
		Total Col1Ave (5 peaks):			286.8		Total Col2Ave (4 peaks):			295.6 RPD = 3
		Corrected Ave (4 peaks):			278.2		Corrected Ave (3 peaks):			238.0 RPD = 16
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			

Total PCB Area Col1 (5.908 - 13.795) = 2690108 Col1 Total PCB = 0.5 ppm*

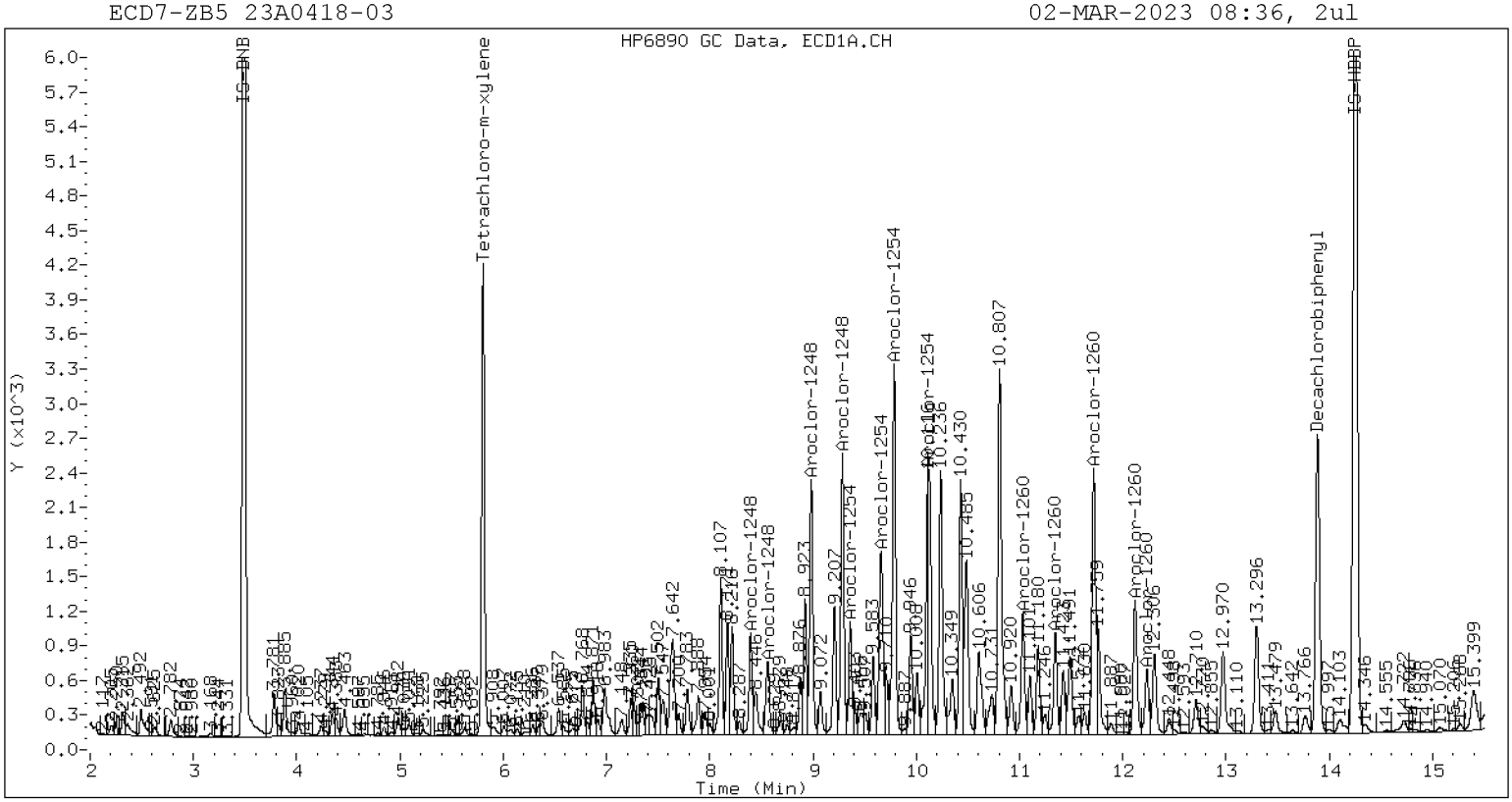
Total PCB Area Col2 (5.787 - 14.019) = 2507617 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

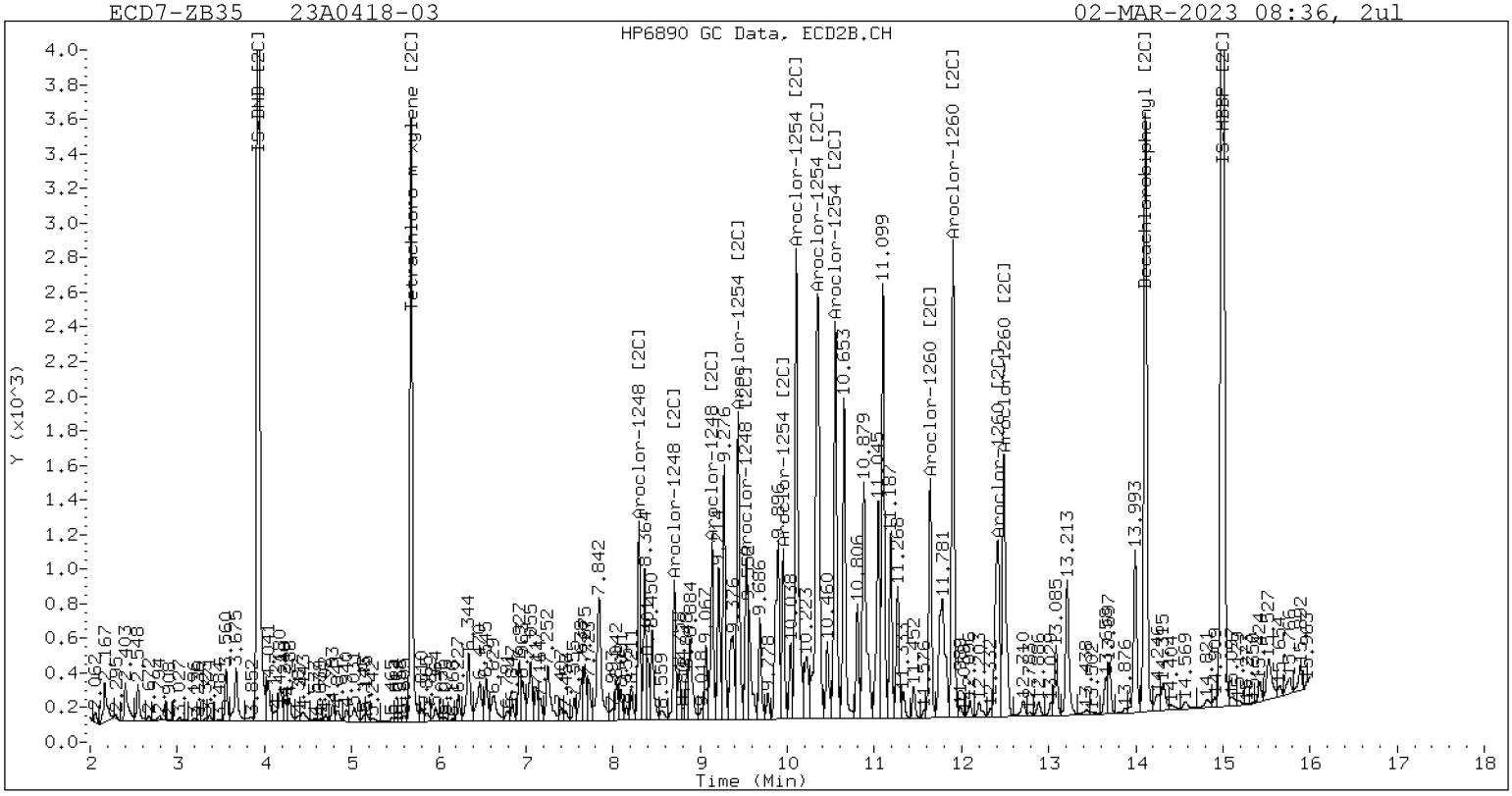
PCB Dual Column Chromatograms

ECD7-ZB5 23A0418-03 02-MAR-2023 08:36, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 23A0418-03 02-MAR-2023 08:36, 2ul

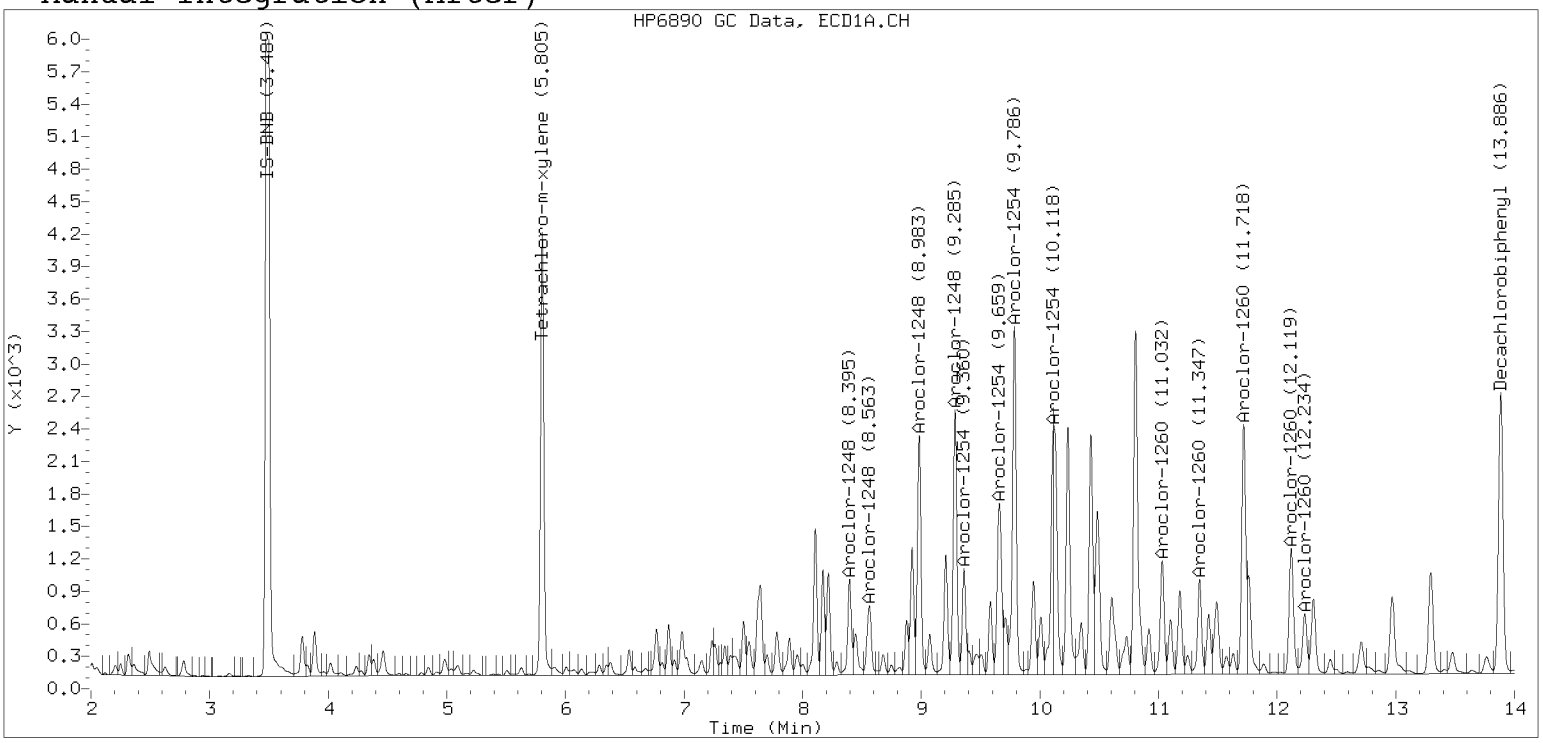


ZB-35 Manual Integration: YES

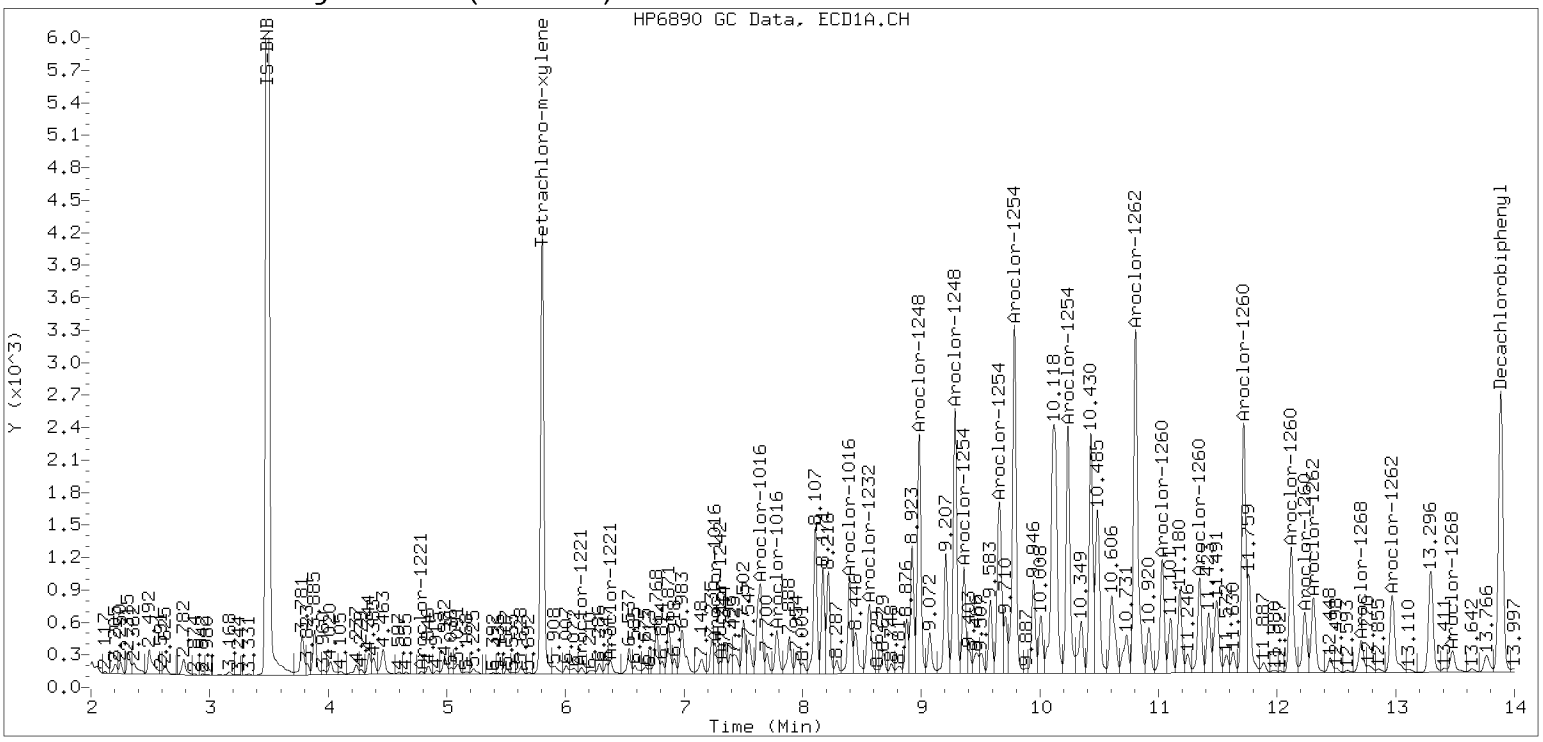
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/230301.b/03012363ECD7.D Injection Date: 02-MAR-2023 08:36

Manual Integration (After)



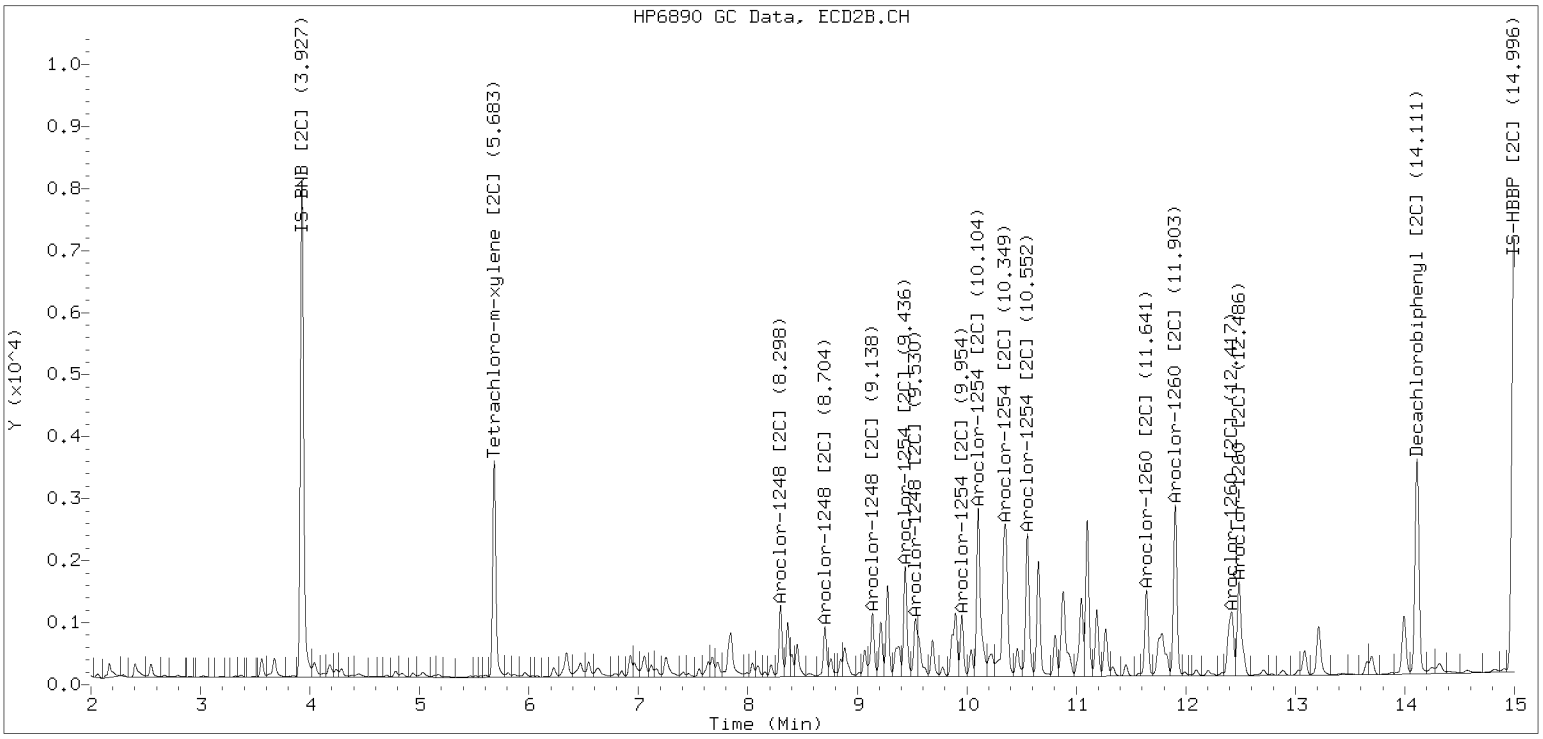
Processed Integration (Before)



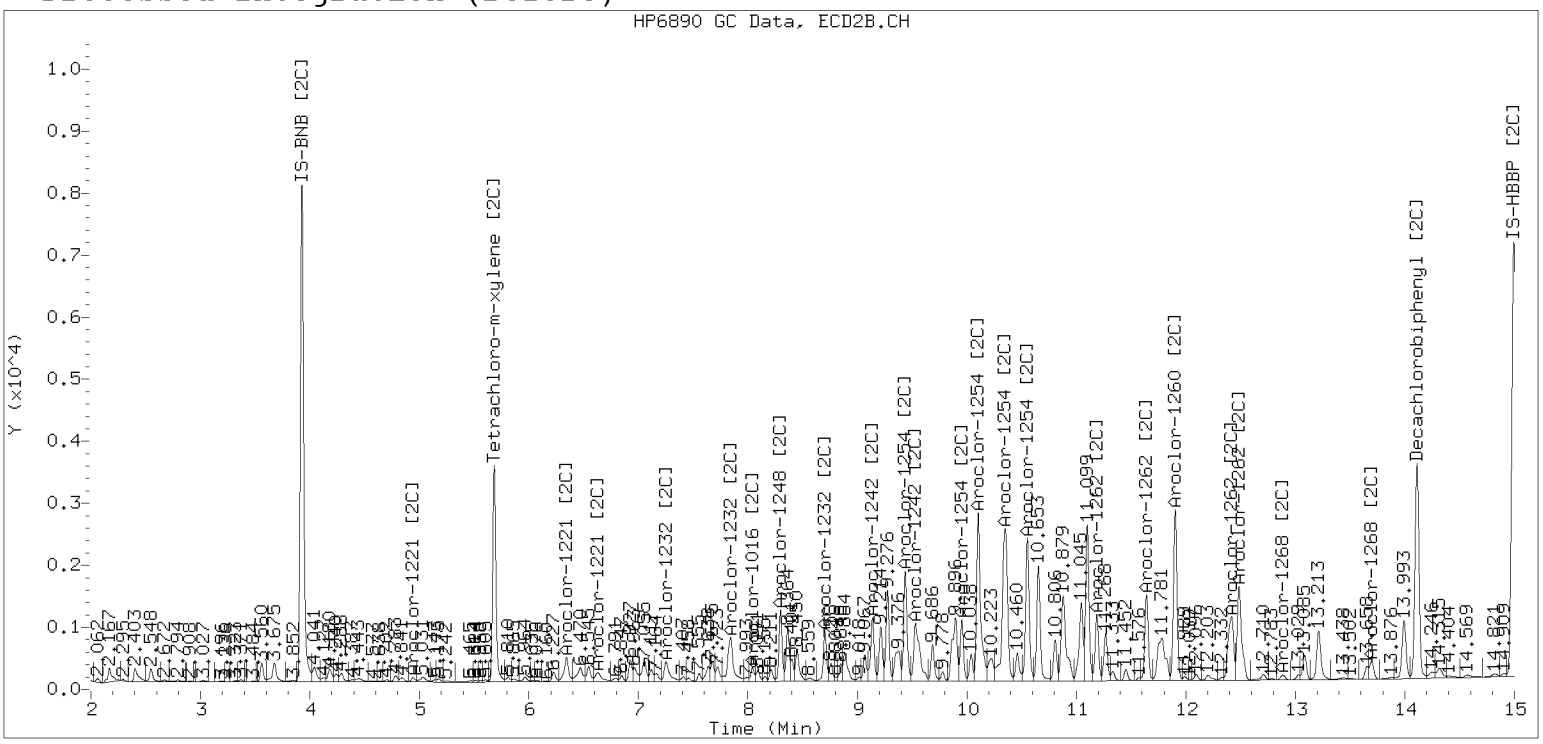
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230301.b/230301.b/03012363ECD7.D Injection Date: 02-MAR-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

LDW23-IT1141

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Solid	Laboratory ID:	23A0418-04 A	File ID:	03012380ECD7.D
Sampled:	01/18/23 11:03	Prepared:	02/14/23 11:38	Analyzed:	03/02/23 14:34
% Solids:	58.59	Preparation:	EPA 3546 (Microwave)	Initial/Final:	21.37 g Wet / 2.5 mL
Batch:	BLB0280	Sequence:	SLC0019	Calibration:	GB00069
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	20	79.9	31.1	79.9	U
11104-28-2	Aroclor 1221	1	20	79.9	31.1	79.9	U
11141-16-5	Aroclor 1232	1	20	79.9	31.1	79.9	U
53469-21-9	Aroclor 1242	1	20	79.9	31.1	79.9	U
12672-29-6	Aroclor 1248	1	20	79.9	31.1	79.9	U
11097-69-1	Aroclor 1254	2	20	514	31.1	79.9	D
11096-82-5	Aroclor 1260	1	20	79.9	11.8	79.9	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9868*	*9.79*	*123*	*40 - 126*	
Tetrachlorometaxylene	*1*	*7.9868*	*8.51*	*107*	*44 - 120*	
Decachlorobiphenyl	*2*	*7.9868*	*8.24*	*103*	*40 - 126*	
Tetrachlorometaxylene	*2*	*7.9868*	*9.20*	*115*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012380ECD7.D
Data file 2: /230301.b/230301.b/03012380ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23A0418-04RE1
Client ID:
Injection Date: 02-MAR-2023 14:34
Report Date: 03/02/2023 15:17
Matrix: NONE
Dilution Factor: 20.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.806	-0.001	12661	5.686	-0.000	11507	2.1	2.3	7.8	Tetrachloro-m-xylene
13.888	-0.004	14077	14.115	-0.004	14825	2.5	2.1	17.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	398049	-40.9
Hexabromobiphenyl	1429847	582949	-59.2 <-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	340470	8.0
Hexabromobiphenyl	513946	472027	-8.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1248	1	---			0.0	1	---			0.0
Aroclor-1248	2	---			0.0	2	---			0.0
Aroclor-1248	3	---			0.0	3	---			0.0
Aroclor-1248	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1254	1	9.290	-0.009	13742	34.4	1	9.479	0.027	43967	169.9
Aroclor-1254	2	9.387	0.008	43953	244.5	2	9.994	0.023	20772	99.8
Aroclor-1254	3	9.698	0.030	26384	102.7	3	10.095	-0.030	78447	174.2
Aroclor-1254	4	9.797	-0.010	58215	116.5	4	10.349	-0.025	72104	164.2
Aroclor-1254	5	10.116	-0.062	11644	~~37.~~2	5	10.565	-0.005	9609	35.9
		Total Col1Ave (5 peaks):			107.0		Total Col2Ave (5 peaks):			128.8 RPD = 18
		Corrected Ave (4 peaks):			72.7		Corrected Ave (4 peaks):			117.5 RPD = 47*
					124.525					
Aroclor-1260	1	---			0.0	1	---			0.0
Aroclor-1260	2	---			0.0	2	---			0.0
Aroclor-1260	3	---			0.0	3	---			0.0
Aroclor-1260	4	---			0.0	4	---			0.0
Aroclor-1260	5	---			0.0	NS	---			----
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			

Total PCB Area Col1 (5.907 - 13.792) = 3303193 Col1 Total PCB = 0.7 ppm*

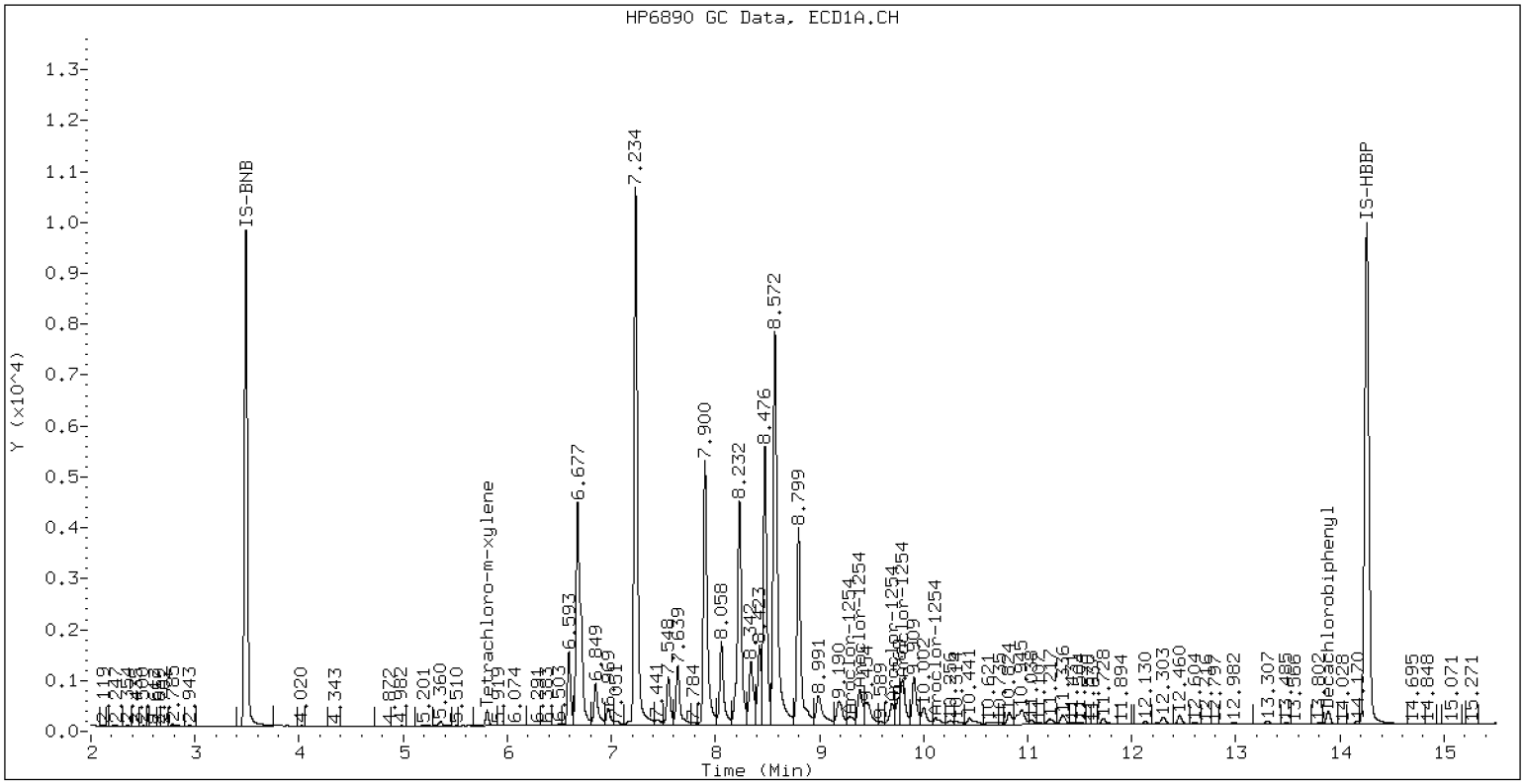
Total PCB Area Col2 (5.787 - 14.019) = 3163105 Col2 Total PCB = 0.8 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

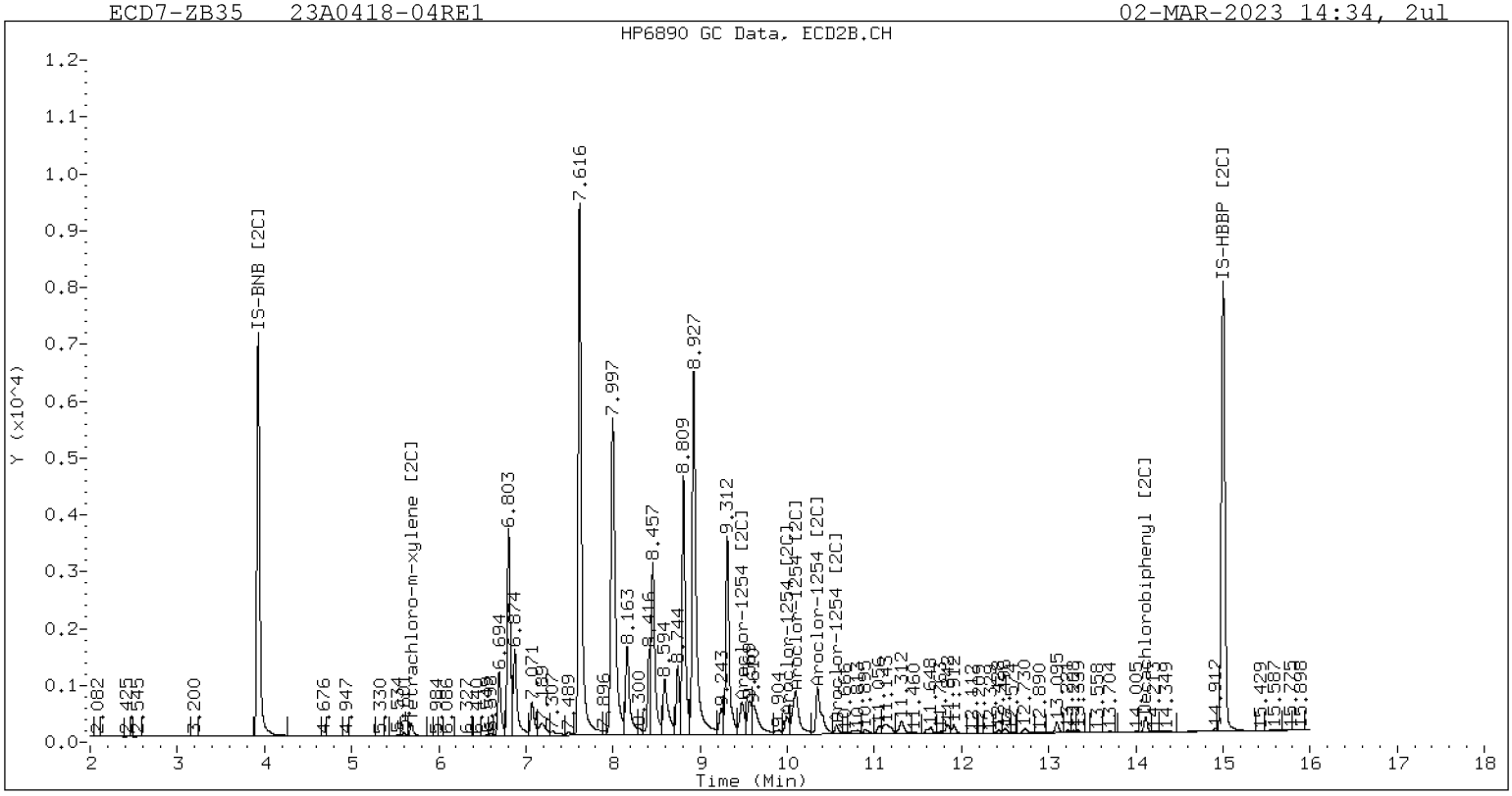
PCB Dual Column Chromatograms

ECD7-ZB5 23A0418-04RE1 02-MAR-2023 14:34, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 23A0418-04RE1 02-MAR-2023 14:34, 2ul

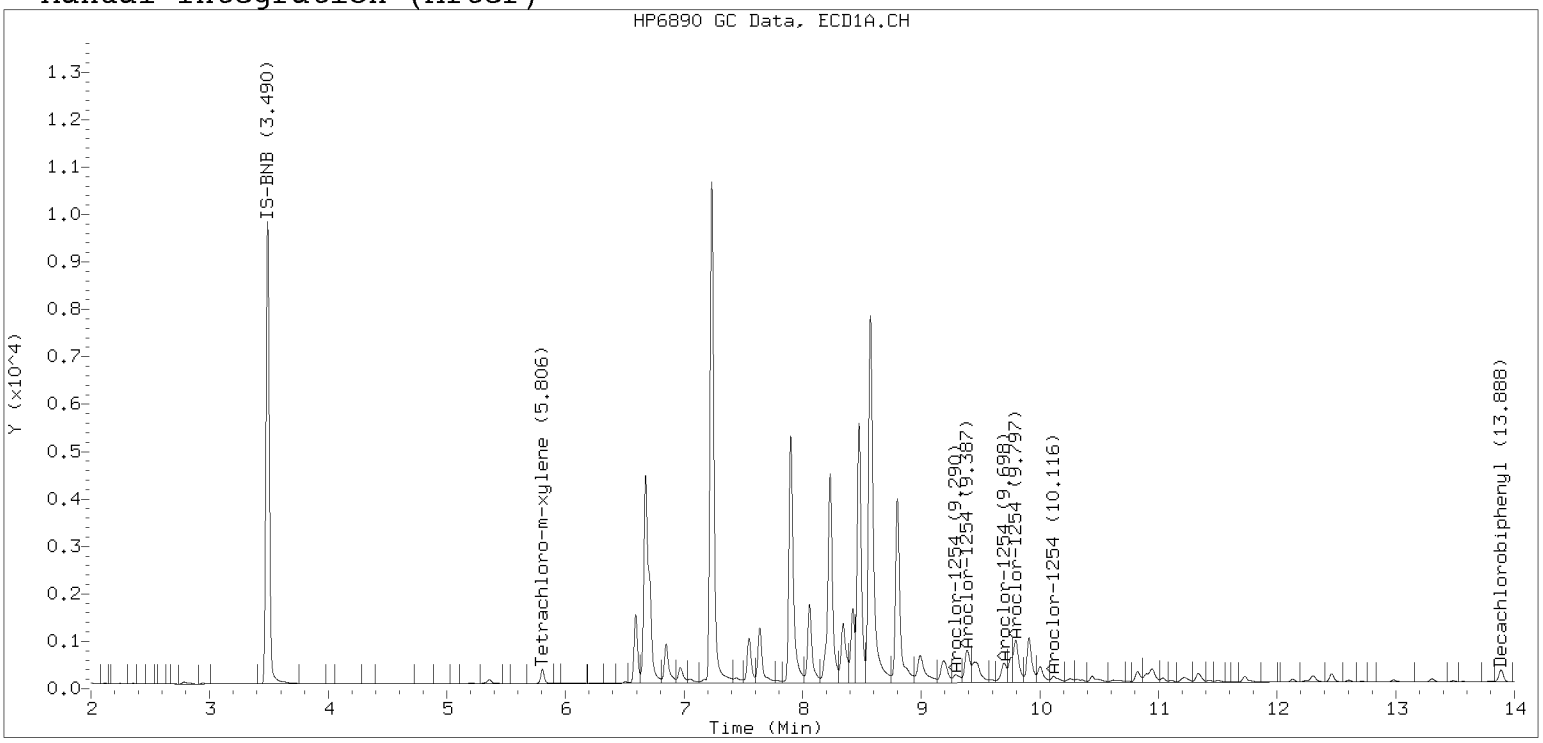


ZB-35 Manual Integration: NO

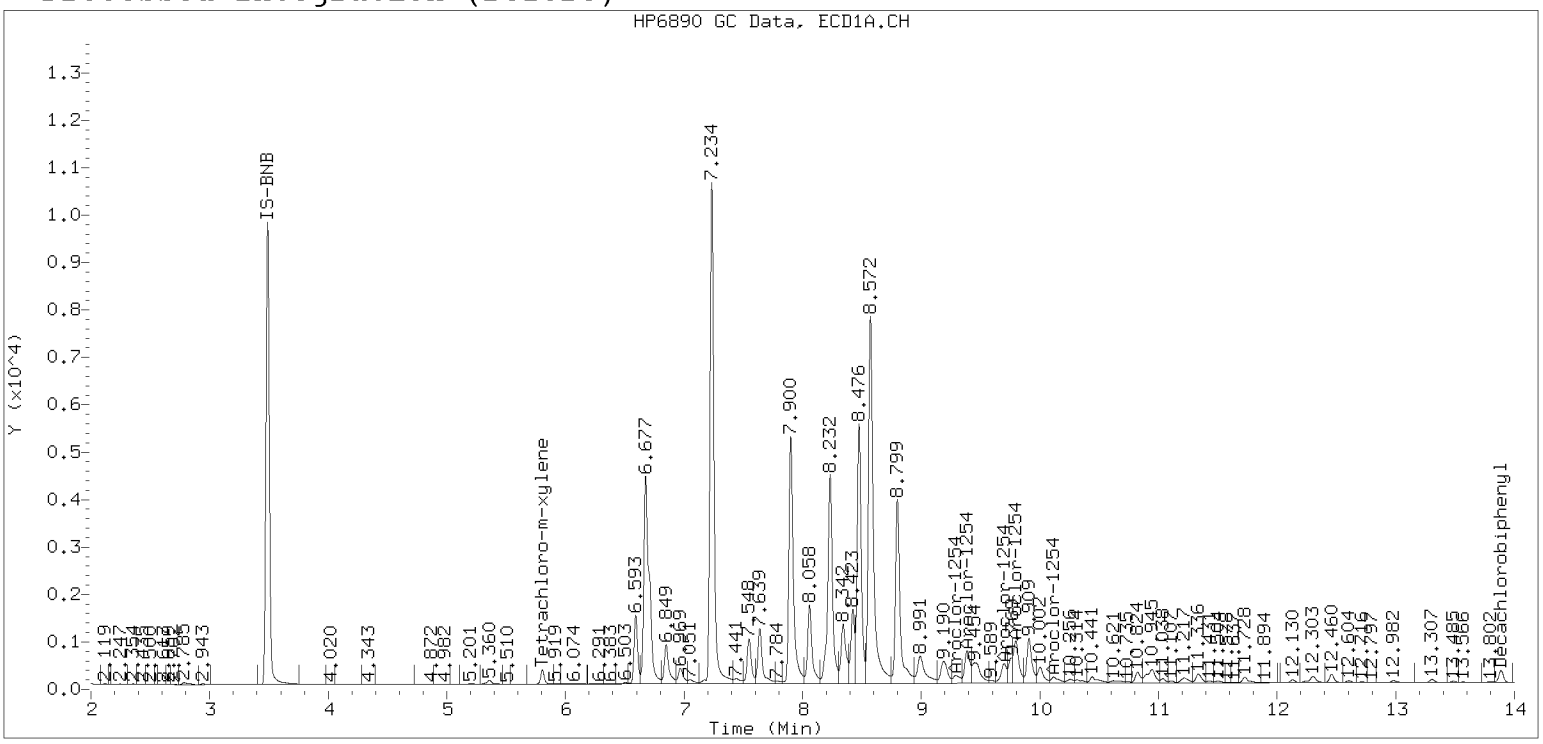
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/230301.b/03012380ECD7.D Injection Date: 02-MAR-2023 14:34

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

LDW23-IT1133

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Solid	Laboratory ID:	23A0418-05 A	File ID:	03012365ECD7.D
Sampled:	01/18/23 11:13	Prepared:	02/14/23 11:38	Analyzed:	03/02/23 09:18
% Solids:	71.61	Preparation:	EPA 3546 (Microwave)	Initial/Final:	17.51 g Wet / 2.5 mL
Batch:	BLB0280	Sequence:	SLC0019	Calibration:	GB00069
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	1	1	115	1.6	4.0	
11097-69-1	Aroclor 1254	2	1	178	1.6	4.0	
11096-82-5	Aroclor 1260	2	1	128	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9752*	*7.76*	*97.3*	*40 - 126*	
Tetrachlorometaxylene	*1*	*7.9752*	*4.92*	*61.7*	*44 - 120*	
Decachlorobiphenyl	*2*	*7.9752*	*7.99*	*100*	*40 - 126*	
Tetrachlorometaxylene	*2*	*7.9752*	*5.59*	*70.1*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012365ECD7.D
Data file 2: /230301.b/230301.b/03012365ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23A0418-05
Client ID:
Injection Date: 02-MAR-2023 09:18
Report Date: 03/02/2023 13:02
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.803	-0.005	162721	5.681	-0.006	143385	24.7	28.1	12.8	Tetrachloro-m-xylene
13.884	-0.010	141104	14.112	-0.007	201389	38.9	40.1	3.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	441680	-34.4
Hexabromobiphenyl	1429847	368282	-74.2 <-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	348331	10.5
Hexabromobiphenyl	513946	329834	-35.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	8.394	-0.013	78234	363.0	1	8.296	-0.013	83625	502.8
Aroclor-1248	2	8.562	-0.020	58968	215.3	2	8.702	-0.013	76054	442.3
Aroclor-1248	3	8.983	-0.017	251920	487.5	3	9.136	-0.031	66622	336.7
Aroclor-1248	4	9.284	-0.012	326646	1241.6	4	9.528	-0.066	119173	501.6
	Total Col1Ave (4 peaks):				576.8	Total Col2Ave (4 peaks):				445.8 RPD = 26
	Corrected Ave (3 peaks):				355.3	Corrected Ave (3 peaks):				426.8 RPD = 18
										427.27
Aroclor-1254	1	9.284	-0.017	326646	736.5	1	9.435	-0.017	248534	938.7
Aroclor-1254	2	9.360	-0.020	107024	536.5	2	9.954	-0.017	144978	680.7
Aroclor-1254	3	9.653	-0.018	227236	796.9	3	10.103	-0.022	412288	894.7
Aroclor-1254	4	9.785	-0.026	399578	720.7	4	10.353	-0.021	397595	885.0
Aroclor-1254	5	10.112	-0.065	274318	789.4	5	10.552	-0.018	291278	1064.9
	Total Col1Ave (5 peaks):				716.0	Total Col2Ave (5 peaks):				892.8 RPD = 22
	Corrected Ave (4 peaks):				695.8	Corrected Ave (4 peaks):				849.8 RPD = 20
										697.65
Aroclor-1260	1	11.031	-0.015	98633	744.5	1	11.641	-0.012	176166	908.3
Aroclor-1260	2	11.348	-0.014	96017	693.6	2	11.903	-0.014	277881	561.4
Aroclor-1260	3	11.717	-0.019	244336	665.5	3	12.422	-0.013	74879	570.1
Aroclor-1260	4	12.118	-0.022	135394	732.3	4	12.486	-0.015	172993	518.5
Aroclor-1260	5	12.233	-0.012	45844	576.1	NS	---			----
	Total Col1Ave (5 peaks):				682.4	Total Col2Ave (4 peaks):				639.6 RPD = 6
	Corrected Ave (4 peaks):				666.9	Corrected Ave (3 peaks):				550.0 RPD = 19
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (5.908 - 13.795) = 6173558 Col1 Total PCB = 1.2 ppm*

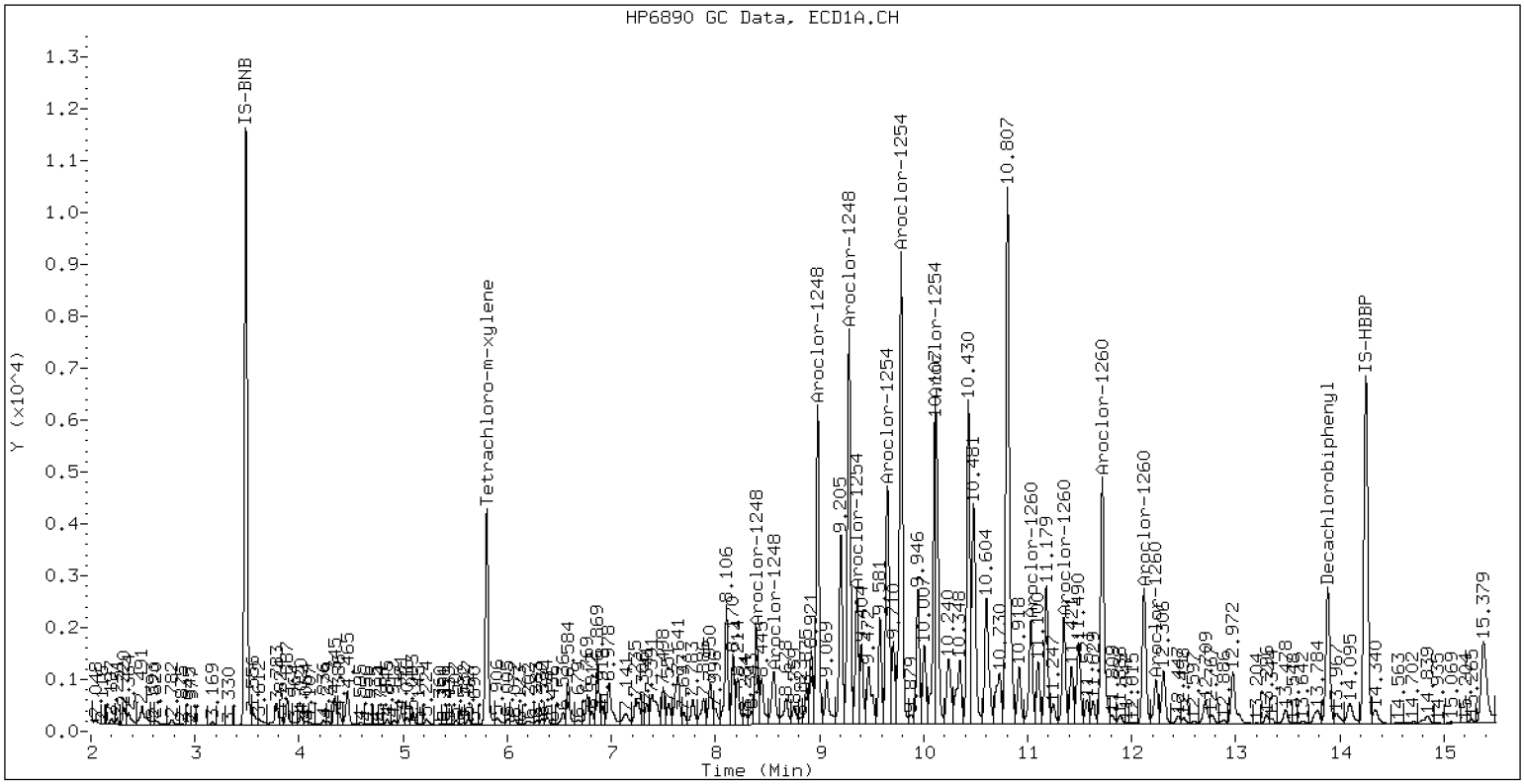
Total PCB Area Col2 (5.787 - 14.019) = 5706727 Col2 Total PCB = 1.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

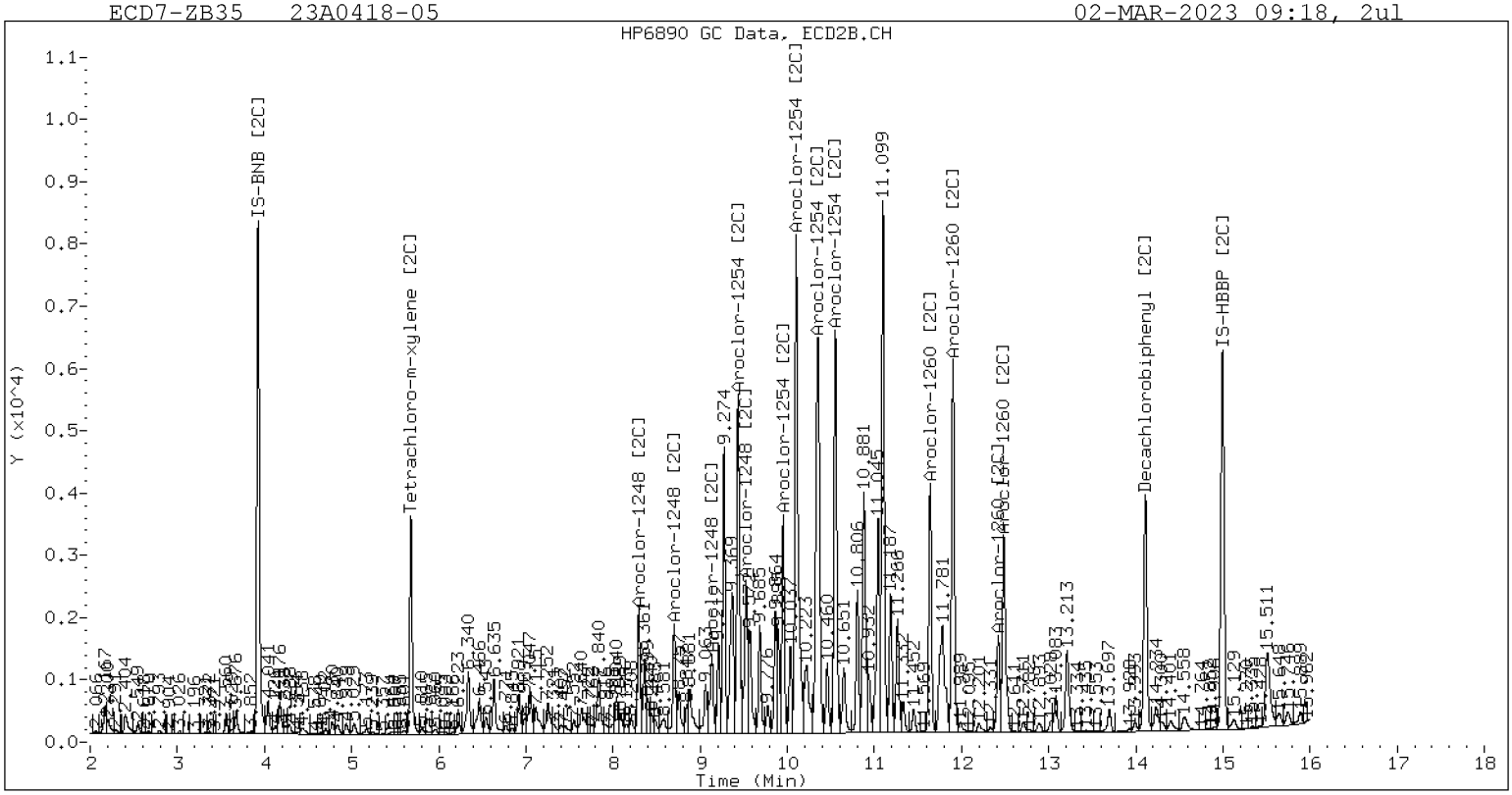
PCB Dual Column Chromatograms

ECD7-ZB5 23A0418-05 02-MAR-2023 09:18, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 23A0418-05 02-MAR-2023 09:18, 2ul

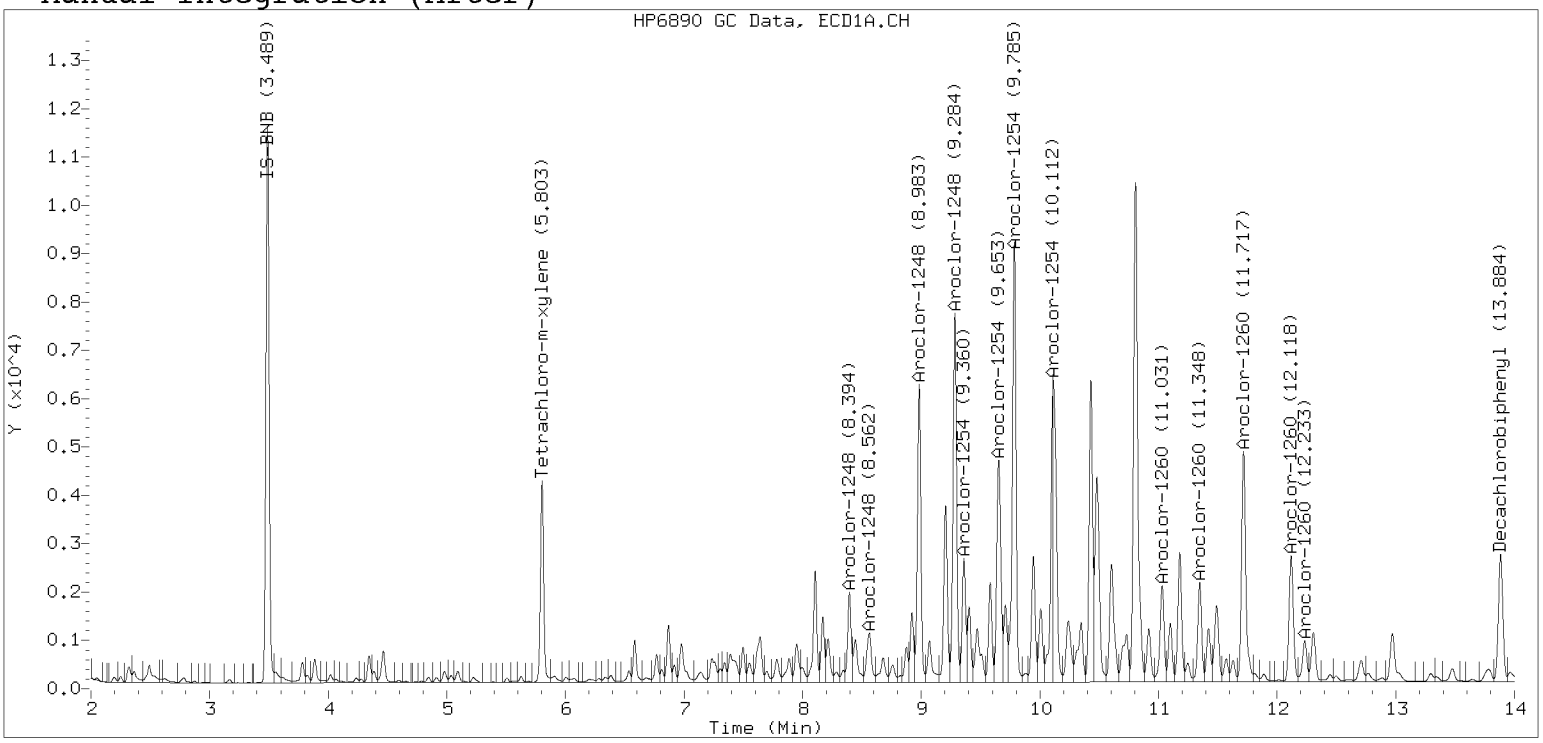


ZB-35 Manual Integration: YES

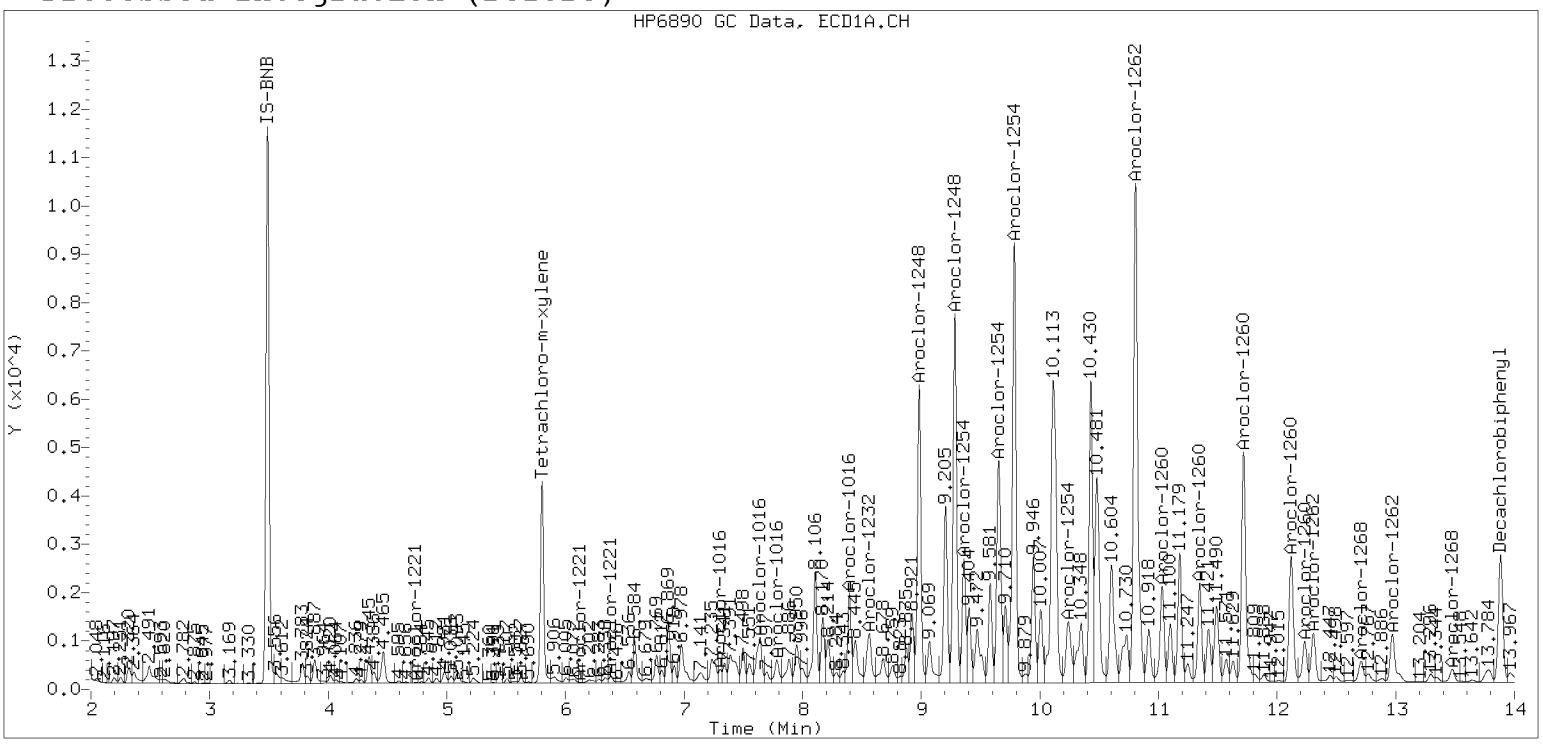
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/230301.b/03012365ECD7.D Injection Date: 02-MAR-2023 09:18

Manual Integration (After)



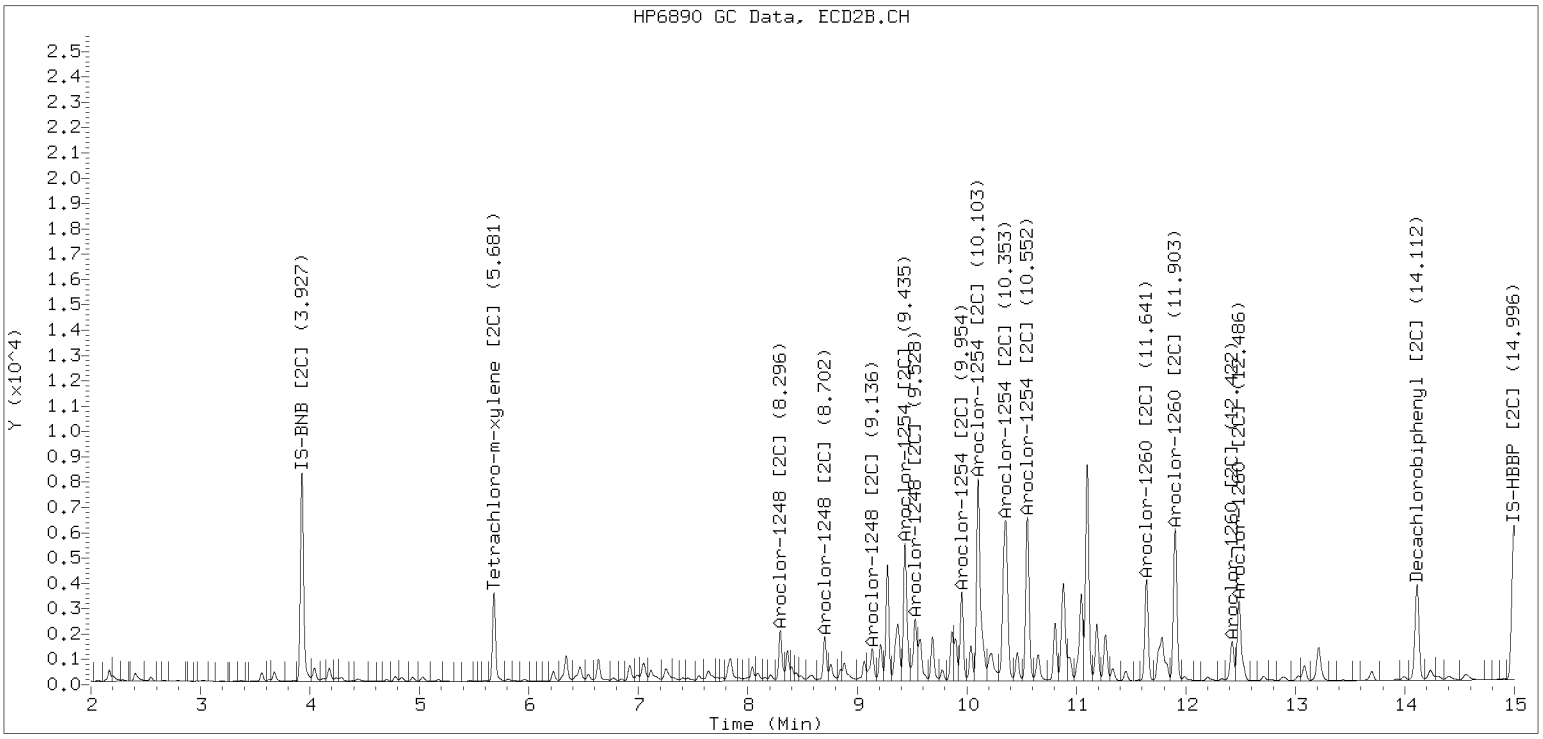
Processed Integration (Before)



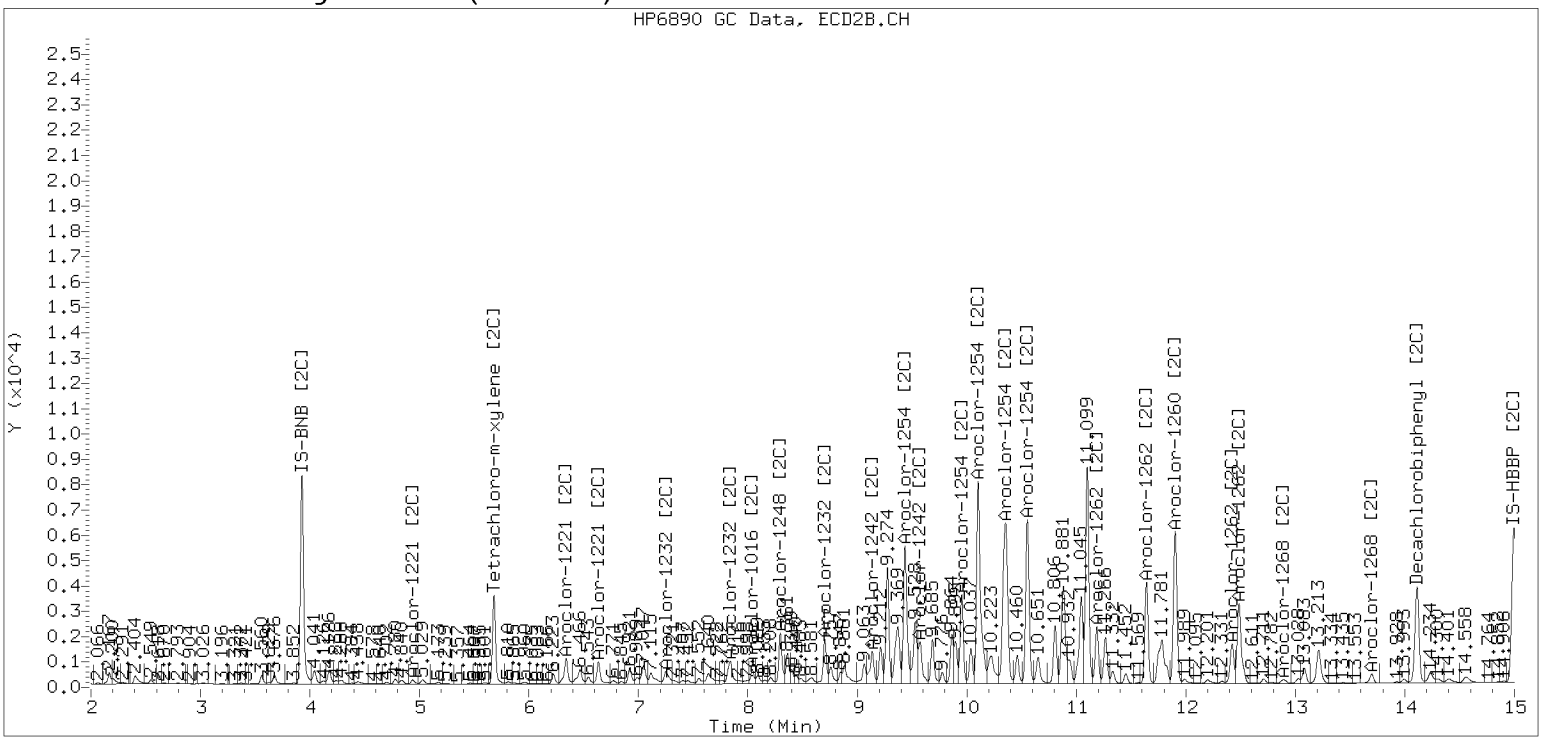
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230301.b/230301.b/03012365ECD7.D Injection Date: 02-MAR-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

LDW23-IT1133-FD

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Solid	Laboratory ID:	23A0418-06 A	File ID:	03012366ECD7.D
Sampled:	01/18/23 11:13	Prepared:	02/14/23 11:38	Analyzed:	03/02/23 09:39
% Solids:	74.81	Preparation:	EPA 3546 (Microwave)	Initial/Final:	16.75 g Wet / 2.5 mL
Batch:	BLB0280	Sequence:	SLC0019	Calibration:	GB00069
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	1	1	42.5	1.6	4.0	
11097-69-1	Aroclor 1254	2	1	65.5	1.6	4.0	
11096-82-5	Aroclor 1260	2	1	48.1	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9804*	*7.36*	*92.3*	*40 - 126*	
Tetrachlorometaxylene	*1*	*7.9804*	*4.74*	*59.4*	*44 - 120*	
Decachlorobiphenyl	*2*	*7.9804*	*7.51*	*94.1*	*40 - 126*	
Tetrachlorometaxylene	*2*	*7.9804*	*5.27*	*66.0*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012366ECD7.D
Data file 2: /230301.b/230301.b/03012366ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23A0418-06
Client ID:
Injection Date: 02-MAR-2023 09:39
Report Date: 03/02/2023 15:04
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.803	-0.004	154333	5.681	-0.006	135734	23.8	26.4	10.5	Tetrachloro-m-xylene
13.885	-0.007	135326	14.112	-0.007	190847	36.9	37.7	2.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	435154	-35.4
Hexabromobiphenyl	1429847	372373	-74.0 <-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	350485	11.2
Hexabromobiphenyl	513946	332826	-35.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1248	1	8.394	-0.013	29911	140.9	1	8.297	-0.012	28833	172.3
Aroclor-1248	2	8.563	-0.018	24483	90.7	2	8.704	-0.012	31037	179.4
Aroclor-1248	3	8.982	-0.016	88674	174.2	3	9.137	-0.030	38116	191.4
Aroclor-1248	4	9.283	-0.012	115443	445.4	4	9.530	-0.064	48578	203.2
		Total Col1Ave (4 peaks):			212.8		Total Col2Ave (4 peaks):			186.6 RPD = 13
		Corrected Ave (3 peaks):			135.3		Corrected Ave (3 peaks):			181.0 RPD = 29
Aroclor-1254	1	9.283	-0.016	115443	264.2	1	9.439	-0.013	105702	396.8
Aroclor-1254	2	9.361	-0.018	34873	177.4	2	9.954	-0.017	45516	212.4
Aroclor-1254	3	9.663	-0.006	122837	437.3	3	10.104	-0.021	140050	302.0
Aroclor-1254	4	9.785	-0.023	130882	239.6	4	10.349	-0.025	152195	336.7
Aroclor-1254	5	10.123	-0.054	74434	217.4	5	10.554	-0.016	108024	392.5
		Total Col1Ave (5 peaks):			267.2		Total Col2Ave (5 peaks):			328.1 RPD = 20
		Corrected Ave (4 peaks):			224.7		Corrected Ave (4 peaks):			310.9 RPD = 32
					279.625					
Aroclor-1260	1	11.031	-0.013	36750	274.3	1	11.642	-0.011	60844	310.9
Aroclor-1260	2	11.348	-0.012	34259	244.8	2	11.904	-0.013	101283	202.8
Aroclor-1260	3	11.718	-0.016	91938	247.7	3	12.423	-0.012	34027	256.7
Aroclor-1260	4	12.119	-0.019	47250	252.8	4	12.486	-0.015	65277	193.9
Aroclor-1260	5	12.234	-0.009	18804	233.7	NS	---			----
		Total Col1Ave (5 peaks):			250.7		Total Col2Ave (4 peaks):			241.1 RPD = 4
		Corrected Ave (4 peaks):			244.7		Corrected Ave (3 peaks):			217.8 RPD = 12
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			

Total PCB Area Col1 (5.907 - 13.792) = 2333160 Col1 Total PCB = 0.4 ppm*

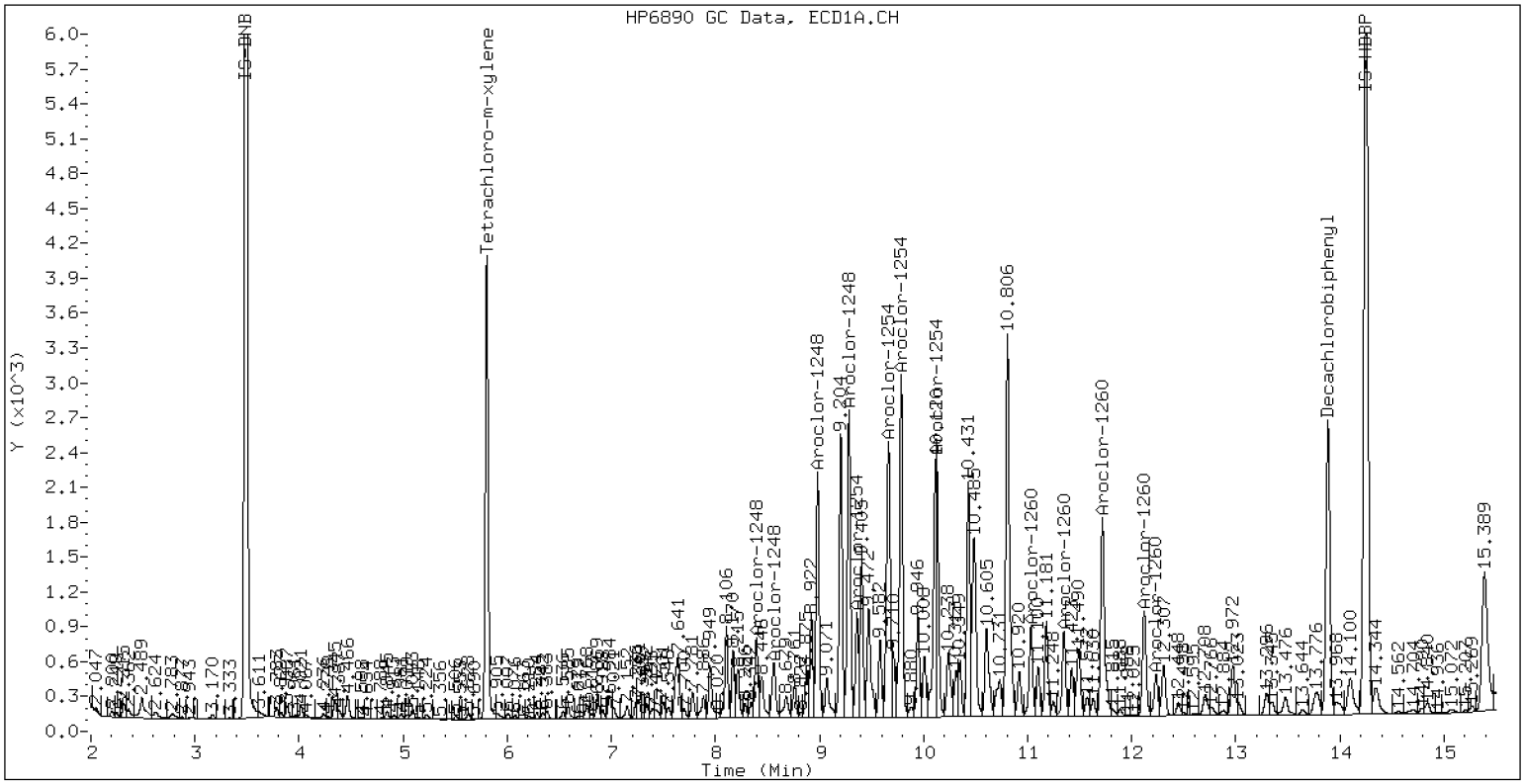
Total PCB Area Col2 (5.787 - 14.019) = 2266959 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

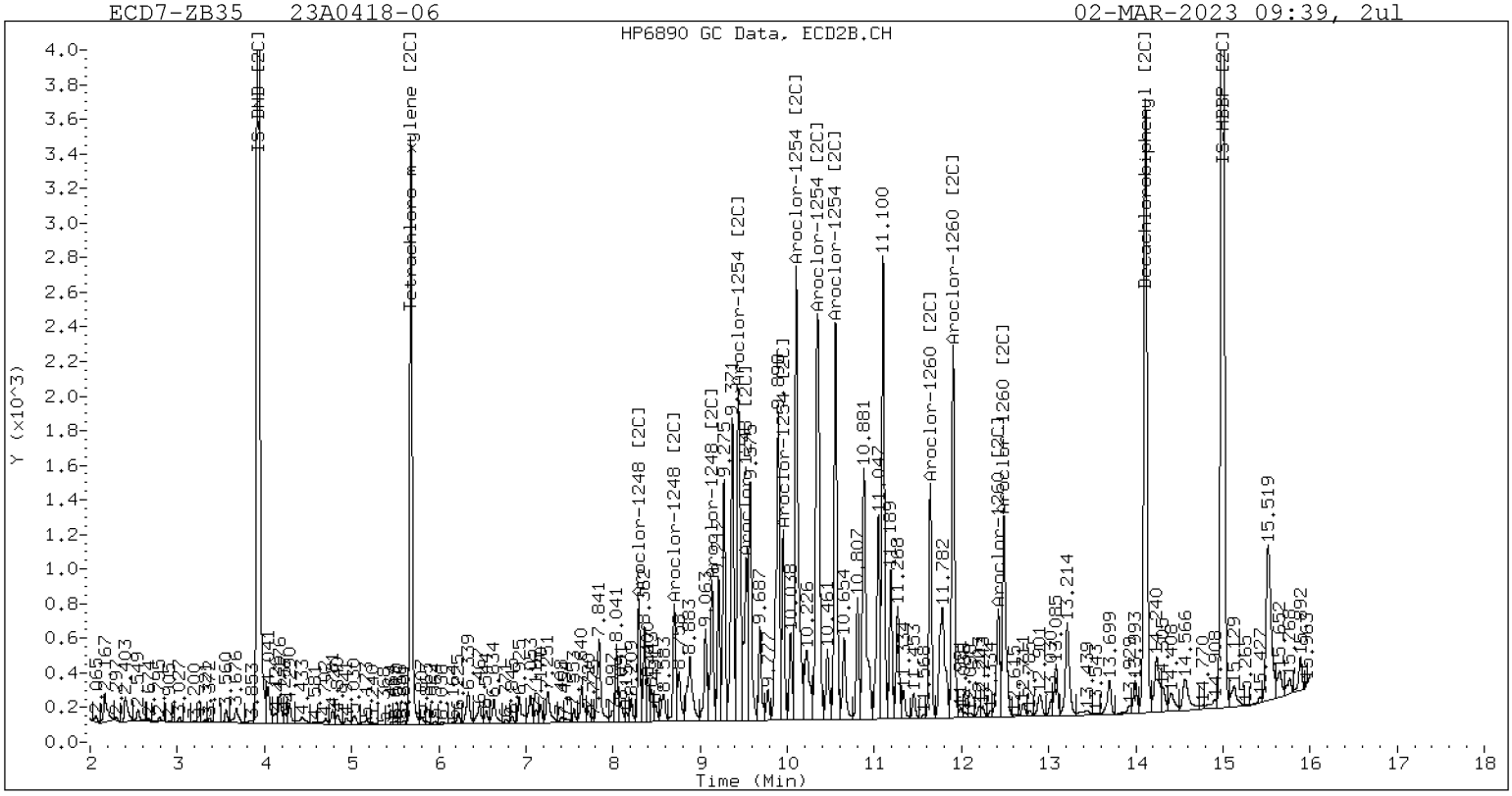
PCB Dual Column Chromatograms

ECD7-ZB5 23A0418-06 02-MAR-2023 09:39, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 23A0418-06 02-MAR-2023 09:39, 2ul

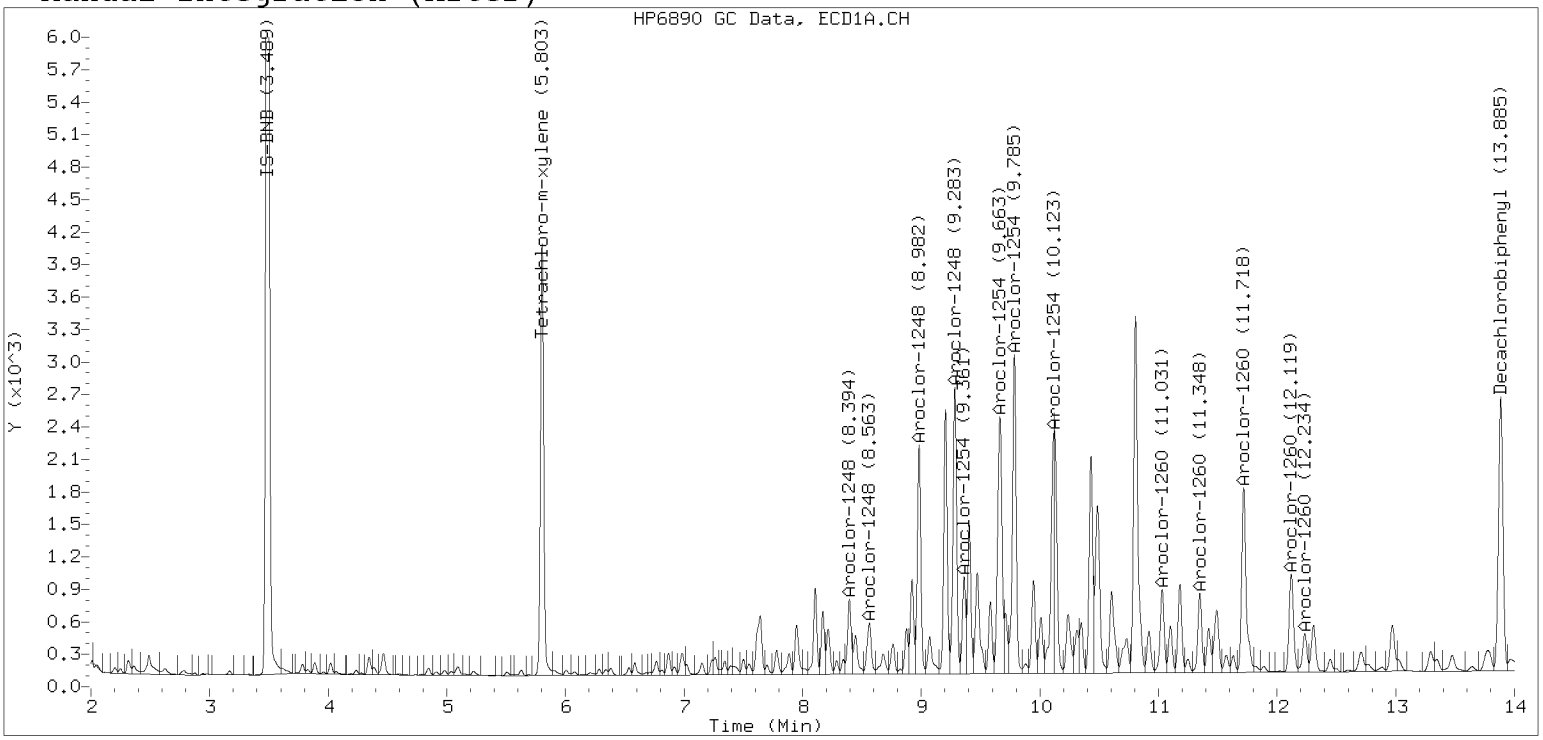


ZB-35 Manual Integration: YES

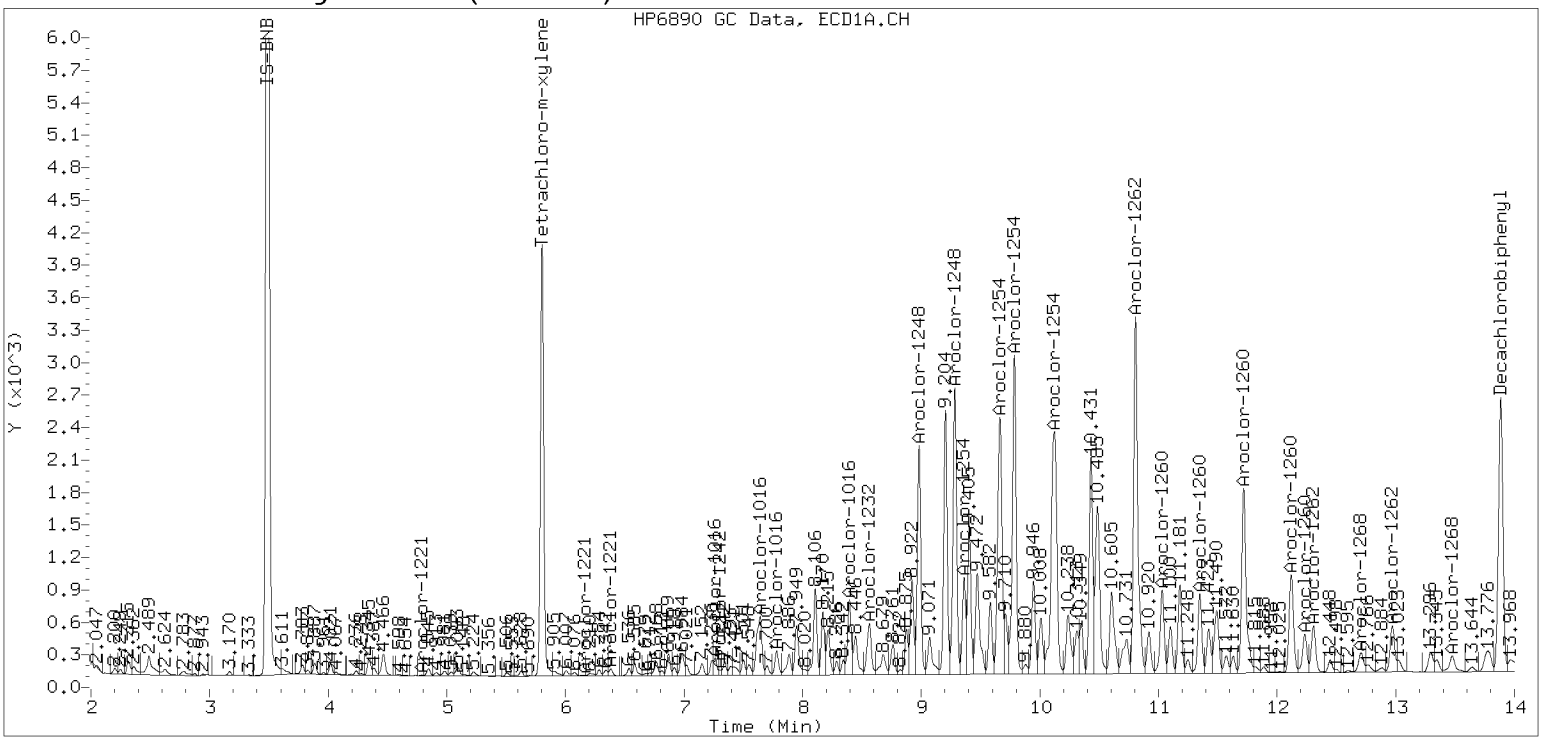
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/230301.b/03012366ECD7.D Injection Date: 02-MAR-2023 09:39

Manual Integration (After)



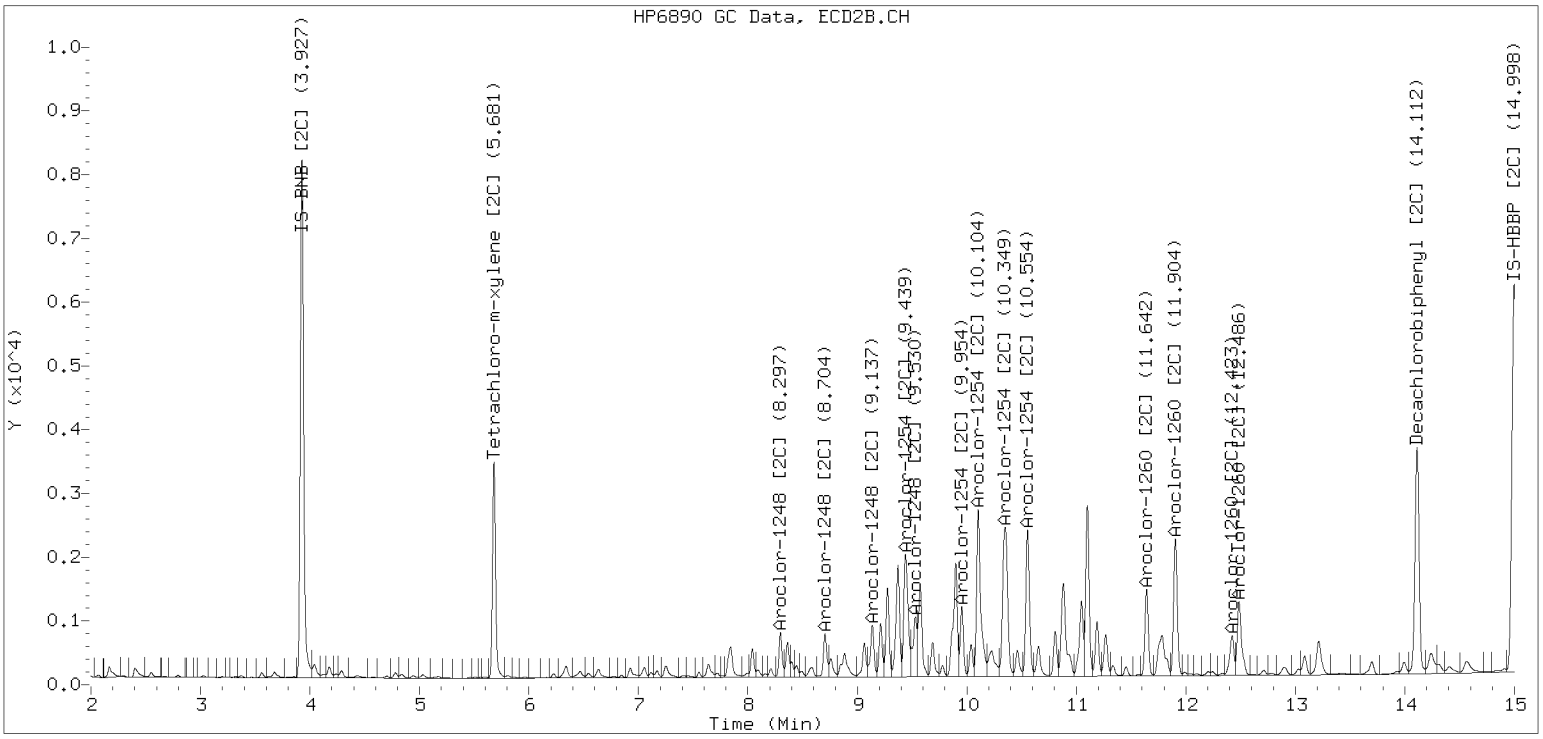
Processed Integration (Before)



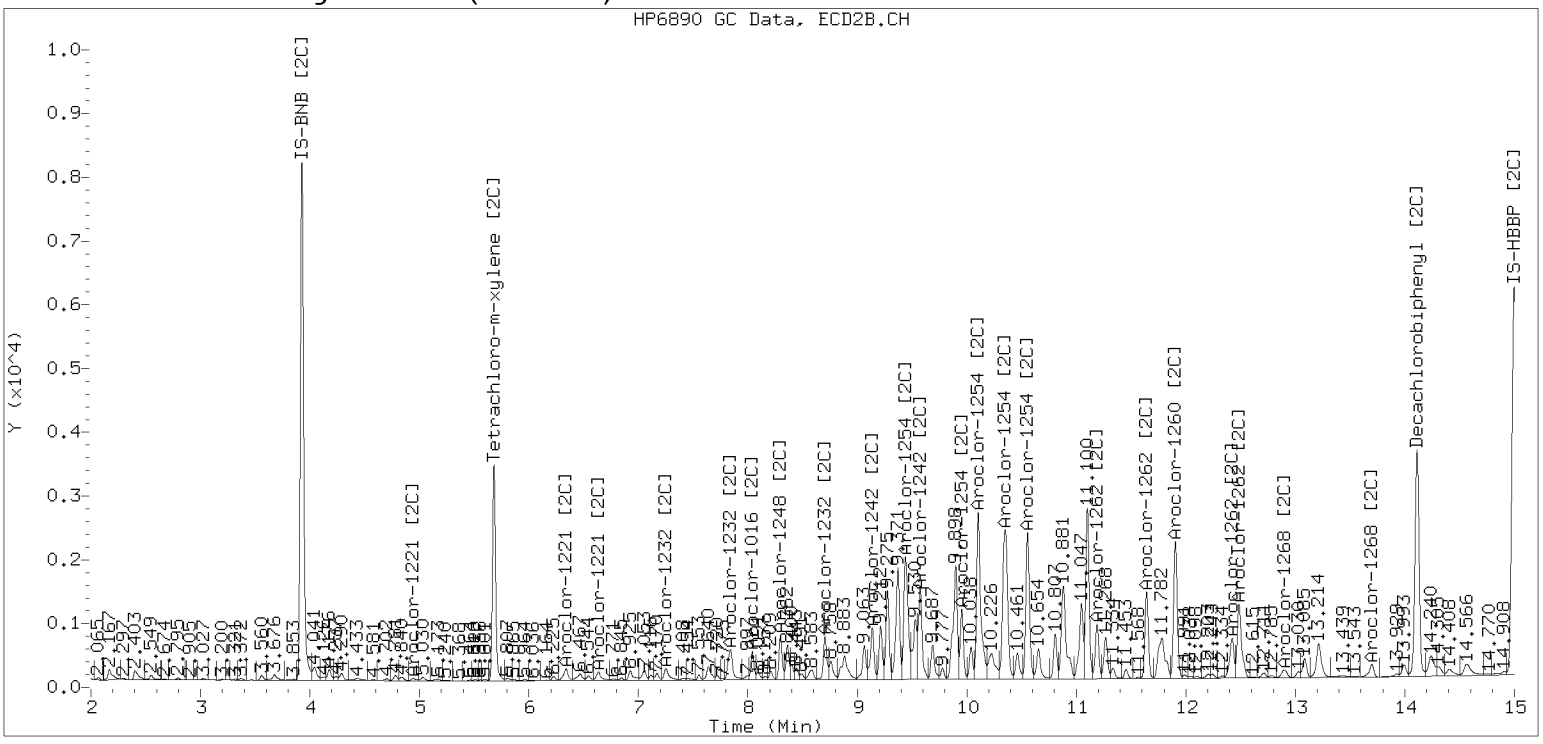
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230301.b/230301.b/03012366ECD7.D Injection Date: 02-MAR-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

LDW23-IT1180

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Solid	Laboratory ID:	23A0418-07 A	File ID:	03012367ECD7.D
Sampled:	01/18/23 13:14	Prepared:	02/14/23 11:38	Analyzed:	03/02/23 10:00
% Solids:	79.85	Preparation:	EPA 3546 (Microwave)	Initial/Final:	15.67 g Wet / 2.5 mL
Batch:	BLB0280	Sequence:	SLC0019	Calibration:	GB00069
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	1	1	4.0	1.6	4.0	U
11097-69-1	Aroclor 1254	2	1	18.1	1.6	4.0	
11096-82-5	Aroclor 1260	2	1	25.1	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9920*	*7.66*	*95.9*	*40 - 126*	
Tetrachlorometaxylene	*1*	*7.9920*	*6.05*	*75.7*	*44 - 120*	
Decachlorobiphenyl	*2*	*7.9920*	*7.47*	*93.5*	*40 - 126*	
Tetrachlorometaxylene	*2*	*7.9920*	*6.50*	*81.3*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012367ECD7.D
Data file 2: /230301.b/230301.b/03012367ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23A0418-07
Client ID:
Injection Date: 02-MAR-2023 10:00
Report Date: 03/02/2023 15:04
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.804	-0.003	200478	5.683	-0.004	173596	30.3	32.5	7.2	Tetrachloro-m-xylene
13.886	-0.006	154786	14.113	-0.006	202109	38.3	37.4	2.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	443704	-34.1
Hexabromobiphenyl	1429847	409934	-71.3 <-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	363818	15.4
Hexabromobiphenyl	513946	354884	-30.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	---			0.0	1	---			0.0
Aroclor-1248	2	---			0.0	2	---			0.0
Aroclor-1248	3	---			0.0	3	---			0.0
Aroclor-1248	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1254	1	9.284	-0.015	27818	62.4	1	9.437	-0.014	22979	83.1
Aroclor-1254	2	9.362	-0.016	8932	44.6	2	9.955	-0.016	13432	60.4
Aroclor-1254	3	9.654	-0.015	19257	67.2	3	10.105	-0.020	48634	101.0
Aroclor-1254	4	9.787	-0.021	43986	79.0	4	10.353	-0.021	55777	118.9
Aroclor-1254	5	10.116	-0.061	27575	~~79.~~0	5	10.554	-0.016	43920	15~~3.~~7
	Total Col1Ave (5 peaks):				~~66.~~4	Total Col2Ave (5 peaks):				1~~03.~~4 RPD = 44*
	Corrected Ave (4 peaks):				63.3	Corrected Ave (4 peaks):				90.8 RPD = 36
Aroclor-1260	1	11.040	-0.005	21016	142.5	1	11.643	-0.010	27727	132.9
Aroclor-1260	2	11.351	-0.009	16014	103.9	2	11.904	-0.013	39113	73.4
Aroclor-1260	3	11.719	-0.015	31467	77.0	3	12.401	-0.035	31290	221.4
Aroclor-1260	4	12.121	-0.017	18517	90.0	4	12.489	-0.012	27081	75.4
Aroclor-1260	5	12.235	-0.007	9325	105.3	NS	---			----
	Total Col1Ave (5 peaks):				103.7	Total Col2Ave (4 peaks):				125.8 RPD = 19
	Corrected Ave (4 peaks):				94.0	Corrected Ave (3 peaks):				93.9 RPD = 0
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (5.907 - 13.792) = 993681 Col1 Total PCB = 0.2 ppm*

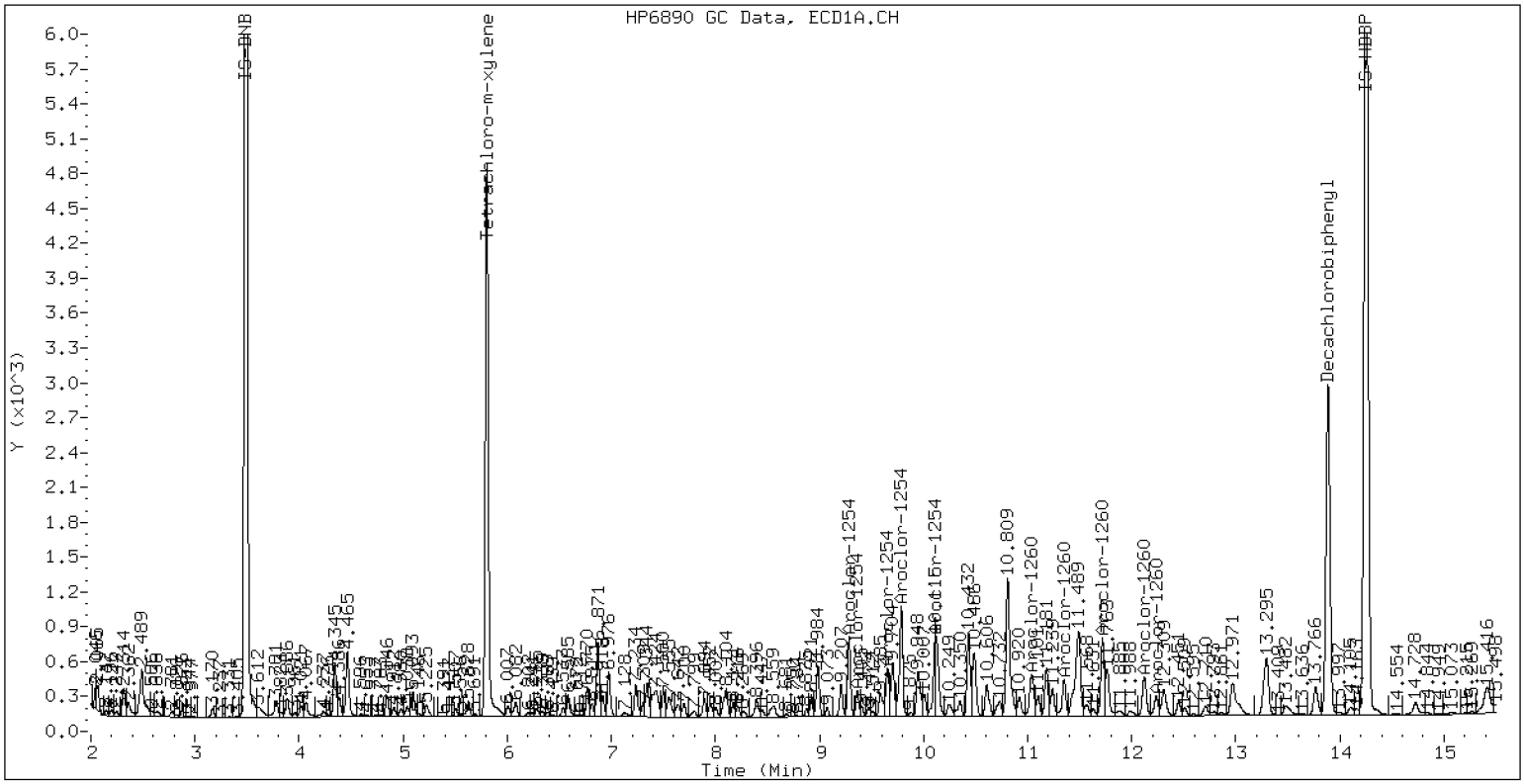
Total PCB Area Col2 (5.787 - 14.019) = 984279 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

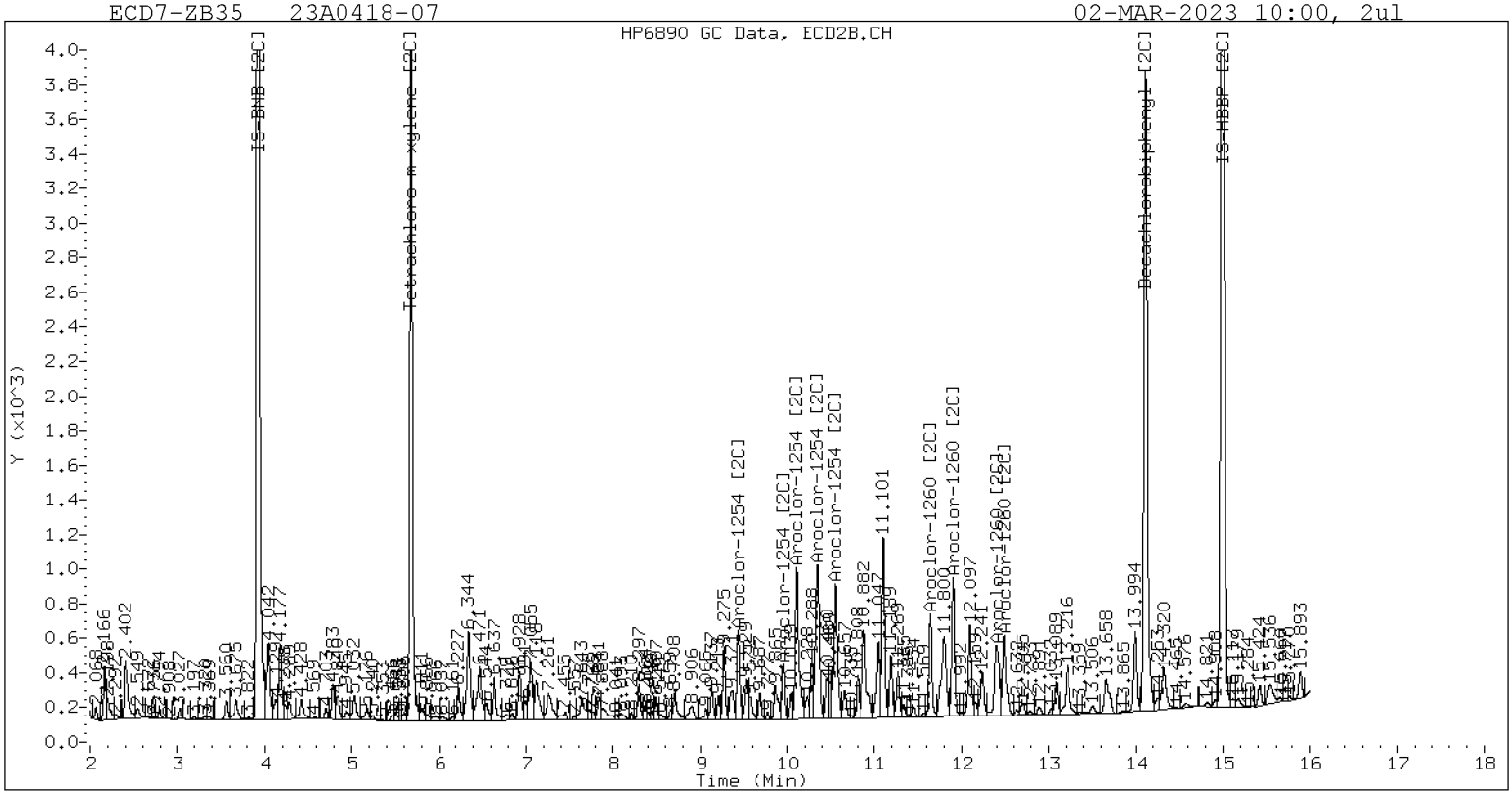
PCB Dual Column Chromatograms

ECD7-ZB5 23A0418-07 02-MAR-2023 10:00, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 23A0418-07 02-MAR-2023 10:00, 2ul

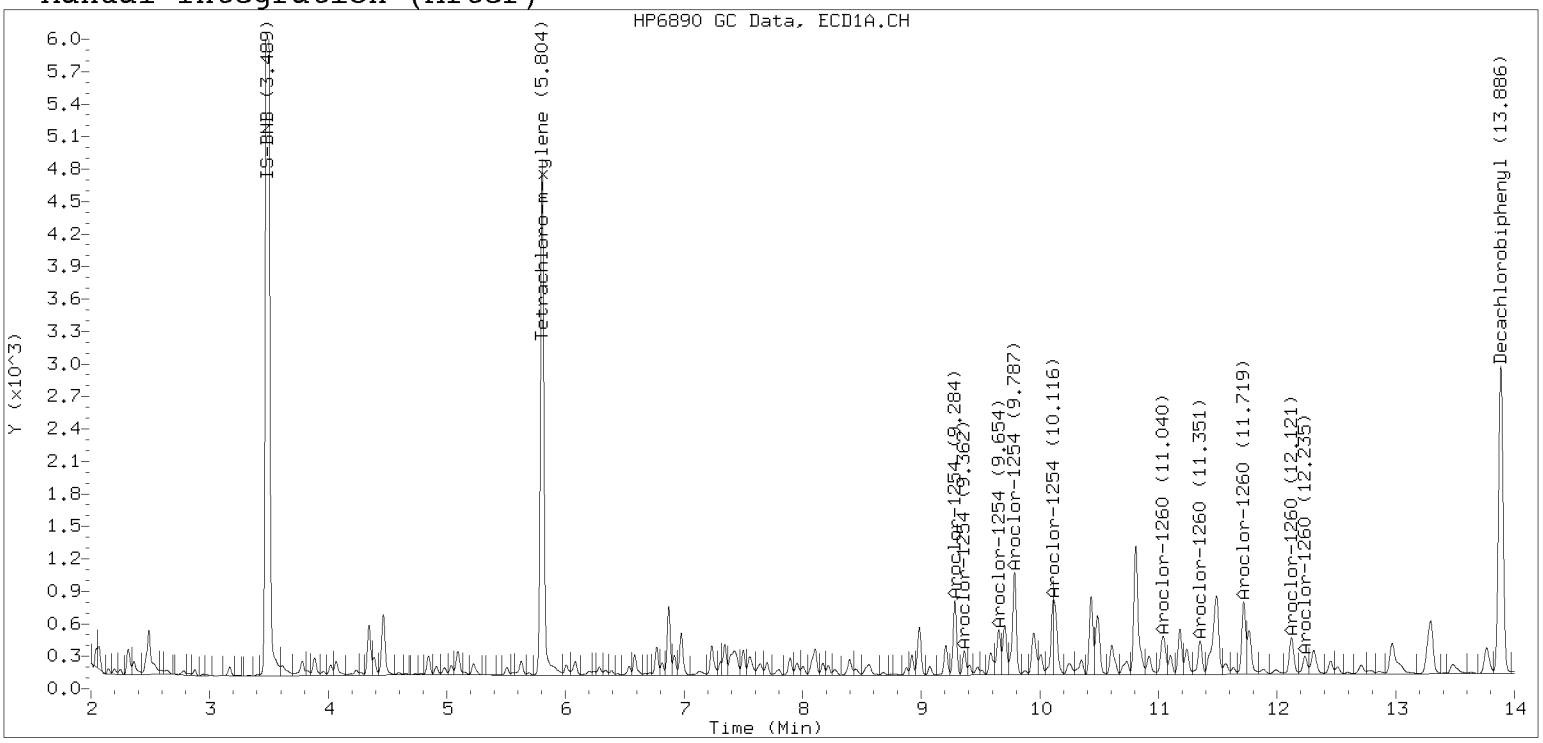


ZB-35 Manual Integration: NO

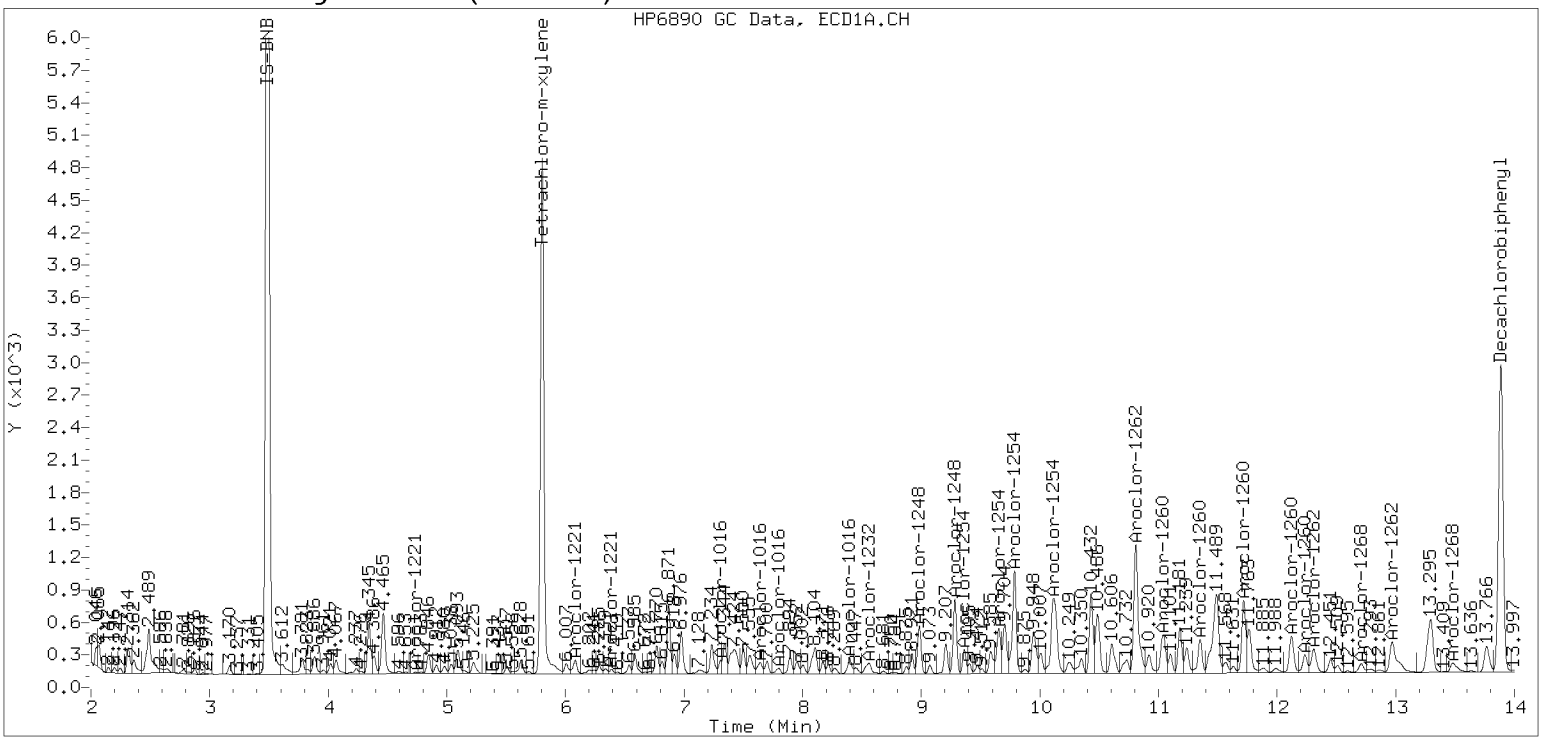
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/230301.b/03012367ECD7.D Injection Date: 02-MAR-2023 10:00

Manual Integration (After)



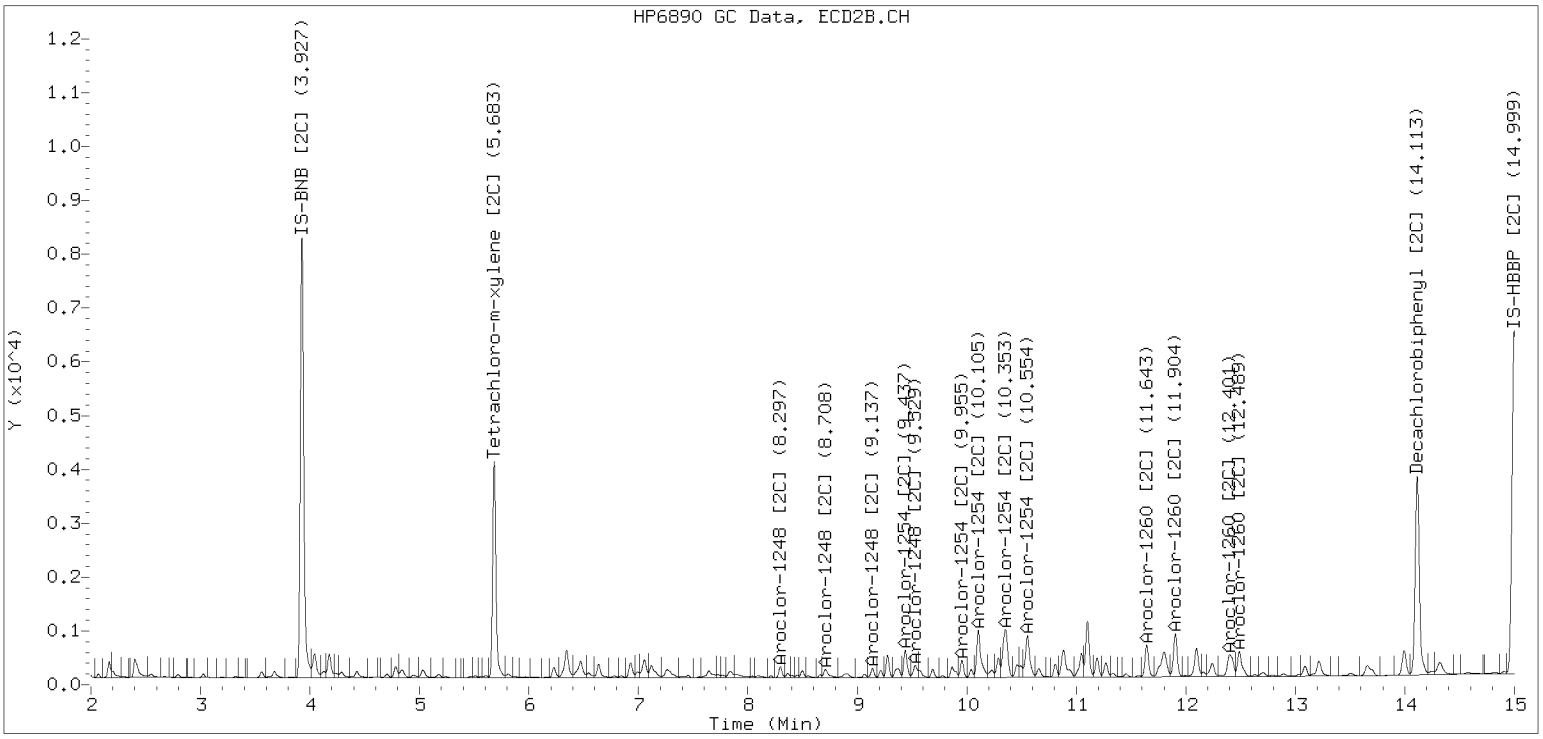
Processed Integration (Before)



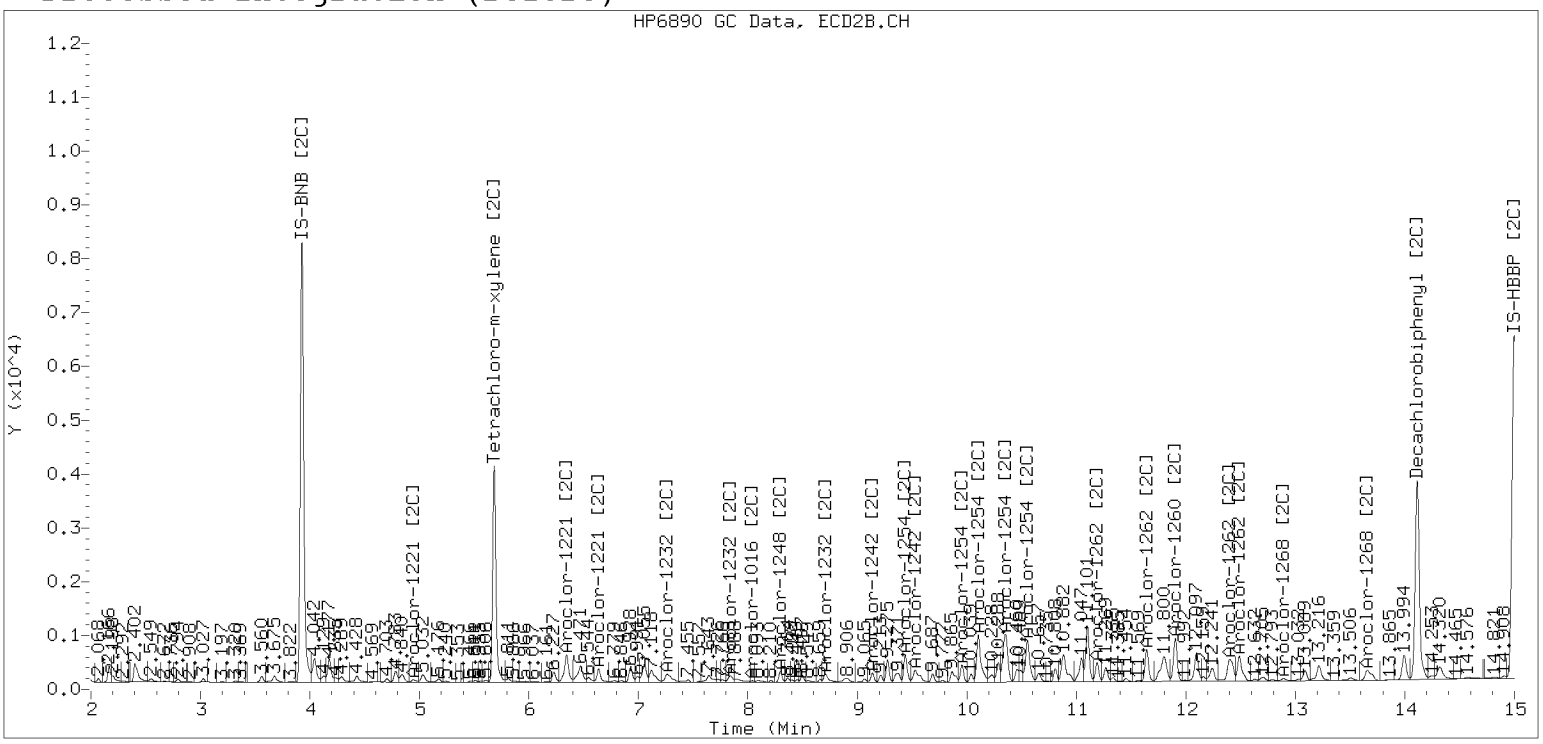
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230301.b/230301.b/03012367ECD7.D Injection Date: 02-MAR-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

LDW23-IT1218

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Solid	Laboratory ID:	23A0418-08 A	File ID:	03012381ECD7.D
Sampled:	01/18/23 13:42	Prepared:	02/14/23 11:38	Analyzed:	03/02/23 14:55
% Solids:	58.95	Preparation:	EPA 3546 (Microwave)	Initial/Final:	21.24 g Wet / 2.5 mL
Batch:	BLB0280	Sequence:	SLC0019	Calibration:	GB00069
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	20	79.9	31.1	79.9	U
11104-28-2	Aroclor 1221	1	20	79.9	31.1	79.9	U
11141-16-5	Aroclor 1232	1	20	79.9	31.1	79.9	U
53469-21-9	Aroclor 1242	1	20	79.9	31.1	79.9	U
12672-29-6	Aroclor 1248	1	20	1200	31.1	79.9	D
11097-69-1	Aroclor 1254	2	20	1740	31.1	79.9	D
11096-82-5	Aroclor 1260	2	20	691	11.8	79.9	D

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9866*	*12.2*	*153*	*40 - 126*	
Tetrachlorometaxylene	*1*	*7.9866*	*6.13*	*76.8*	*44 - 120*	
Decachlorobiphenyl	*2*	*7.9866*	*8.60*	*108*	*40 - 126*	
Tetrachlorometaxylene	*2*	*7.9866*	*6.36*	*79.6*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012381ECD7.D
Data file 2: /230301.b/230301.b/03012381ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23A0418-08RE2
Client ID:
Injection Date: 02-MAR-2023 14:55
Report Date: 03/02/2023 15:18
Matrix: NONE
Dilution Factor: 20.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.805	-0.002	9554	5.684	-0.003	8261	1.5	1.6	3.6	Tetrachloro-m-xylene
13.886	-0.006	16297	14.113	-0.006	15396	3.1	2.2	34.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	416662	-38.2
Hexabromobiphenyl	1429847	541936	-62.1 <-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	353639	12.2
Hexabromobiphenyl	513946	469375	-8.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1248	1	8.398	-0.009	40493	199.2	1	8.300	-0.008	48759	288.8
Aroclor-1248	2	8.568	-0.013	27987	108.3	2	8.706	-0.010	40398	231.4
Aroclor-1248	3	8.987	-0.011	126101	258.7	3	9.145	-0.022	47168	234.8
Aroclor-1248	4	9.288	-0.007	157921	636.3	4	9.533	-0.061	71919	2~~98~~.2
		Total Col1Ave (4 peaks):			300.6		Total Col2Ave (4 peaks):			~~263~~.3 RPD = 13
		Corrected Ave (3 peaks):			188.7		Corrected Ave (3 peaks):			251.6 RPD = 29
Aroclor-1254	1	9.288	-0.011	157921	377.4	1	9.440	-0.012	112746	419.5
Aroclor-1254	2	9.364	-0.015	62767	333.6	2	9.959	-0.012	71703	331.6
Aroclor-1254	3	9.655	-0.014	97469	362.3	3	10.109	-0.016	208497	445.6
Aroclor-1254	4	9.790	-0.017	207927	397.5	4	10.353	-0.021	231992	508.7
Aroclor-1254	5	10.137	-0.041	140382	428.2	5	10.557	-0.013	130617	470.4
		Total Col1Ave (5 peaks):			379.8		Total Col2Ave (5 peaks):			435.1 RPD = 14
		Corrected Ave (4 peaks):			367.7		Corrected Ave (4 peaks):			416.8 RPD = 13
Aroclor-1260	1	11.034	-0.010	33858	173.7	1	11.646	-0.006	78883	285.8
Aroclor-1260	2	11.352	-0.008	31805	156.1	2	11.907	-0.010	95074	135.0
Aroclor-1260	3	11.722	-0.012	89274	165.2	3	12.427	-0.009	25131	134.4
Aroclor-1260	4	12.123	-0.015	56203	206.6	4	12.490	-0.011	65136	137.2
Aroclor-1260	5	12.236	-0.007	13569	115.9	NS	---			----
		Total Col1Ave (5 peaks):			163.5		Total Col2Ave (4 peaks):			173.1 RPD = 6
		Corrected Ave (4 peaks):			152.7		Corrected Ave (3 peaks):			135.5 RPD = 12
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			

Total PCB Area Col1 (5.907 - 13.792) = 2734231 Col1 Total PCB = 0.5 ppm*

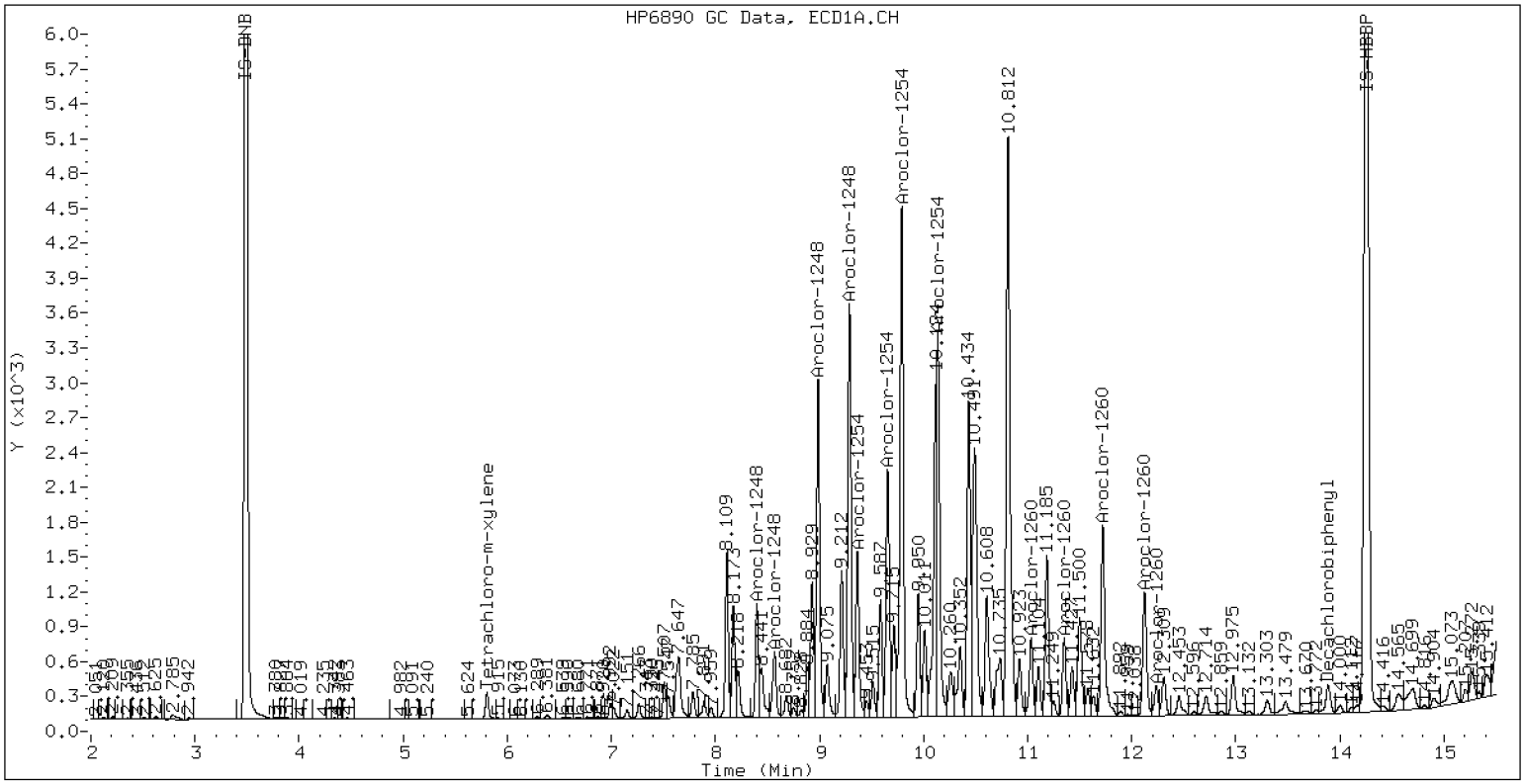
Total PCB Area Col2 (5.787 - 14.019) = 2477874 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

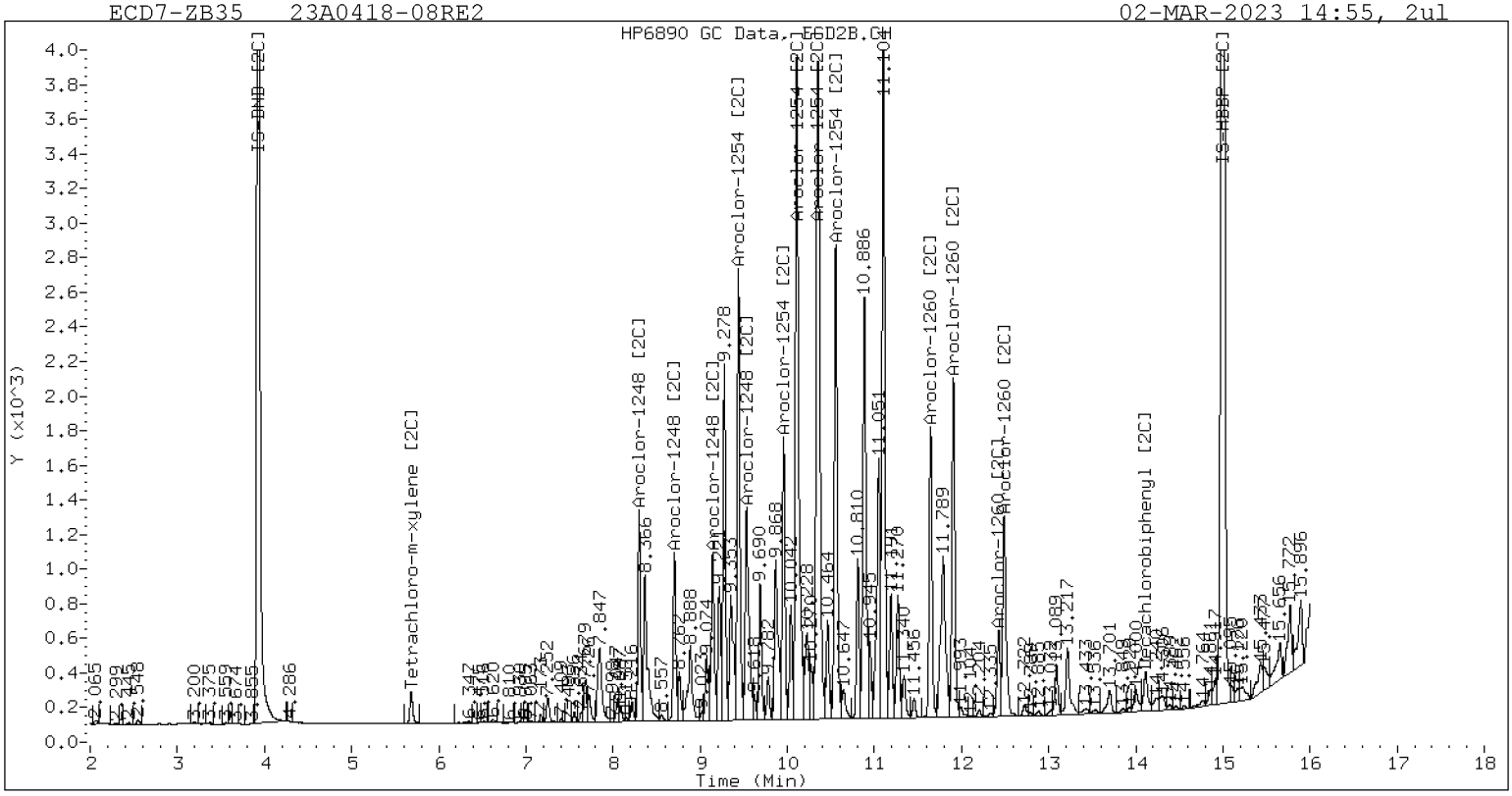
PCB Dual Column Chromatograms

ECD7-ZB5 23A0418-08RE2 02-MAR-2023 14:55, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 23A0418-08RE2 02-MAR-2023 14:55, 2ul

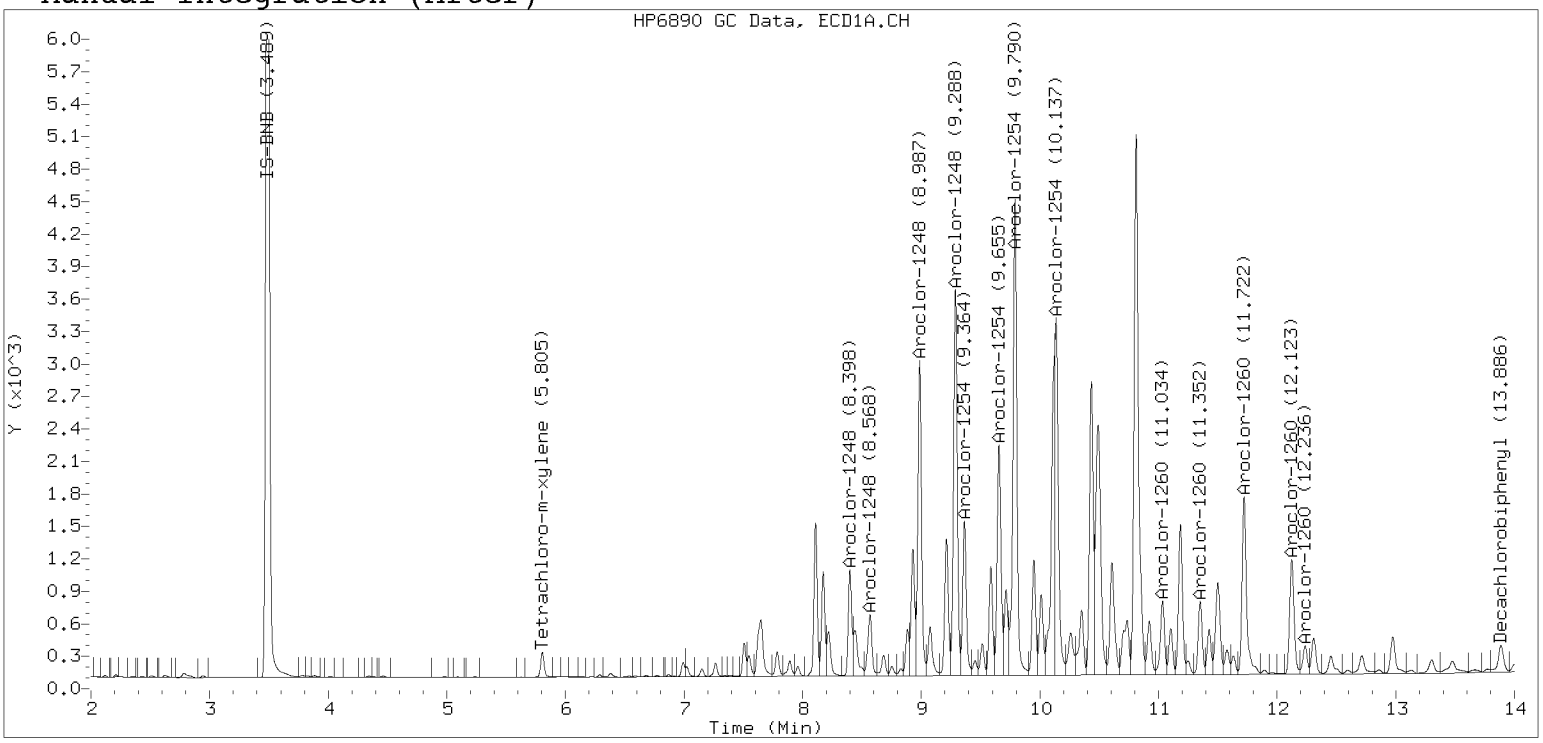


ZB-35 Manual Integration: YES

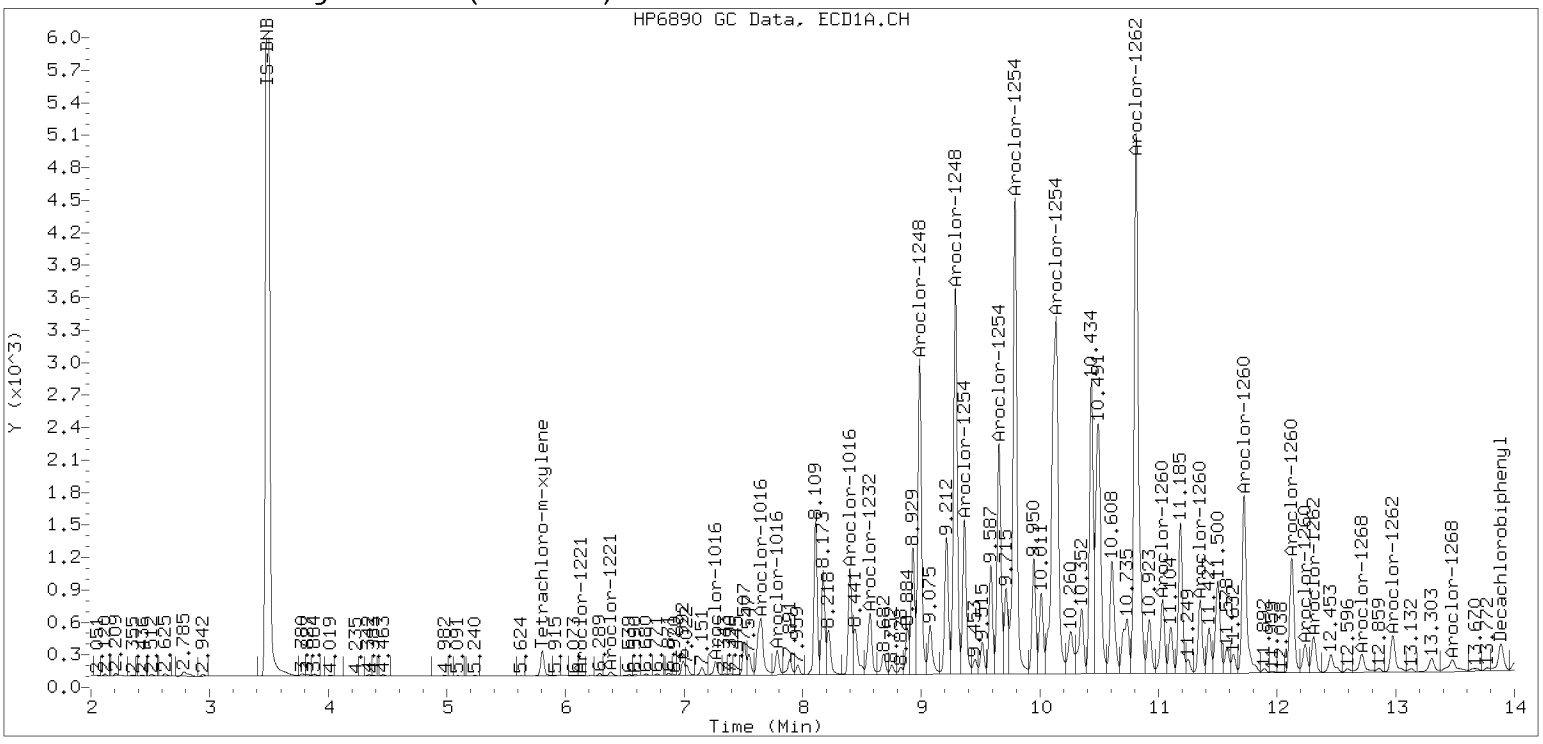
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/230301.b/03012381ECD7.D Injection Date: 02-MAR-2023 14:55

Manual Integration (After)



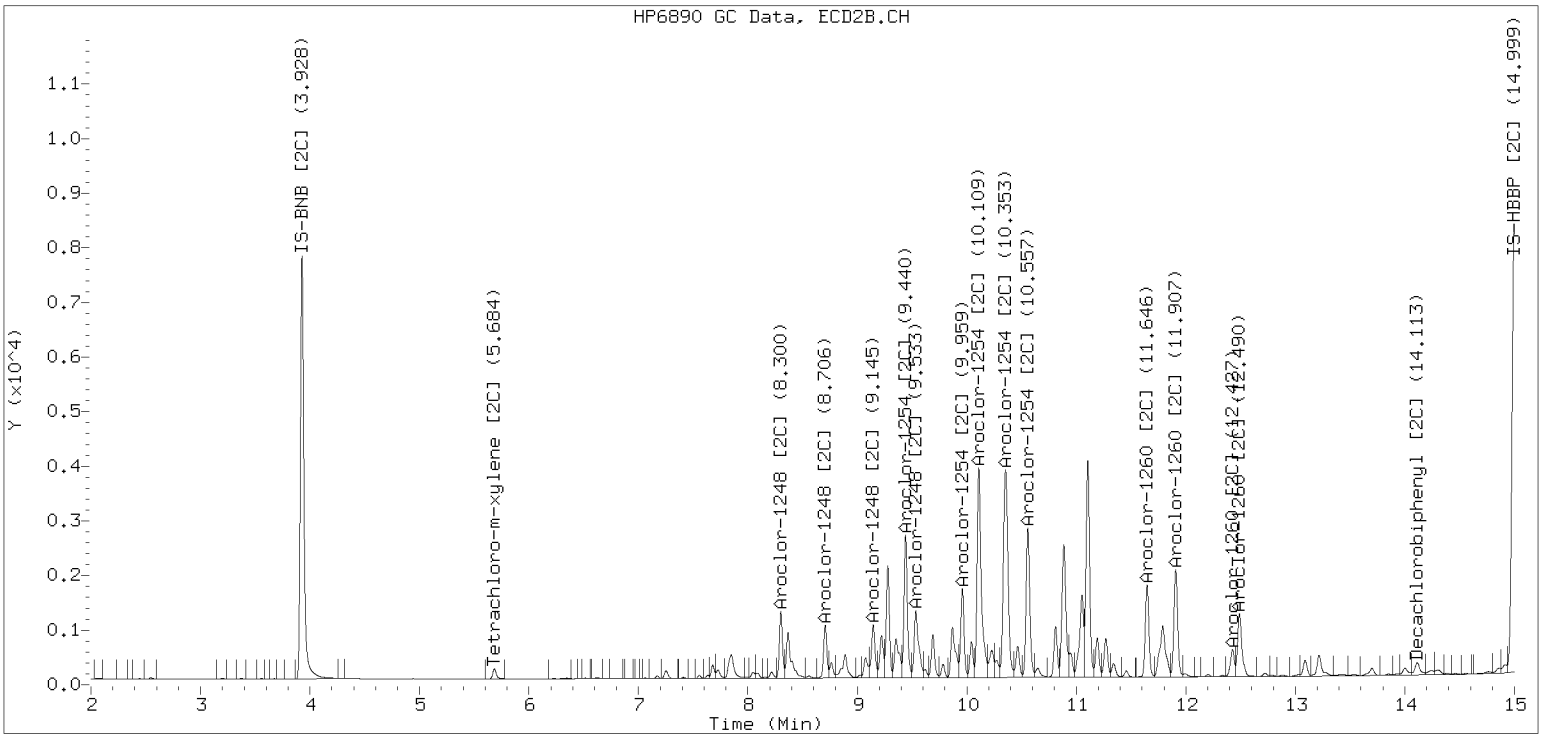
Processed Integration (Before)



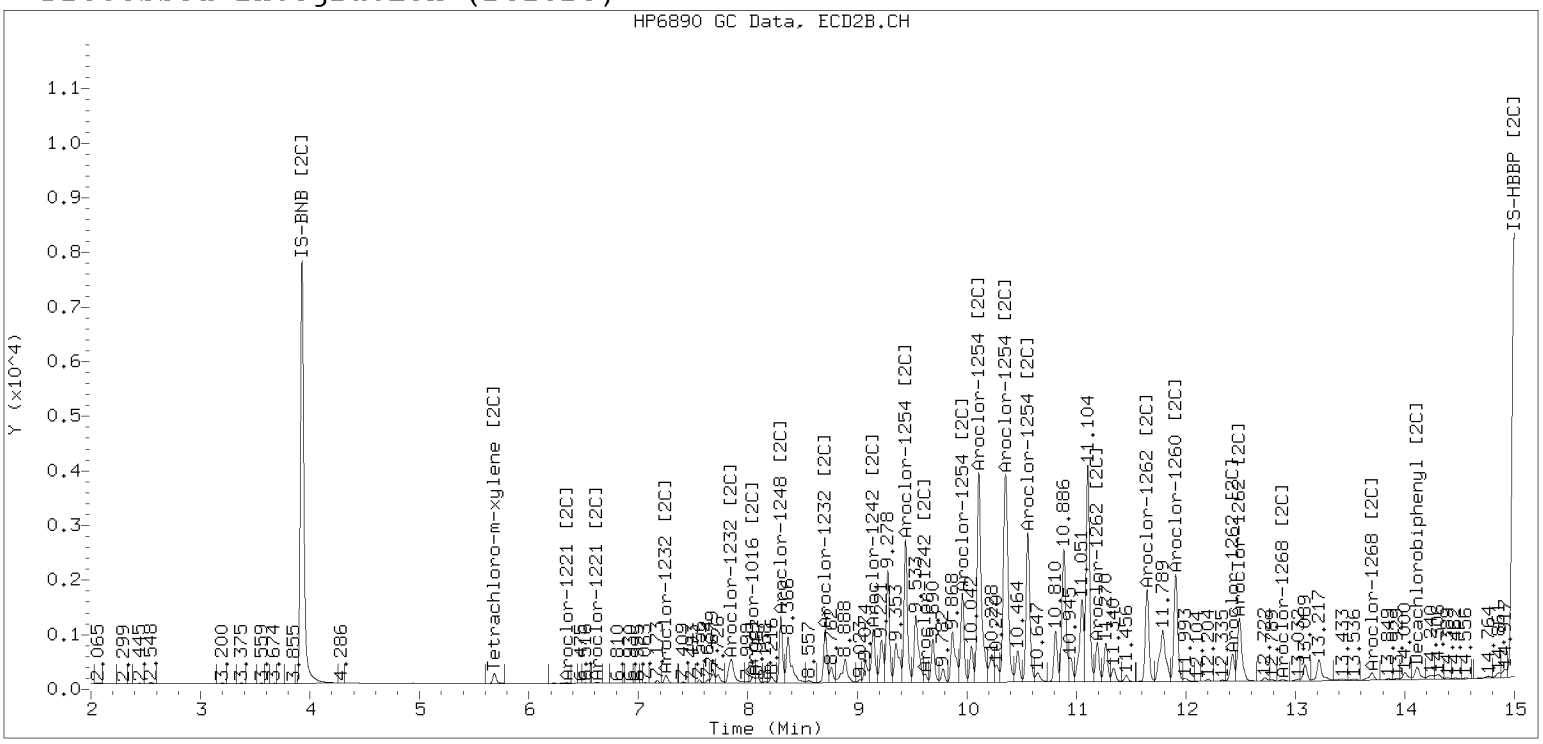
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230301.b/230301.b/03012381ECD7.D Injection Date: 02-MAR-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

LDW23-IT1216

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Solid	Laboratory ID:	23A0418-09 A	File ID:	03012382ECD7.D
Sampled:	01/18/23 13:57	Prepared:	02/14/23 11:38	Analyzed:	03/02/23 15:43
% Solids:	79.45	Preparation:	EPA 3546 (Microwave)	Initial/Final:	15.75 g Wet / 2.5 mL
Batch:	BLB0280	Sequence:	SLC0019	Calibration:	GB00069
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	5	20.0	7.8	20.0	U
11104-28-2	Aroclor 1221	1	5	20.0	7.8	20.0	U
11141-16-5	Aroclor 1232	1	5	20.0	7.8	20.0	U
53469-21-9	Aroclor 1242	1	5	20.0	7.8	20.0	U
12672-29-6	Aroclor 1248	1	5	20.0	7.8	20.0	U
11097-69-1	Aroclor 1254	1	5	20.0	7.8	20.0	U
11096-82-5	Aroclor 1260	1	5	20.0	2.9	20.0	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9914*	*7.50*	*93.9*	*40 - 126*	
Tetrachlorometaxylene	*1*	*7.9914*	*6.37*	*79.7*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012382ECD7.D
Data file 2: /230301.b/230301.b/03012382ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23A0418-09RE1
Client ID:
Injection Date: 02-MAR-2023 15:43
Report Date: 03/02/2023 16:45
Matrix: NONE
Dilution Factor: 5.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.821	0.014	42519	5.681	-0.006	35808	6.4	6.5	1.4	Tetrachloro-m-xylene
13.899	0.006	49910	14.117	-0.003	68235	7.5	8.5	12.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	446706	-33.7
Hexabromobiphenyl	1429847	674809	-52.8 <-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	377518	19.7
Hexabromobiphenyl	513946	526651	2.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	ZB5 Col Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	---			0.0	1	---			0.0
Aroclor-1248	2	---			0.0	2	---			0.0
Aroclor-1248	3	---			0.0	3	---			0.0
Aroclor-1248	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1254	1	---			0.0	1	---			0.0
Aroclor-1254	2	---			0.0	2	---			0.0
Aroclor-1254	3	---			0.0	3	---			0.0
Aroclor-1254	4	---			0.0	4	---			0.0
Aroclor-1254	5	---			0.0	5	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1260	1	---			0.0	1	---			0.0
Aroclor-1260	2	---			0.0	2	---			0.0
Aroclor-1260	3	---			0.0	3	---			0.0
Aroclor-1260	4	---			0.0	4	---			0.0
Aroclor-1260	5	---			0.0	NS	---			----
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (5.907 - 13.792) = 83190 Col1 Total PCB = 0.0 ppm*

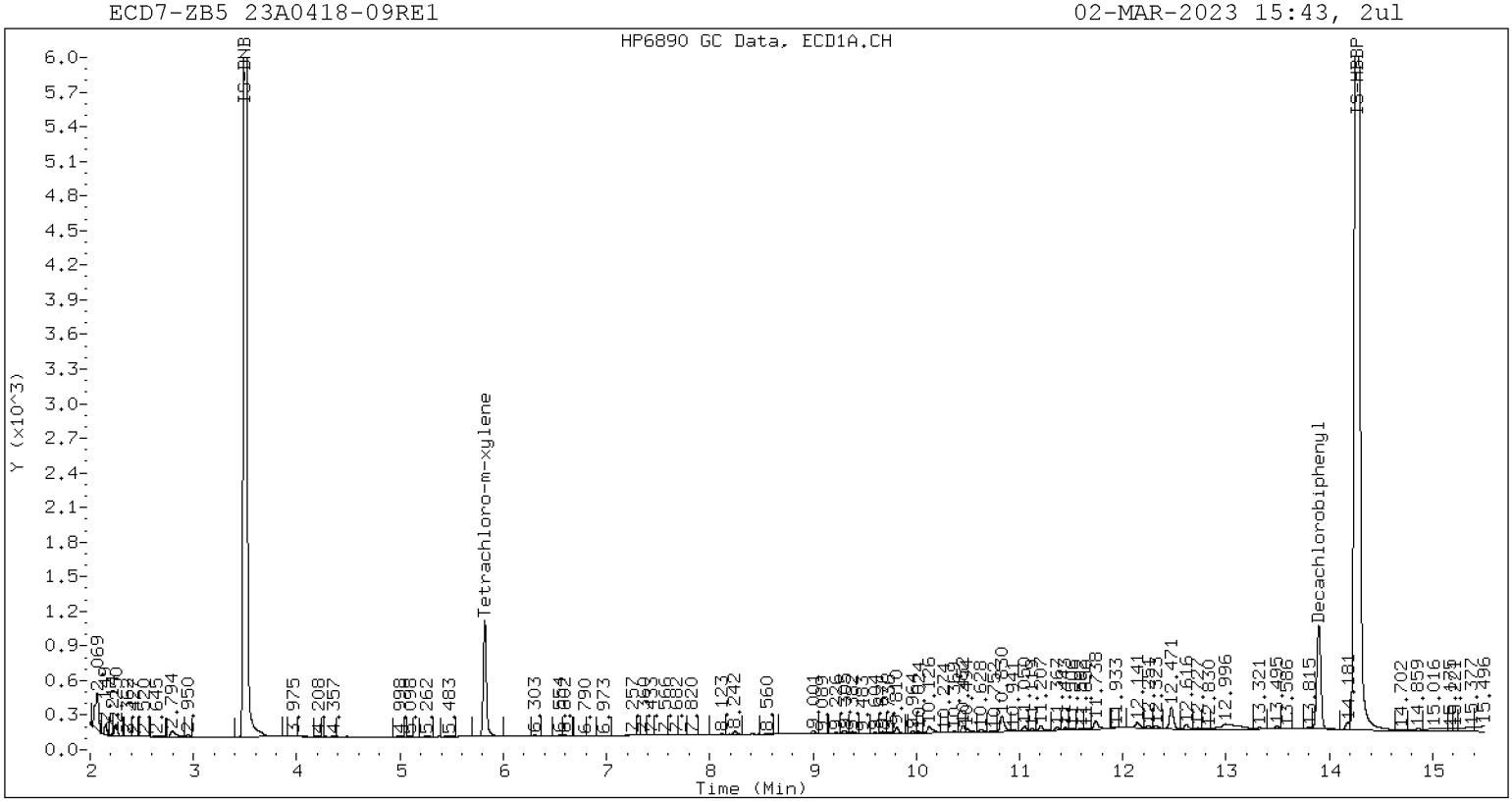
Total PCB Area Col2 (5.787 - 14.019) = 96351 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

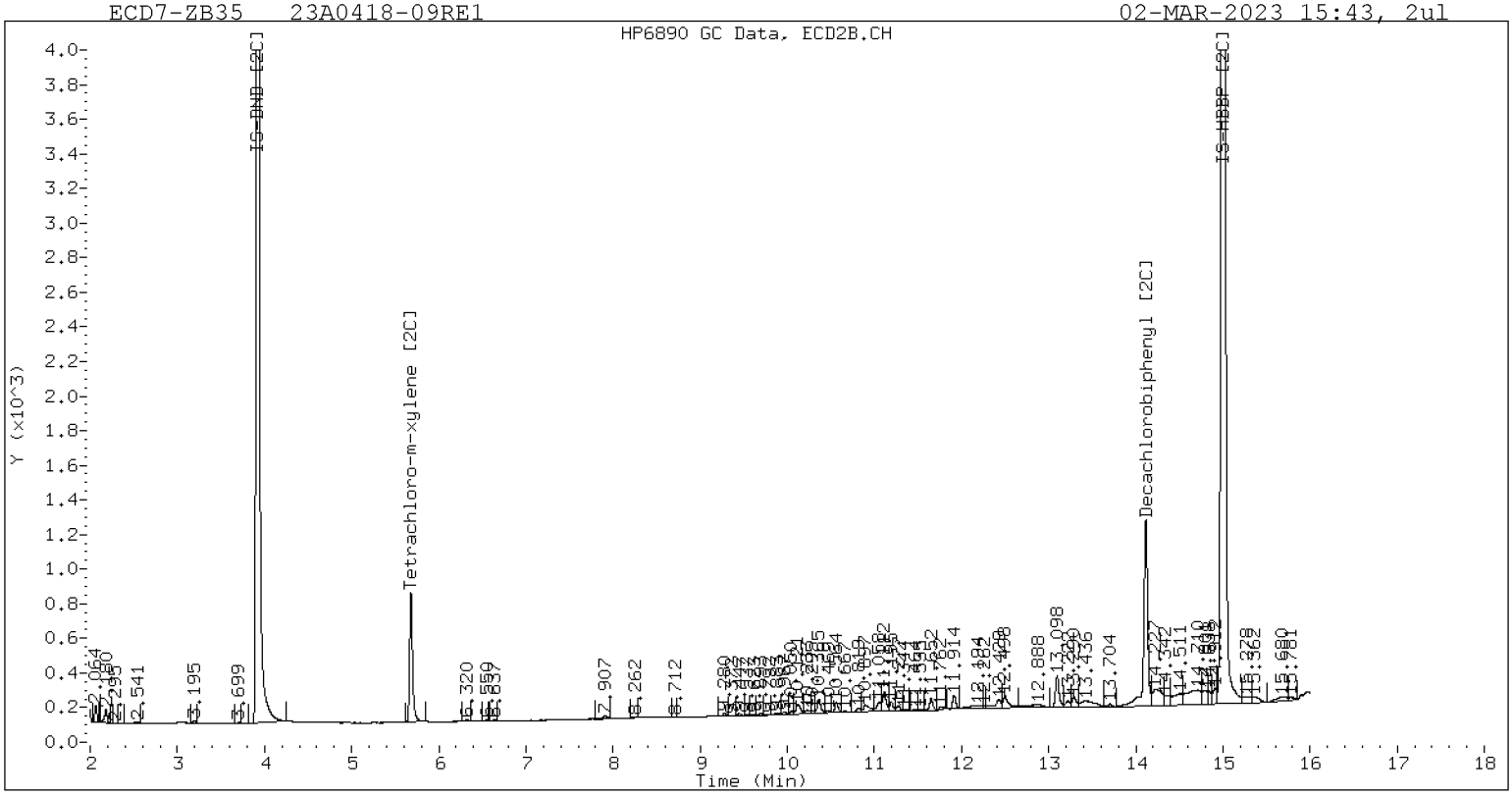
PCB Dual Column Chromatograms

ECD7-ZB5 23A0418-09RE1 02-MAR-2023 15:43, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 23A0418-09RE1 02-MAR-2023 15:43, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

LDW23-IT1135

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Solid	Laboratory ID:	23A0418-10 A	File ID:	03012370ECD7.D
Sampled:	01/18/23 14:23	Prepared:	02/14/23 11:38	Analyzed:	03/02/23 11:03
% Solids:	68.42	Preparation:	EPA 3546 (Microwave)	Initial/Final:	18.37 g Wet / 2.5 mL
Batch:	BLB0280	Sequence:	SLC0019	Calibration:	GB00069
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	1	1	4.0	1.6	4.0	U
11097-69-1	Aroclor 1254	1	1	4.0	1.6	4.0	U
11096-82-5	Aroclor 1260	1	1	4.0	0.6	4.0	U

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9562*	*8.81*	*111*	*40 - 126*	
Tetrachlorometaxylene	*1*	*7.9562*	*6.17*	*77.5*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012370ECD7.D
Data file 2: /230301.b/230301.b/03012370ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23A0418-10
Client ID:
Injection Date: 02-MAR-2023 11:03
Report Date: 03/02/2023 13:04
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.807	-0.001	201662	5.685	-0.002	169458	31.0	31.5	1.5	Tetrachloro-m-xylene
13.889	-0.006	201132	14.116	-0.004	211291	44.3	36.3	19.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	435532	-35.4
Hexabromobiphenyl	1429847	461048	-67.8 <-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	366971	16.4
Hexabromobiphenyl	513946	382398	-25.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	---			0.0	1	---			0.0
Aroclor-1248	2	---			0.0	2	---			0.0
Aroclor-1248	3	---			0.0	3	---			0.0
Aroclor-1248	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1254	1	---			0.0	1	---			0.0
Aroclor-1254	2	---			0.0	2	---			0.0
Aroclor-1254	3	---			0.0	3	---			0.0
Aroclor-1254	4	---			0.0	4	---			0.0
Aroclor-1254	5	---			0.0	5	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1260	1	---			0.0	1	---			0.0
Aroclor-1260	2	---			0.0	2	---			0.0
Aroclor-1260	3	---			0.0	3	---			0.0
Aroclor-1260	4	---			0.0	4	---			0.0
Aroclor-1260	5	---			0.0	NS	---			----
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (5.908 - 13.795) = 311357 Col1 Total PCB = 0.1 ppm*

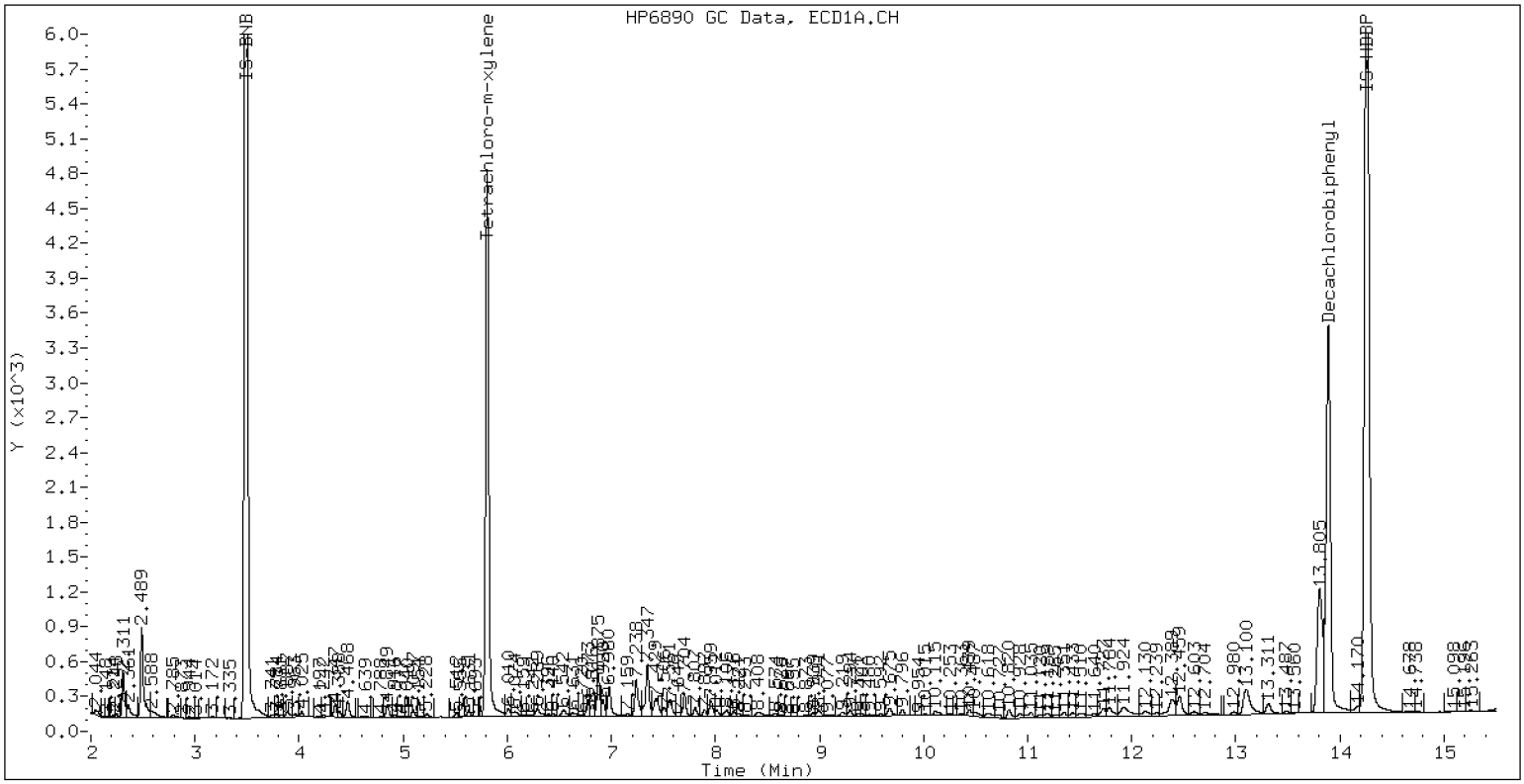
Total PCB Area Col2 (5.787 - 14.019) = 289806 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

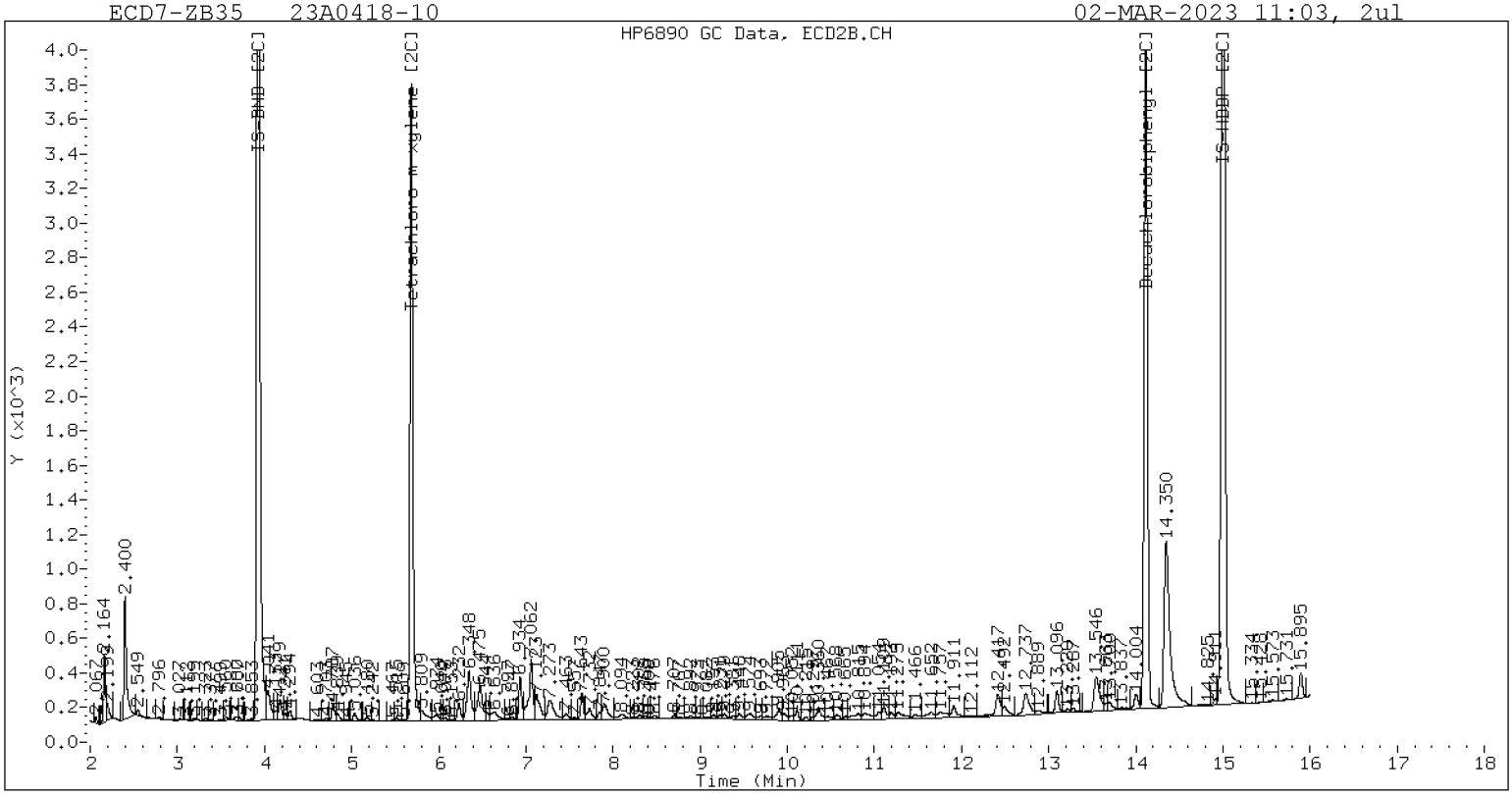
PCB Dual Column Chromatograms

ECD7-ZB5 23A0418-10 02-MAR-2023 11:03, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 23A0418-10 02-MAR-2023 11:03, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

LDW23-IT1140

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Solid	Laboratory ID:	23A0418-11 A	File ID:	03012373ECD7.D
Sampled:	01/18/23 14:47	Prepared:	02/14/23 11:38	Analyzed:	03/02/23 12:07
% Solids:	73.74	Preparation:	EPA 3546 (Microwave)	Initial/Final:	16.98 g Wet / 2.5 mL
Batch:	BLB0280	Sequence:	SLC0019	Calibration:	GB00069
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	2	1	8.1	1.6	4.0	
11097-69-1	Aroclor 1254	2	1	21.4	1.6	4.0	
11096-82-5	Aroclor 1260	2	1	33.9	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9866*	*7.51*	*94.1*	*40 - 126*	
Tetrachlorometaxylene	*1*	*7.9866*	*6.44*	*80.6*	*44 - 120*	
Decachlorobiphenyl	*2*	*7.9866*	*7.01*	*87.8*	*40 - 126*	
Tetrachlorometaxylene	*2*	*7.9866*	*6.86*	*85.9*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012373ECD7.D
Data file 2: /230301.b/230301.b/03012373ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23A0418-11
Client ID:
Injection Date: 02-MAR-2023 12:07
Report Date: 03/02/2023 13:04
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.805	-0.002	206278	5.684	-0.003	178634	32.2	34.4	6.4	Tetrachloro-m-xylene
13.886	-0.009	156795	14.112	-0.007	194824	37.6	35.1	6.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D	
Bromo-Nitrobenzene	673778	428496	-36.4	
Hexabromobiphenyl	1429847	423003	-70.4	<-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	354332	12.4
Hexabromobiphenyl	513946	364377	-29.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	8.398	-0.010	8717	41.7	1	8.300	-0.009	7277	43.0
Aroclor-1248	2	8.566	-0.016	6464	24.3	2	8.706	-0.009	6879	39.3
Aroclor-1248	3	8.986	-0.014	26711	53.3	3	9.142	-0.024	8062	40.0
Aroclor-1248	4	9.286	-0.009	35379	130.6	4	9.533	-0.062	12772	52.8
	Total Col1Ave (4 peaks):				64.5	Total Col2Ave (4 peaks):				43.8 RPD = 38
	Corrected Ave (3 peaks):				39.8	Corrected Ave (3 peaks):				40.8 RPD = 3
Aroclor-1254	1	9.286	-0.014	35379	82.2	1	9.440	-0.011	28911	107.3
Aroclor-1254	2	9.363	-0.016	13004	67.2	2	9.957	-0.014	13406	61.9
Aroclor-1254	3	9.659	-0.012	25573	92.4	3	10.107	-0.017	53770	114.7
Aroclor-1254	4	9.788	-0.023	48969	91.0	4	10.357	-0.017	66431	145.4
Aroclor-1254	5	10.113	-0.064	73453	217.9	5	10.556	-0.014	56886	204.5
	Total Col1Ave (5 peaks):				110.2	Total Col2Ave (5 peaks):				126.8 RPD = 14
	Corrected Ave (4 peaks):				83.2	Corrected Ave (4 peaks):				107.3 RPD = 25
Aroclor-1260	1	11.034	-0.012	32873	216.0	1	11.643	-0.009	40853	190.7
Aroclor-1260	2	11.350	-0.011	29522	185.7	2	11.905	-0.012	86692	158.5
Aroclor-1260	3	11.720	-0.016	73694	174.8	3	12.399	-0.036	89627	617.7
Aroclor-1260	4	12.120	-0.020	40229	189.4	4	12.488	-0.013	59094	160.3
Aroclor-1260	5	12.234	-0.011	20733	226.8	NS	---			----
	Total Col1Ave (5 peaks):				198.6	Total Col2Ave (4 peaks):				281.8 RPD = 35
	Corrected Ave (4 peaks):				191.5	Corrected Ave (3 peaks):				169.8 RPD = 12
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (5.908 - 13.795) = 1369581 Col1 Total PCB = 0.3 ppm*

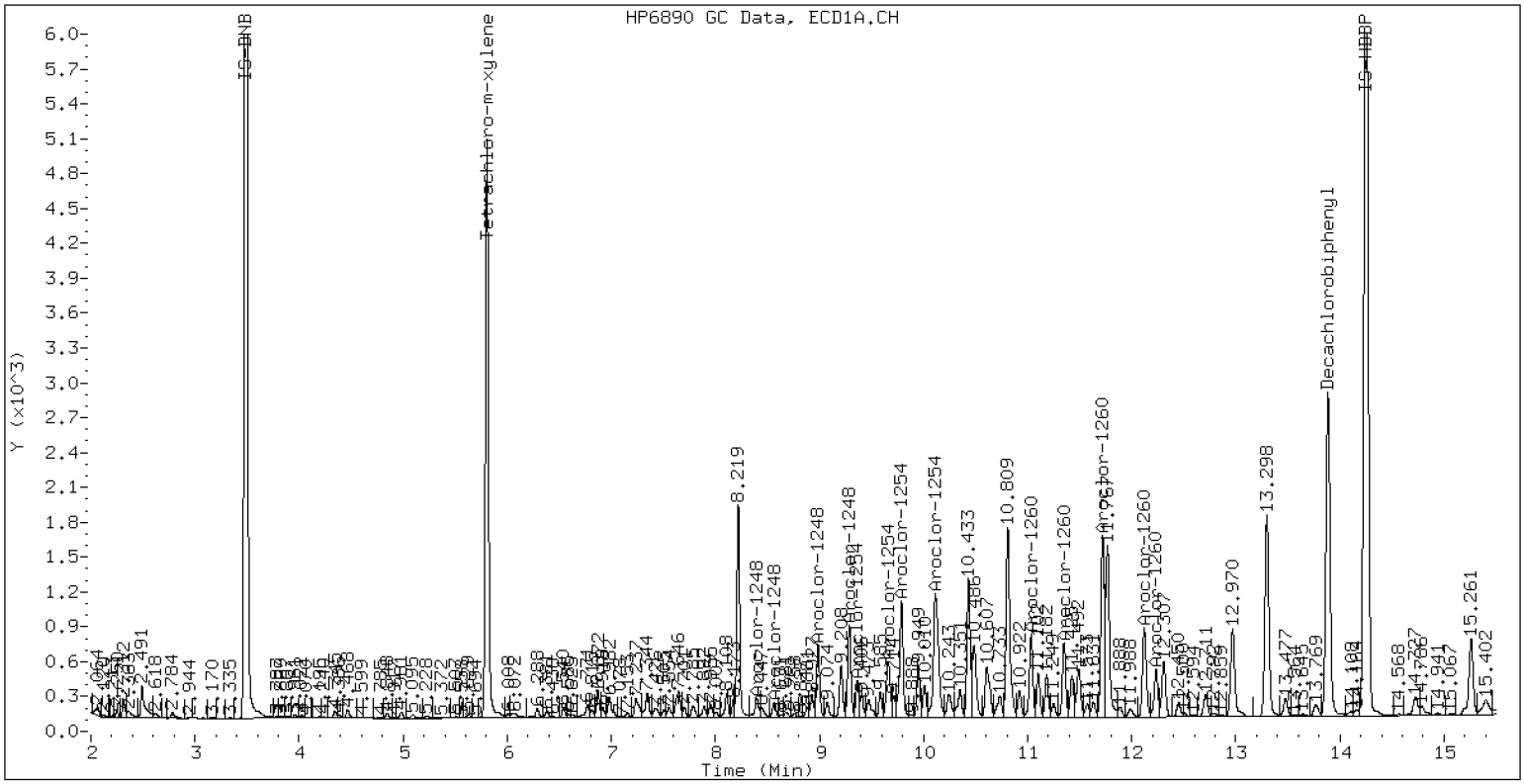
Total PCB Area Col2 (5.787 - 14.019) = 1198106 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

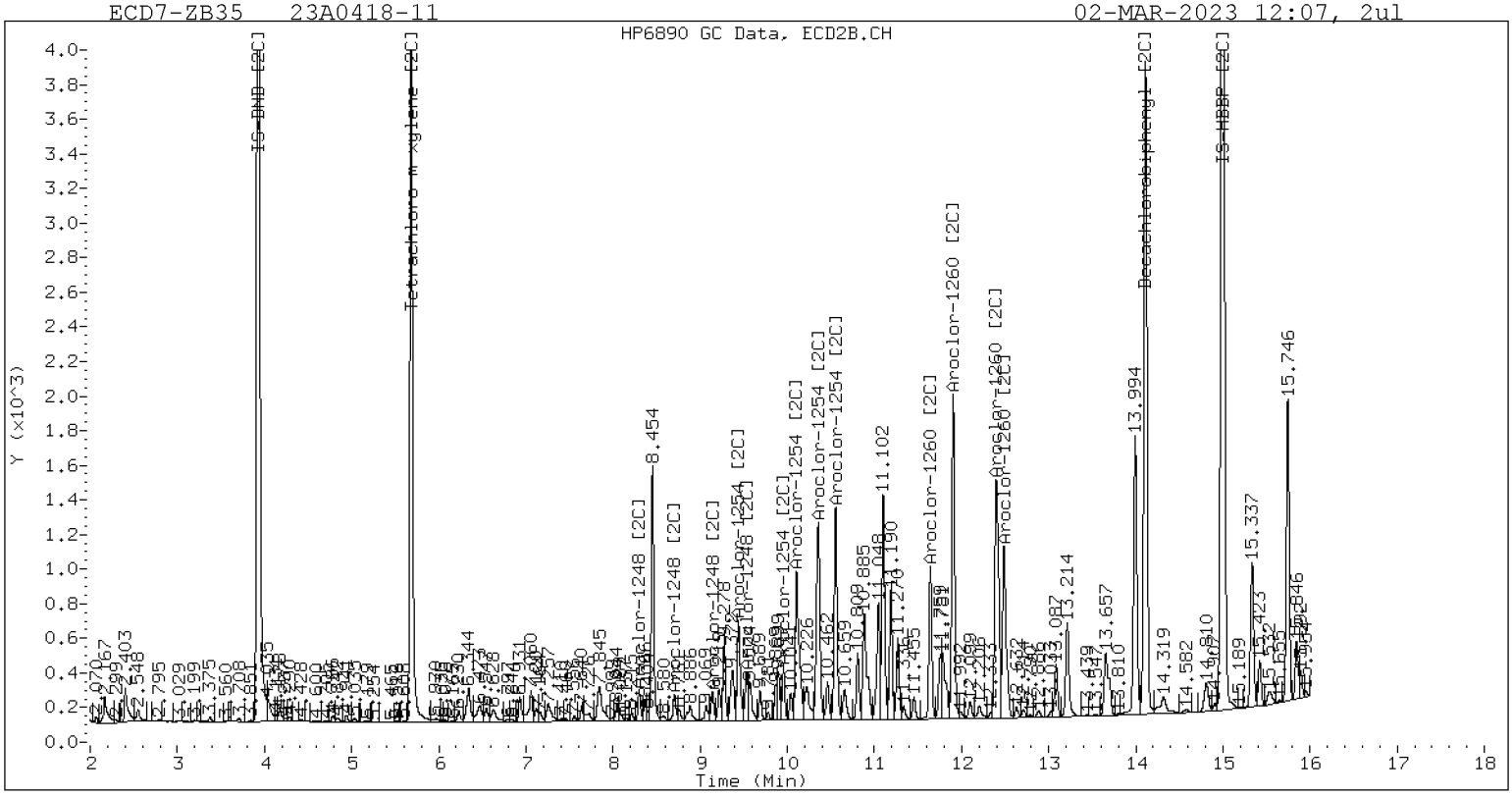
PCB Dual Column Chromatograms

ECD7-ZB5 23A0418-11 02-MAR-2023 12:07, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 23A0418-11 02-MAR-2023 12:07, 2ul

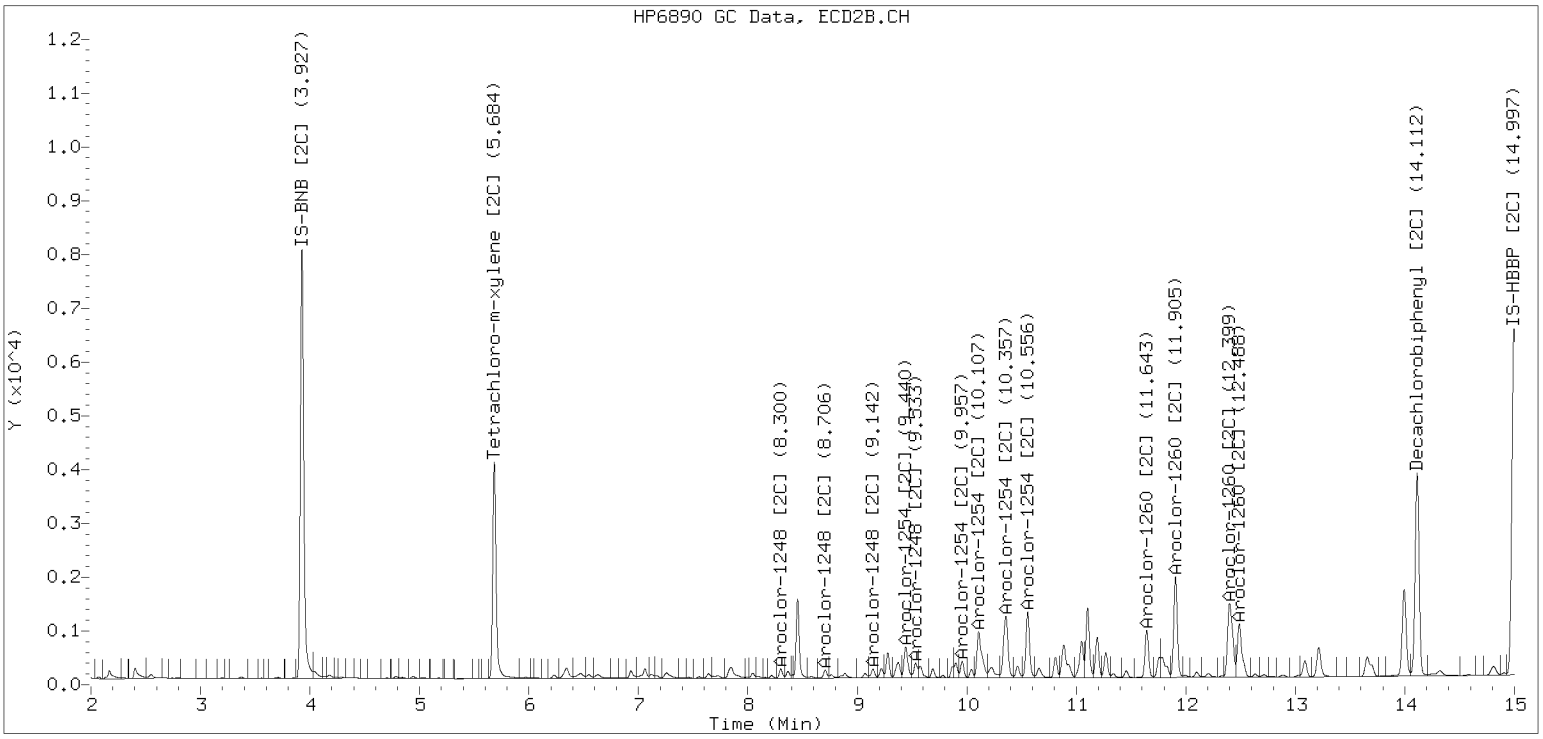


ZB-35 Manual Integration: YES

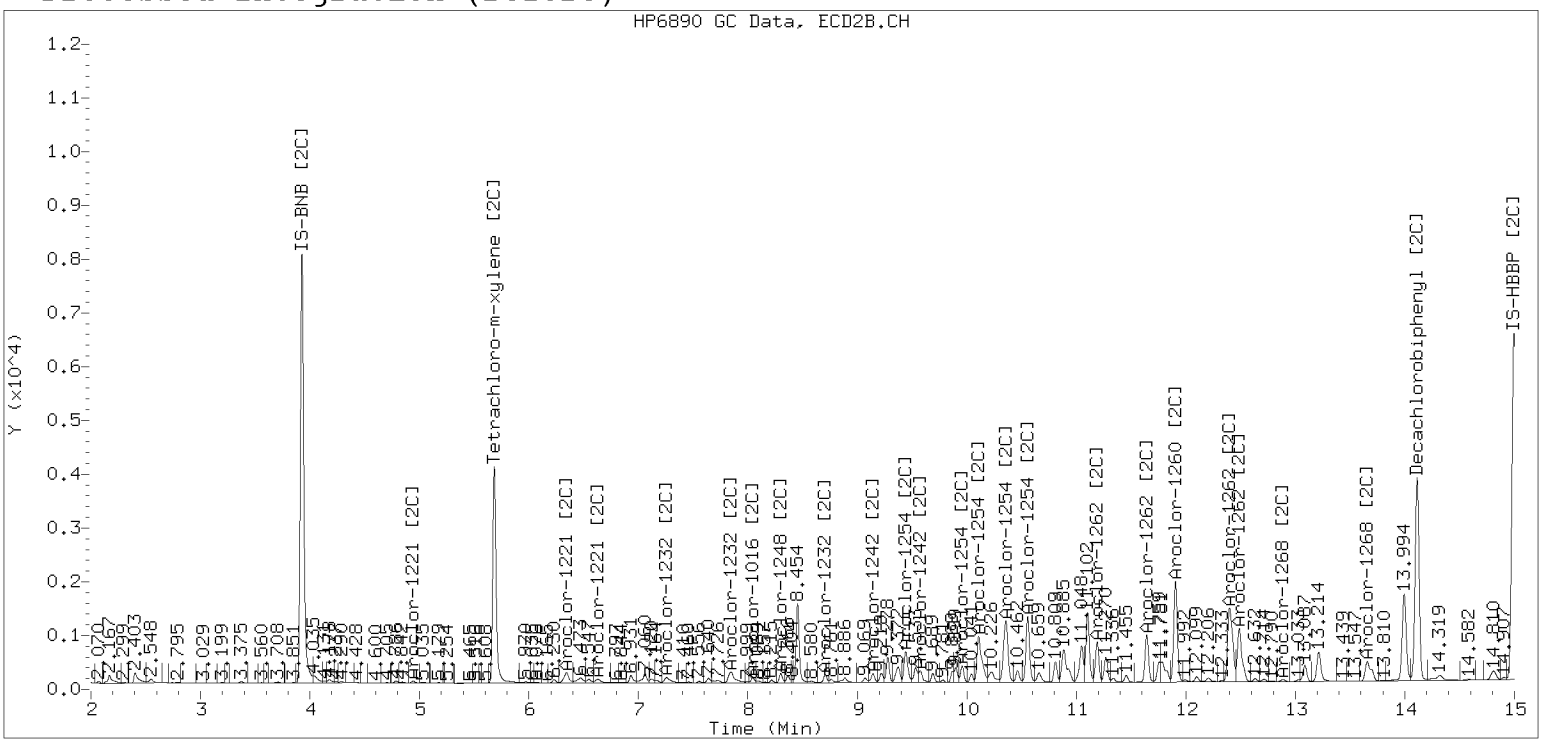
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230301.b/230301.b/03012373ECD7.D Injection Date: 02-MAR-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

LDW23-IT1275

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Solid	Laboratory ID:	23A0418-12 A	File ID:	03012374ECD7.D
Sampled:	01/18/23 15:09	Prepared:	02/14/23 11:38	Analyzed:	03/02/23 12:28
% Solids:	79.58	Preparation:	EPA 3546 (Microwave)	Initial/Final:	15.71 g Wet / 2.5 mL
Batch:	BLB0280	Sequence:	SLC0019	Calibration:	GB00069
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	1	1	4.0	1.6	4.0	U
11097-69-1	Aroclor 1254	1	1	4.0	1.6	4.0	U
11096-82-5	Aroclor 1260	2	1	14.6	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9987*	*8.02*	*100*	*40 - 126*	
Tetrachlorometaxylene	*1*	*7.9987*	*6.05*	*75.6*	*44 - 120*	
Decachlorobiphenyl	*2*	*7.9987*	*7.35*	*91.9*	*40 - 126*	
Tetrachlorometaxylene	*2*	*7.9987*	*6.11*	*76.4*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012374ECD7.D
Data file 2: /230301.b/230301.b/03012374ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23A0418-12
Client ID:
Injection Date: 02-MAR-2023 12:28
Report Date: 03/02/2023 13:04
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.807	-0.001	203138	5.685	-0.001	171020	30.2	30.5	1.0	Tetrachloro-m-xylene
13.887	-0.007	207271	14.114	-0.005	238635	40.1	36.8	8.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	449800	-33.2
Hexabromobiphenyl	1429847	524576	-63.3 <-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	381635	21.1
Hexabromobiphenyl	513946	426062	-17.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	---			0.0	1	---			0.0
Aroclor-1248	2	---			0.0	2	---			0.0
Aroclor-1248	3	---			0.0	3	---			0.0
Aroclor-1248	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1254	1	---			0.0	1	---			0.0
Aroclor-1254	2	---			0.0	2	---			0.0
Aroclor-1254	3	---			0.0	3	---			0.0
Aroclor-1254	4	---			0.0	4	---			0.0
Aroclor-1254	5	---			0.0	5	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1260	1	11.037	-0.009	8579	45.5	1	11.646	-0.007	12403	49.5
Aroclor-1260	2	11.354	-0.008	8757	44.4	2	11.909	-0.008	32401	50.7
Aroclor-1260	3	11.724	-0.012	33090	63.3	3	12.426	-0.010	20691	121.9
Aroclor-1260	4	12.127	-0.013	15949	60.6	4	12.493	-0.008	30454	70.7
Aroclor-1260	5	12.237	-0.007	12630	111.4	NS	---			----
	Total Col1Ave (5 peaks):				65.0	Total Col2Ave (4 peaks):				73.2 RPD = 12
	Corrected Ave (4 peaks):				53.4	Corrected Ave (3 peaks):				56.9 RPD = 6
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (5.908 - 13.795) = 330295 Col1 Total PCB = 0.1 ppm*

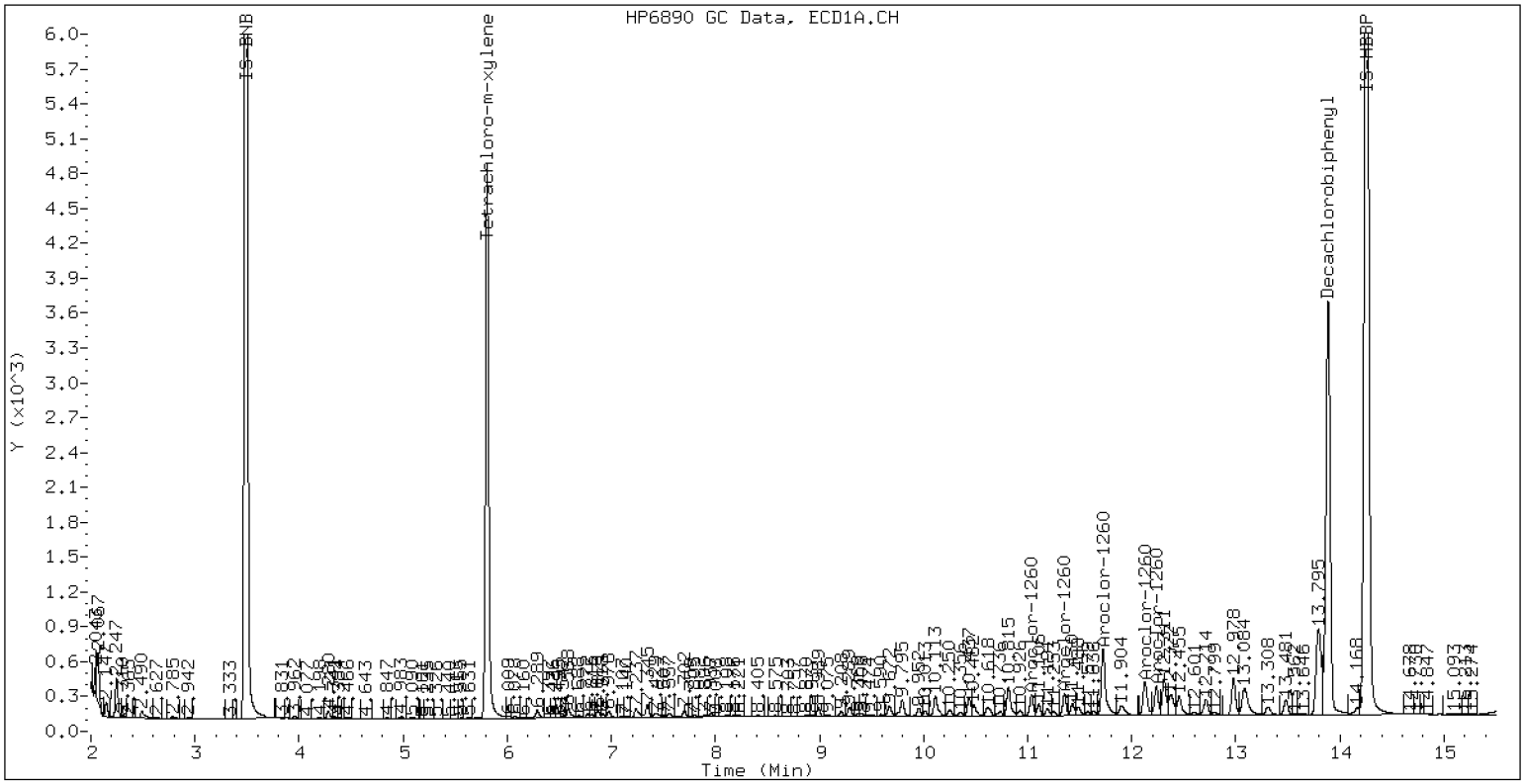
Total PCB Area Col2 (5.787 - 14.019) = 307516 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

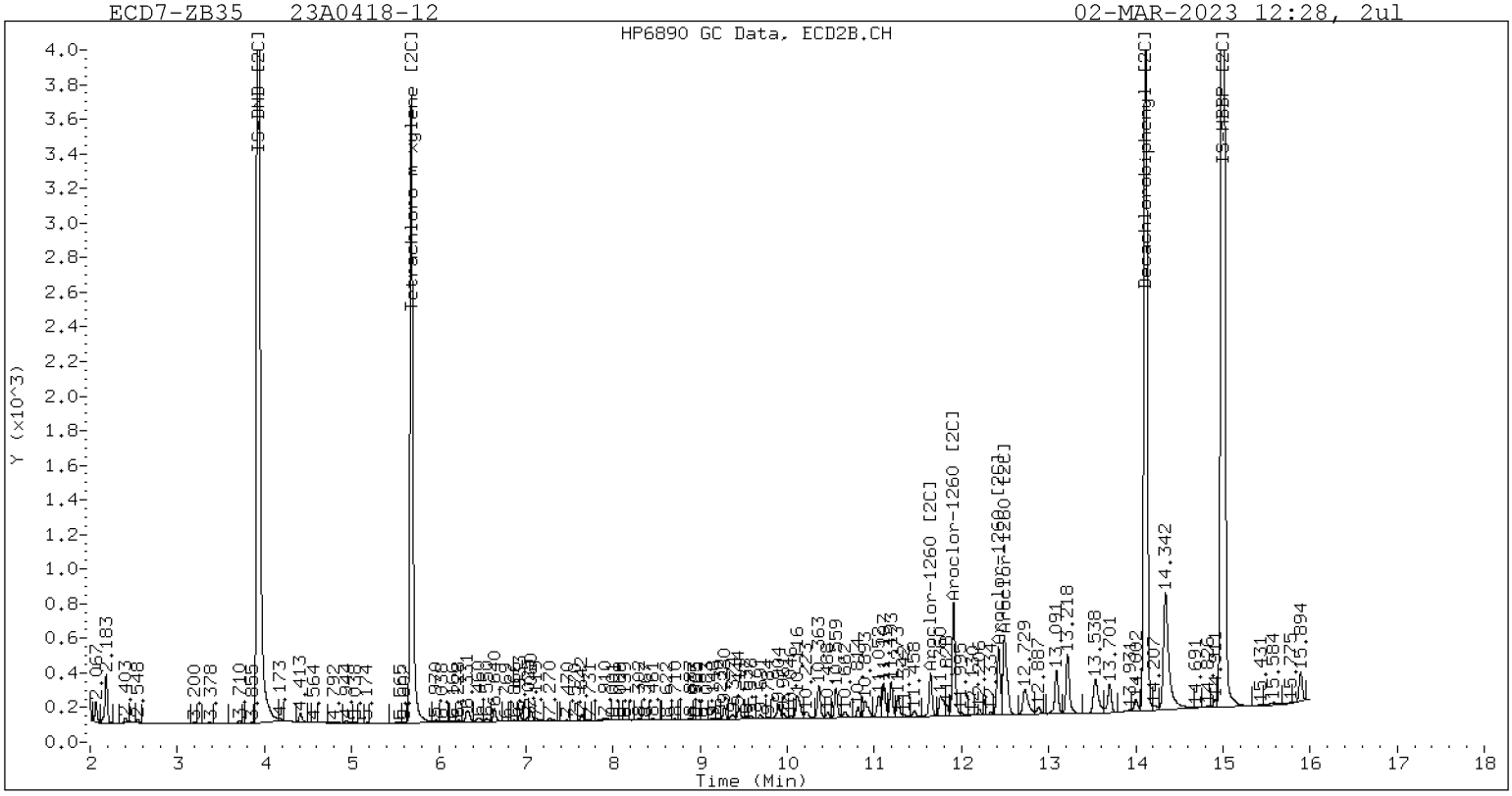
PCB Dual Column Chromatograms

ECD7-ZB5 23A0418-12 02-MAR-2023 12:28, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 23A0418-12 02-MAR-2023 12:28, 2ul



ZB-35 Manual Integration: NO

PREPARATION BATCH SUMMARY

EPA 8082A

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Batch: BLB0280 Batch Matrix: Solid
Preparation: EPA 3546 (Microwave)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-IT1136	23A0418-01	03012361ECD7.D	02/14/23 11:38	
LDW23-IT1142	23A0418-02	03012379ECD7.D	02/14/23 11:38	
LDW23-SC1122	23A0418-03	03012363ECD7.D	02/14/23 11:38	
LDW23-IT1141	23A0418-04	03012380ECD7.D	02/14/23 11:38	
LDW23-IT1133	23A0418-05	03012365ECD7.D	02/14/23 11:38	
LDW23-IT1133-FD	23A0418-06	03012366ECD7.D	02/14/23 11:38	
LDW23-IT1180	23A0418-07	03012367ECD7.D	02/14/23 11:38	
LDW23-IT1218	23A0418-08	03012381ECD7.D	02/14/23 11:38	
LDW23-IT1216	23A0418-09	03012382ECD7.D	02/14/23 11:38	
LDW23-IT1135	23A0418-10	03012370ECD7.D	02/14/23 11:38	
LDW23-IT1140	23A0418-11	03012373ECD7.D	02/14/23 11:38	
LDW23-IT1275	23A0418-12	03012374ECD7.D	02/14/23 11:38	
Blank	BLB0280-BLK1	03012357ECD7.D	02/14/23 11:38	
LCS	BLB0280-BS1	03012358ECD7.D	02/14/23 11:38	
LCS Dup	BLB0280-BSD1	03012359ECD7.D	02/14/23 11:38	
LDW23-IT1275	BLB0280-MS1	03012375ECD7.D	02/14/23 11:38	
LDW23-IT1275	BLB0280-MSD1	03012376ECD7.D	02/14/23 11:38	
Reference	BLB0280-SRM1	03012360ECD7.D	02/14/23 11:38	

Analytical Resources, LLC
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BLB0280

Prepared using: EPA 3546 (Microwave)

8082A PCB Solid 4 in Solid (Version:7 Aroclors)

Matrix: Solid **Date Prepared:** 2/14/23 **Balance ID:** B1464626l4 **Set Up By:** CGD 2/10/23

WO Comments

23A0418: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

The following standards may be missing from this batch!

Designator	Description
QLS 5	QLS Spike

Analysis: 8082A PCB Solid 4

Lab Number & Container	% Solids	Initial (g) Target Dry: 12.5 (Wet)	Actual	(REQ) Acid C/U (5mL)	(REQ) Sulfur C/U (5mL) 1 2 3	(REQ) Silica Gel C/U (2:5)	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
23A0418-01 A	81.2	(15.40)	15.47	5mL	5mL	2mL	2.5	1.0	
23A0418-02 A	75.4	(16.57)	16.62	5mL	5mL	2mL	2.5	1.0	
23A0418-03 A	49.5	(25.27)	25.79	5mL	5mL	2mL	2.5	1.0	
23A0418-04 A	58.6	(21.34)	21.37	5mL	5mL	2mL	2.5	1.0	
23A0418-05 A	71.6	(17.46)	17.51	5mL	5mL	2mL	2.5	1.0	
23A0418-06 A	74.8	(16.71)	16.75	5mL	5mL	2mL	2.5	1.0	
23A0418-07 A	79.9	(15.65)	15.67	5mL	5mL	2mL	2.5	1.0	
23A0418-08 A	59.0	(21.20)	21.24	5mL	5mL	2mL	2.5	1.0	
23A0418-09 A	79.5	(15.73)	15.75	5mL	5mL	2mL	2.5	1.0	
23A0418-10 A	68.4	(18.27)	17.37	5mL	5mL	2mL	2.5	1.0	
23A0418-11 A	73.7	(16.95)	16.98	5mL	5mL	2mL	2.5	1.0	
23A0418-12 A	79.6	(15.71)	15.71	5mL	5mL	2mL	2.5	1.0	

Batch QC

Lab Number	% Solids	Initial (g) Target Dry: 12.5 (Wet)	Actual	(REQ) Acid C/U (5mL)	(REQ) Sulfur C/U (5mL) 1 2 3	(REQ) Silica Gel C/U (2:5)	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
BLB0280-BLK1	100.0	(12.50)	12.50	5mL	5mL	2mL	2.5	1.0	(10g Actual Wt.)
BLB0280-BS1	100.0	(12.50)	12.50	5mL	5mL	2mL	2.5	1.0	(10g Actual Wt.)
BLB0280-BSD1	100.0	(12.50)	12.50	5mL	5mL	2mL	2.5	1.0	(10g Actual Wt.)
BLB0280-MS1	79.6	(15.71)	15.71	5mL	5mL	2mL	2.5	1.0	Use 23A0418-12
BLB0280-MSD1	79.6	(15.71)	15.71	5mL	5mL	2mL	2.5	1.0	Use 23A0418-12
BLB0280-SRM1	100.0	~~(12.50)~~ (2.50)	2.50	5mL	5mL	2mL	2.5	1.0	Use K010817

+1g DI WATER

Client ID Verified By 2/14/23 Date

Preparation Reviewed By 2/21/23 Date

Extraction Date and Time 2/14/23 11:38

Analytical Resources, LLC
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BLB0280

Prepared using: EPA 3546 (Microwave)

8082A PCB Solid 4 in Solid (Version:7 Aroclors)

WO Comments

23A0418: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

Prep Steps

Microwave
1 2 3
CT 02/14/23
Analyst/Date

KD
100°C
Hexane Exchange
(2 X 20 mL)
1 2 3 4 5 6
AV 02/16
Analyst/Date

TurboVap
Pre Cleanups
1 2 3 4 5
ZH 2/21/23
Analyst/Date

TurboVap
Post Cleanups
1 2 3 4 5
LJ 2/21/23
Analyst/Date

Vialing
LJ 2/21/23
Analyst/Date

Reagents Used

Station/Reagent	Standard ID
Microwave Analyst: CT Date: 02/14/23	
Neutral Glass Wool	L000350
1:1 Hexane/Acetone	L000122
Hexane	L000389
Anhydrous Sodium Sulfate	L000285
KD Analyst: AV Date: 02/16/2023	
Anhydrous Sodium Sulfate	
Hexane	L000889
Vialing Analyst: ZH Date: 2/21/23	
Hexane	L000889
Concentrated Sulfuric Acid	L001033
Silica Gel (SPE) Darts	L001084
Sodium Sulfite	K001363
Tetrabutylammonium hydrogensulfate (TBAS)	L001601

Surrogates & Spike Standards Used

Type	Vial ID / Standard ID	Vol uL	Analyst	Witness
Surrogate 2µg/mL	N L000773 (V) Exp Date: 7/21/2023	50µL	CT	N
Spike 20µg/mL	1 ~~K008150~~ L001587 Exp Date: 8/13/2023	63µL	CT	N

MANUALLY ENTER EXPIRATION DATES!

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

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

Analytical Resources, LLC
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BLB0280

Prepared using: EPA 3546 (Microwave)

8082A PCB Solid 4 in Solid (Version:7 Aroclors)

WO Comments

23A0418: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

Prep Instructions	
SPECIAL INSTRUCTIONS: 1. Weigh soil/sed into beakers-lightly dry with sodium sulfate. 2. Transfer to microwave vessel(s). Note: (do not fill vessels more than 2/3rd full. Some samples may require two vessels). 3. Add 1:1 Hexane/Acetone until the solvent layer is 3 inches above the soil layer after homogenization. 4. Add surr/spike. 5. Microwave on appropriate power setting determined by # of samples. 6. After microwave-Re-homogenize while hot then cool vessels in R-05 15 minutes. Re-homogenize while cool. 7. Decant 1:1 Hex/Ace into Erlenmeyer flask with sodium sulfate in bottom and funnel with neutral glasswool plug. 8. Re-homogenize and rinse with 1:1 Hexane/Acetone. 9. Let cool and decant solvent then empty the soil into the funnel and rinse with Hexane. 10. KD on 100° bath. 11. Exchange (2 X with 20mL) Hexane. 12. TurboVap. 13. Clean-ups. 14. TurboVap. 15. Vial with Hexane. A. Need Total Solids Y (N) B. Archive/Freeze (Y) N	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

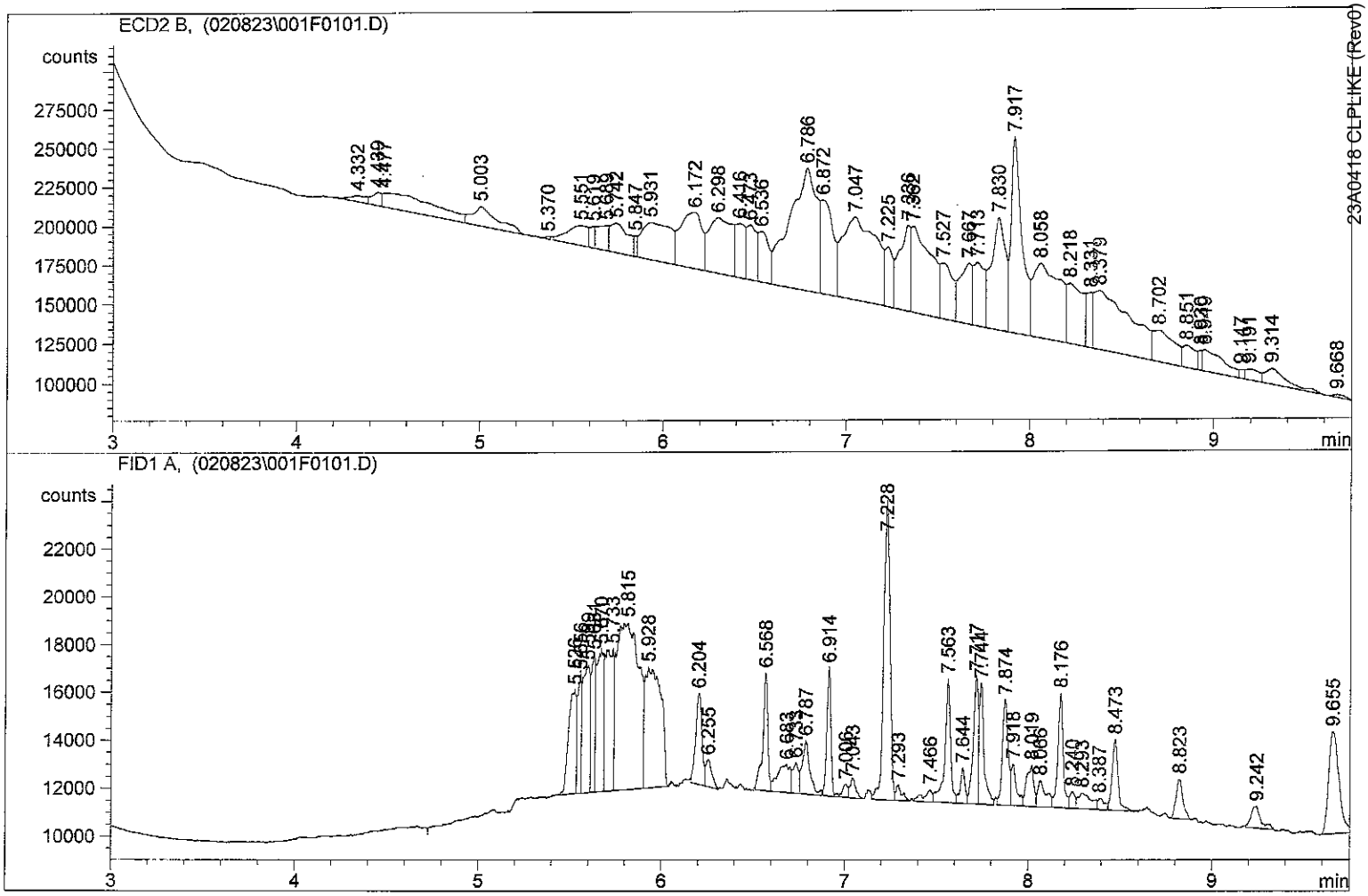
Organic Extractions Laboratory Analyst Notes

Extraction Parameter: PCB Extraction Batch: BLB02480

Total Solids Batch: BLB0452 Work Order(s): 23A0418

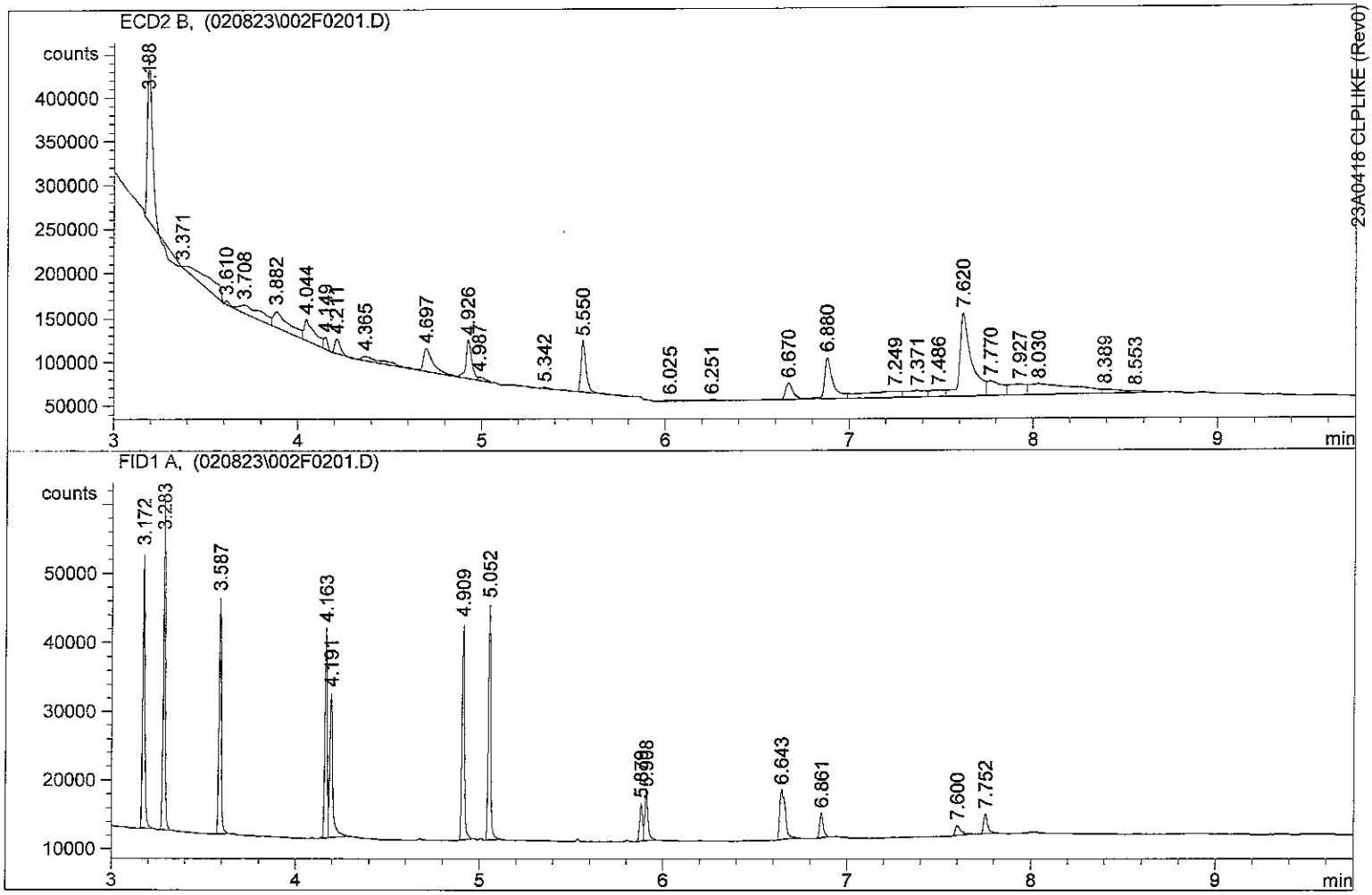
Screens: Soil/Sediment/Solid/Other:	Analyst/Date
[X] No Anomalies (standard soil/wet sediment/sand/gravel)= 01-12	CR 2/8/23
[ ] Standing Water Decanted (Not shared)=	
[ ] Standing Water Homogenized (Shared samples)=	
[ ] Clay/Clumps (Difficult to homogenize)=	
[ ] Rocks (%+size)?	
[ ] Organics (Leaves/sticks/grass)=	
[ ] Oily, obvious fuel/sulfur odors=	
[ ] Received in 32oz jar(s)=Homogenized in Pyrex dish=	
[X] Previously Frozen = 01-12	CR 2/8/23
[ ] Other (Details)=	
Aqueous:	
[ ] No Anomalies	
[ ] Turbid/Color=	
[ ] Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
[ ] Emulsions (%)=	
[ ] Oily, obvious fuel/sulfur odors=	
[ ] Other (Details)=	
[ ] Received in 1.0L Bottle(s)=No Bottle Rinse=	
[ ] Other Notes/Comments= (Note problems, concerns, corrective actions).	
[X] Share Samples Y / (N)	CR 2/8/23
[X] Multiple Jars Y / (N)	CR 2/8/23
[ ] Sample Pre-Screens indicate analyte activity=	
[ ] Sample weights/volumes reduced based on Pre-Screen=	

Injection Date	: 2/8/2023 5:08:47 PM	Seq. Line	: 1
Sample Name	: DCM RINSE	Location	: Vial 1
Acq. Operator	: CR	Inj	: 1
		Inj Volume	: 1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\020823.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



*** End of Report ***

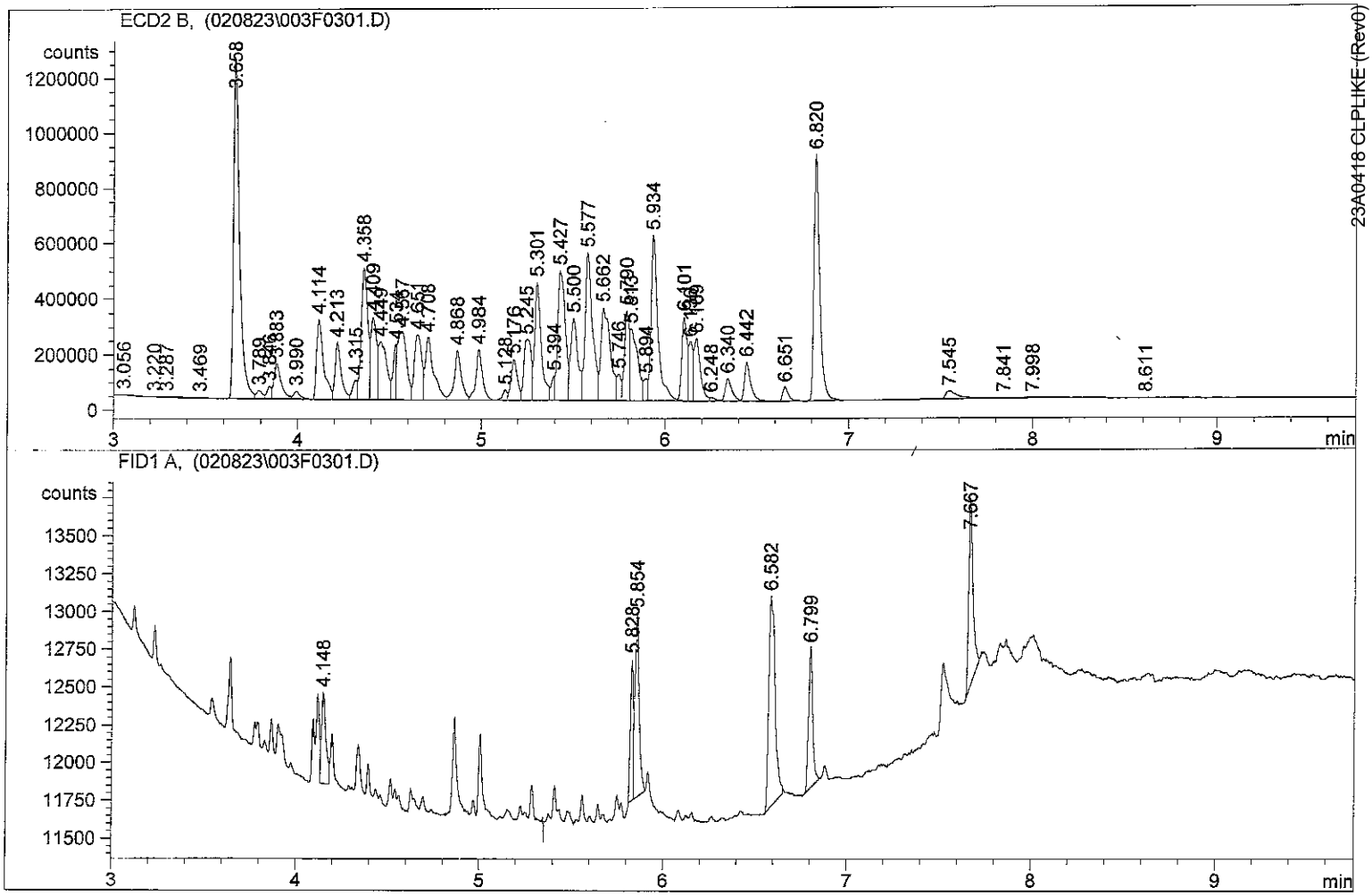
Injection Date	: 2/8/2023 5:22:58 PM	Seq. Line :	2
Sample Name	: PNA STD 10PPM	Location :	Vial 2
Acq. Operator	: CR	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\020823.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



*** End of Report ***

Injection Date	: 2/8/2023 5:37:50 PM	Seq. Line	: 3
Sample Name	: AR1660 1PPM	Location	: Vial 3
Acq. Operator	: CR	Inj	: 1
		Inj Volume	: 1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\020823.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		

SCREEN METHOD

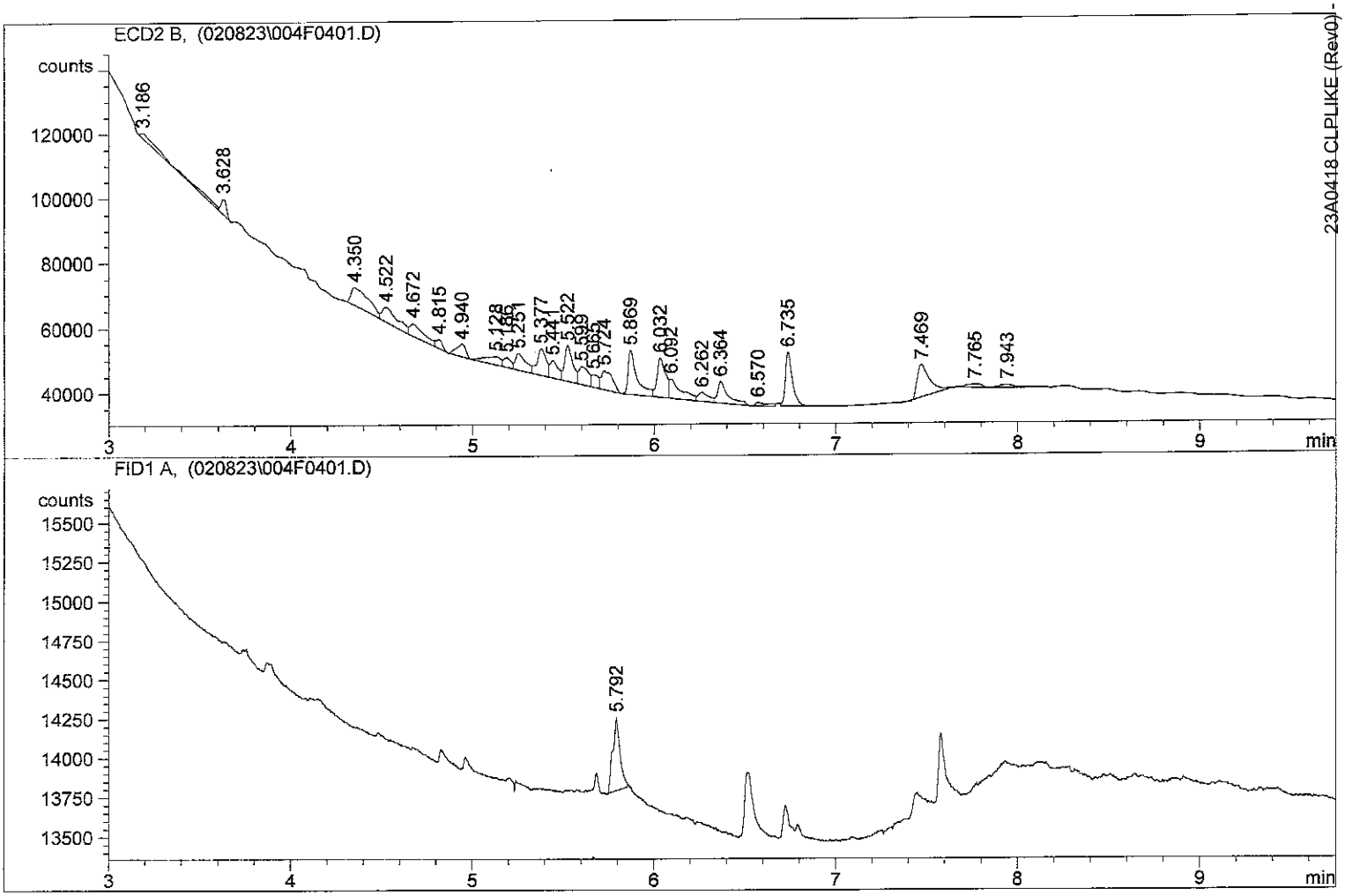


*** End of Report ***

Injection Date : 2/8/2023 5:52:21 PM
Sample Name : 23A0418 01
Acq. Operator : CR

Seq. Line : 4
Location : Vial 4
Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\1\SEQUENCE\020823.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD

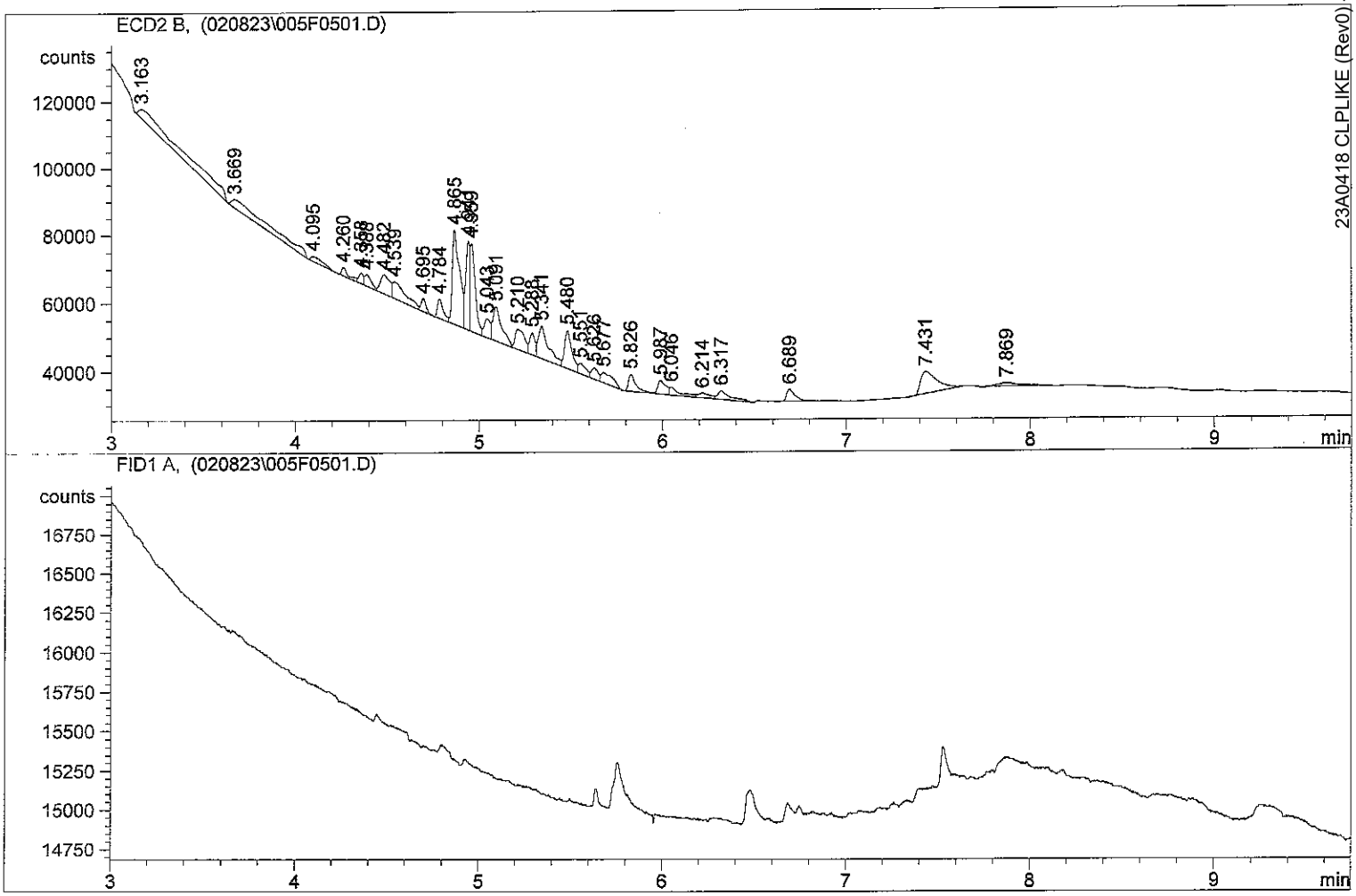


*** End of Report ***

Injection Date : 2/8/2023 6:06:20 PM
Sample Name : 23A0418 02
Acq. Operator : CR

Seq. Line : 5
Location : Vial 5
Inj : 1
Inj Volume : 1 µl

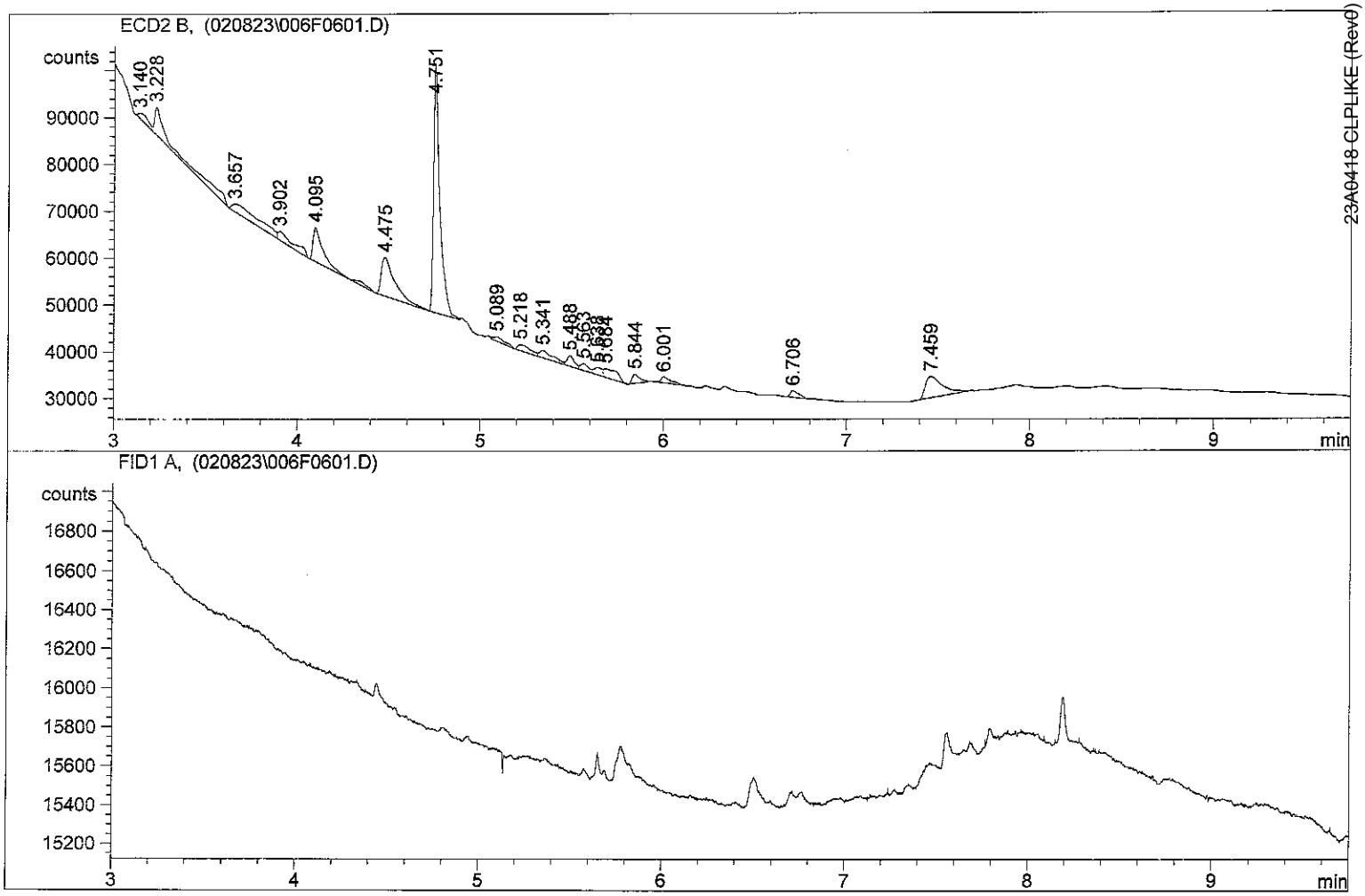
Sequence File : C:\HPCHEM\1\SEQUENCE\020823.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD



*** End of Report ***

Injection Date : 2/8/2023 6:20:48 PM Seq. Line : 6
Sample Name : 23A0418 03 Location : Vial 6
Acq. Operator : CR Inj : 1
Inj Volume : 1 µl

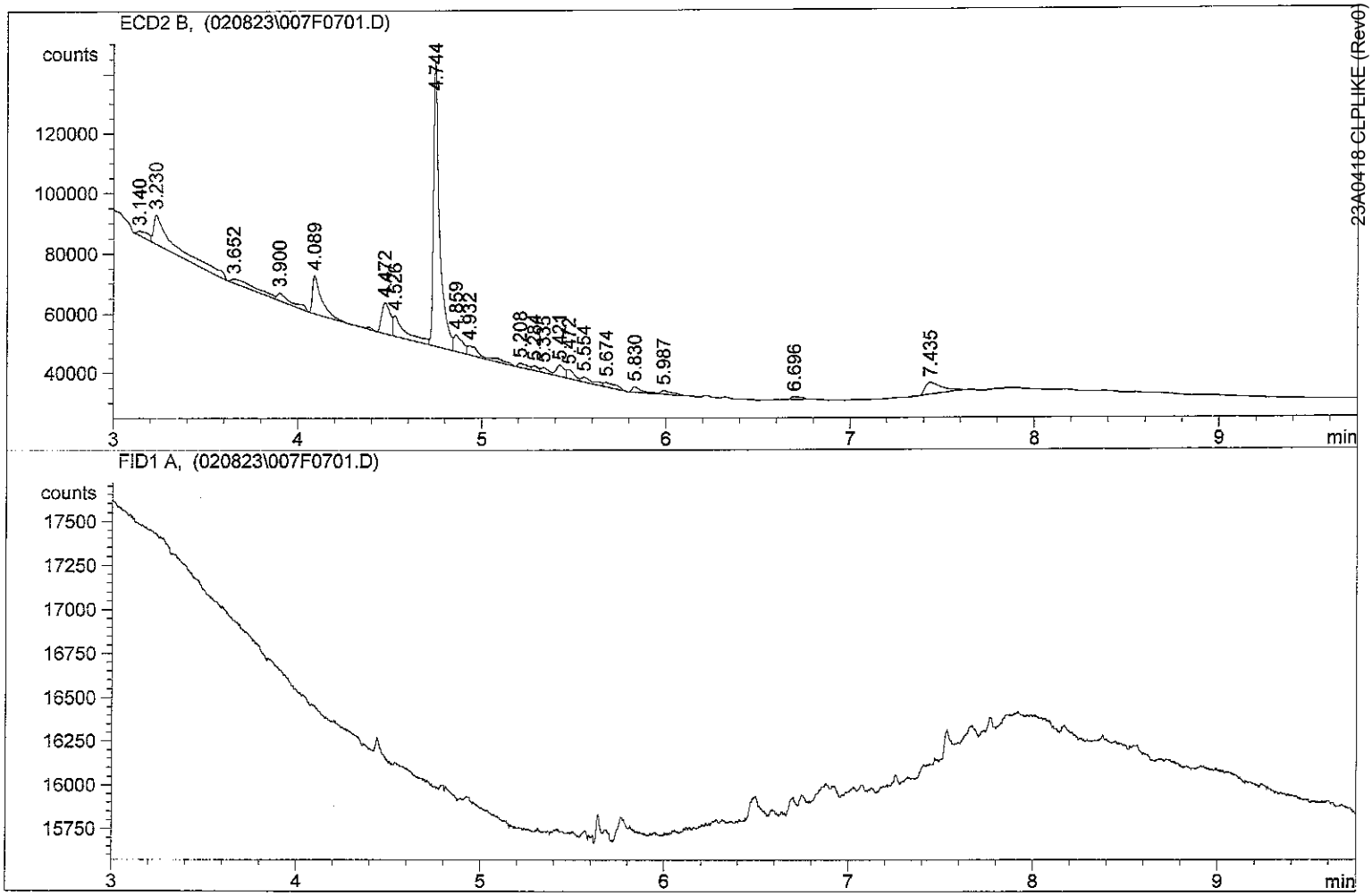
Sequence File : C:\HPCHEM\1\SEQUENCE\020823.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD



*** End of Report ***

Injection Date : 2/8/2023 6:34:48 PM Seq. Line : 7
Sample Name : 23A0418 04 Location : Vial 7
Acq. Operator : CR Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\1\SEQUENCE\020823.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD



*** End of Report ***

Data File C:\HPCHEM\1\DATA\020823\009F0901.D

Sample Name: 23A0418 06

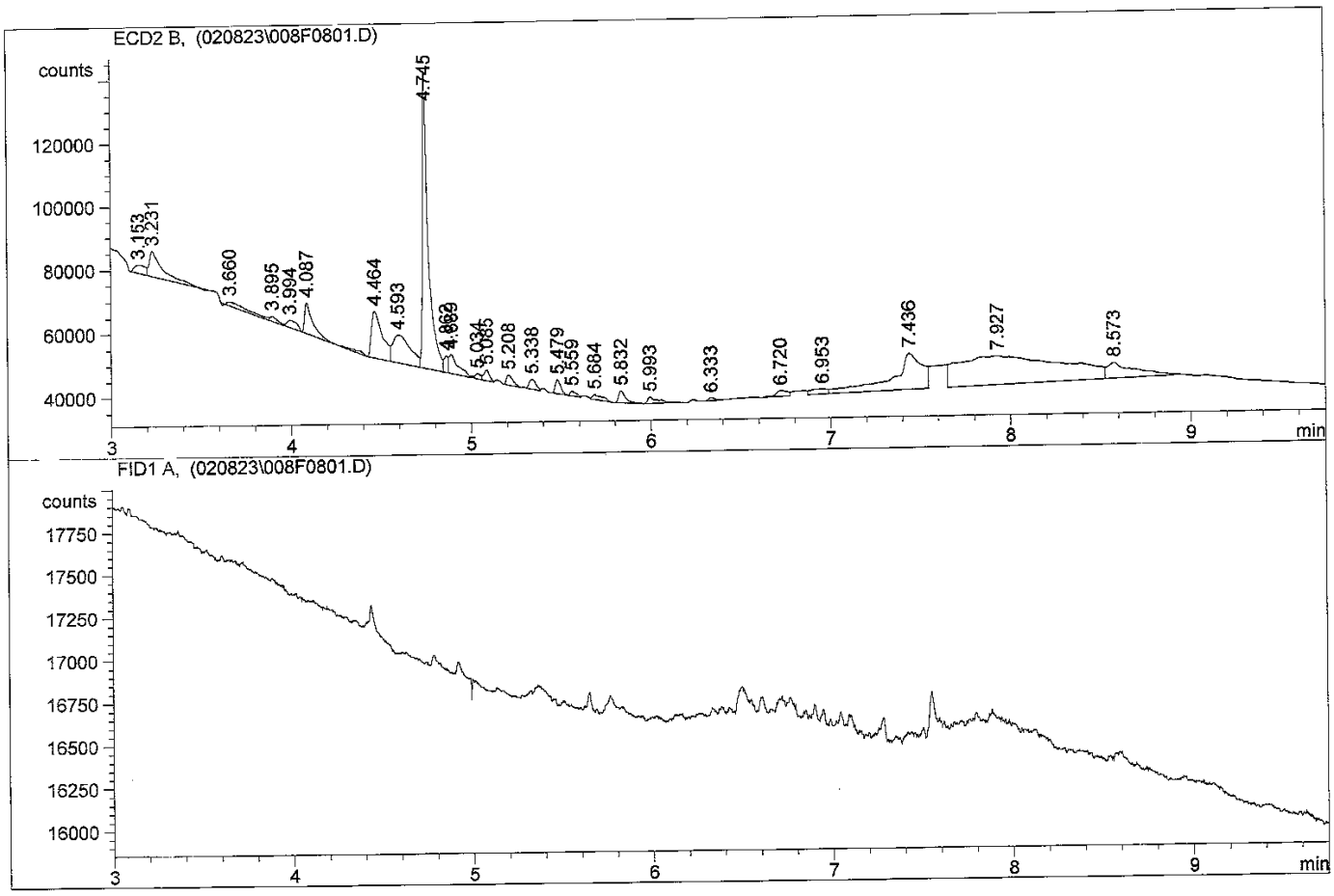
Injection Date	: 2/8/2023 7:03:22 PM	Seq. Line	: 9
Sample Name	: 23A0418 06	Location	: Vial 9
Acq. Operator	: CR	Inj	: 1
		Inj Volume	: 1 µl

Data File C:\HPCHEM\1\DATA\020823\008F0801.D

Sample Name: 23A0418 05

Injection Date	: 2/8/2023 6:49:17 PM	Seq. Line	: 8
Sample Name	: 23A0418 05	Location	: Vial 8
Acq. Operator	: CR	Inj	: 1
		Inj Volume	: 1 µl

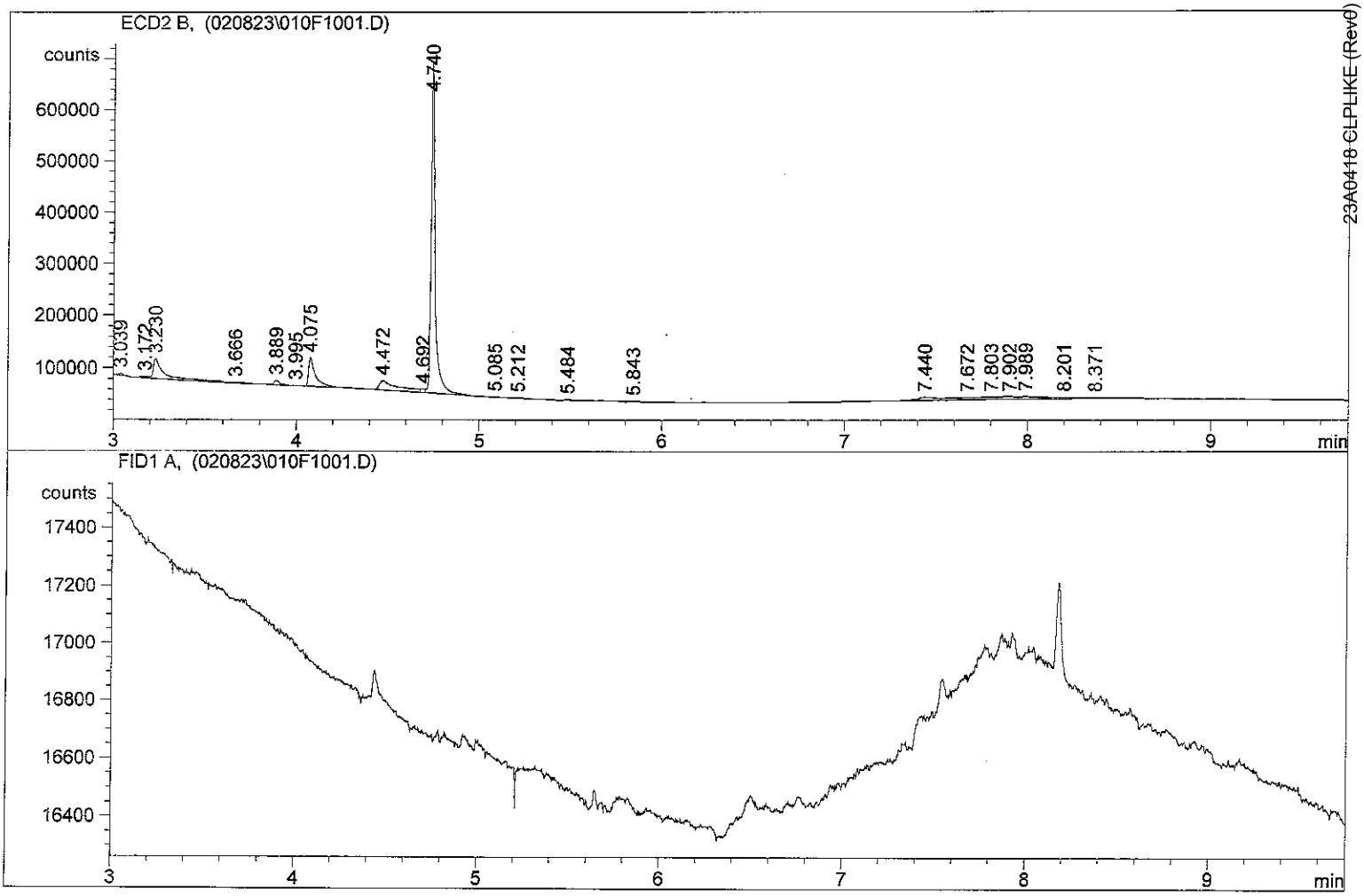
Sequence File : C:\HPCHEM\1\SEQUENCE\020823.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD



*** End of Report ***

Injection Date : 2/8/2023 7:17:51 PM Seq. Line : 10
Sample Name : 23A0418 07 Location : Vial 10
Acq. Operator : CR Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\1\SEQUENCE\020823.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD



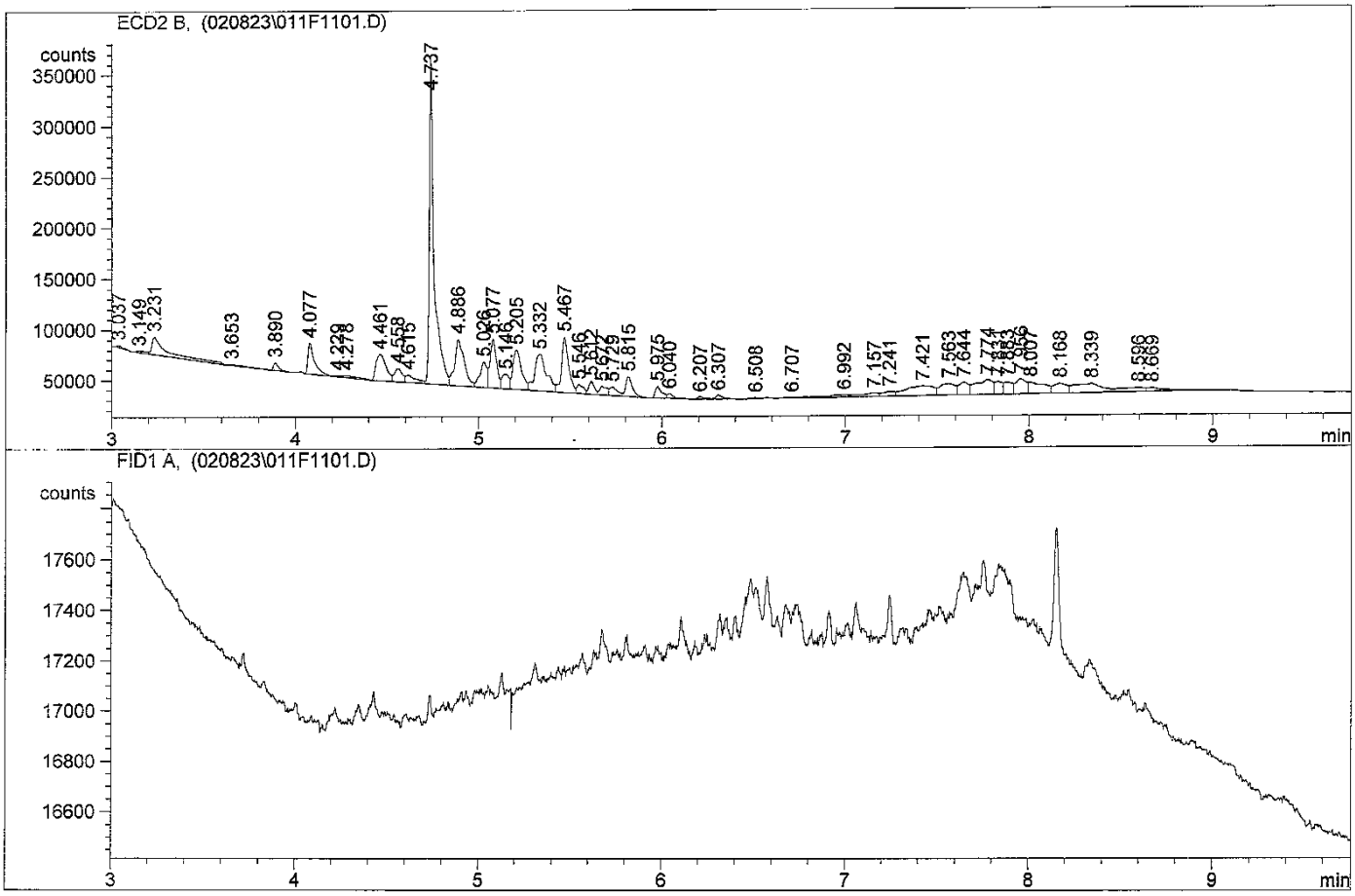
*** End of Report ***

Data File C:\HPCHEM\1\DATA\020823\012F1201.D Sample Name: 23A0418 09

Injection Date	: 2/8/2023 7:46:20 PM	Seq. Line :	12
Sample Name	: 23A0418 09	Location :	Vial 12
Acq. Operator	: CR	Inj :	1

Data File C:\HPCHEM\1\DATA\020823\011F1101.D Sample Name: 23A0418 08

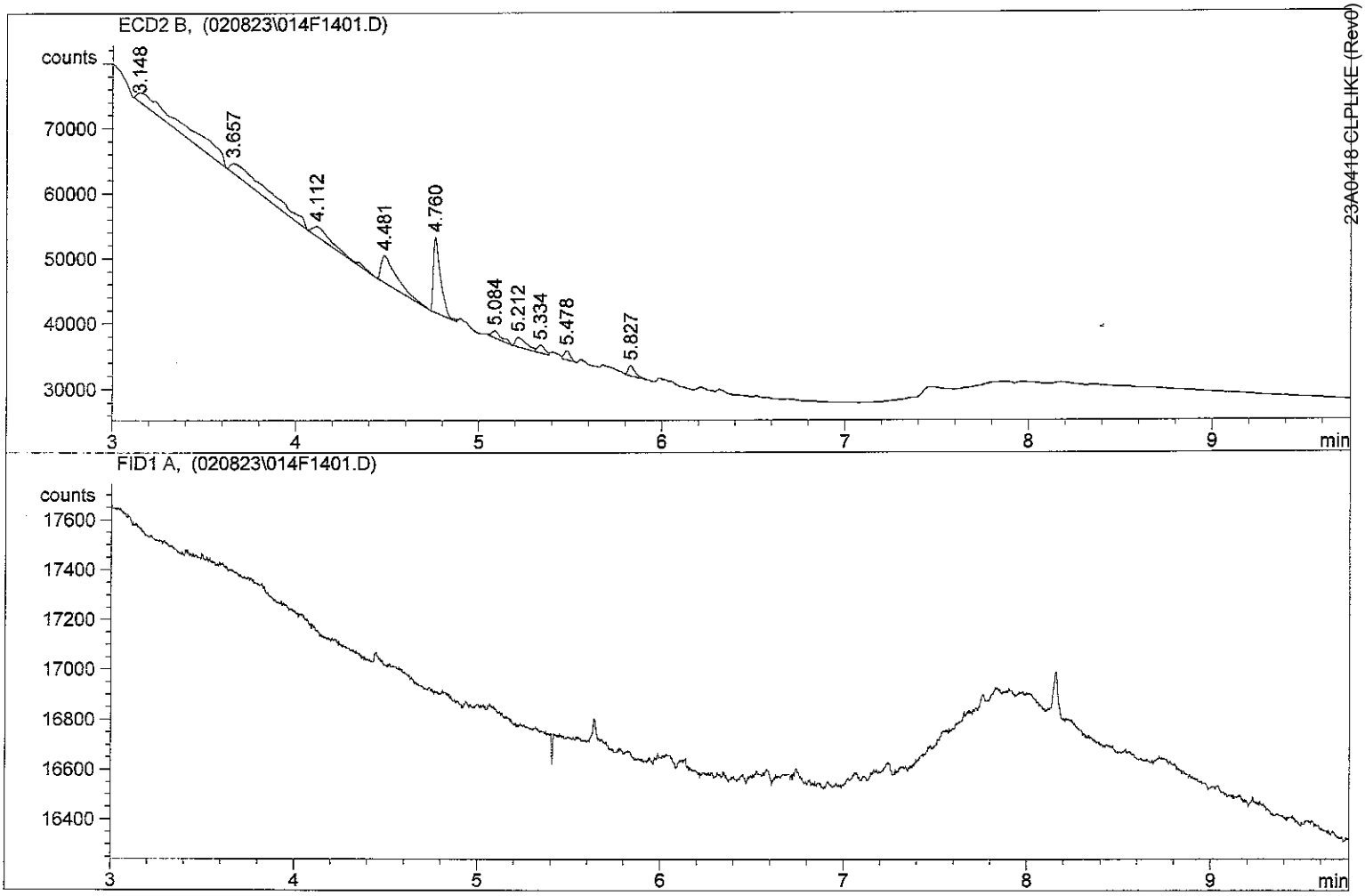
Injection Date	: 2/8/2023 7:31:54 PM	Seq. Line :	11
Sample Name	: 23A0418 08	Location :	Vial 11
Acq. Operator	: CR	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\020823.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



*** End of Report ***

Injection Date : 2/8/2023 8:14:59 PM Seq. Line : 14
Sample Name : 23A0418 11 Location : Vial 14
Acq. Operator : CR Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\1\SEQUENCE\020823.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD



*** End of Report ***

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Cleanup Batch:	CLB0185	Cleanup Type:	Silica Gel
Cleanup Method:	EPA 3630C Silica Gel Cleanup - uL	Analysis:	EPA 8082A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LCS	BLB0280-BS1	03012358ECD7.D	02/21/2023	
LDW23-IT1133	23A0418-05	03012365ECD7.D	02/21/2023	
Blank	BLB0280-BLK1	03012357ECD7.D	02/21/2023	
LCS Dup	BLB0280-BSD1	03012359ECD7.D	02/21/2023	
Matrix Spike Dup	BLB0280-MSD1	03012376ECD7.D	02/21/2023	
Reference	BLB0280-SRM1	03012360ECD7.D	02/21/2023	
LDW23-SC1122	23A0418-03	03012363ECD7.D	02/21/2023	
Matrix Spike	BLB0280-MS1	03012375ECD7.D	02/21/2023	
LDW23-IT1218	23A0418-08	03012381ECD7.D	02/21/2023	
LDW23-IT1216	23A0418-09	03012382ECD7.D	02/21/2023	
LDW23-IT1180	23A0418-07	03012367ECD7.D	02/21/2023	
LDW23-IT1142	23A0418-02	03012379ECD7.D	02/21/2023	
LDW23-IT1133-FD	23A0418-06	03012366ECD7.D	02/21/2023	
LDW23-IT1141	23A0418-04	03012380ECD7.D	02/21/2023	
LDW23-IT1140	23A0418-11	03012373ECD7.D	02/21/2023	
LDW23-IT1136	23A0418-01	03012361ECD7.D	02/21/2023	
LDW23-IT1135	23A0418-10	03012370ECD7.D	02/21/2023	
LDW23-IT1275	23A0418-12	03012374ECD7.D	02/21/2023	

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CLB0185

Matrix: Solid **Cleanup using: Organics - EPA 3630C Silica Gel Cleanup - uL** **Printed: 2/21/2023 3:14:06PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
23A0418-01	A	LDW23-IT1136	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-02	A	LDW23-IT1142	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-03	A	LDW23-SC1122	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-04	A	LDW23-IT1141	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-05	A	LDW23-IT1133	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-06	A	LDW23-IT1133-FD	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-07	A	LDW23-IT1180	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-08	A	LDW23-IT1218	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-09	A	LDW23-IT1216	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-10	A	LDW23-IT1135	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-11	A	LDW23-IT1140	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-12	A	LDW23-IT1275	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
BLB0280-BLK1	-	Blank	-	2.5	2.5	-	2/21/2023	LMJ	
BLB0280-BS1	-	LCS	-	2.5	2.5	-	2/21/2023	LMJ	
BLB0280-BSD1	-	LCS Dup	-	2.5	2.5	-	2/21/2023	LMJ	
BLB0280-MS1	-	Matrix Spike	-	2.5	2.5	-	2/21/2023	LMJ	
BLB0280-MSD1	-	Matrix Spike Dup	-	2.5	2.5	-	2/21/2023	LMJ	
BLB0280-SRM1	-	Reference	-	2.5	2.5	-	2/21/2023	LMJ	

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Cleanup Batch:	CLB0186	Cleanup Type:	Sulfur
Cleanup Method:	EPA 3660B Sulfur Cleanup - uL	Analysis:	EPA 8082A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-SC1122	23A0418-03	03012363ECD7.D	02/21/2023	
Blank	BLB0280-BLK1	03012357ECD7.D	02/21/2023	
LCS Dup	BLB0280-BSD1	03012359ECD7.D	02/21/2023	
LDW23-IT1142	23A0418-02	03012379ECD7.D	02/21/2023	
LDW23-IT1136	23A0418-01	03012361ECD7.D	02/21/2023	
LDW23-IT1180	23A0418-07	03012367ECD7.D	02/21/2023	
LDW23-IT1216	23A0418-09	03012382ECD7.D	02/21/2023	
LCS	BLB0280-BS1	03012358ECD7.D	02/21/2023	
LDW23-IT1275	23A0418-12	03012374ECD7.D	02/21/2023	
LDW23-IT1135	23A0418-10	03012370ECD7.D	02/21/2023	
LDW23-IT1140	23A0418-11	03012373ECD7.D	02/21/2023	
LDW23-IT1133	23A0418-05	03012365ECD7.D	02/21/2023	
Matrix Spike Dup	BLB0280-MSD1	03012376ECD7.D	02/21/2023	
Reference	BLB0280-SRM1	03012360ECD7.D	02/21/2023	
LDW23-IT1133-FD	23A0418-06	03012366ECD7.D	02/21/2023	
Matrix Spike	BLB0280-MS1	03012375ECD7.D	02/21/2023	
LDW23-IT1141	23A0418-04	03012380ECD7.D	02/21/2023	
LDW23-IT1218	23A0418-08	03012381ECD7.D	02/21/2023	

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CLB0186

Matrix: Solid **Cleanup using: Organics - EPA 3660B Sulfur Cleanup - uL** **Printed: 2/21/2023 3:14:37PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
23A0418-01	A	LDW23-IT1136	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-02	A	LDW23-IT1142	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-03	A	LDW23-SC1122	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-04	A	LDW23-IT1141	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-05	A	LDW23-IT1133	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-06	A	LDW23-IT1133-FD	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-07	A	LDW23-IT1180	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-08	A	LDW23-IT1218	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-09	A	LDW23-IT1216	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-10	A	LDW23-IT1135	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-11	A	LDW23-IT1140	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-12	A	LDW23-IT1275	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
BLB0280-BLK1	-	Blank	-	2.5	2.5	-	2/21/2023	LMJ	
BLB0280-BS1	-	LCS	-	2.5	2.5	-	2/21/2023	LMJ	
BLB0280-BSD1	-	LCS Dup	-	2.5	2.5	-	2/21/2023	LMJ	
BLB0280-MS1	-	Matrix Spike	-	2.5	2.5	-	2/21/2023	LMJ	
BLB0280-MSD1	-	Matrix Spike Dup	-	2.5	2.5	-	2/21/2023	LMJ	
BLB0280-SRM1	-	Reference	-	2.5	2.5	-	2/21/2023	LMJ	

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Cleanup Batch:	CLB0187	Cleanup Type:	Sulfuric Acid
Cleanup Method:	EPA 3665 Sulfuric Acid Cleanup - uL	Analysis:	EPA 8082A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-IT1141	23A0418-04	03012380ECD7.D	02/21/2023	
LDW23-IT1135	23A0418-10	03012370ECD7.D	02/21/2023	
LDW23-IT1140	23A0418-11	03012373ECD7.D	02/21/2023	
LDW23-IT1142	23A0418-02	03012379ECD7.D	02/21/2023	
LDW23-IT1133-FD	23A0418-06	03012366ECD7.D	02/21/2023	
LDW23-IT1180	23A0418-07	03012367ECD7.D	02/21/2023	
LDW23-IT1216	23A0418-09	03012382ECD7.D	02/21/2023	
LDW23-IT1133	23A0418-05	03012365ECD7.D	02/21/2023	
LDW23-SC1122	23A0418-03	03012363ECD7.D	02/21/2023	
Matrix Spike	BLB0280-MS1	03012375ECD7.D	02/21/2023	
Matrix Spike Dup	BLB0280-MSD1	03012376ECD7.D	02/21/2023	
LDW23-IT1136	23A0418-01	03012361ECD7.D	02/21/2023	
LCS Dup	BLB0280-BSD1	03012359ECD7.D	02/21/2023	
LDW23-IT1275	23A0418-12	03012374ECD7.D	02/21/2023	
LCS	BLB0280-BS1	03012358ECD7.D	02/21/2023	
Reference	BLB0280-SRM1	03012360ECD7.D	02/21/2023	
Blank	BLB0280-BLK1	03012357ECD7.D	02/21/2023	
LDW23-IT1218	23A0418-08	03012381ECD7.D	02/21/2023	

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CLB0187

Matrix: Solid **Cleanup using: Organics - EPA 3665 Sulfuric Acid Cleanup - uL** **Printed: 2/21/2023 3:15:04PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
23A0418-01	A	LDW23-IT1136	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-02	A	LDW23-IT1142	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-03	A	LDW23-SC1122	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-04	A	LDW23-IT1141	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-05	A	LDW23-IT1133	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-06	A	LDW23-IT1133-FD	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-07	A	LDW23-IT1180	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-08	A	LDW23-IT1218	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-09	A	LDW23-IT1216	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-10	A	LDW23-IT1135	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-11	A	LDW23-IT1140	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
23A0418-12	A	LDW23-IT1275	A 01	2.5	2.5	8082A PCB Solid 4	2/21/2023	LMJ	
BLB0280-BLK1	-	Blank	-	2.5	2.5	-	2/21/2023	LMJ	
BLB0280-BS1	-	LCS	-	2.5	2.5	-	2/21/2023	LMJ	
BLB0280-BSD1	-	LCS Dup	-	2.5	2.5	-	2/21/2023	LMJ	
BLB0280-MS1	-	Matrix Spike	-	2.5	2.5	-	2/21/2023	LMJ	
BLB0280-MSD1	-	Matrix Spike Dup	-	2.5	2.5	-	2/21/2023	LMJ	
BLB0280-SRM1	-	Reference	-	2.5	2.5	-	2/21/2023	LMJ	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I

METHOD BLANK DATA SHEET

EPA 8082A

Blank

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Solid	Laboratory ID:	BLB0280-BLK1	File ID:	03012357ECD7.D
Sampled:	N/A	Prepared:	02/14/23 11:38	Analyzed:	03/02/23 06:29
Solids:		Preparation:	EPA 3546 (Microwave)	Initial/Final:	12.5 g / 2.5 mL
Batch:	BLB0280	Sequence:	SLC0019	Calibration:	GB00069
Instrument:	ECD7	Column:	ZB5	Cleanups:	Silica Gel, Sulfur, Sulfuric Acid

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg wet)	Q	DL	RL
12674-11-2	Aroclor 1016	1	4.0	U	1.6	4.0
11104-28-2	Aroclor 1221	1	4.0	U	1.6	4.0
11141-16-5	Aroclor 1232	1	4.0	U	1.6	4.0
53469-21-9	Aroclor 1242	1	4.0	U	1.6	4.0
12672-29-6	Aroclor 1248	1	4.0	U	1.6	4.0
11097-69-1	Aroclor 1254	1	4.0	U	1.6	4.0
11096-82-5	Aroclor 1260	1	4.0	U	0.6	4.0

SURROGATES	ADDED: (ug/kg wet)	FOUND: (ug/kg wet)	% REC	QC LIMITS	Q
Decachlorobiphenyl	8.0000	7.49	93.6	40 - 126	
Tetrachlorometaxylene	8.0000	5.94	74.2	44 - 120	
Decachlorobiphenyl [2C]	8.0000	7.35	91.8	40 - 126	
Tetrachlorometaxylene [2C]	8.0000	5.80	72.5	44 - 120	

[2C] indicates second-column analyte, present if quantification on any batch samples used second column data.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012357ECD7.D
Data file 2: /230301.b/230301.b/03012357ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BLB0280-BLK1
Client ID:
Injection Date: 02-MAR-2023 06:29
Report Date: 03/02/2023 13:00
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.807	-0.001	191393	5.686	-0.000	158647	29.7	29.0	2.3	Tetrachloro-m-xylene
13.891	-0.004	235797	14.118	-0.001	273403	37.5	36.7	1.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	431886	-35.9
Hexabromobiphenyl	1429847	639276	-55.3 <-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	372897	18.3
Hexabromobiphenyl	513946	488763	-4.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1248	1	---			0.0	1	---			0.0
Aroclor-1248	2	---			0.0	2	---			0.0
Aroclor-1248	3	---			0.0	3	---			0.0
Aroclor-1248	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1254	1	---			0.0	1	---			0.0
Aroclor-1254	2	---			0.0	2	---			0.0
Aroclor-1254	3	---			0.0	3	---			0.0
Aroclor-1254	4	---			0.0	4	---			0.0
Aroclor-1254	5	---			0.0	5	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1260	1	---			0.0	1	---			0.0
Aroclor-1260	2	---			0.0	2	---			0.0
Aroclor-1260	3	---			0.0	3	---			0.0
Aroclor-1260	4	---			0.0	4	---			0.0
Aroclor-1260	5	---			0.0	NS	---			----
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			

Total PCB Area Col1 (5.908 - 13.795) = 51913 Col1 Total PCB = 0.0 ppm*

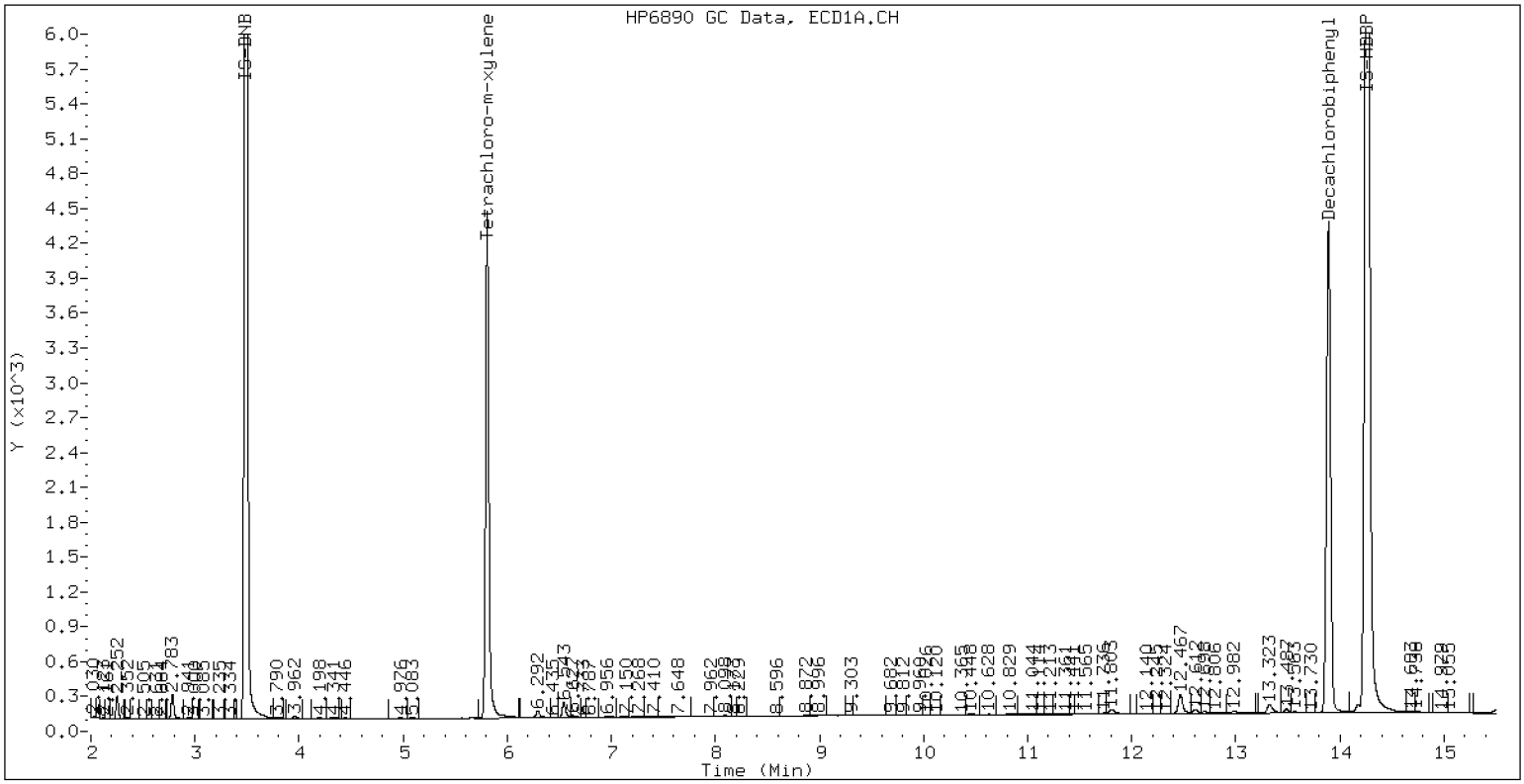
Total PCB Area Col2 (5.787 - 14.019) = 40375 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

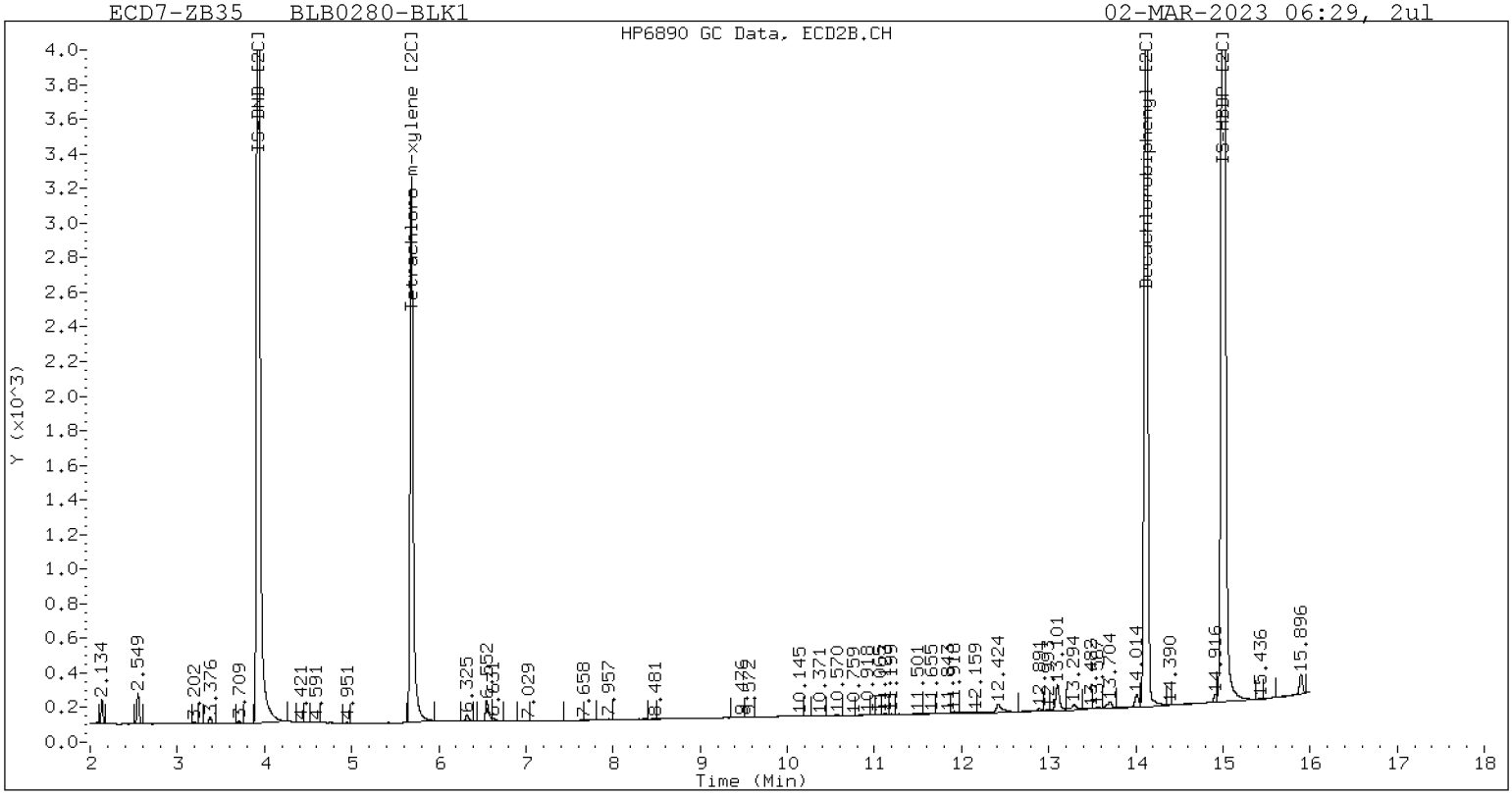
PCB Dual Column Chromatograms

ECD7-ZB5 BLB0280-BLK1 02-MAR-2023 06:29, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 BLB0280-BLK1 02-MAR-2023 06:29, 2ul



ZB-35 Manual Integration: NO

LCS / LCS DUPLICATE RECOVERY

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	03/02/23 06:51
Batch:	BLB0280	Laboratory ID:	BLB0280-BS1
Preparation:	EPA 3546 (Microwave)	Sequence Name:	LCS
Initial/Final:	12.5 g / 2.5 mL		

COMPOUND	SPIKE ADDED (ug/kg wet)	LCS CONCENTRATION (ug/kg wet)	Q	LCS % REC. #	QC LIMITS REC.
Aroclor 1016	101	72.0		71.4	56 - 120
Aroclor 1260	101	99.9		99.1	58 - 120

* Indicates values outside of QC limits

COMPOUND	SPIKE ADDED (ug/kg wet)	LCSD CONCENTRATION (ug/kg wet)	Q	LCSD % REC. #	% RPD #	QC LIMITS	
						RPD	REC.
Aroclor 1016	101	77.0		76.3	6.65	30	56 - 120
Aroclor 1260	101	103		102	2.94	30	58 - 120

* Indicates values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012358ECD7.D
Data file 2: /230301.b/230301.b/03012358ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BLB0280-BS1
Client ID:
Injection Date: 02-MAR-2023 06:51
Report Date: 03/02/2023 13:00
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.807	-0.001	226785	5.686	-0.000	185637	34.5	33.1	4.0	Tetrachloro-m-xylene
13.892	-0.003	277737	14.116	-0.003	326620	41.7	42.1	1.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	440692	-34.6
Hexabromobiphenyl	1429847	677092	-52.6 <-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	382197	21.2
Hexabromobiphenyl	513946	509071	-0.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.268	-0.001	59533	355.7	1	7.253	-0.001	76856	343.5
Aroclor-1016	2	7.650	-0.006	194937	382.0	2	7.852	-0.004	173477	382.4
Aroclor-1016	3	7.788	-0.004	82692	332.0	3	8.052	-0.005	72694	354.8
Aroclor-1016	4	8.402	-0.004	59645	370.4	4	8.305	-0.002	54606	339.7
Total Col1Ave (4 peaks):					360.0	Total Col2Ave (4 peaks):				355.1 RPD = 1
Corrected Ave (3 peaks):					352.7	Corrected Ave (3 peaks):				346.0 RPD = 2
Aroclor-1221	1	4.730	-0.001	299	7.6	1	4.957	0.001	381	10.5
Aroclor-1221	2	6.129	-0.003	6972	98.8	2	6.297	0.001	7807	114.0
Aroclor-1221	3	6.381	-0.001	37981	231.8	3	6.621	-0.001	34836	312.5
Total Col1Ave (3 peaks):					112.7	Total Col2Ave (3 peaks):				145.7 RPD = 26
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.730	-0.000	299	12.7	1	4.957	0.001	381	19.5
Aroclor-1232	2	6.129	-0.002	6972	148.9	2	7.253	-0.001	76856	790.9
Aroclor-1232	3	7.650	-0.005	194937	919.7	3	7.852	-0.008	173477	892.8
Aroclor-1232	4	8.576	-0.005	74863	831.0	4	8.712	-0.003	54493	974.5
Total Col1Ave (4 peaks):					478.1	Total Col2Ave (4 peaks):				669.4 RPD = 33
Corrected Ave (3 peaks):					330.9	Corrected Ave (3 peaks):				567.7 RPD = 53*
Aroclor-1242	1	7.268	-0.016	59533	435.9	1	7.253	-0.001	76856	432.8
Aroclor-1242	2	7.650	-0.017	194937	470.0	2	7.852	-0.008	173477	464.7
Aroclor-1242	3	8.402	-0.015	59645	462.2	3	9.156	-0.014	10238	88.1
Aroclor-1242	4	8.576	-0.016	74863	392.5	4	9.584	-0.013	3880	27.4
Total Col1Ave (4 peaks):					440.1	Total Col2Ave (4 peaks):				253.3 RPD = 54*
Corrected Ave (3 peaks):					430.2	Corrected Ave (3 peaks):				182.8 RPD = 81*
Aroclor-1248	1	8.402	-0.005	59645	277.4	1	8.305	-0.004	54606	299.2
Aroclor-1248	2	8.576	-0.007	74863	273.9	2	8.712	-0.004	54493	288.8
Aroclor-1248	3	8.991	-0.009	74521	144.5	3	9.156	-0.010	10238	47.2
Aroclor-1248	4	9.296	0.001	62845	239.4	4	9.584	-0.010	3880	14.9
Total Col1Ave (4 peaks):					233.8	Total Col2Ave (4 peaks):				162.5 RPD = 36
Corrected Ave (3 peaks):					219.3	Corrected Ave (3 peaks):				116.9 RPD = 61*
Aroclor-1254	1	9.296	-0.004	62845	142.0	1	9.447	-0.005	48302	166.3
Aroclor-1254	2	---			0.0	2	9.968	-0.003	10364	44.3
Aroclor-1254	3	9.664	-0.007	12169	42.8	3	10.143	0.018	104498	206.7
Aroclor-1254	4	9.802	-0.009	33732	61.0	4	10.368	-0.006	133248	270.3
Aroclor-1254	5	10.117	-0.060	160076	461.7	5	10.564	-0.006	177639	591.9
Total Col1Ave (4 peaks):					176.9	Total Col2Ave (5 peaks):				255.9 RPD = 37
Corrected Ave (3 peaks):					81.9	Corrected Ave (4 peaks):				171.9 RPD = 71*
Aroclor-1260	1	11.041	-0.005	125481	515.2	1	11.651	-0.002	131445	439.1
Aroclor-1260	2	11.358	-0.003	129438	508.6	2	11.915	-0.002	334240	437.5
Aroclor-1260	3	11.731	-0.005	330775	490.0	3	12.433	-0.003	93684	462.1
Aroclor-1260	4	12.134	-0.006	171688	505.1	4	12.499	-0.002	224730	436.4
Aroclor-1260	5	12.242	-0.002	70128	479.3	NS	---			----
Total Col1Ave (5 peaks):					499.7	Total Col2Ave (4 peaks):				443.8 RPD = 12
Corrected Ave (4 peaks):					495.8	Corrected Ave (3 peaks):				437.7 RPD = 12
Aroclor-1262	1	10.822	-0.007	250792	1207.4	1	11.197	-0.003	124830	287.2
Aroclor-1262	2	12.242	-0.001	70128	207.5	2	11.651	-0.001	131445	355.1
Aroclor-1262	3	12.316	-0.002	83712	230.4	3	12.433	-0.001	93684	223.0
Aroclor-1262	4	12.984	-0.003	78746	237.1	4	12.499	-0.003	224730	341.5
Total Col1Ave (4 peaks):					470.6	Total Col2Ave (4 peaks):				301.7 RPD = 44*
Corrected Ave (3 peaks):					225.0	Corrected Ave (3 peaks):				283.9 RPD = 23
Aroclor-1268	1	12.242	-0.004	70128	80.8	1	12.433	0.000	93684	91.4
Aroclor-1268	2	12.316	-0.000	83712	97.4	2	12.499	-0.001	224730	203.9
Aroclor-1268	3	12.721	0.022	37825	51.5	3	12.890	-0.002	6535	6.9
Aroclor-1268	4	13.486	-0.004	26249	10.8	4	13.706	-0.003	27475	9.1
Total Col1Ave (4 peaks):					60.1	Total Col2Ave (4 peaks):				77.8 RPD = 26

Corrected Ave (3 peaks): 47.7 Corrected Ave (3 peaks): 35.8 RPD = 28

Total PCB Area Col1 (5.908 - 13.795) = 3583023 Col1 Total PCB = 0.7 ppm*

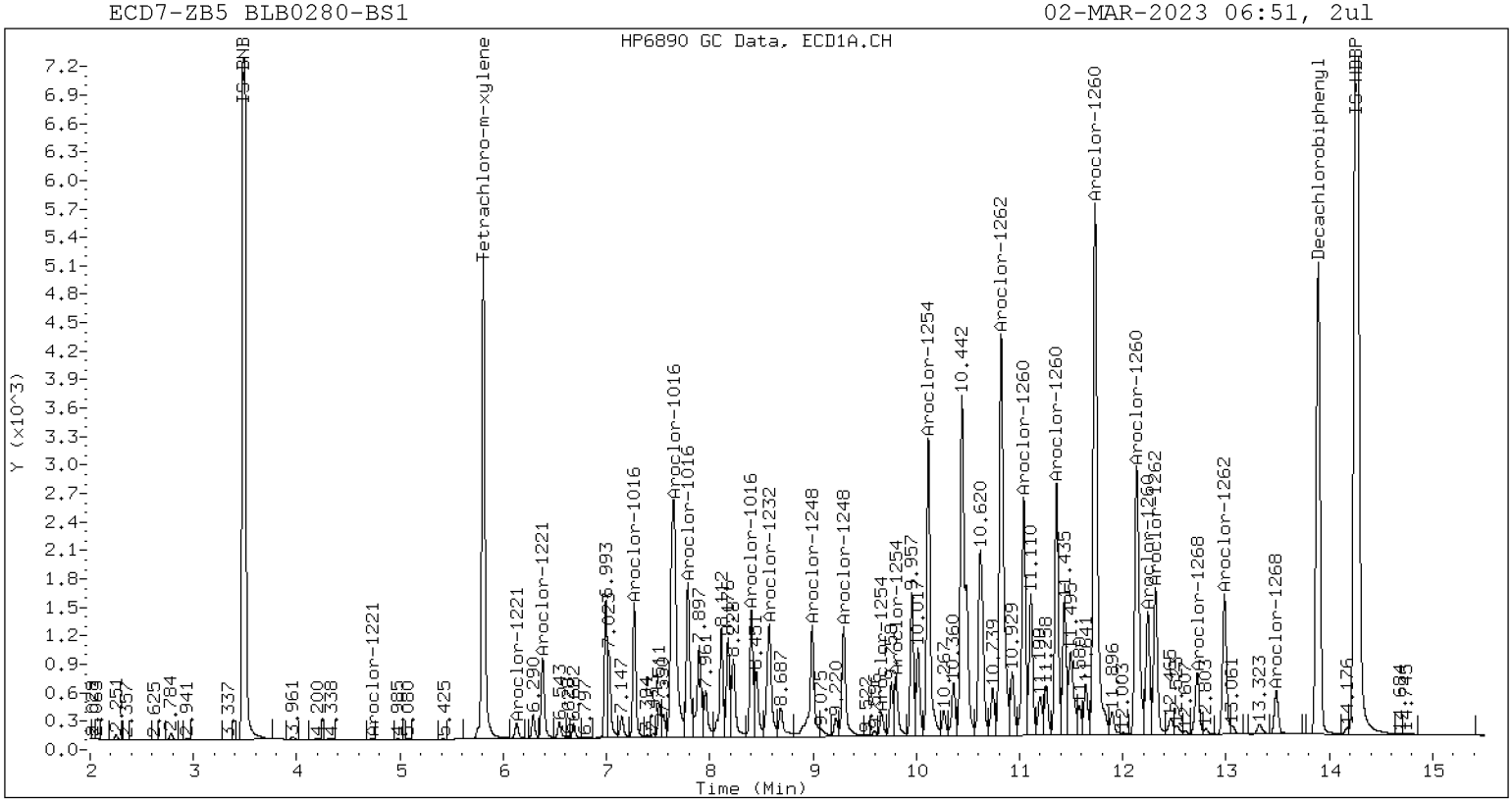
Total PCB Area Col2 (5.787 - 14.019) = 3215364 Col2 Total PCB = 0.7 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

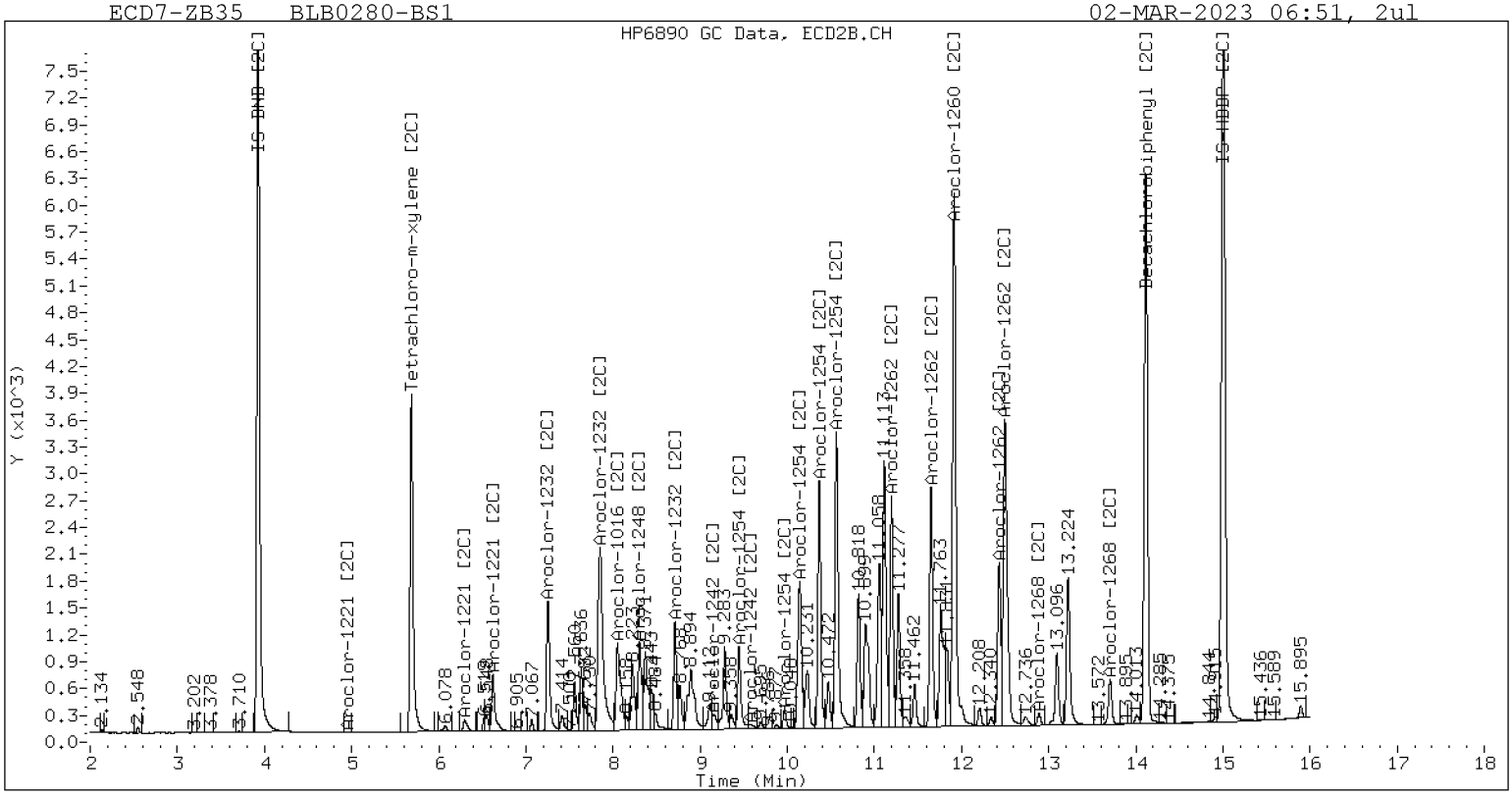
PCB Dual Column Chromatograms

ECD7-ZB5 BLB0280-BS1 02-MAR-2023 06:51, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 BLB0280-BS1 02-MAR-2023 06:51, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012359ECD7.D
Data file 2: /230301.b/230301.b/03012359ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BLB0280-BSD1
Client ID:
Injection Date: 02-MAR-2023 07:12
Report Date: 03/02/2023 13:00
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.807	-0.001	204778	5.687	0.000	166235	32.5	30.9	5.0	Tetrachloro-m-xylene
13.890	-0.005	260002	14.118	-0.001	302338	38.4	38.2	0.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	421733	-37.4
Hexabromobiphenyl	1429847	688381	-51.9 <-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	366246	16.2
Hexabromobiphenyl	513946	519364	1.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.268	-0.001	60655	378.7	1	7.253	-0.001	78352	365.5
Aroclor-1016	2	7.650	-0.006	198746	407.0	2	7.852	-0.005	177150	407.5
Aroclor-1016	3	7.788	-0.004	85172	357.3	3	8.051	-0.005	74282	378.3
Aroclor-1016	4	8.402	-0.005	61043	396.1	4	8.304	-0.002	56033	363.7
Total Col1Ave (4 peaks):					384.8	Total Col2Ave (4 peaks):				378.7 RPD = 2
Corrected Ave (3 peaks):					377.4	Corrected Ave (3 peaks):				369.2 RPD = 2
Aroclor-1221	1	4.733	0.002	324	8.6	1	4.958	0.002	361	10.4
Aroclor-1221	2	6.129	-0.002	8023	118.8	2	6.297	0.001	7672	116.9
Aroclor-1221	3	6.381	-0.001	39690	253.1	3	6.621	-0.001	34305	321.1
Total Col1Ave (3 peaks):					126.8	Total Col2Ave (3 peaks):				149.5 RPD = 16
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.733	0.003	324	14.3	1	4.958	0.002	361	19.3
Aroclor-1232	2	6.129	-0.001	8023	179.1	2	7.253	-0.001	78352	841.4
Aroclor-1232	3	7.650	-0.005	198746	979.8	3	7.852	-0.008	177150	951.4
Aroclor-1232	4	8.575	-0.006	76903	892.0	4	8.711	-0.004	55569	1037.0
Total Col1Ave (4 peaks):					516.3	Total Col2Ave (4 peaks):				712.3 RPD = 32
Corrected Ave (3 peaks):					361.8	Corrected Ave (3 peaks):				604.0 RPD = 50*
Aroclor-1242	1	7.268	-0.016	60655	464.1	1	7.253	-0.001	78352	460.5
Aroclor-1242	2	7.650	-0.016	198746	500.7	2	7.852	-0.008	177150	495.3
Aroclor-1242	3	8.402	-0.016	61043	494.3	3	9.157	-0.013	9907	89.0
Aroclor-1242	4	8.575	-0.017	76903	421.3	4	9.581	-0.016	4097	30.2
Total Col1Ave (4 peaks):					470.1	Total Col2Ave (4 peaks):				268.7 RPD = 55*
Corrected Ave (3 peaks):					459.9	Corrected Ave (3 peaks):				193.2 RPD = 82*
Aroclor-1248	1	8.402	-0.006	61043	296.7	1	8.304	-0.005	56033	320.4
Aroclor-1248	2	8.575	-0.008	76903	294.0	2	8.711	-0.005	55569	307.3
Aroclor-1248	3	8.991	-0.009	76529	155.1	3	9.157	-0.009	9907	47.6
Aroclor-1248	4	9.296	-0.000	64943	258.5	4	9.581	-0.013	4097	16.4
Total Col1Ave (4 peaks):					251.1	Total Col2Ave (4 peaks):				172.9 RPD = 37
Corrected Ave (3 peaks):					235.9	Corrected Ave (3 peaks):				123.8 RPD = 62*
Aroclor-1254	1	9.296	-0.005	64943	153.4	1	9.447	-0.005	49546	178.0
Aroclor-1254	2	---			0.0	2	9.966	-0.004	10798	48.2
Aroclor-1254	3	9.664	-0.007	12404	45.6	3	10.142	0.018	107456	221.8
Aroclor-1254	4	9.801	-0.010	34926	66.0	4	10.367	-0.007	137109	290.3
Aroclor-1254	5	10.116	-0.062	165467	498.7	5	10.564	-0.006	184551	641.7
Total Col1Ave (4 peaks):					190.9	Total Col2Ave (5 peaks):				276.0 RPD = 36
Corrected Ave (3 peaks):					88.3	Corrected Ave (4 peaks):				184.6 RPD = 71*
Aroclor-1260	1	11.041	-0.005	130423	526.7	1	11.650	-0.003	138378	453.1
Aroclor-1260	2	11.358	-0.004	136235	526.5	2	11.915	-0.002	352667	452.5
Aroclor-1260	3	11.730	-0.007	347615	506.5	3	12.434	-0.002	97122	469.6
Aroclor-1260	4	12.134	-0.006	179972	520.8	4	12.499	-0.002	234106	445.6
Aroclor-1260	5	12.241	-0.003	73217	492.2	NS	---			----
Total Col1Ave (5 peaks):					514.6	Total Col2Ave (4 peaks):				455.2 RPD = 12
Corrected Ave (4 peaks):					511.5	Corrected Ave (3 peaks):				450.4 RPD = 13
Aroclor-1262	1	10.822	-0.007	260546	1233.8	1	11.197	-0.003	131029	295.5
Aroclor-1262	2	12.241	-0.003	73217	213.1	2	11.650	-0.002	138378	366.4
Aroclor-1262	3	12.316	-0.002	88068	238.4	3	12.434	-0.000	97122	226.6
Aroclor-1262	4	12.984	-0.003	83406	247.1	4	12.499	-0.003	234106	348.7
Total Col1Ave (4 peaks):					483.1	Total Col2Ave (4 peaks):				309.3 RPD = 44*
Corrected Ave (3 peaks):					232.8	Corrected Ave (3 peaks):				290.3 RPD = 22
Aroclor-1268	1	12.241	-0.005	73217	83.0	1	12.434	0.002	97122	92.9
Aroclor-1268	2	12.316	-0.001	88068	100.8	2	12.499	-0.001	234106	208.2
Aroclor-1268	3	12.721	0.021	40044	53.6	3	12.890	-0.001	6636	6.9
Aroclor-1268	4	13.485	-0.005	27579	11.2	4	13.707	-0.002	29223	9.5
Total Col1Ave (4 peaks):					62.2	Total Col2Ave (4 peaks):				79.4 RPD = 24

Corrected Ave (3 peaks): 49.3 Corrected Ave (3 peaks): 36.4 RPD = 30

Total PCB Area Col1 (5.908 - 13.795) = 3715001 Col1 Total PCB = 0.7 ppm*

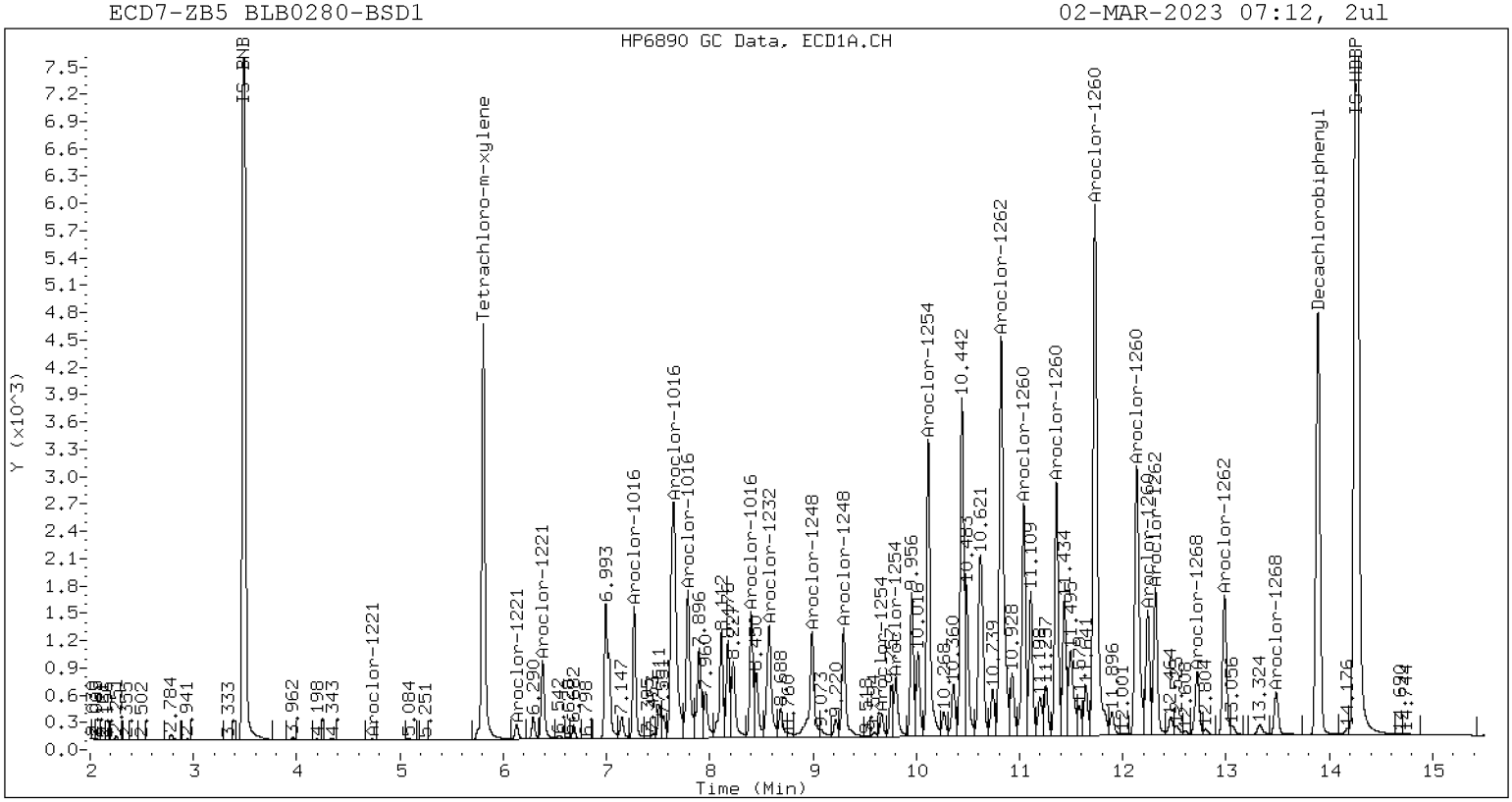
Total PCB Area Col2 (5.787 - 14.019) = 3332328 Col2 Total PCB = 0.8 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

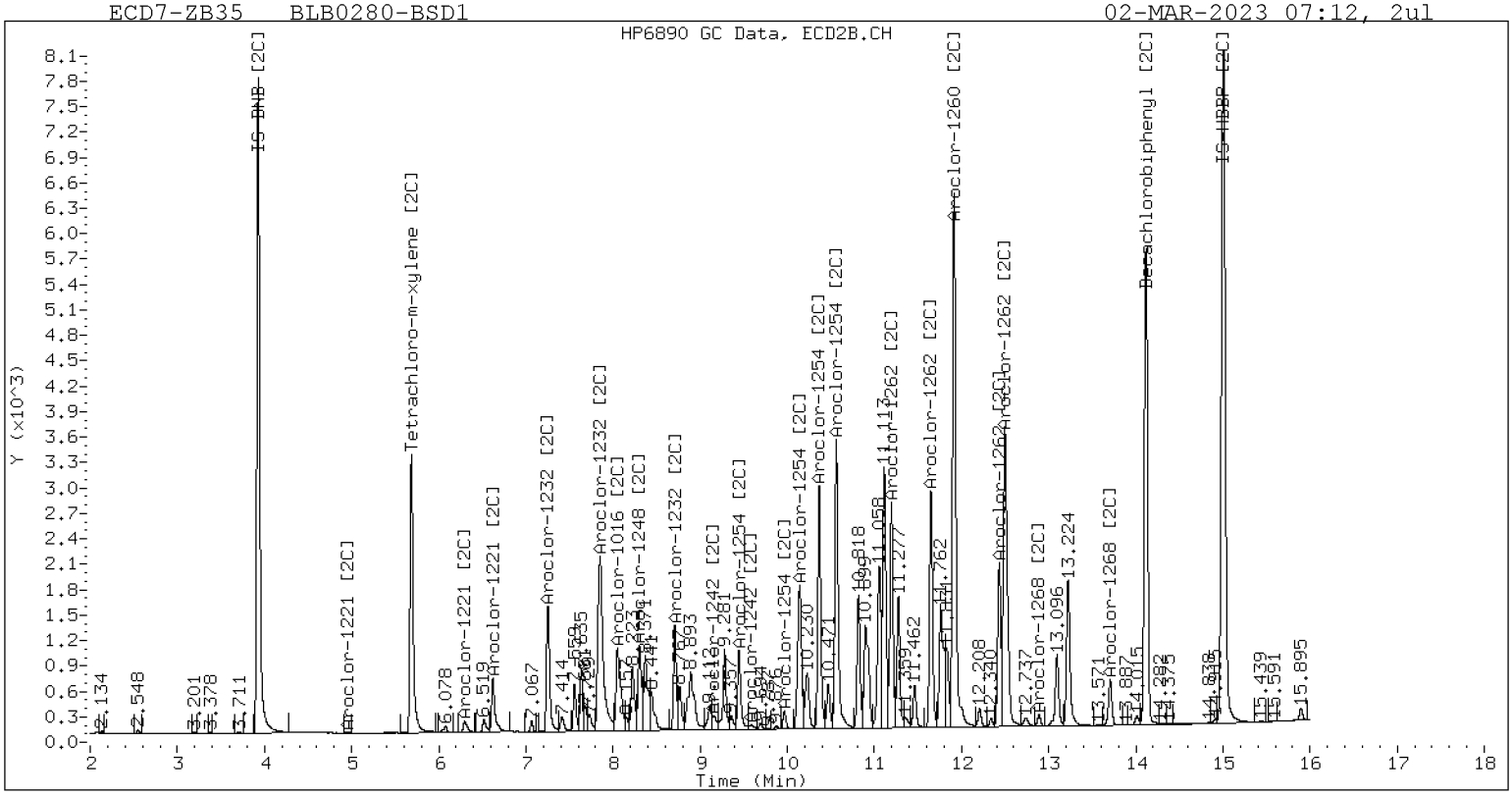
PCB Dual Column Chromatograms

ECD7-ZB5 BLB0280-BSD1 02-MAR-2023 07:12, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 BLB0280-BSD1 02-MAR-2023 07:12, 2ul



ZB-35 Manual Integration: NO

MS / MS DUPLICATE RECOVERY
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	03/02/23 12:49
Batch:	BLB0280	Laboratory ID:	BLB0280-MS1
Preparation:	EPA 3546 (Microwave)	Sequence Name:	Matrix Spike
Initial/Final:	15.71 g / 2.5 mL	Source Sample:	LDW23-IT1275

COMPOUND	SPIKE ADDED (ug/kg dry)	SAMPLE CONCENTRATION (ug/kg dry)	Q	MS CONCENTRATION (ug/kg dry)	Q	MS % REC. #	QC LIMITS REC.
Aroclor 1016	101	ND	U	75.3		74.6	56 - 120
Aroclor 1260 [2C]	101	14.6		98.6		83.3	58 - 120

* Values outside of QC limits

[2C] indicates second-column analyte, present if quantification on any batch samples used second column data.

MS / MS DUPLICATE RECOVERY
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	03/02/23 13:10
Batch:	BLB0280	Laboratory ID:	BLB0280-MSD1
Preparation:	EPA 3546 (Microwave)	Sequence Name:	Matrix Spike Dup
Initial/Final:	15.71 g / 2.5 mL	Source Sample:	LDW23-IT1275

COMPOUND	SPIKE ADDED (ug/kg dry)	MSD CONCENTRATION (ug/kg dry)	Q	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Aroclor 1016	101	72.5		71.8	3.86	30	56 - 120
Aroclor 1260 [2C]	101	90.8		75.6	8.25	30	58 - 120

* Values outside of QC limits

[2C] indicates second-column analyte, present if quantification on any batch samples used second column data.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012375ECD7.D
Data file 2: /230301.b/230301.b/03012375ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BLB0280-MS1
Client ID:
Injection Date: 02-MAR-2023 12:49
Report Date: 03/02/2023 13:45
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.807	0.000	203325	5.686	-0.001	166823	31.4	30.6	2.7	Tetrachloro-m-xylene
13.889	-0.004	237803	14.116	-0.003	260240	42.0	37.1	12.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	433722	-35.6
Hexabromobiphenyl	1429847	574384	-59.8 <-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	372147	18.0
Hexabromobiphenyl	513946	460326	-10.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.268	-0.001	61651	374.2	1	7.253	-0.001	79308	364.0
Aroclor-1016	2	7.649	-0.005	203009	404.2	2	7.851	-0.005	179147	405.5
Aroclor-1016	3	7.787	-0.004	84668	345.4	3	8.051	-0.006	73831	370.0
Aroclor-1016	4	8.401	-0.003	60753	383.4	4	8.304	-0.002	54688	349.4
Total Col1Ave (4 peaks):					376.8	Total Col2Ave (4 peaks):				372.2 RPD = 1
Corrected Ave (3 peaks):					367.7	Corrected Ave (3 peaks):				361.1 RPD = 2
Aroclor-1221	1	4.732	0.001	311	8.0	1	4.954	-0.003	697	19.8
Aroclor-1221	2	6.130	-0.002	7384	106.3	2	6.297	0.001	8157	122.3
Aroclor-1221	3	6.381	-0.001	39296	243.6	3	6.621	-0.001	35324	325.4
Total Col1Ave (3 peaks):					119.3	Total Col2Ave (3 peaks):				155.9 RPD = 27
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.732	0.002	311	13.4	1	4.954	-0.003	697	36.6
Aroclor-1232	2	6.130	-0.001	7384	160.2	2	7.253	-0.001	79308	838.2
Aroclor-1232	3	7.649	-0.006	203009	973.2	3	7.851	-0.009	179147	946.9
Aroclor-1232	4	8.573	-0.008	75573	852.4	4	8.711	-0.004	55365	1016.8
Total Col1Ave (4 peaks):					499.8	Total Col2Ave (4 peaks):				709.6 RPD = 35
Corrected Ave (3 peaks):					342.0	Corrected Ave (3 peaks):				607.2 RPD = 56*
Aroclor-1242	1	7.268	-0.002	61651	458.7	1	7.253	-0.001	79308	458.7
Aroclor-1242	2	7.649	-0.008	203009	497.3	2	7.851	-0.009	179147	492.9
Aroclor-1242	3	8.401	-0.004	60753	478.4	3	9.153	-0.017	10343	91.5
Aroclor-1242	4	8.573	-0.007	75573	402.5	4	9.579	-0.019	5939	43.1
Total Col1Ave (4 peaks):					459.2	Total Col2Ave (4 peaks):				271.5 RPD = 51*
Corrected Ave (3 peaks):					446.5	Corrected Ave (3 peaks):				197.7 RPD = 77*
Aroclor-1248	1	8.401	-0.006	60753	287.1	1	8.304	-0.005	54688	307.8
Aroclor-1248	2	8.573	-0.008	75573	281.0	2	8.711	-0.005	55365	301.4
Aroclor-1248	3	8.990	-0.008	57927	114.1	3	9.153	-0.013	10343	48.9
Aroclor-1248	4	9.295	-0.000	62907	243.5	4	9.579	-0.015	5939	23.4
Total Col1Ave (4 peaks):					231.4	Total Col2Ave (4 peaks):				170.4 RPD = 30
Corrected Ave (3 peaks):					212.9	Corrected Ave (3 peaks):				124.6 RPD = 52*
Aroclor-1254	1	9.295	-0.004	62907	144.4	1	9.445	-0.006	47824	169.1
Aroclor-1254	2	---			0.0	2	9.965	-0.005	10758	47.3
Aroclor-1254	3	9.662	-0.007	12648	45.2	3	10.141	0.016	105871	215.0
Aroclor-1254	4	9.798	-0.010	35333	64.9	4	10.367	-0.007	134914	281.1
Aroclor-1254	5	10.115	-0.063	157890	462.7	5	10.562	-0.008	177856	608.6
Total Col1Ave (4 peaks):					179.3	Total Col2Ave (5 peaks):				264.2 RPD = 38
Corrected Ave (3 peaks):					84.8	Corrected Ave (4 peaks):				178.1 RPD = 71*
Aroclor-1260	1	11.040	-0.005	117282	567.6	1	11.650	-0.003	133074	491.6
Aroclor-1260	2	11.356	-0.004	121932	564.8	2	11.913	-0.004	321449	465.3
Aroclor-1260	3	11.728	-0.006	319930	558.7	3	12.432	-0.004	100123	546.2
Aroclor-1260	4	12.130	-0.008	167081	579.5	4	12.496	-0.005	218498	469.2
Aroclor-1260	5	12.240	-0.002	66919	539.2	NS	---			----
Total Col1Ave (5 peaks):					562.0	Total Col2Ave (4 peaks):				493.1 RPD = 13
Corrected Ave (4 peaks):					557.6	Corrected Ave (3 peaks):				475.4 RPD = 16
Aroclor-1262	1	10.818	-0.011	240452	1364.6	1	11.196	-0.005	123287	313.7
Aroclor-1262	2	12.240	-0.004	66919	233.4	2	11.650	-0.002	133074	397.5
Aroclor-1262	3	12.314	-0.004	79534	258.0	3	12.432	-0.002	100123	263.6
Aroclor-1262	4	12.981	-0.006	74271	263.7	4	12.496	-0.006	218498	367.2
Total Col1Ave (4 peaks):					529.9	Total Col2Ave (4 peaks):				335.5 RPD = 45*
Corrected Ave (3 peaks):					251.7	Corrected Ave (3 peaks):				314.8 RPD = 22
Aroclor-1268	1	12.240	-0.006	66919	90.9	1	12.432	-0.000	100123	108.0
Aroclor-1268	2	12.314	-0.003	79534	109.1	2	12.496	-0.005	218498	219.3
Aroclor-1268	3	12.717	0.017	36407	58.4	3	12.888	-0.004	7739	9.1
Aroclor-1268	4	13.484	-0.006	22243	10.8	4	13.704	-0.005	29027	10.7
Total Col1Ave (4 peaks):					67.3	Total Col2Ave (4 peaks):				86.8 RPD = 25

Corrected Ave (3 peaks): 53.4 Corrected Ave (3 peaks): 42.6 RPD = 22

Total PCB Area Col1 (5.907 - 13.792) = 3537101 Col1 Total PCB = 0.7 ppm*

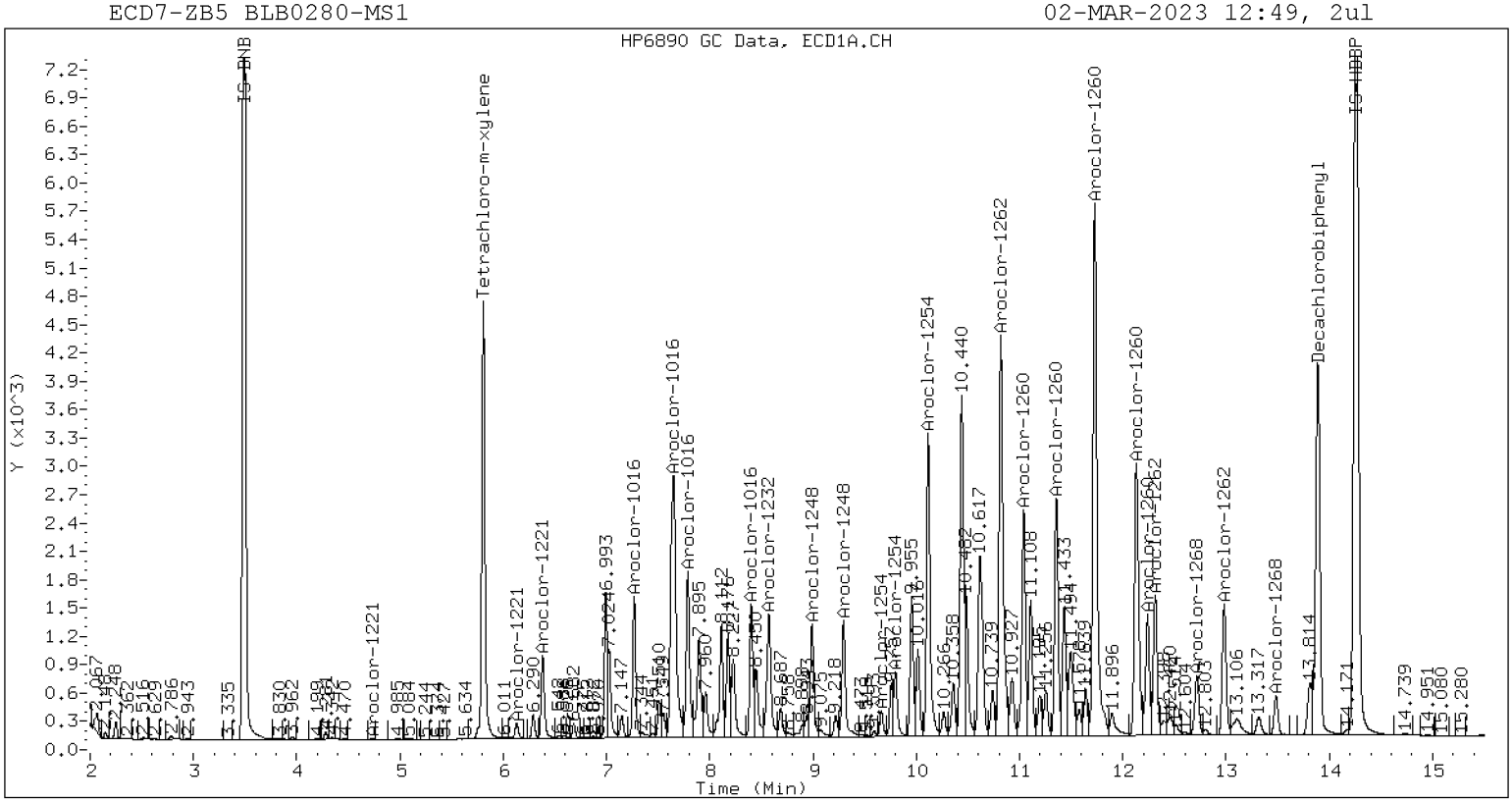
Total PCB Area Col2 (5.787 - 14.019) = 3255766 Col2 Total PCB = 0.7 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

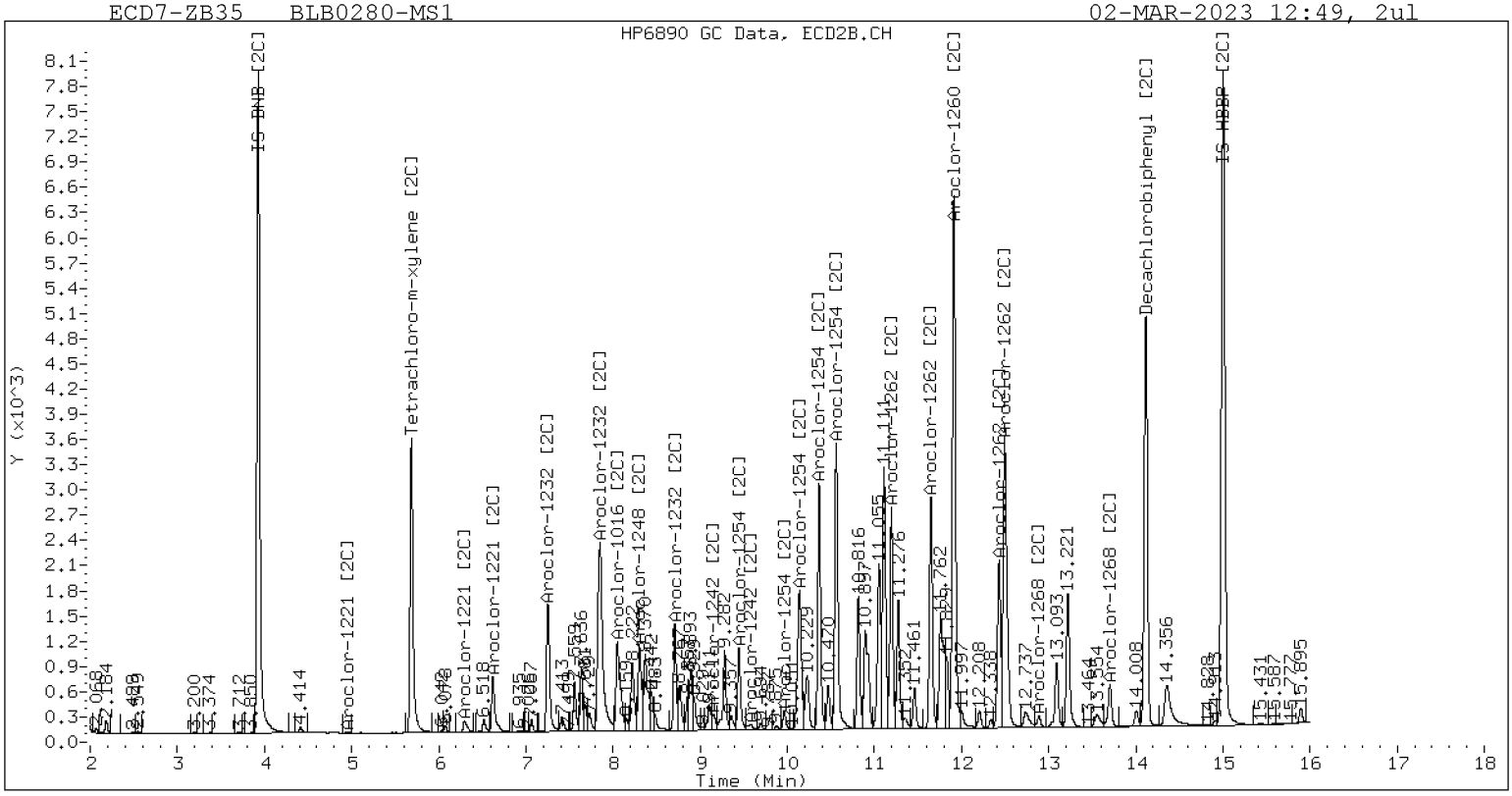
PCB Dual Column Chromatograms

ECD7-ZB5 BLB0280-MS1 02-MAR-2023 12:49, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 BLB0280-MS1 02-MAR-2023 12:49, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012376ECD7.D
Data file 2: /230301.b/230301.b/03012376ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BLB0280-MSD1
Client ID:
Injection Date: 02-MAR-2023 13:10
Report Date: 03/02/2023 13:45
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.807	-0.000	203246	5.686	-0.001	166237	30.3	29.3	3.3	Tetrachloro-m-xylene
13.889	-0.003	256939	14.116	-0.003	266584	41.8	35.8	15.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	449316	-33.3
Hexabromobiphenyl	1429847	624617	-56.3 <-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	386470	22.6
Hexabromobiphenyl	513946	488857	-4.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.268	-0.001	62935	368.8	1	7.253	-0.001	77294	341.7
Aroclor-1016	2	7.649	-0.005	201325	387.0	2	7.851	-0.006	175902	383.4
Aroclor-1016	3	7.787	-0.004	83954	330.6	3	8.051	-0.006	72063	347.8
Aroclor-1016	4	8.402	-0.003	59717	363.7	4	8.304	-0.003	53661	330.1
Total Col1Ave (4 peaks):					362.5	Total Col2Ave (4 peaks):				350.7 RPD = 3
Corrected Ave (3 peaks):					354.4	Corrected Ave (3 peaks):				339.8 RPD = 4
Aroclor-1221	1	4.729	-0.001	312	7.8	1	4.950	-0.006	642	17.5
Aroclor-1221	2	6.130	-0.002	7246	100.7	2	6.297	0.001	9369	135.3
Aroclor-1221	3	6.381	-0.001	38044	227.7	3	6.621	-0.000	35399	314.0
Total Col1Ave (3 peaks):					112.0	Total Col2Ave (3 peaks):				155.6 RPD = 33
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.729	-0.001	312	13.0	1	4.950	-0.006	642	32.5
Aroclor-1232	2	6.130	-0.001	7246	151.8	2	7.253	-0.001	77294	786.6
Aroclor-1232	3	7.649	-0.007	201325	931.6	3	7.851	-0.010	175902	895.3
Aroclor-1232	4	8.574	-0.007	74803	814.4	4	8.710	-0.005	54109	956.9
Total Col1Ave (4 peaks):					477.7	Total Col2Ave (4 peaks):				667.8 RPD = 33
Corrected Ave (3 peaks):					326.4	Corrected Ave (3 peaks):				571.5 RPD = 55*
Aroclor-1242	1	7.268	-0.002	62935	452.0	1	7.253	-0.002	77294	430.5
Aroclor-1242	2	7.649	-0.008	201325	476.1	2	7.851	-0.009	175902	466.0
Aroclor-1242	3	8.402	-0.004	59717	453.9	3	9.153	-0.017	9818	83.6
Aroclor-1242	4	8.574	-0.006	74803	384.6	4	9.578	-0.019	4476	31.3
Total Col1Ave (4 peaks):					441.6	Total Col2Ave (4 peaks):				252.8 RPD = 54*
Corrected Ave (3 peaks):					430.2	Corrected Ave (3 peaks):				181.8 RPD = 81*
Aroclor-1248	1	8.402	-0.006	59717	272.4	1	8.304	-0.005	53661	290.8
Aroclor-1248	2	8.574	-0.007	74803	268.4	2	8.710	-0.006	54109	283.6
Aroclor-1248	3	8.990	-0.008	58373	111.0	3	9.153	-0.013	9818	44.7
Aroclor-1248	4	9.294	-0.001	62752	234.5	4	9.578	-0.016	4476	17.0
Total Col1Ave (4 peaks):					221.6	Total Col2Ave (4 peaks):				159.0 RPD = 33
Corrected Ave (3 peaks):					204.6	Corrected Ave (3 peaks):				115.1 RPD = 56*
Aroclor-1254	1	9.294	-0.005	62752	139.1	1	9.445	-0.007	46592	158.6
Aroclor-1254	2	---			0.0	2	9.965	-0.006	10399	44.0
Aroclor-1254	3	9.661	-0.008	13123	45.2	3	10.141	0.016	104096	203.6
Aroclor-1254	4	9.797	-0.011	35912	63.7	4	10.366	-0.008	132890	266.6
Aroclor-1254	5	10.115	-0.063	158356	448.0	5	10.562	-0.008	174840	576.1
Total Col1Ave (4 peaks):					174.0	Total Col2Ave (5 peaks):				249.8 RPD = 36
Corrected Ave (3 peaks):					82.7	Corrected Ave (4 peaks):				168.2 RPD = 68*
Aroclor-1260	1	11.039	-0.005	118734	528.4	1	11.649	-0.004	129911	451.9
Aroclor-1260	2	11.355	-0.005	120620	513.8	2	11.912	-0.005	316310	431.2
Aroclor-1260	3	11.727	-0.007	312431	501.8	3	12.431	-0.005	96526	495.8
Aroclor-1260	4	12.131	-0.007	164715	525.3	4	12.496	-0.005	216217	437.2
Aroclor-1260	5	12.239	-0.003	66738	494.5	NS	---			----
Total Col1Ave (5 peaks):					512.7	Total Col2Ave (4 peaks):				454.0 RPD = 12
Corrected Ave (4 peaks):					508.8	Corrected Ave (3 peaks):				440.1 RPD = 14
Aroclor-1262	1	10.818	-0.011	239589	1250.4	1	11.195	-0.005	120867	289.6
Aroclor-1262	2	12.239	-0.004	66738	214.0	2	11.649	-0.003	129911	365.4
Aroclor-1262	3	12.313	-0.005	79224	236.4	3	12.431	-0.003	96526	239.3
Aroclor-1262	4	12.981	-0.006	76123	248.5	4	12.496	-0.006	216217	342.2
Total Col1Ave (4 peaks):					487.3	Total Col2Ave (4 peaks):				309.1 RPD = 45*
Corrected Ave (3 peaks):					233.0	Corrected Ave (3 peaks):				290.3 RPD = 22
Aroclor-1268	1	12.239	-0.007	66738	83.4	1	12.431	-0.001	96526	98.1
Aroclor-1268	2	12.313	-0.004	79224	100.0	2	12.496	-0.004	216217	204.3
Aroclor-1268	3	12.717	0.017	38693	57.1	3	12.888	-0.004	8255	9.1
Aroclor-1268	4	13.483	-0.007	25591	11.5	4	13.703	-0.006	28967	10.0
Total Col1Ave (4 peaks):					63.0	Total Col2Ave (4 peaks):				80.4 RPD = 24

Corrected Ave (3 peaks): 50.6 Corrected Ave (3 peaks): 39.1 RPD = 26

Total PCB Area Col1 (5.907 - 13.792) = 3568127 Col1 Total PCB = 0.7 ppm*

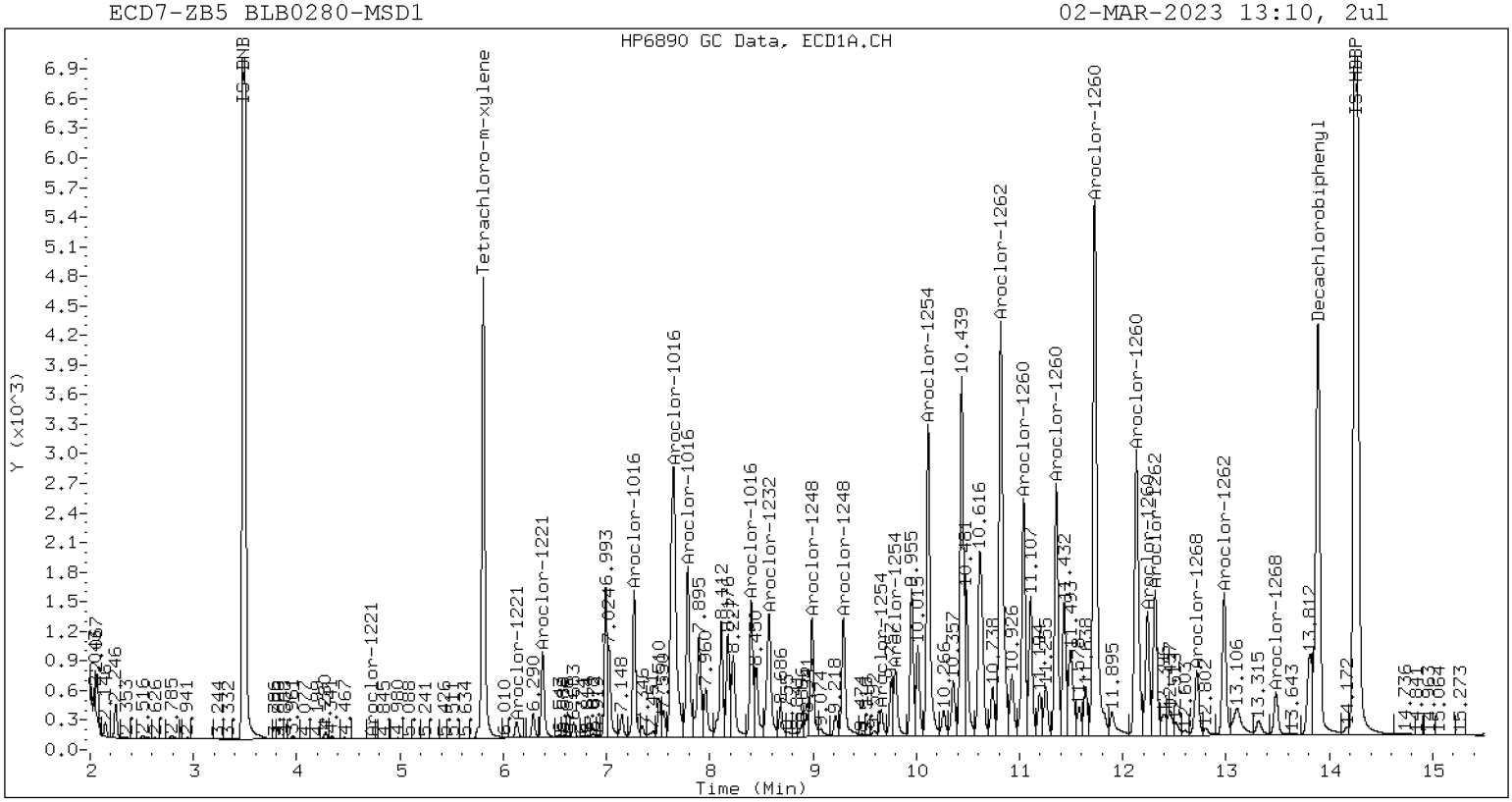
Total PCB Area Col2 (5.787 - 14.019) = 3213770 Col2 Total PCB = 0.7 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

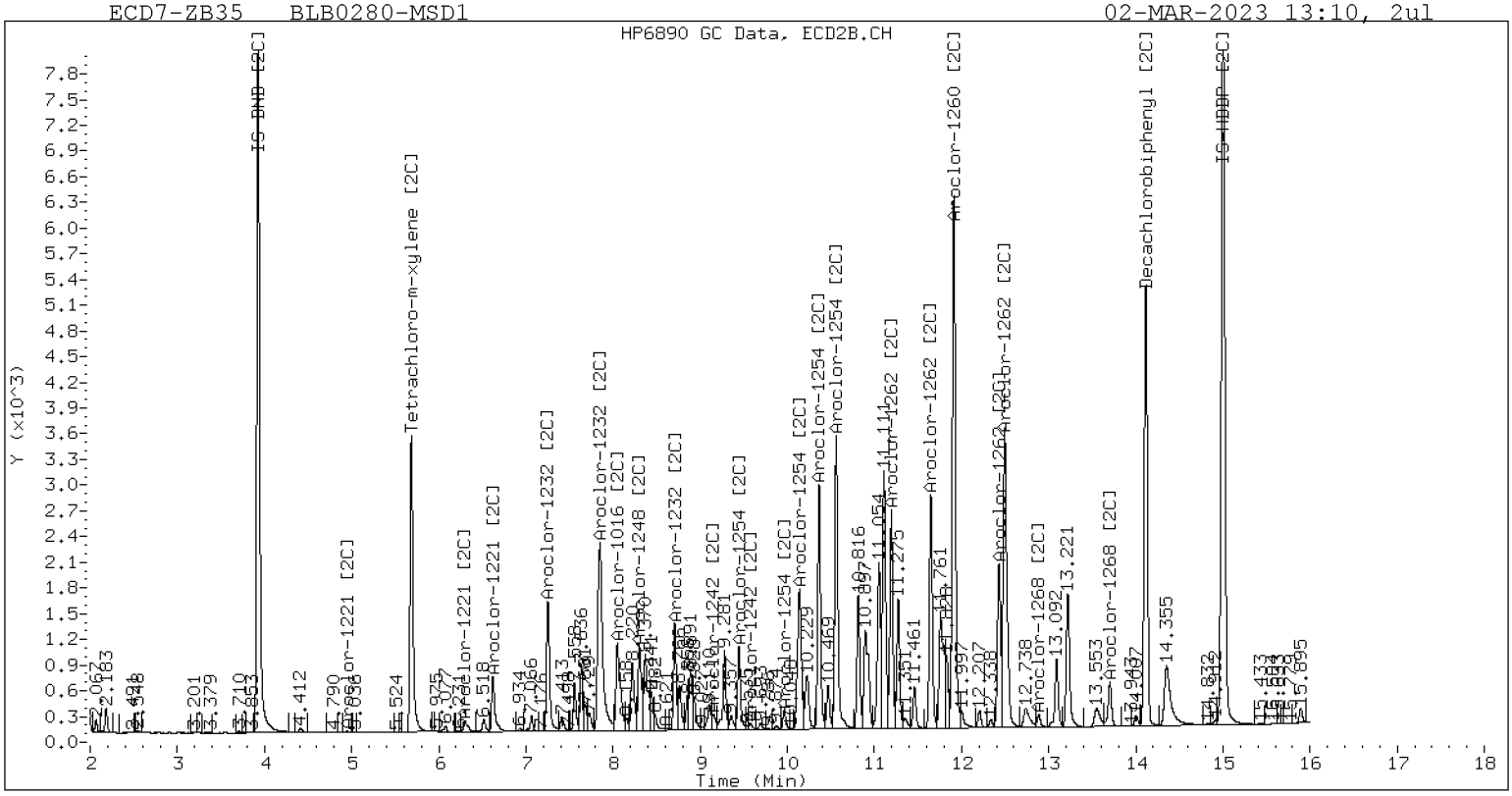
PCB Dual Column Chromatograms

ECD7-ZB5 BLB0280-MSD1 02-MAR-2023 13:10, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 BLB0280-MSD1 02-MAR-2023 13:10, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, LLC
Analytical Chemists and Consultants

STANDARD REFERENCE MATERIAL RECOVERY

EPA 8082A

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Laboratory ID: BLB0280-SRM1
Batch: BLB0280
Initial/Final: 2.5 g / 2.5 mL
Preparation: EPA 3546 (Microwave)
Analyzed: 03/02/2023 7:33
Standard ID: K010817
Expires: 05/17/2023
Standard Lot#: PSRM0166
Description: Puget Sound reference-SRM

ANALYTE	TRUE (ug/kg wet)	FOUND (ug/kg wet)	MDL	MRL	Q	SRM % REC.	QC LIMITS REC.
Aroclor 1260	108.00	150	2.9	20.0		139	38 - 167
Aroclor 1260 [2C]	108.00	138	2.9	20.0		128	38 - 167

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012360ECD7.D
Data file 2: /230301.b/230301.b/03012360ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BLB0280-SRM1
Client ID:
Injection Date: 02-MAR-2023 07:33
Report Date: 03/02/2023 13:00
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.806	-0.002	217379	5.685	-0.002	180214	34.3	34.7	1.2	Tetrachloro-m-xylene
13.888	-0.007	233340	14.114	-0.005	275077	40.2	37.7	6.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	424623	-37.0
Hexabromobiphenyl	1429847	588788	-58.8 <-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	354041	12.3
Hexabromobiphenyl	513946	479640	-6.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.237	-0.033	12909	80.0	1	7.264	0.010	12568	60.6
Aroclor-1016	2	7.649	-0.008	6655	13.5	2	7.848	-0.008	7199	17.1
Aroclor-1016	3	7.800	0.008	3728	15.5	3	8.048	-0.008	2363	12.4
Aroclor-1016	4	8.400	-0.006	5573	35.9	4	8.302	-0.005	7896	53.0
Total Col1Ave (4 peaks):					36.3	Total Col2Ave (4 peaks):				35.8 RPD = 1
Corrected Ave (3 peaks):					21.7	Corrected Ave (3 peaks):				27.5 RPD = 24
Aroclor-1221	1	4.785	0.054	302	7.9	1	4.944	-0.013	1709	51.0
Aroclor-1221	2	6.157	0.025	434	6.4	2	6.346	0.050	20366	321.1
Aroclor-1221	3	6.394	0.012	1442	9.1	3	6.637	0.015	6729	65.2
Total Col1Ave (3 peaks):					7.8	Total Col2Ave (3 peaks):				145.7 RPD = 180*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.785	0.055	302	13.3	1	4.944	-0.013	1709	94.3
Aroclor-1232	2	6.157	0.026	434	9.6	2	7.264	0.010	12568	139.6
Aroclor-1232	3	7.649	-0.007	6655	32.6	3	7.848	-0.012	7199	40.0
Aroclor-1232	4	8.571	-0.010	4760	54.8	4	8.708	-0.007	6120	118.1
Total Col1Ave (4 peaks):					27.6	Total Col2Ave (4 peaks):				98.0 RPD = 112*
Corrected Ave (3 peaks):					18.5	Corrected Ave (3 peaks):				84.2 RPD = 128*
Aroclor-1242	1	7.237	-0.047	12909	98.1	1	7.264	0.010	12568	76.4
Aroclor-1242	2	7.649	-0.018	6655	16.7	2	7.848	-0.012	7199	20.8
Aroclor-1242	3	8.400	-0.017	5573	44.8	3	9.148	-0.022	7503	69.7
Aroclor-1242	4	8.571	-0.020	4760	25.9	4	9.536	-0.062	13329	101.7
Total Col1Ave (4 peaks):					46.4	Total Col2Ave (4 peaks):				67.2 RPD = 37
Corrected Ave (3 peaks):					29.1	Corrected Ave (3 peaks):				55.7 RPD = 63*
Aroclor-1248	1	8.400	-0.007	5573	26.9	1	8.302	-0.007	7896	46.7
Aroclor-1248	2	8.571	-0.011	4760	18.1	2	8.708	-0.007	6120	35.0
Aroclor-1248	3	8.988	-0.012	19633	39.5	3	9.148	-0.018	7503	37.3
Aroclor-1248	4	9.290	-0.006	25998	102.8	4	9.536	-0.058	13329	55.2
Total Col1Ave (4 peaks):					46.8	Total Col2Ave (4 peaks):				43.6 RPD = 7
Corrected Ave (3 peaks):					28.2	Corrected Ave (3 peaks):				39.7 RPD = 34
Aroclor-1254	1	9.290	-0.011	25998	61.0	1	9.442	-0.010	21135	78.5
Aroclor-1254	2	9.367	-0.013	9415	49.1	2	9.960	-0.010	10631	49.1
Aroclor-1254	3	9.660	-0.011	15250	55.6	3	10.114	-0.011	42838	91.5
Aroclor-1254	4	9.792	-0.019	34977	65.6	4	10.362	-0.013	53084	116.3
Aroclor-1254	5	10.112	-0.066	56577	169.4	5	10.558	-0.012	53547	192.6
Total Col1Ave (5 peaks):					80.1	Total Col2Ave (5 peaks):				105.6 RPD = 27
Corrected Ave (4 peaks):					57.8	Corrected Ave (4 peaks):				83.8 RPD = 37
Aroclor-1260	1	11.036	-0.010	33939	160.2	1	11.646	-0.007	40530	143.7
Aroclor-1260	2	11.350	-0.012	28918	130.7	2	11.908	-0.009	90362	125.5
Aroclor-1260	3	11.723	-0.013	94038	160.2	3	12.426	-0.010	30738	160.9
Aroclor-1260	4	12.125	-0.016	46766	158.2	4	12.492	-0.009	59619	122.9
Aroclor-1260	5	12.237	-0.007	17861	140.4	NS	---			----
Total Col1Ave (5 peaks):					149.9	Total Col2Ave (4 peaks):				138.3 RPD = 8
Corrected Ave (4 peaks):					147.4	Corrected Ave (3 peaks):				130.7 RPD = 12
Aroclor-1262	1	10.813	-0.016	77167	427.2	1	11.192	-0.008	34583	84.4
Aroclor-1262	2	12.237	-0.007	17861	60.8	2	11.646	-0.006	40530	116.2
Aroclor-1262	3	12.310	-0.008	22143	70.1	3	12.426	-0.008	30738	77.7
Aroclor-1262	4	12.977	-0.010	22817	79.0	4	12.492	-0.010	59619	96.2
Total Col1Ave (4 peaks):					159.3	Total Col2Ave (4 peaks):				93.6 RPD = 52*
Corrected Ave (3 peaks):					70.0	Corrected Ave (3 peaks):				86.1 RPD = 21
Aroclor-1268	1	12.237	-0.009	17861	23.7	1	12.426	-0.007	30738	31.8
Aroclor-1268	2	12.310	-0.007	22143	29.6	2	12.492	-0.008	59619	57.4
Aroclor-1268	3	12.715	0.015	10461	16.4	3	12.887	-0.005	1929	2.2
Aroclor-1268	4	13.482	-0.008	5687	2.7	4	13.701	-0.008	8820	3.1
Total Col1Ave (4 peaks):					18.1	Total Col2Ave (4 peaks):				23.6 RPD = 27

Corrected Ave (3 peaks): 14.2 Corrected Ave (3 peaks): 12.4 RPD = 14

Total PCB Area Col1 (5.908 - 13.795) = 1030499 Col1 Total PCB = 0.2 ppm*

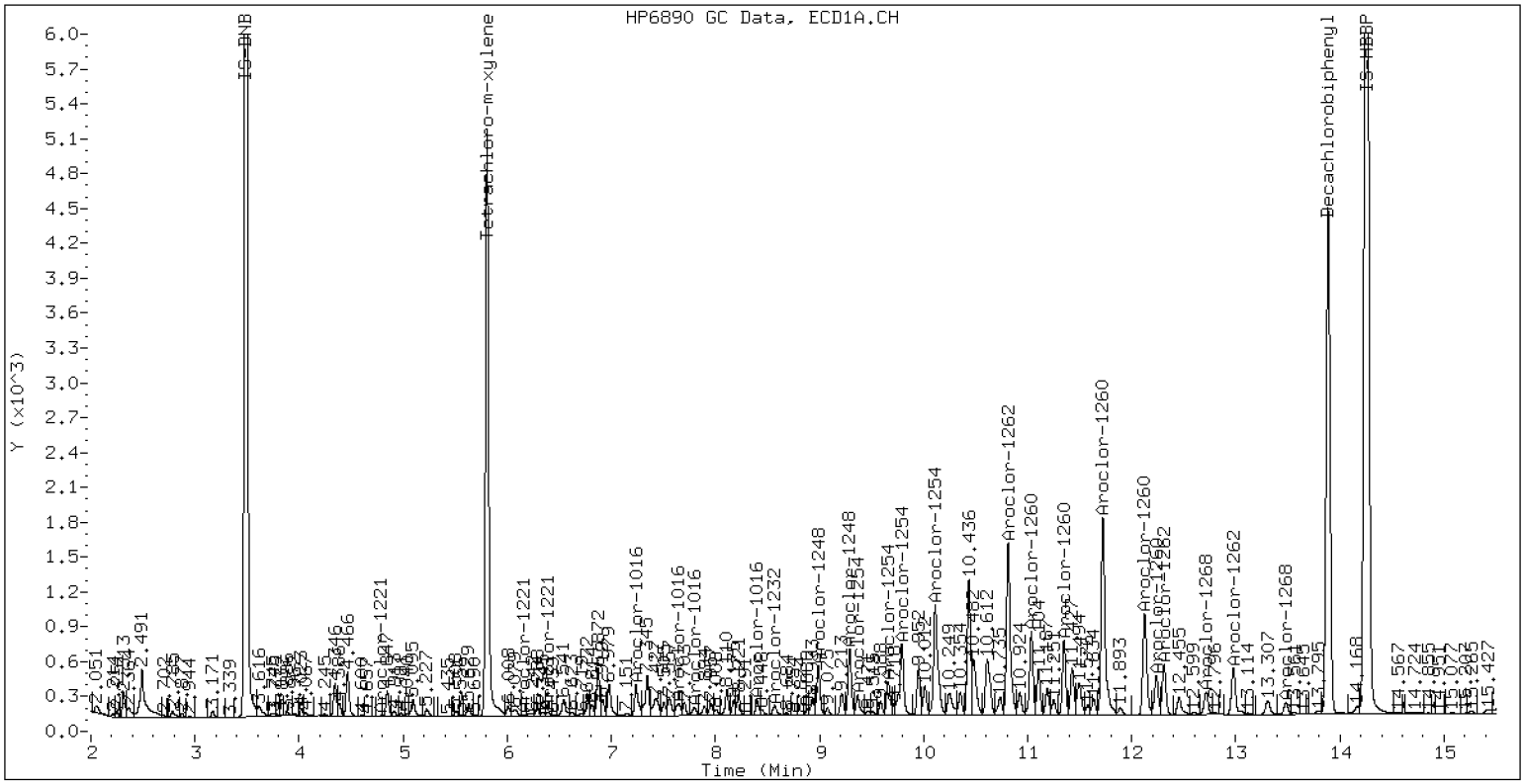
Total PCB Area Col2 (5.787 - 14.019) = 1042644 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

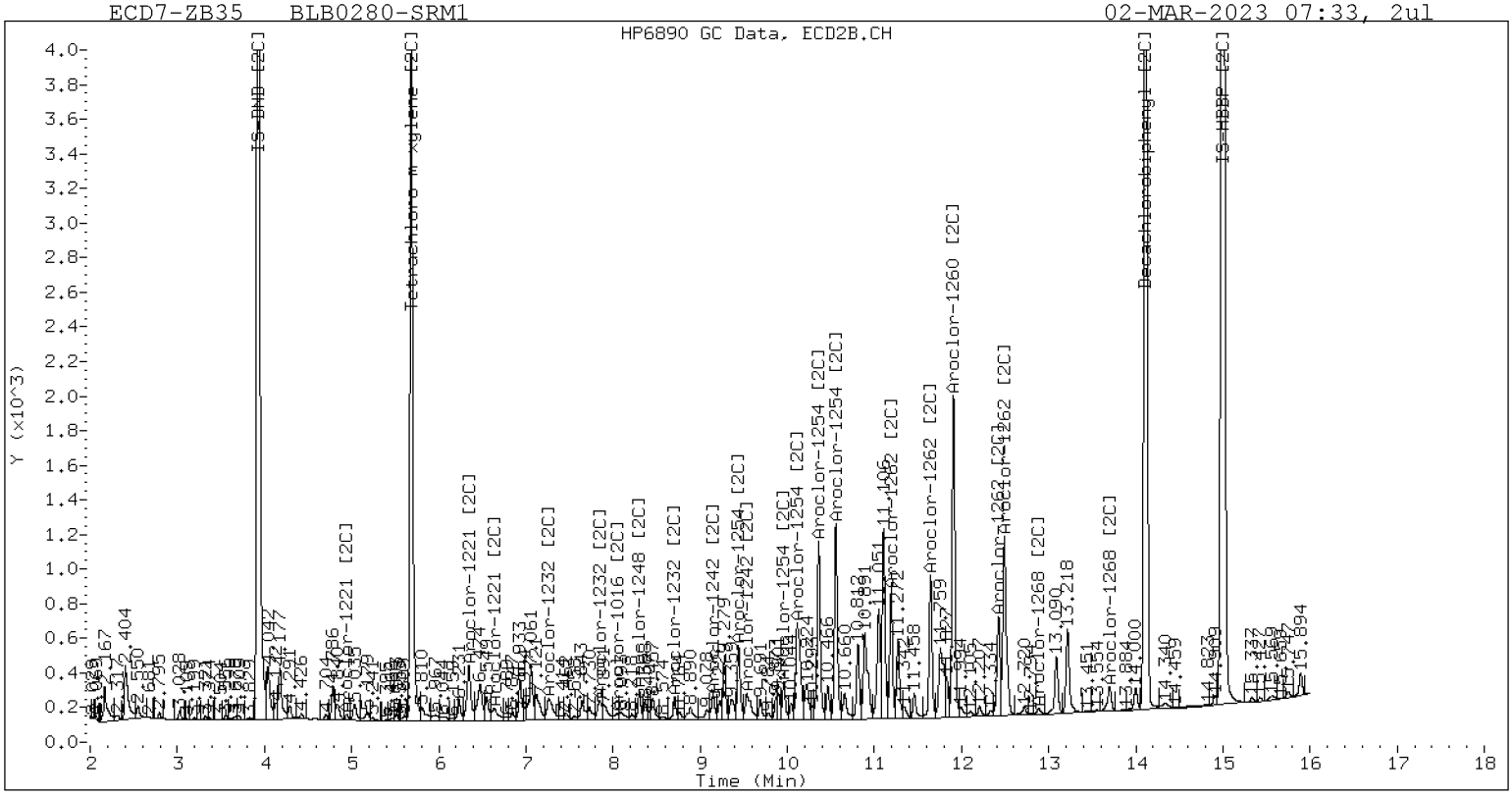
PCB Dual Column Chromatograms

ECD7-ZB5 BLB0280-SRM1 02-MAR-2023 07:33, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 BLB0280-SRM1 02-MAR-2023 07:33, 2ul



ZB-35 Manual Integration: NO

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GB00069	Instrument:	ECD7
Calibration Date:	02/24/2023	Column (1):	ZB5

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF
Aroclor 1016	250	0.0511017	20	0.0514466	50	5.107478E-02	1000	4.502727E-02	100	5.036259E-02	500	0.0471841
Aroclor-1016 (1)	250	0.031405	20	3.172321E-02	50	3.253176E-02	1000	2.667138E-02	100	3.141686E-02	500	2.856283E-02
Aroclor-1016 (2)	250	9.848704E-02	20	9.239415E-02	50	9.245774E-02	1000	8.848657E-02	100	9.221759E-02	500	0.0917416
Aroclor-1016 (3)	250	4.393471E-02	20	5.165382E-02	50	5.037363E-02	1000	3.720718E-02	100	4.822959E-02	500	3.990906E-02
Aroclor-1016 (4)	250	3.058004E-02	20	3.001523E-02	50	2.893599E-02	1000	2.774395E-02	100	2.958631E-02	500	2.852291E-02
Aroclor 1260	250	4.264611E-02	20	3.933745E-02	50	3.914748E-02	1000	0.0377098	100	3.888069E-02	500	3.753326E-02
Aroclor-1260 (1)	250	3.096387E-02	20	2.926415E-02	50	2.920486E-02	1000	2.746159E-02	100	2.841034E-02	500	2.736642E-02
Aroclor-1260 (2)	250	3.291004E-02	20	2.966791E-02	50	3.006192E-02	1000	2.856573E-02	100	3.010757E-02	500	2.910054E-02
Aroclor-1260 (3)	250	8.575373E-02	20	8.087657E-02	50	8.045158E-02	1000	7.674417E-02	100	7.953737E-02	500	7.514663E-02
Aroclor-1260 (4)	250	4.484933E-02	20	3.904963E-02	50	3.886754E-02	1000	3.922291E-02	100	3.955346E-02	500	3.941669E-02
Aroclor-1260 (5)	250	1.875356E-02	20	1.782901E-02	50	1.715148E-02	1000	1.655457E-02	100	1.679471E-02	500	1.663603E-02
Decachlorobiphenyl	40	0.7880759	3.2	0.8290115	8	0.8055828	160	0.797423	16	0.7758675	80	0.7312517
Tetrachlorometaxylene	40	1.205085	3.2	1.168271	8	1.244015	160	1.241136	16	1.185465	80	1.122954

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GB00069	Instrument:	ECD7
Calibration Date:	02/24/2023	Column (1):	ZB5

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF
Aroclor 1221							250	1.657582E-02				
Aroclor-1221 (1)							250	7.164712E-03				
Aroclor-1221 (2)							250	0.0128135				
Aroclor-1221 (3)							250	2.974924E-02				
Aroclor 1232									250	1.690391E-02		
Aroclor-1232 (1)									250	4.285984E-03		
Aroclor-1232 (2)									250	8.499602E-03		
Aroclor-1232 (3)									250	3.847671E-02		
Aroclor-1232 (4)									250	1.635336E-02		
Aroclor 1242	250	3.953397E-02										
Aroclor-1242 (1)	250	2.479209E-02										
Aroclor-1242 (2)	250	7.528986E-02										
Aroclor-1242 (3)	250	2.342574E-02										
Aroclor-1242 (4)	250	3.462819E-02										
Aroclor 1248			250	5.747549E-02								
Aroclor-1248 (1)			250	3.903293E-02								
Aroclor-1248 (2)			250	0.0496149								
Aroclor-1248 (3)			250	9.360202E-02								
Aroclor-1248 (4)			250	4.765213E-02								
Aroclor 1254					250	6.629494E-02						
Aroclor-1254 (1)					250	8.033306E-02						
Aroclor-1254 (2)					250	0.0361302						
Aroclor-1254 (3)					250	5.164705E-02						
Aroclor-1254 (4)					250	0.100423						
Aroclor-1254 (5)					250	6.294139E-02						
Aroclor 1262							250	3.665955E-02				
Aroclor-1262 (1)							250	2.454122E-02				
Aroclor-1262 (2)							250	3.993338E-02				

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GB00069	Instrument:	ECD7
Calibration Date:	02/24/2023	Column (1):	ZB5

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF
Aroclor-1262 (3)							250	4.292945E-02				
Aroclor-1262 (4)							250	3.923413E-02				
Aroclor 1268									250	0.1442124		
Aroclor-1268 (1)									250	0.102504		
Aroclor-1268 (2)									250	0.1015072		
Aroclor-1268 (3)									250	8.685666E-02		
Aroclor-1268 (4)									250	0.2859818		

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GB00069	Instrument:	ECD7
Calibration Date:	02/24/2023	Column (1):	ZB5

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor 1016	4.936617E-02	5.3			RSD (20)	
Aroclor-1016 (1)	3.038517E-02	7.4			RSD (20)	
Aroclor-1016 (2)	9.263078E-02	3.5			RSD (20)	
Aroclor-1016 (3)	0.045218	12.9			RSD (20)	
Aroclor-1016 (4)	2.923074E-02	3.5			RSD (20)	
Aroclor 1221		0.0			RSD (20)	
Aroclor-1221 (1)		0.0			RSD (20)	
Aroclor-1221 (2)		0.0			RSD (20)	
Aroclor-1221 (3)		0.0			RSD (20)	
Aroclor 1232		0.0			RSD (20)	
Aroclor-1232 (1)		0.0			RSD (20)	
Aroclor-1232 (2)		0.0			RSD (20)	
Aroclor-1232 (3)		0.0			RSD (20)	
Aroclor-1232 (4)		0.0			RSD (20)	
Aroclor 1242		0.0			RSD (20)	
Aroclor-1242 (1)		0.0			RSD (20)	
Aroclor-1242 (2)		0.0			RSD (20)	
Aroclor-1242 (3)		0.0			RSD (20)	
Aroclor-1242 (4)		0.0			RSD (20)	
Aroclor 1248		0.0			RSD (20)	
Aroclor-1248 (1)		0.0			RSD (20)	
Aroclor-1248 (2)		0.0			RSD (20)	
Aroclor-1248 (3)		0.0			RSD (20)	
Aroclor-1248 (4)		0.0			RSD (20)	
Aroclor 1254		0.0			RSD (20)	
Aroclor-1254 (1)		0.0			RSD (20)	
Aroclor-1254 (2)		0.0			RSD (20)	
Aroclor-1254 (3)		0.0			RSD (20)	
Aroclor-1254 (4)		0.0			RSD (20)	
Aroclor-1254 (5)		0.0			RSD (20)	
Aroclor 1260	3.920913E-02	4.7			RSD (20)	

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GB00069	Instrument:	ECD7
Calibration Date:	02/24/2023	Column (1):	ZB5

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor-1260 (1)	2.877854E-02	4.7			RSD (20)	
Aroclor-1260 (2)	3.006895E-02	5.0			RSD (20)	
Aroclor-1260 (3)	7.975167E-02	4.6			RSD (20)	
Aroclor-1260 (4)	4.015993E-02	5.8			RSD (20)	
Aroclor-1260 (5)	1.728656E-02	5.0			RSD (20)	
Aroclor 1262		0.0			RSD (20)	
Aroclor-1262 (1)		0.0			RSD (20)	
Aroclor-1262 (2)		0.0			RSD (20)	
Aroclor-1262 (3)		0.0			RSD (20)	
Aroclor-1262 (4)		0.0			RSD (20)	
Aroclor 1268		0.0			RSD (20)	
Aroclor-1268 (1)		0.0			RSD (20)	
Aroclor-1268 (2)		0.0			RSD (20)	
Aroclor-1268 (3)		0.0			RSD (20)	
Aroclor-1268 (4)		0.0			RSD (20)	
Decachlorobiphenyl	0.7878687	4.2			RSD (20)	
Tetrachlorometaxylene	1.194488	3.9			RSD (20)	

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GB00069	Instrument:	ECD7
Calibration Date:	02/24/2023	Column (2):	ZB35

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF
Aroclor 1016 [2C]	250	0.0571297	20	5.099991E-02	50	0.0573721	1000	5.075893E-02	100	5.836783E-02	500	5.288542E-02
Aroclor-1016 (1) [2C]	250	4.732763E-02	20	5.070692E-02	50	5.021603E-02	1000	4.080107E-02	100	4.868029E-02	500	4.325569E-02
Aroclor-1016 (2) [2C]	250	0.1025919	20	8.142537E-02	50	9.407053E-02	1000	9.361548E-02	100	0.1015897	500	9.651233E-02
Aroclor-1016 (3) [2C]	250	4.410181E-02	20	4.005508E-02	50	4.718351E-02	1000	3.925581E-02	100	4.613223E-02	500	4.062487E-02
Aroclor-1016 (4) [2C]	250	3.449742E-02	20	3.181228E-02	50	3.801833E-02	1000	0.0293633	100	0.0370691	500	3.114879E-02
Aroclor 1260 [2C]	250	7.266587E-02	20	0.0760446	50	7.181489E-02	1000	0.0636872	100	6.942709E-02	500	6.617305E-02
Aroclor-1260 (1) [2C]	250	4.801376E-02	20	5.286013E-02	50	4.911343E-02	1000	4.201242E-02	100	4.695569E-02	500	4.328842E-02
Aroclor-1260 (2) [2C]	250	0.1266443	20	0.1297611	50	0.1243096	1000	0.1054494	100	0.1209452	500	0.1132043
Aroclor-1260 (3) [2C]	250	3.207621E-02	20	3.524009E-02	50	3.146502E-02	1000	0.0319805	100	2.936945E-02	500	3.102287E-02
Aroclor-1260 (4) [2C]	250	8.392913E-02	20	8.631709E-02	50	8.237154E-02	1000	7.530648E-02	100	0.080438	500	7.717658E-02
Decachlorobiphenyl [2C]	40	1.310398	3.2	1.170661	8	1.20406	160	1.207975	16	1.205489	80	1.211045
Tetrachlorometaxylene [2C]	40	1.219073	3.2	1.21526	8	1.195453	160	1.111394	16	1.175548	80	1.125598

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GB00069	Instrument:	ECD7
Calibration Date:	02/24/2023	Column (2):	ZB35

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF
Aroclor 1221 [2C]							250	1.507982E-02				
Aroclor-1221 (1) [2C]							250	7.573277E-03				
Aroclor-1221 (2) [2C]							250	0.0143332				
Aroclor-1221 (3) [2C]							250	2.333296E-02				
Aroclor 1232 [2C]									250	1.920227E-02		
Aroclor-1232 (1) [2C]									250	4.09321E-03		
Aroclor-1232 (2) [2C]									250	2.034072E-02		
Aroclor-1232 (3) [2C]									250	4.067023E-02		
Aroclor-1232 (4) [2C]									250	1.170493E-02		
Aroclor 1242 [2C]	250	4.230924E-02										
Aroclor-1242 (1) [2C]	250	3.716893E-02										
Aroclor-1242 (2) [2C]	250	7.813249E-02										
Aroclor-1242 (3) [2C]	250	2.431205E-02										
Aroclor-1242 (4) [2C]	250	0.0296235										
Aroclor 1248 [2C]			250	4.442703E-02								
Aroclor-1248 (1) [2C]			250	3.819713E-02								
Aroclor-1248 (2) [2C]			250	3.949349E-02								
Aroclor-1248 (3) [2C]			250	4.544987E-02								
Aroclor-1248 (4) [2C]			250	5.456762E-02								
Aroclor 1254 [2C]					250	0.0763106						
Aroclor-1254 (1) [2C]					250	6.080523E-02						
Aroclor-1254 (2) [2C]					250	4.891616E-02						
Aroclor-1254 (3) [2C]					250	0.1058376						
Aroclor-1254 (4) [2C]					250	0.103175						
Aroclor-1254 (5) [2C]					250	6.281905E-02						
Aroclor 1262 [2C]							250	7.397596E-02				
Aroclor-1262 (1) [2C]							250	6.830764E-02				
Aroclor-1262 (2) [2C]							250	5.817803E-02				

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GB00069	Instrument:	ECD7
Calibration Date:	02/24/2023	Column (2):	ZB35

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF
Aroclor-1262 (3) [2C]							250	6.600951E-02				
Aroclor-1262 (4) [2C]							250	0.1034087				
Aroclor 1268 [2C]									250	0.2386862		
Aroclor-1268 (1) [2C]									250	0.1610947		
Aroclor-1268 (2) [2C]									250	0.1731794		
Aroclor-1268 (3) [2C]									250	0.1478672		
Aroclor-1268 (4) [2C]									250	0.4726034		

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GB00069	Instrument:	ECD7
Calibration Date:	02/24/2023	Column (2):	ZB35

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor 1016 [2C]	5.458565E-02	6.3			RSD (20)	
Aroclor-1016 (1) [2C]	4.683127E-02	8.5			RSD (20)	
Aroclor-1016 (2) [2C]	9.496755E-02	8.0			RSD (20)	
Aroclor-1016 (3) [2C]	4.289222E-02	7.9			RSD (20)	
Aroclor-1016 (4) [2C]	3.365154E-02	10.3			RSD (20)	
Aroclor 1221 [2C]		0.0			RSD (20)	
Aroclor-1221 (1) [2C]		0.0			RSD (20)	
Aroclor-1221 (2) [2C]		0.0			RSD (20)	
Aroclor-1221 (3) [2C]		0.0			RSD (20)	
Aroclor 1232 [2C]		0.0			RSD (20)	
Aroclor-1232 (1) [2C]		0.0			RSD (20)	
Aroclor-1232 (2) [2C]		0.0			RSD (20)	
Aroclor-1232 (3) [2C]		0.0			RSD (20)	
Aroclor-1232 (4) [2C]		0.0			RSD (20)	
Aroclor 1242 [2C]		0.0			RSD (20)	
Aroclor-1242 (1) [2C]		0.0			RSD (20)	
Aroclor-1242 (2) [2C]		0.0			RSD (20)	
Aroclor-1242 (3) [2C]		0.0			RSD (20)	
Aroclor-1242 (4) [2C]		0.0			RSD (20)	
Aroclor 1248 [2C]		0.0			RSD (20)	
Aroclor-1248 (1) [2C]		0.0			RSD (20)	
Aroclor-1248 (2) [2C]		0.0			RSD (20)	
Aroclor-1248 (3) [2C]		0.0			RSD (20)	
Aroclor-1248 (4) [2C]		0.0			RSD (20)	
Aroclor 1254 [2C]		0.0			RSD (20)	
Aroclor-1254 (1) [2C]		0.0			RSD (20)	
Aroclor-1254 (2) [2C]		0.0			RSD (20)	
Aroclor-1254 (3) [2C]		0.0			RSD (20)	
Aroclor-1254 (4) [2C]		0.0			RSD (20)	
Aroclor-1254 (5) [2C]		0.0			RSD (20)	
Aroclor 1260 [2C]	6.996878E-02	6.4			RSD (20)	

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GB00069	Instrument:	ECD7
Calibration Date:	02/24/2023	Column (2):	ZB35

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor-1260 (1) [2C]	4.704064E-02	8.4			RSD (20)	
Aroclor-1260 (2) [2C]	0.1200523	7.6			RSD (20)	
Aroclor-1260 (3) [2C]	3.185902E-02	6.0			RSD (20)	
Aroclor-1260 (4) [2C]	8.092314E-02	5.1			RSD (20)	
Aroclor 1262 [2C]		0.0			RSD (20)	
Aroclor-1262 (1) [2C]		0.0			RSD (20)	
Aroclor-1262 (2) [2C]		0.0			RSD (20)	
Aroclor-1262 (3) [2C]		0.0			RSD (20)	
Aroclor-1262 (4) [2C]		0.0			RSD (20)	
Aroclor 1268 [2C]		0.0			RSD (20)	
Aroclor-1268 (1) [2C]		0.0			RSD (20)	
Aroclor-1268 (2) [2C]		0.0			RSD (20)	
Aroclor-1268 (3) [2C]		0.0			RSD (20)	
Aroclor-1268 (4) [2C]		0.0			RSD (20)	
Decachlorobiphenyl [2C]	1.218271	3.9			RSD (20)	
Tetrachlorometaxylene [2C]	1.173721	3.9			RSD (20)	

Analytical Resources, LLC
Analytical Chemists and Consultants

ANALYSIS SEQUENCE

SLB0342

Instrument: ECD7
Calibration ID: GB00069

Printed: 2/28/2023 9:54:44AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SLB0342-CAL1	QC		1		L000856	L000844		
SLB0342-CAL2	QC		2		L000859	L000844		
SLB0342-CAL3	QC		3		L000858	L000844		
SLB0342-CAL4	QC		4		L000731	L000844		
SLB0342-CAL5	QC		5		L000857	L000844		
SLB0342-CAL6	QC		6		L000855	L000844		
SLB0342-CAL7	QC		7		L000860	L000844		
SLB0342-CAL8	QC		8		L000861	L000844		
SLB0342-CAL9	QC		9		L000862	L000844		
SLB0342-CALA	QC		10		L000863	L000844		
SLB0342-CALB	QC		11		L000864	L000844		
SLB0342-SCV1	QC		12		L002065	L000844		
SLB0342-SCV2	QC		13		K007656	L000844		
SLB0342-SCV3	QC		14		L002066	L000844		
SLB0342-SCV4	QC		15		L002067	L000844		
SLB0342-SCV5	QC		16		L002068	L000844		
SLB0342-SCV6	QC		17		L002069	L000844		

Samples Loaded By Date

Data Processed By Date

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	24-FEB-2023 10:51	02242301ECD7.D	1	IB	
2	24-FEB-2023 11:12	02242302ECD7.D	1	0.25PPMAR1660	
3	24-FEB-2023 11:33	02242303ECD7.D	1	0.02PPMAR1660	
4	24-FEB-2023 11:54	02242304ECD7.D	1	0.05PPMAR1660	
5	24-FEB-2023 12:15	02242305ECD7.D	1	1.0PPMAR1660	
6	24-FEB-2023 12:36	02242306ECD7.D	1	0.1PPMAR1660	
7	24-FEB-2023 12:57	02242307ECD7.D	1	0.5PPMAR1660	
8	24-FEB-2023 13:18	02242308ECD7.D	1	0.25PPMAR1242	
9	24-FEB-2023 13:39	02242309ECD7.D	1	0.25PPMAR1248	
10	24-FEB-2023 14:00	02242310ECD7.D	1	0.25PPMAR1254	
11	24-FEB-2023 14:21	02242311ECD7.D	1	0.25PPMAR2162	
12	24-FEB-2023 14:42	02242312ECD7.D	1	0.25PPMAR3268	
13	24-FEB-2023 15:03	02242313ECD7.D	1	AR1660SCV	
14	24-FEB-2023 15:24	02242314ECD7.D	1	AR1242SCV	
15	24-FEB-2023 15:45	02242315ECD7.D	1	AR1248SCV	
16	24-FEB-2023 16:06	02242316ECD7.D	1	AR1254SCV	
17	24-FEB-2023 16:27	02242317ECD7.D	1	AR2162SCV	
18	24-FEB-2023 16:48	02242318ECD7.D	1	AR3268SCV	
19	24-FEB-2023 17:09	02242319ECD7.D	1	DDTS	
20	24-FEB-2023 17:30	02242320ECD7.D	1	DDT BD	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b

ARI Job No.: IB Method: PCB.m Instrument: ecd7.i Date: 24-FEB-2023

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1051	02242301ECD7.D	IB		1	NO MANUAL INTEGRATION
1112	02242302ECD7.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION
1133	02242303ECD7.D	0.02PPMAR1660		1	NO MANUAL INTEGRATION
1154	02242304ECD7.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
1215	02242305ECD7.D	1.0PPMAR1660		1	NO MANUAL INTEGRATION
1236	02242306ECD7.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
1257	02242307ECD7.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
1318	02242308ECD7.D	0.25PPMAR1242		1	NO MANUAL INTEGRATION
1339	02242309ECD7.D	0.25PPMAR1248		1	NO MANUAL INTEGRATION
1400	02242310ECD7.D	0.25PPMAR1254		1	NO MANUAL INTEGRATION
1421	02242311ECD7.D	0.25PPMAR2162		1	NO MANUAL INTEGRATION
1442	02242312ECD7.D	0.25PPMAR3268		1	NO MANUAL INTEGRATION
1503	02242313ECD7.D	AR1660SCV		1	NO MANUAL INTEGRATION
1524	02242314ECD7.D	AR1242SCV		1	NO MANUAL INTEGRATION
1545	02242315ECD7.D	AR1248SCV		1	NO MANUAL INTEGRATION
1606	02242316ECD7.D	AR1254SCV		1	NO MANUAL INTEGRATION
1627	02242317ECD7.D	AR2162SCV		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1648	02242318ECD7.D	AR3268SCV		1	NO MANUAL INTEGRATION
1709	02242319ECD7.D	DDTS		1	NO MANUAL INTEGRATION
1730	02242320ECD7.D	DDT BD		1	NO MANUAL INTEGRATION
1751	02242321ECD7.D			1	NO MANUAL INTEGRATION
1812	02242322ECD7.D			1	NO MANUAL INTEGRATION
1833	02242323ECD7.D			1	NO MANUAL INTEGRATION
1854	02242324ECD7.D			1	NO MANUAL INTEGRATION
1915	02242325ECD7.D			1	NO MANUAL INTEGRATION
1936	02242326ECD7.D			1	NO MANUAL INTEGRATION
1957	02242327ECD7.D			1	NO MANUAL INTEGRATION
2018	02242328ECD7.D			1	NO MANUAL INTEGRATION
2039	02242329ECD7.D			1	NO MANUAL INTEGRATION
2059	02242330ECD7.D			1	NO MANUAL INTEGRATION
2120	02242331ECD7.D			1	NO MANUAL INTEGRATION
2141	02242332ECD7.D			1	NO MANUAL INTEGRATION
2202	02242333ECD7.D			1	NO MANUAL INTEGRATION
2223	02242334ECD7.D			1	NO MANUAL INTEGRATION
2244	02242335ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2305	02242336ECD7.D			1	NO MANUAL INTEGRATION
2326	02242337ECD7.D			1	NO MANUAL INTEGRATION
2347	02242338ECD7.D			1	NO MANUAL INTEGRATION
0008	02242339ECD7.D			1	NO MANUAL INTEGRATION
0029	02242340ECD7.D			1	NO MANUAL INTEGRATION
0050	02242341ECD7.D			1	NO MANUAL INTEGRATION
0111	02242342ECD7.D			1	NO MANUAL INTEGRATION
0132	02242343ECD7.D			1	NO MANUAL INTEGRATION
0153	02242344ECD7.D			1	NO MANUAL INTEGRATION
0214	02242345ECD7.D			1	NO MANUAL INTEGRATION
0235	02242346ECD7.D			1	NO MANUAL INTEGRATION
0256	02242347ECD7.D			1	NO MANUAL INTEGRATION
0317	02242348ECD7.D			1	NO MANUAL INTEGRATION
0338	02242349ECD7.D			1	NO MANUAL INTEGRATION
0359	02242350ECD7.D			1	NO MANUAL INTEGRATION
0420	02242351ECD7.D			1	NO MANUAL INTEGRATION
0441	02242352ECD7.D			1	NO MANUAL INTEGRATION
0502	02242353ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0523	02242354ECD7.D			1	NO MANUAL INTEGRATION
0544	02242355ECD7.D			1	NO MANUAL INTEGRATION
0605	02242356ECD7.D			1	NO MANUAL INTEGRATION
0626	02242357ECD7.D			1	NO MANUAL INTEGRATION
0647	02242358ECD7.D			1	NO MANUAL INTEGRATION
0708	02242359ECD7.D			1	NO MANUAL INTEGRATION
0729	02242360ECD7.D			1	NO MANUAL INTEGRATION
0750	02242361ECD7.D			1	NO MANUAL INTEGRATION
0811	02242362ECD7.D			1	NO MANUAL INTEGRATION
0832	02242363ECD7.D			1	NO MANUAL INTEGRATION
0853	02242364ECD7.D			1	NO MANUAL INTEGRATION
0914	02242365ECD7.D			1	NO MANUAL INTEGRATION
0935	02242366ECD7.D			1	NO MANUAL INTEGRATION
0956	02242367ECD7.D			1	NO MANUAL INTEGRATION
1017	02242368ECD7.D			1	NO MANUAL INTEGRATION
1038	02242369ECD7.D			1	NO MANUAL INTEGRATION
1059	02242370ECD7.D			1	NO MANUAL INTEGRATION
1120	02242371ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1141	02242372ECD7.D			1	NO MANUAL INTEGRATION
1202	02242373ECD7.D			1	NO MANUAL INTEGRATION
1223	02242374ECD7.D			1	NO MANUAL INTEGRATION
1244	02242375ECD7.D			1	NO MANUAL INTEGRATION
1305	02242376ECD7.D			1	NO MANUAL INTEGRATION
1326	02242377ECD7.D			1	NO MANUAL INTEGRATION
1347	02242378ECD7.D			1	NO MANUAL INTEGRATION
1408	02242379ECD7.D			1	NO MANUAL INTEGRATION
1429	02242380ECD7.D			1	NO MANUAL INTEGRATION
1450	02242381ECD7.D			1	NO MANUAL INTEGRATION
1511	02242382ECD7.D			1	NO MANUAL INTEGRATION
1532	02242383ECD7.D			1	NO MANUAL INTEGRATION
1553	02242384ECD7.D			1	NO MANUAL INTEGRATION
1051	02242301ECD7.D	IB		1	NO MANUAL INTEGRATION
1112	02242302ECD7.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION
1133	02242303ECD7.D	0.02PPMAR1660		1	Aroclor-1016 [2C],
1154	02242304ECD7.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
1215	02242305ECD7.D	1.0PPMAR1660		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1236	02242306ECD7.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
1257	02242307ECD7.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
1318	02242308ECD7.D	0.25PPMAR1242		1	NO MANUAL INTEGRATION
1339	02242309ECD7.D	0.25PPMAR1248		1	NO MANUAL INTEGRATION
1400	02242310ECD7.D	0.25PPMAR1254		1	NO MANUAL INTEGRATION
1421	02242311ECD7.D	0.25PPMAR2162		1	NO MANUAL INTEGRATION
1442	02242312ECD7.D	0.25PPMAR3268		1	NO MANUAL INTEGRATION
1503	02242313ECD7.D	AR1660SCV		1	NO MANUAL INTEGRATION
1524	02242314ECD7.D	AR1242SCV		1	NO MANUAL INTEGRATION
1545	02242315ECD7.D	AR1248SCV		1	NO MANUAL INTEGRATION
1606	02242316ECD7.D	AR1254SCV		1	NO MANUAL INTEGRATION
1627	02242317ECD7.D	AR2162SCV		1	NO MANUAL INTEGRATION
1648	02242318ECD7.D	AR3268SCV		1	NO MANUAL INTEGRATION
1709	02242319ECD7.D	DDTS		1	NO MANUAL INTEGRATION
1730	02242320ECD7.D	DDT BD		1	NO MANUAL INTEGRATION
1751	02242321ECD7.D			1	NO MANUAL INTEGRATION
1812	02242322ECD7.D			1	NO MANUAL INTEGRATION
1833	02242323ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1854	02242324ECD7.D			1	NO MANUAL INTEGRATION
1915	02242325ECD7.D			1	NO MANUAL INTEGRATION
1936	02242326ECD7.D			1	NO MANUAL INTEGRATION
1957	02242327ECD7.D			1	NO MANUAL INTEGRATION
2018	02242328ECD7.D			1	NO MANUAL INTEGRATION
2038	02242329ECD7.D			1	NO MANUAL INTEGRATION
2059	02242330ECD7.D			1	NO MANUAL INTEGRATION
2120	02242331ECD7.D			1	NO MANUAL INTEGRATION
2141	02242332ECD7.D			1	NO MANUAL INTEGRATION
2202	02242333ECD7.D			1	NO MANUAL INTEGRATION
2223	02242334ECD7.D			1	NO MANUAL INTEGRATION
2244	02242335ECD7.D			1	NO MANUAL INTEGRATION
2305	02242336ECD7.D			1	NO MANUAL INTEGRATION
2326	02242337ECD7.D			1	NO MANUAL INTEGRATION
2347	02242338ECD7.D			1	NO MANUAL INTEGRATION
0008	02242339ECD7.D			1	NO MANUAL INTEGRATION
0029	02242340ECD7.D			1	NO MANUAL INTEGRATION
0050	02242341ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0111	02242342ECD7.D			1	NO MANUAL INTEGRATION
0132	02242343ECD7.D			1	NO MANUAL INTEGRATION
0153	02242344ECD7.D			1	NO MANUAL INTEGRATION
0214	02242345ECD7.D			1	NO MANUAL INTEGRATION
0235	02242346ECD7.D			1	NO MANUAL INTEGRATION
0256	02242347ECD7.D			1	NO MANUAL INTEGRATION
0317	02242348ECD7.D			1	NO MANUAL INTEGRATION
0338	02242349ECD7.D			1	NO MANUAL INTEGRATION
0359	02242350ECD7.D			1	NO MANUAL INTEGRATION
0420	02242351ECD7.D			1	NO MANUAL INTEGRATION
0441	02242352ECD7.D			1	NO MANUAL INTEGRATION
0502	02242353ECD7.D			1	NO MANUAL INTEGRATION
0523	02242354ECD7.D			1	NO MANUAL INTEGRATION
0544	02242355ECD7.D			1	NO MANUAL INTEGRATION
0605	02242356ECD7.D			1	NO MANUAL INTEGRATION
0626	02242357ECD7.D			1	NO MANUAL INTEGRATION
0647	02242358ECD7.D			1	NO MANUAL INTEGRATION
0708	02242359ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0729	02242360ECD7.D			1	NO MANUAL INTEGRATION
0750	02242361ECD7.D			1	NO MANUAL INTEGRATION
0811	02242362ECD7.D			1	NO MANUAL INTEGRATION
0832	02242363ECD7.D			1	NO MANUAL INTEGRATION
0853	02242364ECD7.D			1	NO MANUAL INTEGRATION
0914	02242365ECD7.D			1	NO MANUAL INTEGRATION
0935	02242366ECD7.D			1	NO MANUAL INTEGRATION
0956	02242367ECD7.D			1	NO MANUAL INTEGRATION
1017	02242368ECD7.D			1	NO MANUAL INTEGRATION
1038	02242369ECD7.D			1	NO MANUAL INTEGRATION
1059	02242370ECD7.D			1	NO MANUAL INTEGRATION
1120	02242371ECD7.D			1	NO MANUAL INTEGRATION
1141	02242372ECD7.D			1	NO MANUAL INTEGRATION
1202	02242373ECD7.D			1	NO MANUAL INTEGRATION
1223	02242374ECD7.D			1	NO MANUAL INTEGRATION
1244	02242375ECD7.D			1	NO MANUAL INTEGRATION
1305	02242376ECD7.D			1	NO MANUAL INTEGRATION
1326	02242377ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1347	02242378ECD7.D			1	NO MANUAL INTEGRATION
1408	02242379ECD7.D			1	NO MANUAL INTEGRATION
1429	02242380ECD7.D			1	NO MANUAL INTEGRATION
1450	02242381ECD7.D			1	NO MANUAL INTEGRATION
1511	02242382ECD7.D			1	NO MANUAL INTEGRATION
1532	02242383ECD7.D			1	NO MANUAL INTEGRATION
1553	02242384ECD7.D			1	NO MANUAL INTEGRATION

Security Status Report

Date: 28-Feb-2023 09:27

02242301ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242302ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242303ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242304ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242305ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242306ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242307ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242308ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242309ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242310ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242311ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242312ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242313ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242314ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242315ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242316ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242317ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242318ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242319ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242320ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m
Last Edit : 24-Feb-2023 15:31 richardl
Curve Type : Average

Calibration File Names:
Level 1: \\target\share\chem4\ecd7.i\230224.b\02242303ECD7.D
Level 2: \\target\share\chem4\ecd7.i\230224.b\02242304ECD7.D
Level 3: \\target\share\chem4\ecd7.i\230224.b\02242306ECD7.D
Level 4: \\target\share\chem4\ecd7.i\230224.b\02242302ECD7.D
Level 5: \\target\share\chem4\ecd7.i\230224.b\02242307ECD7.D
Level 6: \\target\share\chem4\ecd7.i\230224.b\02242305ECD7.D
Level 7: \\target\share\chem4\ecd7.i\230224.b\02242312ECD7.D

Compound	20.000 Level 1 / 250.000 Level 7	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
2 Aroclor-1221(1)	+++++ / 0.00716	+++++	+++++	+++++	+++++	+++++	0.00716	0.000
(2)	+++++ / 0.01281	+++++	+++++	+++++	+++++	+++++	0.01281	0.000
(3)	+++++ / 0.02975	+++++	+++++	+++++	+++++	+++++	0.02975	0.000
3 Aroclor-1242(1)	+++++ / 0.02479	+++++	+++++	+++++	+++++	+++++	0.02479	0.000
(2)	+++++ / 0.07529	+++++	+++++	+++++	+++++	+++++	0.07529	0.000
(3)	+++++ / 0.02343	+++++	+++++	+++++	+++++	+++++	0.02343	0.000
(4)	+++++ / 0.03463	+++++	+++++	+++++	+++++	+++++	0.03463	0.000
4 Aroclor-1232(1)	+++++ / 0.00429	+++++	+++++	+++++	+++++	+++++	0.00429	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m
Last Edit : 24-Feb-2023 15:31 richardl
Curve Type : Average

Compound	20.000 Level 1 / 250.000 Level 7	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
(2)	+++++ / 0.00850	+++++	+++++	+++++	+++++	+++++	0.00850	0.000
(3)	+++++ / 0.03848	+++++	+++++	+++++	+++++	+++++	0.03848	0.000
(4)	+++++ / 0.01635	+++++	+++++	+++++	+++++	+++++	0.01635	0.000
7 Aroclor-1016(1)	0.03172 / +++++	0.03253	0.03142	0.03141	0.02856	0.02667	0.03039	7.449
(2)	0.09239 / +++++	0.09246	0.09222	0.09849	0.09174	0.08849	0.09263	3.499
(3)	0.05165 / +++++	0.05037	0.04823	0.04393	0.03991	0.03721	0.04522	12.936
(4)	0.03002 / +++++	0.02894	0.02959	0.03058	0.02852	0.02774	0.02923	3.542
6 Aroclor-1248(1)	+++++ / 0.03903	+++++	+++++	+++++	+++++	+++++	0.03903	0.000
(2)	+++++ / 0.04961	+++++	+++++	+++++	+++++	+++++	0.04961	0.000
(3)	+++++ / 0.09360	+++++	+++++	+++++	+++++	+++++	0.09360	0.000
(4)	+++++ / 0.04765	+++++	+++++	+++++	+++++	+++++	0.04765	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m
Last Edit : 24-Feb-2023 15:31 richardl
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	___ RRF	% RSD
8 Aroclor-1254(1)	*****	*****	*****	*****	*****	*****	0.08033	0.08033	0.000
(2)	*****	*****	*****	*****	*****	*****	0.03613	0.03613	0.000
(3)	*****	*****	*****	*****	*****	*****	0.05165	0.05165	0.000
(4)	*****	*****	*****	*****	*****	*****	0.10042	0.10042	0.000
(5)	*****	*****	*****	*****	*****	*****	0.06294	0.06294	0.000
9 Aroclor-1260(1)	0.02926	0.02920	0.02841	0.03096	0.02737	0.02746	*****	0.02878	4.677
(2)	0.02967	0.03006	0.03011	0.03291	0.02910	0.02857	*****	0.03007	5.029
(3)	0.08088	0.08045	0.07954	0.08575	0.07515	0.07674	*****	0.07975	4.627
(4)	0.03905	0.03887	0.03955	0.04485	0.03942	0.03922	*****	0.04016	5.753
(5)	0.01783	0.01715	0.01679	0.01875	0.01664	0.01655	*****	0.01729	4.953
10 Aroclor-1262(1)	*****	*****	*****	*****	*****	*****	0.02454	0.02454	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m
Last Edit : 24-Feb-2023 15:31 richardl
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	RRF	% RSD
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.03993	0.03993	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.04293	0.04293	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.03923	0.03923	0.000
11 Aroclor-1268(1)	+++++	+++++	+++++	+++++	+++++	+++++	0.10250	0.10250	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.10151	0.10151	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.08686	0.08686	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.28598	0.28598	0.000
42 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
43 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
44 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
46 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m
Last Edit : 24-Feb-2023 15:31 richardl
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	___ RRF	% RSD
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
$ 1 Tetrachloro-m-xylene	1.16827	1.24402	1.18546	1.20509	1.12295	1.24114	+++++	1.19449	3.860
$ 13 Decachlorobiphenyl	0.82901	0.80558	0.77587	0.78808	0.73125	0.79742	+++++	0.78787	4.189

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Last Edit : 24-Feb-2023 15:29 richardl
Curve Type : Average

Calibration File Names:
Level 1: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242303ECD7.D
Level 2: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242304ECD7.D
Level 3: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242306ECD7.D
Level 4: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242302ECD7.D
Level 5: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242307ECD7.D
Level 6: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242305ECD7.D
Level 7: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242312ECD7.D

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	RRF	% RSD
1 Aroclor-1221 [2C](1)	+++++	+++++	+++++	+++++	+++++	+++++	0.00757	0.00757	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.01433	0.01433	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.02333	0.02333	0.000
4 Aroclor-1232 [2C](1)	+++++	+++++	+++++	+++++	+++++	+++++	0.00409	0.00409	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.02034	0.02034	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.04067	0.04067	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.01170	0.01170	0.000
3 Aroclor-1242 [2C](1)	+++++	+++++	+++++	+++++	+++++	+++++	0.03717	0.03717	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Last Edit : 24-Feb-2023 15:29 richardl
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	RRF	% RSD
(2)	*****	*****	*****	*****	*****	*****	0.07813	0.07813	0.000
(3)	*****	*****	*****	*****	*****	*****	0.02431	0.02431	0.000
(4)	*****	*****	*****	*****	*****	*****	0.02962	0.02962	0.000
6 Aroclor-1248 [2C](1)	*****	*****	*****	*****	*****	*****	0.03820	0.03820	0.000
(2)	*****	*****	*****	*****	*****	*****	0.03949	0.03949	0.000
(3)	*****	*****	*****	*****	*****	*****	0.04545	0.04545	0.000
(4)	*****	*****	*****	*****	*****	*****	0.05457	0.05457	0.000
7 Aroclor-1016 [2C](1)	0.05071	0.05022	0.04868	0.04733	0.04326	0.04080	*****	0.04683	8.503
(2)	0.08143	0.09407	0.10159	0.10259	0.09651	0.09362	*****	0.09497	8.025
(3)	0.04006	0.04718	0.04613	0.04410	0.04062	0.03926	*****	0.04289	7.857
(4)	0.03181	0.03802	0.03707	0.03450	0.03115	0.02936	*****	0.03365	10.251

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Last Edit : 24-Feb-2023 15:29 richardl
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	___ RRF	% RSD
8 Aroclor-1254 [2C](1)	*****	*****	*****	*****	*****	*****	0.06081	0.06081	0.000
(2)	*****	*****	*****	*****	*****	*****	0.04892	0.04892	0.000
(3)	*****	*****	*****	*****	*****	*****	0.10584	0.10584	0.000
(4)	*****	*****	*****	*****	*****	*****	0.10317	0.10317	0.000
(5)	*****	*****	*****	*****	*****	*****	0.06282	0.06282	0.000
10 Aroclor-1262 [2C](1)	*****	*****	*****	*****	*****	*****	0.06831	0.06831	0.000
(2)	*****	*****	*****	*****	*****	*****	0.05818	0.05818	0.000
(3)	*****	*****	*****	*****	*****	*****	0.06601	0.06601	0.000
(4)	*****	*****	*****	*****	*****	*****	0.10341	0.10341	0.000
9 Aroclor-1260 [2C](1)	0.05286	0.04911	0.04696	0.04801	0.04329	0.04201	*****	0.04704	8.422
(2)	0.12976	0.12431	0.12095	0.12664	0.11320	0.10545	*****	0.12005	7.605

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Last Edit : 24-Feb-2023 15:29 richardl
Curve Type : Average

Compound	20.000 Level 1 / 250.000 Level 7	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	___ RRF	% RSD
(3)	0.03524 / +++++	0.03147	0.02937	0.03208	0.03102	0.03198	0.03186	6.045
(4)	0.08632 / +++++	0.08237	0.08044	0.08393	0.07718	0.07531	0.08092	5.126
11 Aroclor-1268 [2C](1)	+++++ / 0.16109	+++++	+++++	+++++	+++++	+++++	0.16109	0.000
(2)	+++++ / 0.17318	+++++	+++++	+++++	+++++	+++++	0.17318	0.000
(3)	+++++ / 0.14787	+++++	+++++	+++++	+++++	+++++	0.14787	0.000
(4)	+++++ / 0.47260	+++++	+++++	+++++	+++++	+++++	0.47260	0.000
41 2,4-DDE [2C]	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
42 2,4-DDD [2C]	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
44 4,4-DDE [2C]	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
45 4,4-DDD/2,4-DDT [2C]	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
46 4,4-DDT [2C]	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Last Edit : 24-Feb-2023 15:29 richardl
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	___ RRF	% RSD
48 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
49 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
$ 2 Tetrachloro-m-xylene [2C]	1.21526	1.19545	1.17555	1.21907	1.12560	1.11139	+++++	1.17372	3.897
$ 13 Decachlorobiphenyl [2C]	1.17066	1.20406	1.20549	1.31040	1.21104	1.20797	+++++	1.21827	3.898

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\230224.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	02242302ECD7	02242303ECD7	02242304ECD7	02242305ECD7	02242306ECD7	02242307ECD7
INJ.DATE:	24-FEB-2023	24-FEB-2023	24-FEB-2023	24-FEB-2023	24-FEB-2023	24-FEB-2023
INJ.TIME:	11:12	11:33	11:54	12:15	12:36	12:57

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 41 IS-BNB	3.493	3.492	3.492	3.492	3.491	3.491	3.493	3.393-3.593	3.492	0.001
$ 1 Tetrachloro-m-xylene	5.811	5.809	5.809	5.813	5.809	5.810	5.811	5.711-5.911	5.810	0.002
2 Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	4.732	4.632-4.832	+++++	+++++
3 Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	7.269	7.169-7.369	+++++	+++++
4 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	4.732	4.632-4.832	+++++	+++++
7 Aroclor-1016	7.272	7.272	7.272	7.270	7.271	7.270	7.272	7.172-7.372	7.271	0.001
6 Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	8.403	8.303-8.503	+++++	+++++
8 Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	9.295	9.195-9.395	+++++	+++++
9 Aroclor-1260	11.046	11.047	11.046	11.044	11.045	11.044	11.046	10.946-11.146	11.045	0.001
10 Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	10.824	10.724-10.924	+++++	+++++
11 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	12.243	12.143-12.343	+++++	+++++
$ 13 Decachlorobiphenyl	13.897	13.893	13.893	13.899	13.892	13.898	13.897	13.797-13.997	13.895	0.003
* 12 IS-HBBP	14.269	14.268	14.268	14.267	14.268	14.268	14.269	14.169-14.369	14.268	0.001
42 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	9.260	9.210-9.310	+++++	+++++
43 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.801	9.751-9.851	+++++	+++++
44 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.293	10.243-10.343	+++++	+++++
46 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	9.683	9.583-9.783	+++++	+++++

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

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\230224.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	10.254	10.154-10.354	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.754	10.654-10.854	+++++	+++++
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	1.842	1.742-1.942	+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	6.708	6.608-6.808	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Batch File: \\target\share\chem4\ecd7.i\230224.b\230224.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	02242302ECD7	02242303ECD7	02242304ECD7	02242305ECD7	02242306ECD7	02242307ECD7
INJ.DATE:	24-FEB-2023	24-FEB-2023	24-FEB-2023	24-FEB-2023	24-FEB-2023	24-FEB-2023
INJ.TIME:	11:12	11:33	11:54	12:15	12:36	12:57

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 40 IS-BNB [2C]	3.928	3.929	3.929	3.929	3.928	3.929	3.928	3.828-4.028	3.929	0.000
$ 2 Tetrachloro-m-xylene [	5.687	5.688	5.688	5.688	5.688	5.688	5.687	5.587-5.787	5.688	0.001
1 Aroclor-1221 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	4.958	4.858-5.058	+++++	+++++
4 Aroclor-1232 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	4.958	4.859-5.059	+++++	+++++
3 Aroclor-1242 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	7.254	7.154-7.354	+++++	+++++
6 Aroclor-1248 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	8.305	8.205-8.405	+++++	+++++
7 Aroclor-1016 [2C]	7.255	7.256	7.256	7.254	7.255	7.256	7.255	7.155-7.355	7.255	0.001
8 Aroclor-1254 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	9.447	9.347-9.547	+++++	+++++
10 Aroclor-1262 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	11.198	11.098-11.298	+++++	+++++
9 Aroclor-1260 [2C]	11.653	11.656	11.655	11.652	11.655	11.653	11.653	11.553-11.753	11.654	0.001
11 Aroclor-1268 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	12.431	12.331-12.531	+++++	+++++
$ 13 Decachlorobiphenyl [2C	14.120	14.120	14.119	14.122	14.119	14.120	14.120	14.020-14.220	14.120	0.001
* 12 IS-HBBP [2C]	15.008	15.008	15.008	15.008	15.007	15.008	15.008	14.908-15.108	15.008	0.000
41 2,4-DDE [2C]	+++++	+++++	+++++	+++++	+++++	+++++	9.911	9.861-9.961	+++++	+++++
42 2,4-DDD [2C]	+++++	+++++	+++++	+++++	+++++	+++++	9.536	9.486-9.586	+++++	+++++
44 4,4-DDE [2C]	+++++	+++++	+++++	+++++	+++++	+++++	10.209	10.109-10.309	+++++	+++++
45 4,4-DDD/2,4-DDT [2C]	+++++	+++++	+++++	+++++	+++++	+++++	10.667	10.567-10.767	+++++	+++++

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

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Batch File: \\target\share\chem4\ecd7.i\230224.b\230224.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
46 4,4-DDT [2C]	+++++	+++++	+++++	+++++	+++++	+++++	11.092	10.992-11.192	+++++	+++++
48 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	1.703	1.603-1.803	+++++	+++++
49 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	7.178	7.078-7.278	+++++	+++++

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242301ECD7.D
Data file 2: /230224.b/230224.b/02242301ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: IB
Client ID:
Injection Date: 24-FEB-2023 10:51
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.826	0.019	382217	5.683	-0.002	180378	33.8	36.5	7.7	Tetrachloro-m-xylene
13.904	0.011	534110	14.120	0.001	295605	35.3	37.2	5.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	756896	12.3
Hexabromobiphenyl	1429847	1534275	7.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	336543	6.8
Hexabromobiphenyl	513946	521508	1.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	6.321	0.025	1873	31.1
Aroclor-1221	3	---			0.0	3	6.633	0.012	314	3.2
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	7.698	0.043	2193	6.0	3	---			0.0
Aroclor-1232	4	8.505	-0.076	11525	74.5	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	7.698	0.042	2193	3.1	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	8.505	-0.074	11525	35.2	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	---			0.0	1	---			0.0
Aroclor-1248	2	---			0.0	2	---			0.0
Aroclor-1248	3	---			0.0	3	---			0.0
Aroclor-1248	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1254	1	---			0.0	1	---			0.0
Aroclor-1254	2	---			0.0	2	---			0.0
Aroclor-1254	3	9.596	-0.072	31424	64.3	3	---			0.0
Aroclor-1254	4	---			0.0	4	---			0.0
Aroclor-1254	5	10.167	-0.010	18361	30.8	5	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1260	1	11.098	0.054	6994	12.7	1	---			0.0
Aroclor-1260	2	---			0.0	2	---			0.0
Aroclor-1260	3	11.706	-0.027	7806	5.1	3	---			0.0
Aroclor-1260	4	---			0.0	4	---			0.0
Aroclor-1260	5	---			0.0	NS	---			----
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1262	1	10.824	-0.005	16873	35.8	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	13.040	0.053	14031	18.6	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	12.709	0.009	6037	3.6	3	12.891	-0.001	659	0.7
Aroclor-1268	4	13.499	0.010	12396	2.3	4	13.710	0.001	1848	0.6
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (5.906 - 13.793) = 260205 Col1 Total PCB = 0.0 ppm*

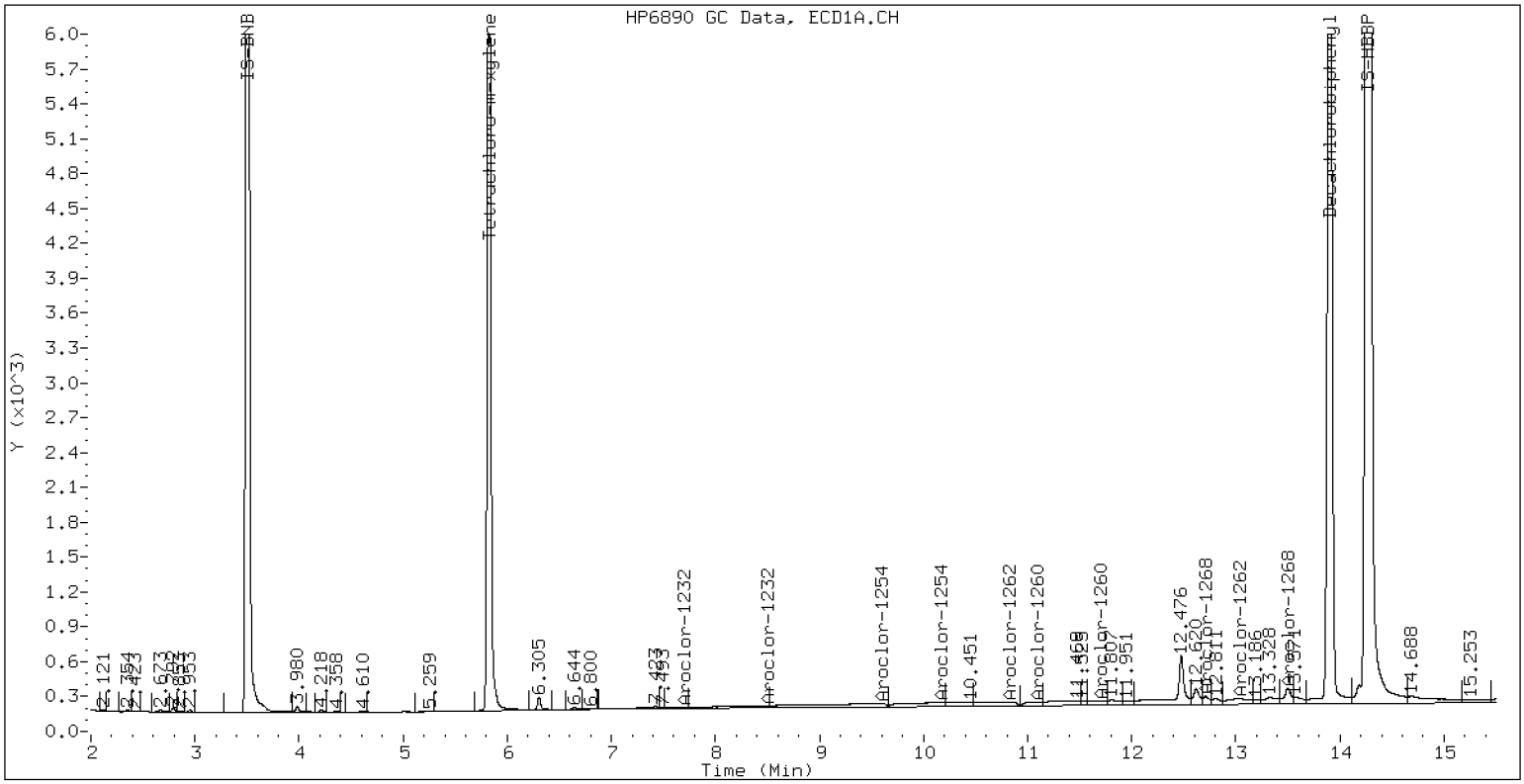
Total PCB Area Col2 (5.785 - 14.019) = 18252 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

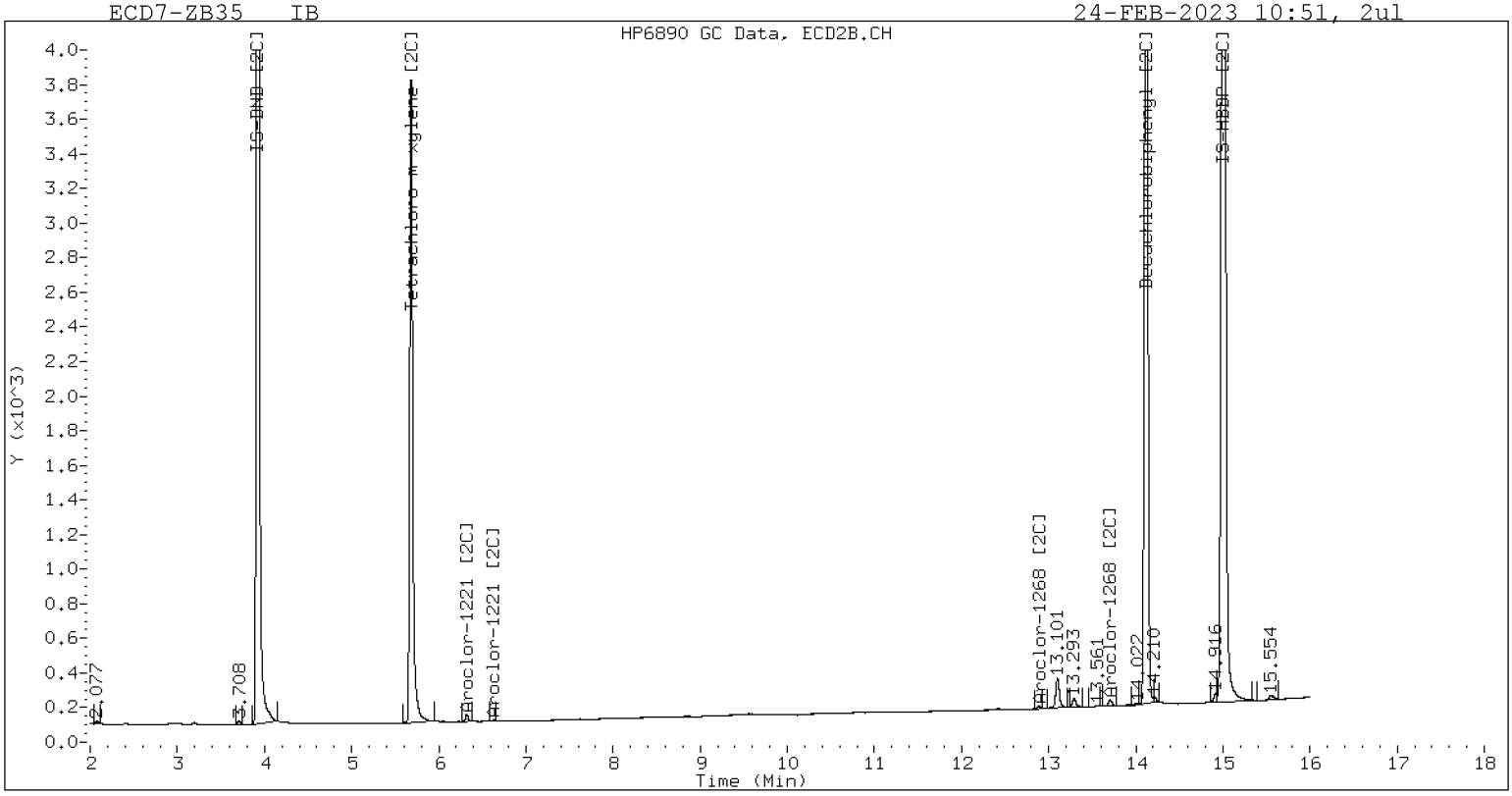
PCB Dual Column Chromatograms

ECD7-ZB5 IB 24-FEB-2023 10:51, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 IB 24-FEB-2023 10:51, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242302ECD7.D
Data file 2: /230224.b/230224.b/02242302ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR1660
Client ID:
Injection Date: 24-FEB-2023 11:12
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.811	0.005	405980	5.687	0.002	192160	40.4	41.5	2.9	Tetrachloro-m-xylene
13.897	0.004	563414	14.120	0.001	336737	40.0	43.0	7.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	673778	0.0
Hexabromobiphenyl	1429847	1429847	0.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	315256	0.0
Hexabromobiphenyl	513946	513946	0.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	7.272	0.001	66125	258.4	1	7.255	-0.001	46626	252.6
Aroclor-1016	2	7.654	-0.000	207370	265.8	2	7.855	-0.001	101071	270.1
Aroclor-1016	3	7.792	0.002	92507	242.9	3	8.055	0.001	43448	257.1
Aroclor-1016	4	8.406	0.001	64388	261.5	4	8.306	-0.000	33986	256.3
	Total Col1Ave (4 peaks):				257.2	Total Col2Ave (4 peaks):				259.0 RPD = 1
	Corrected Ave (3 peaks):				254.3	Corrected Ave (3 peaks):				255.3 RPD = 0
			CalAmt %D:		2.9			CalAmt %D:		3.6
Aroclor-1260	1	11.046	0.001	138355	269.0	1	11.653	0.001	77114	255.2
Aroclor-1260	2	11.363	0.002	147051	273.6	2	11.918	0.001	203401	263.7
Aroclor-1260	3	11.736	0.003	383171	268.8	3	12.435	-0.000	51517	251.7
Aroclor-1260	4	12.141	0.002	200399	279.2	4	12.502	0.001	134797	259.3
Aroclor-1260	5	12.247	0.003	83796	271.2	NS	---			----
	Total Col1Ave (5 peaks):				272.4	Total Col2Ave (4 peaks):				257.5 RPD = 6
	Corrected Ave (4 peaks):				270.7	Corrected Ave (3 peaks):				255.4 RPD = 6
			CalAmt %D:		8.9			CalAmt %D:		3.0

Total PCB Area Col1 (5.906 - 13.793) = 4024419 Col1 Total PCB = 0.5 ppm*

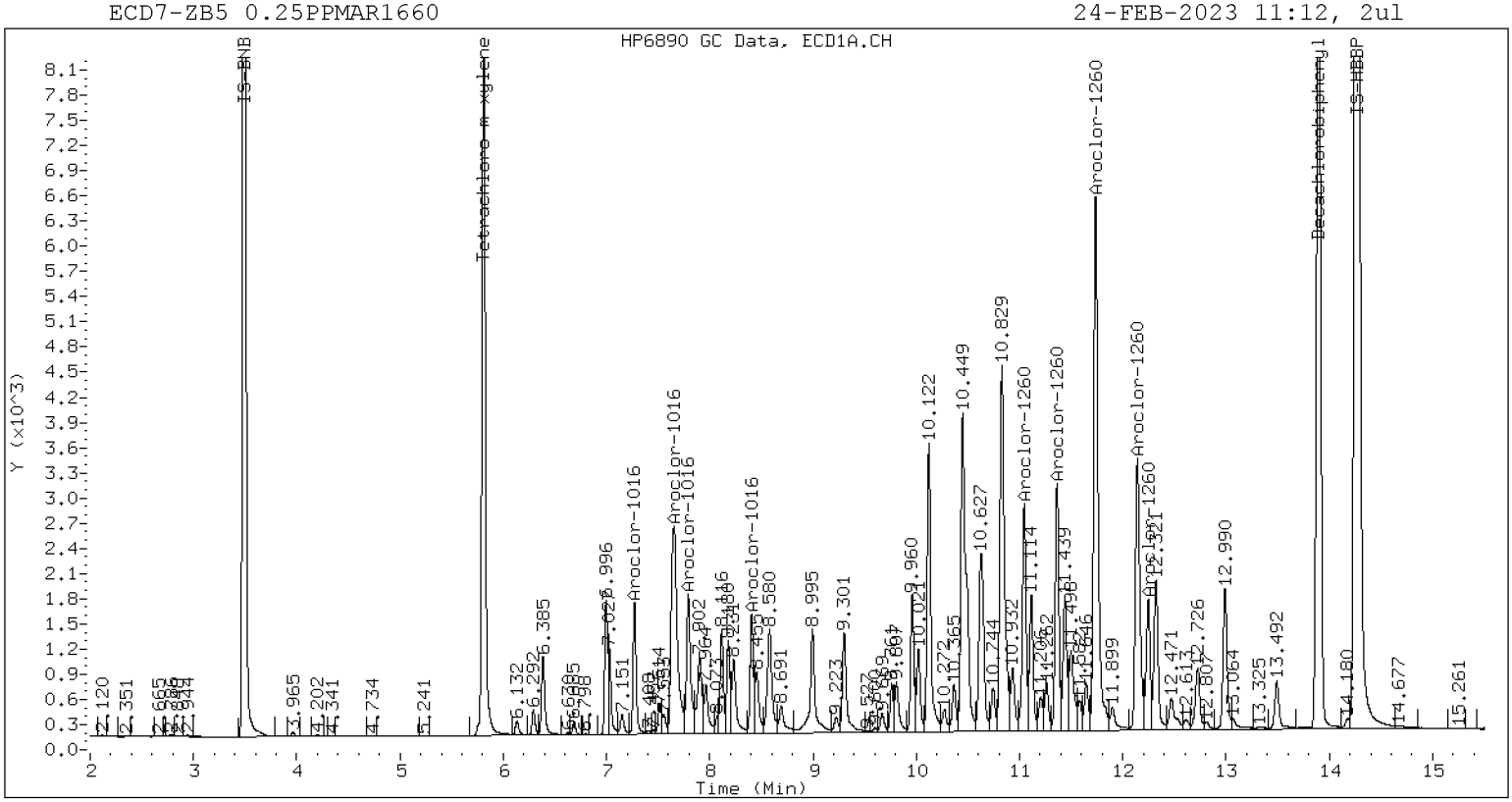
Total PCB Area Col2 (5.785 - 14.019) = 1889311 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

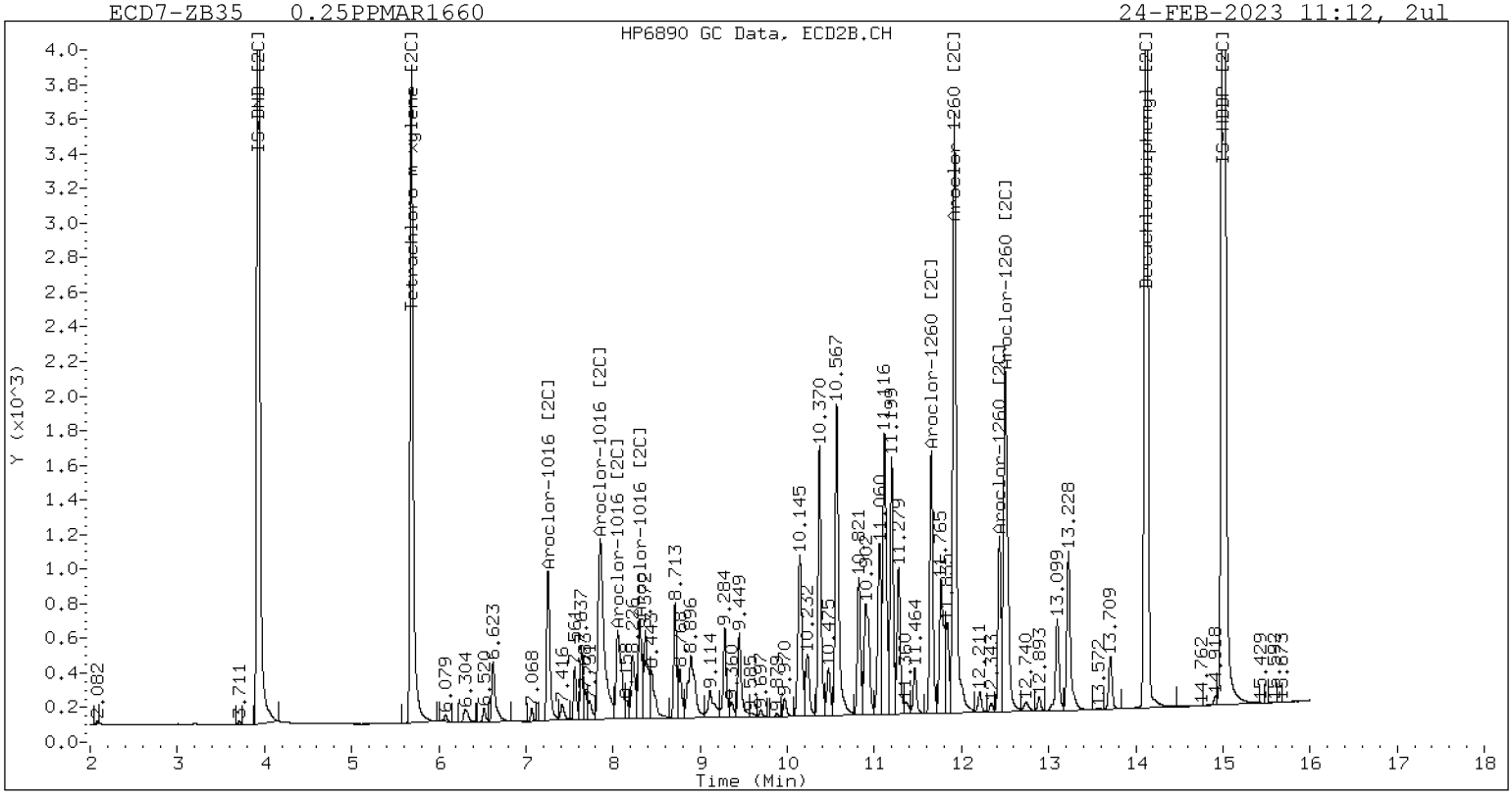
PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR1660 24-FEB-2023 11:12, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR1660 24-FEB-2023 11:12, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242303ECD7.D
Data file 2: /230224.b/230224.b/02242303ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.02PPMAR1660
Client ID:
Injection Date: 24-FEB-2023 11:33
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.809	0.002	29768	5.688	0.003	14932	3.1	3.3	5.7	Tetrachloro-m-xylene
13.893	0.000	45992	14.120	0.000	23950	3.4	3.1	9.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	637010	-5.5
Hexabromobiphenyl	1429847	1386953	-3.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	307177	-2.6
Hexabromobiphenyl	513946	511463	-0.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	7.272	0.001	5052	20.9	1	7.256	0.000	3894	21.7
Aroclor-1016	2	7.659	0.005	14714	19.9	2	7.864	0.008	6253	17.1
Aroclor-1016	3	7.795	0.005	8226	22.8	3	8.060	0.006	3076	18.7
Aroclor-1016	4	8.407	0.002	4780	20.5	4	8.309	0.002	2443	18.9
	Total Col1Ave (4 peaks):				21.1	Total Col2Ave (4 peaks):				19.1 RPD = 10
	Corrected Ave (3 peaks):				20.5	Corrected Ave (3 peaks):				18.2 RPD = 11
		CalAmt %D:			5.3		CalAmt %D:			-4.5
Aroclor-1260	1	11.047	0.003	10147	20.3	1	11.656	0.003	6759	22.5
Aroclor-1260	2	11.364	0.003	10287	19.7	2	11.922	0.005	16592	21.6
Aroclor-1260	3	11.740	0.006	28043	20.3	3	12.438	0.002	4506	22.1
Aroclor-1260	4	12.145	0.006	13540	19.4	4	12.505	0.004	11037	21.3
Aroclor-1260	5	12.246	0.002	6182	20.6	NS	---			----
	Total Col1Ave (5 peaks):				20.1	Total Col2Ave (4 peaks):				21.9 RPD = 9
	Corrected Ave (4 peaks):				19.9	Corrected Ave (3 peaks):				21.7 RPD = 8
		CalAmt %D:			0.4		CalAmt %D:			9.4

Total PCB Area Col1 (5.906 - 13.793) = 324832 Col1 Total PCB = 0.0 ppm*

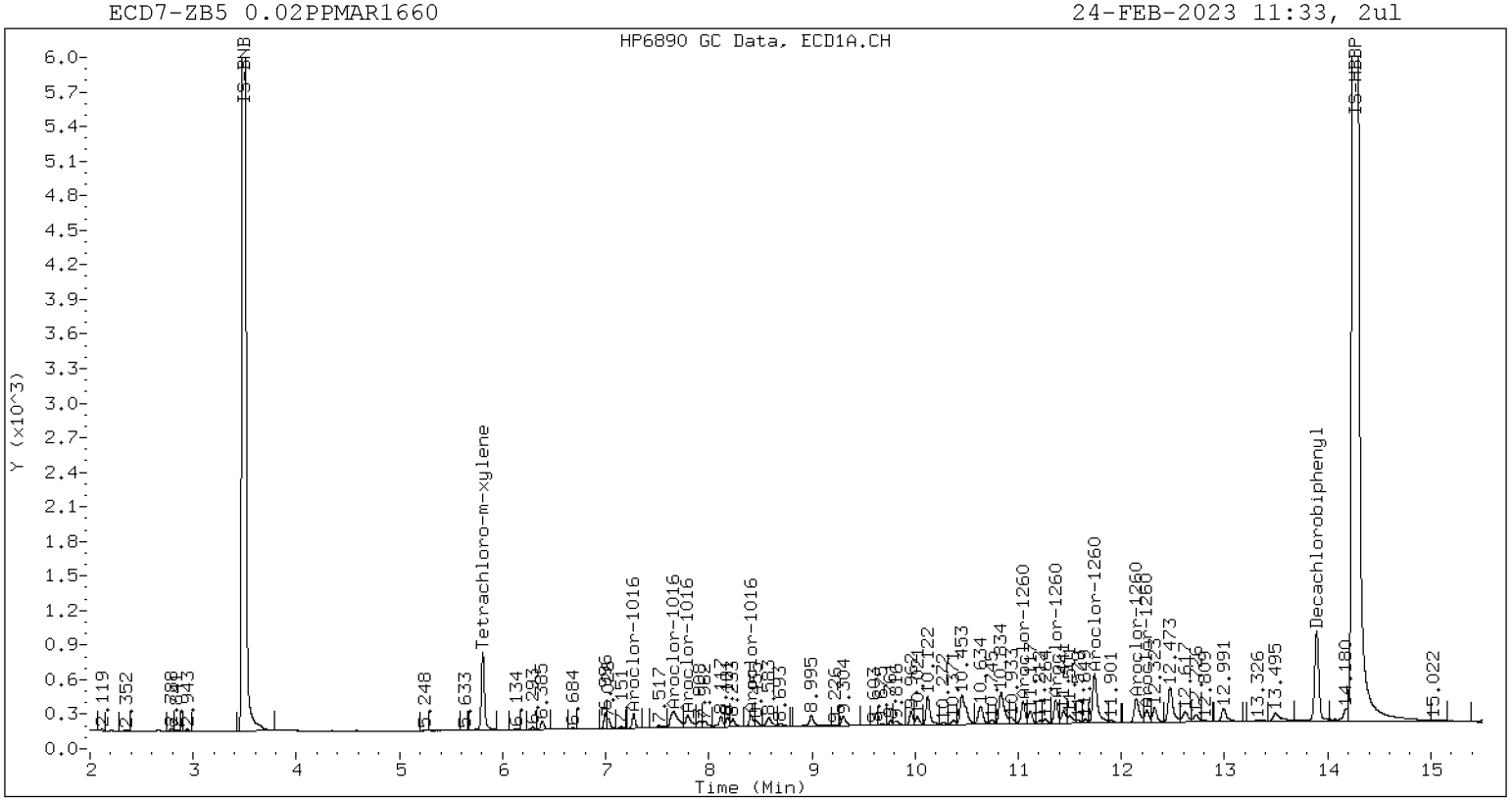
Total PCB Area Col2 (5.785 - 14.019) = 157149 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

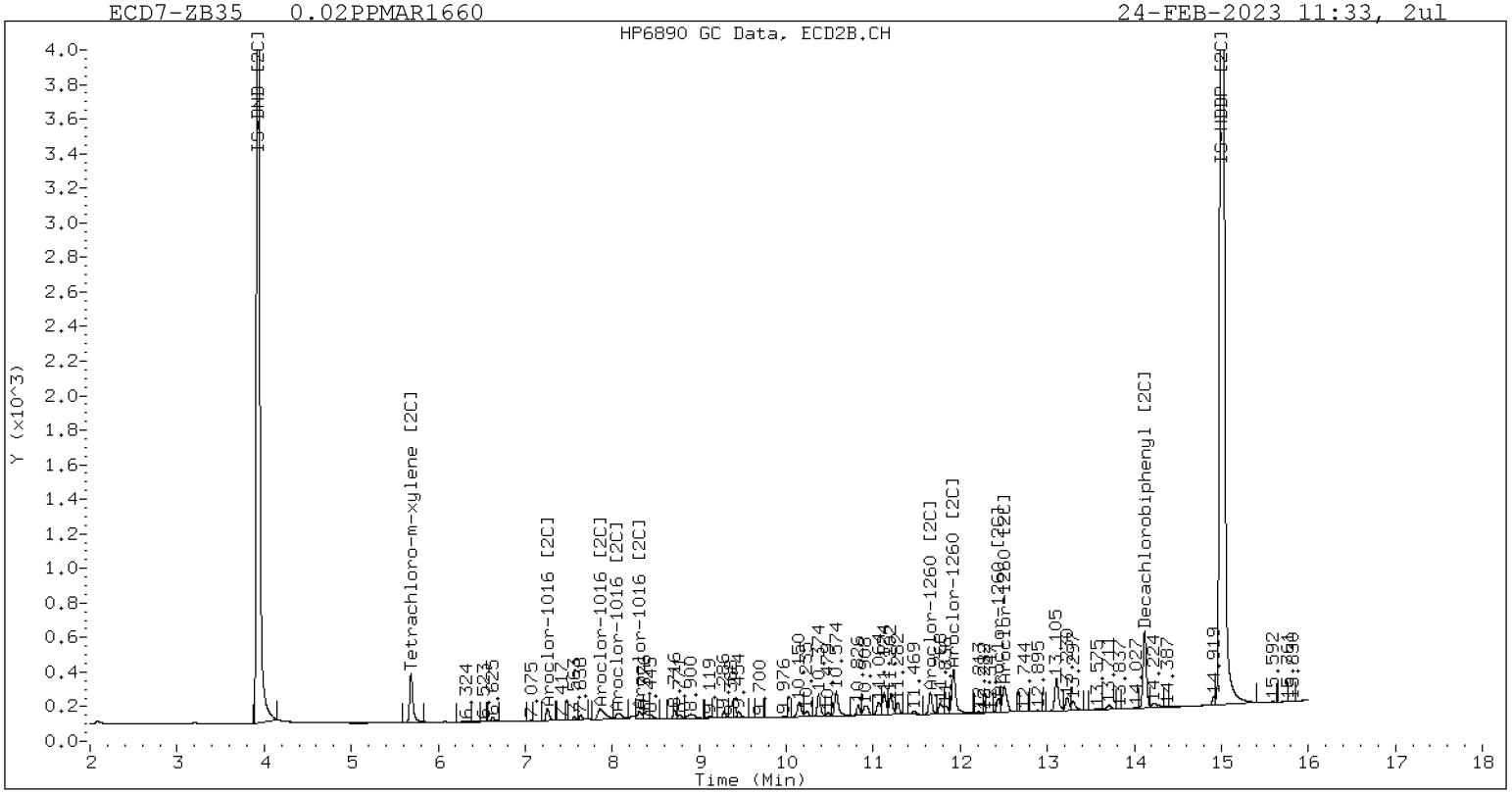
PCB Dual Column Chromatograms

ECD7-ZB5 0.02PPMAR1660 24-FEB-2023 11:33, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.02PPMAR1660 24-FEB-2023 11:33, 2ul

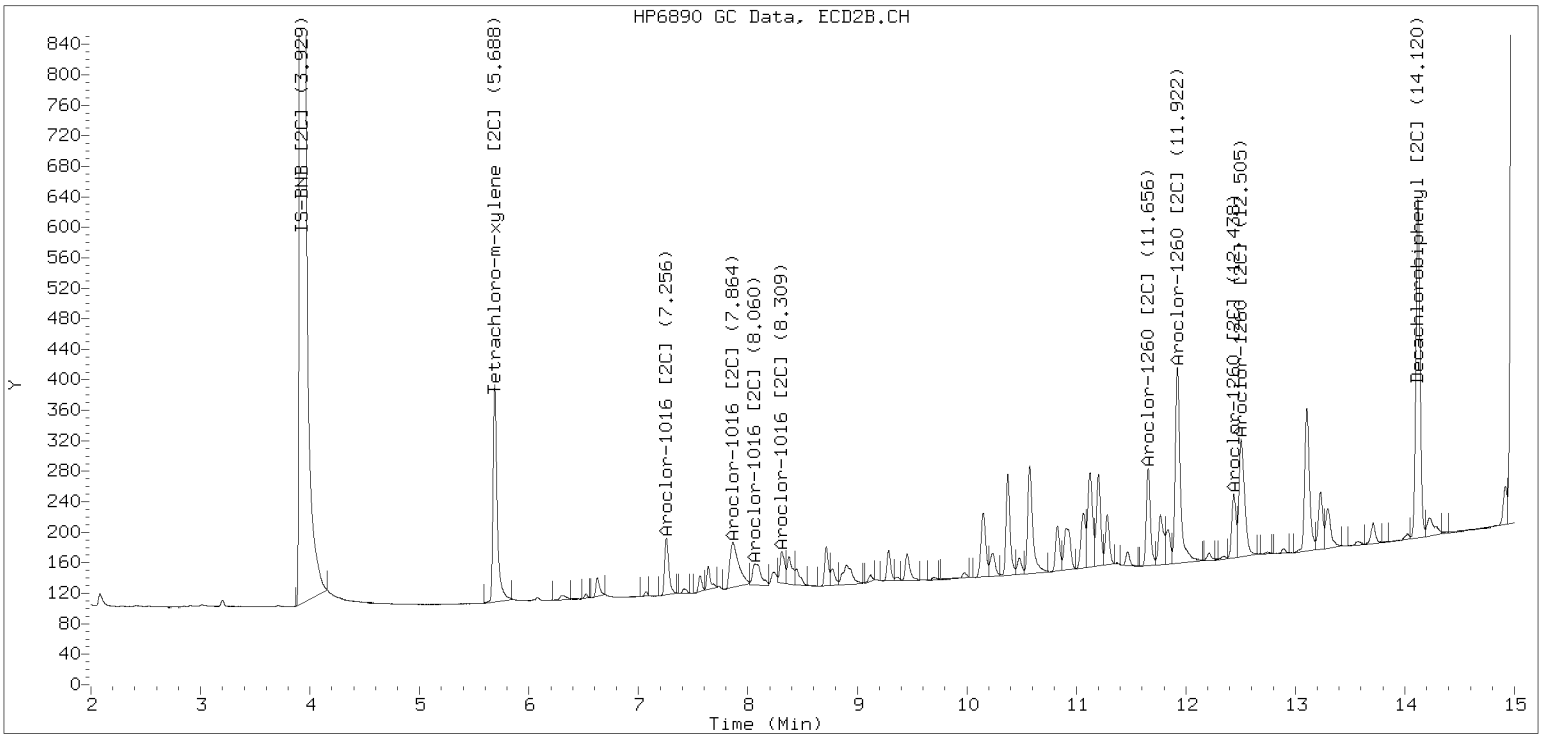


ZB-35 Manual Integration: YES

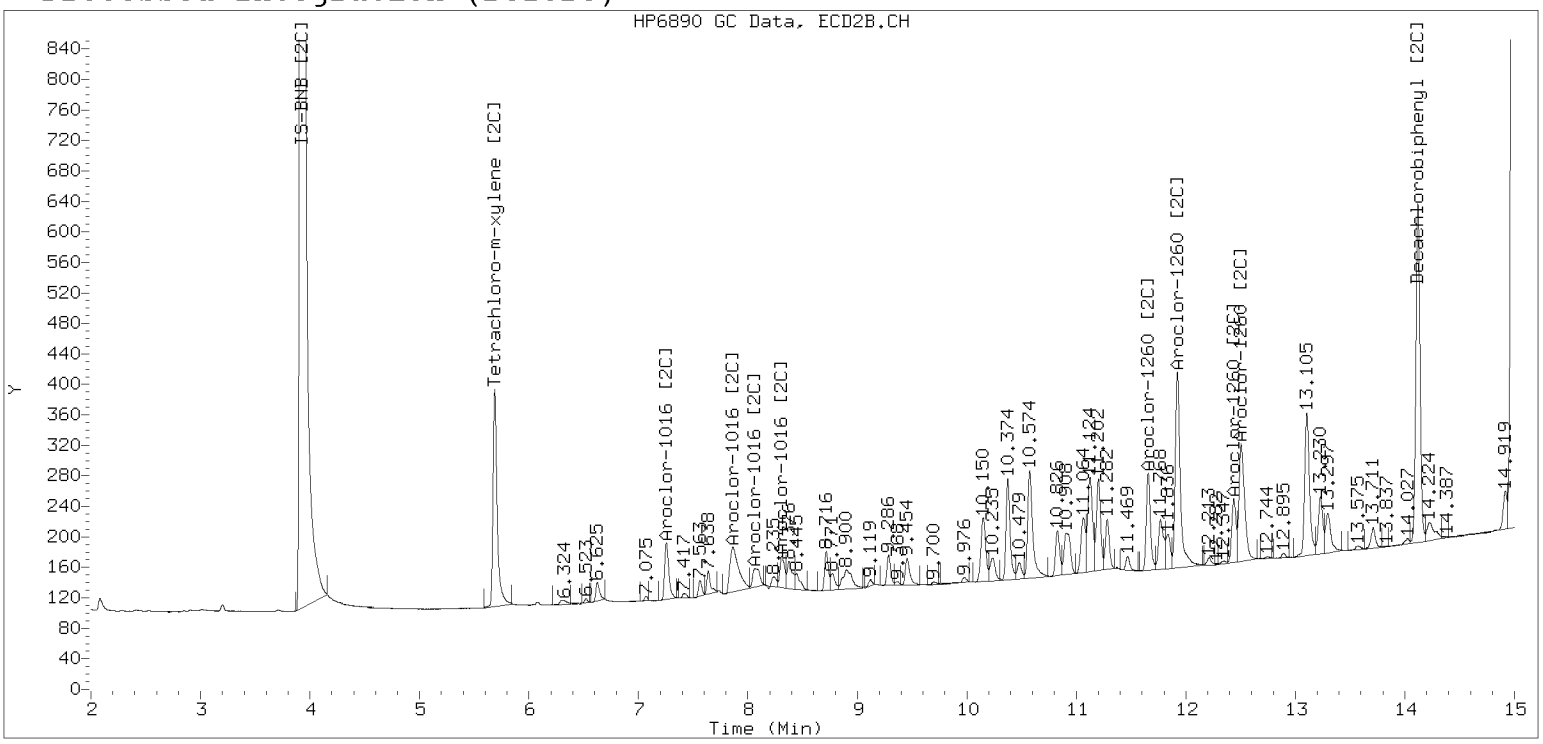
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230224.b/230224.b/02242303ECD7.D Injection Date: 24-FEB-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242304ECD7.D
Data file 2: /230224.b/230224.b/02242304ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.05PPMAR1660
Client ID:
Injection Date: 24-FEB-2023 11:54
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.809	0.003	78493	5.688	0.003	36772	8.3	8.1	2.2	Tetrachloro-m-xylene
13.893	-0.000	113544	14.119	-0.000	62745	8.2	7.9	3.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	630965	-6.4
Hexabromobiphenyl	1429847	1409464	-1.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	307599	-2.4
Hexabromobiphenyl	513946	521112	1.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.272	0.002	12829	53.5	1	7.256	0.000	9654	53.6
Aroclor-1016	2	7.660	0.006	36461	49.9	2	7.864	0.008	18085	49.5
Aroclor-1016	3	7.795	0.005	19865	55.7	3	8.063	0.008	9071	55.0
Aroclor-1016	4	8.408	0.003	11411	49.5	4	8.310	0.003	7309	56.5
Total Col1Ave (4 peaks):					52.2	Total Col2Ave (4 peaks):				53.7 RPD = 3
Corrected Ave (3 peaks):					51.0	Corrected Ave (3 peaks):				52.7 RPD = 3
CalAmt %D:					4.3	CalAmt %D:				7.3
Aroclor-1260	1	11.046	0.002	25727	50.7	1	11.655	0.002	15996	52.2
Aroclor-1260	2	11.363	0.002	26482	50.0	2	11.922	0.004	40487	51.8
Aroclor-1260	3	11.739	0.005	70871	50.4	3	12.437	0.002	10248	49.4
Aroclor-1260	4	12.143	0.004	34239	48.4	4	12.506	0.004	26828	50.9
Aroclor-1260	5	12.246	0.002	15109	49.6	NS	---			----
Total Col1Ave (5 peaks):					49.8	Total Col2Ave (4 peaks):				51.1 RPD = 2
Corrected Ave (4 peaks):					49.6	Corrected Ave (3 peaks):				50.7 RPD = 2
CalAmt %D:					-0.3	CalAmt %D:				2.1

Total PCB Area Col1 (5.906 - 13.793) = 758292 Col1 Total PCB = 0.1 ppm*

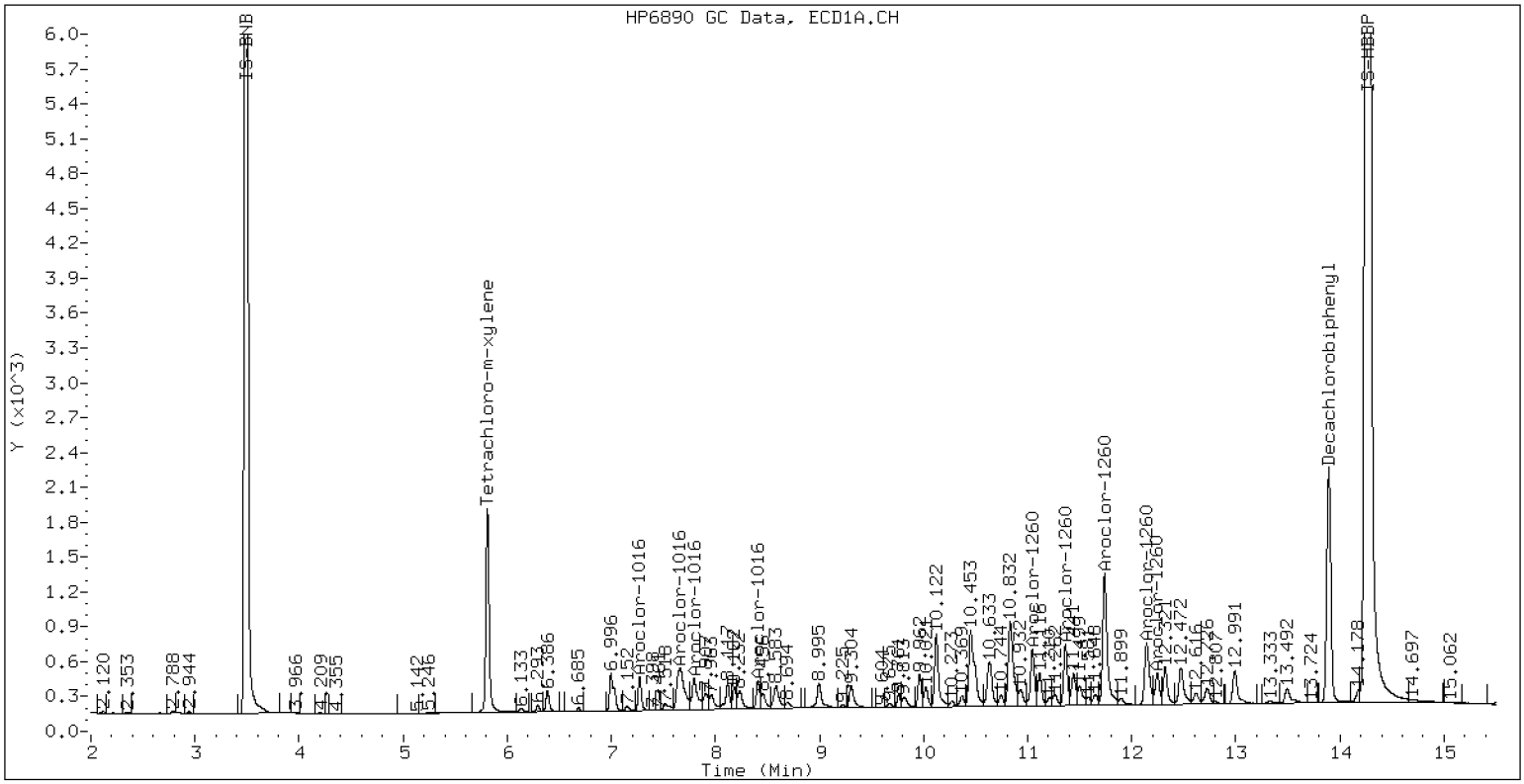
Total PCB Area Col2 (5.785 - 14.019) = 386383 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

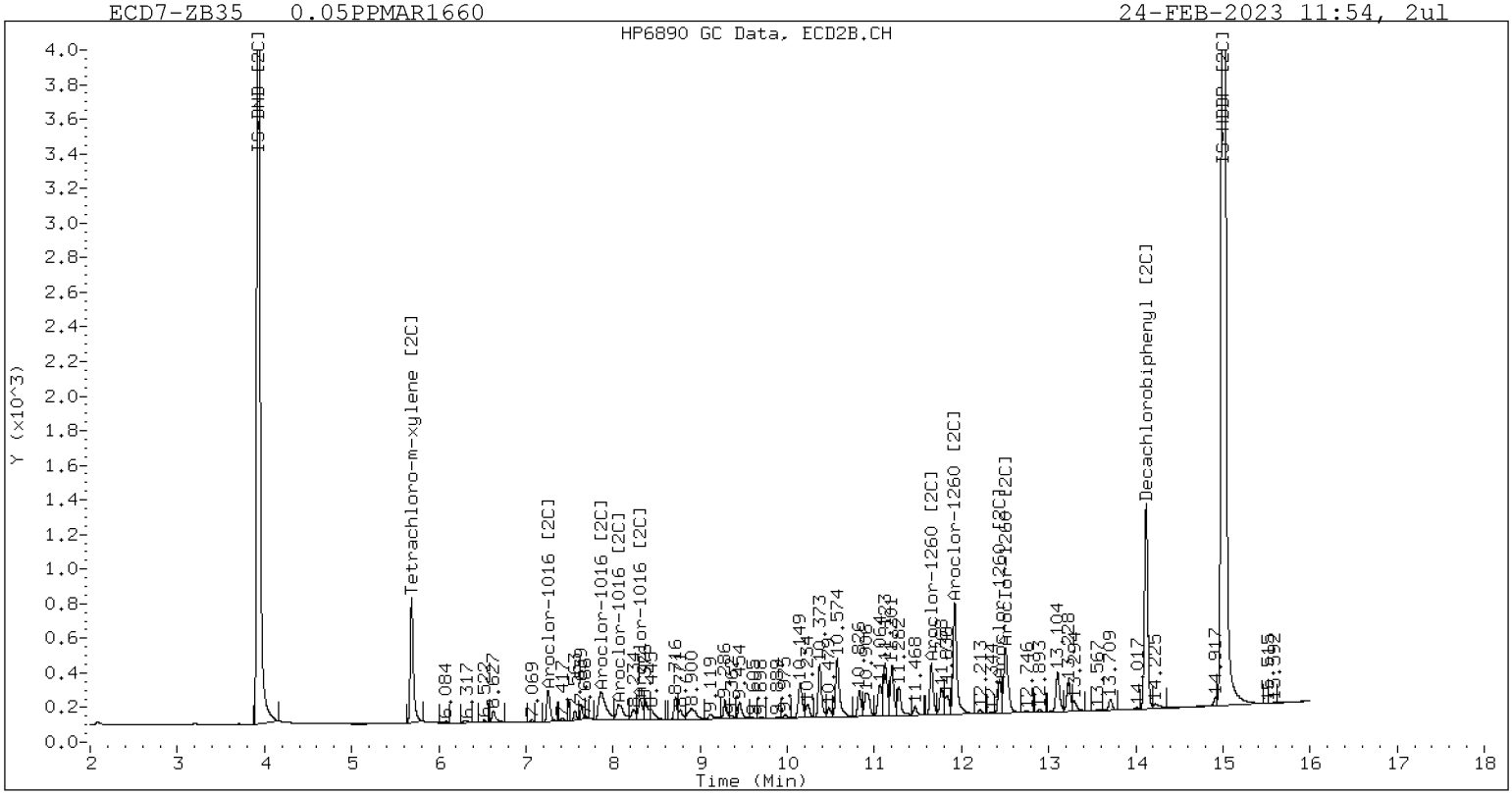
PCB Dual Column Chromatograms

ECD7-ZB5 0.05PPMAR1660 24-FEB-2023 11:54, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.05PPMAR1660 24-FEB-2023 11:54, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242305ECD7.D
Data file 2: /230224.b/230224.b/02242305ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 1.0PPMAR1660
Client ID:
Injection Date: 24-FEB-2023 12:15
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.813	0.006	1641874	5.688	0.003	709674	166.2	151.5	9.3	Tetrachloro-m-xylene
13.899	0.006	2344583	14.122	0.002	1300114	161.9	158.6	2.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	661440	-1.8
Hexabromobiphenyl	1429847	1470100	2.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	319272	1.3
Hexabromobiphenyl	513946	538138	4.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	7.270	-0.000	220519	877.8	1	7.254	-0.001	162833	871.2
Aroclor-1016	2	7.652	-0.002	731607	955.3	2	7.852	-0.004	373610	985.8
Aroclor-1016	3	7.789	-0.001	307629	822.8	3	8.051	-0.003	156666	915.2
Aroclor-1016	4	8.404	-0.001	229387	949.1	4	8.305	-0.002	117186	872.6
	Total Col1Ave (4 peaks):				901.3	Total Col2Ave (4 peaks):				911.2 RPD = 1
	Corrected Ave (3 peaks):				883.3	Corrected Ave (3 peaks):				886.3 RPD = 0
	CalAmt %D:				-9.9	CalAmt %D:				-8.9
Aroclor-1260	1	11.044	-0.000	504641	954.2	1	11.652	-0.000	282606	893.1
Aroclor-1260	2	11.360	-0.001	524931	950.0	2	11.917	-0.000	709329	878.4
Aroclor-1260	3	11.734	-0.000	1410270	962.3	3	12.434	-0.001	215124	1003.8
Aroclor-1260	4	12.137	-0.002	720770	976.7	4	12.501	-0.001	506566	930.6
Aroclor-1260	5	12.243	-0.001	304211	957.7	NS	---			----
	Total Col1Ave (5 peaks):				960.2	Total Col2Ave (4 peaks):				926.5 RPD = 4
	Corrected Ave (4 peaks):				956.0	Corrected Ave (3 peaks):				900.7 RPD = 6
	CalAmt %D:				-4.0	CalAmt %D:				-7.4

Total PCB Area Col1 (5.906 - 13.793) = 14454279 Col1 Total PCB = 1.8 ppm*

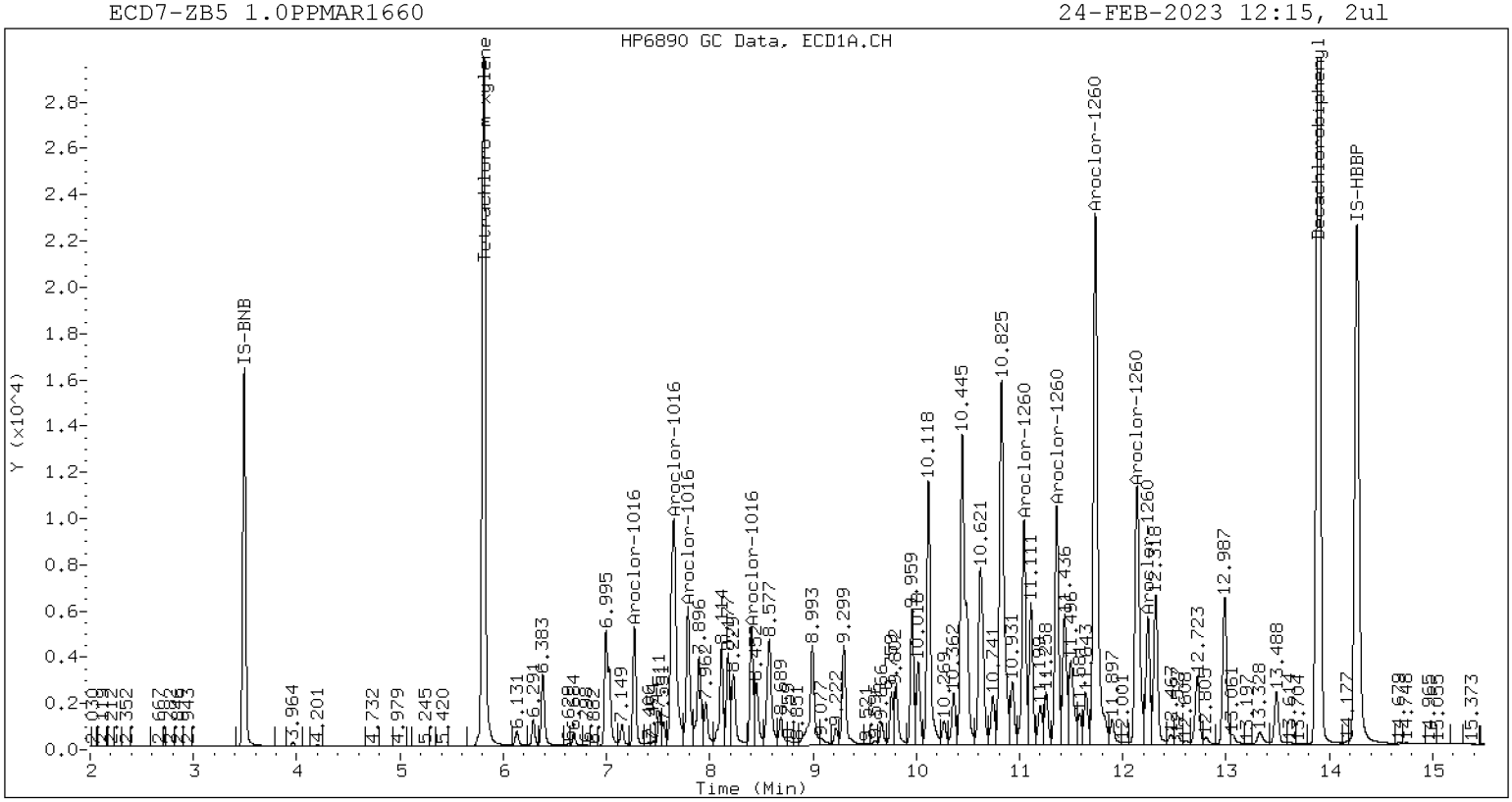
Total PCB Area Col2 (5.785 - 14.019) = 7029563 Col2 Total PCB = 1.8 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

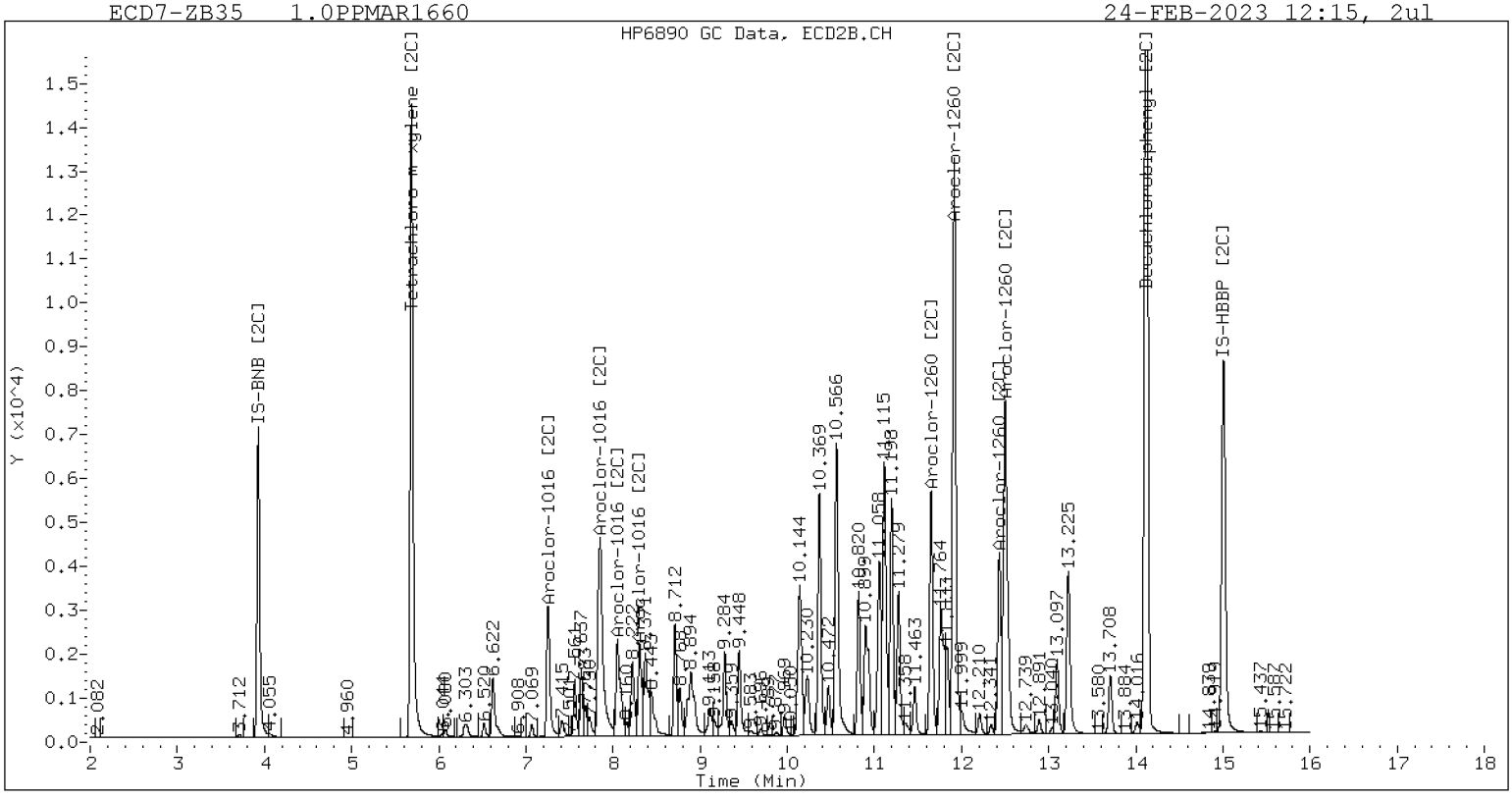
PCB Dual Column Chromatograms

ECD7-ZB5 1.0PPMAR1660 24-FEB-2023 12:15, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 1.0PPMAR1660 24-FEB-2023 12:15, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242306ECD7.D
Data file 2: /230224.b/230224.b/02242306ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.1PPMAR1660
Client ID:
Injection Date: 24-FEB-2023 12:36
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.809	0.002	155528	5.688	0.003	74628	15.9	16.0	0.9	Tetrachloro-m-xylene
13.892	-0.001	227253	14.119	-0.000	128496	15.8	15.8	0.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	655979	-2.6
Hexabromobiphenyl	1429847	1464509	2.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	317418	0.7
Hexabromobiphenyl	513946	532962	3.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.271	0.000	25761	103.4	1	7.255	-0.000	19315	103.9
Aroclor-1016	2	7.657	0.003	75616	99.6	2	7.863	0.007	40308	107.0
Aroclor-1016	3	7.794	0.004	39547	106.7	3	8.059	0.005	18304	107.6
Aroclor-1016	4	8.406	0.001	24260	101.2	4	8.309	0.002	14708	110.2
Total Col1Ave (4 peaks):					102.7	Total Col2Ave (4 peaks):				107.2 RPD = 4
Corrected Ave (3 peaks):					101.4	Corrected Ave (3 peaks):				106.2 RPD = 5
CalAmt %D:					2.7	CalAmt %D:				7.2
Aroclor-1260	1	11.045	0.000	52009	98.7	1	11.655	0.002	31282	99.8
Aroclor-1260	2	11.362	0.001	55116	100.1	2	11.920	0.003	80574	100.7
Aroclor-1260	3	11.738	0.004	145604	99.7	3	12.437	0.002	19566	92.2
Aroclor-1260	4	12.141	0.002	72408	98.5	4	12.503	0.001	53588	99.4
Aroclor-1260	5	12.245	0.001	30745	97.2	NS	---			----
Total Col1Ave (5 peaks):					98.8	Total Col2Ave (4 peaks):				98.0 RPD = 1
Corrected Ave (4 peaks):					98.5	Corrected Ave (3 peaks):				97.1 RPD = 1
CalAmt %D:					-1.2	CalAmt %D:				-2.0

Total PCB Area Col1 (5.906 - 13.793) = 1555762 Col1 Total PCB = 0.2 ppm*

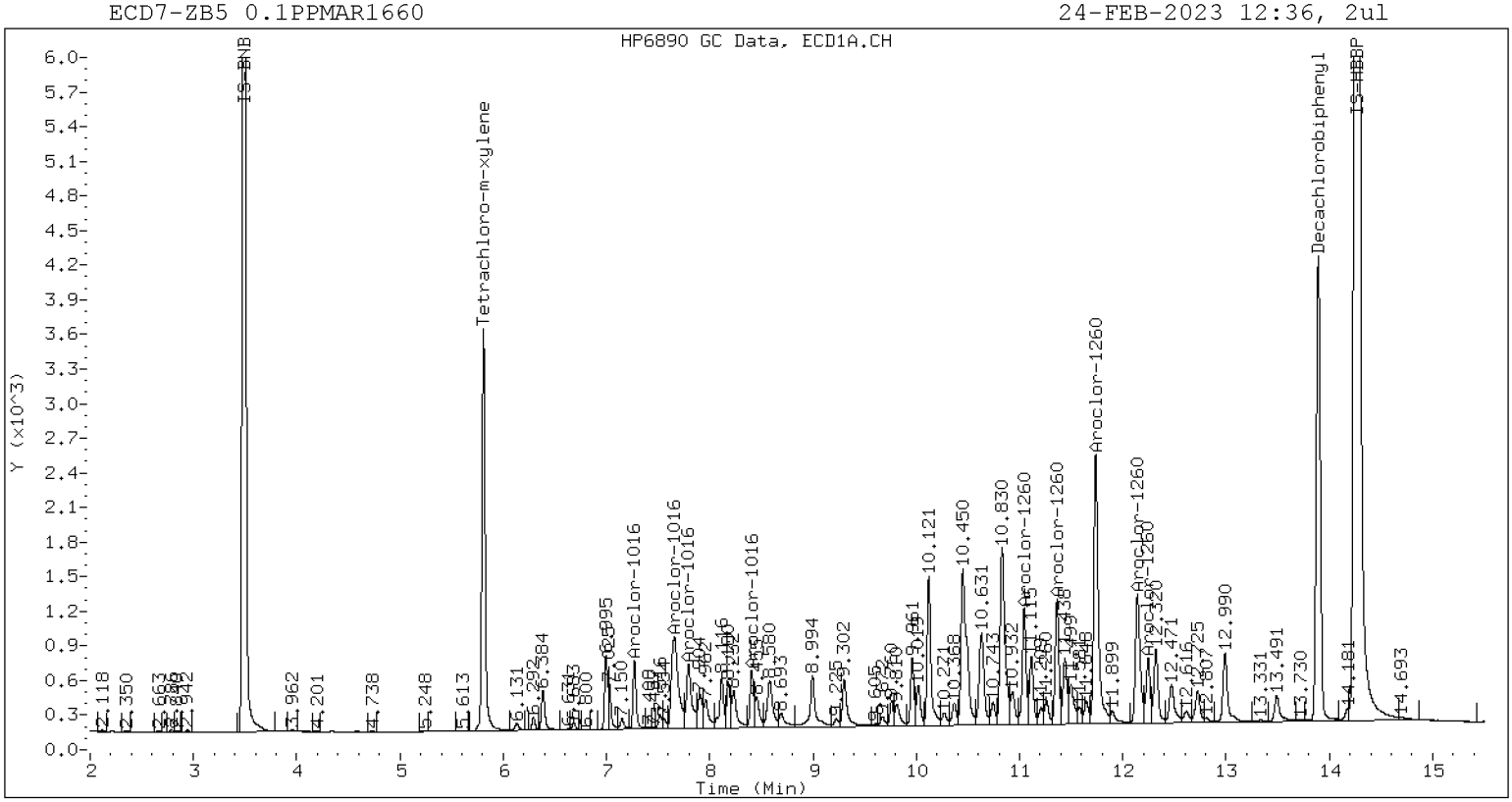
Total PCB Area Col2 (5.785 - 14.019) = 764924 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

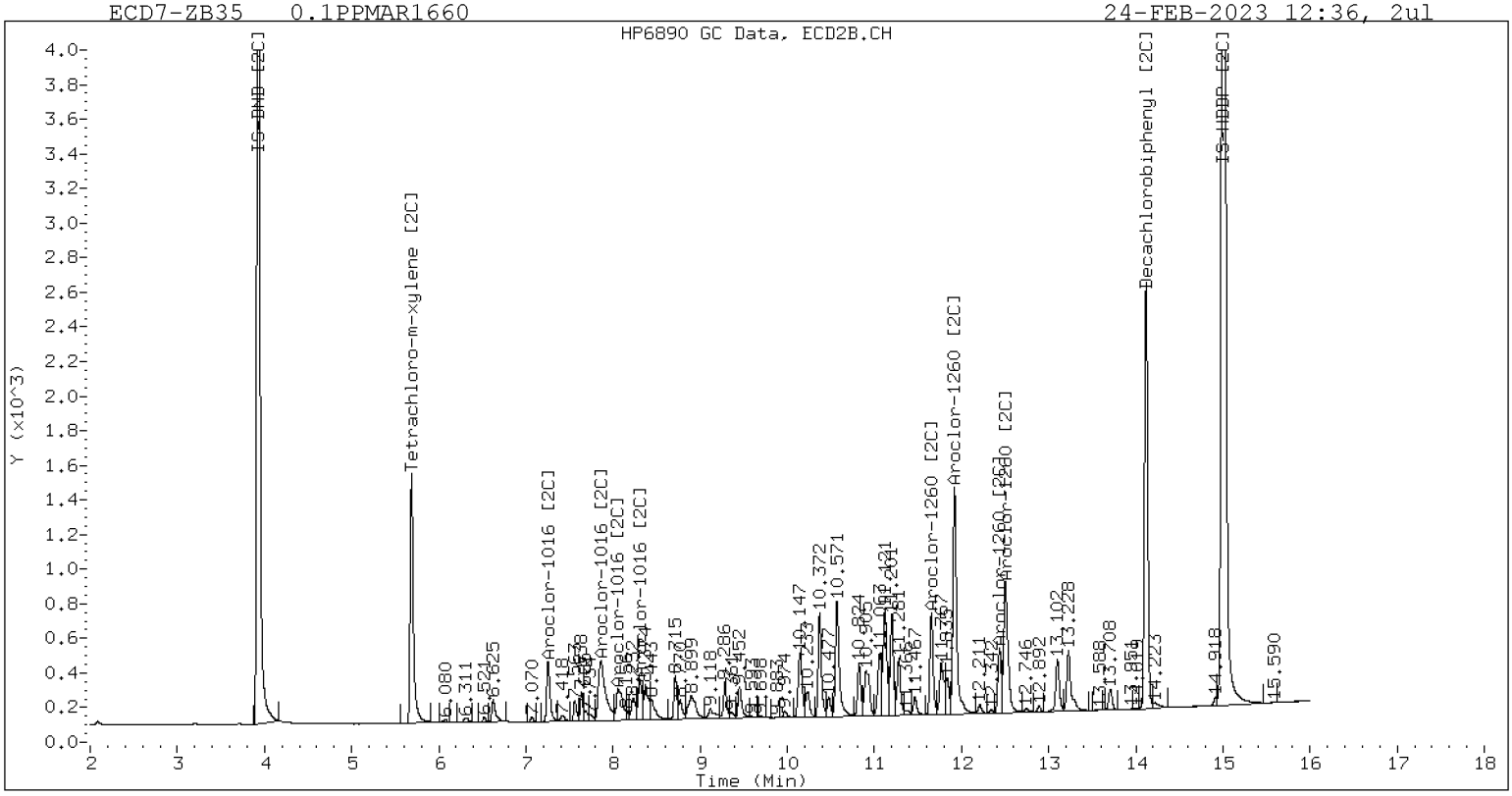
PCB Dual Column Chromatograms

ECD7-ZB5 0.1PPMAR1660 24-FEB-2023 12:36, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.1PPMAR1660 24-FEB-2023 12:36, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242307ECD7.D
Data file 2: /230224.b/230224.b/02242307ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.5PPMAR1660
Client ID:
Injection Date: 24-FEB-2023 12:57
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.810	0.004	724614	5.688	0.003	359257	75.2	76.7	2.0	Tetrachloro-m-xylene
13.898	0.005	1056911	14.120	0.000	650153	74.3	79.5	6.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	645275	-4.2
Hexabromobiphenyl	1429847	1445345	1.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	319170	1.2
Hexabromobiphenyl	513946	536853	4.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	7.270	0.000	115193	470.0	1	7.256	0.000	86287	461.8
Aroclor-1016	2	7.654	0.000	369991	495.2	2	7.856	0.000	192524	508.1
Aroclor-1016	3	7.790	0.000	160952	441.3	3	8.055	0.000	81039	473.6
Aroclor-1016	4	8.405	0.000	115032	487.9	4	8.307	0.000	62136	462.8
Total Col1Ave (4 peaks):				473.6		Total Col2Ave (4 peaks):			476.6	RPD = 1
Corrected Ave (3 peaks):				466.4		Corrected Ave (3 peaks):			466.1	RPD = 0
CalAmt %D:				-5.3		CalAmt %D:			-4.7	
Aroclor-1260	1	11.044	0.000	247212	475.5	1	11.653	0.000	145247	460.1
Aroclor-1260	2	11.361	0.000	262877	483.9	2	11.918	0.000	379838	471.5
Aroclor-1260	3	11.734	0.000	678830	471.1	3	12.436	0.000	104092	486.9
Aroclor-1260	4	12.139	0.000	356067	490.7	4	12.502	0.000	258953	476.9
Aroclor-1260	5	12.244	0.000	150280	481.2	NS	---			----
Total Col1Ave (5 peaks):				480.5		Total Col2Ave (4 peaks):			473.8	RPD = 1
Corrected Ave (4 peaks):				477.9		Corrected Ave (3 peaks):			469.5	RPD = 2
CalAmt %D:				-3.9		CalAmt %D:			-5.2	

Total PCB Area Col1 (5.906 - 13.793) = 7134169 Col1 Total PCB = 0.9 ppm*

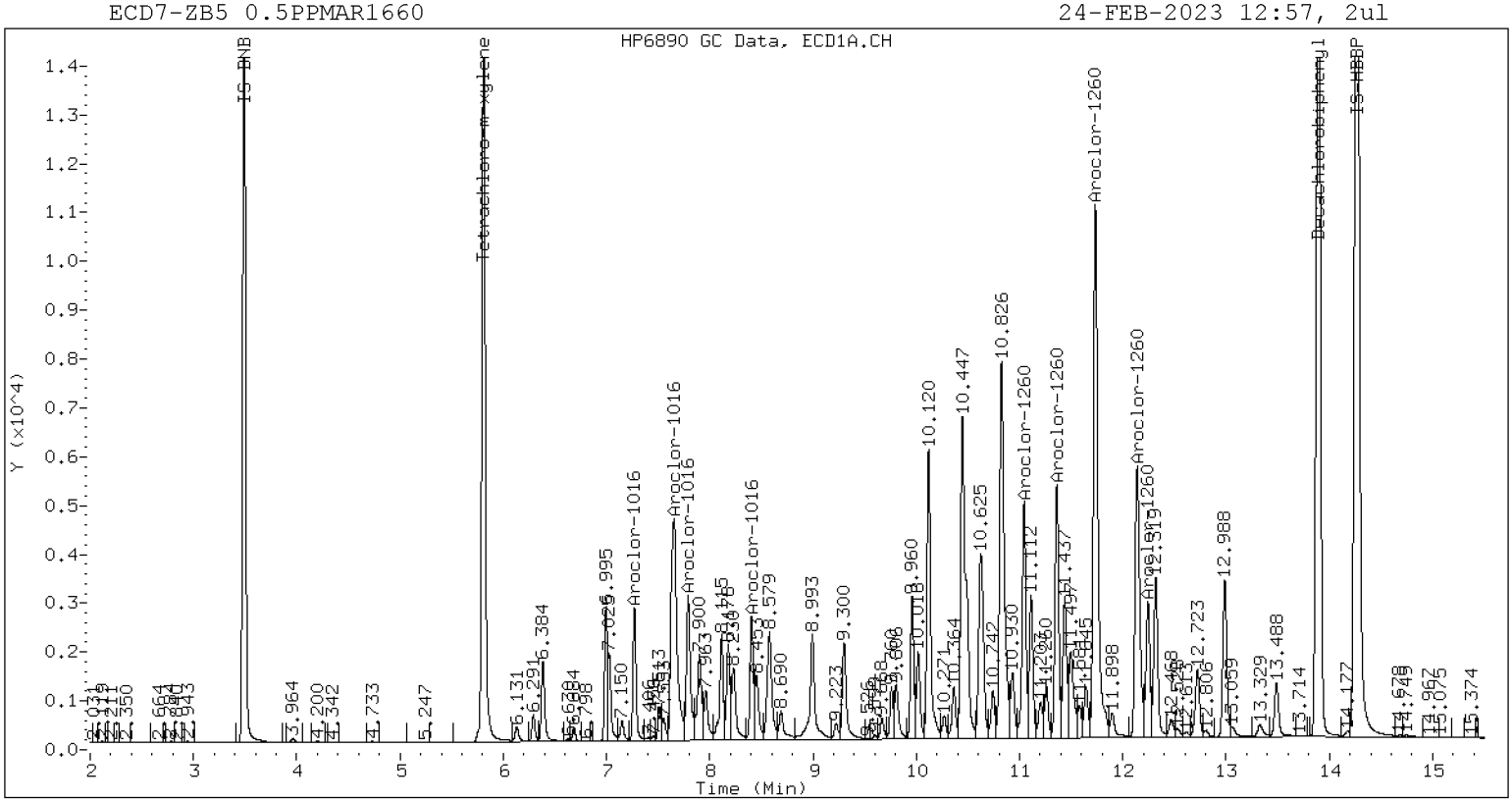
Total PCB Area Col2 (5.785 - 14.019) = 3589735 Col2 Total PCB = 0.9 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

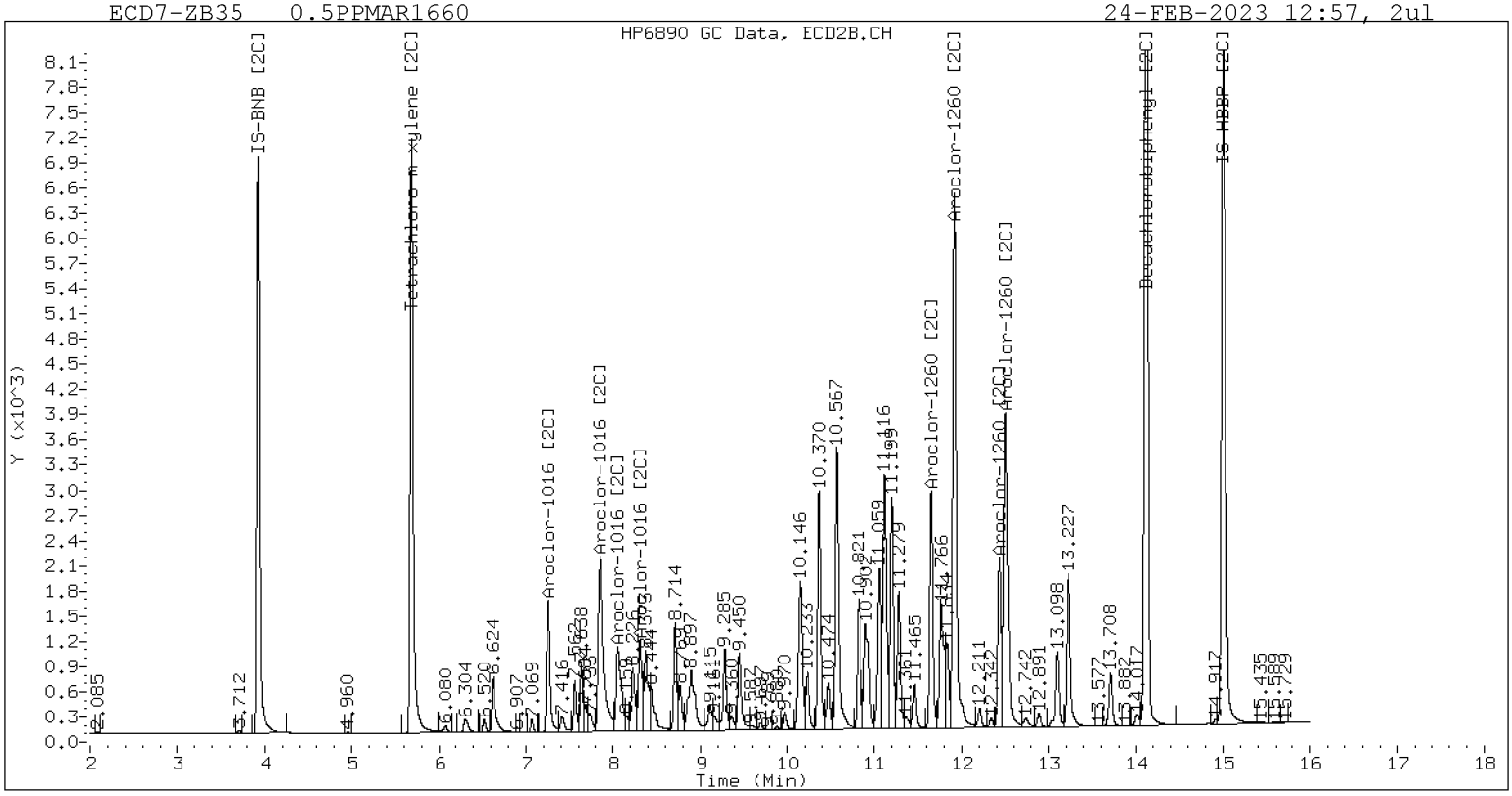
PCB Dual Column Chromatograms

ECD7-ZB5 0.5PPMAR1660 24-FEB-2023 12:57, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.5PPMAR1660 24-FEB-2023 12:57, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242308ECD7.D
Data file 2: /230224.b/230224.b/02242308ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1242.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR1242
Client ID:
Injection Date: 24-FEB-2023 13:18
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.809	0.003	434187	5.688	0.003	214306	46.0	46.5	1.1	Tetrachloro-m-xylene
13.894	0.000	515867	14.119	-0.001	312943	35.6	38.5	7.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	632576	-6.1
Hexabromobiphenyl	1429847	1469715	2.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	314129	-0.4
Hexabromobiphenyl	513946	534294	4.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1242	1	7.271	0.000	49009	250.0	1	7.255	0.000	36487	250.0
Aroclor-1242	2	7.656	0.000	148833	250.0	2	7.858	0.000	76699	250.0
Aroclor-1242	3	8.405	0.000	46308	250.0	3	9.167	0.000	23866	250.0
Aroclor-1242	4	8.579	0.000	68453	250.0	4	9.597	0.000	29080	250.0
Total Col1Ave (4 peaks):					250.0	Total Col2Ave (4 peaks):				250.0 RPD = 0
Corrected Ave (3 peaks):					250.0	Corrected Ave (3 peaks):				250.0 RPD = 0

Total PCB Area Col1 (5.906 - 13.793) = 1221467 Col1 Total PCB = 0.2 ppm*

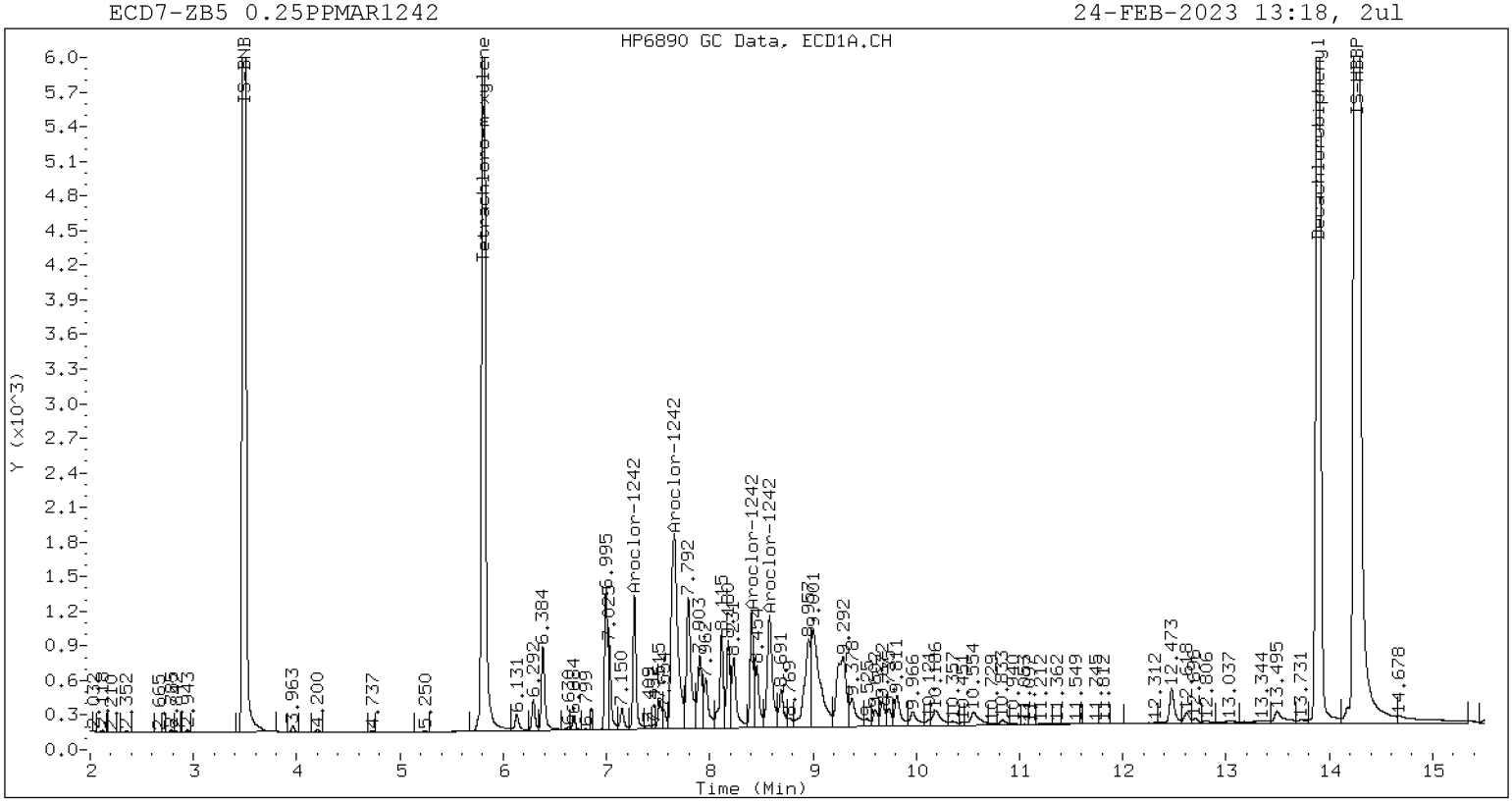
Total PCB Area Col2 (5.785 - 14.019) = 572067 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

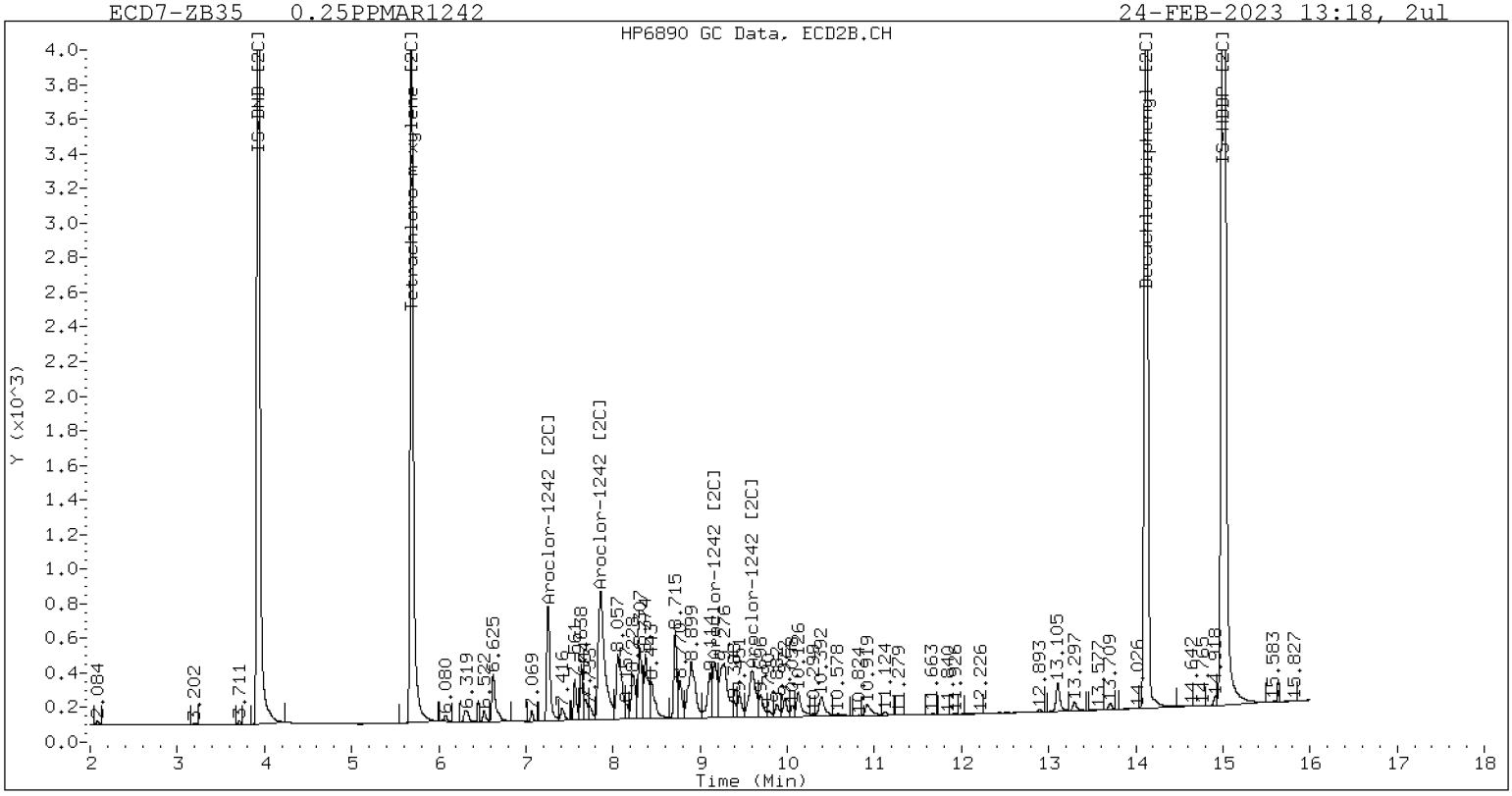
PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR1242 24-FEB-2023 13:18, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR1242 24-FEB-2023 13:18, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242309ECD7.D
Data file 2: /230224.b/230224.b/02242309ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR1248
Client ID:
Injection Date: 24-FEB-2023 13:39
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.809	0.003	349513	5.688	0.003	176615	36.6	37.9	3.4	Tetrachloro-m-xylene
13.894	0.001	523008	14.121	0.001	322054	36.4	39.3	7.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	639911	-5.0
Hexabromobiphenyl	1429847	1458696	2.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	317938	0.9
Hexabromobiphenyl	513946	538760	4.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1248	1	8.405	0.000	78055	250.0	1	8.308	0.000	37951	250.0
Aroclor-1248	2	8.580	0.000	99216	250.0	2	8.714	0.000	39239	250.0
Aroclor-1248	3	8.999	0.000	187178	250.0	3	9.166	0.000	45157	250.0
Aroclor-1248	4	9.295	0.000	95291	250.0	4	9.590	0.000	54216	250.0

Total Col1Ave (4 peaks): 250.0 Total Col2Ave (4 peaks): 250.0 RPD = 0

Corrected Ave (3 peaks): 250.0 Corrected Ave (3 peaks): 250.0 RPD = 0

Total PCB Area Col1 (5.906 - 13.793) = 1565180 Col1 Total PCB = 0.2 ppm*

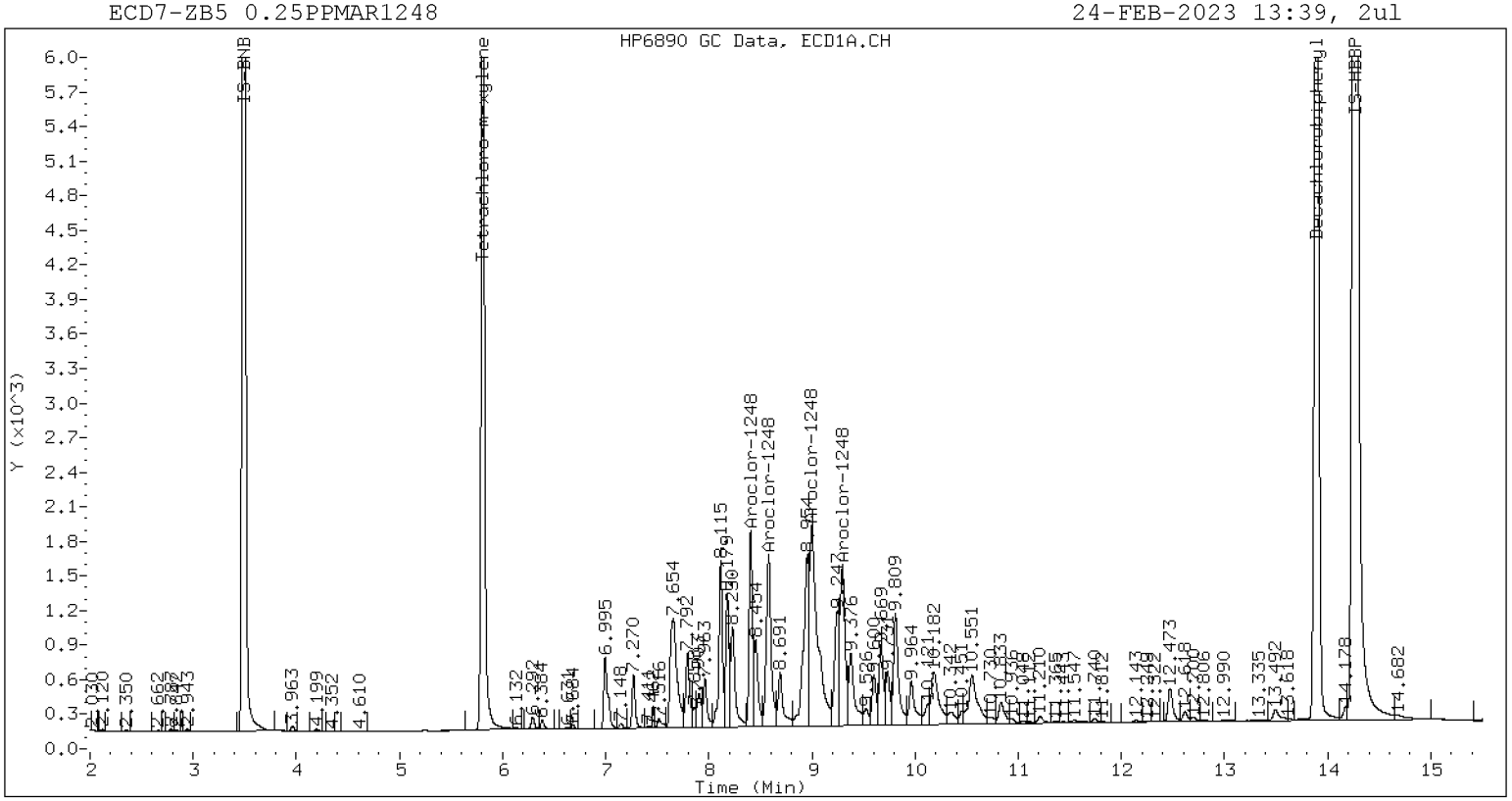
Total PCB Area Col2 (5.785 - 14.019) = 754991 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

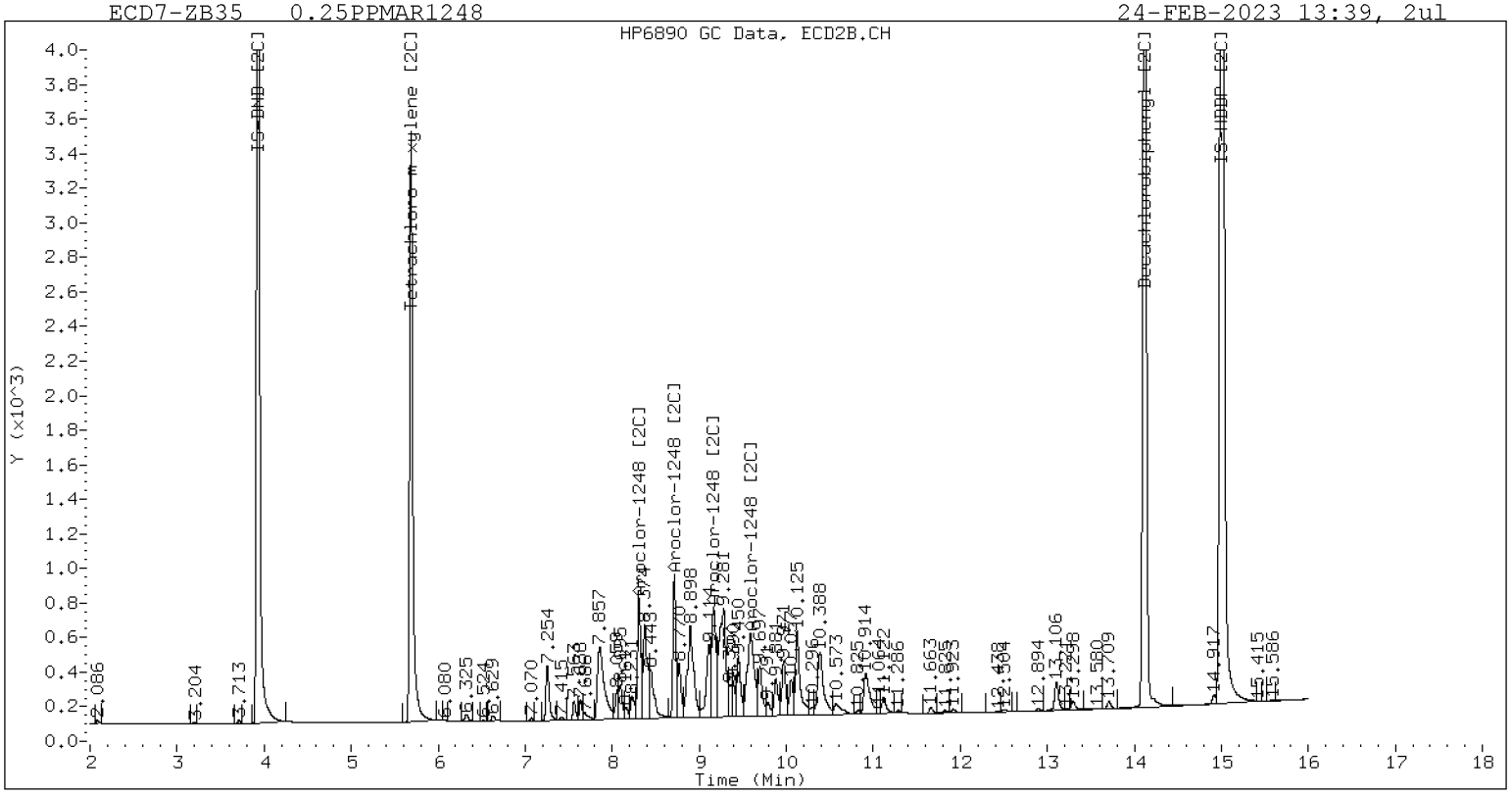
PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR1248 24-FEB-2023 13:39, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR1248 24-FEB-2023 13:39, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242310ECD7.D
Data file 2: /230224.b/230224.b/02242310ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR1254
Client ID:
Injection Date: 24-FEB-2023 14:00
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.808	0.002	352587	5.687	0.002	177502	37.3	38.6	3.4	Tetrachloro-m-xylene
13.895	0.002	532500	14.119	0.000	325903	37.0	40.2	8.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	633407	-6.0
Hexabromobiphenyl	1429847	1460265	2.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	313673	-0.5
Hexabromobiphenyl	513946	532442	3.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1254	1	9.299	0.000	159011	250.0	1	9.449	0.000	59603	250.0
Aroclor-1254	2	9.377	0.000	71516	250.0	2	9.970	0.000	47949	250.0
Aroclor-1254	3	9.668	0.000	102230	250.0	3	10.124	0.000	103745	250.0
Aroclor-1254	4	9.807	0.000	198777	250.0	4	10.373	0.000	101135	250.0
Aroclor-1254	5	10.176	0.000	124586	250.0	5	10.569	0.000	61577	250.0

Total Col1Ave (5 peaks): 250.0 Total Col2Ave (5 peaks): 250.0 RPD = 0

Corrected Ave (4 peaks): 250.0 Corrected Ave (4 peaks): 250.0 RPD = 0

Total PCB Area Col1 (5.906 - 13.793) = 2179224 Col1 Total PCB = 0.3 ppm*

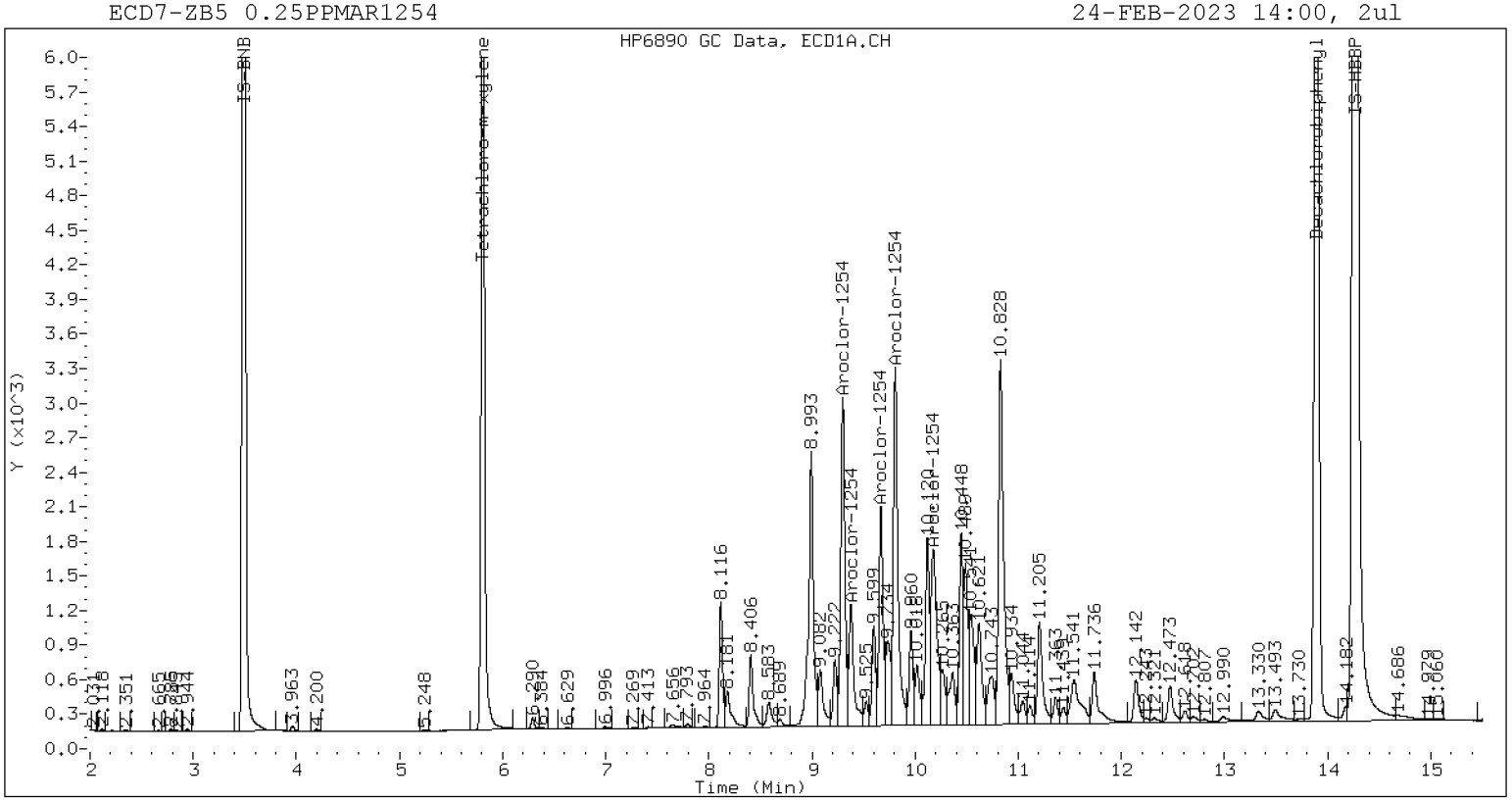
Total PCB Area Col2 (5.785 - 14.019) = 1022156 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

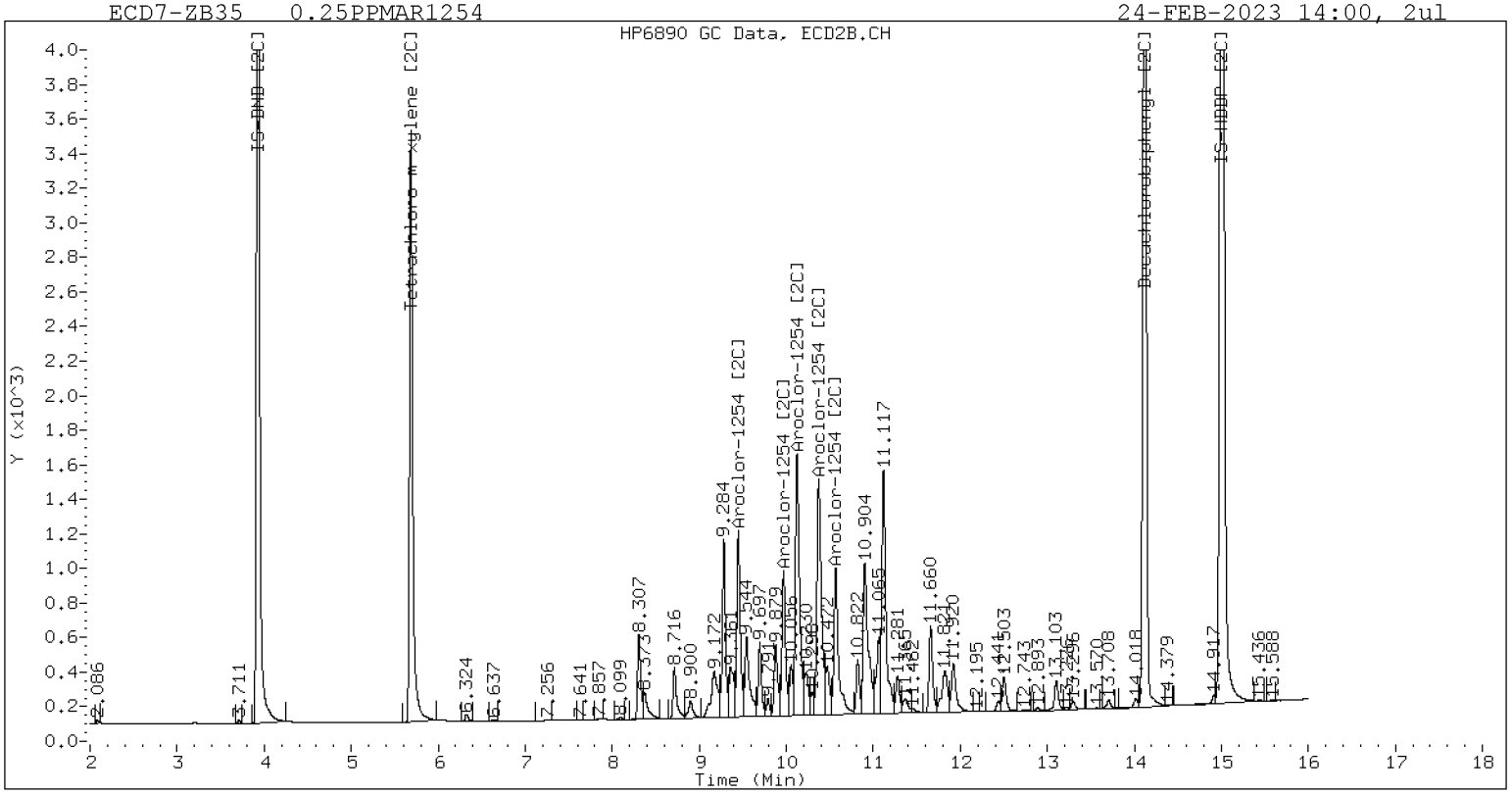
PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR1254 24-FEB-2023 14:00, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR1254 24-FEB-2023 14:00, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242311ECD7.D
Data file 2: /230224.b/230224.b/02242311ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR2162.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR2162
Client ID:
Injection Date: 24-FEB-2023 14:21
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.807	0.001	362236	5.686	0.000	177349	38.4	39.2	2.1	Tetrachloro-m-xylene
13.894	0.001	523254	14.119	-0.000	321034	36.0	39.2	8.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	632433	-6.1
Hexabromobiphenyl	1429847	1474039	3.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	308453	-2.2
Hexabromobiphenyl	513946	538177	4.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1221	1	4.731	0.000	14160	250.0	1	4.956	0.000	7300	250.0
Aroclor-1221	2	6.132	0.000	25324	250.0	2	6.296	0.000	13816	250.0
Aroclor-1221	3	6.382	0.000	58795	250.0	3	6.622	0.000	22491	250.0
Total Col1Ave (3 peaks):					250.0	Total Col2Ave (3 peaks):				250.0 RPD = 0
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1262	1	10.829	0.000	113046	250.0	1	11.200	0.000	114880	250.0
Aroclor-1262	2	12.244	0.000	183948	250.0	2	11.652	0.000	97844	250.0
Aroclor-1262	3	12.319	0.000	197749	250.0	3	12.434	0.000	111015	250.0
Aroclor-1262	4	12.987	0.000	180727	250.0	4	12.502	0.000	173913	250.0
Total Col1Ave (4 peaks):					250.0	Total Col2Ave (4 peaks):				250.0 RPD = 0
Corrected Ave (3 peaks):					250.0	Corrected Ave (3 peaks):				250.0 RPD = 0

Total PCB Area Col1 (5.906 - 13.793) = 3105316 Col1 Total PCB = 0.4 ppm*

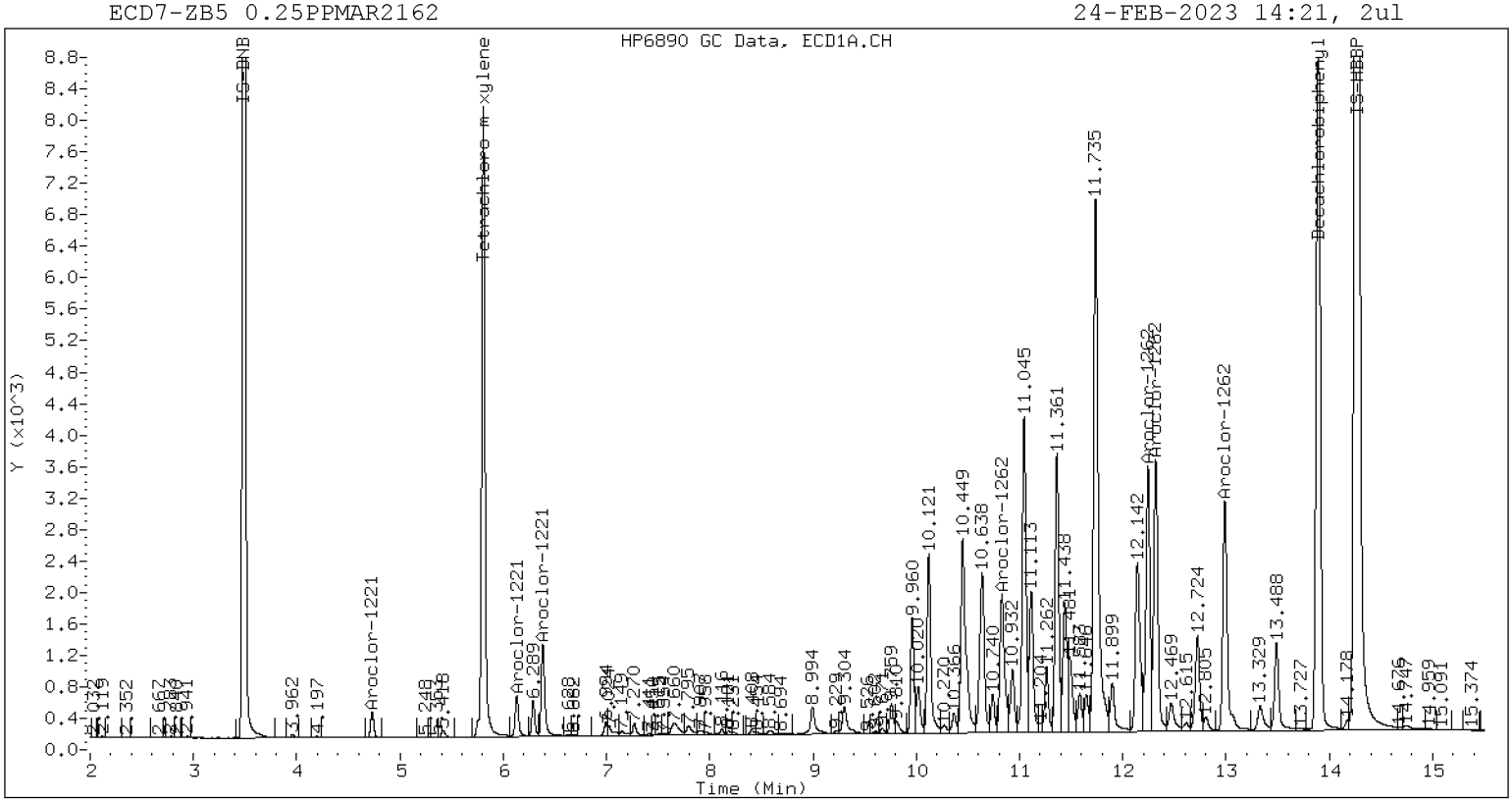
Total PCB Area Col2 (5.785 - 14.019) = 1573107 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

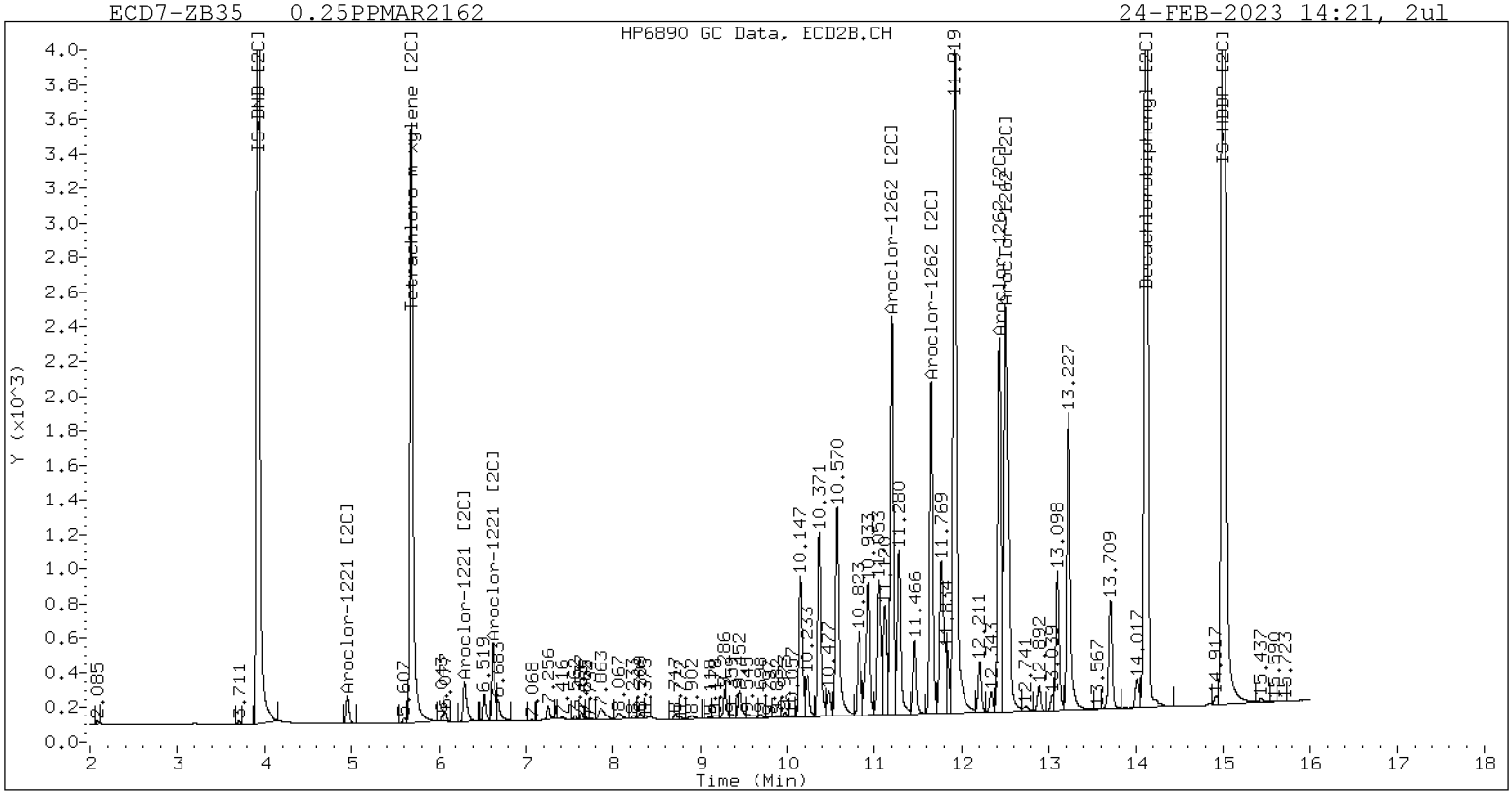
PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR2162 24-FEB-2023 14:21, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR2162 24-FEB-2023 14:21, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242312ECD7.D
Data file 2: /230224.b/230224.b/02242312ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR3268.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR3268
Client ID:
Injection Date: 24-FEB-2023 14:42
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.806	0.000	366416	5.685	0.000	179450	38.0	38.9	2.4	Tetrachloro-m-xylene
13.893	0.000	778191	14.119	0.000	477889	53.0	57.5	8.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	645602	-4.2
Hexabromobiphenyl	1429847	1492154	4.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	314042	-0.4
Hexabromobiphenyl	513946	545458	6.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1232	1	4.730	0.000	8647	250.0	1	4.956	0.000	4017	250.0
Aroclor-1232	2	6.131	0.000	17148	250.0	2	7.254	0.000	19962	250.0
Aroclor-1232	3	7.656	0.000	77627	250.0	3	7.861	0.000	39913	250.0
Aroclor-1232	4	8.581	0.000	32993	250.0	4	8.715	0.000	11487	250.0
Total Col1Ave (4 peaks):					250.0	Total Col2Ave (4 peaks):				250.0 RPD = 0
Corrected Ave (3 peaks):					250.0	Corrected Ave (3 peaks):				250.0 RPD = 0
Aroclor-1268	1	12.247	0.000	477974	250.0	1	12.432	0.000	274595	250.0
Aroclor-1268	2	12.317	0.000	473326	250.0	2	12.500	0.000	295194	250.0
Aroclor-1268	3	12.699	0.000	405011	250.0	3	12.892	0.000	252048	250.0
Aroclor-1268	4	13.490	0.000	1333528	250.0	4	13.709	0.000	805579	250.0
Total Col1Ave (4 peaks):					250.0	Total Col2Ave (4 peaks):				250.0 RPD = 0
Corrected Ave (3 peaks):					250.0	Corrected Ave (3 peaks):				250.0 RPD = 0

Total PCB Area Col1 (5.906 - 13.793) = 3998414 Col1 Total PCB = 0.5 ppm*

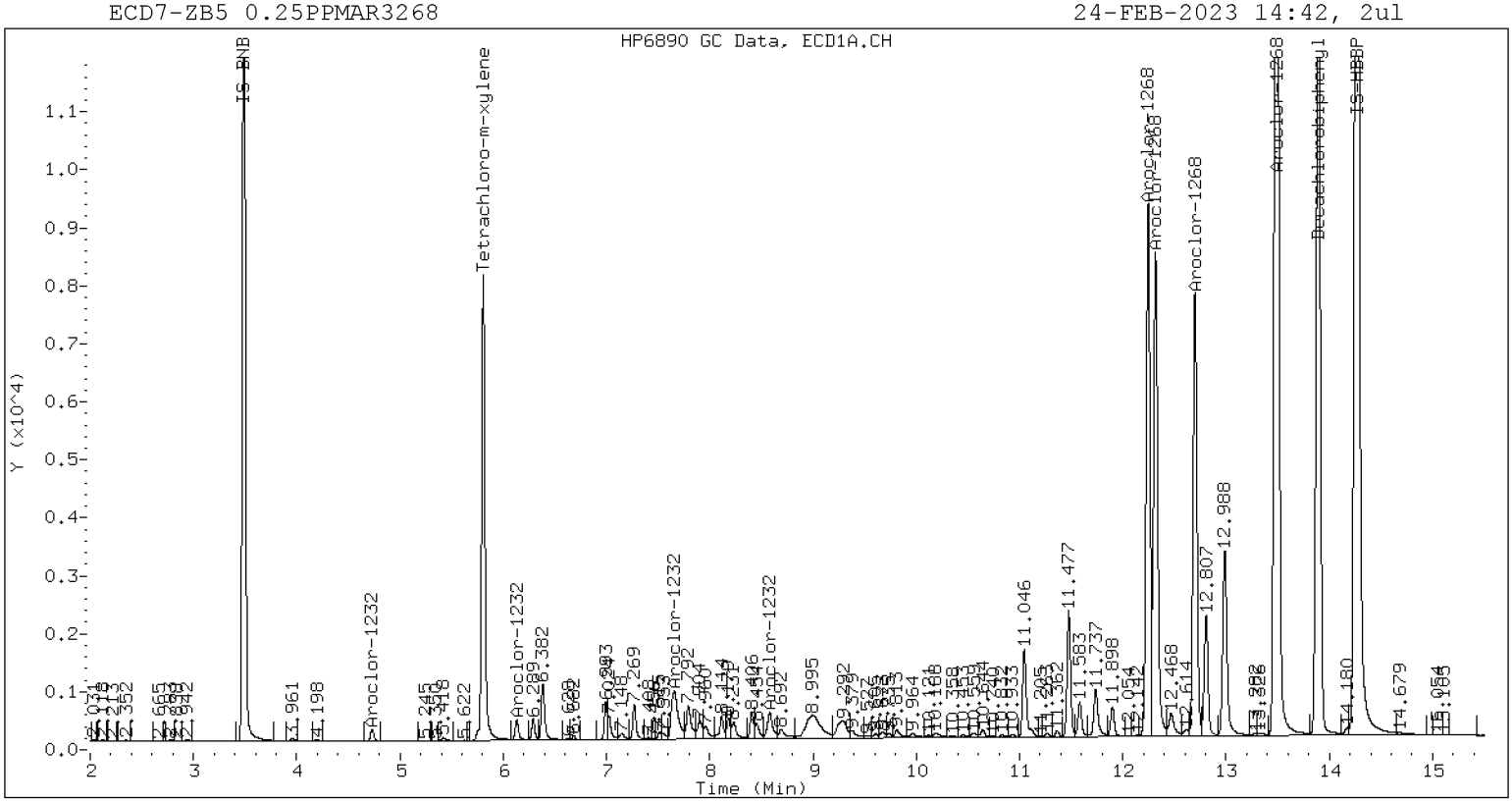
Total PCB Area Col2 (5.785 - 14.019) = 2300029 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

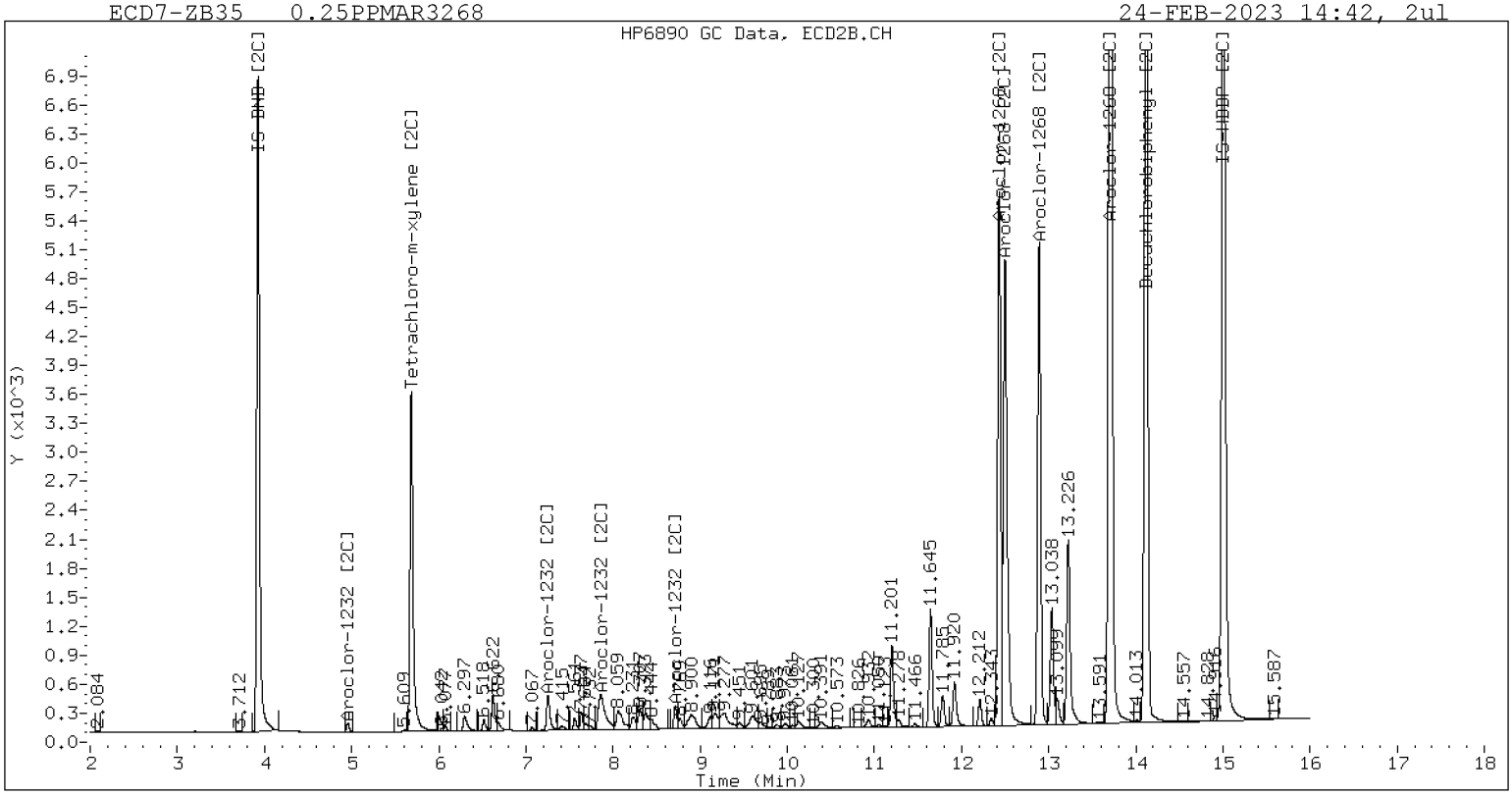
PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR3268 24-FEB-2023 14:42, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR3268 24-FEB-2023 14:42, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242313ECD7.D
Data file 2: /230224.b/230224.b/02242313ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660SCV
Client ID:
Injection Date: 24-FEB-2023 15:03
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.807	0.001	337070	5.686	0.001	165848	34.9	35.8	2.3	Tetrachloro-m-xylene
13.895	0.002	515407	14.119	-0.000	316730	34.3	37.3	8.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	645975	-4.1
Hexabromobiphenyl	1429847	1524245	6.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	316115	0.3
Hexabromobiphenyl	513946	556950	8.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.269	-0.002	59491	242.5	1	7.254	-0.002	44576	240.9
Aroclor-1016	2	7.655	0.001	181090	242.1	2	7.857	0.002	95386	254.2
Aroclor-1016	3	7.790	0.000	88470	242.3	3	8.056	0.002	42160	248.8
Aroclor-1016	4	8.404	-0.001	57980	245.6	4	8.307	0.000	32197	242.1
Total Col1Ave (4 peaks):					243.1	Total Col2Ave (4 peaks):				246.5 RPD = 1
Corrected Ave (3 peaks):					242.3	Corrected Ave (3 peaks):				243.9 RPD = 1
Aroclor-1221	1	4.731	0.000	464	8.0	1	---			0.0
Aroclor-1221	2	6.130	-0.002	9233	89.2	2	6.300	0.004	5379	95.0
Aroclor-1221	3	6.382	-0.001	42570	177.2	3	6.623	0.001	20952	227.2
Total Col1Ave (3 peaks):					91.5	Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	4.731	0.001	464	13.4	1	---			0.0
Aroclor-1232	2	6.130	-0.001	9233	134.5	2	7.254	-0.000	44576	554.6
Aroclor-1232	3	7.655	-0.001	181090	582.9	3	7.857	-0.003	95386	593.5
Aroclor-1232	4	8.580	-0.001	79916	605.2	4	8.713	-0.002	29795	644.2
Total Col1Ave (4 peaks):					334.0	Total Col2Ave (3 peaks):				597.4 RPD = 57*
Corrected Ave (3 peaks):					243.6	Corrected Ave: < 3 Peaks				
Aroclor-1242	1	7.269	-0.002	59491	297.2	1	7.254	-0.002	44576	303.5
Aroclor-1242	2	7.655	-0.001	181090	297.9	2	7.857	-0.000	95386	309.0
Aroclor-1242	3	8.404	-0.001	57980	306.5	3	9.115	-0.052	18754	195.2
Aroclor-1242	4	8.580	0.000	79916	285.8	4	9.697	0.100	1355	11.6
Total Col1Ave (4 peaks):					296.8	Total Col2Ave (4 peaks):				204.8 RPD = 37
Corrected Ave (3 peaks):					293.6	Corrected Ave (3 peaks):				170.1 RPD = 53*
Aroclor-1248	1	8.404	-0.001	57980	184.0	1	8.307	-0.001	32197	213.3
Aroclor-1248	2	8.580	-0.001	79916	199.5	2	8.713	-0.001	29795	190.9
Aroclor-1248	3	8.993	-0.006	71805	95.0	3	9.115	-0.050	18754	104.4
Aroclor-1248	4	9.300	0.006	47348	123.1	4	---			0.0
Total Col1Ave (4 peaks):					150.4	Total Col2Ave (3 peaks):				169.6 RPD = 12
Corrected Ave (3 peaks):					134.0	Corrected Ave: < 3 Peaks				
Aroclor-1254	1	9.300	0.002	47348	73.0	1	9.451	0.001	22438	93.4
Aroclor-1254	2	---			0.0	2	9.972	0.001	2694	13.9
Aroclor-1254	3	9.670	0.002	5461	13.1	3	10.147	0.024	52914	126.5
Aroclor-1254	4	9.807	-0.000	18944	23.4	4	10.370	-0.003	70430	172.8
Aroclor-1254	5	10.121	-0.056	154170	303.3	5	10.568	-0.000	98525	396.9
Total Col1Ave (4 peaks):					103.2	Total Col2Ave (5 peaks):				160.7 RPD = 44*
Corrected Ave (3 peaks):					36.5	Corrected Ave (4 peaks):				101.7 RPD = 94*
Aroclor-1260	1	11.044	0.000	149195	272.1	1	11.653	0.000	82210	251.0
Aroclor-1260	2	11.361	-0.000	153832	268.5	2	11.919	0.001	222226	265.9
Aroclor-1260	3	11.736	0.002	396660	261.0	3	12.435	-0.000	59148	266.7
Aroclor-1260	4	12.140	0.001	190448	248.9	4	12.504	0.002	147180	261.2
Aroclor-1260	5	12.244	-0.000	91385	277.5	NS	---			----
Total Col1Ave (5 peaks):					265.6	Total Col2Ave (4 peaks):				261.2 RPD = 2
Corrected Ave (4 peaks):					262.6	Corrected Ave (3 peaks):				259.4 RPD = 1
Aroclor-1262	1	10.827	-0.002	220238	471.0	1	11.199	-0.001	84479	177.6
Aroclor-1262	2	12.244	0.000	91385	120.1	2	11.653	0.002	82210	203.0
Aroclor-1262	3	12.320	0.001	113066	138.2	3	12.435	0.002	59148	128.7
Aroclor-1262	4	12.988	0.001	102156	136.7	4	12.504	0.002	147180	204.4
Total Col1Ave (4 peaks):					216.5	Total Col2Ave (4 peaks):				178.4 RPD = 19
Corrected Ave (3 peaks):					131.7	Corrected Ave (3 peaks):				169.8 RPD = 25
Aroclor-1268	1	12.244	-0.003	91385	46.8	1	12.435	0.003	59148	52.7
Aroclor-1268	2	12.320	0.003	113066	58.5	2	12.504	0.004	147180	122.1
Aroclor-1268	3	12.726	0.027	46633	28.2	3	12.893	0.001	2874	2.8
Aroclor-1268	4	13.489	-0.000	25567	4.7	4	13.709	-0.000	13041	4.0
Total Col1Ave (4 peaks):					34.5	Total Col2Ave (4 peaks):				45.4 RPD = 27
Corrected Ave (3 peaks):					26.6	Corrected Ave (3 peaks):				19.8 RPD = 29

Total PCB Area Col1 (5.906 - 13.793) = 3743076 Col1 Total PCB = 0.5 ppm*

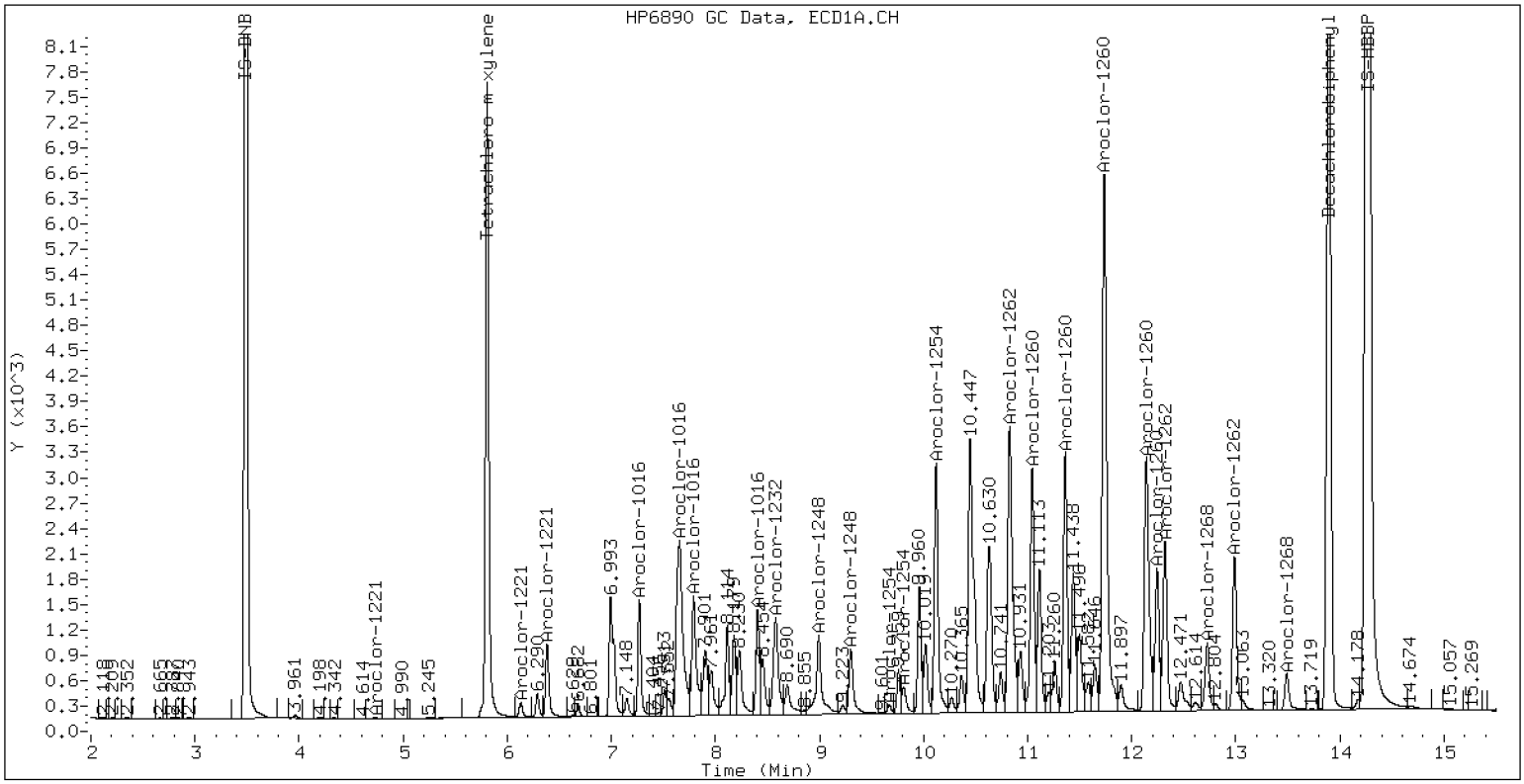
Total PCB Area Col2 (5.785 - 14.019) = 1897008 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

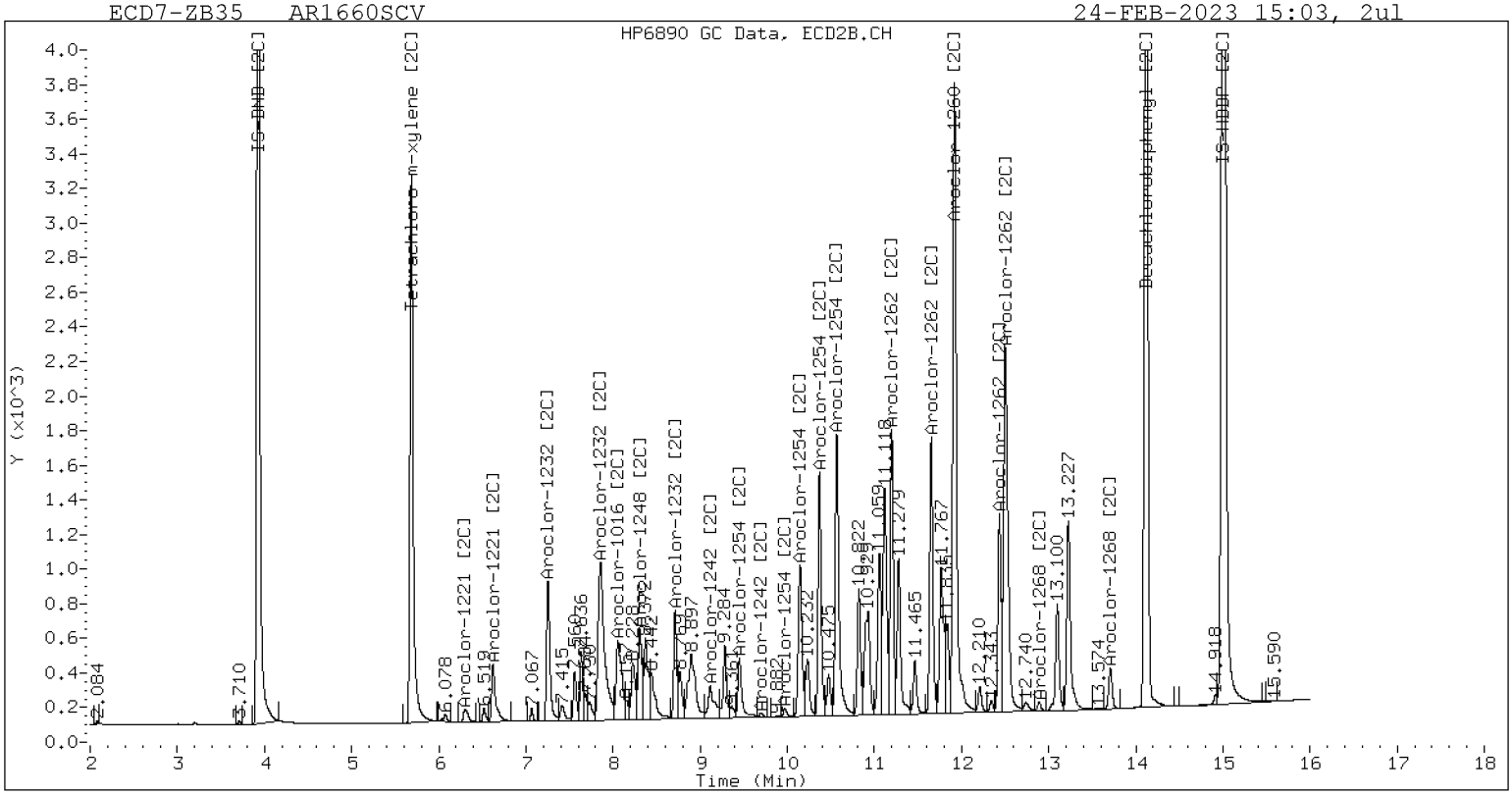
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660SCV 24-FEB-2023 15:03, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660SCV 24-FEB-2023 15:03, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242314ECD7.D
Data file 2: /230224.b/230224.b/02242314ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242SCV
Client ID:
Injection Date: 24-FEB-2023 15:24
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.808	0.002	354283	5.686	0.001	172455	33.6	34.5	2.6	Tetrachloro-m-xylene
13.895	0.002	567088	14.120	0.001	347430	37.0	40.3	8.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	705650	4.7
Hexabromobiphenyl	1429847	1555683	8.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	340433	8.0
Hexabromobiphenyl	513946	565609	10.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.270	-0.000	39927	149.0	1	7.256	0.000	32417	162.7
Aroclor-1016	2	7.653	-0.001	132339	162.0	2	7.856	0.001	69235	171.3
Aroclor-1016	3	7.791	0.001	59310	148.7	3	8.055	0.000	29473	161.5
Aroclor-1016	4	8.405	0.000	42537	165.0	4	8.307	-0.000	22792	159.2
Total Col1Ave (4 peaks): 156.2						Total Col2Ave (4 peaks): 163.7			RPD = 5	
Corrected Ave (3 peaks): 153.2						Corrected Ave (3 peaks): 161.1			RPD = 5	
Aroclor-1221	1	4.733	0.002	319	5.0	1	---			0.0
Aroclor-1221	2	6.131	-0.001	6534	57.8	2	6.319	0.022	4365	71.6
Aroclor-1221	3	6.384	0.001	29664	113.0	3	6.624	0.002	14916	150.2
Total Col1Ave (3 peaks): 58.6						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	4.733	0.003	319	8.4	1	---			0.0
Aroclor-1232	2	6.131	0.000	6534	87.2	2	7.256	0.002	32417	374.5
Aroclor-1232	3	7.653	-0.003	132339	389.9	3	7.856	-0.004	69235	400.0
Aroclor-1232	4	8.579	-0.002	69445	481.4	4	8.714	-0.001	22167	445.0
Total Col1Ave (4 peaks): 241.7						Total Col2Ave (3 peaks): 406.5			RPD = 51*	
Corrected Ave (3 peaks): 161.8						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	7.270	-0.001	39927	182.6	1	7.256	0.000	32417	205.0
Aroclor-1242	2	7.653	-0.003	132339	199.3	2	7.856	-0.002	69235	208.2
Aroclor-1242	3	8.405	-0.000	42537	205.9	3	9.164	-0.004	23068	223.0
Aroclor-1242	4	8.579	-0.000	69445	227.4	4	9.587	-0.010	31021	246.1
Total Col1Ave (4 peaks): 203.8						Total Col2Ave (4 peaks): 220.6			RPD = 8	
Corrected Ave (3 peaks): 195.9						Corrected Ave (3 peaks): 212.1			RPD = 8	
Aroclor-1248	1	8.405	0.000	42537	123.5	1	8.307	-0.001	22792	140.2
Aroclor-1248	2	8.579	-0.001	69445	158.7	2	8.714	-0.000	22167	131.9
Aroclor-1248	3	9.001	0.003	91942	111.4	3	9.164	-0.002	23068	119.3
Aroclor-1248	4	9.294	-0.000	38711	92.1	4	9.587	-0.003	31021	133.6
Total Col1Ave (4 peaks): 121.4						Total Col2Ave (4 peaks): 131.2			RPD = 8	
Corrected Ave (3 peaks): 109.0						Corrected Ave (3 peaks): 128.3			RPD = 16	
Aroclor-1254	1	9.294	-0.005	38711	54.6	1	9.450	0.001	13131	50.7
Aroclor-1254	2	9.377	-0.000	17371	54.5	2	9.970	0.000	8340	40.1
Aroclor-1254	3	9.668	-0.000	16373	35.9	3	10.123	-0.000	16364	36.3
Aroclor-1254	4	9.807	-0.001	27490	31.0	4	10.382	0.009	16062	36.6
Aroclor-1254	5	10.175	-0.001	20494	36.9	5	10.572	0.004	4818	18.0
Total Col1Ave (5 peaks): 42.6						Total Col2Ave (5 peaks): 36.4			RPD = 16	
Corrected Ave (4 peaks): 39.6						Corrected Ave (4 peaks): 32.8			RPD = 19	
Aroclor-1260	1	11.048	0.003	794	1.4	1	11.665	0.012	1652	5.0
Aroclor-1260	2	11.366	0.005	814	1.4	2	11.926	0.008	842	1.0
Aroclor-1260	3	11.739	0.006	1848	1.2	3	12.438	0.002	483	2.1
Aroclor-1260	4	12.145	0.006	1372	1.8	4	12.506	0.004	790	1.4
Aroclor-1260	5	---			0.0	NS	---			----
Total Col1Ave (4 peaks): 1.4						Total Col2Ave (4 peaks): 2.4			RPD = 49*	
Corrected Ave (3 peaks): 1.3						Corrected Ave (3 peaks): 1.5			RPD = 12	
Aroclor-1262	1	10.832	0.003	13157	27.6	1	11.121	-0.079	6113	12.7
Aroclor-1262	2	12.145	-0.098	1372	1.8	2	11.665	0.013	1652	4.0
Aroclor-1262	3	---			0.0	3	12.438	0.004	483	1.0
Aroclor-1262	4	13.038	0.051	842	1.1	4	12.506	0.004	790	1.1
Total Col1Ave (3 peaks): 10.1						Total Col2Ave (4 peaks): 4.7			RPD = 73*	
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks): 2.0				
Aroclor-1268	1	---			0.0	1	12.438	0.006	483	0.4
Aroclor-1268	2	---			0.0	2	12.506	0.006	790	0.6
Aroclor-1268	3	12.617	-0.082	5851	3.5	3	12.899	0.007	491	0.5
Aroclor-1268	4	13.500	0.010	1745	0.3	4	13.714	0.005	379	0.1
Col1Ave: <3 Quant Peaks						Col2Ave: 0.4				

Total PCB Area Col1 (5.906 - 13.793) = 1149784 Col1 Total PCB = 0.1 ppm*

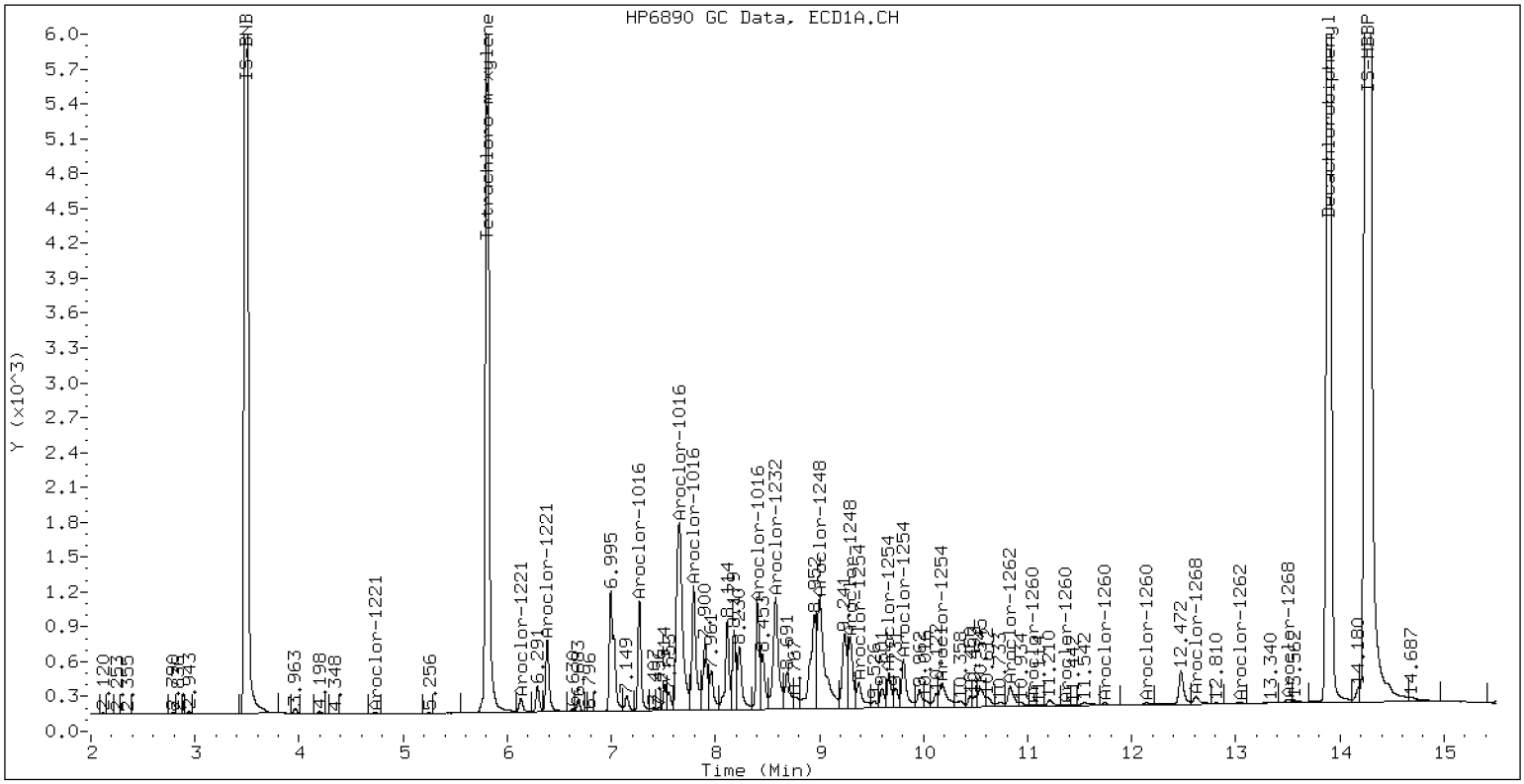
Total PCB Area Col2 (5.785 - 14.019) = 572210 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 AR1242SCV 24-FEB-2023 15:24, 2ul



ZB-5 Manual Integration: NO

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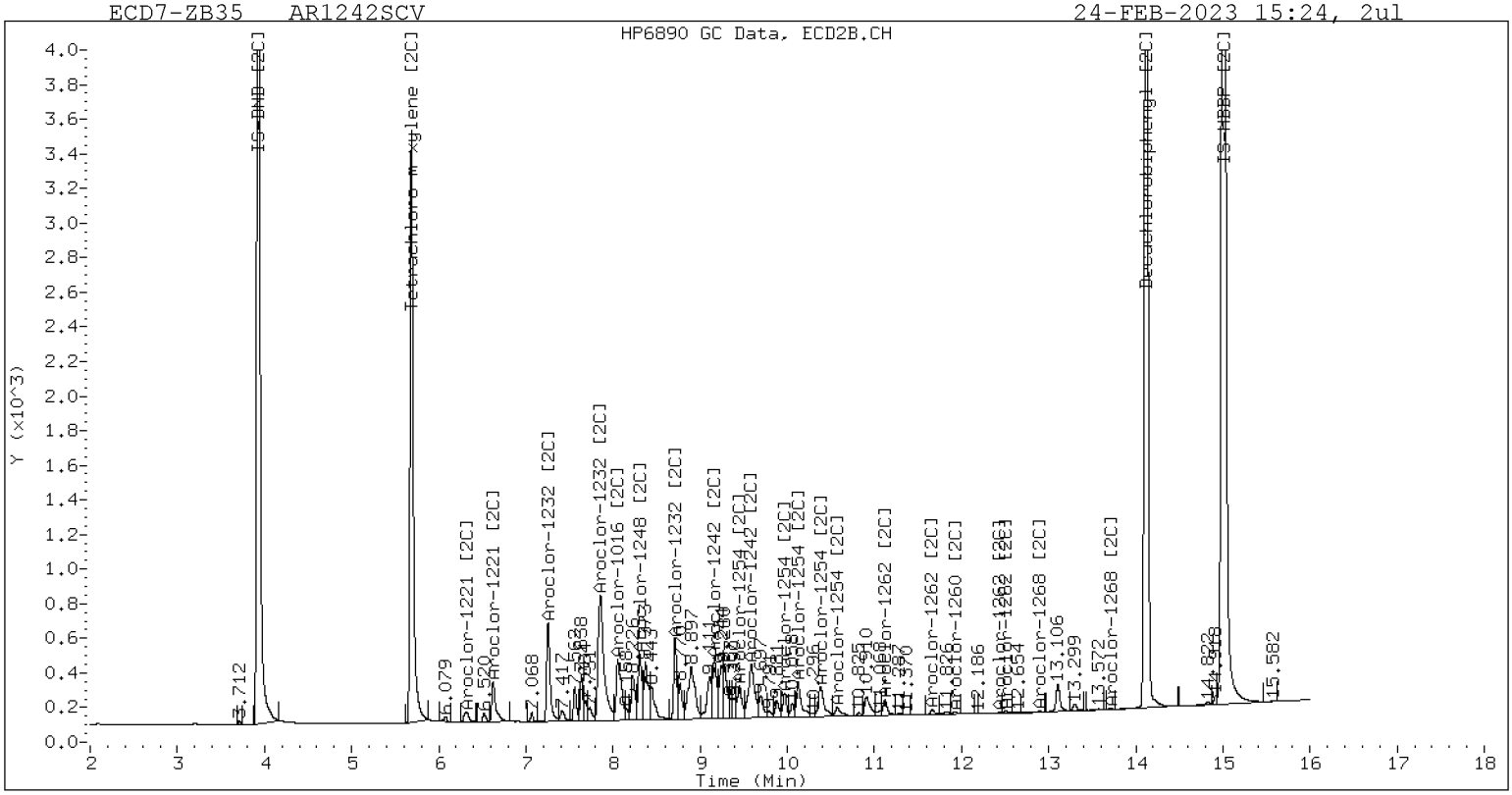


ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242315ECD7.D
Data file 2: /230224.b/230224.b/02242315ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248SCV
Client ID:
Injection Date: 24-FEB-2023 15:45
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.809	0.002	336655	5.687	0.002	168719	34.9	36.4	4.2	Tetrachloro-m-xylene
13.894	0.001	499162	14.118	-0.001	308317	33.1	36.3	9.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	646554	-4.0
Hexabromobiphenyl	1429847	1529451	7.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	316066	0.3
Hexabromobiphenyl	513946	557213	8.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	7.271	0.000	19773	80.5	1	7.254	-0.002	16926	91.5
Aroclor-1016	2	7.653	-0.001	88099	117.7	2	7.857	0.001	45733	121.9
Aroclor-1016	3	7.794	0.003	35915	98.3	3	8.060	0.005	8078	47.7
Aroclor-1016	4	8.406	0.001	77842	329.5	4	8.307	0.000	37348	280.9
	Total Col1Ave (4 peaks):				156.5	Total Col2Ave (4 peaks):				135.5 RPD = 14
	Corrected Ave (3 peaks):				98.8	Corrected Ave (3 peaks):				87.0 RPD = 13
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	6.133	0.001	680	6.6	2	6.326	0.030	1966	34.7
Aroclor-1221	3	6.384	0.002	3390	14.1	3	6.631	0.009	1571	17.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	6.133	0.002	680	9.9	2	7.254	-0.000	16926	210.6
Aroclor-1232	3	7.653	-0.002	88099	283.3	3	7.857	-0.004	45733	284.6
Aroclor-1232	4	8.581	-0.000	99572	753.4	4	8.714	-0.001	38224	826.6
	Total Col1Ave (3 peaks):				348.9	Total Col2Ave (3 peaks):				440.6 RPD = 23
	Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks				
Aroclor-1242	1	7.271	-0.000	19773	98.7	1	7.254	-0.002	16926	115.3
Aroclor-1242	2	7.653	-0.003	88099	144.8	2	7.857	-0.001	45733	148.2
Aroclor-1242	3	8.406	0.000	77842	411.2	3	9.165	-0.002	45021	468.7
Aroclor-1242	4	8.581	0.001	99572	355.8	4	9.590	-0.008	53613	458.1
	Total Col1Ave (4 peaks):				252.6	Total Col2Ave (4 peaks):				297.6 RPD = 16
	Corrected Ave (3 peaks):				199.8	Corrected Ave (3 peaks):				240.5 RPD = 19
Aroclor-1248	1	8.406	0.000	77842	246.8	1	8.307	-0.001	37348	247.5
Aroclor-1248	2	8.581	0.000	99572	248.3	2	8.714	-0.000	38224	245.0
Aroclor-1248	3	8.998	-0.000	186857	247.0	3	9.165	-0.000	45021	250.7
Aroclor-1248	4	9.294	-0.000	98398	255.5	4	9.590	-0.001	53613	248.7
	Total Col1Ave (4 peaks):				249.4	Total Col2Ave (4 peaks):				248.0 RPD = 1
	Corrected Ave (3 peaks):				247.4	Corrected Ave (3 peaks):				247.0 RPD = 0
Aroclor-1254	1	9.294	-0.004	98398	151.6	1	9.450	0.001	21823	90.8
Aroclor-1254	2	9.377	-0.001	49616	169.9	2	9.971	0.001	19450	100.6
Aroclor-1254	3	9.669	0.001	40230	96.4	3	10.124	0.000	36574	87.5
Aroclor-1254	4	9.808	0.001	68500	84.4	4	10.389	0.016	35100	86.1
Aroclor-1254	5	10.183	0.007	47365	93.1	5	10.573	0.004	5676	22.9
	Total Col1Ave (5 peaks):				119.1	Total Col2Ave (5 peaks):				77.6 RPD = 42*
	Corrected Ave (4 peaks):				106.4	Corrected Ave (4 peaks):				71.8 RPD = 39
Aroclor-1260	1	11.047	0.003	1670	3.0	1	11.662	0.009	2055	6.3
Aroclor-1260	2	11.362	0.001	1111	1.9	2	11.924	0.007	1466	1.8
Aroclor-1260	3	11.739	0.005	2107	1.4	3	12.434	-0.002	573	2.6
Aroclor-1260	4	12.144	0.005	1379	1.8	4	12.505	0.003	1003	1.8
Aroclor-1260	5	12.251	0.006	698	2.1	NS	---			----
	Total Col1Ave (5 peaks):				2.1	Total Col2Ave (4 peaks):				3.1 RPD = 41*
	Corrected Ave (4 peaks):				1.8	Corrected Ave (3 peaks):				2.0 RPD = 12
Aroclor-1262	1	10.833	0.005	15355	32.7	1	11.122	-0.079	7225	15.2
Aroclor-1262	2	12.251	0.007	698	0.9	2	11.662	0.011	2055	5.1
Aroclor-1262	3	12.321	0.002	836	1.0	3	12.434	0.000	573	1.2
Aroclor-1262	4	12.991	0.004	1043	1.4	4	12.505	0.003	1003	1.4
	Total Col1Ave (4 peaks):				9.0	Total Col2Ave (4 peaks):				5.7 RPD = 45*
	Corrected Ave (3 peaks):				1.1	Corrected Ave (3 peaks):				2.6 RPD = 80*
Aroclor-1268	1	12.251	0.004	698	0.4	1	12.434	0.002	573	0.5
Aroclor-1268	2	12.321	0.004	836	0.4	2	12.505	0.005	1003	0.8
Aroclor-1268	3	12.700	0.001	2449	1.5	3	12.892	0.001	721	0.7
Aroclor-1268	4	13.493	0.003	7547	1.4	4	13.708	-0.001	2265	0.7
	Total Col1Ave (4 peaks):				0.9	Total Col2Ave (4 peaks):				0.7 RPD = 29
	Corrected Ave (3 peaks):				0.7	Corrected Ave (3 peaks):				0.6 RPD = 13

Total PCB Area Col1 (5.906 - 13.793) = 1574335 Col1 Total PCB = 0.2 ppm*

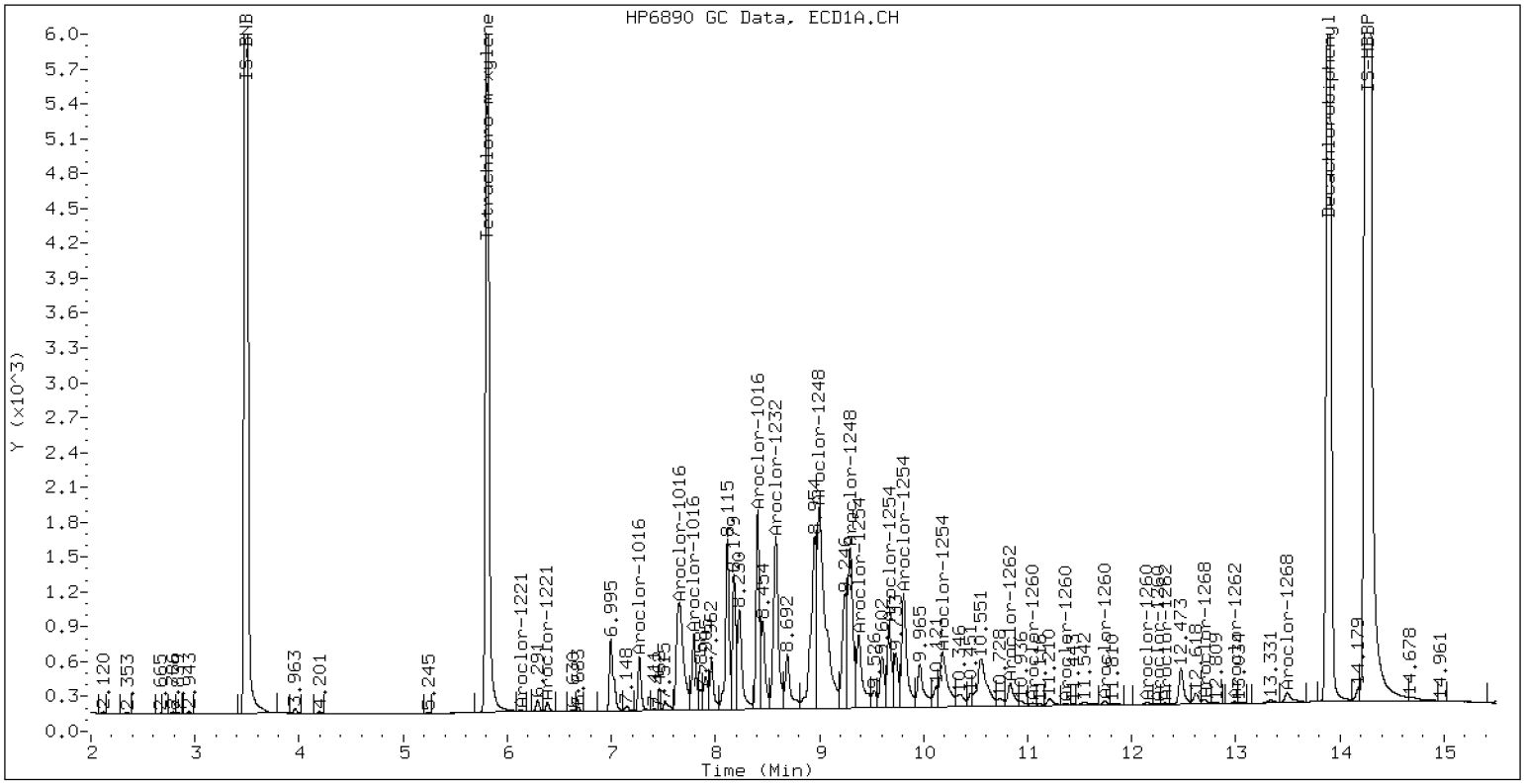
Total PCB Area Col2 (5.785 - 14.019) = 746330 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

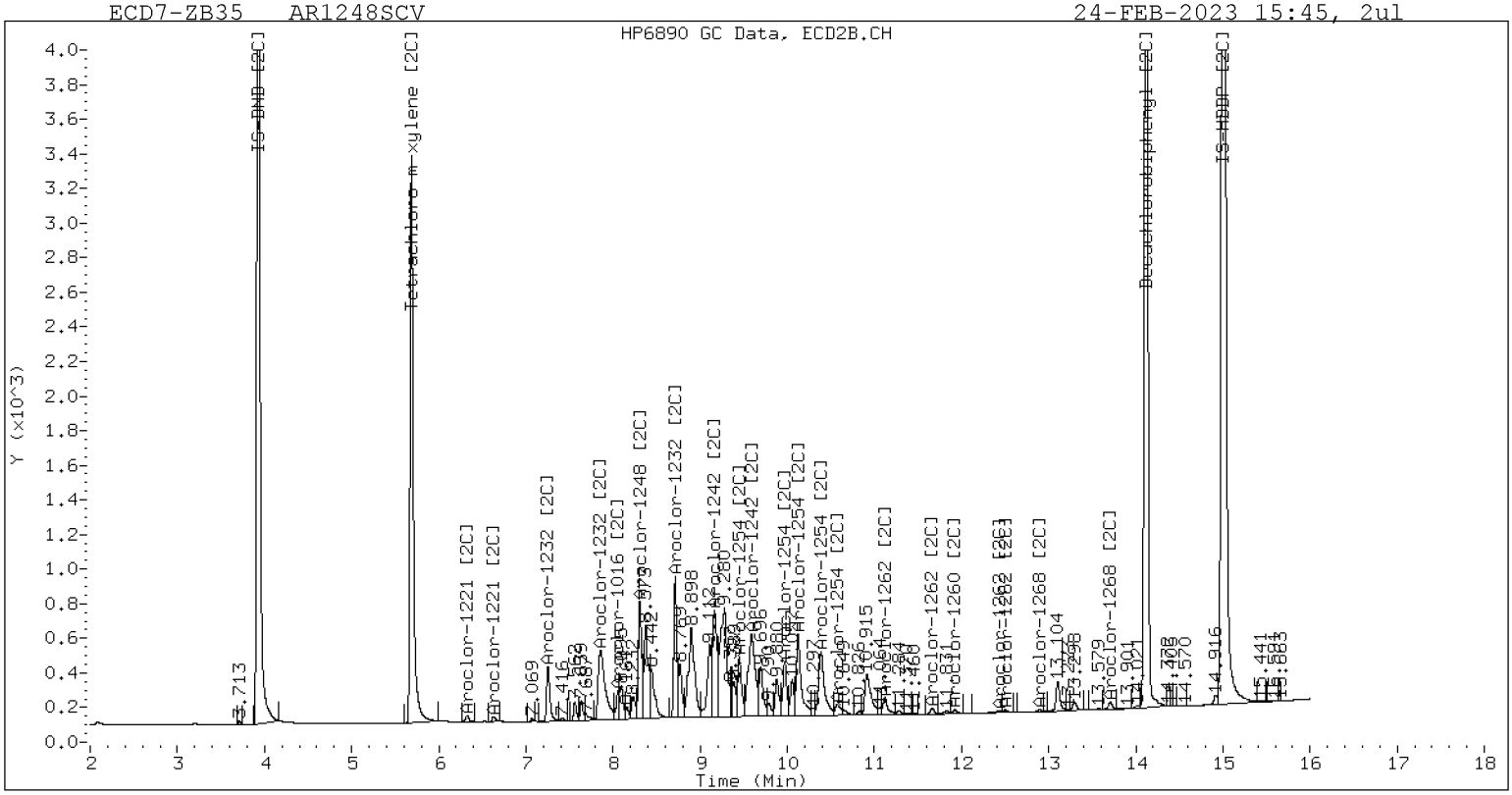
PCB Dual Column Chromatograms

ECD7-ZB5 AR1248SCV 24-FEB-2023 15:45, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1248SCV 24-FEB-2023 15:45, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242316ECD7.D
Data file 2: /230224.b/230224.b/02242316ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254SCV
Client ID:
Injection Date: 24-FEB-2023 16:06
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.806	-0.000	354312	5.686	0.001	174604	36.1	37.1	2.6	Tetrachloro-m-xylene
13.895	0.002	540961	14.119	-0.000	329134	34.6	37.9	9.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	656887	-2.5
Hexabromobiphenyl	1429847	1585505	10.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	320936	1.8
Hexabromobiphenyl	513946	570006	10.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.270	0.000	565	2.3	1	7.255	-0.001	387	2.1
Aroclor-1016	2	7.656	0.002	1875	2.5	2	7.854	-0.002	860	2.3
Aroclor-1016	3	7.792	0.002	1106	3.0	3	8.098	0.043	578	3.4
Aroclor-1016	4	8.405	0.000	29924	124.7	4	8.307	0.000	21985	162.9
	Total Col1Ave (4 peaks):				33.1	Total Col2Ave (4 peaks):				42.6 RPD = 25
	Corrected Ave (3 peaks):				2.6	Corrected Ave (3 peaks):				2.6 RPD = 0
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	6.325	0.028	1947	33.9
Aroclor-1221	3	---			0.0	3	6.637	0.015	368	3.9
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	7.255	0.001	387	4.7
Aroclor-1232	3	7.656	0.000	1875	5.9	3	7.854	-0.007	860	5.3
Aroclor-1232	4	8.583	0.002	12327	91.8	4	8.715	0.000	15013	319.7
	Col1Ave: <3 Quant Peaks					Col2Ave: 109.9				
Aroclor-1242	1	7.270	-0.000	565	2.8	1	7.255	-0.001	387	2.6
Aroclor-1242	2	7.656	0.000	1875	3.0	2	7.854	-0.004	860	2.7
Aroclor-1242	3	8.405	-0.000	29924	155.6	3	9.169	0.002	21933	224.9
Aroclor-1242	4	8.583	0.003	12327	43.4	4	9.545	-0.053	34065	286.6
	Total Col1Ave (4 peaks):				51.2	Total Col2Ave (4 peaks):				129.2 RPD = 87*
	Corrected Ave (3 peaks):				16.4	Corrected Ave (3 peaks):				76.7 RPD = 130*
Aroclor-1248	1	8.405	0.000	29924	93.4	1	8.307	-0.001	21985	143.5
Aroclor-1248	2	8.583	0.002	12327	30.3	2	8.715	0.001	15013	94.8
Aroclor-1248	3	8.992	-0.007	145580	189.4	3	9.169	0.004	21933	120.3
Aroclor-1248	4	9.298	0.003	155450	397.3	4	9.545	-0.046	34065	155.6
	Total Col1Ave (4 peaks):				177.6	Total Col2Ave (4 peaks):				128.5 RPD = 32
	Corrected Ave (3 peaks):				104.3	Corrected Ave (3 peaks):				119.5 RPD = 14
Aroclor-1254	1	9.298	-0.001	155450	235.7	1	9.450	0.001	58639	240.4
Aroclor-1254	2	9.377	-0.001	69801	235.3	2	9.971	0.000	47008	239.5
Aroclor-1254	3	9.668	-0.000	100839	237.8	3	10.124	0.000	100062	235.7
Aroclor-1254	4	9.807	0.000	190544	231.1	4	10.373	0.000	99535	240.5
Aroclor-1254	5	10.176	-0.000	122321	236.7	5	10.570	0.001	61549	244.2
	Total Col1Ave (5 peaks):				235.3	Total Col2Ave (5 peaks):				240.1 RPD = 2
	Corrected Ave (4 peaks):				234.7	Corrected Ave (4 peaks):				239.0 RPD = 2
Aroclor-1260	1	11.043	-0.002	12288	21.5	1	11.661	0.008	29062	86.7
Aroclor-1260	2	11.361	-0.001	13660	22.9	2	11.921	0.003	22238	26.0
Aroclor-1260	3	11.736	0.002	37632	23.8	3	12.441	0.005	3555	15.7
Aroclor-1260	4	12.141	0.002	27105	34.1	4	12.503	0.001	13126	22.8
Aroclor-1260	5	12.320	0.076	2381	6.9	NS	---			----
	Total Col1Ave (5 peaks):				21.9	Total Col2Ave (4 peaks):				37.8 RPD = 53*
	Corrected Ave (4 peaks):				18.8	Corrected Ave (3 peaks):				21.5 RPD = 13
Aroclor-1262	1	10.827	-0.002	220626	453.6	1	11.281	0.081	13562	27.9
Aroclor-1262	2	12.320	0.076	2381	3.0	2	11.661	0.009	29062	70.1
Aroclor-1262	3	---			0.0	3	12.441	0.007	3555	7.6
Aroclor-1262	4	12.989	0.002	3225	4.1	4	12.503	0.001	13126	17.8
	Total Col1Ave (3 peaks):				153.6	Total Col2Ave (4 peaks):				30.8 RPD = 133*
	Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				17.7
Aroclor-1268	1	12.320	0.074	2381	1.2	1	12.441	0.009	3555	3.1
Aroclor-1268	2	---			0.0	2	12.503	0.003	13126	10.6
Aroclor-1268	3	12.701	0.002	2939	1.7	3	12.892	0.000	772	0.7
Aroclor-1268	4	13.493	0.003	9164	1.6	4	13.707	-0.002	2801	0.8
	Total Col1Ave (3 peaks):				1.5	Total Col2Ave (4 peaks):				3.8 RPD = 87*
	Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				1.6

Total PCB Area Col1 (5.906 - 13.793) = 2118645 Col1 Total PCB = 0.3 ppm*

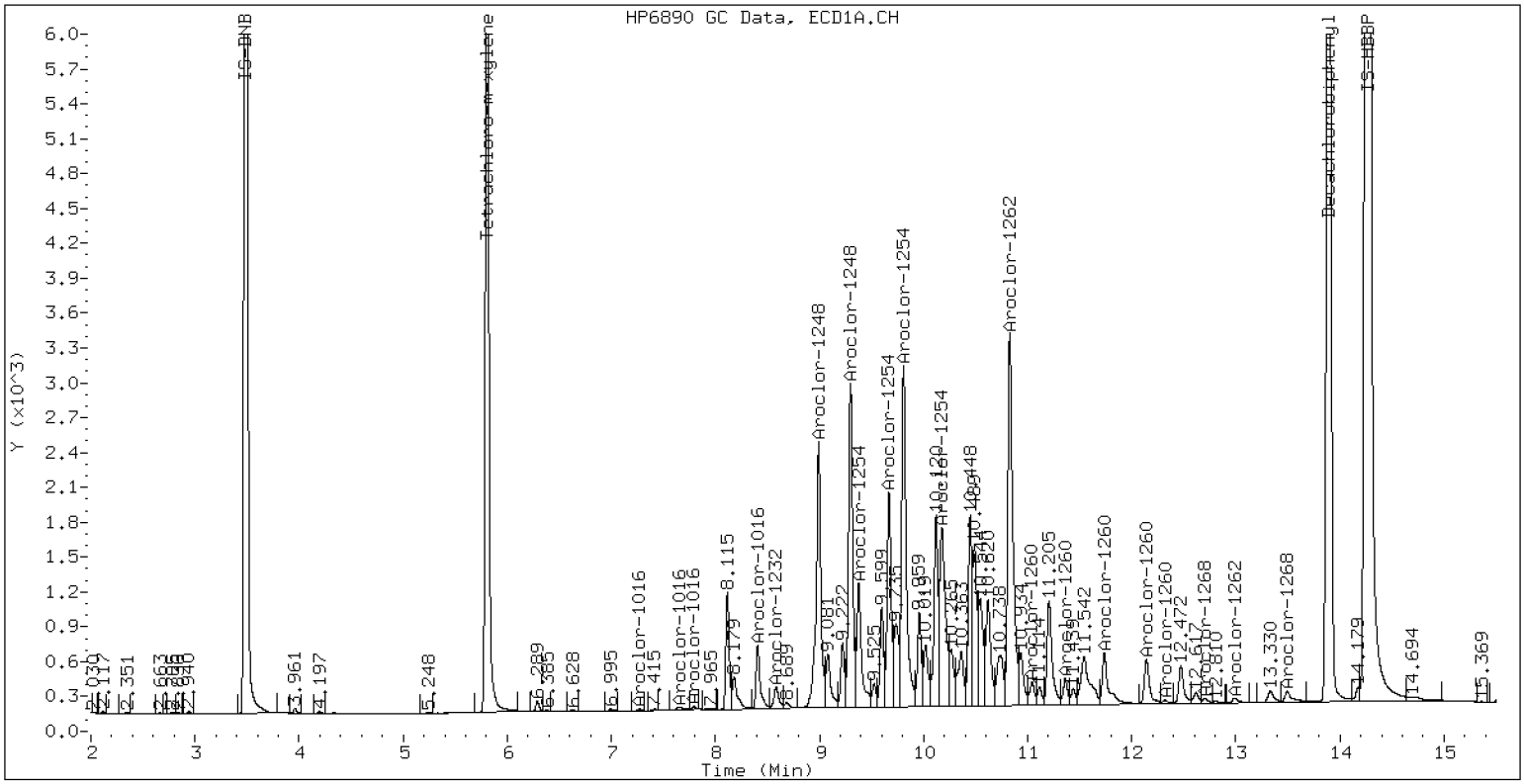
Total PCB Area Col2 (5.785 - 14.019) = 1007601 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

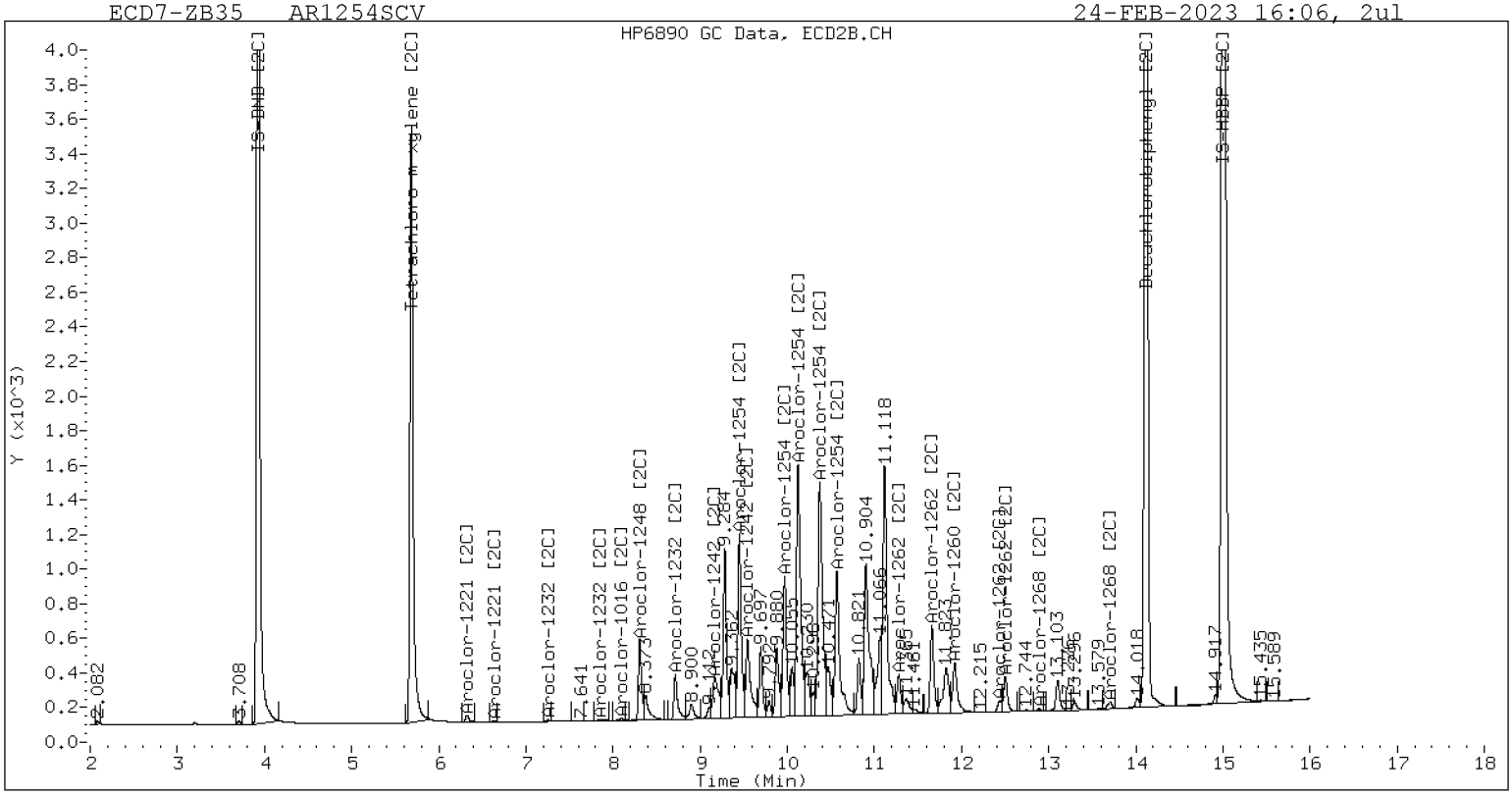
PCB Dual Column Chromatograms

ECD7-ZB5 AR1254SCV 24-FEB-2023 16:06, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1254SCV 24-FEB-2023 16:06, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242317ECD7.D
Data file 2: /230224.b/230224.b/02242317ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR2162SCV
Client ID:
Injection Date: 24-FEB-2023 16:27
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.807	0.000	356001	5.685	0.000	170882	36.0	36.6	1.7	Tetrachloro-m-xylene
13.895	0.002	533971	14.119	0.000	326235	34.4	37.9	9.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	661953	-1.8
Hexabromobiphenyl	1429847	1574993	10.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	317807	0.8
Hexabromobiphenyl	513946	565951	10.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.269	-0.001	7175	28.5	1	7.256	0.000	3727	20.0
Aroclor-1016	2	7.659	0.005	12893	16.8	2	7.863	0.007	5834	15.5
Aroclor-1016	3	7.794	0.004	6936	18.5	3	8.063	0.009	2963	17.4
Aroclor-1016	4	8.408	0.003	3610	14.9	4	8.308	0.002	2045	15.3
Total Col1Ave (4 peaks):					19.7	Total Col2Ave (4 peaks):				17.0 RPD = 14
Corrected Ave (3 peaks):					16.8	Corrected Ave (3 peaks):				16.1 RPD = 4
Aroclor-1221	1	4.730	-0.000	15803	266.6	1	4.955	-0.001	7909	262.9
Aroclor-1221	2	6.131	-0.001	26946	254.1	2	6.296	-0.000	14303	251.2
Aroclor-1221	3	6.382	-0.000	62477	253.8	3	6.622	0.000	23612	254.7
Total Col1Ave (3 peaks):					258.2	Total Col2Ave (3 peaks):				256.3 RPD = 1
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.730	0.000	15803	445.6	1	4.955	-0.001	7909	486.4
Aroclor-1232	2	6.131	0.000	26946	383.1	2	7.256	0.002	3727	46.1
Aroclor-1232	3	7.659	0.003	12893	40.5	3	7.863	0.002	5834	36.1
Aroclor-1232	4	8.583	0.003	2684	19.8	4	8.716	0.002	1189	25.6
Total Col1Ave (4 peaks):					222.3	Total Col2Ave (4 peaks):				148.5 RPD = 40
Corrected Ave (3 peaks):					147.8	Corrected Ave (3 peaks):				35.9 RPD = 122*
Aroclor-1242	1	7.269	-0.001	7175	35.0	1	7.256	0.000	3727	25.2
Aroclor-1242	2	7.659	0.003	12893	20.7	2	7.863	0.005	5834	18.8
Aroclor-1242	3	8.408	0.002	3610	18.6	3	9.175	0.008	1082	11.2
Aroclor-1242	4	8.583	0.004	2684	9.4	4	9.543	-0.054	1390	11.8
Total Col1Ave (4 peaks):					20.9	Total Col2Ave (4 peaks):				16.8 RPD = 22
Corrected Ave (3 peaks):					16.2	Corrected Ave (3 peaks):				13.9 RPD = 15
Aroclor-1248	1	8.408	0.002	3610	11.2	1	8.308	0.001	2045	13.5
Aroclor-1248	2	8.583	0.003	2684	6.5	2	8.716	0.002	1189	7.6
Aroclor-1248	3	8.994	-0.005	24440	31.6	3	9.175	0.009	1082	6.0
Aroclor-1248	4	9.302	0.008	26328	66.8	4	9.543	-0.048	1390	6.4
Total Col1Ave (4 peaks):					29.0	Total Col2Ave (4 peaks):				8.4 RPD = 110*
Corrected Ave (3 peaks):					16.4	Corrected Ave (3 peaks):				6.7 RPD = 85*
Aroclor-1254	1	9.302	0.004	26328	39.6	1	9.452	0.003	9571	39.6
Aroclor-1254	2	---			0.0	2	9.972	0.002	1733	8.9
Aroclor-1254	3	9.670	0.002	3721	8.7	3	10.147	0.023	49218	117.1
Aroclor-1254	4	9.808	0.000	9653	11.6	4	10.370	-0.002	59603	145.4
Aroclor-1254	5	10.120	-0.056	131179	251.9	5	10.569	0.001	79533	318.7
Total Col1Ave (4 peaks):					78.0	Total Col2Ave (5 peaks):				125.9 RPD = 47*
Corrected Ave (3 peaks):					20.0	Corrected Ave (4 peaks):				77.8 RPD = 118*
Aroclor-1260	1	11.044	-0.000	223208	394.0	1	11.652	-0.001	104071	312.7
Aroclor-1260	2	11.361	-0.001	190166	321.2	2	11.919	0.002	251579	296.2
Aroclor-1260	3	11.737	0.003	458281	291.9	3	12.435	-0.001	113645	504.2
Aroclor-1260	4	12.141	0.002	149720	189.4	4	12.501	-0.001	182951	319.6
Aroclor-1260	5	12.244	0.000	196033	576.0	NS	---			----
Total Col1Ave (5 peaks):					354.5	Total Col2Ave (4 peaks):				358.2 RPD = 1
Corrected Ave (4 peaks):					299.1	Corrected Ave (3 peaks):				309.5 RPD = 3
Aroclor-1262	1	10.828	-0.001	121431	251.3	1	11.201	0.000	121335	251.1
Aroclor-1262	2	12.244	0.000	196033	249.3	2	11.652	0.000	104071	252.9
Aroclor-1262	3	12.319	0.001	211092	249.8	3	12.435	0.001	113645	243.4
Aroclor-1262	4	12.988	0.001	183455	237.5	4	12.501	-0.001	182951	250.1
Total Col1Ave (4 peaks):					247.0	Total Col2Ave (4 peaks):				249.3 RPD = 1
Corrected Ave (3 peaks):					245.5	Corrected Ave (3 peaks):				248.2 RPD = 1
Aroclor-1268	1	12.244	-0.002	196033	97.1	1	12.435	0.003	113645	99.7
Aroclor-1268	2	12.319	0.002	211092	105.6	2	12.501	0.001	182951	149.3
Aroclor-1268	3	12.723	0.024	77240	45.2	3	12.891	-0.000	7755	7.4
Aroclor-1268	4	13.488	-0.002	65479	11.6	4	13.709	0.000	35146	10.5
Total Col1Ave (4 peaks):					64.9	Total Col2Ave (4 peaks):				66.7 RPD = 3

Corrected Ave (3 peaks): 51.3 Corrected Ave (3 peaks): 39.2 RPD = 27

Total PCB Area Col1 (5.906 - 13.793) = 3239932 Col1 Total PCB = 0.4 ppm*

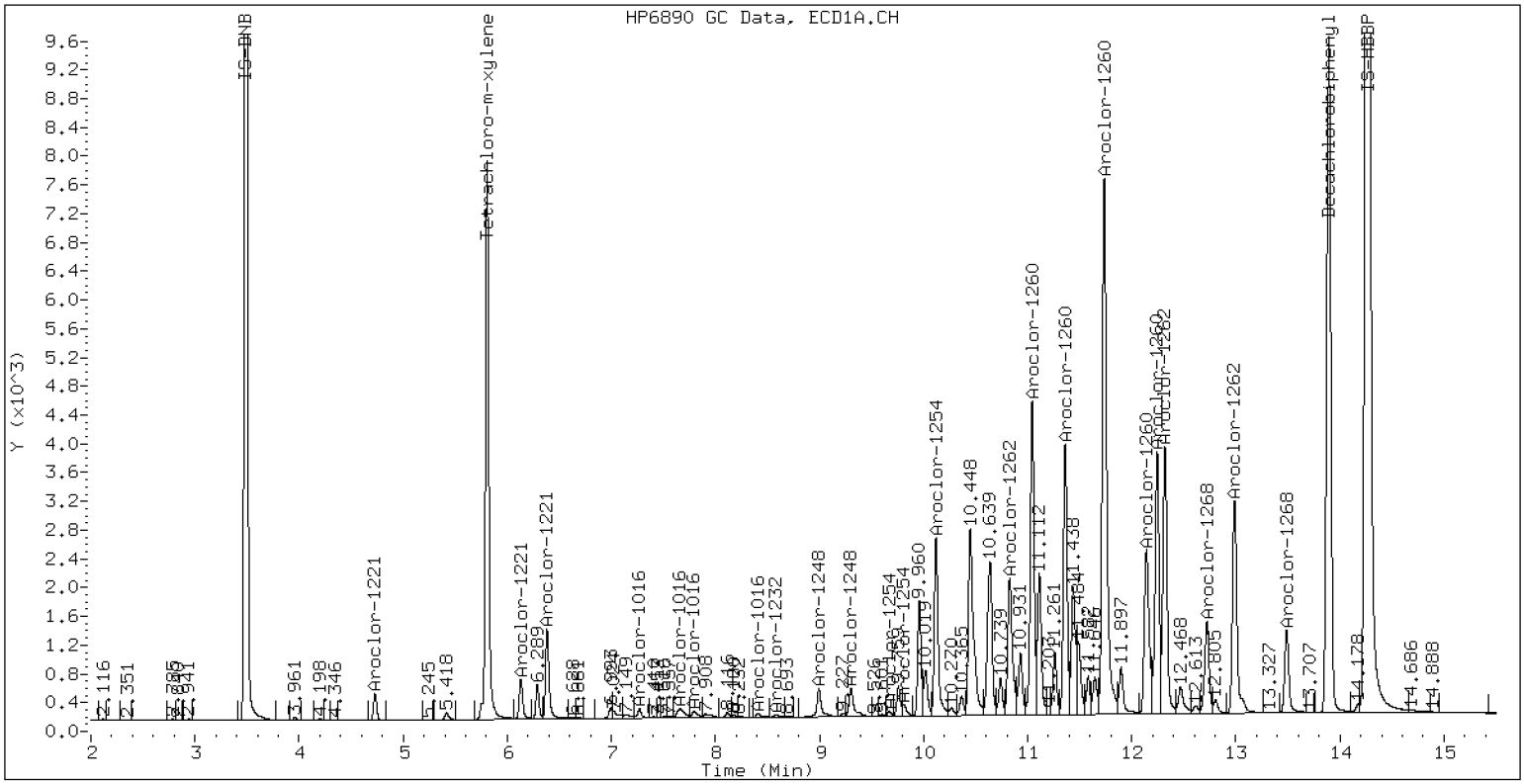
Total PCB Area Col2 (5.785 - 14.019) = 1655522 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

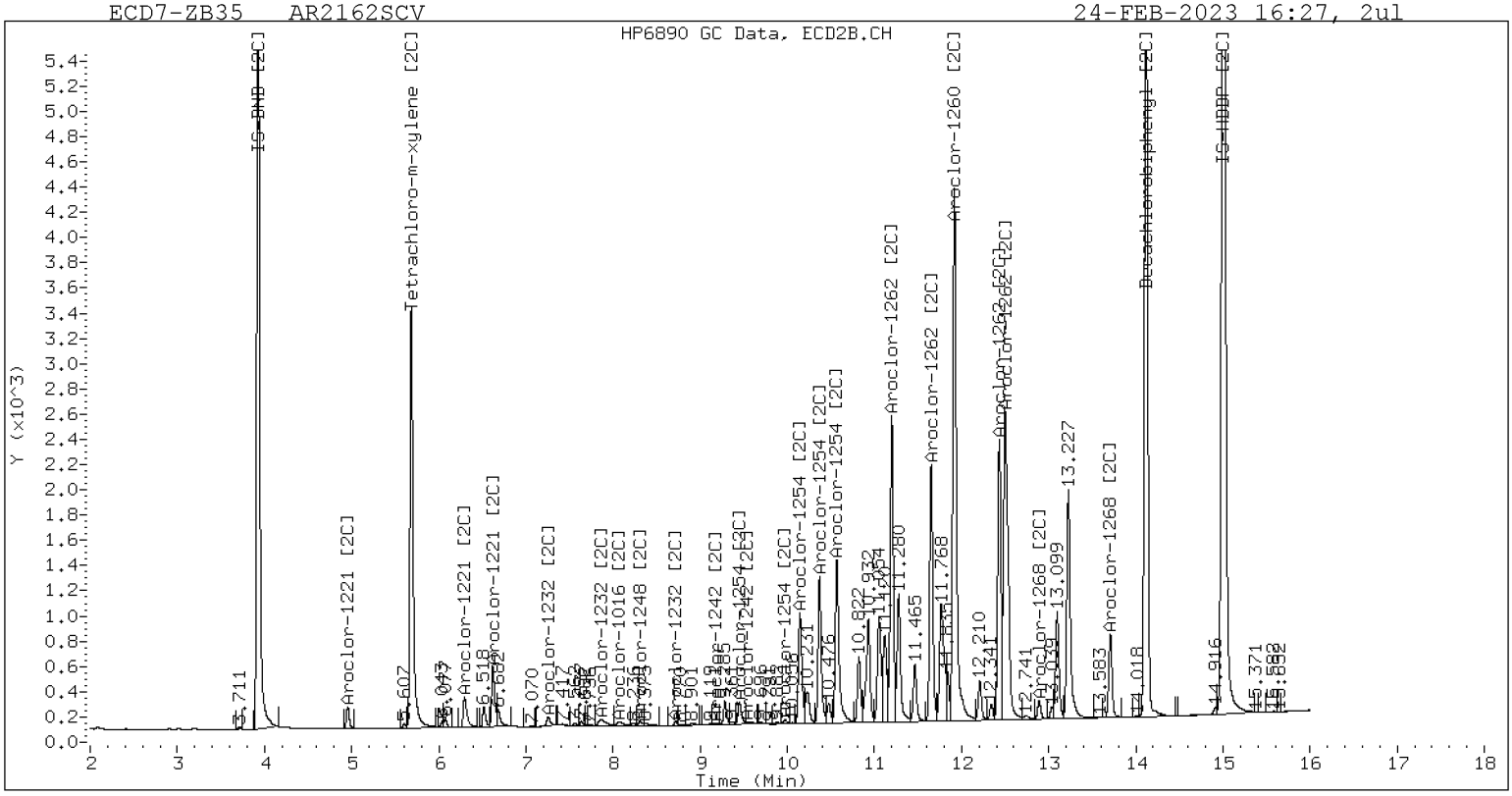
PCB Dual Column Chromatograms

ECD7-ZB5 AR2162SCV 24-FEB-2023 16:27, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR2162SCV 24-FEB-2023 16:27, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242318ECD7.D
Data file 2: /230224.b/230224.b/02242318ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR3268SCV
Client ID:
Injection Date: 24-FEB-2023 16:48
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.806	0.000	363331	5.685	0.000	176204	37.1	38.2	2.9	Tetrachloro-m-xylene
13.894	0.001	800845	14.118	-0.001	488290	51.3	56.4	9.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	656592	-2.6
Hexabromobiphenyl	1429847	1584453	10.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	314741	-0.2
Hexabromobiphenyl	513946	568346	10.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	7.270	-0.001	28327	113.6	1	7.254	-0.001	20651	112.1
Aroclor-1016	2	7.657	0.003	80668	106.1	2	7.861	0.005	41326	110.6
Aroclor-1016	3	7.793	0.003	40661	109.6	3	8.060	0.005	20446	121.2
Aroclor-1016	4	8.407	0.002	24680	102.9	4	8.308	0.001	13576	102.5
Total Col1Ave (4 peaks):					108.0	Total Col2Ave (4 peaks):				111.6 RPD = 3
Corrected Ave (3 peaks):					106.2	Corrected Ave (3 peaks):				108.4 RPD = 2
Aroclor-1221	1	4.729	-0.001	8535	145.1	1	4.956	-0.000	3965	133.1
Aroclor-1221	2	6.132	-0.000	15523	147.6	2	6.297	0.001	8689	154.1
Aroclor-1221	3	6.382	-0.000	45872	187.9	3	6.622	0.001	22272	242.6
Total Col1Ave (3 peaks):					160.2	Total Col2Ave (3 peaks):				176.6 RPD = 10
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.729	-0.001	8535	242.6	1	4.956	0.000	3965	246.2
Aroclor-1232	2	6.132	0.001	15523	222.5	2	7.254	0.000	20651	258.1
Aroclor-1232	3	7.657	0.001	80668	255.4	3	7.861	0.001	41326	258.3
Aroclor-1232	4	8.582	0.001	34784	259.2	4	8.714	-0.001	12504	271.5
Total Col1Ave (4 peaks):					244.9	Total Col2Ave (4 peaks):				258.5 RPD = 5
Corrected Ave (3 peaks):					240.2	Corrected Ave (3 peaks):				254.2 RPD = 6
Aroclor-1242	1	7.270	-0.001	28327	139.2	1	7.254	-0.001	20651	141.2
Aroclor-1242	2	7.657	0.001	80668	130.5	2	7.861	0.003	41326	134.4
Aroclor-1242	3	8.407	0.001	24680	128.4	3	9.170	0.003	12830	134.1
Aroclor-1242	4	8.582	0.003	34784	122.4	4	9.600	0.003	14836	127.3
Total Col1Ave (4 peaks):					130.1	Total Col2Ave (4 peaks):				134.3 RPD = 3
Corrected Ave (3 peaks):					127.1	Corrected Ave (3 peaks):				132.0 RPD = 4
Aroclor-1248	1	8.407	0.001	24680	77.0	1	8.308	0.000	13576	90.3
Aroclor-1248	2	8.582	0.001	34784	85.4	2	8.714	-0.000	12504	80.5
Aroclor-1248	3	8.996	-0.003	83592	108.8	3	9.170	0.004	12830	71.8
Aroclor-1248	4	9.292	-0.003	39603	101.3	4	9.600	0.010	14836	69.1
Total Col1Ave (4 peaks):					93.1	Total Col2Ave (4 peaks):				77.9 RPD = 18
Corrected Ave (3 peaks):					87.9	Corrected Ave (3 peaks):				73.8 RPD = 17
Aroclor-1254	1	9.292	-0.007	39603	60.1	1	9.452	0.003	4590	19.2
Aroclor-1254	2	9.377	-0.000	11450	38.6	2	9.973	0.003	2892	15.0
Aroclor-1254	3	9.674	0.005	6387	15.1	3	10.131	0.007	6052	14.5
Aroclor-1254	4	9.813	0.006	10162	12.3	4	10.390	0.017	5324	13.1
Aroclor-1254	5	10.189	0.012	6862	13.3	5	10.572	0.004	1891	7.7
Total Col1Ave (5 peaks):					27.9	Total Col2Ave (5 peaks):				13.9 RPD = 67*
Corrected Ave (4 peaks):					19.8	Corrected Ave (4 peaks):				12.6 RPD = 45*
Aroclor-1260	1	11.046	0.002	87033	152.7	1	11.645	-0.008	62543	187.1
Aroclor-1260	2	11.362	0.001	6300	10.6	2	11.920	0.003	28552	33.5
Aroclor-1260	3	11.738	0.004	54524	34.5	3	12.432	-0.004	285450	1261.2
Aroclor-1260	4	12.144	0.005	1727	2.2	4	12.499	-0.002	306992	534.0
Aroclor-1260	5	12.246	0.002	502931	1469.0	NS	---			----
Total Col1Ave (5 peaks):					333.8	Total Col2Ave (4 peaks):				503.9 RPD = 41*
Corrected Ave (4 peaks):					50.0	Corrected Ave (3 peaks):				251.5 RPD = 134*
Aroclor-1262	1	10.832	0.004	3395	7.0	1	11.201	0.001	44255	91.2
Aroclor-1262	2	12.246	0.002	502931	635.9	2	11.645	-0.007	62543	151.3
Aroclor-1262	3	12.318	-0.000	497006	584.5	3	12.432	-0.002	285450	608.7
Aroclor-1262	4	12.987	-0.000	202197	260.2	4	12.499	-0.003	306992	417.9
Total Col1Ave (4 peaks):					371.9	Total Col2Ave (4 peaks):				317.3 RPD = 16
Corrected Ave (3 peaks):					283.9	Corrected Ave (3 peaks):				220.1 RPD = 25
Aroclor-1268	1	12.246	-0.001	502931	247.7	1	12.432	-0.000	285450	249.4
Aroclor-1268	2	12.318	0.002	497006	247.2	2	12.499	-0.001	306992	249.5
Aroclor-1268	3	12.699	-0.000	422793	245.8	3	12.892	0.000	260893	248.4
Aroclor-1268	4	13.490	0.000	1386953	244.9	4	13.709	-0.000	829733	247.1
Total Col1Ave (4 peaks):					246.4	Total Col2Ave (4 peaks):				248.6 RPD = 1

Corrected Ave (3 peaks): 246.0 Corrected Ave (3 peaks): 248.3 RPD = 1

Total PCB Area Col1 (5.906 - 13.793) = 4180607 Col1 Total PCB = 0.5 ppm*

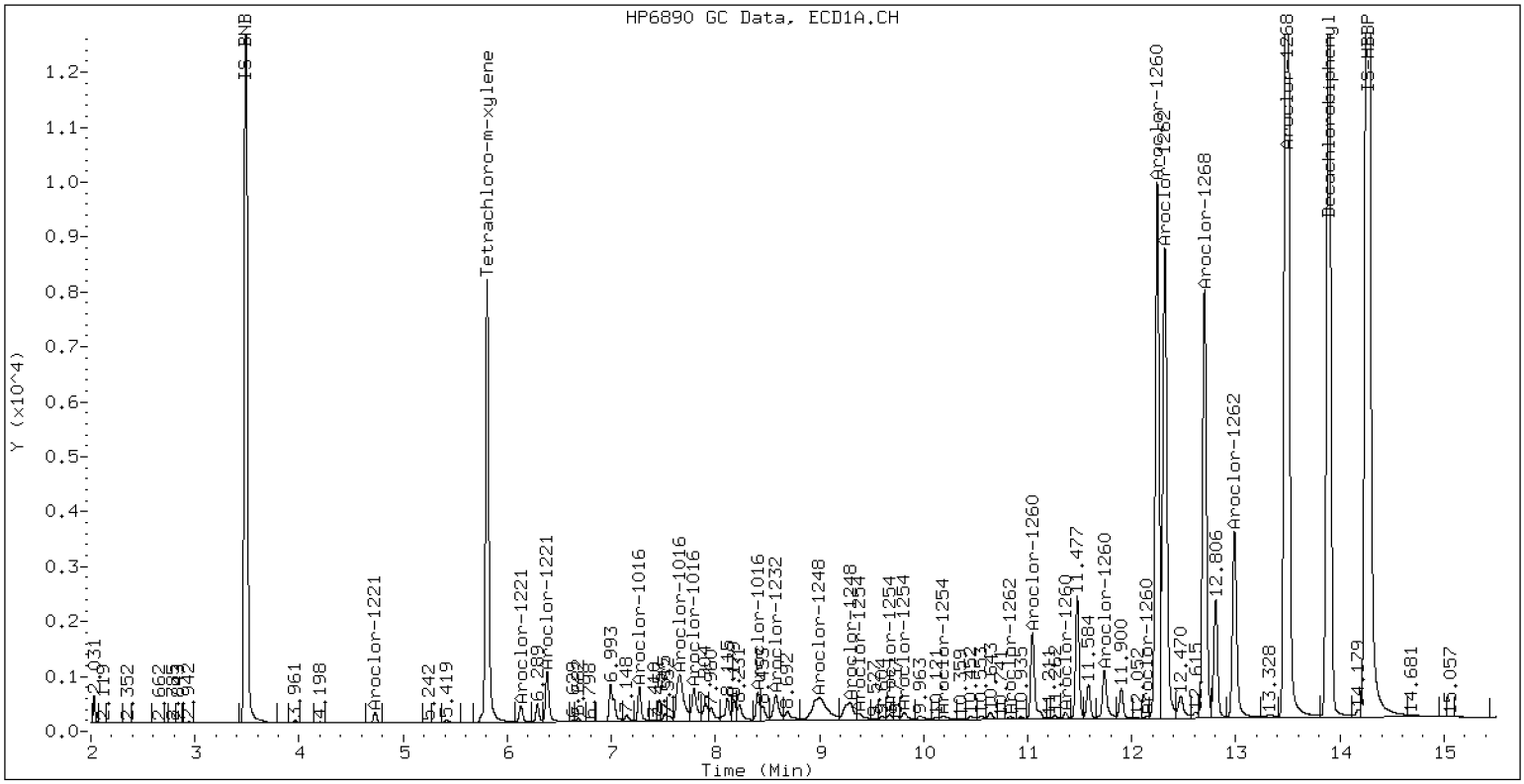
Total PCB Area Col2 (5.785 - 14.019) = 2376912 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

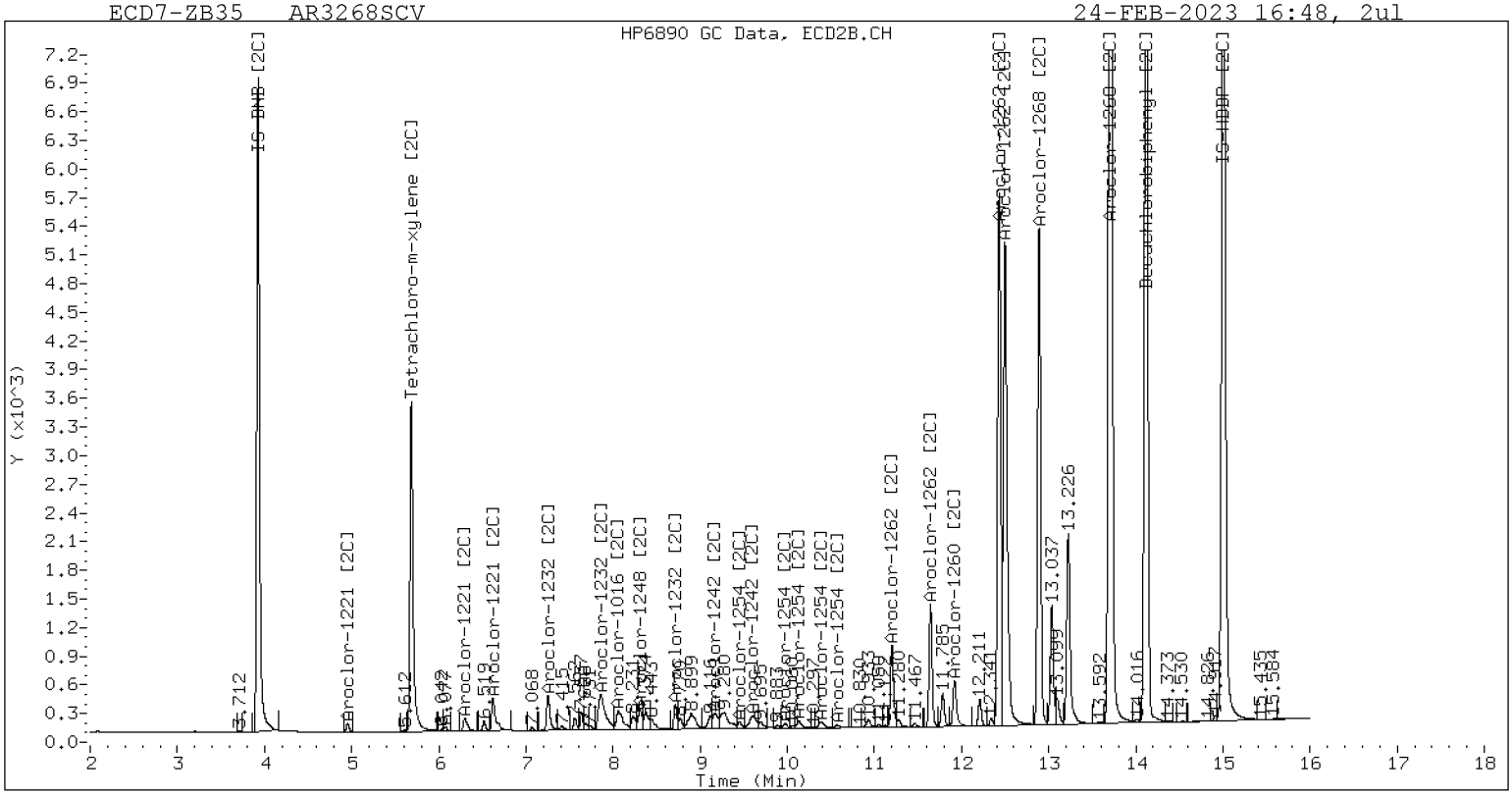
PCB Dual Column Chromatograms

ECD7-ZB5 AR3268SCV 24-FEB-2023 16:48, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR3268SCV 24-FEB-2023 16:48, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
8082 DDT SCREEN REPORT

Data file 1: /230224.b/02242319ECD7.D ARI ID: DDTS

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
9.261	0.000	694353	9.912	0.000	580269	0.100	0.100	0.0	2,4-DDE
0.000	-10.293	0	10.672	0.000	673479	0.000	0.200#	----	2,4-DDT
9.686	0.000	1191406	10.212	0.000	433373	0.100	0.100	0.0	4,4-DDE
10.259	0.000	1721760	10.672	0.000	673479	0.100	0.200#	66.7*	4,4-DDD

# Indicates value is from co-eluting peaks
* Indicates RPD > 40%

Analytical Resources Inc.
8082 DDT SCREEN REPORT

Data file 1: /230224.b/02242320ECD7.D ARI ID: DDT BD

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
9.285	0.023	4923	9.921	0.009	9972	0.001	0.002	84.3*	2,4-DDE
0.000	-10.293	0	10.677	0.004	249094	0.000	0.074#	----	2,4-DDT
9.692	0.006	12128	10.221	0.009	528	0.001	0.000	156.7*	4,4-DDE
10.265	0.006	410017	10.677	0.004	249094	0.023	0.074#	103.6*	4,4-DDD

# Indicates value is from co-eluting peaks
* Indicates RPD > 40%

Analytical Resources, LLC
Analytical Chemists and Consultants

ANALYSIS SEQUENCE

SLB0342

Instrument: ECD7
Calibration ID: GB00069

Printed: 2/28/2023 9:54:44AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SLB0342-CAL1	QC		1		L000856	L000844		
SLB0342-CAL2	QC		2		L000859	L000844		
SLB0342-CAL3	QC		3		L000858	L000844		
SLB0342-CAL4	QC		4		L000731	L000844		
SLB0342-CAL5	QC		5		L000857	L000844		
SLB0342-CAL6	QC		6		L000855	L000844		
SLB0342-CAL7	QC		7		L000860	L000844		
SLB0342-CAL8	QC		8		L000861	L000844		
SLB0342-CAL9	QC		9		L000862	L000844		
SLB0342-CALA	QC		10		L000863	L000844		
SLB0342-CALB	QC		11		L000864	L000844		
SLB0342-SCV1	QC		12		L002065	L000844		
SLB0342-SCV2	QC		13		K007656	L000844		
SLB0342-SCV3	QC		14		L002066	L000844		
SLB0342-SCV4	QC		15		L002067	L000844		
SLB0342-SCV5	QC		16		L002068	L000844		
SLB0342-SCV6	QC		17		L002069	L000844		

Samples Loaded By Date

Data Processed By Date

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	24-FEB-2023 10:51	02242301ECD7.D	1	IB	
2	24-FEB-2023 11:12	02242302ECD7.D	1	0.25PPMAR1660	
3	24-FEB-2023 11:33	02242303ECD7.D	1	0.02PPMAR1660	
4	24-FEB-2023 11:54	02242304ECD7.D	1	0.05PPMAR1660	
5	24-FEB-2023 12:15	02242305ECD7.D	1	1.0PPMAR1660	
6	24-FEB-2023 12:36	02242306ECD7.D	1	0.1PPMAR1660	
7	24-FEB-2023 12:57	02242307ECD7.D	1	0.5PPMAR1660	
8	24-FEB-2023 13:18	02242308ECD7.D	1	0.25PPMAR1242	
9	24-FEB-2023 13:39	02242309ECD7.D	1	0.25PPMAR1248	
10	24-FEB-2023 14:00	02242310ECD7.D	1	0.25PPMAR1254	
11	24-FEB-2023 14:21	02242311ECD7.D	1	0.25PPMAR2162	
12	24-FEB-2023 14:42	02242312ECD7.D	1	0.25PPMAR3268	
13	24-FEB-2023 15:03	02242313ECD7.D	1	AR1660SCV	
14	24-FEB-2023 15:24	02242314ECD7.D	1	AR1242SCV	
15	24-FEB-2023 15:45	02242315ECD7.D	1	AR1248SCV	
16	24-FEB-2023 16:06	02242316ECD7.D	1	AR1254SCV	
17	24-FEB-2023 16:27	02242317ECD7.D	1	AR2162SCV	
18	24-FEB-2023 16:48	02242318ECD7.D	1	AR3268SCV	
19	24-FEB-2023 17:09	02242319ECD7.D	1	DDTS	
20	24-FEB-2023 17:30	02242320ECD7.D	1	DDT BD	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b

ARI Job No.: IB Method: PCB.m Instrument: ecd7.i Date: 24-FEB-2023

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1051	02242301ECD7.D	IB		1	NO MANUAL INTEGRATION
1112	02242302ECD7.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION
1133	02242303ECD7.D	0.02PPMAR1660		1	NO MANUAL INTEGRATION
1154	02242304ECD7.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
1215	02242305ECD7.D	1.0PPMAR1660		1	NO MANUAL INTEGRATION
1236	02242306ECD7.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
1257	02242307ECD7.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
1318	02242308ECD7.D	0.25PPMAR1242		1	NO MANUAL INTEGRATION
1339	02242309ECD7.D	0.25PPMAR1248		1	NO MANUAL INTEGRATION
1400	02242310ECD7.D	0.25PPMAR1254		1	NO MANUAL INTEGRATION
1421	02242311ECD7.D	0.25PPMAR2162		1	NO MANUAL INTEGRATION
1442	02242312ECD7.D	0.25PPMAR3268		1	NO MANUAL INTEGRATION
1503	02242313ECD7.D	AR1660SCV		1	NO MANUAL INTEGRATION
1524	02242314ECD7.D	AR1242SCV		1	NO MANUAL INTEGRATION
1545	02242315ECD7.D	AR1248SCV		1	NO MANUAL INTEGRATION
1606	02242316ECD7.D	AR1254SCV		1	NO MANUAL INTEGRATION
1627	02242317ECD7.D	AR2162SCV		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1648	02242318ECD7.D	AR3268SCV		1	NO MANUAL INTEGRATION
1709	02242319ECD7.D	DDTS		1	NO MANUAL INTEGRATION
1730	02242320ECD7.D	DDT BD		1	NO MANUAL INTEGRATION
1751	02242321ECD7.D			1	NO MANUAL INTEGRATION
1812	02242322ECD7.D			1	NO MANUAL INTEGRATION
1833	02242323ECD7.D			1	NO MANUAL INTEGRATION
1854	02242324ECD7.D			1	NO MANUAL INTEGRATION
1915	02242325ECD7.D			1	NO MANUAL INTEGRATION
1936	02242326ECD7.D			1	NO MANUAL INTEGRATION
1957	02242327ECD7.D			1	NO MANUAL INTEGRATION
2018	02242328ECD7.D			1	NO MANUAL INTEGRATION
2039	02242329ECD7.D			1	NO MANUAL INTEGRATION
2059	02242330ECD7.D			1	NO MANUAL INTEGRATION
2120	02242331ECD7.D			1	NO MANUAL INTEGRATION
2141	02242332ECD7.D			1	NO MANUAL INTEGRATION
2202	02242333ECD7.D			1	NO MANUAL INTEGRATION
2223	02242334ECD7.D			1	NO MANUAL INTEGRATION
2244	02242335ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2305	02242336ECD7.D			1	NO MANUAL INTEGRATION
2326	02242337ECD7.D			1	NO MANUAL INTEGRATION
2347	02242338ECD7.D			1	NO MANUAL INTEGRATION
0008	02242339ECD7.D			1	NO MANUAL INTEGRATION
0029	02242340ECD7.D			1	NO MANUAL INTEGRATION
0050	02242341ECD7.D			1	NO MANUAL INTEGRATION
0111	02242342ECD7.D			1	NO MANUAL INTEGRATION
0132	02242343ECD7.D			1	NO MANUAL INTEGRATION
0153	02242344ECD7.D			1	NO MANUAL INTEGRATION
0214	02242345ECD7.D			1	NO MANUAL INTEGRATION
0235	02242346ECD7.D			1	NO MANUAL INTEGRATION
0256	02242347ECD7.D			1	NO MANUAL INTEGRATION
0317	02242348ECD7.D			1	NO MANUAL INTEGRATION
0338	02242349ECD7.D			1	NO MANUAL INTEGRATION
0359	02242350ECD7.D			1	NO MANUAL INTEGRATION
0420	02242351ECD7.D			1	NO MANUAL INTEGRATION
0441	02242352ECD7.D			1	NO MANUAL INTEGRATION
0502	02242353ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0523	02242354ECD7.D			1	NO MANUAL INTEGRATION
0544	02242355ECD7.D			1	NO MANUAL INTEGRATION
0605	02242356ECD7.D			1	NO MANUAL INTEGRATION
0626	02242357ECD7.D			1	NO MANUAL INTEGRATION
0647	02242358ECD7.D			1	NO MANUAL INTEGRATION
0708	02242359ECD7.D			1	NO MANUAL INTEGRATION
0729	02242360ECD7.D			1	NO MANUAL INTEGRATION
0750	02242361ECD7.D			1	NO MANUAL INTEGRATION
0811	02242362ECD7.D			1	NO MANUAL INTEGRATION
0832	02242363ECD7.D			1	NO MANUAL INTEGRATION
0853	02242364ECD7.D			1	NO MANUAL INTEGRATION
0914	02242365ECD7.D			1	NO MANUAL INTEGRATION
0935	02242366ECD7.D			1	NO MANUAL INTEGRATION
0956	02242367ECD7.D			1	NO MANUAL INTEGRATION
1017	02242368ECD7.D			1	NO MANUAL INTEGRATION
1038	02242369ECD7.D			1	NO MANUAL INTEGRATION
1059	02242370ECD7.D			1	NO MANUAL INTEGRATION
1120	02242371ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1141	02242372ECD7.D			1	NO MANUAL INTEGRATION
1202	02242373ECD7.D			1	NO MANUAL INTEGRATION
1223	02242374ECD7.D			1	NO MANUAL INTEGRATION
1244	02242375ECD7.D			1	NO MANUAL INTEGRATION
1305	02242376ECD7.D			1	NO MANUAL INTEGRATION
1326	02242377ECD7.D			1	NO MANUAL INTEGRATION
1347	02242378ECD7.D			1	NO MANUAL INTEGRATION
1408	02242379ECD7.D			1	NO MANUAL INTEGRATION
1429	02242380ECD7.D			1	NO MANUAL INTEGRATION
1450	02242381ECD7.D			1	NO MANUAL INTEGRATION
1511	02242382ECD7.D			1	NO MANUAL INTEGRATION
1532	02242383ECD7.D			1	NO MANUAL INTEGRATION
1553	02242384ECD7.D			1	NO MANUAL INTEGRATION
1051	02242301ECD7.D	IB		1	NO MANUAL INTEGRATION
1112	02242302ECD7.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION
1133	02242303ECD7.D	0.02PPMAR1660		1	Aroclor-1016 [2C],
1154	02242304ECD7.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
1215	02242305ECD7.D	1.0PPMAR1660		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1236	02242306ECD7.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
1257	02242307ECD7.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
1318	02242308ECD7.D	0.25PPMAR1242		1	NO MANUAL INTEGRATION
1339	02242309ECD7.D	0.25PPMAR1248		1	NO MANUAL INTEGRATION
1400	02242310ECD7.D	0.25PPMAR1254		1	NO MANUAL INTEGRATION
1421	02242311ECD7.D	0.25PPMAR2162		1	NO MANUAL INTEGRATION
1442	02242312ECD7.D	0.25PPMAR3268		1	NO MANUAL INTEGRATION
1503	02242313ECD7.D	AR1660SCV		1	NO MANUAL INTEGRATION
1524	02242314ECD7.D	AR1242SCV		1	NO MANUAL INTEGRATION
1545	02242315ECD7.D	AR1248SCV		1	NO MANUAL INTEGRATION
1606	02242316ECD7.D	AR1254SCV		1	NO MANUAL INTEGRATION
1627	02242317ECD7.D	AR2162SCV		1	NO MANUAL INTEGRATION
1648	02242318ECD7.D	AR3268SCV		1	NO MANUAL INTEGRATION
1709	02242319ECD7.D	DDTS		1	NO MANUAL INTEGRATION
1730	02242320ECD7.D	DDT BD		1	NO MANUAL INTEGRATION
1751	02242321ECD7.D			1	NO MANUAL INTEGRATION
1812	02242322ECD7.D			1	NO MANUAL INTEGRATION
1833	02242323ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1854	02242324ECD7.D			1	NO MANUAL INTEGRATION
1915	02242325ECD7.D			1	NO MANUAL INTEGRATION
1936	02242326ECD7.D			1	NO MANUAL INTEGRATION
1957	02242327ECD7.D			1	NO MANUAL INTEGRATION
2018	02242328ECD7.D			1	NO MANUAL INTEGRATION
2038	02242329ECD7.D			1	NO MANUAL INTEGRATION
2059	02242330ECD7.D			1	NO MANUAL INTEGRATION
2120	02242331ECD7.D			1	NO MANUAL INTEGRATION
2141	02242332ECD7.D			1	NO MANUAL INTEGRATION
2202	02242333ECD7.D			1	NO MANUAL INTEGRATION
2223	02242334ECD7.D			1	NO MANUAL INTEGRATION
2244	02242335ECD7.D			1	NO MANUAL INTEGRATION
2305	02242336ECD7.D			1	NO MANUAL INTEGRATION
2326	02242337ECD7.D			1	NO MANUAL INTEGRATION
2347	02242338ECD7.D			1	NO MANUAL INTEGRATION
0008	02242339ECD7.D			1	NO MANUAL INTEGRATION
0029	02242340ECD7.D			1	NO MANUAL INTEGRATION
0050	02242341ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0111	02242342ECD7.D			1	NO MANUAL INTEGRATION
0132	02242343ECD7.D			1	NO MANUAL INTEGRATION
0153	02242344ECD7.D			1	NO MANUAL INTEGRATION
0214	02242345ECD7.D			1	NO MANUAL INTEGRATION
0235	02242346ECD7.D			1	NO MANUAL INTEGRATION
0256	02242347ECD7.D			1	NO MANUAL INTEGRATION
0317	02242348ECD7.D			1	NO MANUAL INTEGRATION
0338	02242349ECD7.D			1	NO MANUAL INTEGRATION
0359	02242350ECD7.D			1	NO MANUAL INTEGRATION
0420	02242351ECD7.D			1	NO MANUAL INTEGRATION
0441	02242352ECD7.D			1	NO MANUAL INTEGRATION
0502	02242353ECD7.D			1	NO MANUAL INTEGRATION
0523	02242354ECD7.D			1	NO MANUAL INTEGRATION
0544	02242355ECD7.D			1	NO MANUAL INTEGRATION
0605	02242356ECD7.D			1	NO MANUAL INTEGRATION
0626	02242357ECD7.D			1	NO MANUAL INTEGRATION
0647	02242358ECD7.D			1	NO MANUAL INTEGRATION
0708	02242359ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0729	02242360ECD7.D			1	NO MANUAL INTEGRATION
0750	02242361ECD7.D			1	NO MANUAL INTEGRATION
0811	02242362ECD7.D			1	NO MANUAL INTEGRATION
0832	02242363ECD7.D			1	NO MANUAL INTEGRATION
0853	02242364ECD7.D			1	NO MANUAL INTEGRATION
0914	02242365ECD7.D			1	NO MANUAL INTEGRATION
0935	02242366ECD7.D			1	NO MANUAL INTEGRATION
0956	02242367ECD7.D			1	NO MANUAL INTEGRATION
1017	02242368ECD7.D			1	NO MANUAL INTEGRATION
1038	02242369ECD7.D			1	NO MANUAL INTEGRATION
1059	02242370ECD7.D			1	NO MANUAL INTEGRATION
1120	02242371ECD7.D			1	NO MANUAL INTEGRATION
1141	02242372ECD7.D			1	NO MANUAL INTEGRATION
1202	02242373ECD7.D			1	NO MANUAL INTEGRATION
1223	02242374ECD7.D			1	NO MANUAL INTEGRATION
1244	02242375ECD7.D			1	NO MANUAL INTEGRATION
1305	02242376ECD7.D			1	NO MANUAL INTEGRATION
1326	02242377ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1347	02242378ECD7.D			1	NO MANUAL INTEGRATION
1408	02242379ECD7.D			1	NO MANUAL INTEGRATION
1429	02242380ECD7.D			1	NO MANUAL INTEGRATION
1450	02242381ECD7.D			1	NO MANUAL INTEGRATION
1511	02242382ECD7.D			1	NO MANUAL INTEGRATION
1532	02242383ECD7.D			1	NO MANUAL INTEGRATION
1553	02242384ECD7.D			1	NO MANUAL INTEGRATION

Security Status Report

Date: 28-Feb-2023 10:53

02242301ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242302ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242303ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242304ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242305ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242306ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242307ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242308ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242309ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242310ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242311ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242312ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242313ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242314ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242315ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242316ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242317ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242318ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242319ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242320ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m
Last Edit : 24-Feb-2023 15:31 richardl
Curve Type : Average

Calibration File Names:
Level 1: \\target\share\chem4\ecd7.i\230224.b\02242303ECD7.D
Level 2: \\target\share\chem4\ecd7.i\230224.b\02242304ECD7.D
Level 3: \\target\share\chem4\ecd7.i\230224.b\02242306ECD7.D
Level 4: \\target\share\chem4\ecd7.i\230224.b\02242302ECD7.D
Level 5: \\target\share\chem4\ecd7.i\230224.b\02242307ECD7.D
Level 6: \\target\share\chem4\ecd7.i\230224.b\02242305ECD7.D
Level 7: \\target\share\chem4\ecd7.i\230224.b\02242312ECD7.D

Compound	20.000 Level 1 / 250.000 Level 7	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
2 Aroclor-1221(1)	+++++ / 0.00716	+++++	+++++	+++++	+++++	+++++	0.00716	0.000
(2)	+++++ / 0.01281	+++++	+++++	+++++	+++++	+++++	0.01281	0.000
(3)	+++++ / 0.02975	+++++	+++++	+++++	+++++	+++++	0.02975	0.000
3 Aroclor-1242(1)	+++++ / 0.02479	+++++	+++++	+++++	+++++	+++++	0.02479	0.000
(2)	+++++ / 0.07529	+++++	+++++	+++++	+++++	+++++	0.07529	0.000
(3)	+++++ / 0.02343	+++++	+++++	+++++	+++++	+++++	0.02343	0.000
(4)	+++++ / 0.03463	+++++	+++++	+++++	+++++	+++++	0.03463	0.000
4 Aroclor-1232(1)	+++++ / 0.00429	+++++	+++++	+++++	+++++	+++++	0.00429	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m
Last Edit : 24-Feb-2023 15:31 richardl
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	___ RRF	% RSD
(2)	*****	*****	*****	*****	*****	*****	0.00850	0.00850	0.000
(3)	*****	*****	*****	*****	*****	*****	0.03848	0.03848	0.000
(4)	*****	*****	*****	*****	*****	*****	0.01635	0.01635	0.000
7 Aroclor-1016(1)	0.03172	0.03253	0.03142	0.03141	0.02856	0.02667	*****	0.03039	7.449
(2)	0.09239	0.09246	0.09222	0.09849	0.09174	0.08849	*****	0.09263	3.499
(3)	0.05165	0.05037	0.04823	0.04393	0.03991	0.03721	*****	0.04522	12.936
(4)	0.03002	0.02894	0.02959	0.03058	0.02852	0.02774	*****	0.02923	3.542
6 Aroclor-1248(1)	*****	*****	*****	*****	*****	*****	0.03903	0.03903	0.000
(2)	*****	*****	*****	*****	*****	*****	0.04961	0.04961	0.000
(3)	*****	*****	*****	*****	*****	*****	0.09360	0.09360	0.000
(4)	*****	*****	*****	*****	*****	*****	0.04765	0.04765	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m
Last Edit : 24-Feb-2023 15:31 richardl
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	___ RRF	% RSD
8 Aroclor-1254(1)	*****	*****	*****	*****	*****	*****	0.08033	0.08033	0.000
(2)	*****	*****	*****	*****	*****	*****	0.03613	0.03613	0.000
(3)	*****	*****	*****	*****	*****	*****	0.05165	0.05165	0.000
(4)	*****	*****	*****	*****	*****	*****	0.10042	0.10042	0.000
(5)	*****	*****	*****	*****	*****	*****	0.06294	0.06294	0.000
9 Aroclor-1260(1)	0.02926	0.02920	0.02841	0.03096	0.02737	0.02746	*****	0.02878	4.677
(2)	0.02967	0.03006	0.03011	0.03291	0.02910	0.02857	*****	0.03007	5.029
(3)	0.08088	0.08045	0.07954	0.08575	0.07515	0.07674	*****	0.07975	4.627
(4)	0.03905	0.03887	0.03955	0.04485	0.03942	0.03922	*****	0.04016	5.753
(5)	0.01783	0.01715	0.01679	0.01875	0.01664	0.01655	*****	0.01729	4.953
10 Aroclor-1262(1)	*****	*****	*****	*****	*****	*****	0.02454	0.02454	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m
Last Edit : 24-Feb-2023 15:31 richardl
Curve Type : Average

Compound	20.000 Level 1 / 250.000 Level 7	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
(2)	+++++ / 0.03993	+++++	+++++	+++++	+++++	+++++	0.03993	0.000
(3)	+++++ / 0.04293	+++++	+++++	+++++	+++++	+++++	0.04293	0.000
(4)	+++++ / 0.03923	+++++	+++++	+++++	+++++	+++++	0.03923	0.000
11 Aroclor-1268(1)	+++++ / 0.10250	+++++	+++++	+++++	+++++	+++++	0.10250	0.000
(2)	+++++ / 0.10151	+++++	+++++	+++++	+++++	+++++	0.10151	0.000
(3)	+++++ / 0.08686	+++++	+++++	+++++	+++++	+++++	0.08686	0.000
(4)	+++++ / 0.28598	+++++	+++++	+++++	+++++	+++++	0.28598	0.000
42 2,4-DDE	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
43 2,4-DDD	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
44 2,4-DDT	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
46 4,4-DDE	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m
Last Edit : 24-Feb-2023 15:31 richardl
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	___ RRF	% RSD
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
$ 1 Tetrachloro-m-xylene	1.16827	1.24402	1.18546	1.20509	1.12295	1.24114	+++++	1.19449	3.860
$ 13 Decachlorobiphenyl	0.82901	0.80558	0.77587	0.78808	0.73125	0.79742	+++++	0.78787	4.189

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Last Edit : 24-Feb-2023 15:29 richardl
Curve Type : Average

Calibration File Names:
Level 1: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242303ECD7.D
Level 2: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242304ECD7.D
Level 3: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242306ECD7.D
Level 4: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242302ECD7.D
Level 5: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242307ECD7.D
Level 6: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242305ECD7.D
Level 7: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242312ECD7.D

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	RRF	% RSD
1 Aroclor-1221 [2C](1)	+++++	+++++	+++++	+++++	+++++	+++++	0.00757	0.00757	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.01433	0.01433	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.02333	0.02333	0.000
4 Aroclor-1232 [2C](1)	+++++	+++++	+++++	+++++	+++++	+++++	0.00409	0.00409	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.02034	0.02034	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.04067	0.04067	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.01170	0.01170	0.000
3 Aroclor-1242 [2C](1)	+++++	+++++	+++++	+++++	+++++	+++++	0.03717	0.03717	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Last Edit : 24-Feb-2023 15:29 richardl
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	___ RRF	% RSD
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.07813	0.07813	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.02431	0.02431	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.02962	0.02962	0.000
6 Aroclor-1248 [2C](1)	+++++	+++++	+++++	+++++	+++++	+++++	0.03820	0.03820	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.03949	0.03949	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.04545	0.04545	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.05457	0.05457	0.000
7 Aroclor-1016 [2C](1)	0.05071	0.05022	0.04868	0.04733	0.04326	0.04080	+++++	0.04683	8.503
(2)	0.08143	0.09407	0.10159	0.10259	0.09651	0.09362	+++++	0.09497	8.025
(3)	0.04006	0.04718	0.04613	0.04410	0.04062	0.03926	+++++	0.04289	7.857
(4)	0.03181	0.03802	0.03707	0.03450	0.03115	0.02936	+++++	0.03365	10.251

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Last Edit : 24-Feb-2023 15:29 richardl
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	___ RRF	% RSD
8 Aroclor-1254 [2C](1)	*****	*****	*****	*****	*****	*****	0.06081	0.06081	0.000
(2)	*****	*****	*****	*****	*****	*****	0.04892	0.04892	0.000
(3)	*****	*****	*****	*****	*****	*****	0.10584	0.10584	0.000
(4)	*****	*****	*****	*****	*****	*****	0.10317	0.10317	0.000
(5)	*****	*****	*****	*****	*****	*****	0.06282	0.06282	0.000
10 Aroclor-1262 [2C](1)	*****	*****	*****	*****	*****	*****	0.06831	0.06831	0.000
(2)	*****	*****	*****	*****	*****	*****	0.05818	0.05818	0.000
(3)	*****	*****	*****	*****	*****	*****	0.06601	0.06601	0.000
(4)	*****	*****	*****	*****	*****	*****	0.10341	0.10341	0.000
9 Aroclor-1260 [2C](1)	0.05286	0.04911	0.04696	0.04801	0.04329	0.04201	*****	0.04704	8.422
(2)	0.12976	0.12431	0.12095	0.12664	0.11320	0.10545	*****	0.12005	7.605

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Last Edit : 24-Feb-2023 15:29 richardl
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	___ RRF	% RSD
(3)	0.03524	0.03147	0.02937	0.03208	0.03102	0.03198	#####	0.03186	6.045
(4)	0.08632	0.08237	0.08044	0.08393	0.07718	0.07531	#####	0.08092	5.126
11 Aroclor-1268 [2C](1)	#####	#####	#####	#####	#####	#####	0.16109	0.16109	0.000
(2)	#####	#####	#####	#####	#####	#####	0.17318	0.17318	0.000
(3)	#####	#####	#####	#####	#####	#####	0.14787	0.14787	0.000
(4)	#####	#####	#####	#####	#####	#####	0.47260	0.47260	0.000
41 2,4-DDE [2C]	#####	#####	#####	#####	#####	#####	#####	#####	#####
42 2,4-DDD [2C]	#####	#####	#####	#####	#####	#####	#####	#####	#####
44 4,4-DDE [2C]	#####	#####	#####	#####	#####	#####	#####	#####	#####
45 4,4-DDD/2,4-DDT [2C]	#####	#####	#####	#####	#####	#####	#####	#####	#####
46 4,4-DDT [2C]	#####	#####	#####	#####	#####	#####	#####	#####	#####

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Last Edit : 24-Feb-2023 15:29 richardl
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	___ RRF	% RSD
48 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
49 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
$ 2 Tetrachloro-m-xylene [2C]	1.21526	1.19545	1.17555	1.21907	1.12560	1.11139	+++++	1.17372	3.897
$ 13 Decachlorobiphenyl [2C]	1.17066	1.20406	1.20549	1.31040	1.21104	1.20797	+++++	1.21827	3.898

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\230224.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	02242302ECD7	02242303ECD7	02242304ECD7	02242305ECD7	02242306ECD7	02242307ECD7
INJ.DATE:	24-FEB-2023	24-FEB-2023	24-FEB-2023	24-FEB-2023	24-FEB-2023	24-FEB-2023
INJ.TIME:	11:12	11:33	11:54	12:15	12:36	12:57

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 41 IS-BNB	3.493	3.492	3.492	3.492	3.491	3.491	3.493	3.393-3.593	3.492	0.001
$ 1 Tetrachloro-m-xylene	5.811	5.809	5.809	5.813	5.809	5.810	5.811	5.711-5.911	5.810	0.002
2 Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	4.732	4.632-4.832	+++++	+++++
3 Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	7.269	7.169-7.369	+++++	+++++
4 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	4.732	4.632-4.832	+++++	+++++
7 Aroclor-1016	7.272	7.272	7.272	7.270	7.271	7.270	7.272	7.172-7.372	7.271	0.001
6 Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	8.403	8.303-8.503	+++++	+++++
8 Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	9.295	9.195-9.395	+++++	+++++
9 Aroclor-1260	11.046	11.047	11.046	11.044	11.045	11.044	11.046	10.946-11.146	11.045	0.001
10 Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	10.824	10.724-10.924	+++++	+++++
11 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	12.243	12.143-12.343	+++++	+++++
$ 13 Decachlorobiphenyl	13.897	13.893	13.893	13.899	13.892	13.898	13.897	13.797-13.997	13.895	0.003
* 12 IS-HBBP	14.269	14.268	14.268	14.267	14.268	14.268	14.269	14.169-14.369	14.268	0.001
42 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	9.260	9.210-9.310	+++++	+++++
43 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.801	9.751-9.851	+++++	+++++
44 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.293	10.243-10.343	+++++	+++++
46 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	9.683	9.583-9.783	+++++	+++++

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

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\230224.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	10.254	10.154-10.354	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.754	10.654-10.854	+++++	+++++
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	1.842	1.742-1.942	+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	6.708	6.608-6.808	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Batch File: \\target\share\chem4\ecd7.i\230224.b\230224.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	02242302ECD7	02242303ECD7	02242304ECD7	02242305ECD7	02242306ECD7	02242307ECD7
INJ.DATE:	24-FEB-2023	24-FEB-2023	24-FEB-2023	24-FEB-2023	24-FEB-2023	24-FEB-2023
INJ.TIME:	11:12	11:33	11:54	12:15	12:36	12:57

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 40 IS-BNB [2C]	3.928	3.929	3.929	3.929	3.928	3.929	3.928	3.828-4.028	3.929	0.000
$ 2 Tetrachloro-m-xylene [	5.687	5.688	5.688	5.688	5.688	5.688	5.687	5.587-5.787	5.688	0.001
1 Aroclor-1221 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	4.958	4.858-5.058	+++++	+++++
4 Aroclor-1232 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	4.958	4.859-5.059	+++++	+++++
3 Aroclor-1242 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	7.254	7.154-7.354	+++++	+++++
6 Aroclor-1248 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	8.305	8.205-8.405	+++++	+++++
7 Aroclor-1016 [2C]	7.255	7.256	7.256	7.254	7.255	7.256	7.255	7.155-7.355	7.255	0.001
8 Aroclor-1254 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	9.447	9.347-9.547	+++++	+++++
10 Aroclor-1262 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	11.198	11.098-11.298	+++++	+++++
9 Aroclor-1260 [2C]	11.653	11.656	11.655	11.652	11.655	11.653	11.653	11.553-11.753	11.654	0.001
11 Aroclor-1268 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	12.431	12.331-12.531	+++++	+++++
$ 13 Decachlorobiphenyl [2C	14.120	14.120	14.119	14.122	14.119	14.120	14.120	14.020-14.220	14.120	0.001
* 12 IS-HBBP [2C]	15.008	15.008	15.008	15.008	15.007	15.008	15.008	14.908-15.108	15.008	0.000
41 2,4-DDE [2C]	+++++	+++++	+++++	+++++	+++++	+++++	9.911	9.861-9.961	+++++	+++++
42 2,4-DDD [2C]	+++++	+++++	+++++	+++++	+++++	+++++	9.536	9.486-9.586	+++++	+++++
44 4,4-DDE [2C]	+++++	+++++	+++++	+++++	+++++	+++++	10.209	10.109-10.309	+++++	+++++
45 4,4-DDD/2,4-DDT [2C]	+++++	+++++	+++++	+++++	+++++	+++++	10.667	10.567-10.767	+++++	+++++

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

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Batch File: \\target\share\chem4\ecd7.i\230224.b\230224.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
46 4,4-DDT [2C]	+++++	+++++	+++++	+++++	+++++	+++++	11.092	10.992-11.192	+++++	+++++
48 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	1.703	1.603-1.803	+++++	+++++
49 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	7.178	7.078-7.278	+++++	+++++

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242301ECD7.D
Data file 2: /230224.b/230224.b/02242301ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: IB
Client ID:
Injection Date: 24-FEB-2023 10:51
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.826	0.019	382217	5.683	-0.002	180378	33.8	36.5	7.7	Tetrachloro-m-xylene
13.904	0.011	534110	14.120	0.001	295605	35.3	37.2	5.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	756896	12.3
Hexabromobiphenyl	1429847	1534275	7.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	336543	6.8
Hexabromobiphenyl	513946	521508	1.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	6.321	0.025	1873	31.1
Aroclor-1221	3	---			0.0	3	6.633	0.012	314	3.2
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	7.698	0.043	2193	6.0	3	---			0.0
Aroclor-1232	4	8.505	-0.076	11525	74.5	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	7.698	0.042	2193	3.1	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	8.505	-0.074	11525	35.2	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1248	1	---			0.0	1	---			0.0
Aroclor-1248	2	---			0.0	2	---			0.0
Aroclor-1248	3	---			0.0	3	---			0.0
Aroclor-1248	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1254	1	---			0.0	1	---			0.0
Aroclor-1254	2	---			0.0	2	---			0.0
Aroclor-1254	3	9.596	-0.072	31424	64.3	3	---			0.0
Aroclor-1254	4	---			0.0	4	---			0.0
Aroclor-1254	5	10.167	-0.010	18361	30.8	5	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1260	1	11.098	0.054	6994	12.7	1	---			0.0
Aroclor-1260	2	---			0.0	2	---			0.0
Aroclor-1260	3	11.706	-0.027	7806	5.1	3	---			0.0
Aroclor-1260	4	---			0.0	4	---			0.0
Aroclor-1260	5	---			0.0	NS	---			----
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1262	1	10.824	-0.005	16873	35.8	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	13.040	0.053	14031	18.6	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	12.709	0.009	6037	3.6	3	12.891	-0.001	659	0.7
Aroclor-1268	4	13.499	0.010	12396	2.3	4	13.710	0.001	1848	0.6
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			

Total PCB Area Col1 (5.906 - 13.793) = 260205 Col1 Total PCB = 0.0 ppm*

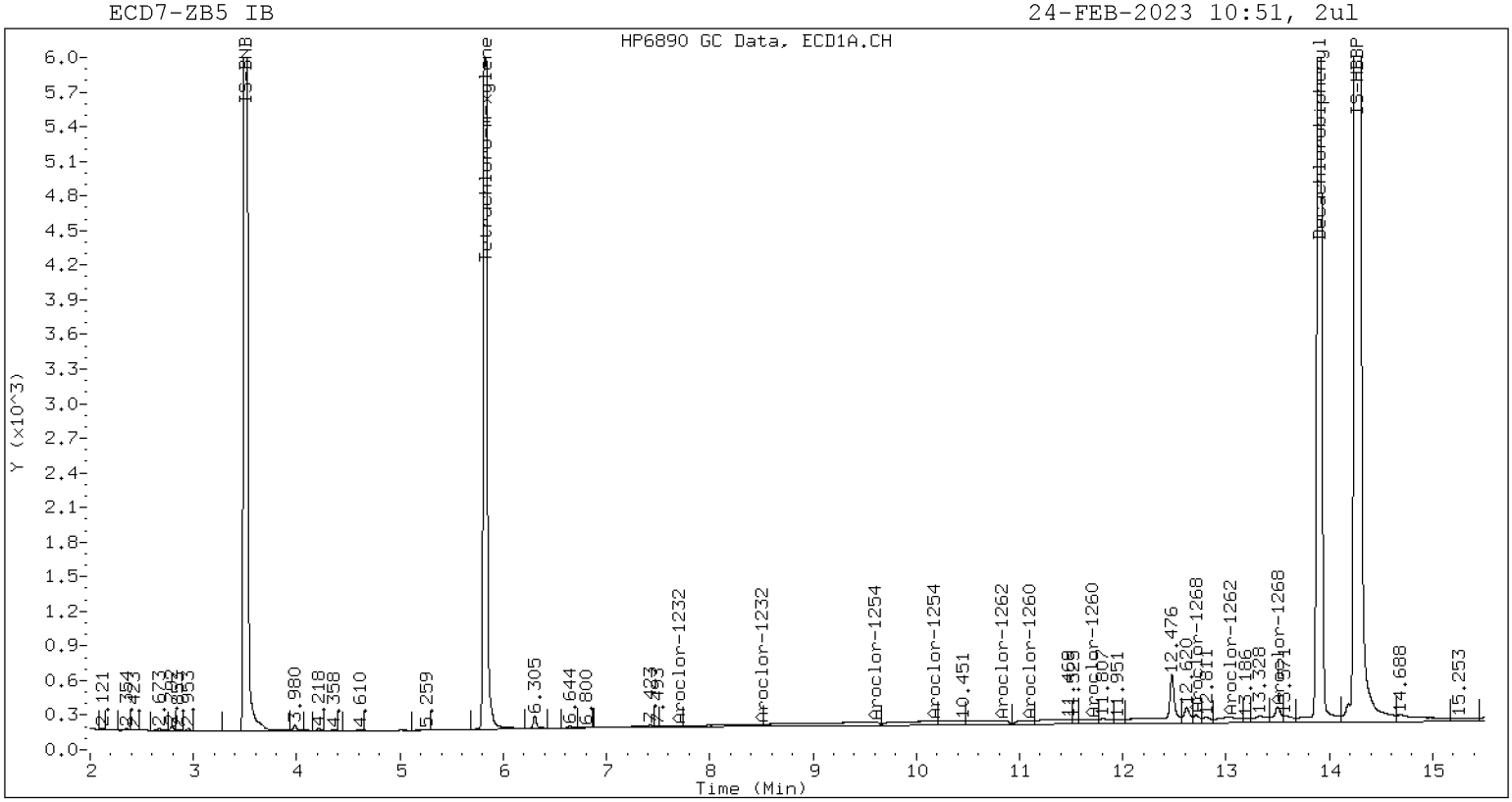
Total PCB Area Col2 (5.785 - 14.019) = 18252 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

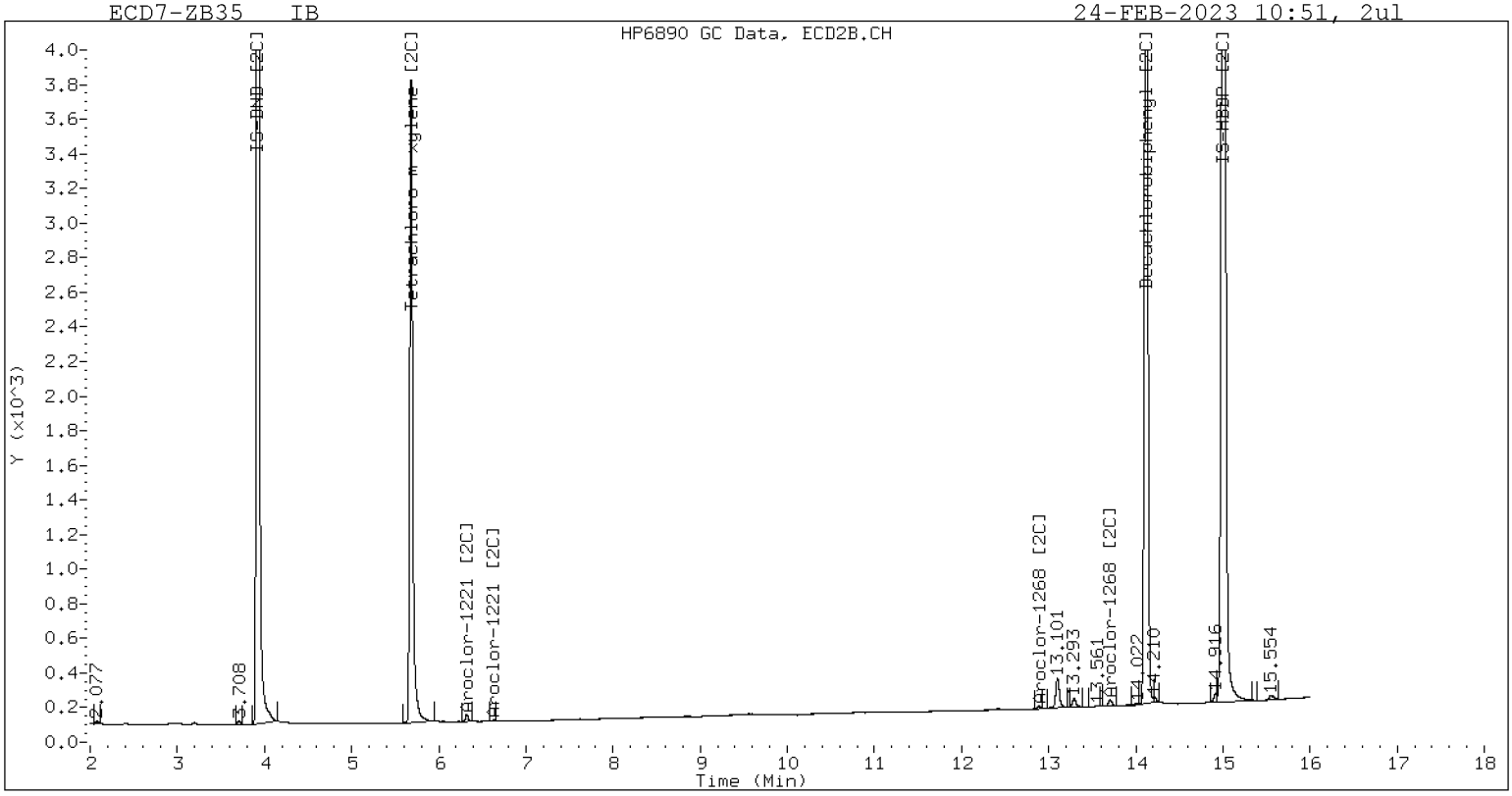
PCB Dual Column Chromatograms

ECD7-ZB5 IB 24-FEB-2023 10:51, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 IB 24-FEB-2023 10:51, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242302ECD7.D
Data file 2: /230224.b/230224.b/02242302ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR1660
Client ID:
Injection Date: 24-FEB-2023 11:12
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.811	0.005	405980	5.687	0.002	192160	40.4	41.5	2.9	Tetrachloro-m-xylene
13.897	0.004	563414	14.120	0.001	336737	40.0	43.0	7.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	673778	0.0
Hexabromobiphenyl	1429847	1429847	0.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	315256	0.0
Hexabromobiphenyl	513946	513946	0.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	7.272	0.001	66125	258.4	1	7.255	-0.001	46626	252.6
Aroclor-1016	2	7.654	-0.000	207370	265.8	2	7.855	-0.001	101071	270.1
Aroclor-1016	3	7.792	0.002	92507	242.9	3	8.055	0.001	43448	257.1
Aroclor-1016	4	8.406	0.001	64388	261.5	4	8.306	-0.000	33986	256.3
	Total Col1Ave (4 peaks):				257.2	Total Col2Ave (4 peaks):				259.0 RPD = 1
	Corrected Ave (3 peaks):				254.3	Corrected Ave (3 peaks):				255.3 RPD = 0
			CalAmt %D:		2.9			CalAmt %D:		3.6
Aroclor-1260	1	11.046	0.001	138355	269.0	1	11.653	0.001	77114	255.2
Aroclor-1260	2	11.363	0.002	147051	273.6	2	11.918	0.001	203401	263.7
Aroclor-1260	3	11.736	0.003	383171	268.8	3	12.435	-0.000	51517	251.7
Aroclor-1260	4	12.141	0.002	200399	279.2	4	12.502	0.001	134797	259.3
Aroclor-1260	5	12.247	0.003	83796	271.2	NS	---			----
	Total Col1Ave (5 peaks):				272.4	Total Col2Ave (4 peaks):				257.5 RPD = 6
	Corrected Ave (4 peaks):				270.7	Corrected Ave (3 peaks):				255.4 RPD = 6
			CalAmt %D:		8.9			CalAmt %D:		3.0

Total PCB Area Col1 (5.906 - 13.793) = 4024419 Col1 Total PCB = 0.5 ppm*

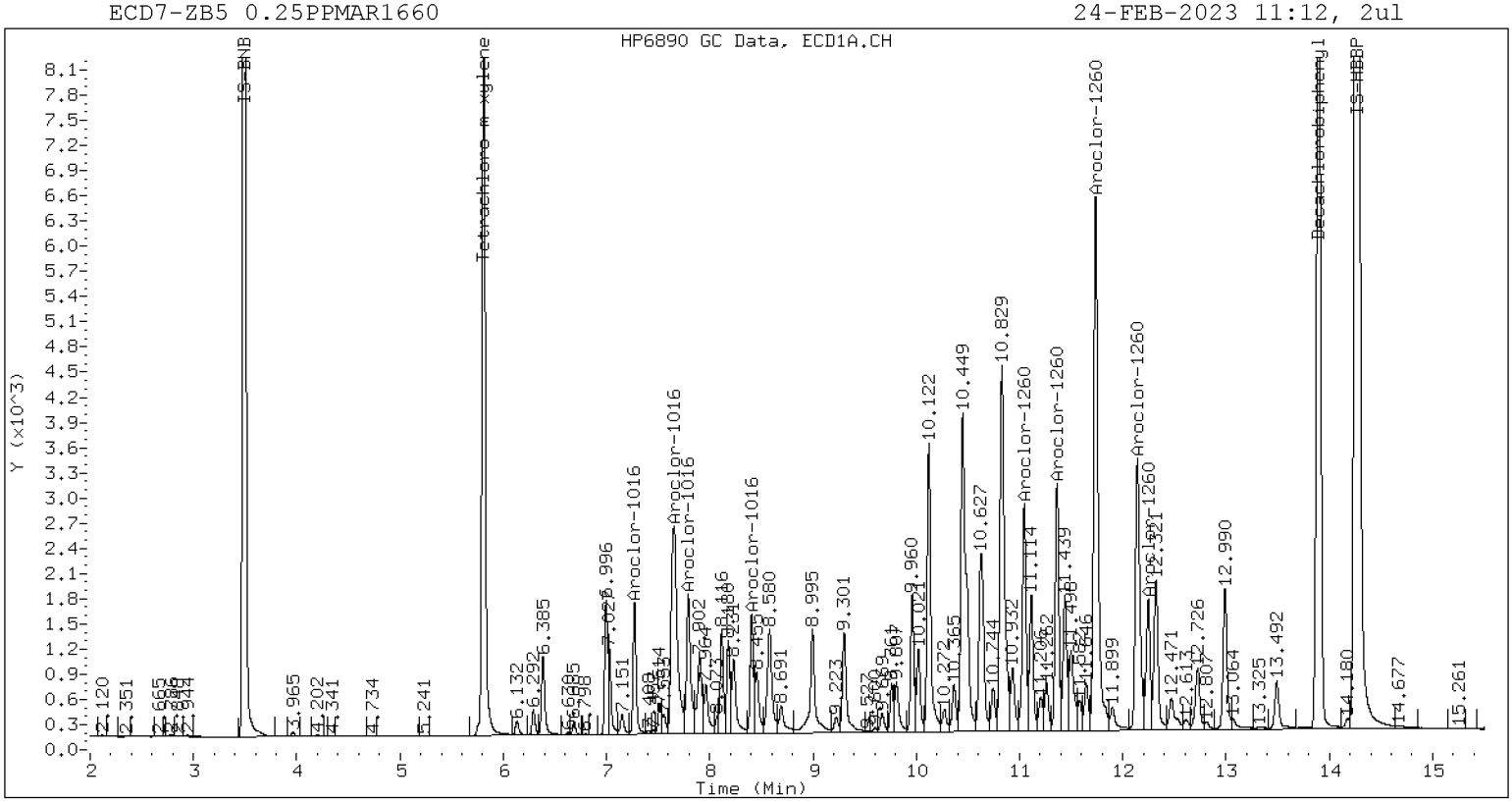
Total PCB Area Col2 (5.785 - 14.019) = 1889311 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

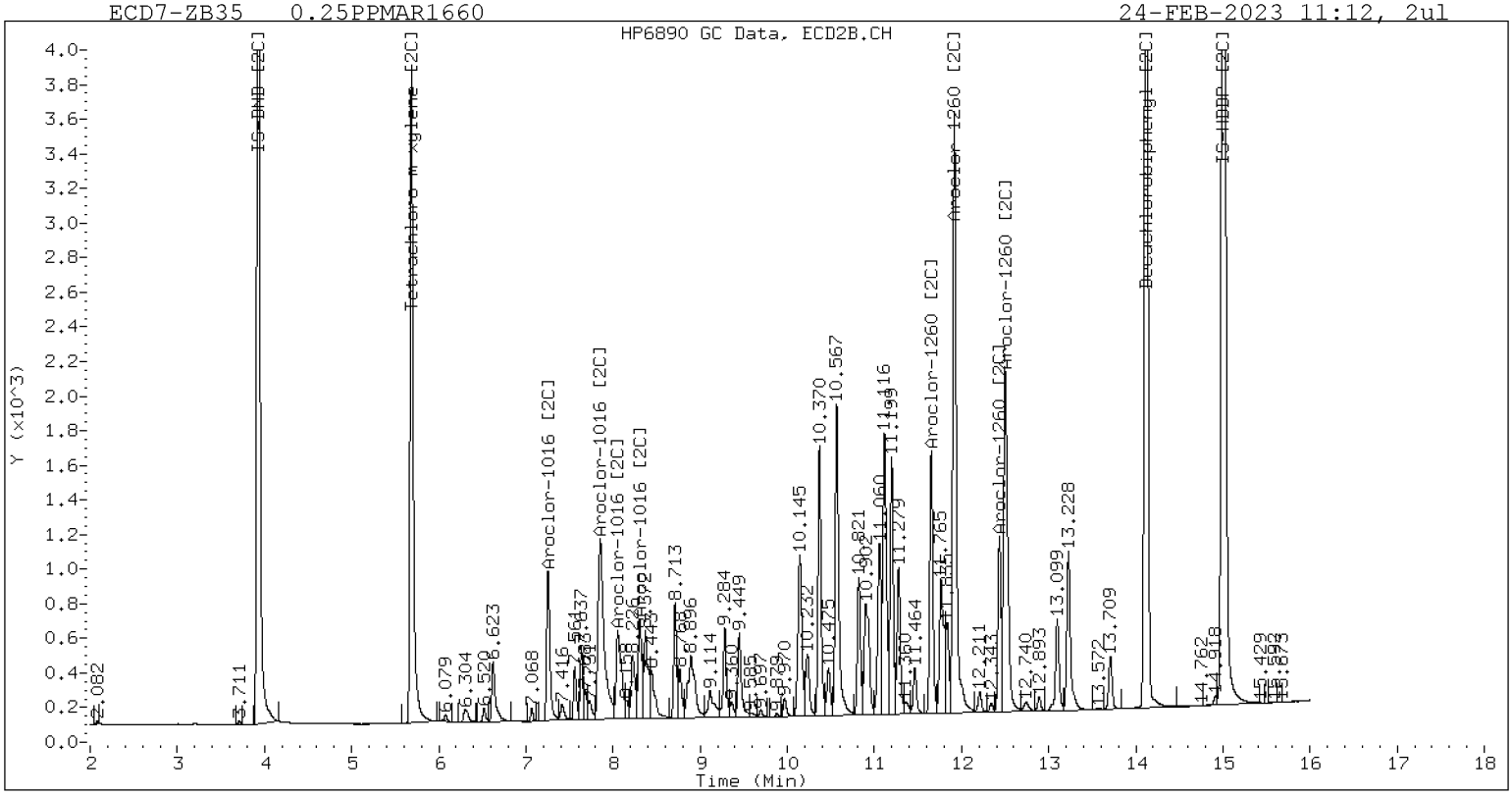
PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR1660 24-FEB-2023 11:12, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR1660 24-FEB-2023 11:12, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242303ECD7.D
Data file 2: /230224.b/230224.b/02242303ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.02PPMAR1660
Client ID:
Injection Date: 24-FEB-2023 11:33
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.809	0.002	29768	5.688	0.003	14932	3.1	3.3	5.7	Tetrachloro-m-xylene
13.893	0.000	45992	14.120	0.000	23950	3.4	3.1	9.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	637010	-5.5
Hexabromobiphenyl	1429847	1386953	-3.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	307177	-2.6
Hexabromobiphenyl	513946	511463	-0.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.272	0.001	5052	20.9	1	7.256	0.000	3894	21.7
Aroclor-1016	2	7.659	0.005	14714	19.9	2	7.864	0.008	6253	17.1
Aroclor-1016	3	7.795	0.005	8226	22.8	3	8.060	0.006	3076	18.7
Aroclor-1016	4	8.407	0.002	4780	20.5	4	8.309	0.002	2443	18.9
Total Col1Ave (4 peaks):					21.1	Total Col2Ave (4 peaks):				19.1 RPD = 10
Corrected Ave (3 peaks):					20.5	Corrected Ave (3 peaks):				18.2 RPD = 11
CalAmt %D:					5.3	CalAmt %D:				-4.5
Aroclor-1260	1	11.047	0.003	10147	20.3	1	11.656	0.003	6759	22.5
Aroclor-1260	2	11.364	0.003	10287	19.7	2	11.922	0.005	16592	21.6
Aroclor-1260	3	11.740	0.006	28043	20.3	3	12.438	0.002	4506	22.1
Aroclor-1260	4	12.145	0.006	13540	19.4	4	12.505	0.004	11037	21.3
Aroclor-1260	5	12.246	0.002	6182	20.6	NS	---			----
Total Col1Ave (5 peaks):					20.1	Total Col2Ave (4 peaks):				21.9 RPD = 9
Corrected Ave (4 peaks):					19.9	Corrected Ave (3 peaks):				21.7 RPD = 8
CalAmt %D:					0.4	CalAmt %D:				9.4

Total PCB Area Col1 (5.906 - 13.793) = 324832 Col1 Total PCB = 0.0 ppm*

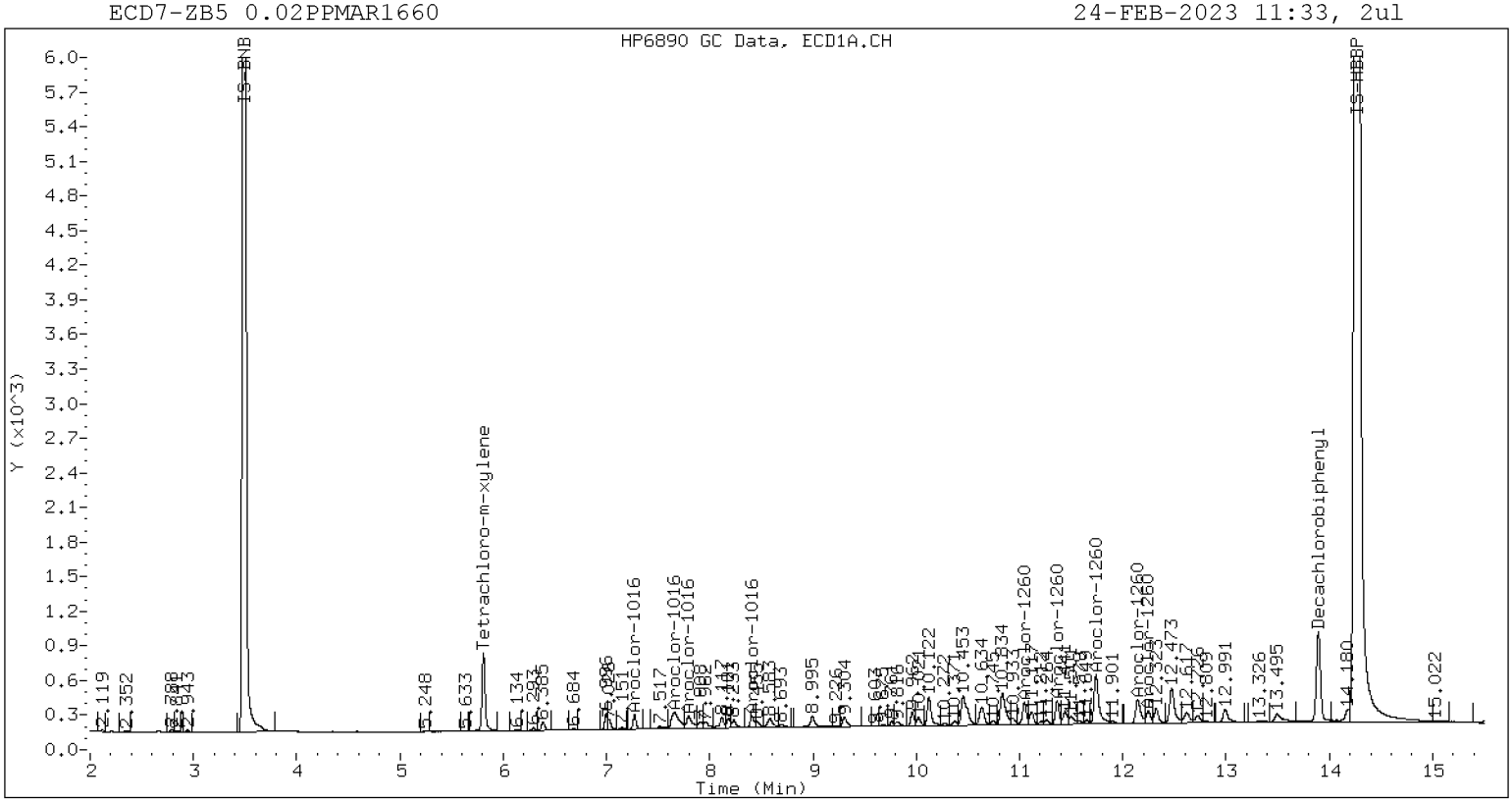
Total PCB Area Col2 (5.785 - 14.019) = 157149 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

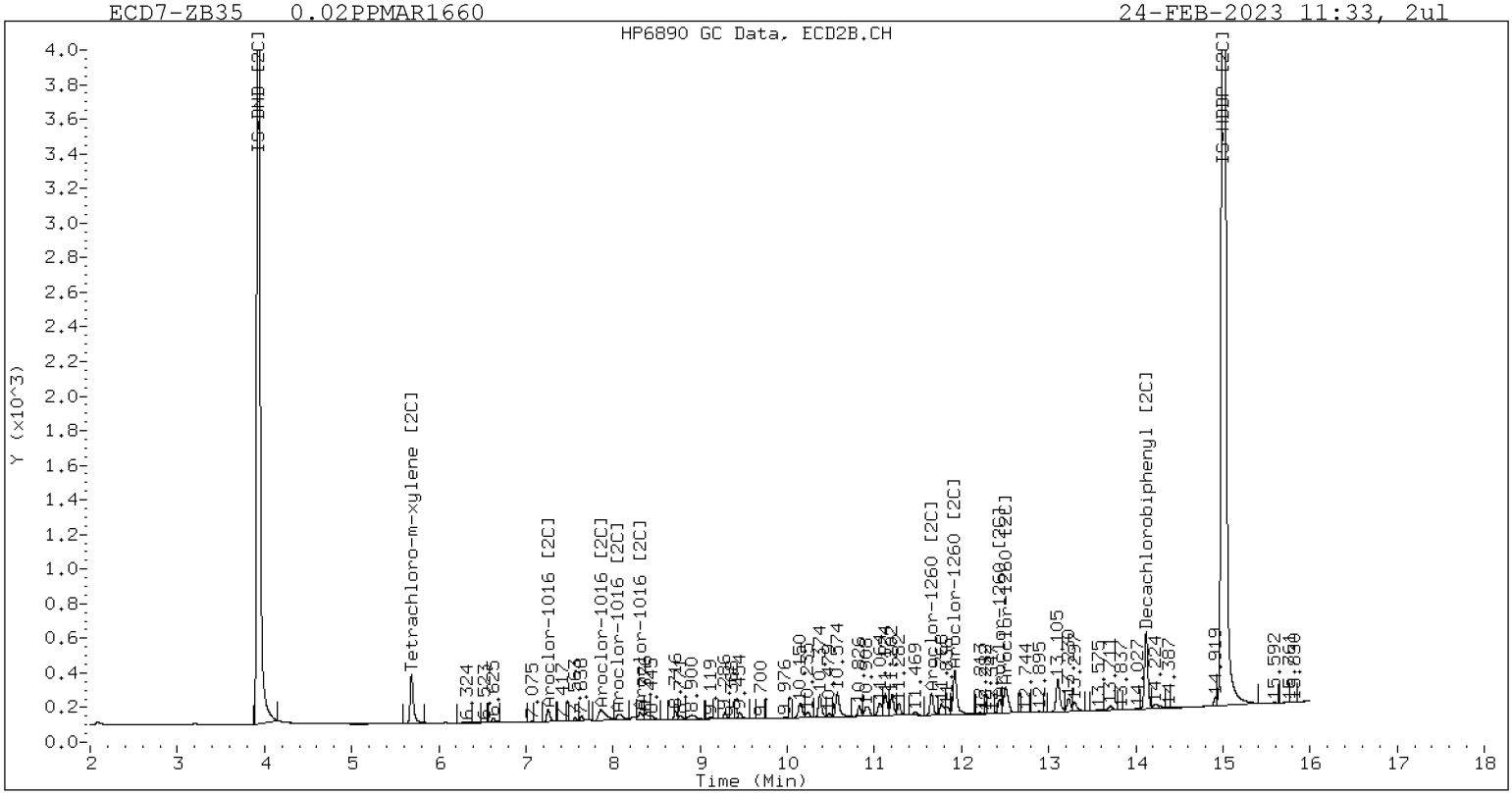
PCB Dual Column Chromatograms

ECD7-ZB5 0.02PPMAR1660 24-FEB-2023 11:33, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.02PPMAR1660 24-FEB-2023 11:33, 2ul

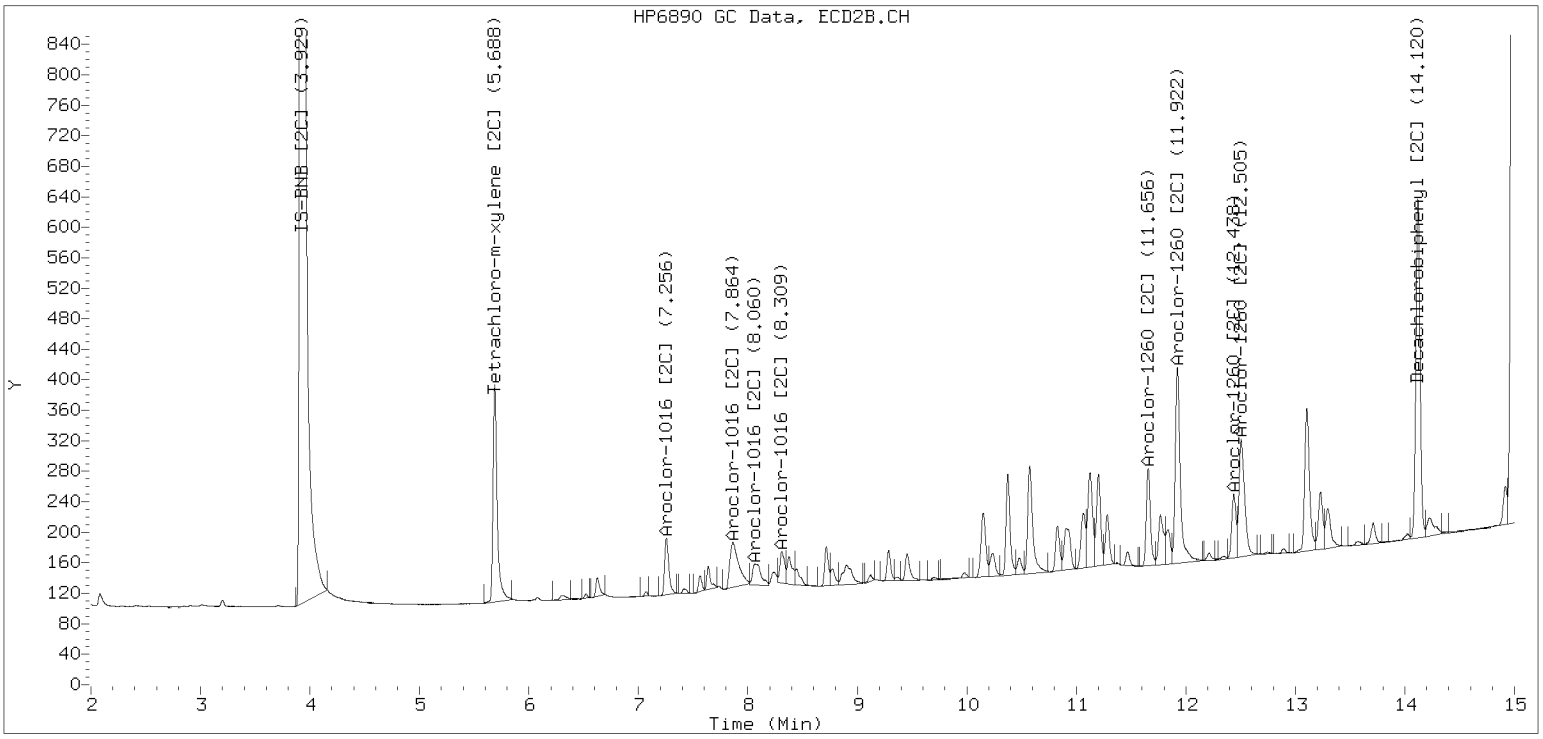


ZB-35 Manual Integration: YES

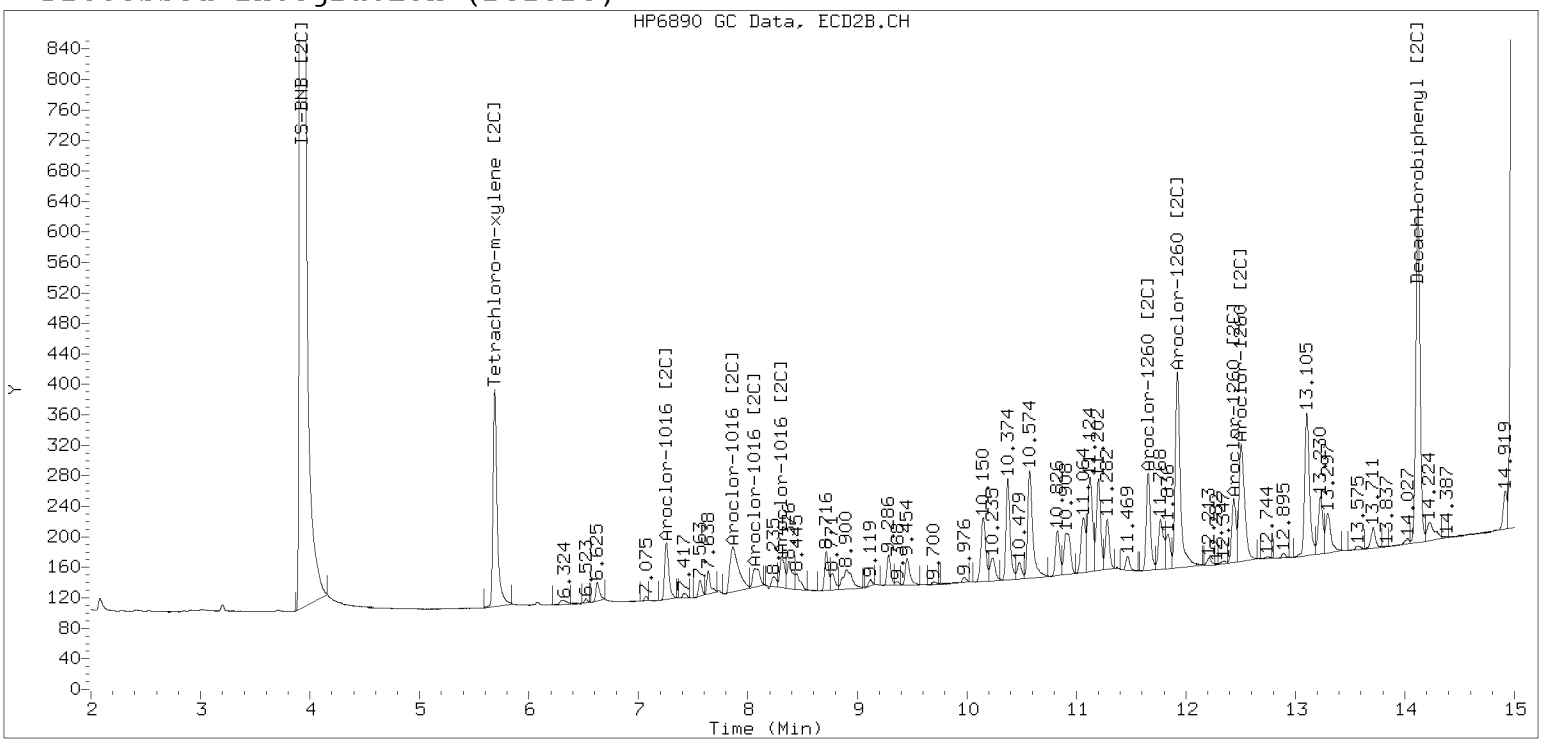
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230224.b/230224.b/02242303ECD7.D Injection Date: 24-FEB-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242304ECD7.D
Data file 2: /230224.b/230224.b/02242304ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.05PPMAR1660
Client ID:
Injection Date: 24-FEB-2023 11:54
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.809	0.003	78493	5.688	0.003	36772	8.3	8.1	2.2	Tetrachloro-m-xylene
13.893	-0.000	113544	14.119	-0.000	62745	8.2	7.9	3.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	630965	-6.4
Hexabromobiphenyl	1429847	1409464	-1.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	307599	-2.4
Hexabromobiphenyl	513946	521112	1.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.272	0.002	12829	53.5	1	7.256	0.000	9654	53.6
Aroclor-1016	2	7.660	0.006	36461	49.9	2	7.864	0.008	18085	49.5
Aroclor-1016	3	7.795	0.005	19865	55.7	3	8.063	0.008	9071	55.0
Aroclor-1016	4	8.408	0.003	11411	49.5	4	8.310	0.003	7309	56.5
Total Col1Ave (4 peaks):					52.2	Total Col2Ave (4 peaks):				53.7 RPD = 3
Corrected Ave (3 peaks):					51.0	Corrected Ave (3 peaks):				52.7 RPD = 3
CalAmt %D:					4.3	CalAmt %D:				7.3
Aroclor-1260	1	11.046	0.002	25727	50.7	1	11.655	0.002	15996	52.2
Aroclor-1260	2	11.363	0.002	26482	50.0	2	11.922	0.004	40487	51.8
Aroclor-1260	3	11.739	0.005	70871	50.4	3	12.437	0.002	10248	49.4
Aroclor-1260	4	12.143	0.004	34239	48.4	4	12.506	0.004	26828	50.9
Aroclor-1260	5	12.246	0.002	15109	49.6	NS	---			----
Total Col1Ave (5 peaks):					49.8	Total Col2Ave (4 peaks):				51.1 RPD = 2
Corrected Ave (4 peaks):					49.6	Corrected Ave (3 peaks):				50.7 RPD = 2
CalAmt %D:					-0.3	CalAmt %D:				2.1

Total PCB Area Col1 (5.906 - 13.793) = 758292 Col1 Total PCB = 0.1 ppm*

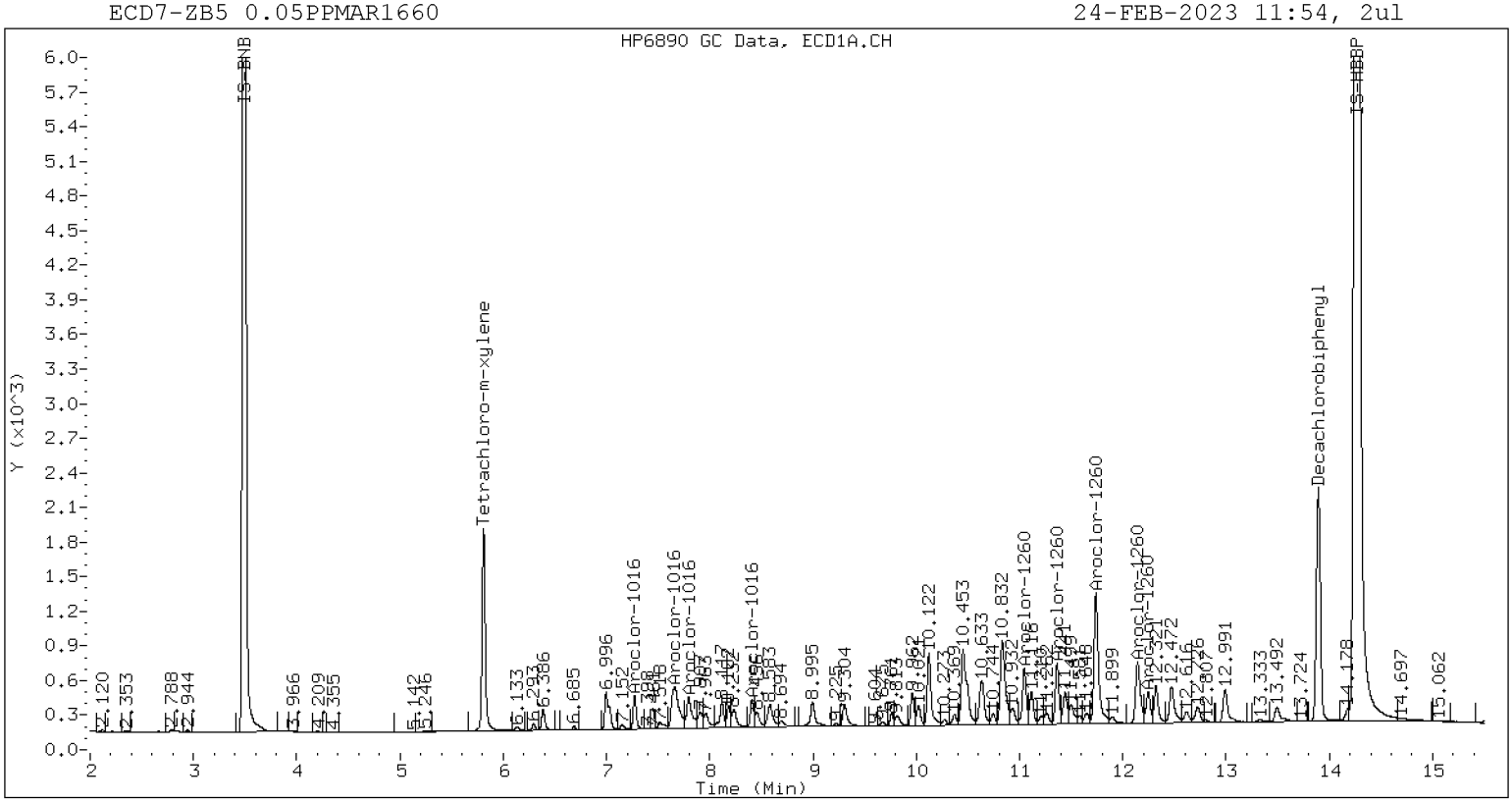
Total PCB Area Col2 (5.785 - 14.019) = 386383 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

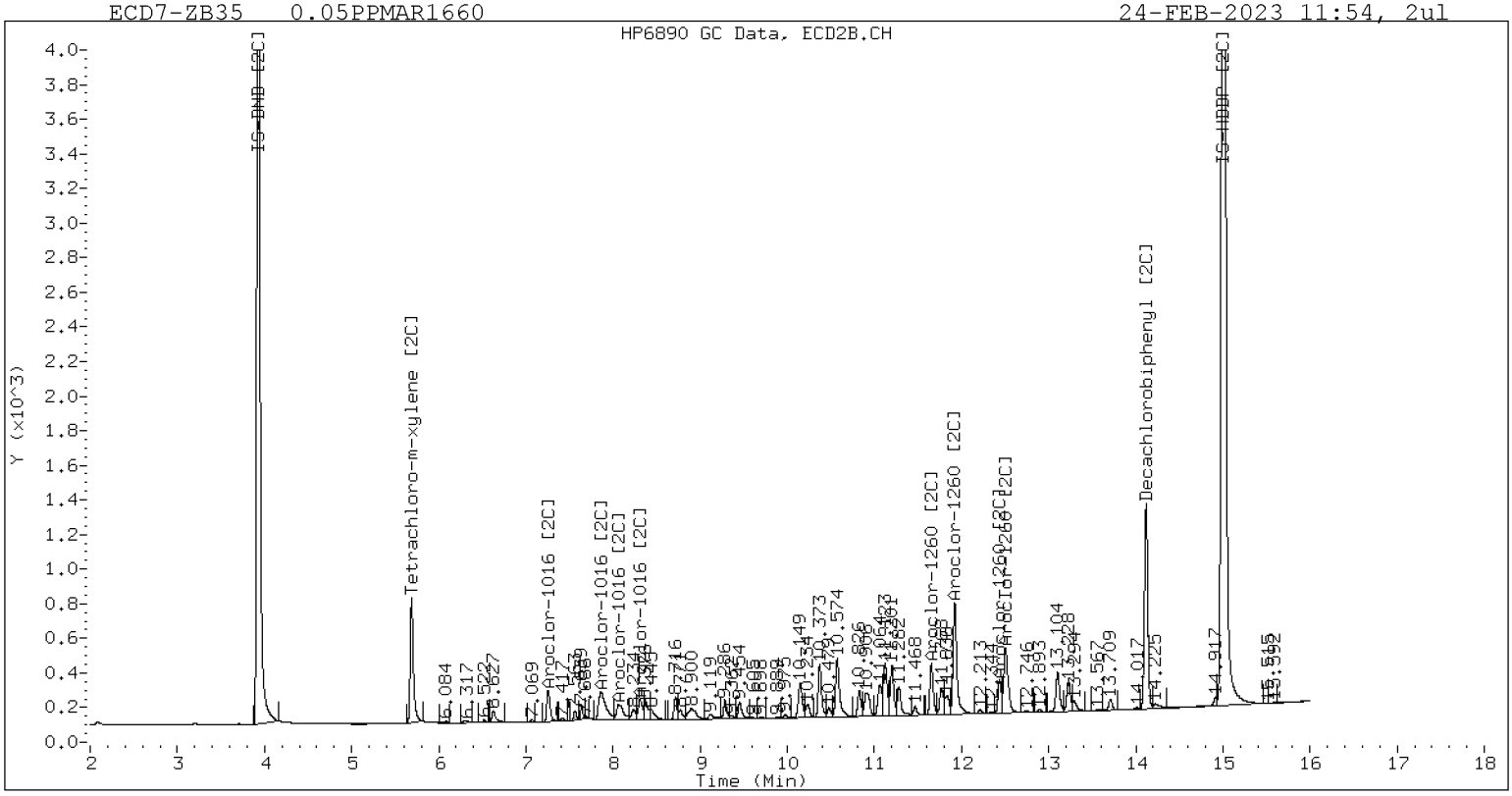
PCB Dual Column Chromatograms

ECD7-ZB5 0.05PPMAR1660 24-FEB-2023 11:54, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.05PPMAR1660 24-FEB-2023 11:54, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242305ECD7.D
Data file 2: /230224.b/230224.b/02242305ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 1.0PPMAR1660
Client ID:
Injection Date: 24-FEB-2023 12:15
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.813	0.006	1641874	5.688	0.003	709674	166.2	151.5	9.3	Tetrachloro-m-xylene
13.899	0.006	2344583	14.122	0.002	1300114	161.9	158.6	2.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	661440	-1.8
Hexabromobiphenyl	1429847	1470100	2.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	319272	1.3
Hexabromobiphenyl	513946	538138	4.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	7.270	-0.000	220519	877.8	1	7.254	-0.001	162833	871.2
Aroclor-1016	2	7.652	-0.002	731607	955.3	2	7.852	-0.004	373610	985.8
Aroclor-1016	3	7.789	-0.001	307629	822.8	3	8.051	-0.003	156666	915.2
Aroclor-1016	4	8.404	-0.001	229387	949.1	4	8.305	-0.002	117186	872.6
	Total Col1Ave (4 peaks):				901.3	Total Col2Ave (4 peaks):				911.2 RPD = 1
	Corrected Ave (3 peaks):				883.3	Corrected Ave (3 peaks):				886.3 RPD = 0
	CalAmt %D:				-9.9	CalAmt %D:				-8.9
Aroclor-1260	1	11.044	-0.000	504641	954.2	1	11.652	-0.000	282606	893.1
Aroclor-1260	2	11.360	-0.001	524931	950.0	2	11.917	-0.000	709329	878.4
Aroclor-1260	3	11.734	-0.000	1410270	962.3	3	12.434	-0.001	215124	1003.8
Aroclor-1260	4	12.137	-0.002	720770	976.7	4	12.501	-0.001	506566	930.6
Aroclor-1260	5	12.243	-0.001	304211	957.7	NS	---			----
	Total Col1Ave (5 peaks):				960.2	Total Col2Ave (4 peaks):				926.5 RPD = 4
	Corrected Ave (4 peaks):				956.0	Corrected Ave (3 peaks):				900.7 RPD = 6
	CalAmt %D:				-4.0	CalAmt %D:				-7.4

Total PCB Area Col1 (5.906 - 13.793) = 14454279 Col1 Total PCB = 1.8 ppm*

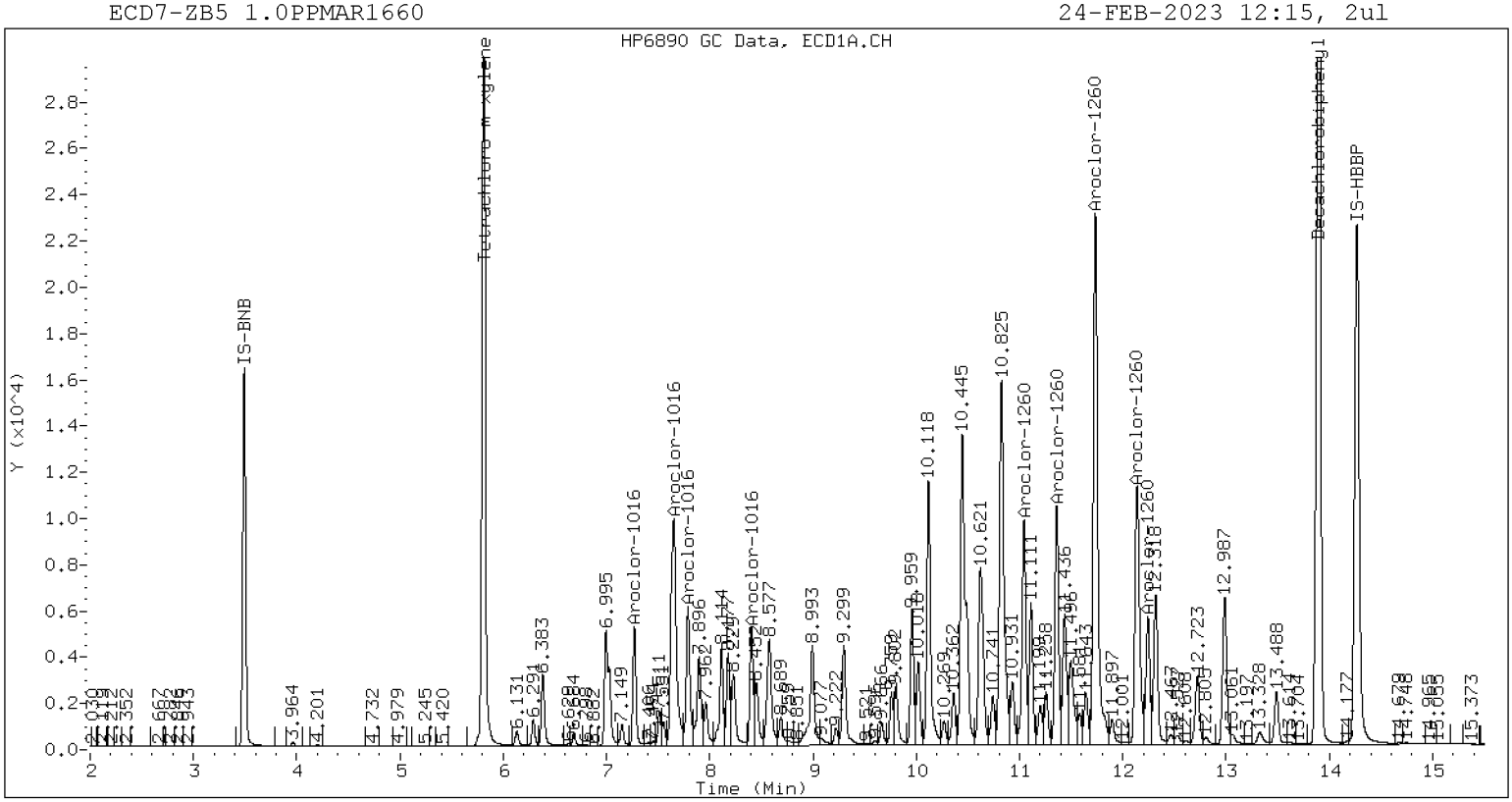
Total PCB Area Col2 (5.785 - 14.019) = 7029563 Col2 Total PCB = 1.8 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

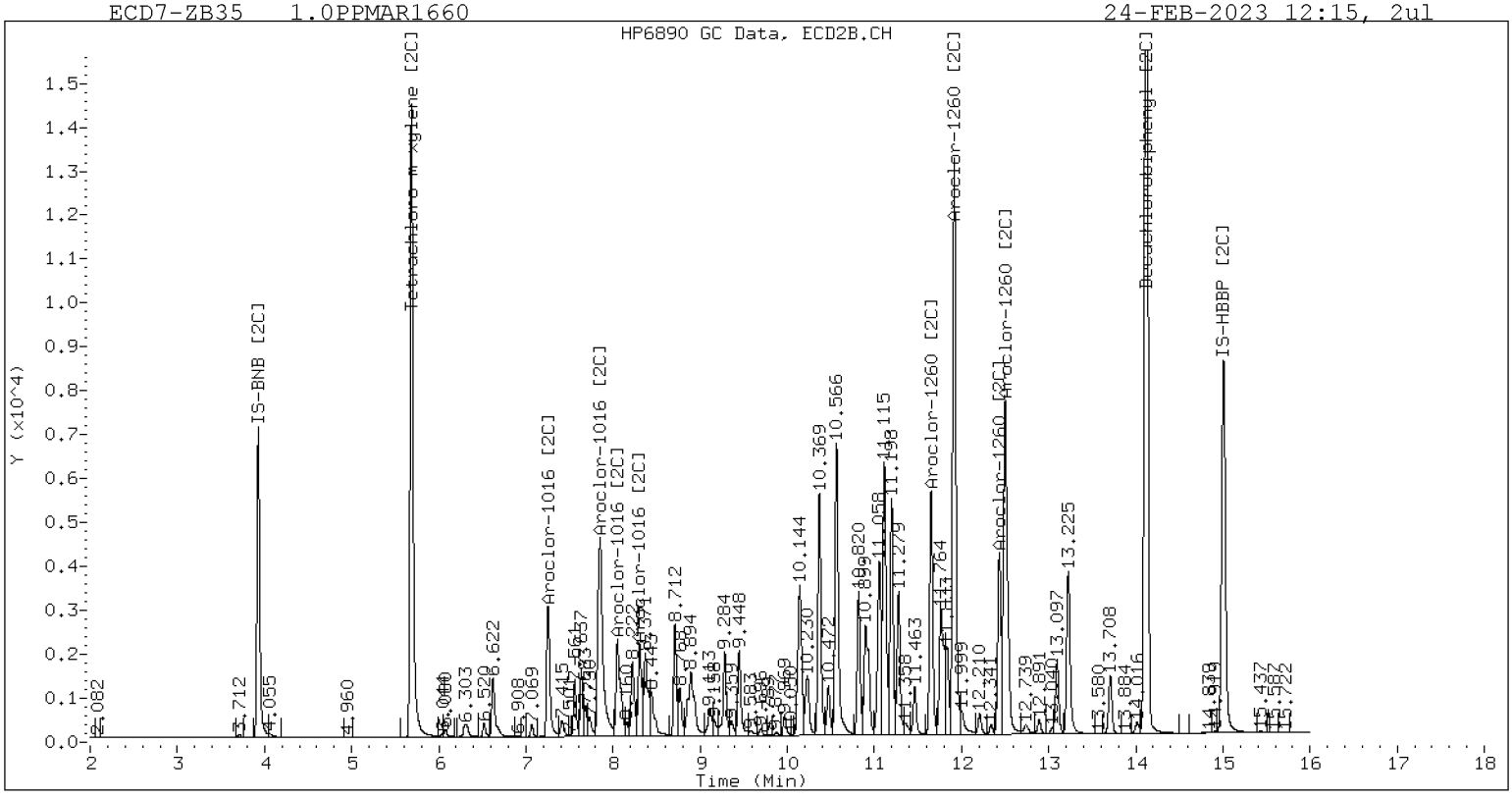
PCB Dual Column Chromatograms

ECD7-ZB5 1.0PPMAR1660 24-FEB-2023 12:15, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 1.0PPMAR1660 24-FEB-2023 12:15, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242306ECD7.D
Data file 2: /230224.b/230224.b/02242306ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.1PPMAR1660
Client ID:
Injection Date: 24-FEB-2023 12:36
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.809	0.002	155528	5.688	0.003	74628	15.9	16.0	0.9	Tetrachloro-m-xylene
13.892	-0.001	227253	14.119	-0.000	128496	15.8	15.8	0.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	655979	-2.6
Hexabromobiphenyl	1429847	1464509	2.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	317418	0.7
Hexabromobiphenyl	513946	532962	3.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	7.271	0.000	25761	103.4	1	7.255	-0.000	19315	103.9
Aroclor-1016	2	7.657	0.003	75616	99.6	2	7.863	0.007	40308	107.0
Aroclor-1016	3	7.794	0.004	39547	106.7	3	8.059	0.005	18304	107.6
Aroclor-1016	4	8.406	0.001	24260	101.2	4	8.309	0.002	14708	110.2
Total Col1Ave (4 peaks):					102.7	Total Col2Ave (4 peaks):				107.2 RPD = 4
Corrected Ave (3 peaks):					101.4	Corrected Ave (3 peaks):				106.2 RPD = 5
CalAmt %D:					2.7	CalAmt %D:				7.2
Aroclor-1260	1	11.045	0.000	52009	98.7	1	11.655	0.002	31282	99.8
Aroclor-1260	2	11.362	0.001	55116	100.1	2	11.920	0.003	80574	100.7
Aroclor-1260	3	11.738	0.004	145604	99.7	3	12.437	0.002	19566	92.2
Aroclor-1260	4	12.141	0.002	72408	98.5	4	12.503	0.001	53588	99.4
Aroclor-1260	5	12.245	0.001	30745	97.2	NS	---			----
Total Col1Ave (5 peaks):					98.8	Total Col2Ave (4 peaks):				98.0 RPD = 1
Corrected Ave (4 peaks):					98.5	Corrected Ave (3 peaks):				97.1 RPD = 1
CalAmt %D:					-1.2	CalAmt %D:				-2.0

Total PCB Area Col1 (5.906 - 13.793) = 1555762 Col1 Total PCB = 0.2 ppm*

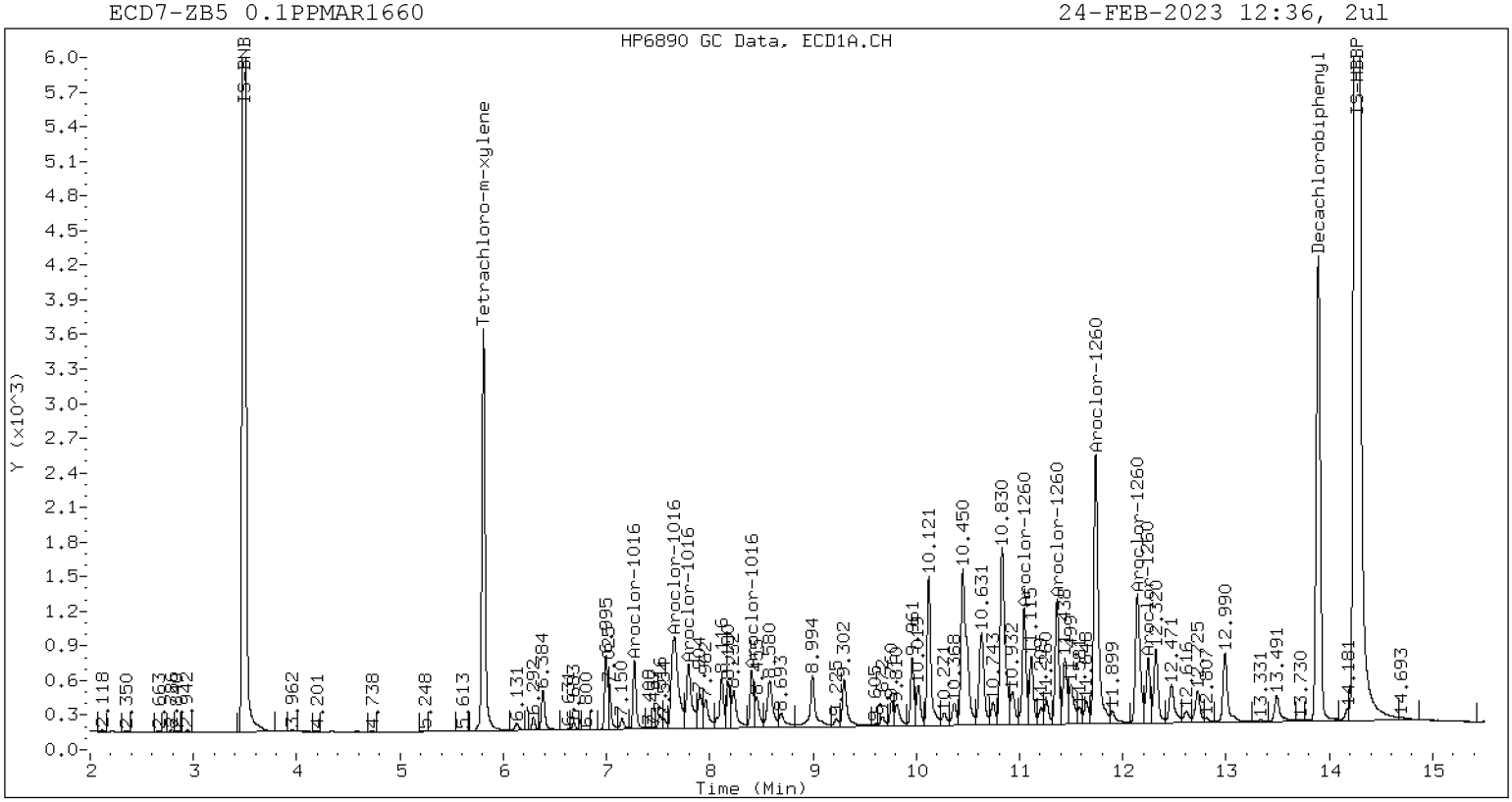
Total PCB Area Col2 (5.785 - 14.019) = 764924 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

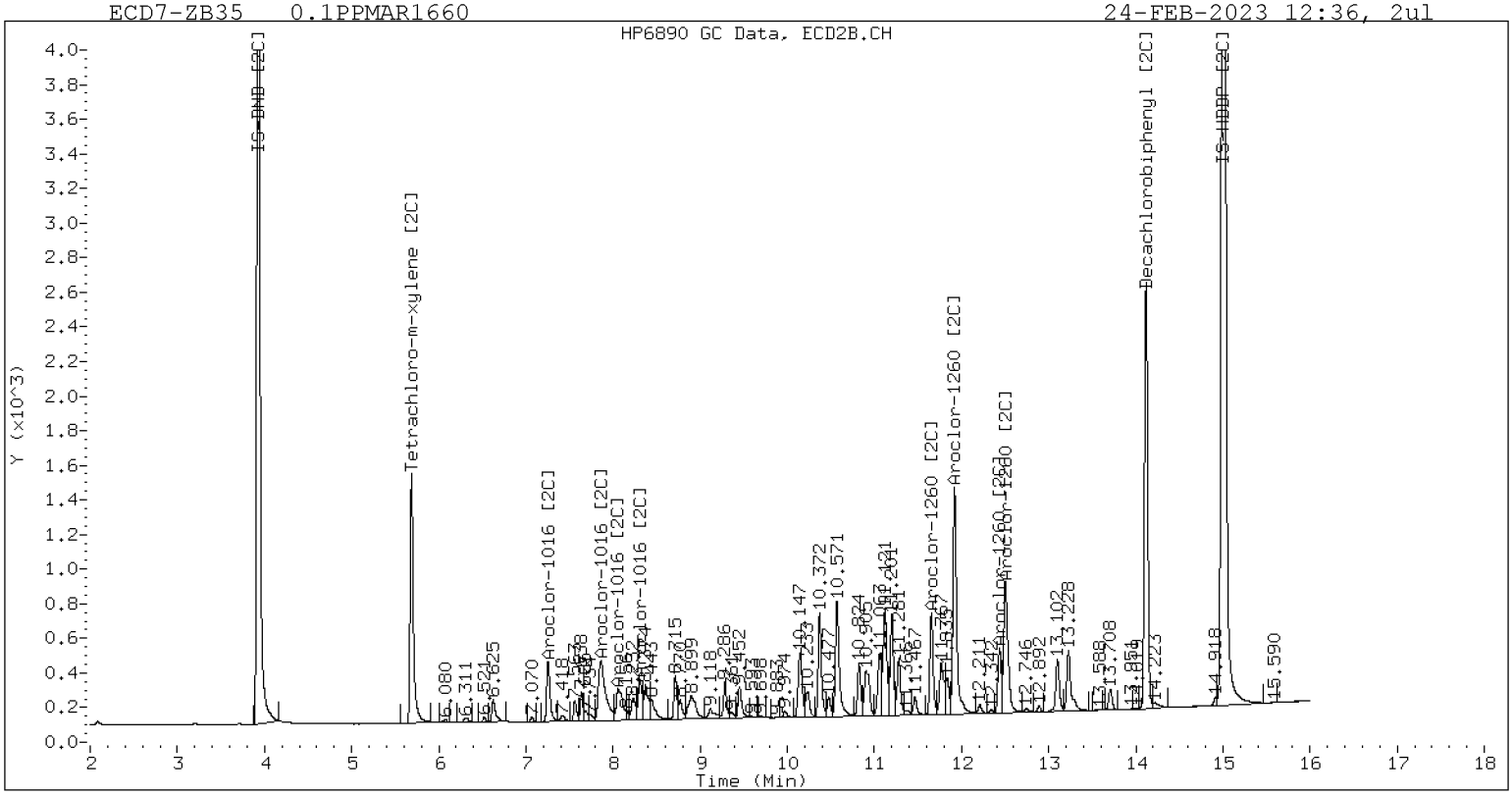
PCB Dual Column Chromatograms

ECD7-ZB5 0.1PPMAR1660 24-FEB-2023 12:36, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.1PPMAR1660 24-FEB-2023 12:36, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242307ECD7.D
Data file 2: /230224.b/230224.b/02242307ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.5PPMAR1660
Client ID:
Injection Date: 24-FEB-2023 12:57
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.810	0.004	724614	5.688	0.003	359257	75.2	76.7	2.0	Tetrachloro-m-xylene
13.898	0.005	1056911	14.120	0.000	650153	74.3	79.5	6.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	645275	-4.2
Hexabromobiphenyl	1429847	1445345	1.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	319170	1.2
Hexabromobiphenyl	513946	536853	4.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.270	0.000	115193	470.0	1	7.256	0.000	86287	461.8
Aroclor-1016	2	7.654	0.000	369991	495.2	2	7.856	0.000	192524	508.1
Aroclor-1016	3	7.790	0.000	160952	441.3	3	8.055	0.000	81039	473.6
Aroclor-1016	4	8.405	0.000	115032	487.9	4	8.307	0.000	62136	462.8
Total Col1Ave (4 peaks):					473.6	Total Col2Ave (4 peaks):				476.6 RPD = 1
Corrected Ave (3 peaks):					466.4	Corrected Ave (3 peaks):				466.1 RPD = 0
			CalAmt %D:		-5.3			CalAmt %D:		-4.7
Aroclor-1260	1	11.044	0.000	247212	475.5	1	11.653	0.000	145247	460.1
Aroclor-1260	2	11.361	0.000	262877	483.9	2	11.918	0.000	379838	471.5
Aroclor-1260	3	11.734	0.000	678830	471.1	3	12.436	0.000	104092	486.9
Aroclor-1260	4	12.139	0.000	356067	490.7	4	12.502	0.000	258953	476.9
Aroclor-1260	5	12.244	0.000	150280	481.2	NS	---			----
Total Col1Ave (5 peaks):					480.5	Total Col2Ave (4 peaks):				473.8 RPD = 1
Corrected Ave (4 peaks):					477.9	Corrected Ave (3 peaks):				469.5 RPD = 2
			CalAmt %D:		-3.9			CalAmt %D:		-5.2

Total PCB Area Col1 (5.906 - 13.793) = 7134169 Col1 Total PCB = 0.9 ppm*

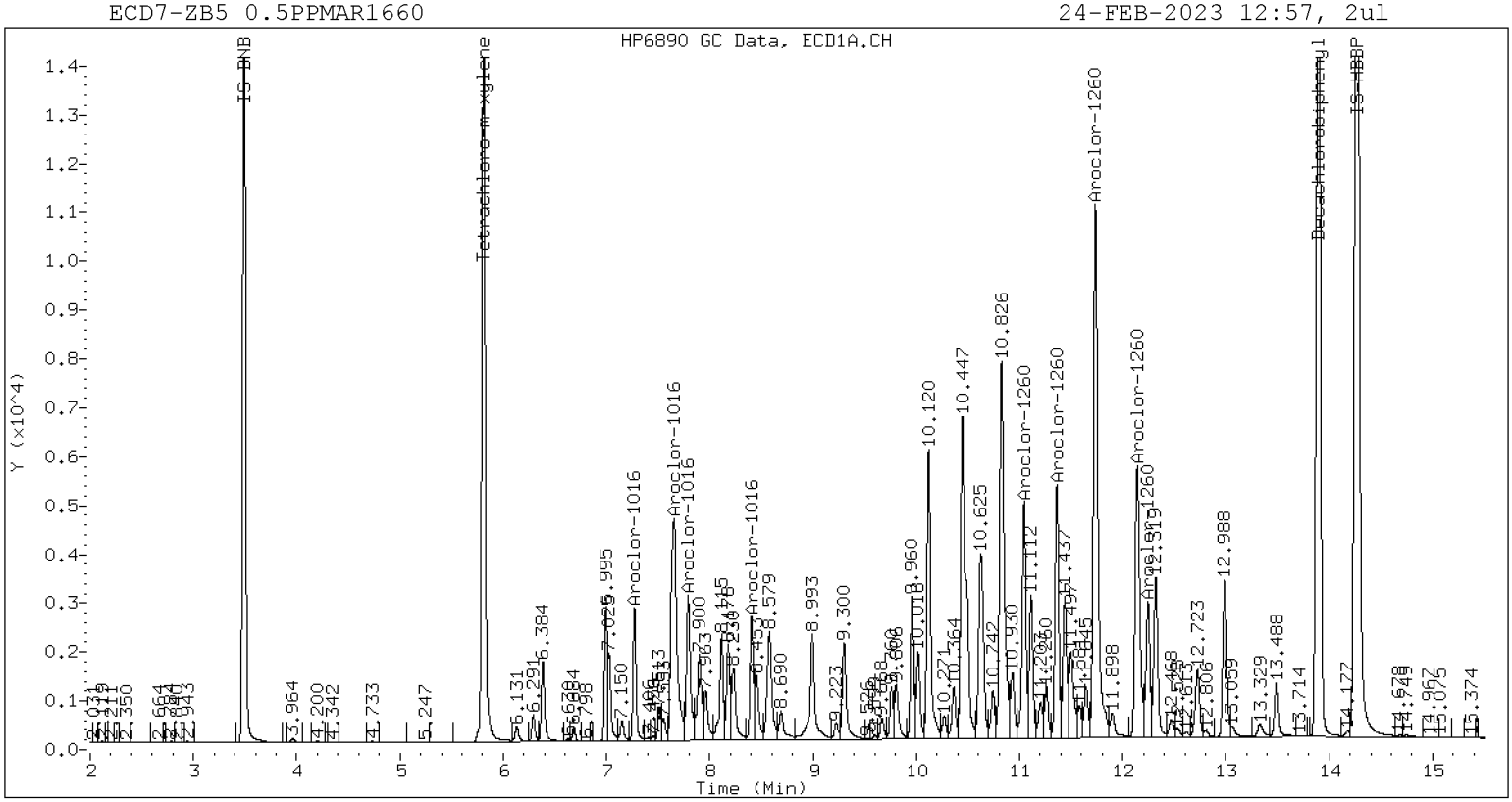
Total PCB Area Col2 (5.785 - 14.019) = 3589735 Col2 Total PCB = 0.9 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

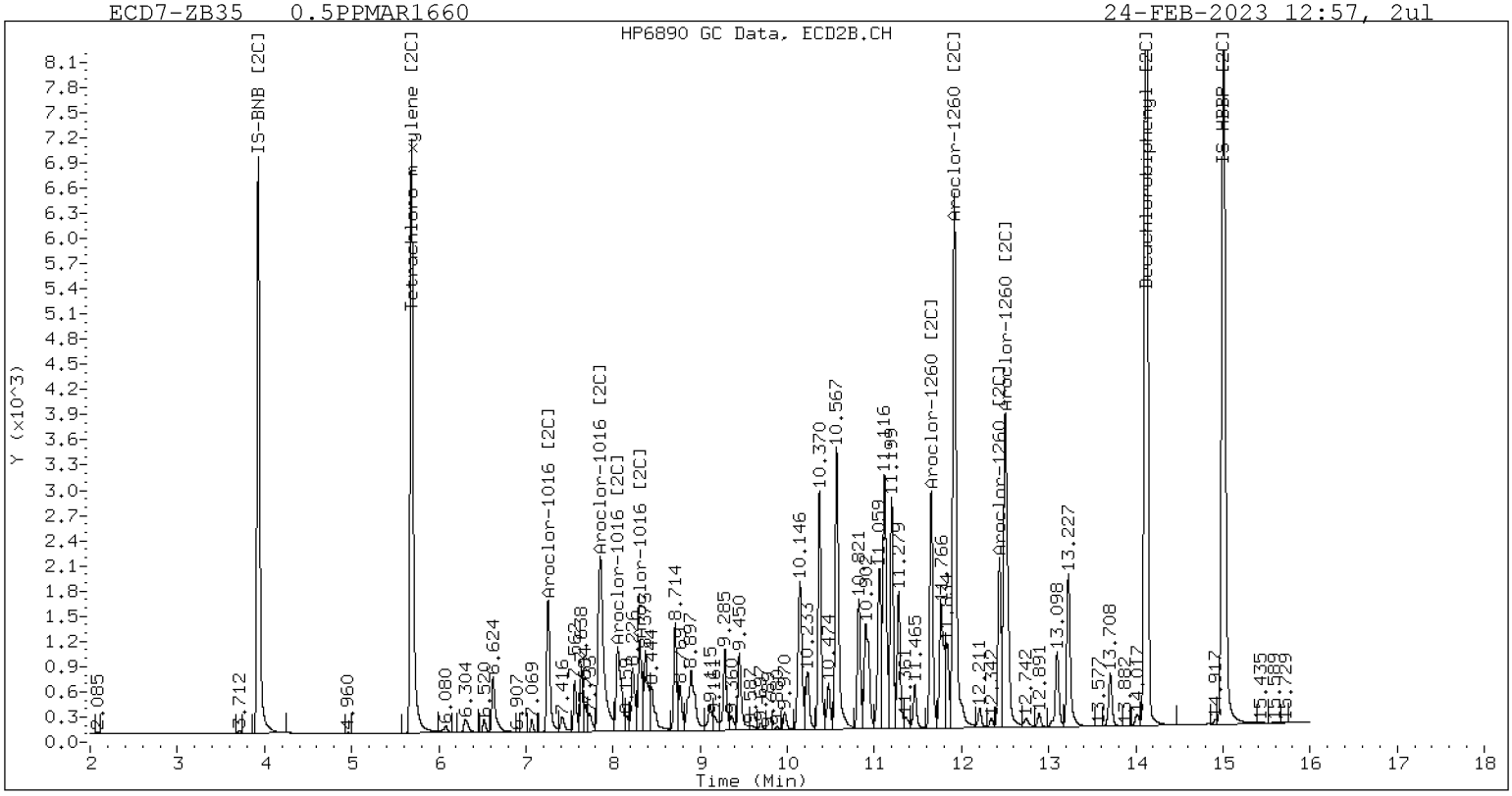
PCB Dual Column Chromatograms

ECD7-ZB5 0.5PPMAR1660 24-FEB-2023 12:57, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.5PPMAR1660 24-FEB-2023 12:57, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242308ECD7.D
Data file 2: /230224.b/230224.b/02242308ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1242.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR1242
Client ID:
Injection Date: 24-FEB-2023 13:18
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.809	0.003	434187	5.688	0.003	214306	46.0	46.5	1.1	Tetrachloro-m-xylene
13.894	0.000	515867	14.119	-0.001	312943	35.6	38.5	7.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	632576	-6.1
Hexabromobiphenyl	1429847	1469715	2.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	314129	-0.4
Hexabromobiphenyl	513946	534294	4.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1242	1	7.271	0.000	49009	250.0	1	7.255	0.000	36487	250.0
Aroclor-1242	2	7.656	0.000	148833	250.0	2	7.858	0.000	76699	250.0
Aroclor-1242	3	8.405	0.000	46308	250.0	3	9.167	0.000	23866	250.0
Aroclor-1242	4	8.579	0.000	68453	250.0	4	9.597	0.000	29080	250.0

Total Col1Ave (4 peaks): 250.0 Total Col2Ave (4 peaks): 250.0 RPD = 0

Corrected Ave (3 peaks): 250.0 Corrected Ave (3 peaks): 250.0 RPD = 0

Total PCB Area Col1 (5.906 - 13.793) = 1221467 Col1 Total PCB = 0.2 ppm*

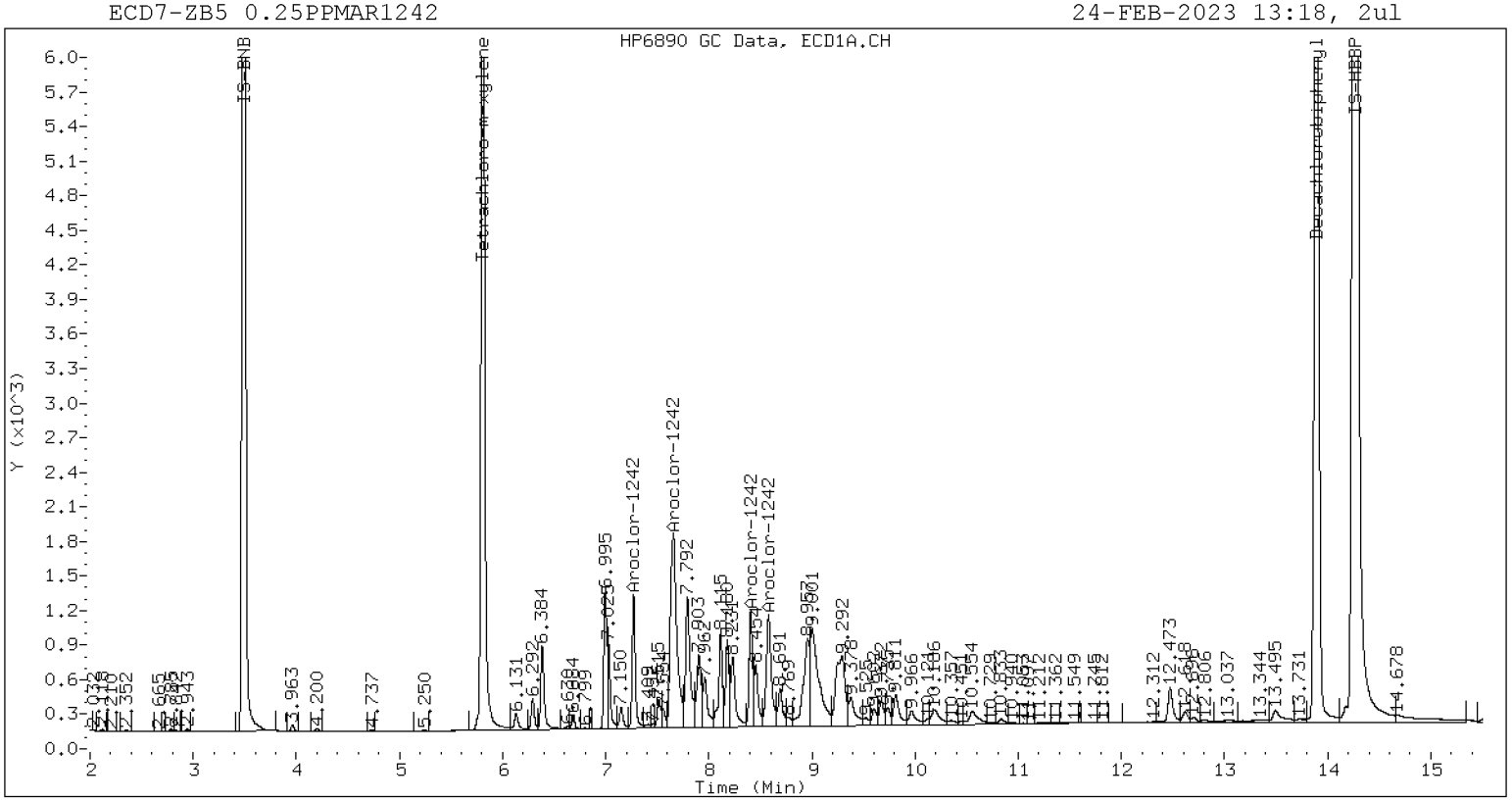
Total PCB Area Col2 (5.785 - 14.019) = 572067 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

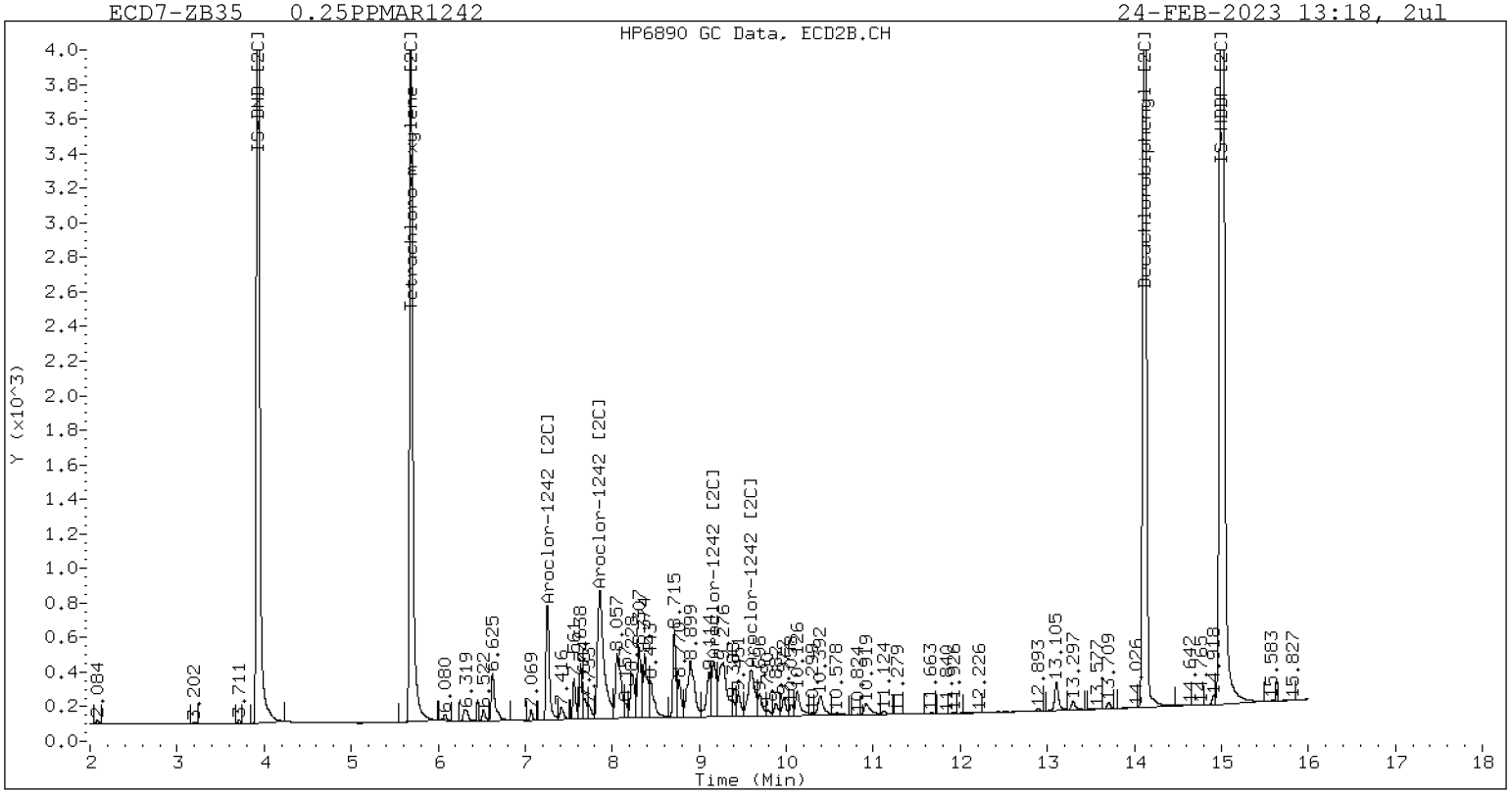
PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR1242 24-FEB-2023 13:18, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR1242 24-FEB-2023 13:18, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242309ECD7.D
Data file 2: /230224.b/230224.b/02242309ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR1248
Client ID:
Injection Date: 24-FEB-2023 13:39
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.809	0.003	349513	5.688	0.003	176615	36.6	37.9	3.4	Tetrachloro-m-xylene
13.894	0.001	523008	14.121	0.001	322054	36.4	39.3	7.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	639911	-5.0
Hexabromobiphenyl	1429847	1458696	2.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	317938	0.9
Hexabromobiphenyl	513946	538760	4.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1248	1	8.405	0.000	78055	250.0	1	8.308	0.000	37951	250.0
Aroclor-1248	2	8.580	0.000	99216	250.0	2	8.714	0.000	39239	250.0
Aroclor-1248	3	8.999	0.000	187178	250.0	3	9.166	0.000	45157	250.0
Aroclor-1248	4	9.295	0.000	95291	250.0	4	9.590	0.000	54216	250.0

Total Col1Ave (4 peaks): 250.0 Total Col2Ave (4 peaks): 250.0 RPD = 0

Corrected Ave (3 peaks): 250.0 Corrected Ave (3 peaks): 250.0 RPD = 0

Total PCB Area Col1 (5.906 - 13.793) = 1565180 Col1 Total PCB = 0.2 ppm*

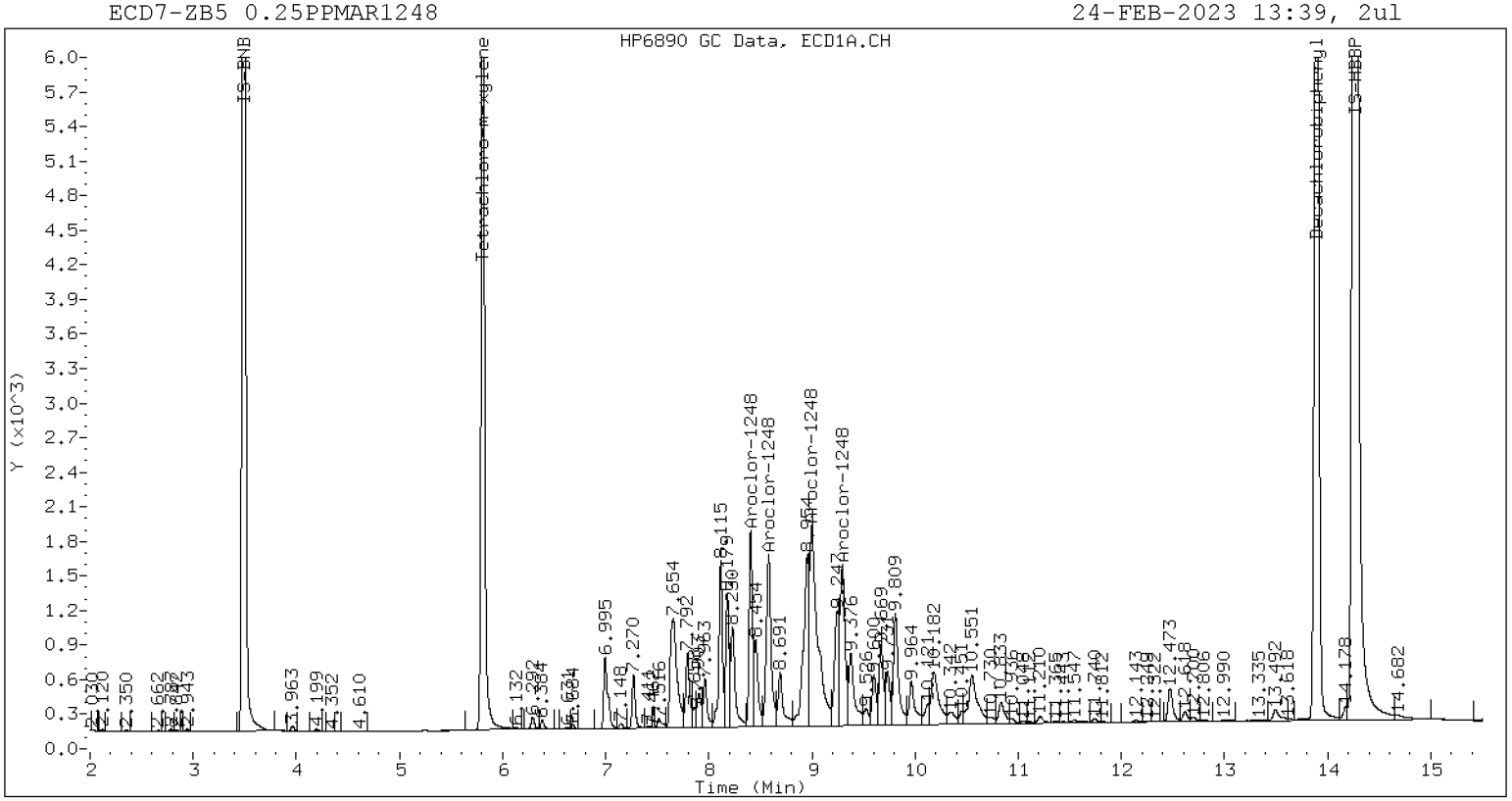
Total PCB Area Col2 (5.785 - 14.019) = 754991 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

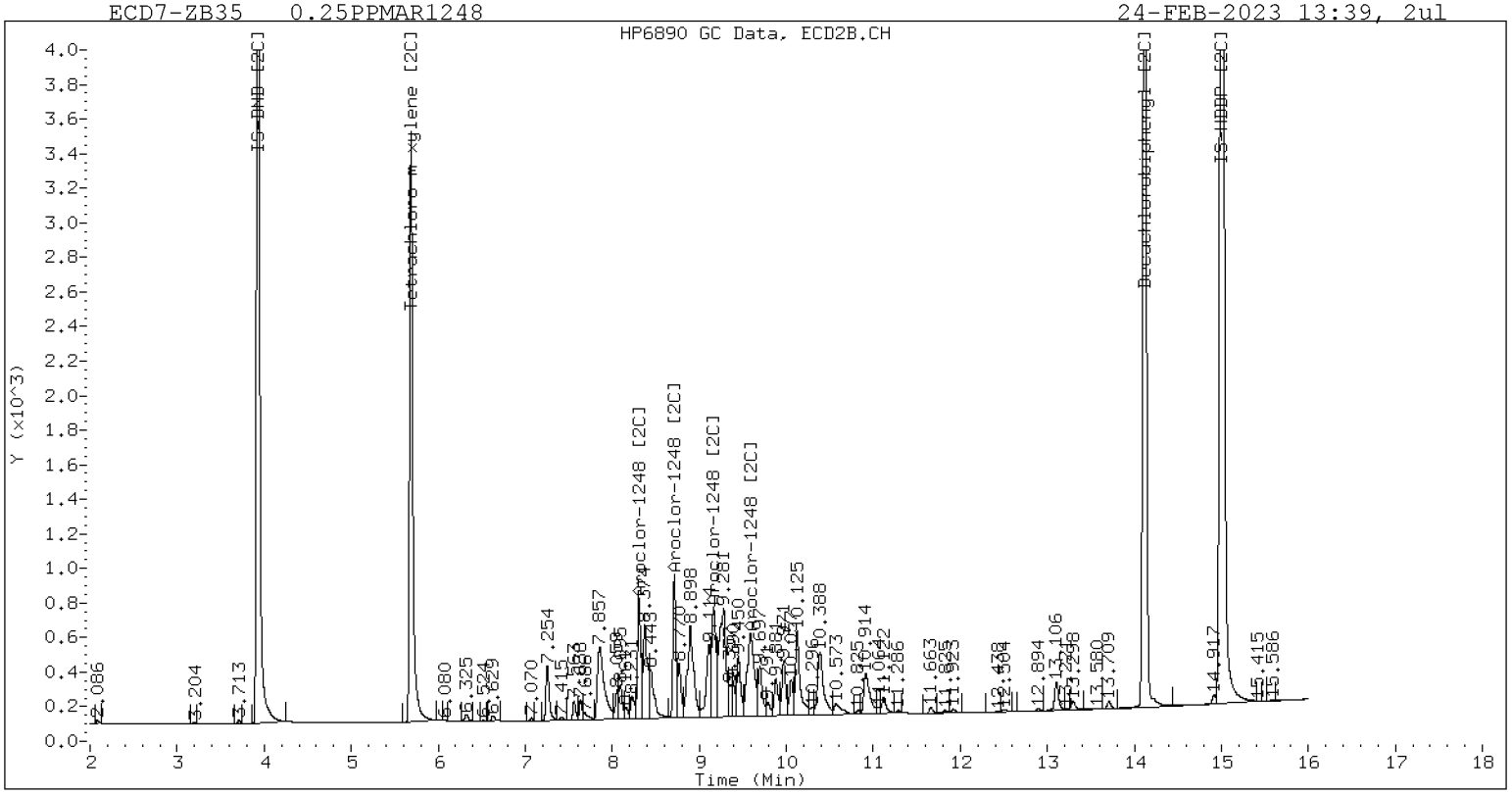
PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR1248 24-FEB-2023 13:39, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR1248 24-FEB-2023 13:39, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242310ECD7.D
Data file 2: /230224.b/230224.b/02242310ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR1254
Client ID:
Injection Date: 24-FEB-2023 14:00
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.808	0.002	352587	5.687	0.002	177502	37.3	38.6	3.4	Tetrachloro-m-xylene
13.895	0.002	532500	14.119	0.000	325903	37.0	40.2	8.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	633407	-6.0
Hexabromobiphenyl	1429847	1460265	2.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	313673	-0.5
Hexabromobiphenyl	513946	532442	3.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col					ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1254	1	9.299	0.000	159011	250.0	1	9.449	0.000	59603	250.0
Aroclor-1254	2	9.377	0.000	71516	250.0	2	9.970	0.000	47949	250.0
Aroclor-1254	3	9.668	0.000	102230	250.0	3	10.124	0.000	103745	250.0
Aroclor-1254	4	9.807	0.000	198777	250.0	4	10.373	0.000	101135	250.0
Aroclor-1254	5	10.176	0.000	124586	250.0	5	10.569	0.000	61577	250.0

Total Col1Ave (5 peaks): 250.0 Total Col2Ave (5 peaks): 250.0 RPD = 0

Corrected Ave (4 peaks): 250.0 Corrected Ave (4 peaks): 250.0 RPD = 0

Total PCB Area Col1 (5.906 - 13.793) = 2179224 Col1 Total PCB = 0.3 ppm*

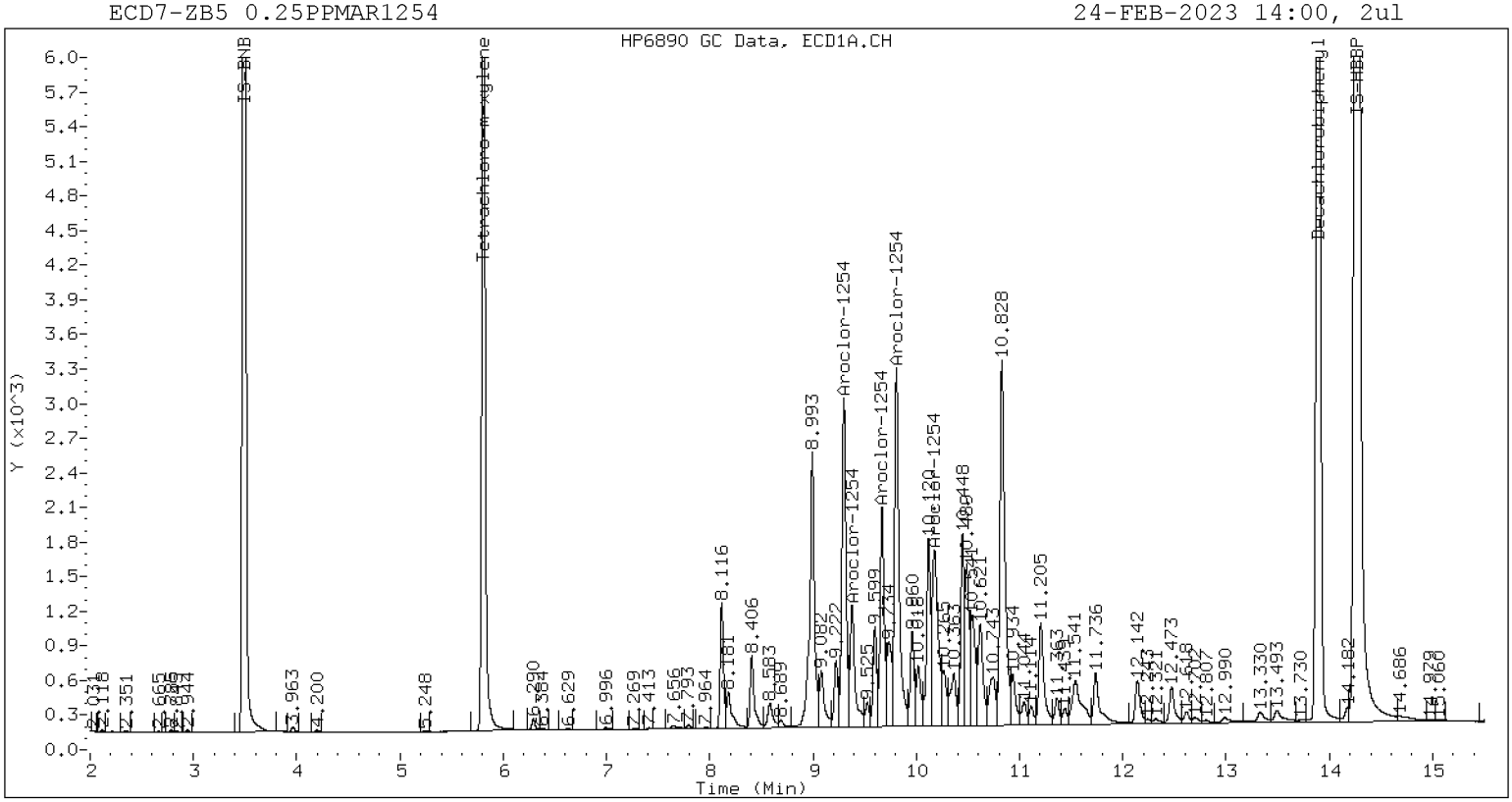
Total PCB Area Col2 (5.785 - 14.019) = 1022156 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

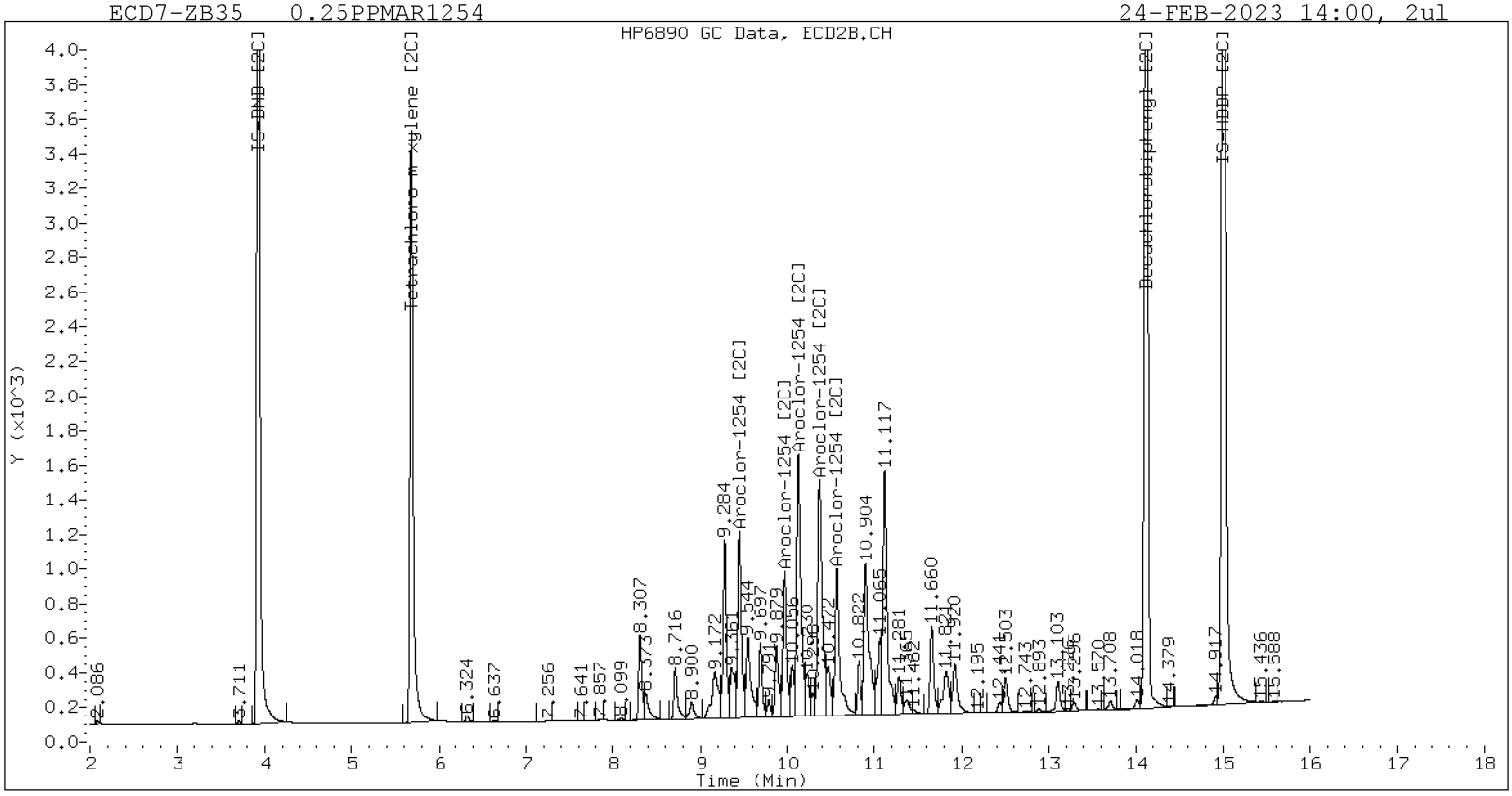
PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR1254 24-FEB-2023 14:00, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR1254 24-FEB-2023 14:00, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242311ECD7.D
Data file 2: /230224.b/230224.b/02242311ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR2162.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR2162
Client ID:
Injection Date: 24-FEB-2023 14:21
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.807	0.001	362236	5.686	0.000	177349	38.4	39.2	2.1	Tetrachloro-m-xylene
13.894	0.001	523254	14.119	-0.000	321034	36.0	39.2	8.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	632433	-6.1
Hexabromobiphenyl	1429847	1474039	3.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	308453	-2.2
Hexabromobiphenyl	513946	538177	4.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1221	1	4.731	0.000	14160	250.0	1	4.956	0.000	7300	250.0
Aroclor-1221	2	6.132	0.000	25324	250.0	2	6.296	0.000	13816	250.0
Aroclor-1221	3	6.382	0.000	58795	250.0	3	6.622	0.000	22491	250.0
Total Col1Ave (3 peaks):					250.0	Total Col2Ave (3 peaks):				250.0 RPD = 0
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1262	1	10.829	0.000	113046	250.0	1	11.200	0.000	114880	250.0
Aroclor-1262	2	12.244	0.000	183948	250.0	2	11.652	0.000	97844	250.0
Aroclor-1262	3	12.319	0.000	197749	250.0	3	12.434	0.000	111015	250.0
Aroclor-1262	4	12.987	0.000	180727	250.0	4	12.502	0.000	173913	250.0
Total Col1Ave (4 peaks):					250.0	Total Col2Ave (4 peaks):				250.0 RPD = 0
Corrected Ave (3 peaks):					250.0	Corrected Ave (3 peaks):				250.0 RPD = 0

Total PCB Area Col1 (5.906 - 13.793) = 3105316 Col1 Total PCB = 0.4 ppm*

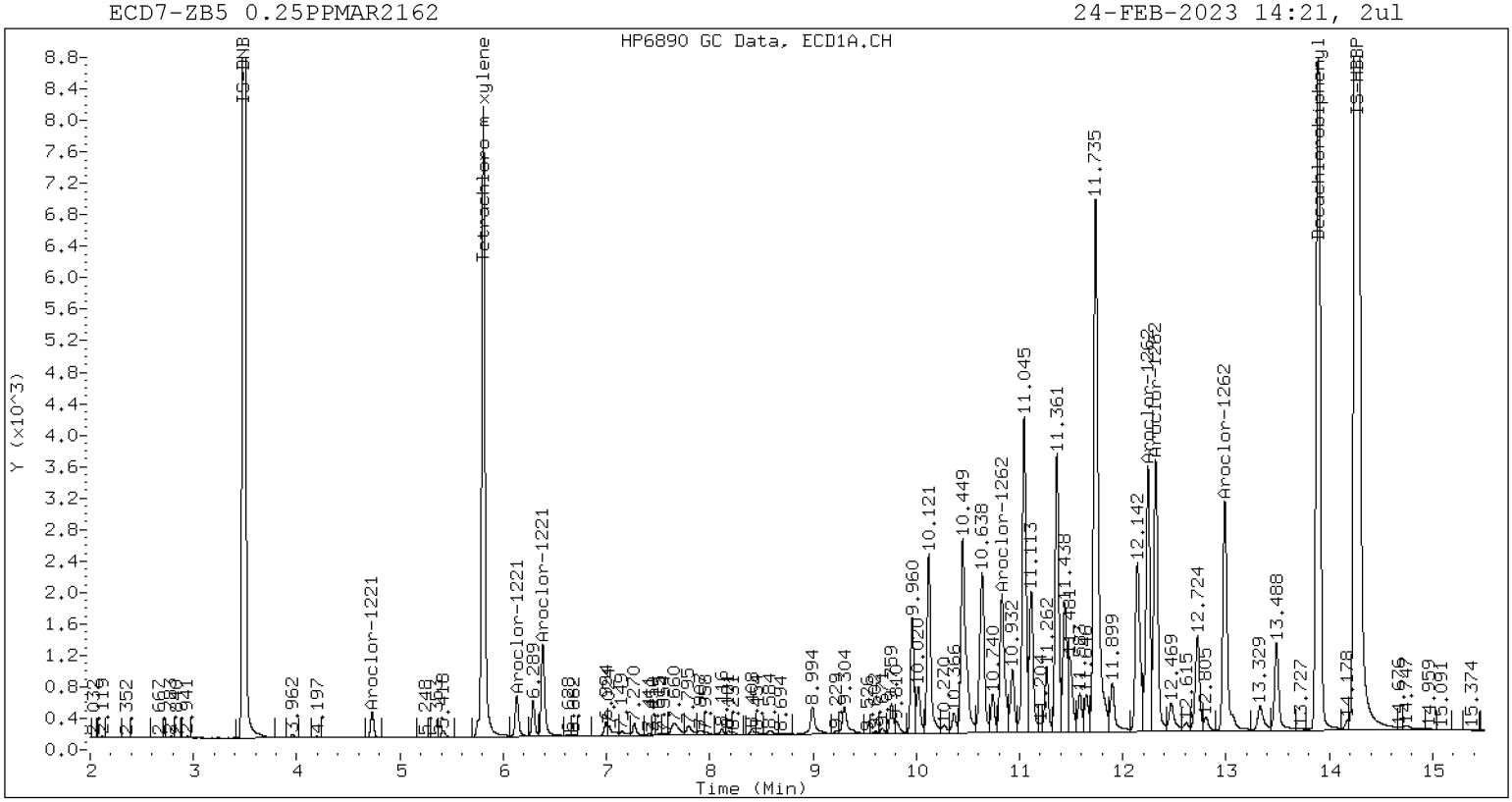
Total PCB Area Col2 (5.785 - 14.019) = 1573107 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

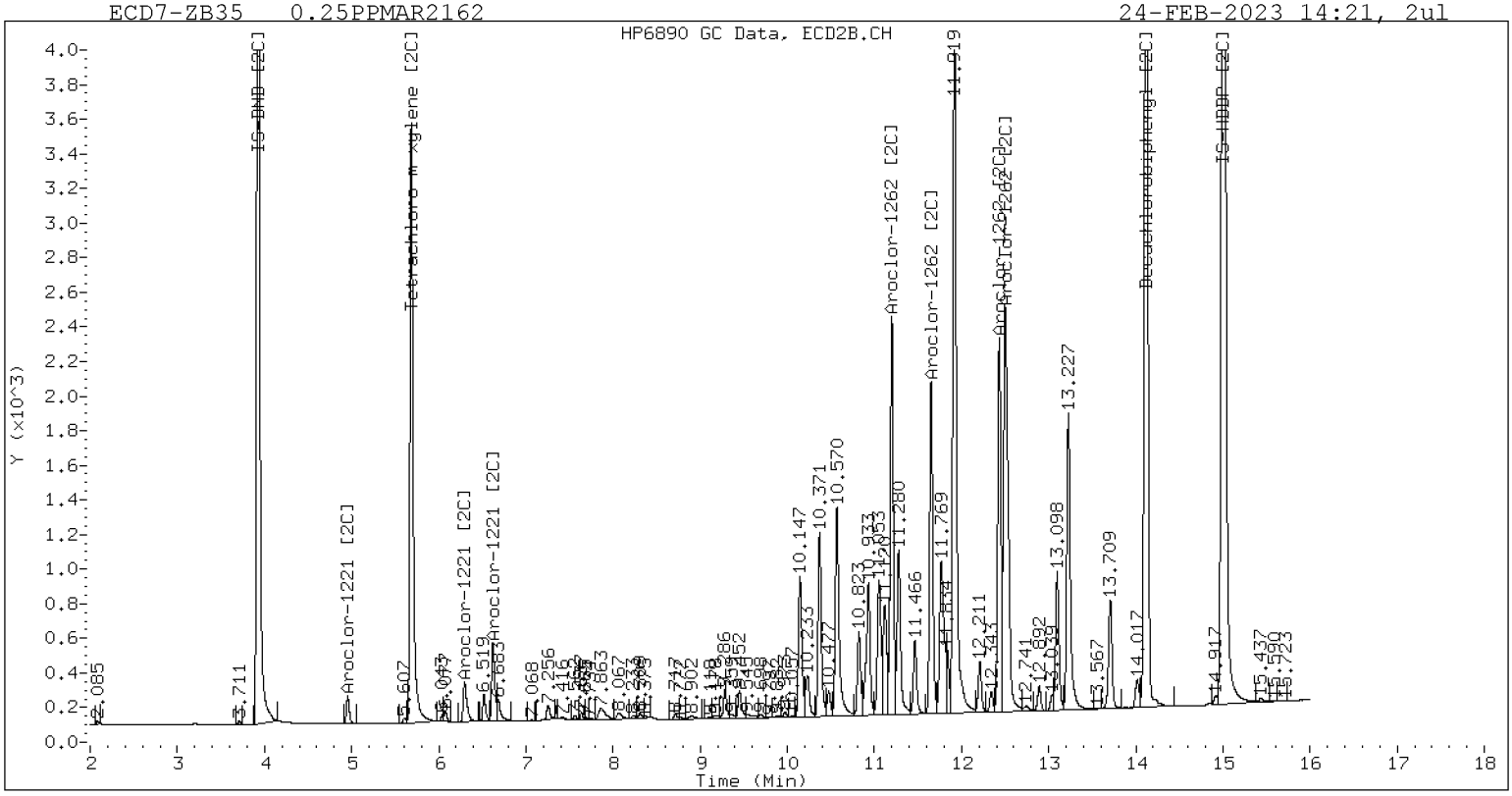
PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR2162 24-FEB-2023 14:21, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR2162 24-FEB-2023 14:21, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242312ECD7.D
Data file 2: /230224.b/230224.b/02242312ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR3268.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR3268
Client ID:
Injection Date: 24-FEB-2023 14:42
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.806	0.000	366416	5.685	0.000	179450	38.0	38.9	2.4	Tetrachloro-m-xylene
13.893	0.000	778191	14.119	0.000	477889	53.0	57.5	8.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	645602	-4.2
Hexabromobiphenyl	1429847	1492154	4.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	314042	-0.4
Hexabromobiphenyl	513946	545458	6.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	ZB5 Col Area	Amount	Peak#	RT	Shift	ZB35 Col Area	Amount
Aroclor-1232	1	4.730	0.000	8647	250.0	1	4.956	0.000	4017	250.0
Aroclor-1232	2	6.131	0.000	17148	250.0	2	7.254	0.000	19962	250.0
Aroclor-1232	3	7.656	0.000	77627	250.0	3	7.861	0.000	39913	250.0
Aroclor-1232	4	8.581	0.000	32993	250.0	4	8.715	0.000	11487	250.0
Total Col1Ave (4 peaks):					250.0	Total Col2Ave (4 peaks):				250.0 RPD = 0
Corrected Ave (3 peaks):					250.0	Corrected Ave (3 peaks):				250.0 RPD = 0
Aroclor-1268	1	12.247	0.000	477974	250.0	1	12.432	0.000	274595	250.0
Aroclor-1268	2	12.317	0.000	473326	250.0	2	12.500	0.000	295194	250.0
Aroclor-1268	3	12.699	0.000	405011	250.0	3	12.892	0.000	252048	250.0
Aroclor-1268	4	13.490	0.000	1333528	250.0	4	13.709	0.000	805579	250.0
Total Col1Ave (4 peaks):					250.0	Total Col2Ave (4 peaks):				250.0 RPD = 0
Corrected Ave (3 peaks):					250.0	Corrected Ave (3 peaks):				250.0 RPD = 0

Total PCB Area Col1 (5.906 - 13.793) = 3998414 Col1 Total PCB = 0.5 ppm*

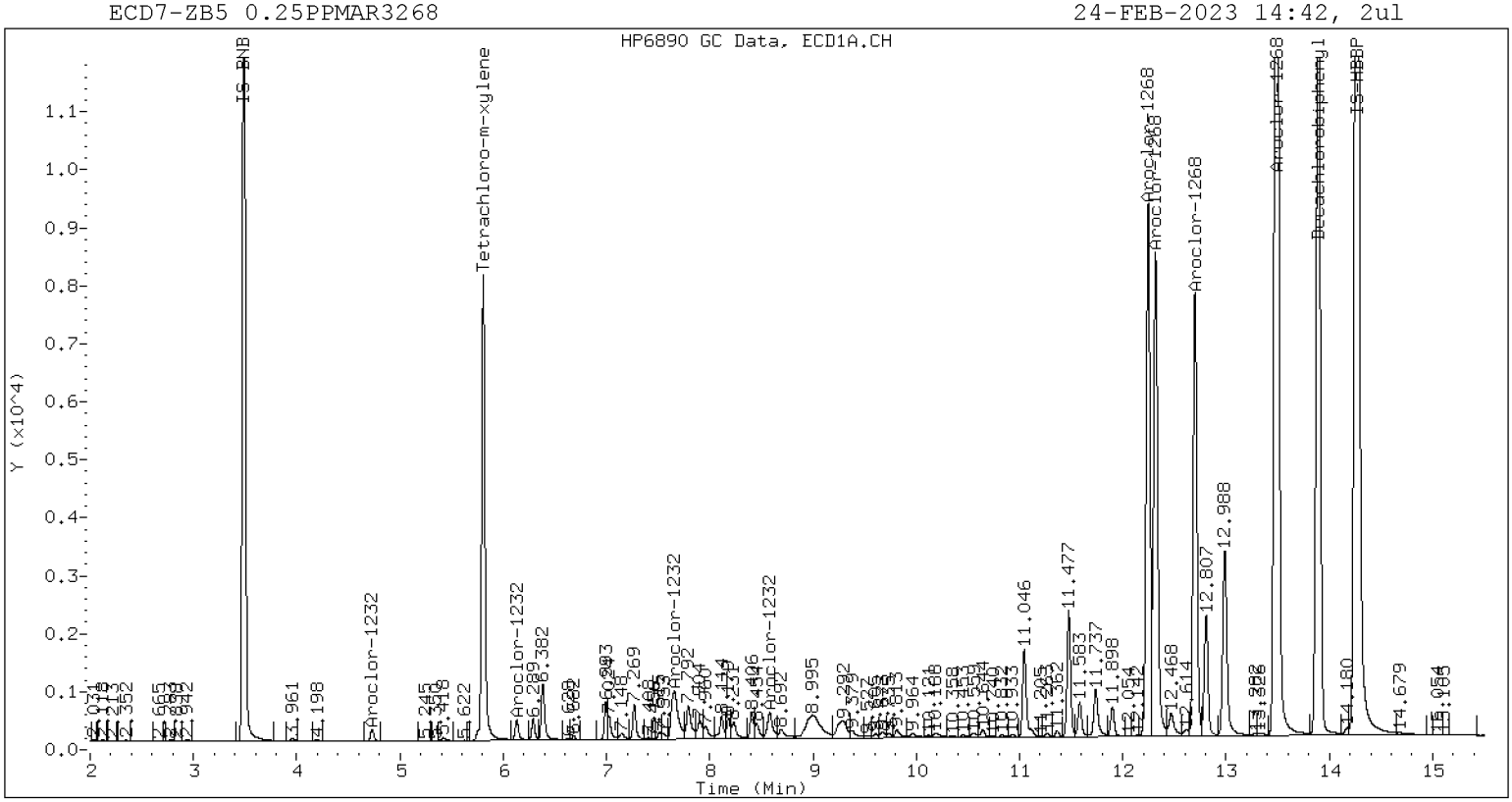
Total PCB Area Col2 (5.785 - 14.019) = 2300029 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

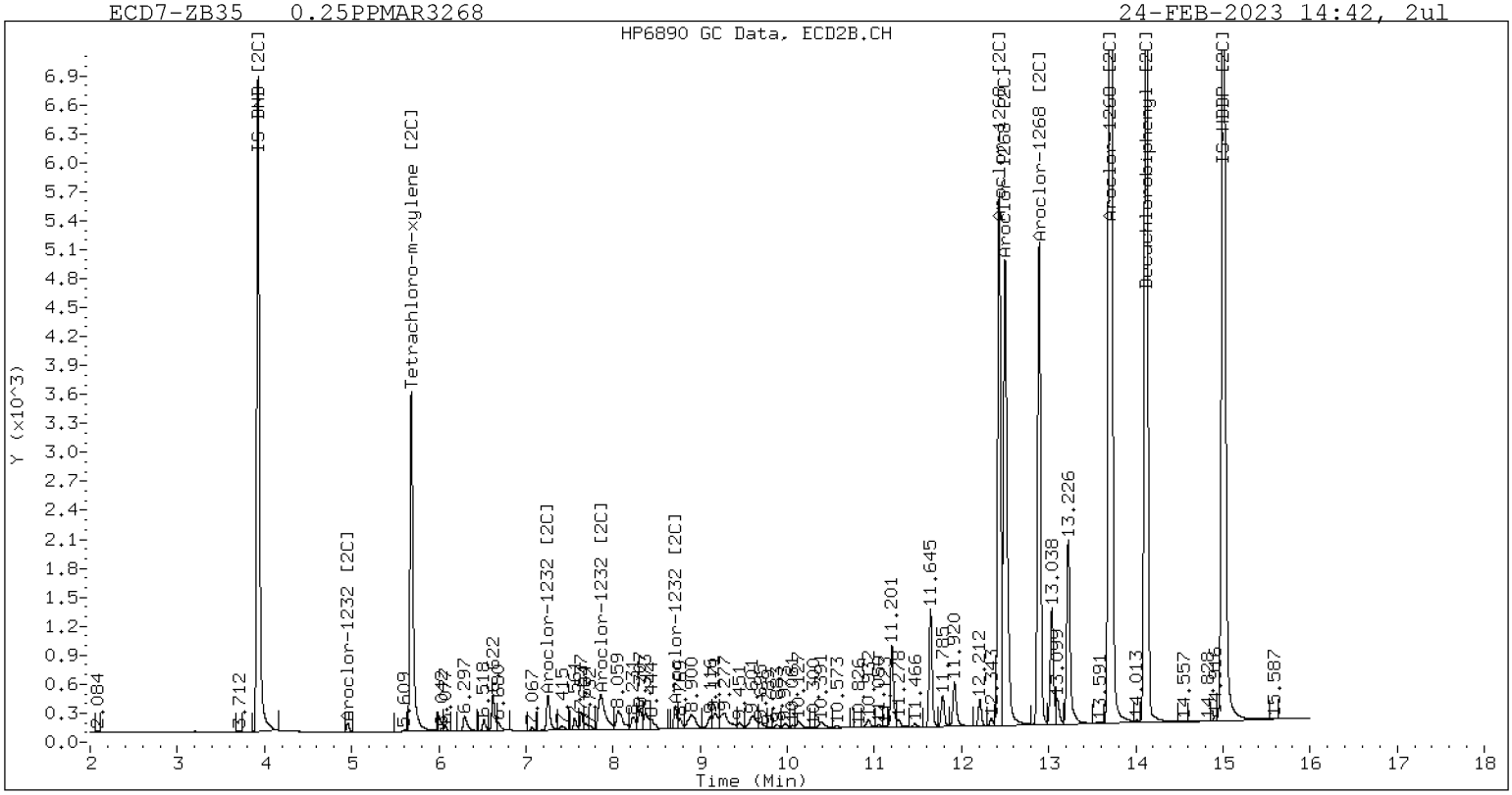
PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR3268 24-FEB-2023 14:42, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR3268 24-FEB-2023 14:42, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242313ECD7.D
Data file 2: /230224.b/230224.b/02242313ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660SCV
Client ID:
Injection Date: 24-FEB-2023 15:03
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.807	0.001	337070	5.686	0.001	165848	34.9	35.8	2.3	Tetrachloro-m-xylene
13.895	0.002	515407	14.119	-0.000	316730	34.3	37.3	8.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	645975	-4.1
Hexabromobiphenyl	1429847	1524245	6.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	316115	0.3
Hexabromobiphenyl	513946	556950	8.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.269	-0.002	59491	242.5	1	7.254	-0.002	44576	240.9
Aroclor-1016	2	7.655	0.001	181090	242.1	2	7.857	0.002	95386	254.2
Aroclor-1016	3	7.790	0.000	88470	242.3	3	8.056	0.002	42160	248.8
Aroclor-1016	4	8.404	-0.001	57980	245.6	4	8.307	0.000	32197	242.1
Total Col1Ave (4 peaks):					243.1	Total Col2Ave (4 peaks):				246.5 RPD = 1
Corrected Ave (3 peaks):					242.3	Corrected Ave (3 peaks):				243.9 RPD = 1
Aroclor-1221	1	4.731	0.000	464	8.0	1	---			0.0
Aroclor-1221	2	6.130	-0.002	9233	89.2	2	6.300	0.004	5379	95.0
Aroclor-1221	3	6.382	-0.001	42570	177.2	3	6.623	0.001	20952	227.2
Total Col1Ave (3 peaks):					91.5	Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	4.731	0.001	464	13.4	1	---			0.0
Aroclor-1232	2	6.130	-0.001	9233	134.5	2	7.254	-0.000	44576	554.6
Aroclor-1232	3	7.655	-0.001	181090	582.9	3	7.857	-0.003	95386	593.5
Aroclor-1232	4	8.580	-0.001	79916	605.2	4	8.713	-0.002	29795	644.2
Total Col1Ave (4 peaks):					334.0	Total Col2Ave (3 peaks):				597.4 RPD = 57*
Corrected Ave (3 peaks):					243.6	Corrected Ave: < 3 Peaks				
Aroclor-1242	1	7.269	-0.002	59491	297.2	1	7.254	-0.002	44576	303.5
Aroclor-1242	2	7.655	-0.001	181090	297.9	2	7.857	-0.000	95386	309.0
Aroclor-1242	3	8.404	-0.001	57980	306.5	3	9.115	-0.052	18754	195.2
Aroclor-1242	4	8.580	0.000	79916	285.8	4	9.697	0.100	1355	11.6
Total Col1Ave (4 peaks):					296.8	Total Col2Ave (4 peaks):				204.8 RPD = 37
Corrected Ave (3 peaks):					293.6	Corrected Ave (3 peaks):				170.1 RPD = 53*
Aroclor-1248	1	8.404	-0.001	57980	184.0	1	8.307	-0.001	32197	213.3
Aroclor-1248	2	8.580	-0.001	79916	199.5	2	8.713	-0.001	29795	190.9
Aroclor-1248	3	8.993	-0.006	71805	95.0	3	9.115	-0.050	18754	104.4
Aroclor-1248	4	9.300	0.006	47348	123.1	4	---			0.0
Total Col1Ave (4 peaks):					150.4	Total Col2Ave (3 peaks):				169.6 RPD = 12
Corrected Ave (3 peaks):					134.0	Corrected Ave: < 3 Peaks				
Aroclor-1254	1	9.300	0.002	47348	73.0	1	9.451	0.001	22438	93.4
Aroclor-1254	2	---			0.0	2	9.972	0.001	2694	13.9
Aroclor-1254	3	9.670	0.002	5461	13.1	3	10.147	0.024	52914	126.5
Aroclor-1254	4	9.807	-0.000	18944	23.4	4	10.370	-0.003	70430	172.8
Aroclor-1254	5	10.121	-0.056	154170	303.3	5	10.568	-0.000	98525	396.9
Total Col1Ave (4 peaks):					103.2	Total Col2Ave (5 peaks):				160.7 RPD = 44*
Corrected Ave (3 peaks):					36.5	Corrected Ave (4 peaks):				101.7 RPD = 94*
Aroclor-1260	1	11.044	0.000	149195	272.1	1	11.653	0.000	82210	251.0
Aroclor-1260	2	11.361	-0.000	153832	268.5	2	11.919	0.001	222226	265.9
Aroclor-1260	3	11.736	0.002	396660	261.0	3	12.435	-0.000	59148	266.7
Aroclor-1260	4	12.140	0.001	190448	248.9	4	12.504	0.002	147180	261.2
Aroclor-1260	5	12.244	-0.000	91385	277.5	NS	---			----
Total Col1Ave (5 peaks):					265.6	Total Col2Ave (4 peaks):				261.2 RPD = 2
Corrected Ave (4 peaks):					262.6	Corrected Ave (3 peaks):				259.4 RPD = 1
Aroclor-1262	1	10.827	-0.002	220238	471.0	1	11.199	-0.001	84479	177.6
Aroclor-1262	2	12.244	0.000	91385	120.1	2	11.653	0.002	82210	203.0
Aroclor-1262	3	12.320	0.001	113066	138.2	3	12.435	0.002	59148	128.7
Aroclor-1262	4	12.988	0.001	102156	136.7	4	12.504	0.002	147180	204.4
Total Col1Ave (4 peaks):					216.5	Total Col2Ave (4 peaks):				178.4 RPD = 19
Corrected Ave (3 peaks):					131.7	Corrected Ave (3 peaks):				169.8 RPD = 25
Aroclor-1268	1	12.244	-0.003	91385	46.8	1	12.435	0.003	59148	52.7
Aroclor-1268	2	12.320	0.003	113066	58.5	2	12.504	0.004	147180	122.1
Aroclor-1268	3	12.726	0.027	46633	28.2	3	12.893	0.001	2874	2.8
Aroclor-1268	4	13.489	-0.000	25567	4.7	4	13.709	-0.000	13041	4.0
Total Col1Ave (4 peaks):					34.5	Total Col2Ave (4 peaks):				45.4 RPD = 27
Corrected Ave (3 peaks):					26.6	Corrected Ave (3 peaks):				19.8 RPD = 29

Total PCB Area Col1 (5.906 - 13.793) = 3743076 Col1 Total PCB = 0.5 ppm*

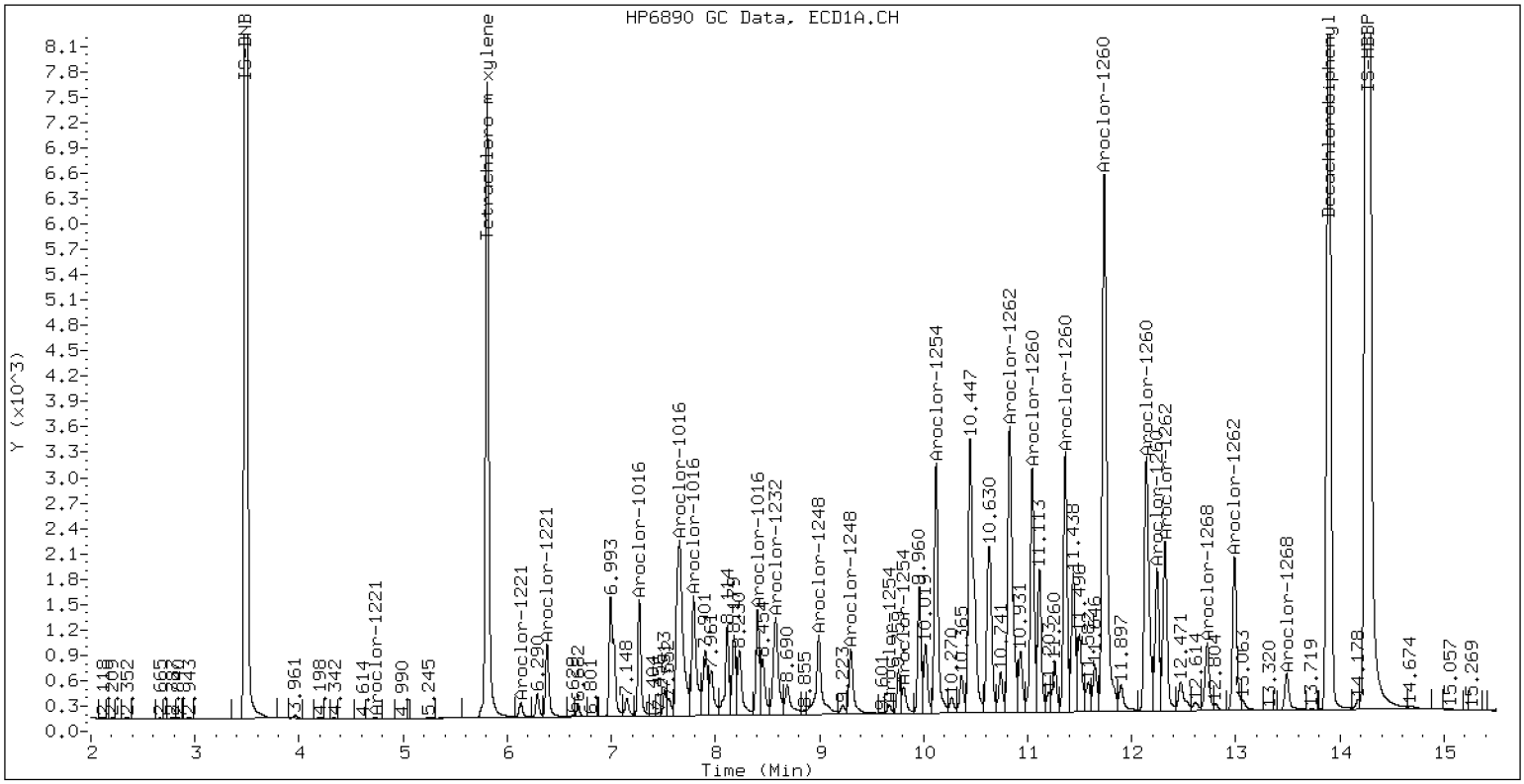
Total PCB Area Col2 (5.785 - 14.019) = 1897008 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

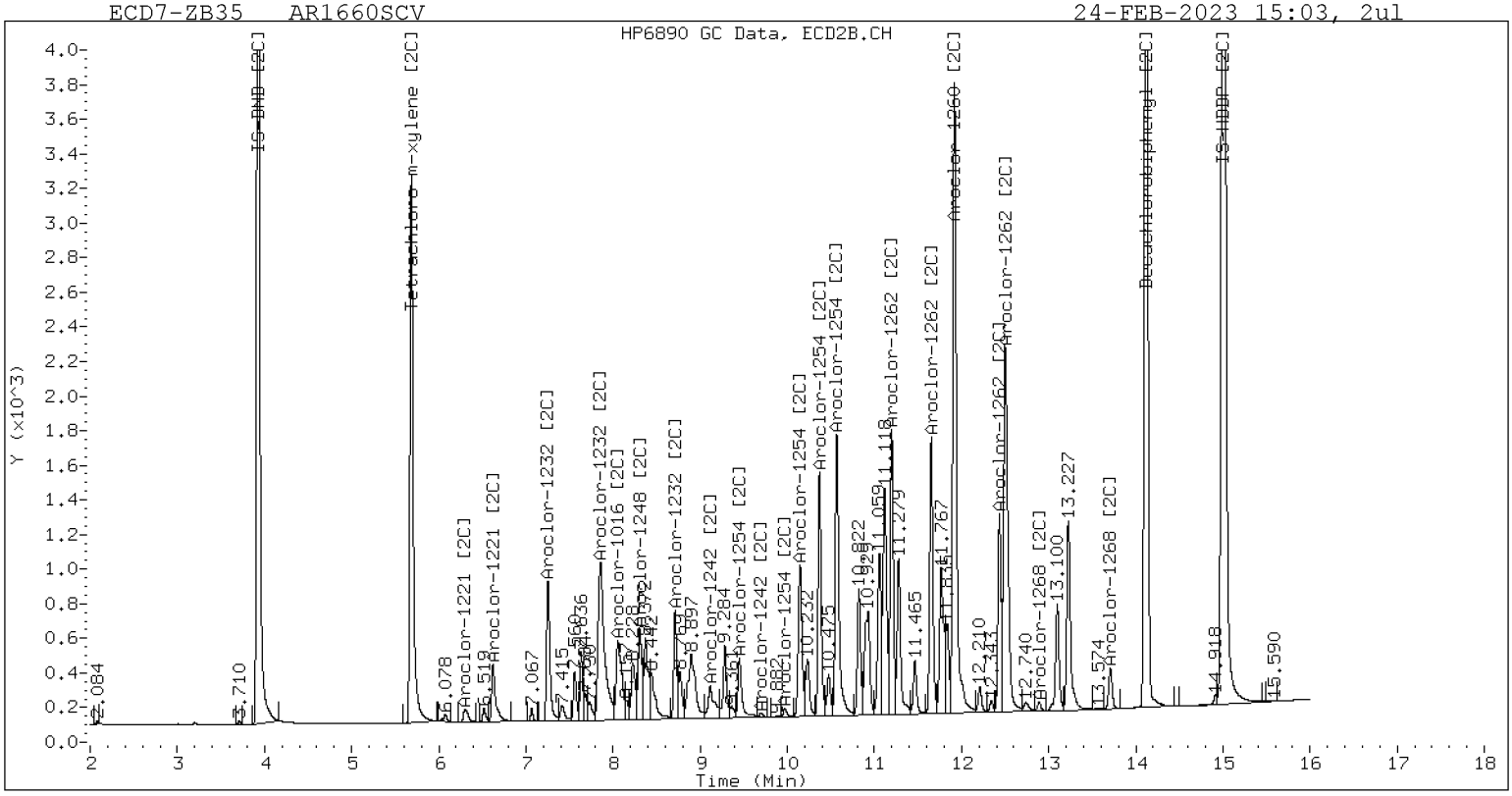
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660SCV 24-FEB-2023 15:03, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660SCV 24-FEB-2023 15:03, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242314ECD7.D
Data file 2: /230224.b/230224.b/02242314ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242SCV
Client ID:
Injection Date: 24-FEB-2023 15:24
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.808	0.002	354283	5.686	0.001	172455	33.6	34.5	2.6	Tetrachloro-m-xylene
13.895	0.002	567088	14.120	0.001	347430	37.0	40.3	8.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	705650	4.7
Hexabromobiphenyl	1429847	1555683	8.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	340433	8.0
Hexabromobiphenyl	513946	565609	10.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.270	-0.000	39927	149.0	1	7.256	0.000	32417	162.7
Aroclor-1016	2	7.653	-0.001	132339	162.0	2	7.856	0.001	69235	171.3
Aroclor-1016	3	7.791	0.001	59310	148.7	3	8.055	0.000	29473	161.5
Aroclor-1016	4	8.405	0.000	42537	165.0	4	8.307	-0.000	22792	159.2
Total Col1Ave (4 peaks):					156.2	Total Col2Ave (4 peaks):				163.7 RPD = 5
Corrected Ave (3 peaks):					153.2	Corrected Ave (3 peaks):				161.1 RPD = 5
Aroclor-1221	1	4.733	0.002	319	5.0	1	---			0.0
Aroclor-1221	2	6.131	-0.001	6534	57.8	2	6.319	0.022	4365	71.6
Aroclor-1221	3	6.384	0.001	29664	113.0	3	6.624	0.002	14916	150.2
Total Col1Ave (3 peaks):					58.6	Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	4.733	0.003	319	8.4	1	---			0.0
Aroclor-1232	2	6.131	0.000	6534	87.2	2	7.256	0.002	32417	374.5
Aroclor-1232	3	7.653	-0.003	132339	389.9	3	7.856	-0.004	69235	400.0
Aroclor-1232	4	8.579	-0.002	69445	481.4	4	8.714	-0.001	22167	445.0
Total Col1Ave (4 peaks):					241.7	Total Col2Ave (3 peaks):				406.5 RPD = 51*
Corrected Ave (3 peaks):					161.8	Corrected Ave: < 3 Peaks				
Aroclor-1242	1	7.270	-0.001	39927	182.6	1	7.256	0.000	32417	205.0
Aroclor-1242	2	7.653	-0.003	132339	199.3	2	7.856	-0.002	69235	208.2
Aroclor-1242	3	8.405	-0.000	42537	205.9	3	9.164	-0.004	23068	223.0
Aroclor-1242	4	8.579	-0.000	69445	227.4	4	9.587	-0.010	31021	246.1
Total Col1Ave (4 peaks):					203.8	Total Col2Ave (4 peaks):				220.6 RPD = 8
Corrected Ave (3 peaks):					195.9	Corrected Ave (3 peaks):				212.1 RPD = 8
Aroclor-1248	1	8.405	0.000	42537	123.5	1	8.307	-0.001	22792	140.2
Aroclor-1248	2	8.579	-0.001	69445	158.7	2	8.714	-0.000	22167	131.9
Aroclor-1248	3	9.001	0.003	91942	111.4	3	9.164	-0.002	23068	119.3
Aroclor-1248	4	9.294	-0.000	38711	92.1	4	9.587	-0.003	31021	133.6
Total Col1Ave (4 peaks):					121.4	Total Col2Ave (4 peaks):				131.2 RPD = 8
Corrected Ave (3 peaks):					109.0	Corrected Ave (3 peaks):				128.3 RPD = 16
Aroclor-1254	1	9.294	-0.005	38711	54.6	1	9.450	0.001	13131	50.7
Aroclor-1254	2	9.377	-0.000	17371	54.5	2	9.970	0.000	8340	40.1
Aroclor-1254	3	9.668	-0.000	16373	35.9	3	10.123	-0.000	16364	36.3
Aroclor-1254	4	9.807	-0.001	27490	31.0	4	10.382	0.009	16062	36.6
Aroclor-1254	5	10.175	-0.001	20494	36.9	5	10.572	0.004	4818	18.0
Total Col1Ave (5 peaks):					42.6	Total Col2Ave (5 peaks):				36.4 RPD = 16
Corrected Ave (4 peaks):					39.6	Corrected Ave (4 peaks):				32.8 RPD = 19
Aroclor-1260	1	11.048	0.003	794	1.4	1	11.665	0.012	1652	5.0
Aroclor-1260	2	11.366	0.005	814	1.4	2	11.926	0.008	842	1.0
Aroclor-1260	3	11.739	0.006	1848	1.2	3	12.438	0.002	483	2.1
Aroclor-1260	4	12.145	0.006	1372	1.8	4	12.506	0.004	790	1.4
Aroclor-1260	5	---			0.0	NS	---			----
Total Col1Ave (4 peaks):					1.4	Total Col2Ave (4 peaks):				2.4 RPD = 49*
Corrected Ave (3 peaks):					1.3	Corrected Ave (3 peaks):				1.5 RPD = 12
Aroclor-1262	1	10.832	0.003	13157	27.6	1	11.121	-0.079	6113	12.7
Aroclor-1262	2	12.145	-0.098	1372	1.8	2	11.665	0.013	1652	4.0
Aroclor-1262	3	---			0.0	3	12.438	0.004	483	1.0
Aroclor-1262	4	13.038	0.051	842	1.1	4	12.506	0.004	790	1.1
Total Col1Ave (3 peaks):					10.1	Total Col2Ave (4 peaks):				4.7 RPD = 73*
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks):				2.0
Aroclor-1268	1	---			0.0	1	12.438	0.006	483	0.4
Aroclor-1268	2	---			0.0	2	12.506	0.006	790	0.6
Aroclor-1268	3	12.617	-0.082	5851	3.5	3	12.899	0.007	491	0.5
Aroclor-1268	4	13.500	0.010	1745	0.3	4	13.714	0.005	379	0.1
Col1Ave: <3 Quant Peaks						Col2Ave: 0.4				

Total PCB Area Col1 (5.906 - 13.793) = 1149784 Col1 Total PCB = 0.1 ppm*

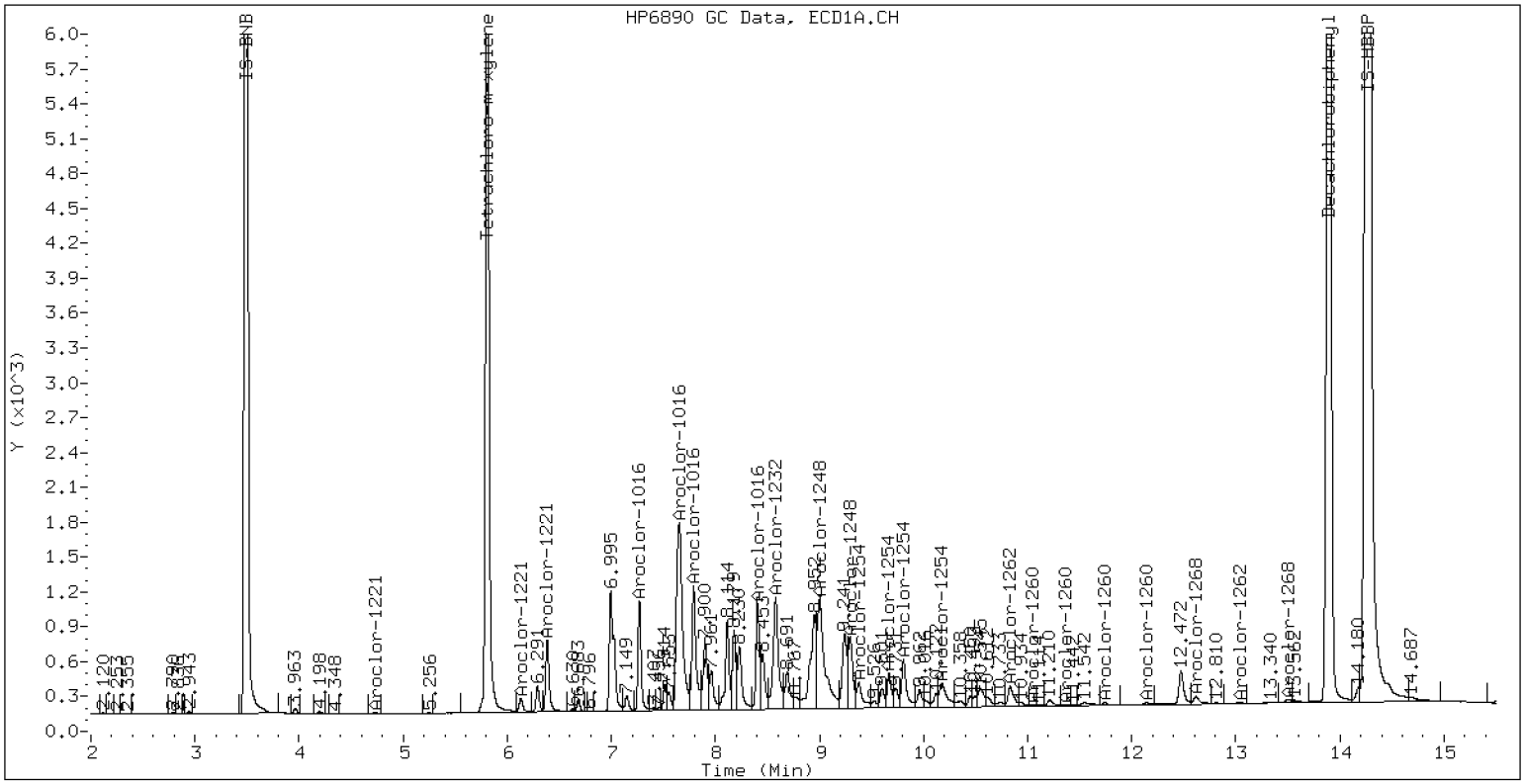
Total PCB Area Col2 (5.785 - 14.019) = 572210 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

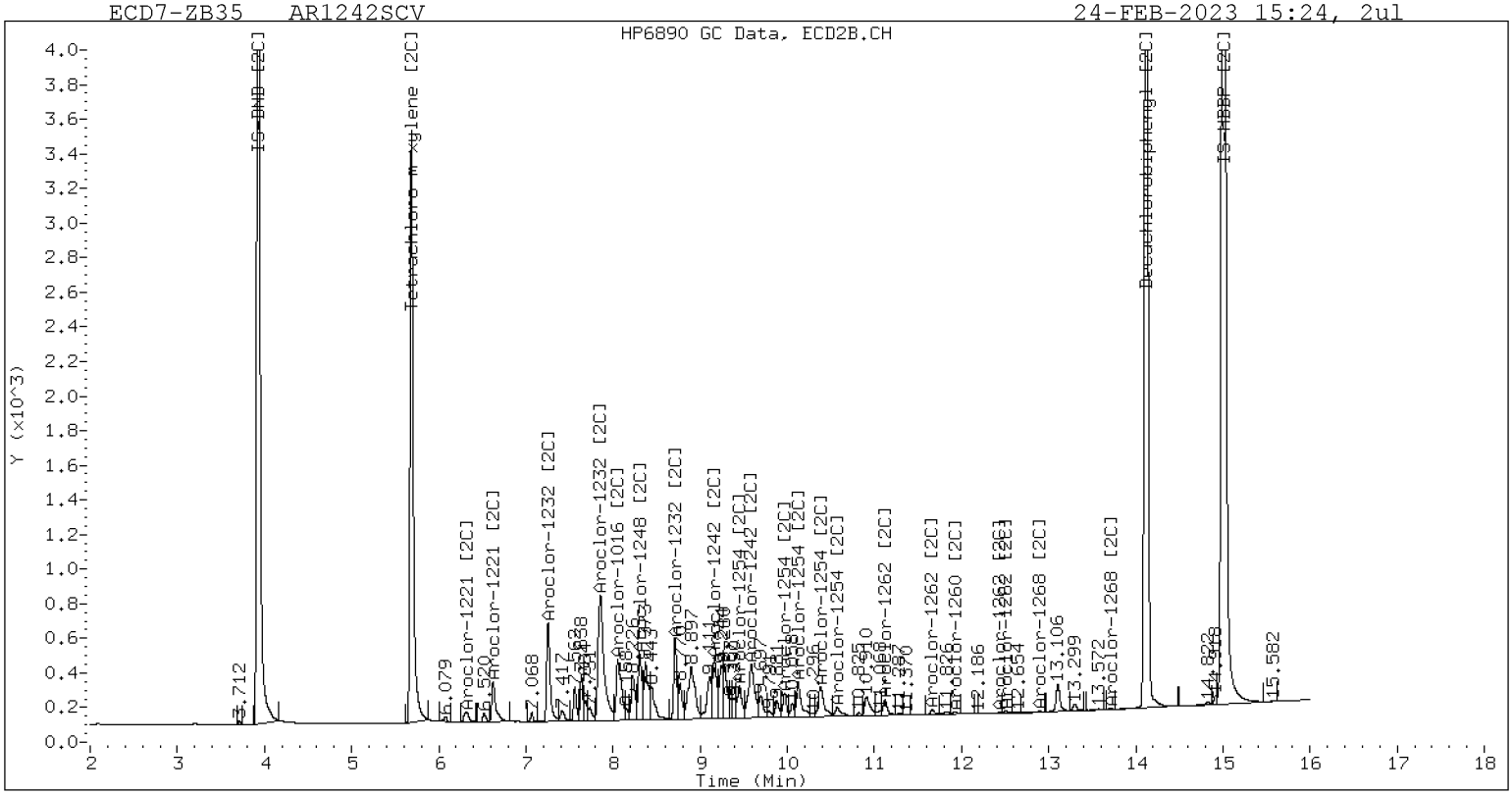
PCB Dual Column Chromatograms

ECD7-ZB5 AR1242SCV 24-FEB-2023 15:24, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1242SCV 24-FEB-2023 15:24, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242315ECD7.D
Data file 2: /230224.b/230224.b/02242315ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248SCV
Client ID:
Injection Date: 24-FEB-2023 15:45
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.809	0.002	336655	5.687	0.002	168719	34.9	36.4	4.2	Tetrachloro-m-xylene
13.894	0.001	499162	14.118	-0.001	308317	33.1	36.3	9.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	646554	-4.0
Hexabromobiphenyl	1429847	1529451	7.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	316066	0.3
Hexabromobiphenyl	513946	557213	8.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.271	0.000	19773	80.5	1	7.254	-0.002	16926	91.5
Aroclor-1016	2	7.653	-0.001	88099	117.7	2	7.857	0.001	45733	121.9
Aroclor-1016	3	7.794	0.003	35915	98.3	3	8.060	0.005	8078	47.7
Aroclor-1016	4	8.406	0.001	77842	329.5	4	8.307	0.000	37348	280.9
Total Col1Ave (4 peaks):					156.5	Total Col2Ave (4 peaks):				135.5 RPD = 14
Corrected Ave (3 peaks):					98.8	Corrected Ave (3 peaks):				87.0 RPD = 13
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	6.133	0.001	680	6.6	2	6.326	0.030	1966	34.7
Aroclor-1221	3	6.384	0.002	3390	14.1	3	6.631	0.009	1571	17.0
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	6.133	0.002	680	9.9	2	7.254	-0.000	16926	210.6
Aroclor-1232	3	7.653	-0.002	88099	283.3	3	7.857	-0.004	45733	284.6
Aroclor-1232	4	8.581	-0.000	99572	753.4	4	8.714	-0.001	38224	826.6
Total Col1Ave (3 peaks):					348.9	Total Col2Ave (3 peaks):				440.6 RPD = 23
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	7.271	-0.000	19773	98.7	1	7.254	-0.002	16926	115.3
Aroclor-1242	2	7.653	-0.003	88099	144.8	2	7.857	-0.001	45733	148.2
Aroclor-1242	3	8.406	0.000	77842	411.2	3	9.165	-0.002	45021	468.7
Aroclor-1242	4	8.581	0.001	99572	355.8	4	9.590	-0.008	53613	458.1
Total Col1Ave (4 peaks):					252.6	Total Col2Ave (4 peaks):				297.6 RPD = 16
Corrected Ave (3 peaks):					199.8	Corrected Ave (3 peaks):				240.5 RPD = 19
Aroclor-1248	1	8.406	0.000	77842	246.8	1	8.307	-0.001	37348	247.5
Aroclor-1248	2	8.581	0.000	99572	248.3	2	8.714	-0.000	38224	245.0
Aroclor-1248	3	8.998	-0.000	186857	247.0	3	9.165	-0.000	45021	250.7
Aroclor-1248	4	9.294	-0.000	98398	255.5	4	9.590	-0.001	53613	248.7
Total Col1Ave (4 peaks):					249.4	Total Col2Ave (4 peaks):				248.0 RPD = 1
Corrected Ave (3 peaks):					247.4	Corrected Ave (3 peaks):				247.0 RPD = 0
Aroclor-1254	1	9.294	-0.004	98398	151.6	1	9.450	0.001	21823	90.8
Aroclor-1254	2	9.377	-0.001	49616	169.9	2	9.971	0.001	19450	100.6
Aroclor-1254	3	9.669	0.001	40230	96.4	3	10.124	0.000	36574	87.5
Aroclor-1254	4	9.808	0.001	68500	84.4	4	10.389	0.016	35100	86.1
Aroclor-1254	5	10.183	0.007	47365	93.1	5	10.573	0.004	5676	22.9
Total Col1Ave (5 peaks):					119.1	Total Col2Ave (5 peaks):				77.6 RPD = 42*
Corrected Ave (4 peaks):					106.4	Corrected Ave (4 peaks):				71.8 RPD = 39
Aroclor-1260	1	11.047	0.003	1670	3.0	1	11.662	0.009	2055	6.3
Aroclor-1260	2	11.362	0.001	1111	1.9	2	11.924	0.007	1466	1.8
Aroclor-1260	3	11.739	0.005	2107	1.4	3	12.434	-0.002	573	2.6
Aroclor-1260	4	12.144	0.005	1379	1.8	4	12.505	0.003	1003	1.8
Aroclor-1260	5	12.251	0.006	698	2.1	NS	---			----
Total Col1Ave (5 peaks):					2.1	Total Col2Ave (4 peaks):				3.1 RPD = 41*
Corrected Ave (4 peaks):					1.8	Corrected Ave (3 peaks):				2.0 RPD = 12
Aroclor-1262	1	10.833	0.005	15355	32.7	1	11.122	-0.079	7225	15.2
Aroclor-1262	2	12.251	0.007	698	0.9	2	11.662	0.011	2055	5.1
Aroclor-1262	3	12.321	0.002	836	1.0	3	12.434	0.000	573	1.2
Aroclor-1262	4	12.991	0.004	1043	1.4	4	12.505	0.003	1003	1.4
Total Col1Ave (4 peaks):					9.0	Total Col2Ave (4 peaks):				5.7 RPD = 45*
Corrected Ave (3 peaks):					1.1	Corrected Ave (3 peaks):				2.6 RPD = 80*
Aroclor-1268	1	12.251	0.004	698	0.4	1	12.434	0.002	573	0.5
Aroclor-1268	2	12.321	0.004	836	0.4	2	12.505	0.005	1003	0.8
Aroclor-1268	3	12.700	0.001	2449	1.5	3	12.892	0.001	721	0.7
Aroclor-1268	4	13.493	0.003	7547	1.4	4	13.708	-0.001	2265	0.7
Total Col1Ave (4 peaks):					0.9	Total Col2Ave (4 peaks):				0.7 RPD = 29
Corrected Ave (3 peaks):					0.7	Corrected Ave (3 peaks):				0.6 RPD = 13

Total PCB Area Col1 (5.906 - 13.793) = 1574335 Col1 Total PCB = 0.2 ppm*

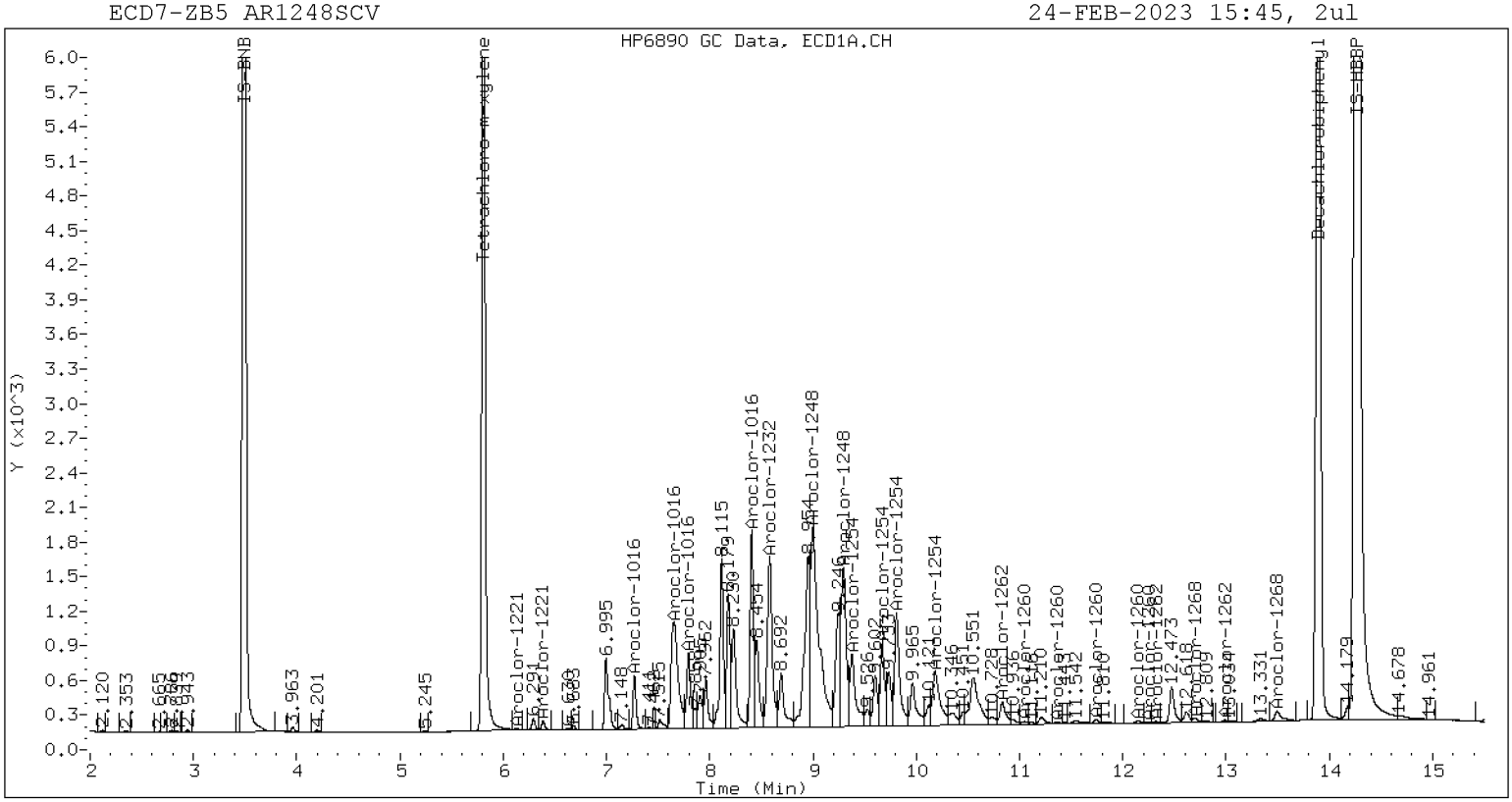
Total PCB Area Col2 (5.785 - 14.019) = 746330 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

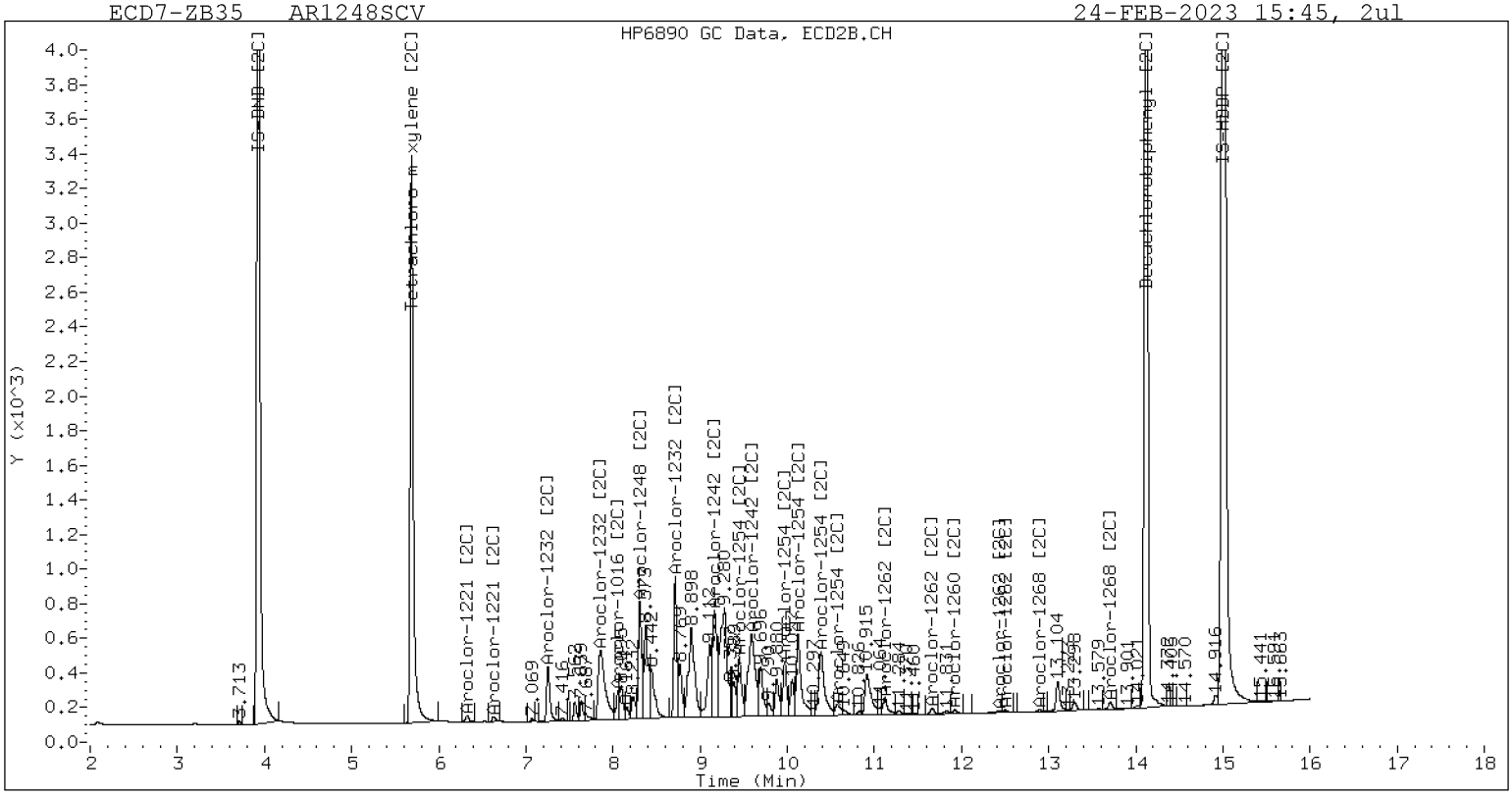
PCB Dual Column Chromatograms

ECD7-ZB5 AR1248SCV 24-FEB-2023 15:45, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1248SCV 24-FEB-2023 15:45, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242316ECD7.D
Data file 2: /230224.b/230224.b/02242316ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254SCV
Client ID:
Injection Date: 24-FEB-2023 16:06
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.806	-0.000	354312	5.686	0.001	174604	36.1	37.1	2.6	Tetrachloro-m-xylene
13.895	0.002	540961	14.119	-0.000	329134	34.6	37.9	9.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	656887	-2.5
Hexabromobiphenyl	1429847	1585505	10.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	320936	1.8
Hexabromobiphenyl	513946	570006	10.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.270	0.000	565	2.3	1	7.255	-0.001	387	2.1
Aroclor-1016	2	7.656	0.002	1875	2.5	2	7.854	-0.002	860	2.3
Aroclor-1016	3	7.792	0.002	1106	3.0	3	8.098	0.043	578	3.4
Aroclor-1016	4	8.405	0.000	29924	124.7	4	8.307	0.000	21985	162.9
	Total Col1Ave (4 peaks):				33.1	Total Col2Ave (4 peaks):				42.6 RPD = 25
	Corrected Ave (3 peaks):				2.6	Corrected Ave (3 peaks):				2.6 RPD = 0
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	6.325	0.028	1947	33.9
Aroclor-1221	3	---			0.0	3	6.637	0.015	368	3.9
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	7.255	0.001	387	4.7
Aroclor-1232	3	7.656	0.000	1875	5.9	3	7.854	-0.007	860	5.3
Aroclor-1232	4	8.583	0.002	12327	91.8	4	8.715	0.000	15013	319.7
	Col1Ave: <3 Quant Peaks					Col2Ave: 109.9				
Aroclor-1242	1	7.270	-0.000	565	2.8	1	7.255	-0.001	387	2.6
Aroclor-1242	2	7.656	0.000	1875	3.0	2	7.854	-0.004	860	2.7
Aroclor-1242	3	8.405	-0.000	29924	155.6	3	9.169	0.002	21933	224.9
Aroclor-1242	4	8.583	0.003	12327	43.4	4	9.545	-0.053	34065	286.6
	Total Col1Ave (4 peaks):				51.2	Total Col2Ave (4 peaks):				129.2 RPD = 87*
	Corrected Ave (3 peaks):				16.4	Corrected Ave (3 peaks):				76.7 RPD = 130*
Aroclor-1248	1	8.405	0.000	29924	93.4	1	8.307	-0.001	21985	143.5
Aroclor-1248	2	8.583	0.002	12327	30.3	2	8.715	0.001	15013	94.8
Aroclor-1248	3	8.992	-0.007	145580	189.4	3	9.169	0.004	21933	120.3
Aroclor-1248	4	9.298	0.003	155450	397.3	4	9.545	-0.046	34065	155.6
	Total Col1Ave (4 peaks):				177.6	Total Col2Ave (4 peaks):				128.5 RPD = 32
	Corrected Ave (3 peaks):				104.3	Corrected Ave (3 peaks):				119.5 RPD = 14
Aroclor-1254	1	9.298	-0.001	155450	235.7	1	9.450	0.001	58639	240.4
Aroclor-1254	2	9.377	-0.001	69801	235.3	2	9.971	0.000	47008	239.5
Aroclor-1254	3	9.668	-0.000	100839	237.8	3	10.124	0.000	100062	235.7
Aroclor-1254	4	9.807	0.000	190544	231.1	4	10.373	0.000	99535	240.5
Aroclor-1254	5	10.176	-0.000	122321	236.7	5	10.570	0.001	61549	244.2
	Total Col1Ave (5 peaks):				235.3	Total Col2Ave (5 peaks):				240.1 RPD = 2
	Corrected Ave (4 peaks):				234.7	Corrected Ave (4 peaks):				239.0 RPD = 2
Aroclor-1260	1	11.043	-0.002	12288	21.5	1	11.661	0.008	29062	86.7
Aroclor-1260	2	11.361	-0.001	13660	22.9	2	11.921	0.003	22238	26.0
Aroclor-1260	3	11.736	0.002	37632	23.8	3	12.441	0.005	3555	15.7
Aroclor-1260	4	12.141	0.002	27105	34.1	4	12.503	0.001	13126	22.8
Aroclor-1260	5	12.320	0.076	2381	6.9	NS	---			----
	Total Col1Ave (5 peaks):				21.9	Total Col2Ave (4 peaks):				37.8 RPD = 53*
	Corrected Ave (4 peaks):				18.8	Corrected Ave (3 peaks):				21.5 RPD = 13
Aroclor-1262	1	10.827	-0.002	220626	453.6	1	11.281	0.081	13562	27.9
Aroclor-1262	2	12.320	0.076	2381	3.0	2	11.661	0.009	29062	70.1
Aroclor-1262	3	---			0.0	3	12.441	0.007	3555	7.6
Aroclor-1262	4	12.989	0.002	3225	4.1	4	12.503	0.001	13126	17.8
	Total Col1Ave (3 peaks):				153.6	Total Col2Ave (4 peaks):				30.8 RPD = 133*
	Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				17.7
Aroclor-1268	1	12.320	0.074	2381	1.2	1	12.441	0.009	3555	3.1
Aroclor-1268	2	---			0.0	2	12.503	0.003	13126	10.6
Aroclor-1268	3	12.701	0.002	2939	1.7	3	12.892	0.000	772	0.7
Aroclor-1268	4	13.493	0.003	9164	1.6	4	13.707	-0.002	2801	0.8
	Total Col1Ave (3 peaks):				1.5	Total Col2Ave (4 peaks):				3.8 RPD = 87*
	Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				1.6

Total PCB Area Col1 (5.906 - 13.793) = 2118645 Col1 Total PCB = 0.3 ppm*

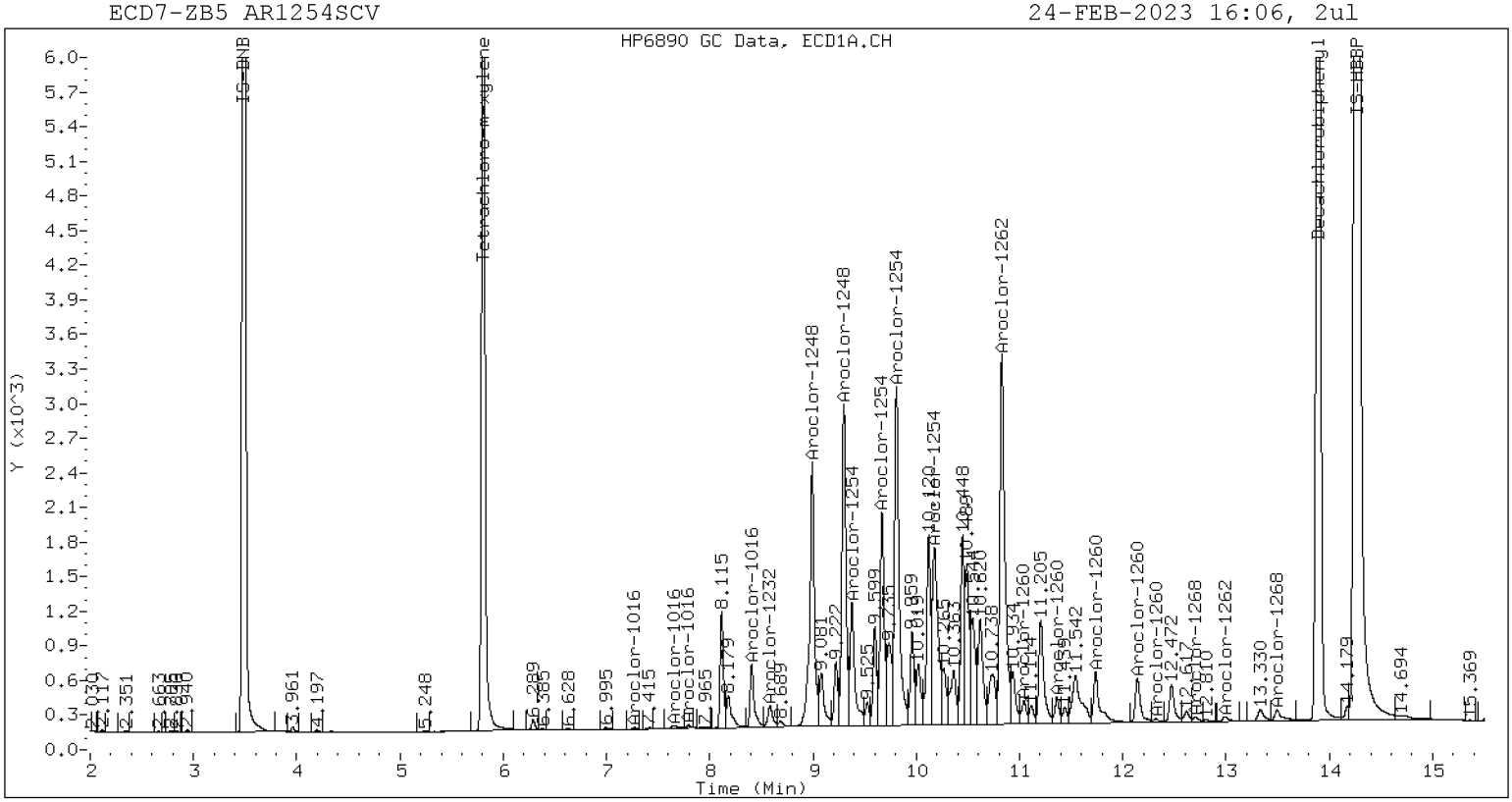
Total PCB Area Col2 (5.785 - 14.019) = 1007601 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

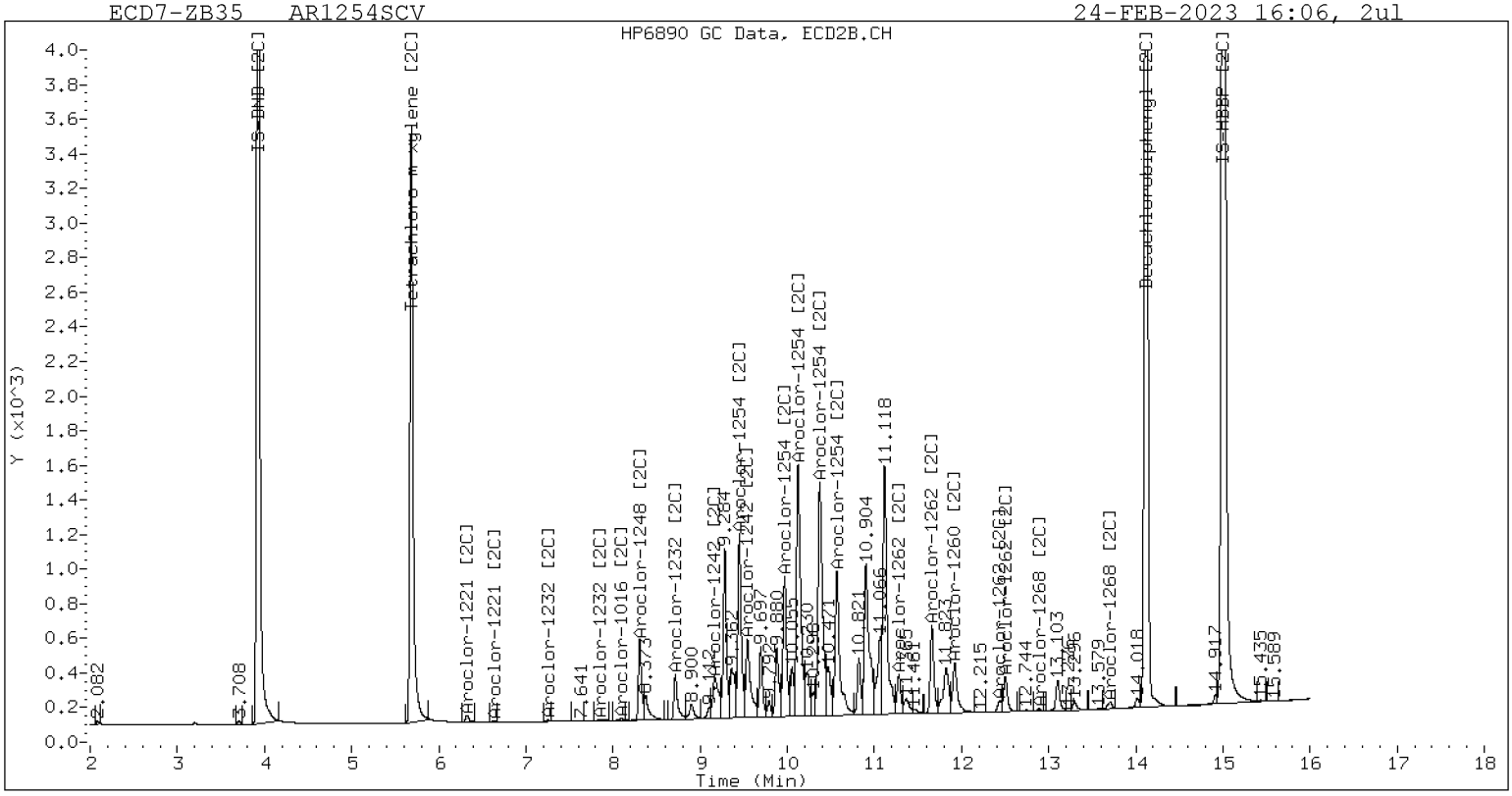
PCB Dual Column Chromatograms

ECD7-ZB5 AR1254SCV 24-FEB-2023 16:06, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1254SCV 24-FEB-2023 16:06, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242317ECD7.D
Data file 2: /230224.b/230224.b/02242317ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR2162SCV
Client ID:
Injection Date: 24-FEB-2023 16:27
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.807	0.000	356001	5.685	0.000	170882	36.0	36.6	1.7	Tetrachloro-m-xylene
13.895	0.002	533971	14.119	0.000	326235	34.4	37.9	9.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	661953	-1.8
Hexabromobiphenyl	1429847	1574993	10.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	317807	0.8
Hexabromobiphenyl	513946	565951	10.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.269	-0.001	7175	28.5	1	7.256	0.000	3727	20.0
Aroclor-1016	2	7.659	0.005	12893	16.8	2	7.863	0.007	5834	15.5
Aroclor-1016	3	7.794	0.004	6936	18.5	3	8.063	0.009	2963	17.4
Aroclor-1016	4	8.408	0.003	3610	14.9	4	8.308	0.002	2045	15.3
Total Col1Ave (4 peaks):					19.7	Total Col2Ave (4 peaks):				17.0 RPD = 14
Corrected Ave (3 peaks):					16.8	Corrected Ave (3 peaks):				16.1 RPD = 4
Aroclor-1221	1	4.730	-0.000	15803	266.6	1	4.955	-0.001	7909	262.9
Aroclor-1221	2	6.131	-0.001	26946	254.1	2	6.296	-0.000	14303	251.2
Aroclor-1221	3	6.382	-0.000	62477	253.8	3	6.622	0.000	23612	254.7
Total Col1Ave (3 peaks):					258.2	Total Col2Ave (3 peaks):				256.3 RPD = 1
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.730	0.000	15803	445.6	1	4.955	-0.001	7909	486.4
Aroclor-1232	2	6.131	0.000	26946	383.1	2	7.256	0.002	3727	46.1
Aroclor-1232	3	7.659	0.003	12893	40.5	3	7.863	0.002	5834	36.1
Aroclor-1232	4	8.583	0.003	2684	19.8	4	8.716	0.002	1189	25.6
Total Col1Ave (4 peaks):					222.3	Total Col2Ave (4 peaks):				148.5 RPD = 40
Corrected Ave (3 peaks):					147.8	Corrected Ave (3 peaks):				35.9 RPD = 122*
Aroclor-1242	1	7.269	-0.001	7175	35.0	1	7.256	0.000	3727	25.2
Aroclor-1242	2	7.659	0.003	12893	20.7	2	7.863	0.005	5834	18.8
Aroclor-1242	3	8.408	0.002	3610	18.6	3	9.175	0.008	1082	11.2
Aroclor-1242	4	8.583	0.004	2684	9.4	4	9.543	-0.054	1390	11.8
Total Col1Ave (4 peaks):					20.9	Total Col2Ave (4 peaks):				16.8 RPD = 22
Corrected Ave (3 peaks):					16.2	Corrected Ave (3 peaks):				13.9 RPD = 15
Aroclor-1248	1	8.408	0.002	3610	11.2	1	8.308	0.001	2045	13.5
Aroclor-1248	2	8.583	0.003	2684	6.5	2	8.716	0.002	1189	7.6
Aroclor-1248	3	8.994	-0.005	24440	31.6	3	9.175	0.009	1082	6.0
Aroclor-1248	4	9.302	0.008	26328	66.8	4	9.543	-0.048	1390	6.4
Total Col1Ave (4 peaks):					29.0	Total Col2Ave (4 peaks):				8.4 RPD = 110*
Corrected Ave (3 peaks):					16.4	Corrected Ave (3 peaks):				6.7 RPD = 85*
Aroclor-1254	1	9.302	0.004	26328	39.6	1	9.452	0.003	9571	39.6
Aroclor-1254	2	---			0.0	2	9.972	0.002	1733	8.9
Aroclor-1254	3	9.670	0.002	3721	8.7	3	10.147	0.023	49218	117.1
Aroclor-1254	4	9.808	0.000	9653	11.6	4	10.370	-0.002	59603	145.4
Aroclor-1254	5	10.120	-0.056	131179	251.9	5	10.569	0.001	79533	318.7
Total Col1Ave (4 peaks):					78.0	Total Col2Ave (5 peaks):				125.9 RPD = 47*
Corrected Ave (3 peaks):					20.0	Corrected Ave (4 peaks):				77.8 RPD = 118*
Aroclor-1260	1	11.044	-0.000	223208	394.0	1	11.652	-0.001	104071	312.7
Aroclor-1260	2	11.361	-0.001	190166	321.2	2	11.919	0.002	251579	296.2
Aroclor-1260	3	11.737	0.003	458281	291.9	3	12.435	-0.001	113645	504.2
Aroclor-1260	4	12.141	0.002	149720	189.4	4	12.501	-0.001	182951	319.6
Aroclor-1260	5	12.244	0.000	196033	576.0	NS	---			----
Total Col1Ave (5 peaks):					354.5	Total Col2Ave (4 peaks):				358.2 RPD = 1
Corrected Ave (4 peaks):					299.1	Corrected Ave (3 peaks):				309.5 RPD = 3
Aroclor-1262	1	10.828	-0.001	121431	251.3	1	11.201	0.000	121335	251.1
Aroclor-1262	2	12.244	0.000	196033	249.3	2	11.652	0.000	104071	252.9
Aroclor-1262	3	12.319	0.001	211092	249.8	3	12.435	0.001	113645	243.4
Aroclor-1262	4	12.988	0.001	183455	237.5	4	12.501	-0.001	182951	250.1
Total Col1Ave (4 peaks):					247.0	Total Col2Ave (4 peaks):				249.3 RPD = 1
Corrected Ave (3 peaks):					245.5	Corrected Ave (3 peaks):				248.2 RPD = 1
Aroclor-1268	1	12.244	-0.002	196033	97.1	1	12.435	0.003	113645	99.7
Aroclor-1268	2	12.319	0.002	211092	105.6	2	12.501	0.001	182951	149.3
Aroclor-1268	3	12.723	0.024	77240	45.2	3	12.891	-0.000	7755	7.4
Aroclor-1268	4	13.488	-0.002	65479	11.6	4	13.709	0.000	35146	10.5
Total Col1Ave (4 peaks):					64.9	Total Col2Ave (4 peaks):				66.7 RPD = 3

Corrected Ave (3 peaks): 51.3 Corrected Ave (3 peaks): 39.2 RPD = 27

Total PCB Area Col1 (5.906 - 13.793) = 3239932 Col1 Total PCB = 0.4 ppm*

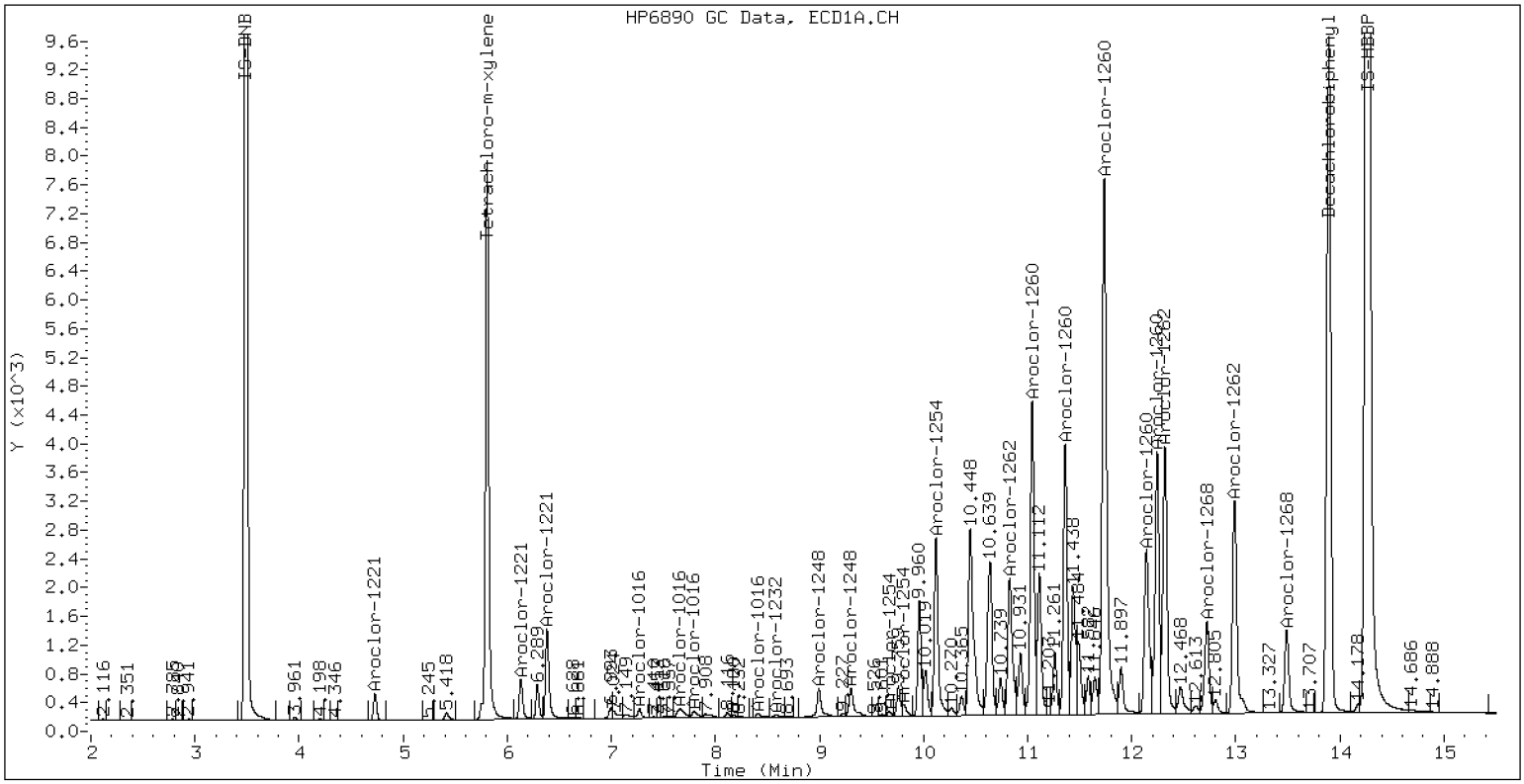
Total PCB Area Col2 (5.785 - 14.019) = 1655522 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

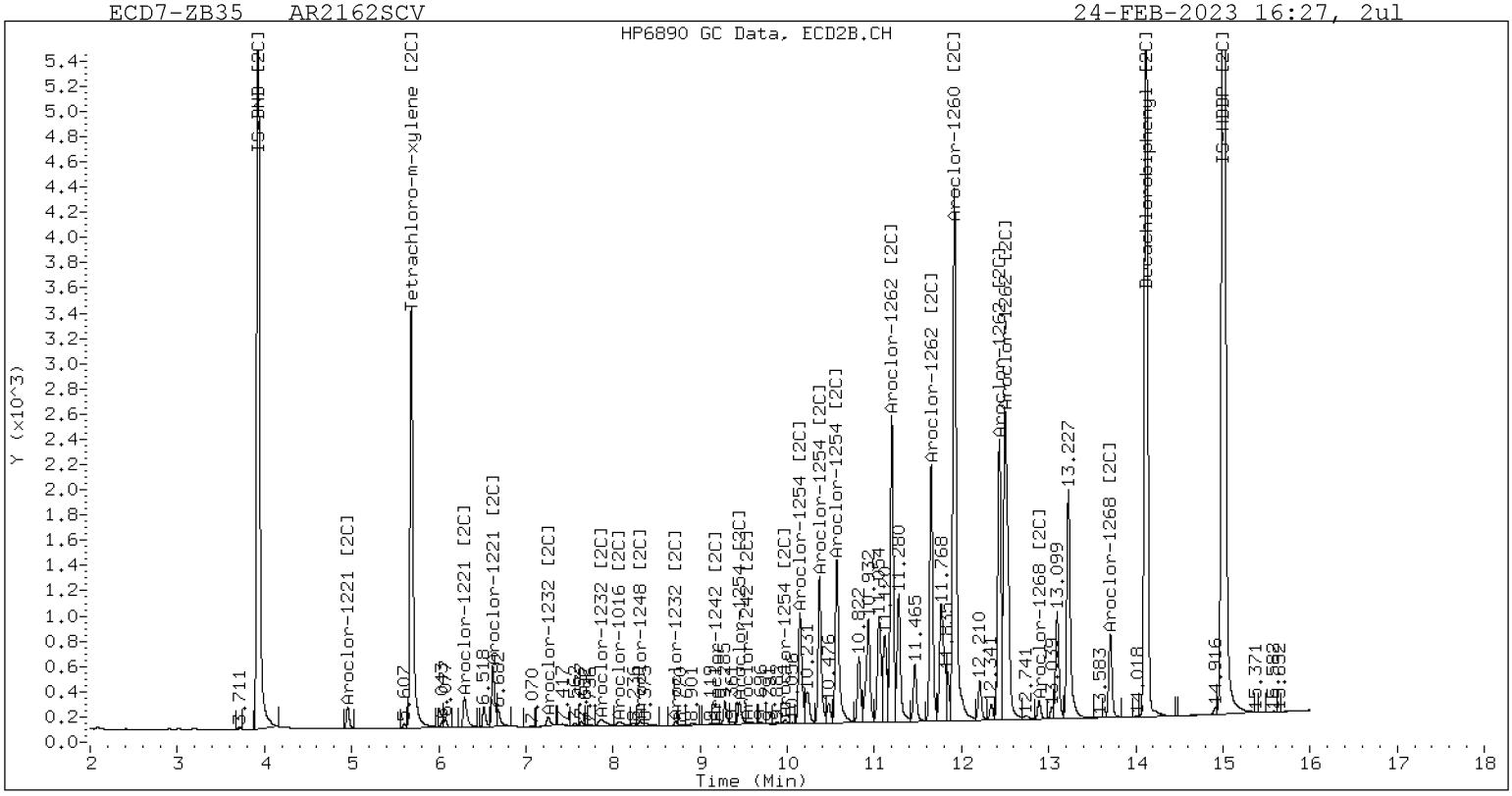
PCB Dual Column Chromatograms

ECD7-ZB5 AR2162SCV 24-FEB-2023 16:27, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR2162SCV 24-FEB-2023 16:27, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242318ECD7.D
Data file 2: /230224.b/230224.b/02242318ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR3268SCV
Client ID:
Injection Date: 24-FEB-2023 16:48
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.806	0.000	363331	5.685	0.000	176204	37.1	38.2	2.9	Tetrachloro-m-xylene
13.894	0.001	800845	14.118	-0.001	488290	51.3	56.4	9.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	656592	-2.6
Hexabromobiphenyl	1429847	1584453	10.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	314741	-0.2
Hexabromobiphenyl	513946	568346	10.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	7.270	-0.001	28327	113.6	1	7.254	-0.001	20651	112.1
Aroclor-1016	2	7.657	0.003	80668	106.1	2	7.861	0.005	41326	110.6
Aroclor-1016	3	7.793	0.003	40661	109.6	3	8.060	0.005	20446	121.2
Aroclor-1016	4	8.407	0.002	24680	102.9	4	8.308	0.001	13576	102.5
Total Col1Ave (4 peaks):					108.0	Total Col2Ave (4 peaks):				111.6 RPD = 3
Corrected Ave (3 peaks):					106.2	Corrected Ave (3 peaks):				108.4 RPD = 2
Aroclor-1221	1	4.729	-0.001	8535	145.1	1	4.956	-0.000	3965	133.1
Aroclor-1221	2	6.132	-0.000	15523	147.6	2	6.297	0.001	8689	154.1
Aroclor-1221	3	6.382	-0.000	45872	187.9	3	6.622	0.001	22272	242.6
Total Col1Ave (3 peaks):					160.2	Total Col2Ave (3 peaks):				176.6 RPD = 10
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.729	-0.001	8535	242.6	1	4.956	0.000	3965	246.2
Aroclor-1232	2	6.132	0.001	15523	222.5	2	7.254	0.000	20651	258.1
Aroclor-1232	3	7.657	0.001	80668	255.4	3	7.861	0.001	41326	258.3
Aroclor-1232	4	8.582	0.001	34784	259.2	4	8.714	-0.001	12504	271.5
Total Col1Ave (4 peaks):					244.9	Total Col2Ave (4 peaks):				258.5 RPD = 5
Corrected Ave (3 peaks):					240.2	Corrected Ave (3 peaks):				254.2 RPD = 6
Aroclor-1242	1	7.270	-0.001	28327	139.2	1	7.254	-0.001	20651	141.2
Aroclor-1242	2	7.657	0.001	80668	130.5	2	7.861	0.003	41326	134.4
Aroclor-1242	3	8.407	0.001	24680	128.4	3	9.170	0.003	12830	134.1
Aroclor-1242	4	8.582	0.003	34784	122.4	4	9.600	0.003	14836	127.3
Total Col1Ave (4 peaks):					130.1	Total Col2Ave (4 peaks):				134.3 RPD = 3
Corrected Ave (3 peaks):					127.1	Corrected Ave (3 peaks):				132.0 RPD = 4
Aroclor-1248	1	8.407	0.001	24680	77.0	1	8.308	0.000	13576	90.3
Aroclor-1248	2	8.582	0.001	34784	85.4	2	8.714	-0.000	12504	80.5
Aroclor-1248	3	8.996	-0.003	83592	108.8	3	9.170	0.004	12830	71.8
Aroclor-1248	4	9.292	-0.003	39603	101.3	4	9.600	0.010	14836	69.1
Total Col1Ave (4 peaks):					93.1	Total Col2Ave (4 peaks):				77.9 RPD = 18
Corrected Ave (3 peaks):					87.9	Corrected Ave (3 peaks):				73.8 RPD = 17
Aroclor-1254	1	9.292	-0.007	39603	60.1	1	9.452	0.003	4590	19.2
Aroclor-1254	2	9.377	-0.000	11450	38.6	2	9.973	0.003	2892	15.0
Aroclor-1254	3	9.674	0.005	6387	15.1	3	10.131	0.007	6052	14.5
Aroclor-1254	4	9.813	0.006	10162	12.3	4	10.390	0.017	5324	13.1
Aroclor-1254	5	10.189	0.012	6862	13.3	5	10.572	0.004	1891	7.7
Total Col1Ave (5 peaks):					27.9	Total Col2Ave (5 peaks):				13.9 RPD = 67*
Corrected Ave (4 peaks):					19.8	Corrected Ave (4 peaks):				12.6 RPD = 45*
Aroclor-1260	1	11.046	0.002	87033	152.7	1	11.645	-0.008	62543	187.1
Aroclor-1260	2	11.362	0.001	6300	10.6	2	11.920	0.003	28552	33.5
Aroclor-1260	3	11.738	0.004	54524	34.5	3	12.432	-0.004	285450	1261.2
Aroclor-1260	4	12.144	0.005	1727	2.2	4	12.499	-0.002	306992	534.0
Aroclor-1260	5	12.246	0.002	502931	1469.0	NS	---			----
Total Col1Ave (5 peaks):					333.8	Total Col2Ave (4 peaks):				503.9 RPD = 41*
Corrected Ave (4 peaks):					50.0	Corrected Ave (3 peaks):				251.5 RPD = 134*
Aroclor-1262	1	10.832	0.004	3395	7.0	1	11.201	0.001	44255	91.2
Aroclor-1262	2	12.246	0.002	502931	635.9	2	11.645	-0.007	62543	151.3
Aroclor-1262	3	12.318	-0.000	497006	584.5	3	12.432	-0.002	285450	608.7
Aroclor-1262	4	12.987	-0.000	202197	260.2	4	12.499	-0.003	306992	417.9
Total Col1Ave (4 peaks):					371.9	Total Col2Ave (4 peaks):				317.3 RPD = 16
Corrected Ave (3 peaks):					283.9	Corrected Ave (3 peaks):				220.1 RPD = 25
Aroclor-1268	1	12.246	-0.001	502931	247.7	1	12.432	-0.000	285450	249.4
Aroclor-1268	2	12.318	0.002	497006	247.2	2	12.499	-0.001	306992	249.5
Aroclor-1268	3	12.699	-0.000	422793	245.8	3	12.892	0.000	260893	248.4
Aroclor-1268	4	13.490	0.000	1386953	244.9	4	13.709	-0.000	829733	247.1
Total Col1Ave (4 peaks):					246.4	Total Col2Ave (4 peaks):				248.6 RPD = 1

Corrected Ave (3 peaks): 246.0 Corrected Ave (3 peaks): 248.3 RPD = 1

Total PCB Area Col1 (5.906 - 13.793) = 4180607 Col1 Total PCB = 0.5 ppm*

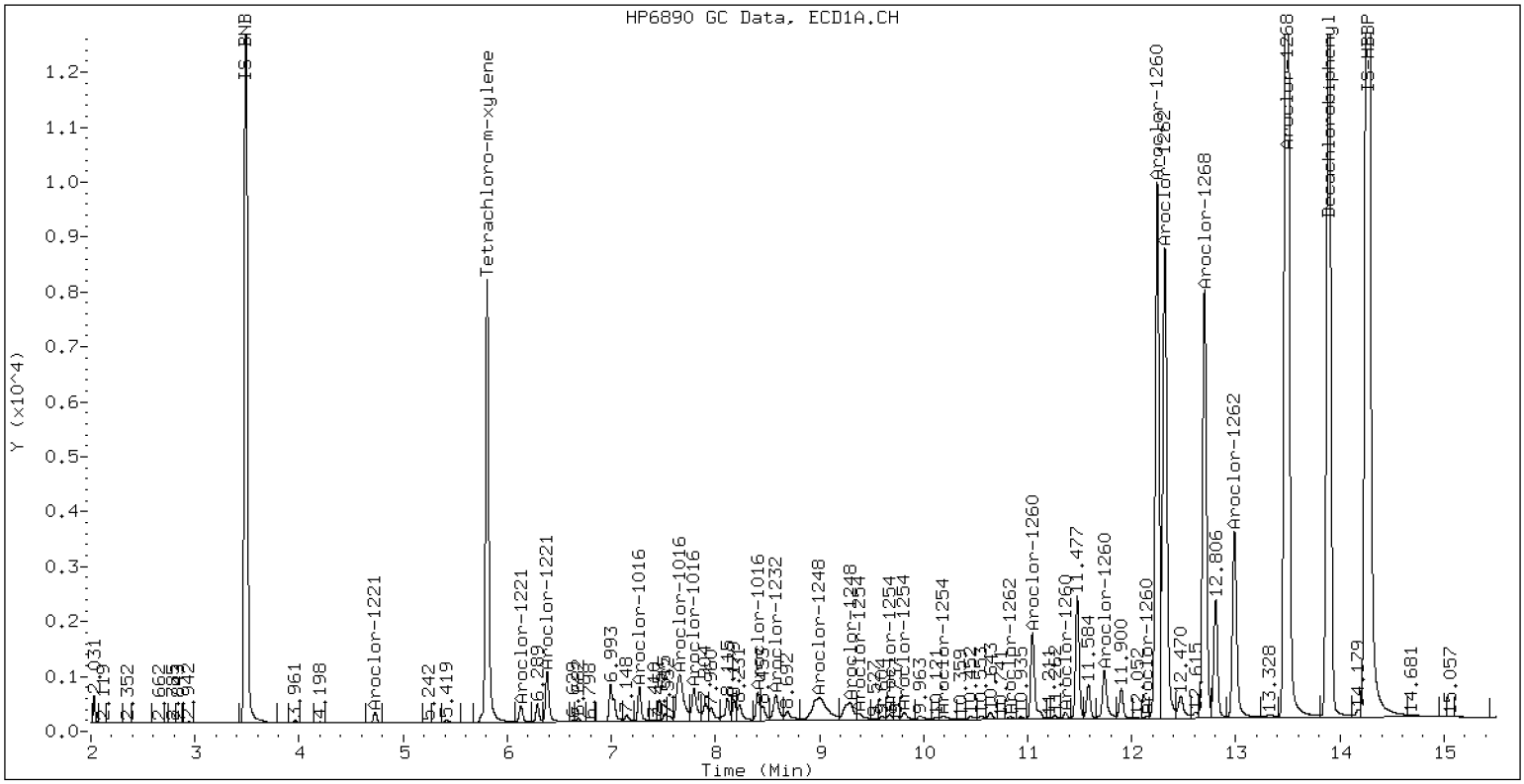
Total PCB Area Col2 (5.785 - 14.019) = 2376912 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

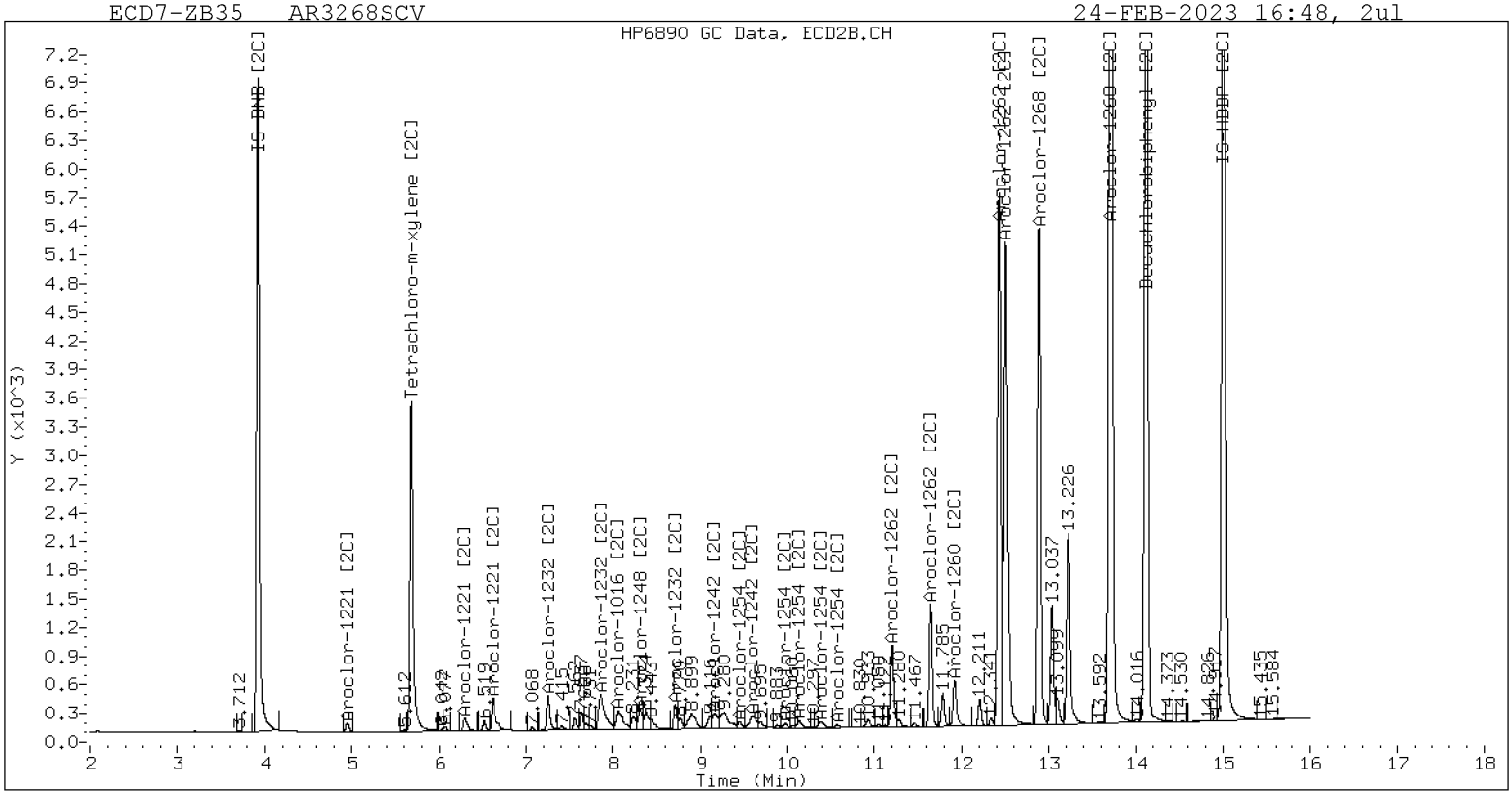
PCB Dual Column Chromatograms

ECD7-ZB5 AR3268SCV 24-FEB-2023 16:48, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR3268SCV 24-FEB-2023 16:48, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
8082 DDT SCREEN REPORT

Data file 1: /230224.b/02242319ECD7.D ARI ID: DDTS

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
9.261	0.000	694353	9.912	0.000	580269	0.100	0.100	0.0	2,4-DDE
0.000	-10.293	0	10.672	0.000	673479	0.000	0.200#	----	2,4-DDT
9.686	0.000	1191406	10.212	0.000	433373	0.100	0.100	0.0	4,4-DDE
10.259	0.000	1721760	10.672	0.000	673479	0.100	0.200#	66.7*	4,4-DDD

# Indicates value is from co-eluting peaks
* Indicates RPD > 40%

Analytical Resources Inc.
8082 DDT SCREEN REPORT

Data file 1: /230224.b/02242320ECD7.D ARI ID: DDT BD

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
9.285	0.023	4923	9.921	0.009	9972	0.001	0.002	84.3*	2,4-DDE
0.000	-10.293	0	10.677	0.004	249094	0.000	0.074#	----	2,4-DDT
9.692	0.006	12128	10.221	0.009	528	0.001	0.000	156.7*	4,4-DDE
10.265	0.006	410017	10.677	0.004	249094	0.023	0.074#	103.6*	4,4-DDD

# Indicates value is from co-eluting peaks
* Indicates RPD > 40%

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GB00069
Laboratory ID: SLB0342-SCV1
Sequence: SLB0342
Sequence Name: AR1660SCV1
Standard ID: L002065

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1016	250.00	243	-2.7	20.00
Aroclor 1016 [2C]	250.00	246	-1.4	20.00
Aroclor 1260	250.00	266	6.2	20.00
Aroclor 1260 [2C]	250.00	261	4.5	20.00
Decachlorobiphenyl	40.000	34.3	-14.2	20.00
Tetrachlorometaxylene	40.000	34.9	-12.6	20.00
Decachlorobiphenyl [2C]	40.000	37.3	-6.6	20.00
Tetrachlorometaxylene [2C]	40.000	35.8	-10.6	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GB00069
Laboratory ID: SLB0342-SCV2
Sequence: SLB0342
Sequence Name: AR1242SCV2
Standard ID: K007656

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1242	250.00	204	-18.5	20.00
Aroclor 1242 [2C]	250.00	221	-11.8	20.00
Decachlorobiphenyl	40.000	37.0	-7.5	20.00
Tetrachlorometaxylene	40.000	33.6	-15.9	20.00
Decachlorobiphenyl [2C]	40.000	40.3	0.8	20.00
Tetrachlorometaxylene [2C]	40.000	34.5	-13.7	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GB00069
Laboratory ID: SLB0342-SCV3
Sequence: SLB0342
Sequence Name: AR1248SCV3
Standard ID: L002066

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1248	250.00	249	-0.2	20.00
Aroclor 1248 [2C]	250.00	248	-0.8	20.00
Decachlorobiphenyl	40.000	33.1	-17.2	20.00
Tetrachlorometaxylene	40.000	34.9	-12.8	20.00
Decachlorobiphenyl [2C]	40.000	36.3	-9.2	20.00
Tetrachlorometaxylene [2C]	40.000	36.4	-9.0	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GB00069
Laboratory ID: SLB0342-SCV4
Sequence: SLB0342
Sequence Name: AR1254SCV4
Standard ID: L002067

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1254	250.00	235	-5.9	20.00
Aroclor 1254 [2C]	250.00	240	-4.0	20.00
Decachlorobiphenyl	40.000	34.6	-13.4	20.00
Tetrachlorometaxylene	40.000	36.1	-9.7	20.00
Decachlorobiphenyl [2C]	40.000	37.9	-5.2	20.00
Tetrachlorometaxylene [2C]	40.000	37.1	-7.3	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GB00069
Laboratory ID: SLB0342-SCV5
Sequence: SLB0342
Sequence Name: AR2162SCV5
Standard ID: L002068

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1221	250.00	258	3.3	20.00
Aroclor 1221 [2C]	250.00	256	2.5	20.00
Aroclor 1262	250.00	247	-1.2	20.00
Aroclor 1262 [2C]	250.00	249	-0.3	20.00
Decachlorobiphenyl	40.000	34.4	-13.9	20.00
Tetrachlorometaxylene	40.000	36.0	-10.0	20.00
Decachlorobiphenyl [2C]	40.000	37.9	-5.4	20.00
Tetrachlorometaxylene [2C]	40.000	36.6	-8.4	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GB00069
Laboratory ID: SLB0342-SCV6
Sequence: SLB0342
Sequence Name: AR3268SCV6
Standard ID: L002069

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1232	250.00	245	-2.0	20.00
Aroclor 1232 [2C]	250.00	259	3.4	20.00
Aroclor 1268	250.00	246	-1.4	20.00
Aroclor 1268 [2C]	250.00	249	-0.6	20.00
Decachlorobiphenyl	40.000	51.3	28.3	20.00
Tetrachlorometaxylene	40.000	37.1	-7.3	20.00
Decachlorobiphenyl [2C]	40.000	56.4	41.0	20.00
Tetrachlorometaxylene [2C]	40.000	38.2	-4.6	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources, LLC
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	02242313ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLB0342	Injection Date:	02/24/23
Lab Sample ID:	SLB0342-SCV1	Injection Time:	15:03
Sequence Name:	AR1660SCV1		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	243	0.0493662	0.0479314		-2.7	+/-20
Aroclor 1016 [2C]	A	250.00	246	0.0545857	0.0542382		-1.4	+/-20
Aroclor 1260	A	250.00	266	0.0392091	0.0412121		6.2	+/-20
Aroclor 1260 [2C]	A	250.00	261	0.0699688	0.0733659		4.5	+/-20
Decachlorobiphenyl	A	40.000	34.3	0.7878687	0.6762784		-14.2	+/-20
Tetrachlorometaxylene	A	40.000	34.9	1.1944880	1.0436010		-12.6	+/-20
Decachlorobiphenyl [2C]	A	40.000	37.3	1.2182710	1.1373730		-6.6	+/-20
Tetrachlorometaxylene [2C]	A	40.000	35.8	1.1737210	1.0492890		-10.6	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	02242314ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLB0342	Injection Date:	02/24/23
Lab Sample ID:	SLB0342-SCV2	Injection Time:	15:24
Sequence Name:	AR1242SCV2		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1242	A	250.00	204	0.0395340	0.0322254		-18.5	+/-20
Aroclor 1242 [2C]	A	250.00	221	0.0423092	0.0365983		-11.8	+/-20
Decachlorobiphenyl	A	40.000	37.0	0.7878687	0.7290534		-7.5	+/-20
Tetrachlorometaxylene	A	40.000	33.6	1.1944880	1.0041320		-15.9	+/-20
Decachlorobiphenyl [2C]	A	40.000	40.3	1.2182710	1.2285170		0.8	+/-20
Tetrachlorometaxylene [2C]	A	40.000	34.5	1.1737210	1.0131510		-13.7	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	02242315ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLB0342	Injection Date:	02/24/23
Lab Sample ID:	SLB0342-SCV3	Injection Time:	15:45
Sequence Name:	AR1248SCV3		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1248	A	250.00	249	0.0574755	0.0572474		-0.2	+/-20
Aroclor 1248 [2C]	A	250.00	248	0.0444270	0.0440936		-0.8	+/-20
Decachlorobiphenyl	A	40.000	33.1	0.7878687	0.6527336		-17.2	+/-20
Tetrachlorometaxylene	A	40.000	34.9	1.1944880	1.0413820		-12.8	+/-20
Decachlorobiphenyl [2C]	A	40.000	36.3	1.2182710	1.1066400		-9.2	+/-20
Tetrachlorometaxylene [2C]	A	40.000	36.4	1.1737210	1.0676190		-9.0	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	02242316ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLB0342	Injection Date:	02/24/23
Lab Sample ID:	SLB0342-SCV4	Injection Time:	16:06
Sequence Name:	AR1254SCV4		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1254	A	250.00	235	0.0662949	0.0622529		-5.9	+/-20
Aroclor 1254 [2C]	A	250.00	240	0.0763106	0.0731447		-4.0	+/-20
Decachlorobiphenyl	A	40.000	34.6	0.7878687	0.6823832		-13.4	+/-20
Tetrachlorometaxylene	A	40.000	36.1	1.1944880	1.0787610		-9.7	+/-20
Decachlorobiphenyl [2C]	A	40.000	37.9	1.2182710	1.1548440		-5.2	+/-20
Tetrachlorometaxylene [2C]	A	40.000	37.1	1.1737210	1.0880920		-7.3	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	02242317ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLB0342	Injection Date:	02/24/23
Lab Sample ID:	SLB0342-SCV5	Injection Time:	16:27
Sequence Name:	AR2162SCV5		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1221	A	250.00	258	0.0165758	0.0169561		3.3	+/-20
Aroclor 1221 [2C]	A	250.00	256	0.0150798	0.0153801		2.5	+/-20
Aroclor 1262	A	250.00	247	0.0366596	0.0361658		-1.2	+/-20
Aroclor 1262 [2C]	A	250.00	249	0.0739760	0.0737876		-0.3	+/-20
Decachlorobiphenyl	A	40.000	34.4	0.7878687	0.6780614		-13.9	+/-20
Tetrachlorometaxylene	A	40.000	36.0	1.1944880	1.0756080		-10.0	+/-20
Decachlorobiphenyl [2C]	A	40.000	37.9	1.2182710	1.1528740		-5.4	+/-20
Tetrachlorometaxylene [2C]	A	40.000	36.6	1.1737210	1.0753820		-8.4	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	02242318ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLB0342	Injection Date:	02/24/23
Lab Sample ID:	SLB0342-SCV6	Injection Time:	16:48
Sequence Name:	AR3268SCV6		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1232	A	250.00	245	0.0169039	0.0169981		-2.0	+/-20
Aroclor 1232 [2C]	A	250.00	259	0.0192023	0.0199392		3.4	+/-20
Aroclor 1268	A	250.00	246	0.1442124	0.1418626		-1.4	+/-20
Aroclor 1268 [2C]	A	250.00	249	0.2386862	0.2369075		-0.6	+/-20
Decachlorobiphenyl	A	40.000	51.3	0.7878687	1.0108790		28.3	+/-20
Tetrachlorometaxylene	A	40.000	37.1	1.1944880	1.1067180		-7.3	+/-20
Decachlorobiphenyl [2C]	A	40.000	56.4	1.2182710	1.7182840		41.0	+/-20
Tetrachlorometaxylene [2C]	A	40.000	38.2	1.1737210	1.1196760		-4.6	+/-20

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	03012323ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLC0019	Injection Date:	03/01/23
Lab Sample ID:	SLC0019-CCV5	Injection Time:	18:35
Sequence Name:	AR1254CCV5		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1254	A	250.00	258	0.0662949	0.0679392		3.0	+/-20
Aroclor-1254 (1)	A	250.00	251		0.0805986			
Aroclor-1254 (2)	A	250.00	261		0.0377498			
Aroclor-1254 (3)	A	250.00	259		0.0535614			
Aroclor-1254 (4)	A	250.00	250		0.1006487			
Aroclor-1254 (5)	A	250.00	267		0.0671374			
Aroclor 1254 [2C]	A	250.00	253	0.0763106	0.0771783		1.3	+/-20
Aroclor-1254 (1) [2C]	A	250.00	253		0.0614929			
Aroclor-1254 (2) [2C]	A	250.00	256		0.0501295			
Aroclor-1254 (3) [2C]	A	250.00	255		0.1079735			
Aroclor-1254 (4) [2C]	A	250.00	248		0.1024220			
Aroclor-1254 (5) [2C]	A	250.00	254		0.0638738			
Decachlorobiphenyl	A	40.000	38.4	0.7878687	0.7561495		-4.0	+/-20
Tetrachlorometaxylene	A	40.000	37.1	1.1944880	1.1086700		-7.3	+/-20
Decachlorobiphenyl [2C]	A	40.000	39.5	1.2182710	1.2026790		-1.3	+/-20
Tetrachlorometaxylene [2C]	A	40.000	39.7	1.1737210	1.1654150		-0.8	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012323ECD7.D
Data file 2: /230301.b/230301.b/03012323ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254CCV5
Client ID:
Injection Date: 01-MAR-2023 18:35
Report Date: 03/02/2023 12:59
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.808	0.000	432150	5.686	-0.000	179732	37.1	39.7	6.7	Tetrachloro-m-xylene
13.895	-0.000	640318	14.119	0.000	308311	38.4	39.5	2.8	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	779583	15.7
Hexabromobiphenyl	1429847	1693628	18.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	308443	-2.2
Hexabromobiphenyl	513946	512707	-0.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1254	1	9.299	-0.002	196354	250.8	1	9.451	-0.000	59272	252.8
Aroclor-1254	2	9.379	-0.001	91966	261.2	2	9.972	0.001	48319	256.2
Aroclor-1254	3	9.670	-0.001	130486	259.3	3	10.127	0.002	104074	255.0
Aroclor-1254	4	9.809	-0.001	245200	250.6	4	10.375	0.001	98723	248.2
Aroclor-1254	5	10.177	-0.000	163560	266.7	5	10.571	0.001	61567	254.2

Total Col1Ave (5 peaks): 257.7 Total Col2Ave (5 peaks): 253.3 RPD = 2

Corrected Ave (4 peaks): 255.5 Corrected Ave (4 peaks): 252.6 RPD = 1

CalAmt %D: 3.1 CalAmt %D: 1.3

Total PCB Area Col1 (5.908 - 13.795) = 2880373 Col1 Total PCB = 0.3 ppm*

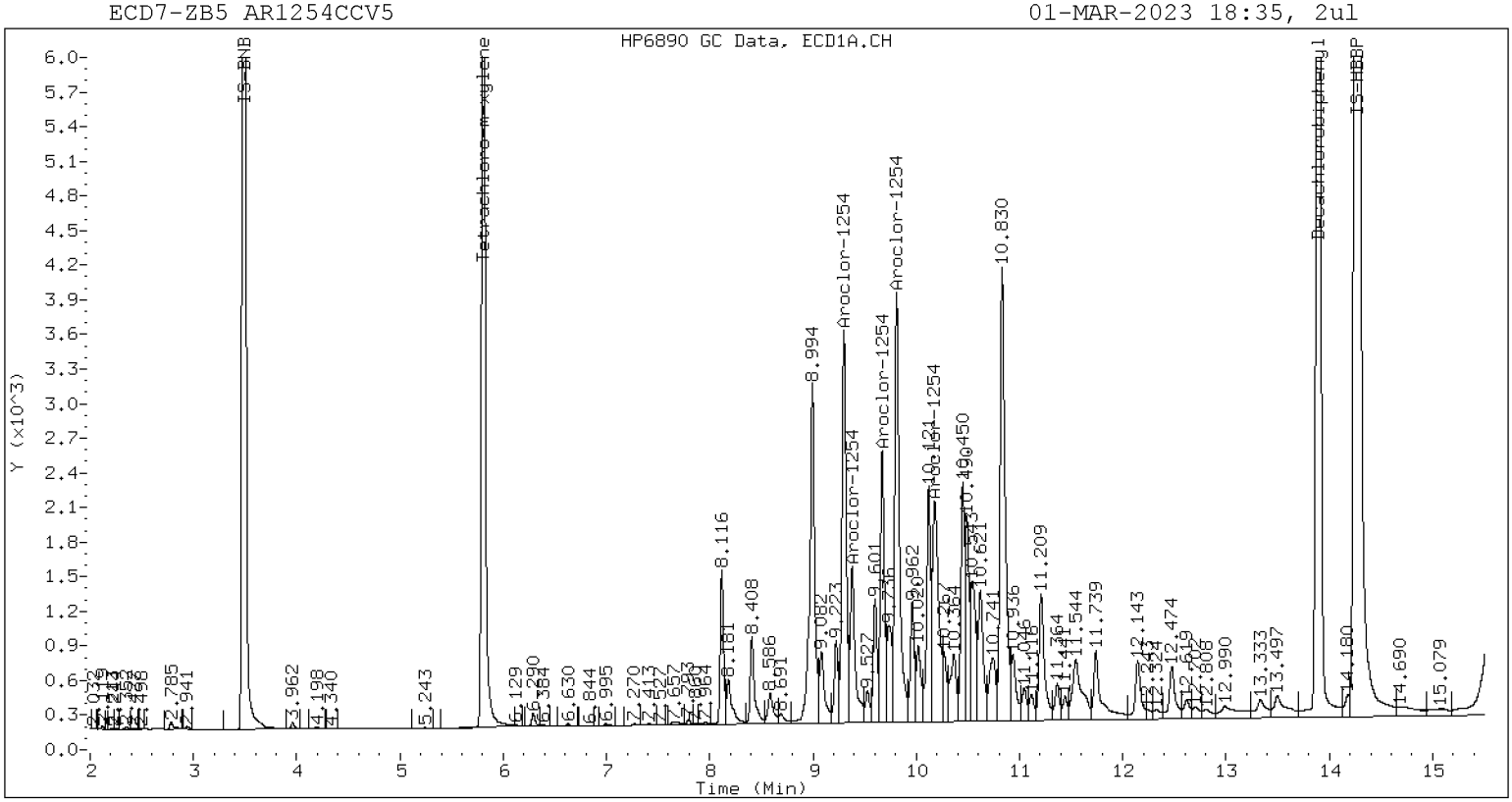
Total PCB Area Col2 (5.787 - 14.019) = 1021931 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

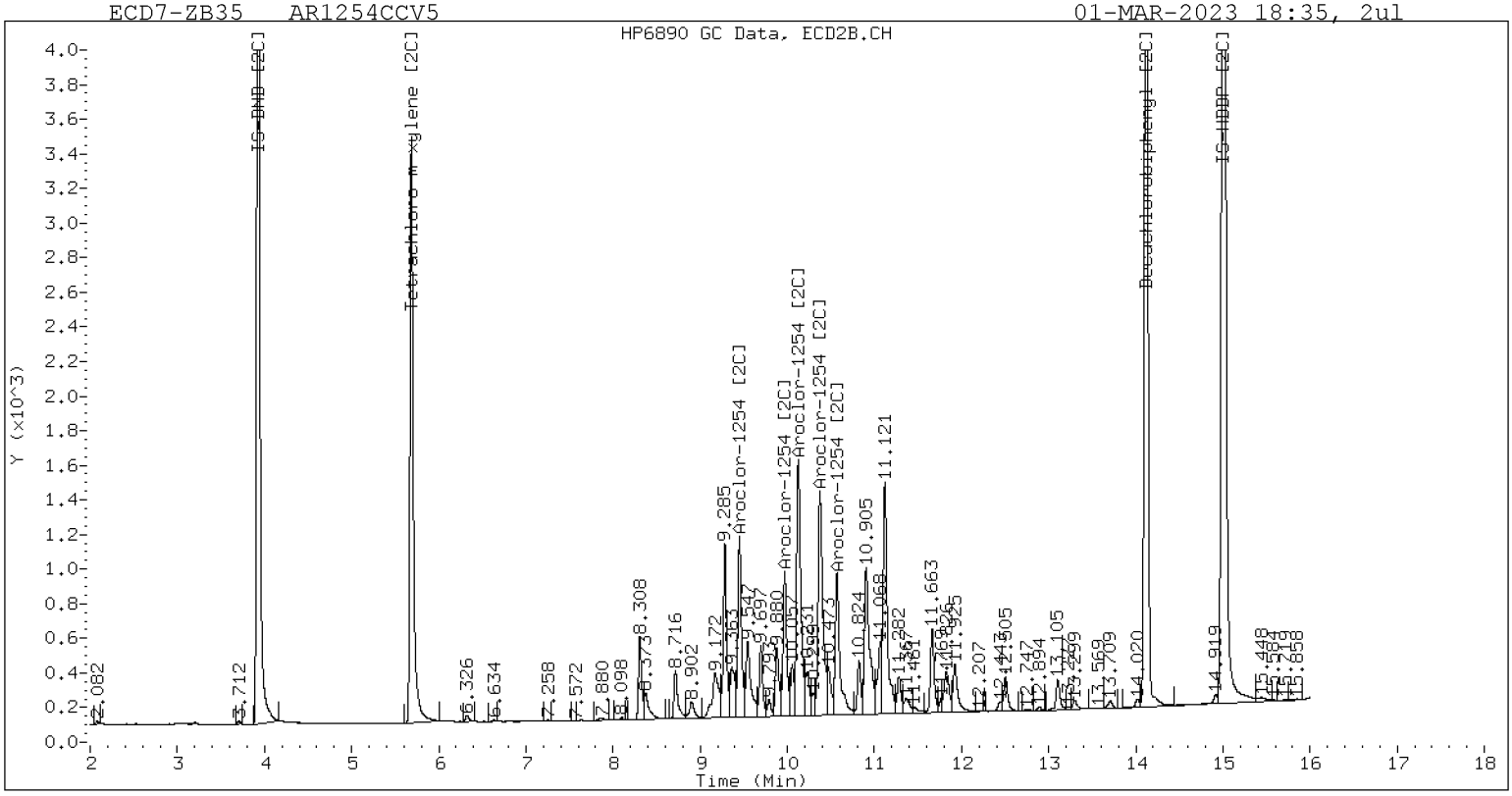
PCB Dual Column Chromatograms

ECD7-ZB5 AR1254CCV5 01-MAR-2023 18:35, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1254CCV5 01-MAR-2023 18:35, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	03012324ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLC0019	Injection Date:	03/01/23
Lab Sample ID:	SLC0019-CCV6	Injection Time:	18:56
Sequence Name:	AR1660CCV6		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	266	0.0493662	0.0525998		6.3	+/-20
Aroclor-1016 (1)	A	250.00	260	0.0303852	0.0315962		4.0	
Aroclor-1016 (2)	A	250.00	267	0.0926308	0.0990984		6.8	
Aroclor-1016 (3)	A	250.00	268	0.0452180	0.0484186		7.2	
Aroclor-1016 (4)	A	250.00	268	0.0292307	0.0312861		7.2	
Aroclor 1016 [2C]	A	250.00	263	0.0545857	0.0580251		5.1	+/-20
Aroclor-1016 (1) [2C]	A	250.00	253	0.0468313	0.0474501		1.2	
Aroclor-1016 (2) [2C]	A	250.00	277	0.0949676	0.1052670		10.8	
Aroclor-1016 (3) [2C]	A	250.00	253	0.0428922	0.0433507		1.2	
Aroclor-1016 (4) [2C]	A	250.00	268	0.0336515	0.0360326		7.2	
Aroclor 1260	A	250.00	282	0.0392091	0.0440931		12.8	+/-20
Aroclor-1260 (1)	A	250.00	268	0.0287785	0.0308377		7.2	
Aroclor-1260 (2)	A	250.00	288	0.0300690	0.0345921		15.2	
Aroclor-1260 (3)	A	250.00	278	0.0797517	0.0888380		11.2	
Aroclor-1260 (4)	A	250.00	288	0.0401599	0.0463041		15.2	
Aroclor-1260 (5)	A	250.00	288	0.0172866	0.0198938		15.2	
Aroclor 1260 [2C]	A	250.00	228	0.0699688	0.0653988		-8.9	+/-20
Aroclor-1260 (1) [2C]	A	250.00	208	0.0470406	0.0391463		-16.8	
Aroclor-1260 (2) [2C]	A	250.00	246	0.1200523	0.1179322		-1.6	
Aroclor-1260 (3) [2C]	A	250.00	222	0.0318590	0.0283041		-11.2	
Aroclor-1260 (4) [2C]	A	250.00	235	0.0809231	0.0762127		-6.0	
Decachlorobiphenyl	A	40.000	40.3	0.7878687	0.7940937		0.8	+/-20
Tetrachlorometaxylene	A	40.000	39.8	1.1944880	1.1889480		-0.5	+/-20
Decachlorobiphenyl [2C]	A	40.000	38.5	1.2182710	1.1715120		-3.8	+/-20
Tetrachlorometaxylene [2C]	A	40.000	42.5	1.1737210	1.2467340		6.3	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012324ECD7.D
Data file 2: /230301.b/230301.b/03012324ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660CCV6
Client ID:
Injection Date: 01-MAR-2023 18:56
Report Date: 03/02/2023 12:59
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.808	0.000	466816	5.686	-0.000	192305	39.8	42.5	6.5	Tetrachloro-m-xylene
13.893	-0.001	672248	14.119	0.000	292533	40.3	38.5	4.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	785259	16.5
Hexabromobiphenyl	1429847	1693120	18.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	308494	-2.1
Hexabromobiphenyl	513946	499411	-2.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.269	-0.000	77535	260.0	1	7.254	0.000	45744	253.3
Aroclor-1016	2	7.655	-0.001	243181	267.5	2	7.859	0.002	101482	277.1
Aroclor-1016	3	7.792	-0.000	118816	267.7	3	8.058	0.001	41792	252.7
Aroclor-1016	4	8.406	-0.000	76774	267.6	4	8.307	0.001	34737	267.7
Total Col1Ave (4 peaks):					265.7	Total Col2Ave (4 peaks):				262.7 RPD = 1
Corrected Ave (3 peaks):					265.0	Corrected Ave (3 peaks):				257.9 RPD = 3
CalAmt %D:					6.3	CalAmt %D:				5.1
Aroclor-1260	1	11.045	-0.001	163162	267.9	1	11.654	0.002	61094	208.0
Aroclor-1260	2	11.362	0.000	183027	287.6	2	11.919	0.002	184052	245.6
Aroclor-1260	3	11.736	0.000	470042	278.5	3	12.437	0.001	44173	222.1
Aroclor-1260	4	12.139	-0.001	244995	288.2	4	12.502	0.001	118942	235.4
Aroclor-1260	5	12.244	-0.000	105258	287.7	NS	---			----
Total Col1Ave (5 peaks):					282.0	Total Col2Ave (4 peaks):				227.8 RPD = 21
Corrected Ave (4 peaks):					280.4	Corrected Ave (3 peaks):				221.9 RPD = 23
CalAmt %D:					12.8	CalAmt %D:				-8.9

Total PCB Area Col1 (5.908 - 13.795) = 5039806 Col1 Total PCB = 0.5 ppm*

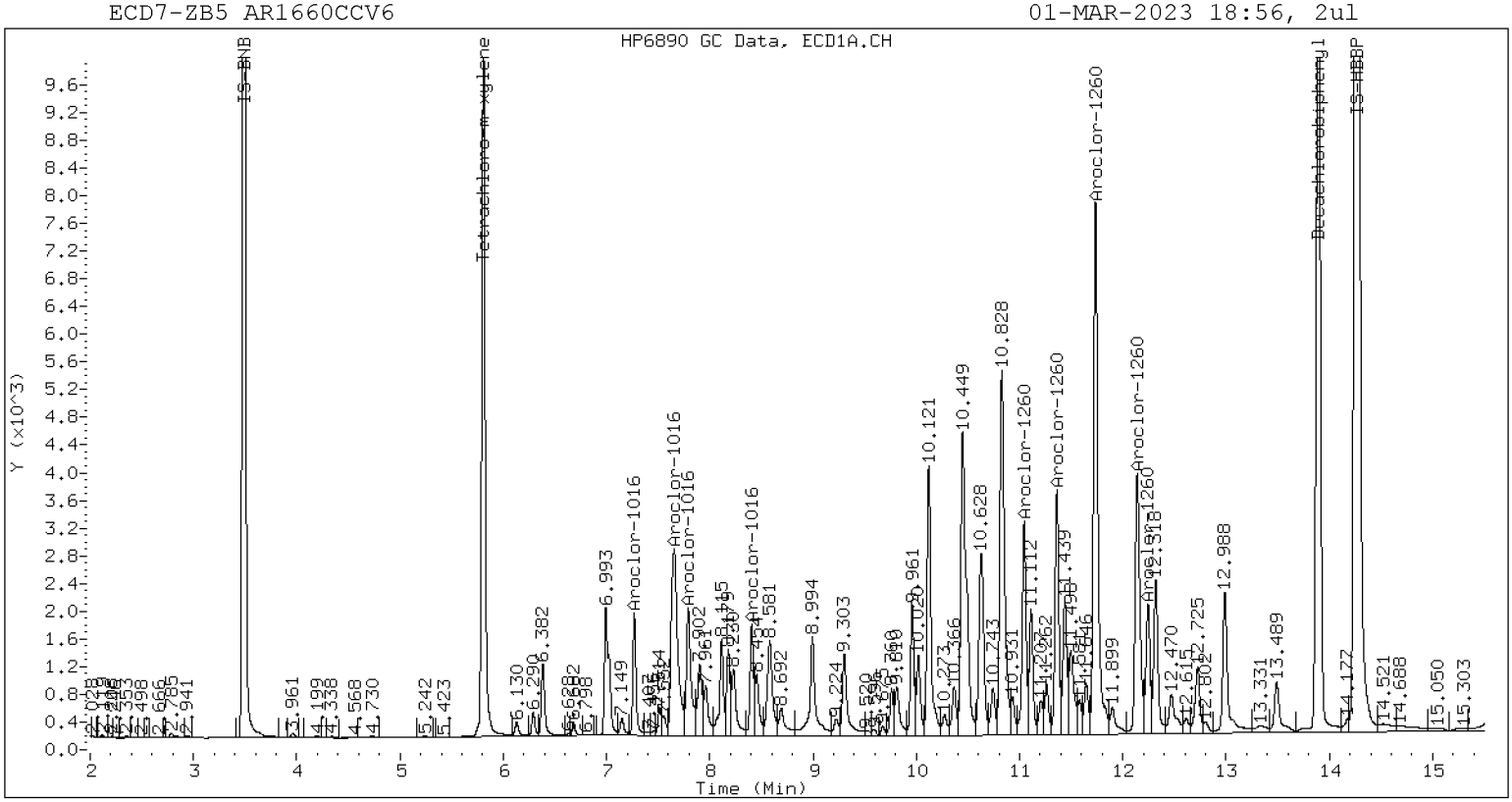
Total PCB Area Col2 (5.787 - 14.019) = 1723494 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

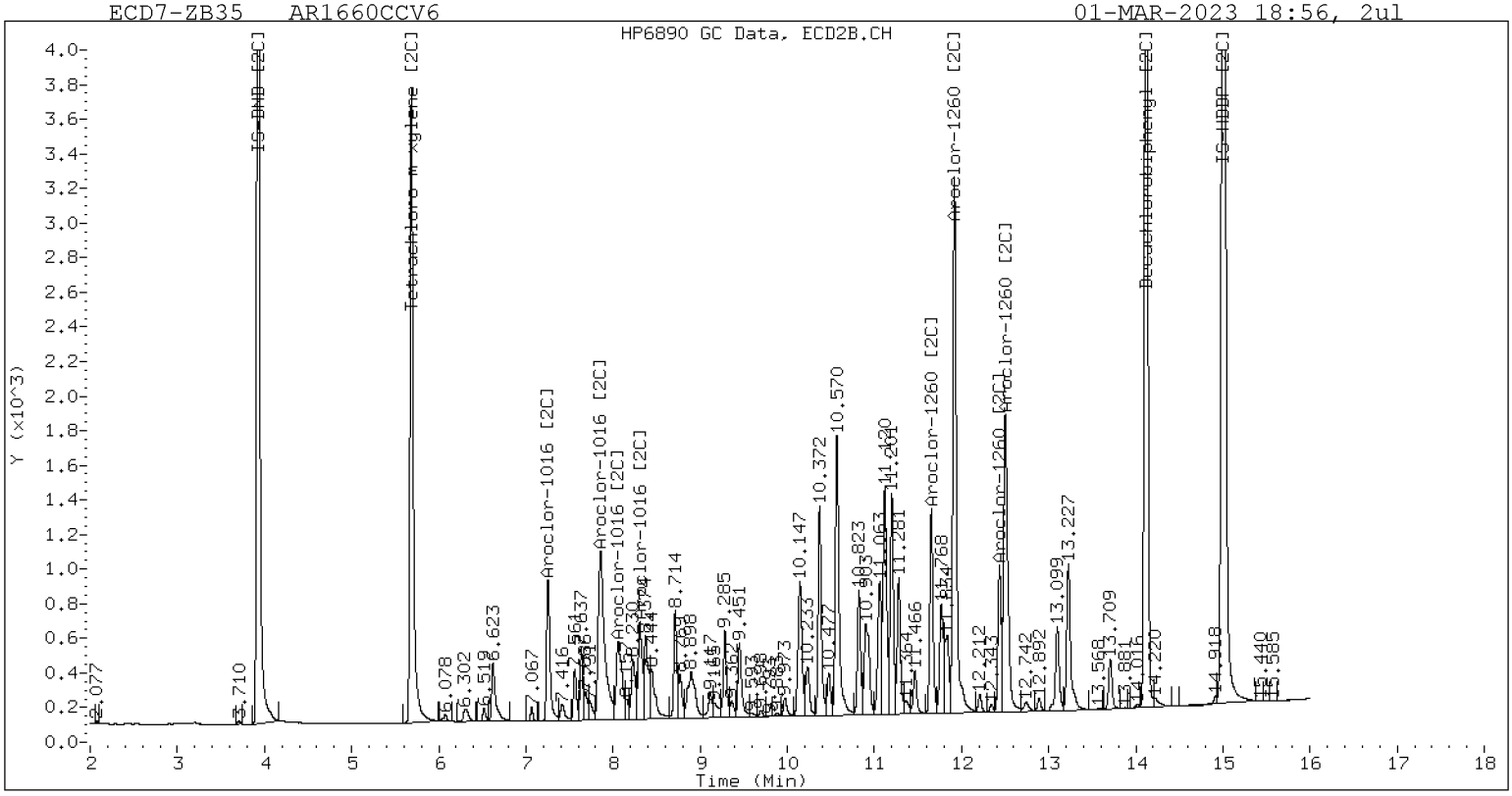
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660CCV6 01-MAR-2023 18:56, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660CCV6 01-MAR-2023 18:56, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	03012343ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLC0019	Injection Date:	03/02/23
Lab Sample ID:	SLC0019-CCV7	Injection Time:	01:35
Sequence Name:	AR1248CCV7		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1248	A	250.00	253	0.0574755	0.0586164		1.2	+/-20
Aroclor-1248 (1)	A	250.00	249		0.0388859			
Aroclor-1248 (2)	A	250.00	250		0.0496873			
Aroclor-1248 (3)	A	250.00	261		0.0978801			
Aroclor-1248 (4)	A	250.00	252		0.0480122			
Aroclor 1248 [2C]	A	250.00	247	0.0444270	0.0437496		-1.4	+/-20
Aroclor-1248 (1) [2C]	A	250.00	250		0.0381231			
Aroclor-1248 (2) [2C]	A	250.00	245		0.0386712			
Aroclor-1248 (3) [2C]	A	250.00	248		0.0451433			
Aroclor-1248 (4) [2C]	A	250.00	243		0.0530606			
Decachlorobiphenyl	A	40.000	37.4	0.7878687	0.7375926		-6.5	+/-20
Tetrachlorometaxylene	A	40.000	37.0	1.1944880	1.1035910		-7.5	+/-20
Decachlorobiphenyl [2C]	A	40.000	40.0	1.2182710	1.2179630		0.0	+/-20
Tetrachlorometaxylene [2C]	A	40.000	39.4	1.1737210	1.1566890		-1.5	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012343ECD7.D
Data file 2: /230301.b/230301.b/03012343ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248CCV7
Client ID:
Injection Date: 02-MAR-2023 01:35
Report Date: 03/02/2023 13:00
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.809	0.001	445583	5.688	0.001	181322	37.0	39.4	6.5	Tetrachloro-m-xylene
13.895	0.000	489961	14.119	-0.000	269651	37.4	40.0	6.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	807515	19.8
Hexabromobiphenyl	1429847	1328541	-7.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	313519	-0.6
Hexabromobiphenyl	513946	442790	-13.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col					ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1248	1	8.407	-0.000	98128	249.1	1	8.309	0.000	37351	249.5
Aroclor-1248	2	8.581	-0.001	125385	250.4	2	8.716	0.000	37888	244.8
Aroclor-1248	3	8.998	-0.002	246999	261.4	3	9.166	0.000	44229	248.3
Aroclor-1248	4	9.295	-0.001	121158	251.9	4	9.594	0.000	51986	243.1
Total Col1Ave (4 peaks):					253.2	Total Col2Ave (4 peaks):				246.4 RPD = 3
Corrected Ave (3 peaks):					250.4	Corrected Ave (3 peaks):				245.4 RPD = 2
CalAmt %D:					1.3	CalAmt %D:				-1.4

Total PCB Area Col1 (5.908 - 13.795) = 1965379 Col1 Total PCB = 0.2 ppm*

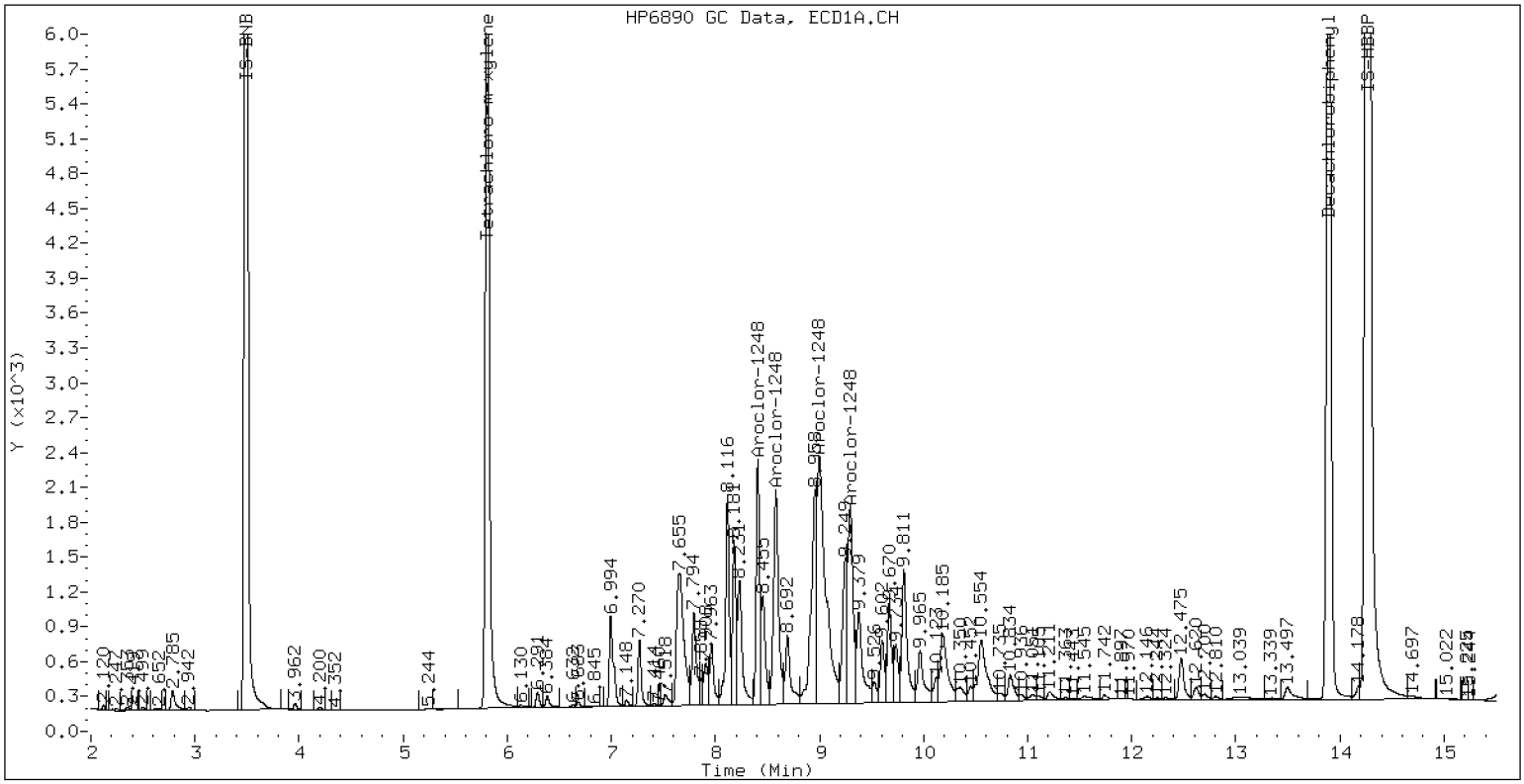
Total PCB Area Col2 (5.787 - 14.019) = 726794 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

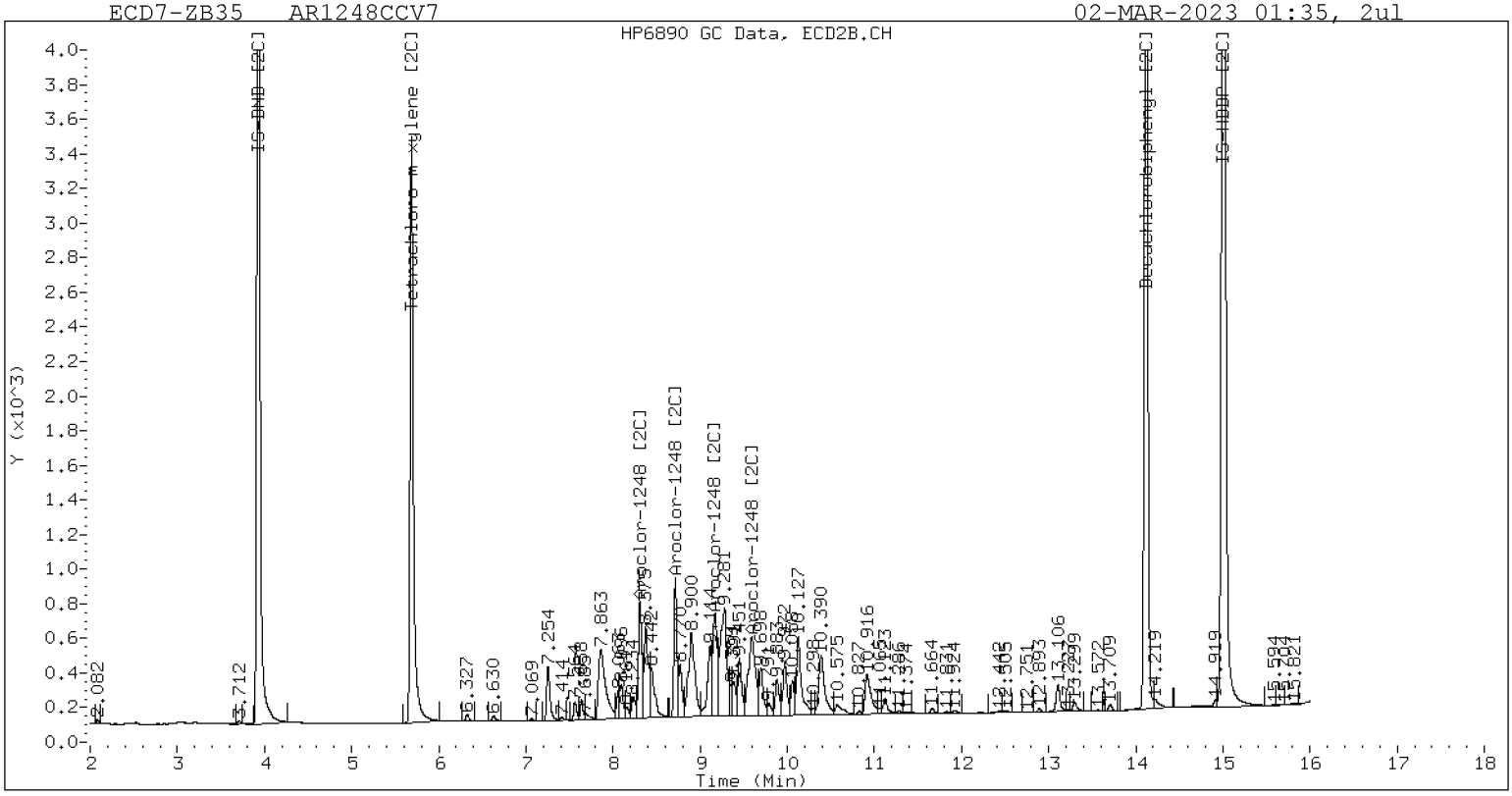
PCB Dual Column Chromatograms

ECD7-ZB5 AR1248CCV7 02-MAR-2023 01:35, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1248CCV7 02-MAR-2023 01:35, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	03012344ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLC0019	Injection Date:	03/02/23
Lab Sample ID:	SLC0019-CCV8	Injection Time:	01:56
Sequence Name:	AR1660CCV8		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT	
Aroclor 1016	A	250.00	266	0.0493662	0.0525998		6.3	+/-20	
Aroclor-1016 (1)	A	250.00	260	0.0303852	0.0315405		4.0		
Aroclor-1016 (2)	A	250.00	267	0.0926308	0.0989673		6.8		
Aroclor-1016 (3)	A	250.00	271	0.0452180	0.0489532		8.4		
Aroclor-1016 (4)	A	250.00	265	0.0292307	0.0309382		6.0		
Aroclor 1016 [2C]	A	250.00	264	0.0545857	0.0583402		5.5	+/-20	
Aroclor-1016 (1) [2C]	A	250.00	255	0.0468313	0.0476983		2.0		
Aroclor-1016 (2) [2C]	A	250.00	280	0.0949676	0.1063041		12.0		
Aroclor-1016 (3) [2C]	A	250.00	254	0.0428922	0.0435863		1.6		
Aroclor-1016 (4) [2C]	A	250.00	266	0.0336515	0.0357722		6.4		
Aroclor 1260	A	250.00	303	0.0392091	0.0469988		21.3	+/-20	*
Aroclor-1260 (1)	A	250.00	301	0.0287785	0.0346975		20.4		
Aroclor-1260 (2)	A	250.00	318	0.0300690	0.0382993		27.2		
Aroclor-1260 (3)	A	250.00	288	0.0797517	0.0919437		15.2		
Aroclor-1260 (4)	A	250.00	306	0.0401599	0.0491299		22.4		
Aroclor-1260 (5)	A	250.00	303	0.0172866	0.0209238		21.2		
Aroclor 1260 [2C]	A	250.00	238	0.0699688	0.0681891		-4.8	+/-20	
Aroclor-1260 (1) [2C]	A	250.00	222	0.0470406	0.0418505		-11.2		
Aroclor-1260 (2) [2C]	A	250.00	254	0.1200523	0.1222247		1.6		
Aroclor-1260 (3) [2C]	A	250.00	232	0.0318590	0.0295911		-7.2		
Aroclor-1260 (4) [2C]	A	250.00	244	0.0809231	0.0790898		-2.4		
Decachlorobiphenyl	A	40.000	41.7	0.7878687	0.8222216		4.3	+/-20	
Tetrachlorometaxylene	A	40.000	39.7	1.1944880	1.1853500		-0.8	+/-20	
Decachlorobiphenyl [2C]	A	40.000	39.7	1.2182710	1.2081320		-0.8	+/-20	
Tetrachlorometaxylene [2C]	A	40.000	42.0	1.1737210	1.2335070		5.0	+/-20	

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012344ECD7.D
Data file 2: /230301.b/230301.b/03012344ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660CCV8
Client ID:
Injection Date: 02-MAR-2023 01:56
Report Date: 03/02/2023 13:00
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.808	0.000	482683	5.687	0.000	191600	39.7	42.0	5.7	Tetrachloro-m-xylene
13.895	0.000	624650	14.119	0.000	283676	41.7	39.7	5.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	814414	20.9
Hexabromobiphenyl	1429847	1519420	6.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	310659	-1.5
Hexabromobiphenyl	513946	469611	-8.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.270	0.000	80272	259.5	1	7.255	0.001	46306	254.6
Aroclor-1016	2	7.656	0.000	251876	267.1	2	7.859	0.002	103201	279.8
Aroclor-1016	3	7.792	0.000	124588	270.7	3	8.058	0.002	42314	254.0
Aroclor-1016	4	8.406	0.000	78739	264.6	4	8.308	0.002	34728	265.8
Total Col1Ave (4 peaks):					265.5	Total Col2Ave (4 peaks):				263.6 RPD = 1
Corrected Ave (3 peaks):					263.7	Corrected Ave (3 peaks):				258.1 RPD = 2
CalAmt %D:					6.2	CalAmt %D:				5.4
Aroclor-1260	1	11.046	0.000	164750	301.4	1	11.653	0.001	61417	222.4
Aroclor-1260	2	11.362	0.000	181852	318.4	2	11.919	0.002	179369	254.5
Aroclor-1260	3	11.736	0.000	436566	288.2	3	12.436	0.001	43426	232.2
Aroclor-1260	4	12.140	0.000	233278	305.8	4	12.502	0.001	116067	244.3
Aroclor-1260	5	12.245	0.000	99350	302.6	NS	---			----
Total Col1Ave (5 peaks):					303.3	Total Col2Ave (4 peaks):				238.4 RPD = 24
Corrected Ave (4 peaks):					299.5	Corrected Ave (3 peaks):				233.0 RPD = 25
CalAmt %D:					21.3	CalAmt %D:				-4.7

Total PCB Area Col1 (5.908 - 13.795) = 5035993 Col1 Total PCB = 0.5 ppm*

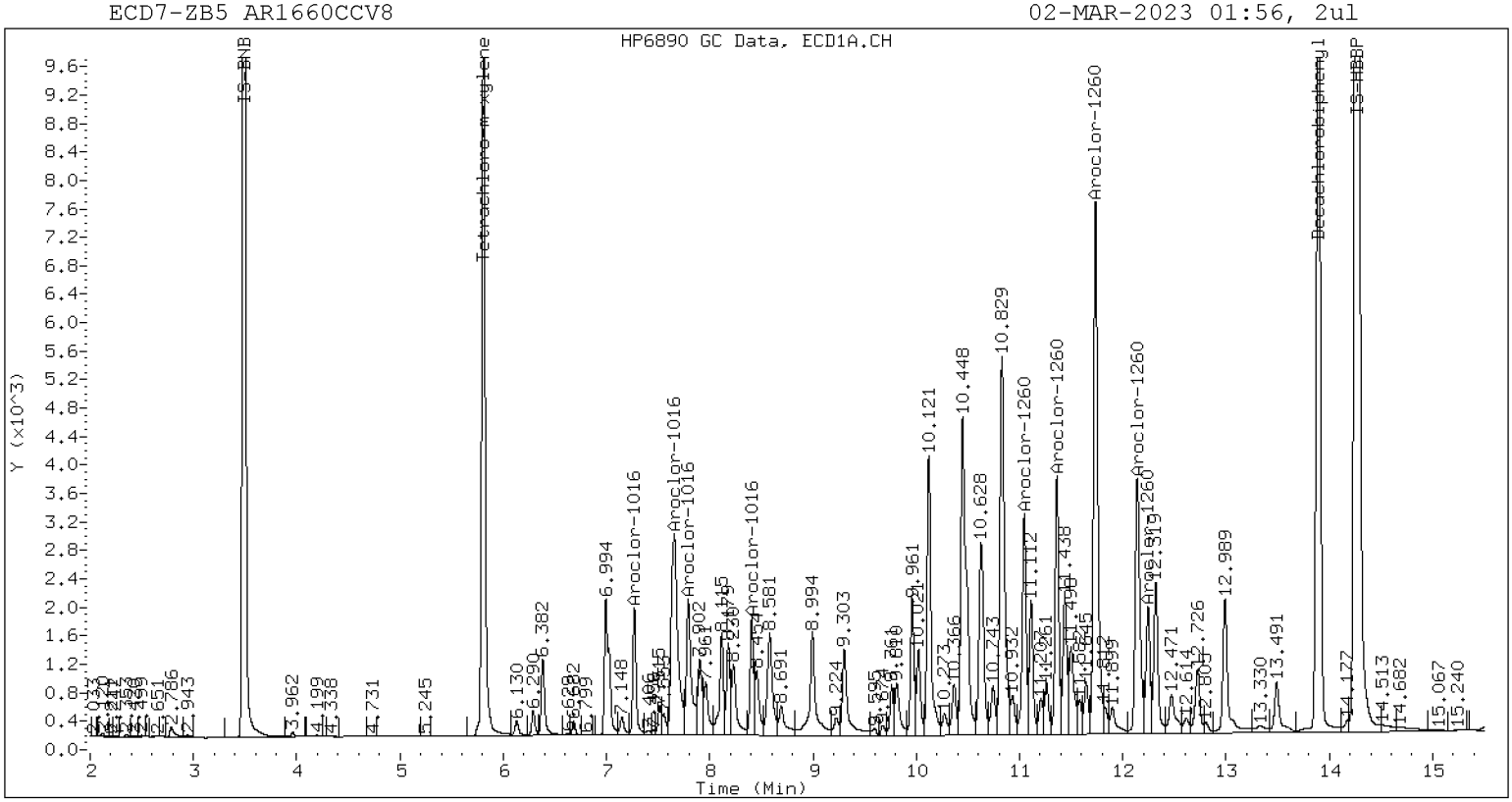
Total PCB Area Col2 (5.787 - 14.019) = 1723880 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

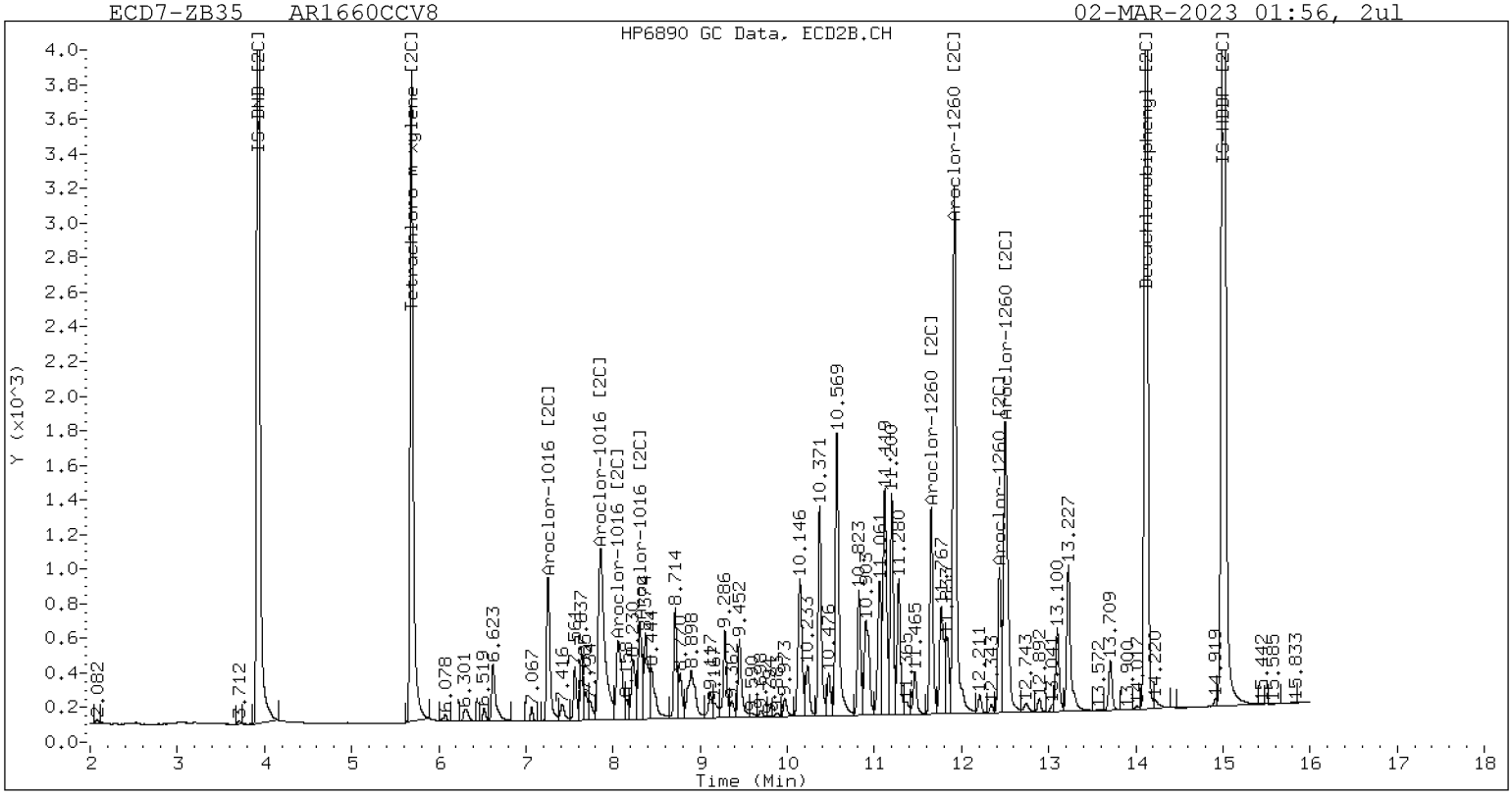
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660CCV8 02-MAR-2023 01:56, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 AR1660CCV8 02-MAR-2023 01:56, 2ul

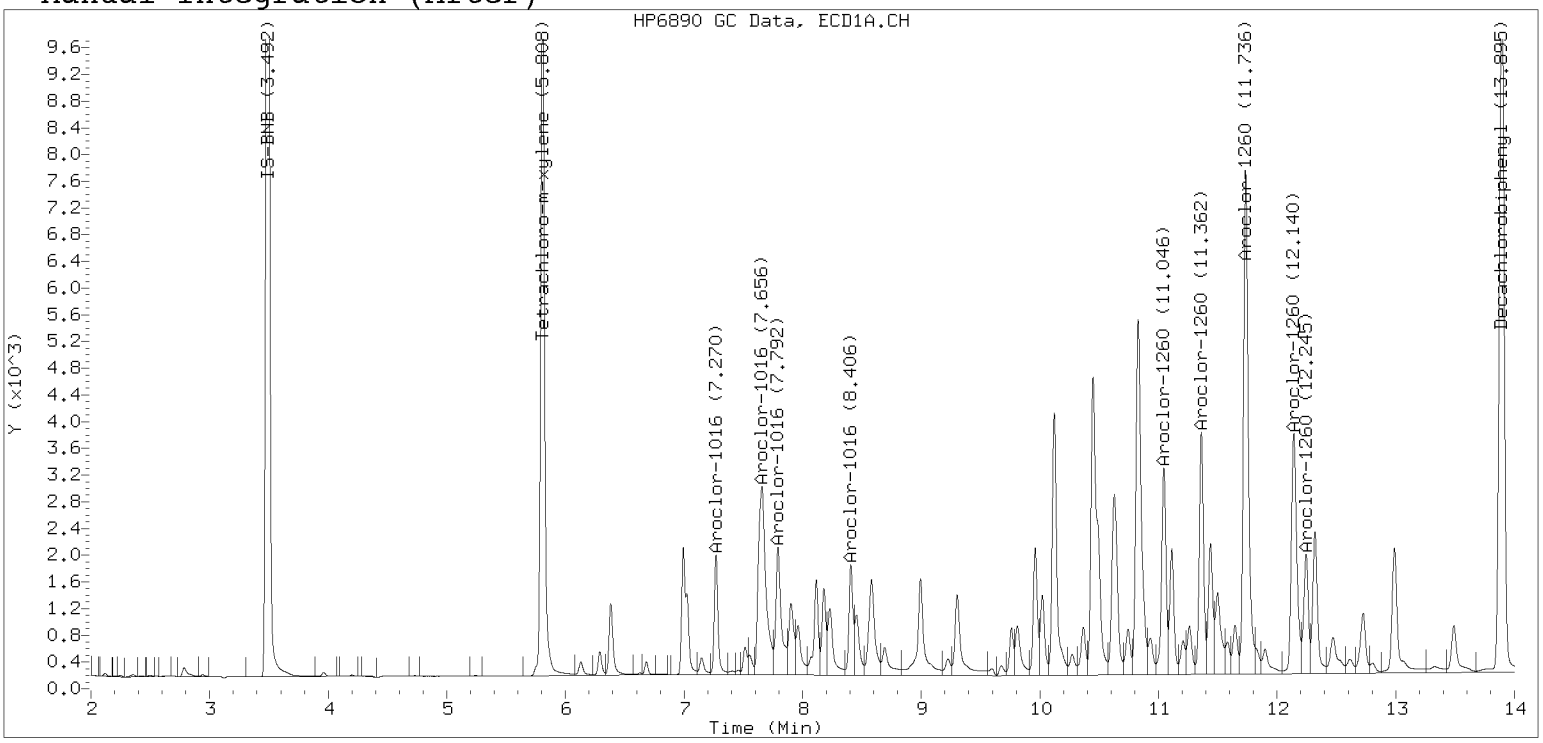


ZB-35 Manual Integration: NO

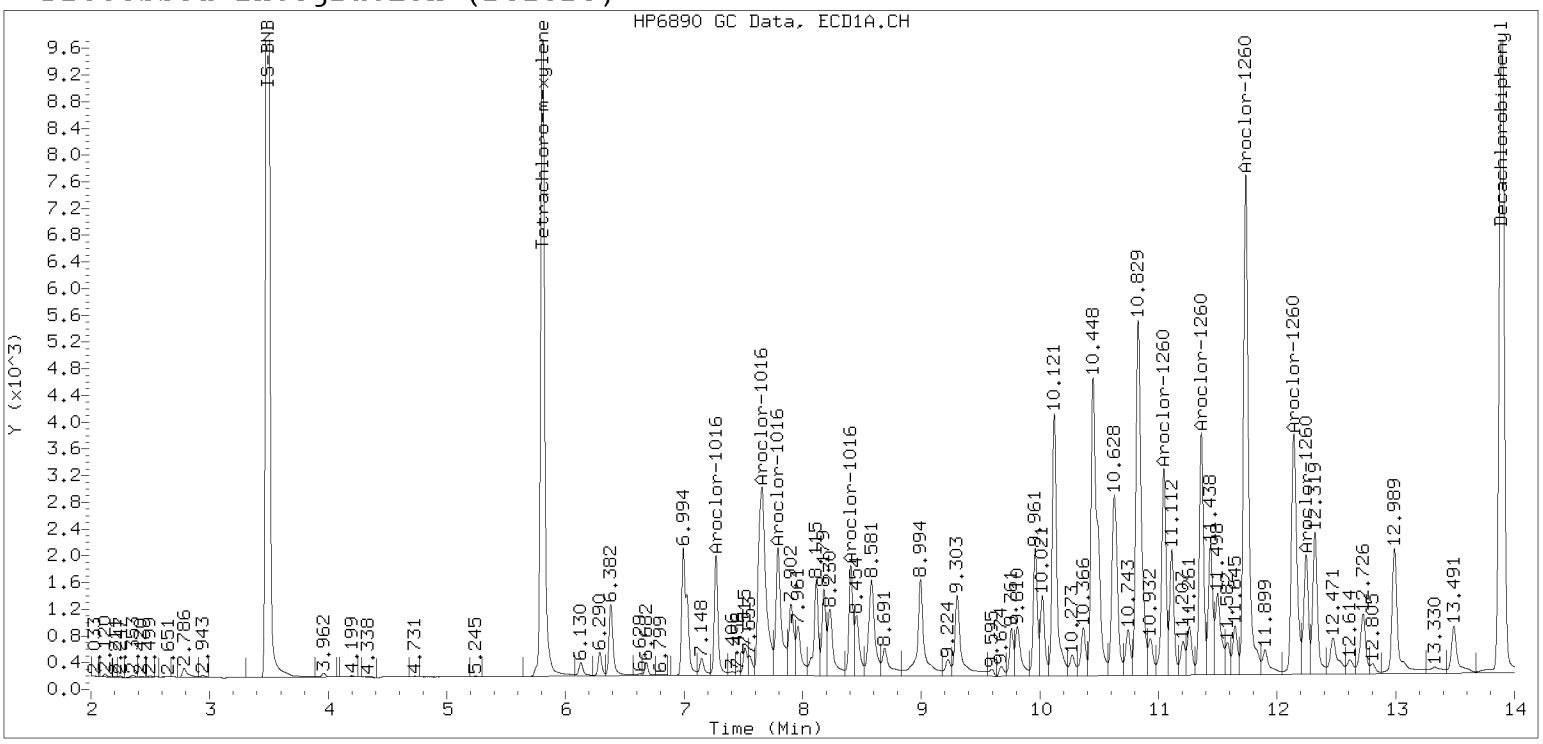
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/230301.b/03012344ECD7.D Injection Date: 02-MAR-2023 01:56

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	03012355ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLC0019	Injection Date:	03/02/23
Lab Sample ID:	SLC0019-CCV9	Injection Time:	05:47
Sequence Name:	AR1242CCV9		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1242	A	250.00	242	0.0395340	0.0386479		-3.1	+/-20
Aroclor-1242 (1)	A	250.00	249		0.0247304			
Aroclor-1242 (2)	A	250.00	249		0.0750613			
Aroclor-1242 (3)	A	250.00	234		0.0219329			
Aroclor-1242 (4)	A	250.00	237		0.0328671			
Aroclor 1242 [2C]	A	250.00	242	0.0423092	0.0416700		-3.1	+/-20
Aroclor-1242 (1) [2C]	A	250.00	251		0.0373176			
Aroclor-1242 (2) [2C]	A	250.00	254		0.0793768			
Aroclor-1242 (3) [2C]	A	250.00	237		0.0230831			
Aroclor-1242 (4) [2C]	A	250.00	227		0.0269024			
Decachlorobiphenyl	A	40.000	40.2	0.7878687	0.7912610		0.5	+/-20
Tetrachlorometaxylene	A	40.000	47.0	1.1944880	1.4023890		17.5	+/-20
Decachlorobiphenyl [2C]	A	40.000	42.6	1.2182710	1.2972630		6.5	+/-20
Tetrachlorometaxylene [2C]	A	40.000	48.0	1.1737210	1.4087820		20.0	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012355ECD7.D
Data file 2: /230301.b/230301.b/03012355ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: AR1242.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242CCV9
Client ID:
Injection Date: 02-MAR-2023 05:47
Report Date: 03/02/2023 13:00
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.807	-0.001	261479	5.687	0.001	224145	47.0	48.0	2.2	Tetrachloro-m-xylene
13.894	-0.000	180743	14.119	0.000	245256	40.2	42.6	5.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	372905	-44.7
Hexabromobiphenyl	1429847	456848	-68.0 <-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	318211	0.9
Hexabromobiphenyl	513946	378113	-26.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1242	1	7.270	-0.014	28819	249.4	1	7.254	0.000	37109	251.0
Aroclor-1242	2	7.657	-0.010	87471	249.2	2	7.860	0.000	78933	254.0
Aroclor-1242	3	8.406	-0.012	25559	234.1	3	9.170	0.000	22954	237.4
Aroclor-1242	4	8.580	-0.011	38301	237.3	4	9.597	0.000	26752	227.0
Total Col1Ave (4 peaks):					242.5	Total Col2Ave (4 peaks):				242.3 RPD = 0
Corrected Ave (3 peaks):					240.2	Corrected Ave (3 peaks):				238.5 RPD = 1
CalAmt %D:					-3.0	CalAmt %D:				-3.1

Total PCB Area Col1 (5.908 - 13.795) = 694773 Col1 Total PCB = 0.2 ppm*

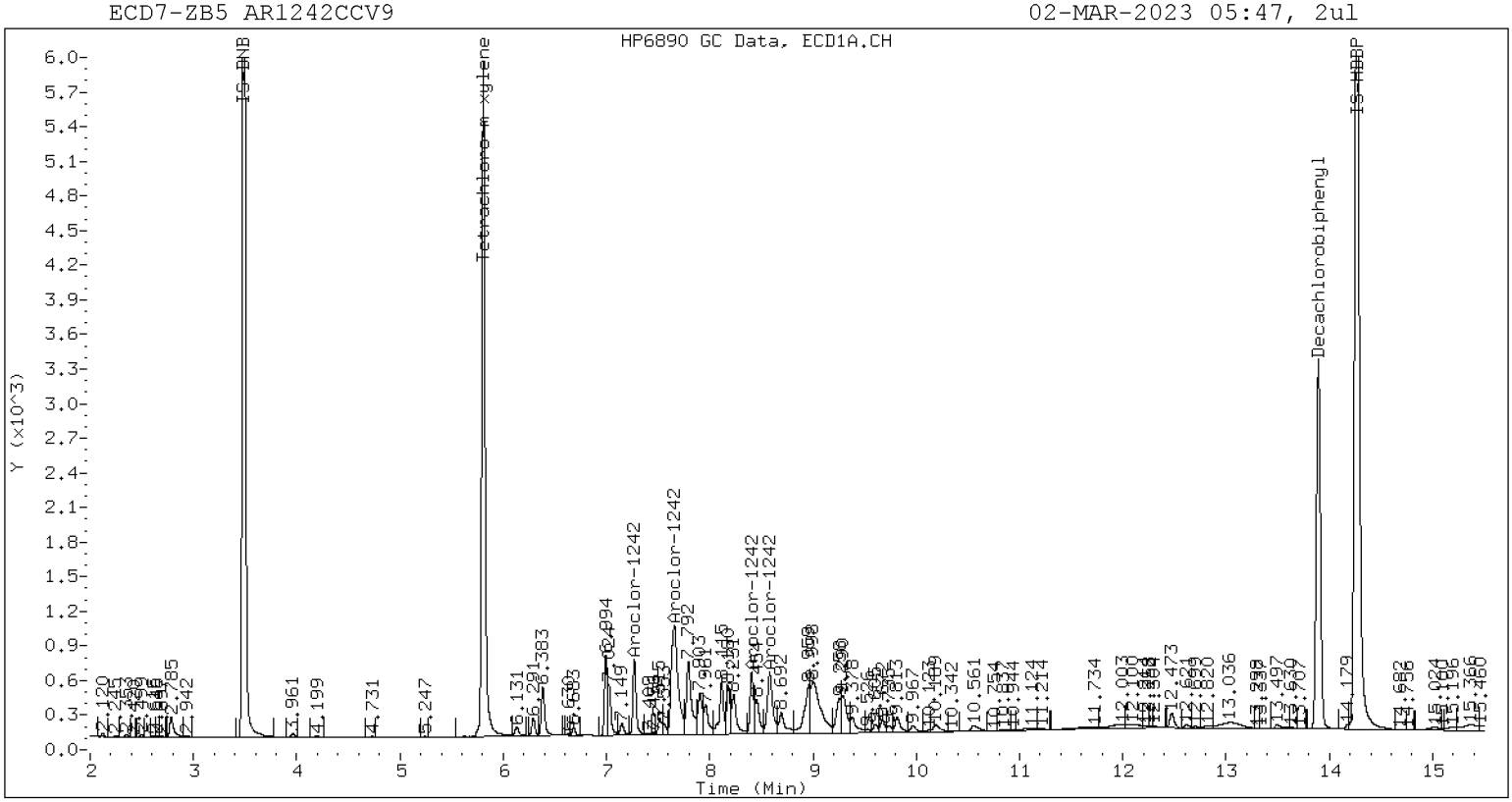
Total PCB Area Col2 (5.787 - 14.019) = 619716 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

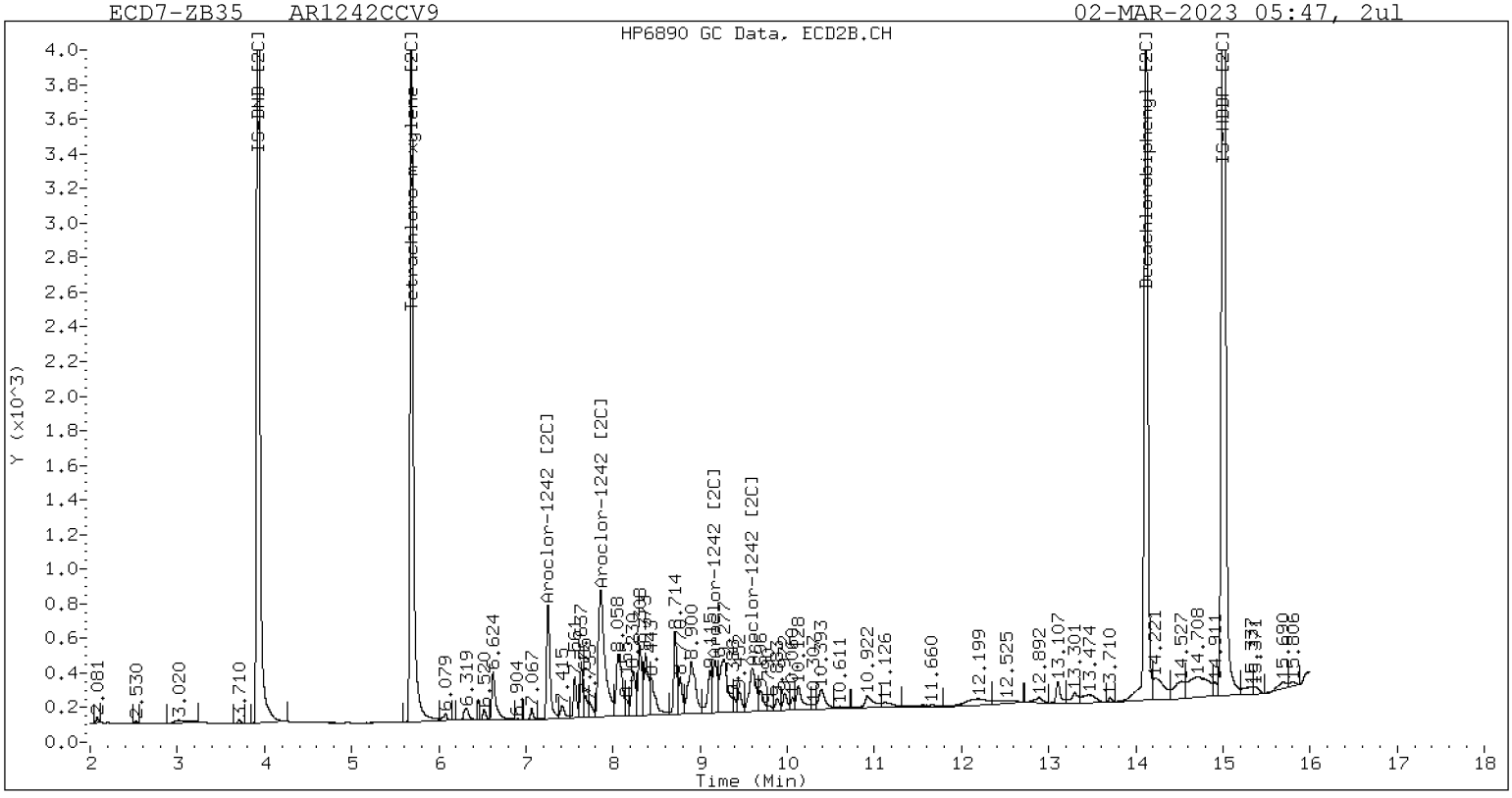
PCB Dual Column Chromatograms

ECD7-ZB5 AR1242CCV9 02-MAR-2023 05:47, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1242CCV9 02-MAR-2023 05:47, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	03012356ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLC0019	Injection Date:	03/02/23
Lab Sample ID:	SLC0019-CCVA	Injection Time:	06:08
Sequence Name:	AR1660CCVA		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	268	0.0493662	0.0531272		7.2	+/-20
Aroclor-1016 (1)	A	250.00	267	0.0303852	0.0324244		6.8	
Aroclor-1016 (2)	A	250.00	270	0.0926308	0.1002036		8.0	
Aroclor-1016 (3)	A	250.00	271	0.0452180	0.0490154		8.4	
Aroclor-1016 (4)	A	250.00	264	0.0292307	0.0308653		5.6	
Aroclor 1016 [2C]	A	250.00	255	0.0545857	0.0564926		1.9	+/-20
Aroclor-1016 (1) [2C]	A	250.00	248	0.0468313	0.0465424		-0.8	
Aroclor-1016 (2) [2C]	A	250.00	272	0.0949676	0.1034541		8.8	
Aroclor-1016 (3) [2C]	A	250.00	241	0.0428922	0.0413091		-3.6	
Aroclor-1016 (4) [2C]	A	250.00	258	0.0336515	0.0346649		3.2	
Aroclor 1260	A	250.00	343	0.0392091	0.0536573		37.3	+/-20 *
Aroclor-1260 (1)	A	250.00	348	0.0287785	0.0401092		39.2	
Aroclor-1260 (2)	A	250.00	355	0.0300690	0.0426916		42.0	
Aroclor-1260 (3)	A	250.00	337	0.0797517	0.1075098		34.8	
Aroclor-1260 (4)	A	250.00	341	0.0401599	0.0548213		36.4	
Aroclor-1260 (5)	A	250.00	335	0.0172866	0.0231544		34.0	
Aroclor 1260 [2C]	A	250.00	259	0.0699688	0.0741063		3.5	+/-20
Aroclor-1260 (1) [2C]	A	250.00	243	0.0470406	0.0457974		-2.8	
Aroclor-1260 (2) [2C]	A	250.00	278	0.1200523	0.1333036		11.2	
Aroclor-1260 (3) [2C]	A	250.00	251	0.0318590	0.0320478		0.4	
Aroclor-1260 (4) [2C]	A	250.00	263	0.0809231	0.0852763		5.2	
Decachlorobiphenyl	A	40.000	44.6	0.7878687	0.8781708		11.5	+/-20
Tetrachlorometaxylene	A	40.000	41.8	1.1944880	1.2467550		4.5	+/-20
Decachlorobiphenyl [2C]	A	40.000	42.0	1.2182710	1.2786120		5.0	+/-20
Tetrachlorometaxylene [2C]	A	40.000	42.9	1.1737210	1.2577700		7.3	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012356ECD7.D
Data file 2: /230301.b/230301.b/03012356ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660CCVA
Client ID:
Injection Date: 02-MAR-2023 06:08
Report Date: 03/02/2023 13:00
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.808	-0.000	242464	5.688	0.001	204692	41.8	42.9	2.6	Tetrachloro-m-xylene
13.893	-0.002	252792	14.119	-0.000	278800	44.6	42.0	6.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	388952	-42.3
Hexabromobiphenyl	1429847	575724	-59.7 <-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	325484	3.2
Hexabromobiphenyl	513946	436098	-15.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.269	-0.000	39411	266.8	1	7.255	0.001	47340	248.5
Aroclor-1016	2	7.656	-0.000	121795	270.4	2	7.860	0.003	105227	272.3
Aroclor-1016	3	7.792	0.000	59577	271.0	3	8.058	0.001	42017	240.8
Aroclor-1016	4	8.405	-0.001	37516	264.0	4	8.307	0.001	35259	257.5
Total Col1Ave (4 peaks):					268.0	Total Col2Ave (4 peaks):				254.8 RPD = 5
Corrected Ave (3 peaks):					267.1	Corrected Ave (3 peaks):				248.9 RPD = 7
CalAmt %D:					7.2	CalAmt %D:				1.9
Aroclor-1260	1	11.043	-0.002	72162	348.4	1	11.652	-0.000	62413	243.4
Aroclor-1260	2	11.361	-0.001	76808	354.9	2	11.917	0.000	181667	277.6
Aroclor-1260	3	11.734	-0.002	193425	337.0	3	12.435	0.000	43675	251.5
Aroclor-1260	4	12.138	-0.002	98631	341.3	4	12.500	-0.000	116215	263.4
Aroclor-1260	5	12.243	-0.001	41658	334.9	NS	---			----
Total Col1Ave (5 peaks):					343.3	Total Col2Ave (4 peaks):				259.0 RPD = 28
Corrected Ave (4 peaks):					340.4	Corrected Ave (3 peaks):				252.8 RPD = 30
CalAmt %D:					37.3	CalAmt %D:				3.6

Total PCB Area Col1 (5.908 - 13.795) = 2257331 Col1 Total PCB = 0.5 ppm*

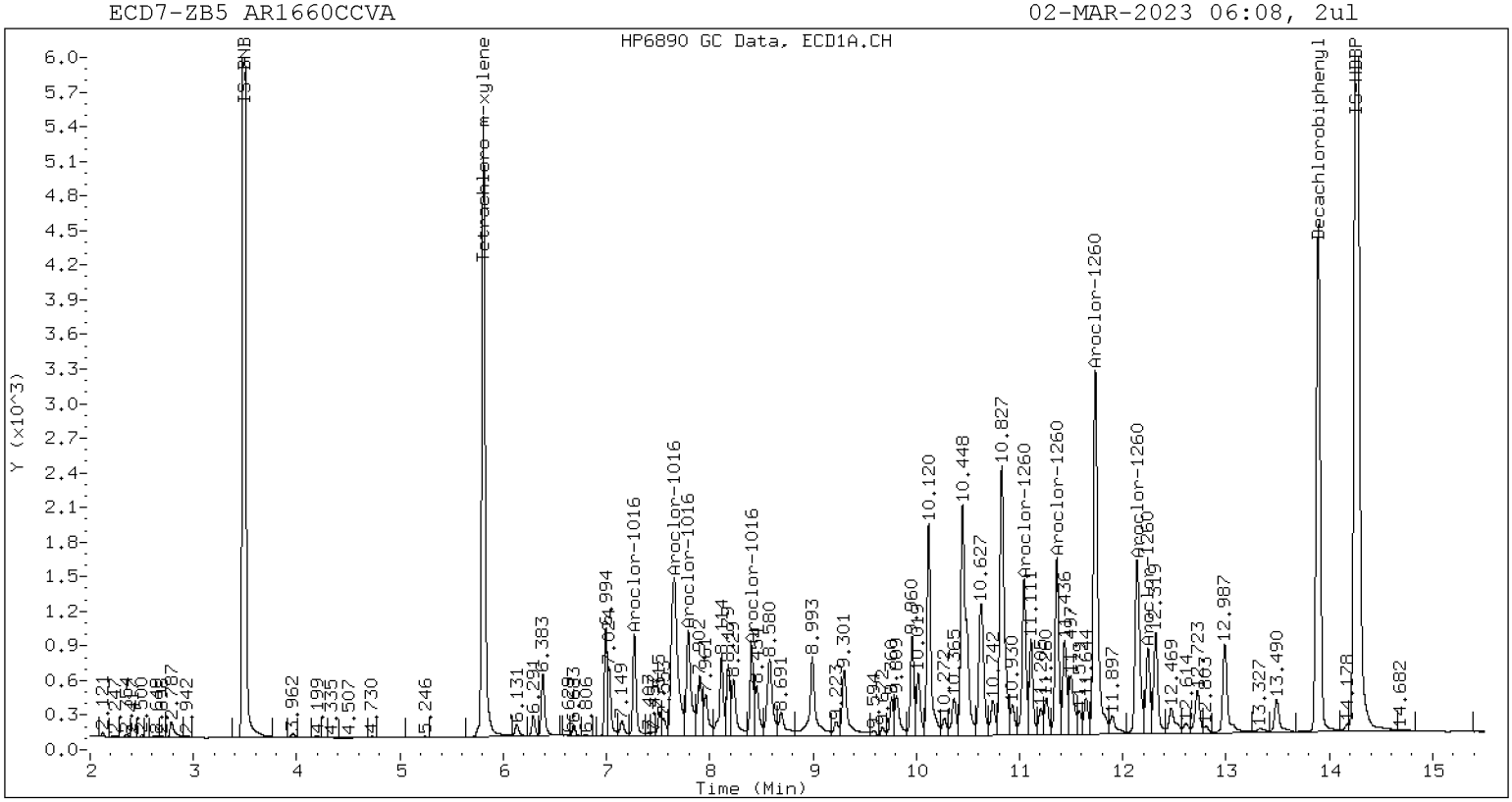
Total PCB Area Col2 (5.787 - 14.019) = 1733166 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

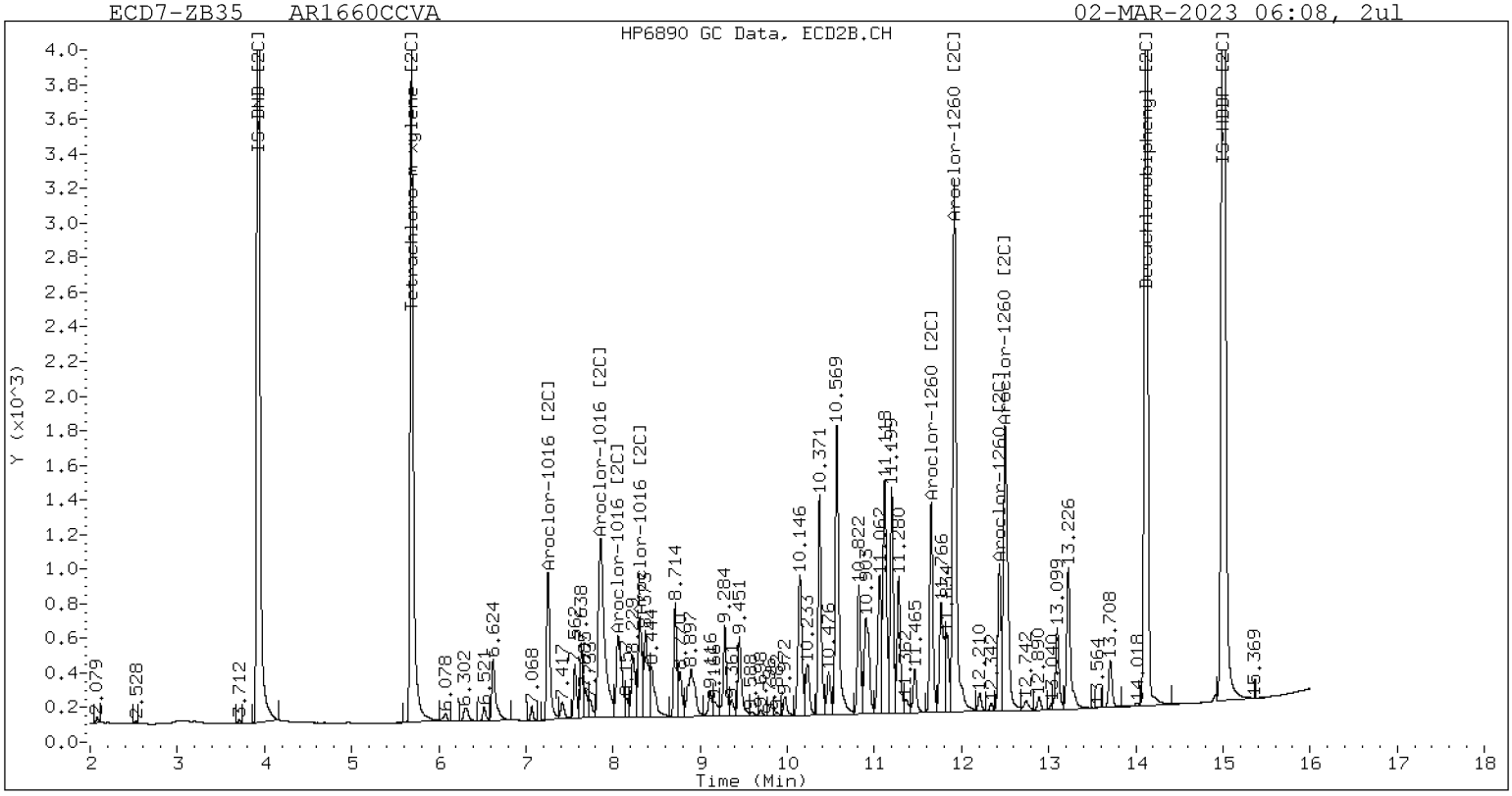
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660CCVA 02-MAR-2023 06:08, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660CCVA 02-MAR-2023 06:08, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	03012371ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLC0019	Injection Date:	03/02/23
Lab Sample ID:	SLC0019-CCVB	Injection Time:	11:24
Sequence Name:	AR1254CCVB		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1254	A	250.00	235	0.0662949	0.0620248		-6.1	+/-20
Aroclor-1254 (1)	A	250.00	236		0.0756801			
Aroclor-1254 (2)	A	250.00	238		0.0344748			
Aroclor-1254 (3)	A	250.00	234		0.0483844			
Aroclor-1254 (4)	A	250.00	228		0.0915356			
Aroclor-1254 (5)	A	250.00	238		0.0600489			
Aroclor 1254 [2C]	A	250.00	245	0.0763106	0.0745333		-2.1	+/-20
Aroclor-1254 (1) [2C]	A	250.00	254		0.0617320			
Aroclor-1254 (2) [2C]	A	250.00	249		0.0487751			
Aroclor-1254 (3) [2C]	A	250.00	247		0.1045845			
Aroclor-1254 (4) [2C]	A	250.00	238		0.0981282			
Aroclor-1254 (5) [2C]	A	250.00	236		0.0594466			
Decachlorobiphenyl	A	40.000	40.7	0.7878687	0.8017831		1.8	+/-20
Tetrachlorometaxylene	A	40.000	39.8	1.1944880	1.1876530		-0.5	+/-20
Decachlorobiphenyl [2C]	A	40.000	42.2	1.2182710	1.2865310		5.5	+/-20
Tetrachlorometaxylene [2C]	A	40.000	39.8	1.1737210	1.1677210		-0.5	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012371ECD7.D
Data file 2: /230301.b/230301.b/03012371ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254CCVB
Client ID:
Injection Date: 02-MAR-2023 11:24
Report Date: 03/02/2023 13:04
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.808	-0.000	227926	5.687	0.000	189750	39.8	39.8	0.1	Tetrachloro-m-xylene
13.893	-0.002	195874	14.118	-0.001	250514	40.7	42.2	3.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	383826	-43.0
Hexabromobiphenyl	1429847	488596	-65.8 <-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	324992	3.1
Hexabromobiphenyl	513946	389441	-24.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col					ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1254	1	9.299	-0.002	90775	235.5	1	9.452	0.000	62695	253.8
Aroclor-1254	2	9.379	-0.001	41351	238.5	2	9.971	0.000	49536	249.3
Aroclor-1254	3	9.669	-0.002	58035	234.2	3	10.125	0.000	106216	247.0
Aroclor-1254	4	9.808	-0.003	109793	227.9	4	10.374	0.000	99659	237.8
Aroclor-1254	5	10.178	0.000	72026	238.5	5	10.570	0.000	60374	236.6

Total Col1Ave (5 peaks): 234.9 Total Col2Ave (5 peaks): 244.9 RPD = 4

Corrected Ave (4 peaks): 234.0 Corrected Ave (4 peaks): 242.7 RPD = 4

CalAmt %D: -6.0 CalAmt %D: -2.0

Total PCB Area Col1 (5.908 - 13.795) = 1207682 Col1 Total PCB = 0.3 ppm*

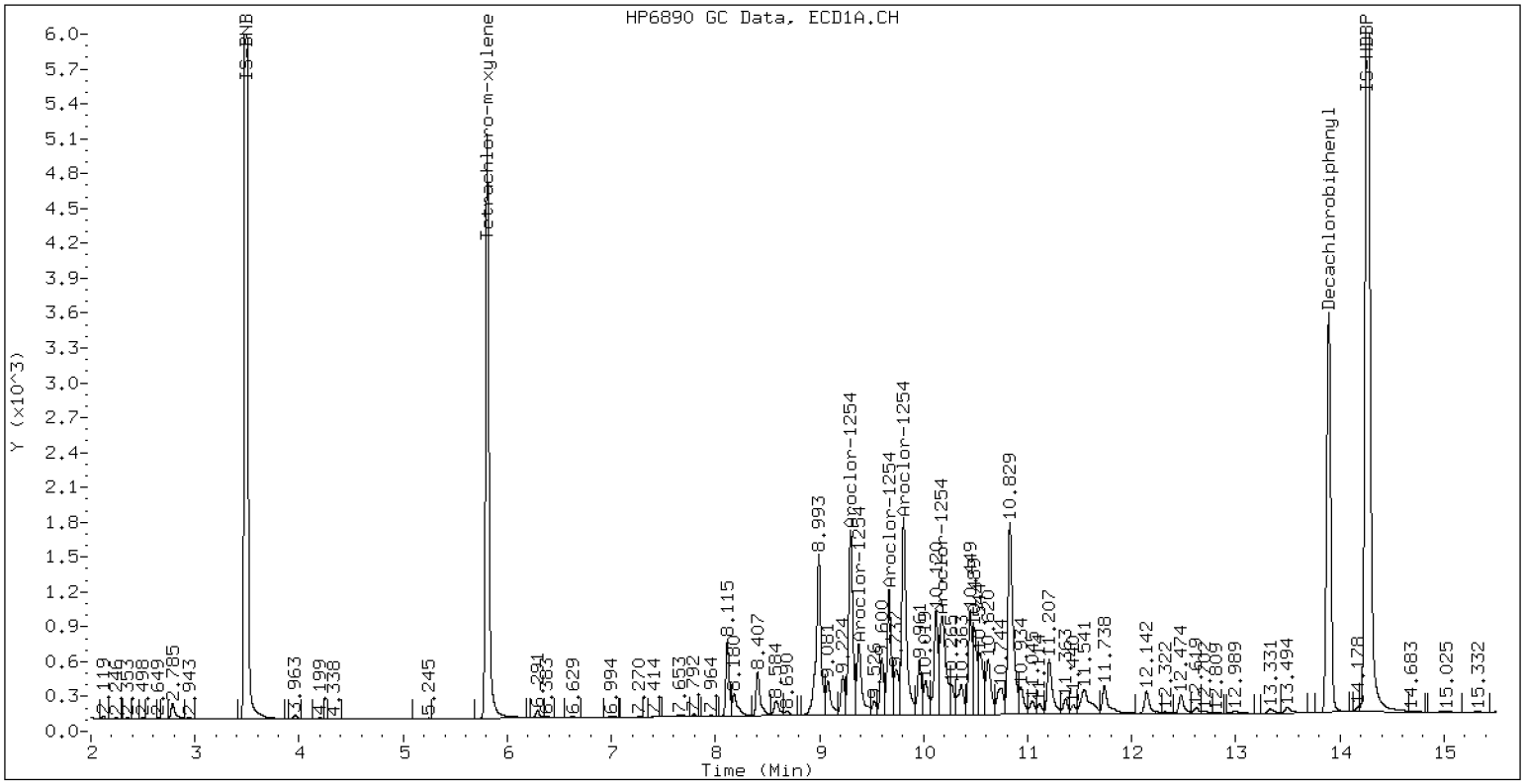
Total PCB Area Col2 (5.787 - 14.019) = 1019464 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

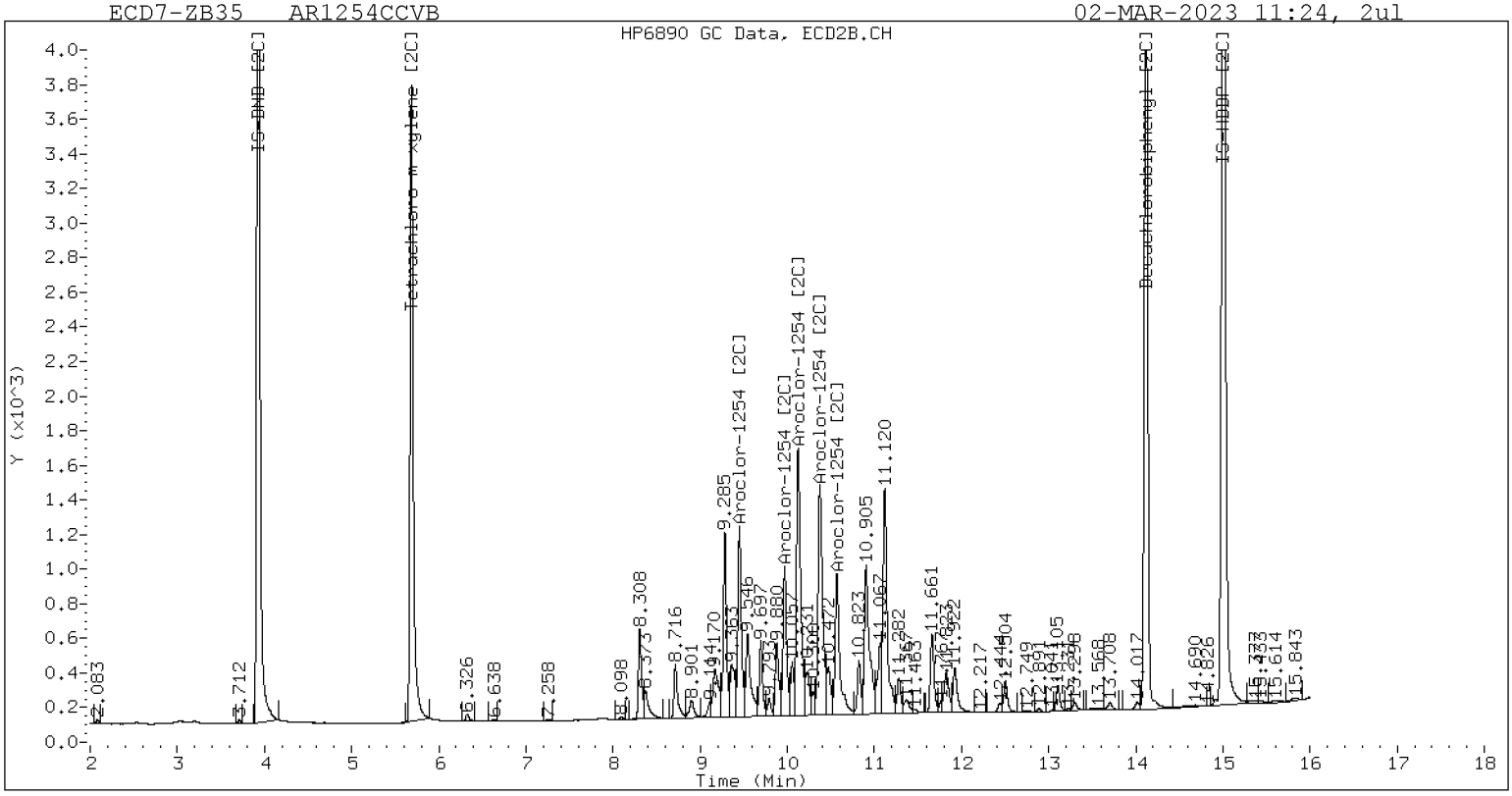
PCB Dual Column Chromatograms

ECD7-ZB5 AR1254CCVB 02-MAR-2023 11:24, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1254CCVB 02-MAR-2023 11:24, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	03012372ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLC0019	Injection Date:	03/02/23
Lab Sample ID:	SLC0019-CCVC	Injection Time:	11:45
Sequence Name:	AR1660CCVC		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT	
Aroclor 1016	A	250.00	273	0.0493662	0.0540846		9.0	+/-20	
Aroclor-1016 (1)	A	250.00	270	0.0303852	0.0328786		8.0		
Aroclor-1016 (2)	A	250.00	276	0.0926308	0.1023022		10.4		
Aroclor-1016 (3)	A	250.00	273	0.0452180	0.0494588		9.2		
Aroclor-1016 (4)	A	250.00	271	0.0292307	0.0316988		8.4		
Aroclor 1016 [2C]	A	250.00	258	0.0545857	0.0572507		3.1	+/-20	
Aroclor-1016 (1) [2C]	A	250.00	250	0.0468313	0.0467753		0.0		
Aroclor-1016 (2) [2C]	A	250.00	277	0.0949676	0.1052953		10.8		
Aroclor-1016 (3) [2C]	A	250.00	243	0.0428922	0.0417746		-2.8		
Aroclor-1016 (4) [2C]	A	250.00	261	0.0336515	0.0351574		4.4		
Aroclor 1260	A	250.00	371	0.0392091	0.0583746		48.6	+/-20	*
Aroclor-1260 (1)	A	250.00	371	0.0287785	0.0427288		48.4		
Aroclor-1260 (2)	A	250.00	385	0.0300690	0.0463621		54.0		
Aroclor-1260 (3)	A	250.00	371	0.0797517	0.1183283		48.4		
Aroclor-1260 (4)	A	250.00	370	0.0401599	0.0595277		48.0		
Aroclor-1260 (5)	A	250.00	360	0.0172866	0.0249263		44.0		
Aroclor 1260 [2C]	A	250.00	265	0.0699688	0.0756333		5.8	+/-20	
Aroclor-1260 (1) [2C]	A	250.00	252	0.0470406	0.0474870		0.8		
Aroclor-1260 (2) [2C]	A	250.00	284	0.1200523	0.1364767		13.6		
Aroclor-1260 (3) [2C]	A	250.00	257	0.0318590	0.0327591		2.8		
Aroclor-1260 (4) [2C]	A	250.00	265	0.0809231	0.0858105		6.0		
Decachlorobiphenyl	A	40.000	43.2	0.7878687	0.8519150		8.0	+/-20	
Tetrachlorometaxylene	A	40.000	42.3	1.1944880	1.2646590		5.8	+/-20	
Decachlorobiphenyl [2C]	A	40.000	41.8	1.2182710	1.2746180		4.5	+/-20	
Tetrachlorometaxylene [2C]	A	40.000	42.5	1.1737210	1.2465090		6.3	+/-20	

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012372ECD7.D
Data file 2: /230301.b/230301.b/03012372ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660CCVC
Client ID:
Injection Date: 02-MAR-2023 11:45
Report Date: 03/02/2023 13:04
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.807	-0.001	261374	5.687	0.000	215289	42.3	42.5	0.3	Tetrachloro-m-xylene
13.892	-0.002	240548	14.119	0.000	277884	43.3	41.9	3.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	413351	-38.7
Hexabromobiphenyl	1429847	564723	-60.5 <-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	345427	9.6
Hexabromobiphenyl	513946	436027	-15.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.269	-0.001	42470	270.5	1	7.254	0.000	50492	249.7
Aroclor-1016	2	7.654	-0.002	132146	276.1	2	7.857	0.000	113662	277.2
Aroclor-1016	3	7.791	-0.001	63887	273.4	3	8.057	0.000	45094	243.5
Aroclor-1016	4	8.405	-0.001	40946	271.1	4	8.306	0.000	37951	261.2
Total Col1Ave (4 peaks):					272.8	Total Col2Ave (4 peaks):				257.9 RPD = 6
Corrected Ave (3 peaks):					271.7	Corrected Ave (3 peaks):				251.5 RPD = 8
CalAmt %D:					9.1	CalAmt %D:				3.2
Aroclor-1260	1	11.045	-0.001	75406	371.2	1	11.652	0.000	64705	252.4
Aroclor-1260	2	11.360	-0.001	81818	385.5	2	11.917	0.000	185961	284.2
Aroclor-1260	3	11.734	-0.002	208821	370.9	3	12.435	0.000	44637	257.1
Aroclor-1260	4	12.138	-0.002	105052	370.6	4	12.501	0.000	116924	265.1
Aroclor-1260	5	12.243	-0.002	43989	360.5	NS	---			----
Total Col1Ave (5 peaks):					371.7	Total Col2Ave (4 peaks):				264.7 RPD = 34
Corrected Ave (4 peaks):					368.3	Corrected Ave (3 peaks):				258.2 RPD = 35
CalAmt %D:					48.7	CalAmt %D:				5.9

Total PCB Area Col1 (5.908 - 13.795) = 2391819 Col1 Total PCB = 0.5 ppm*

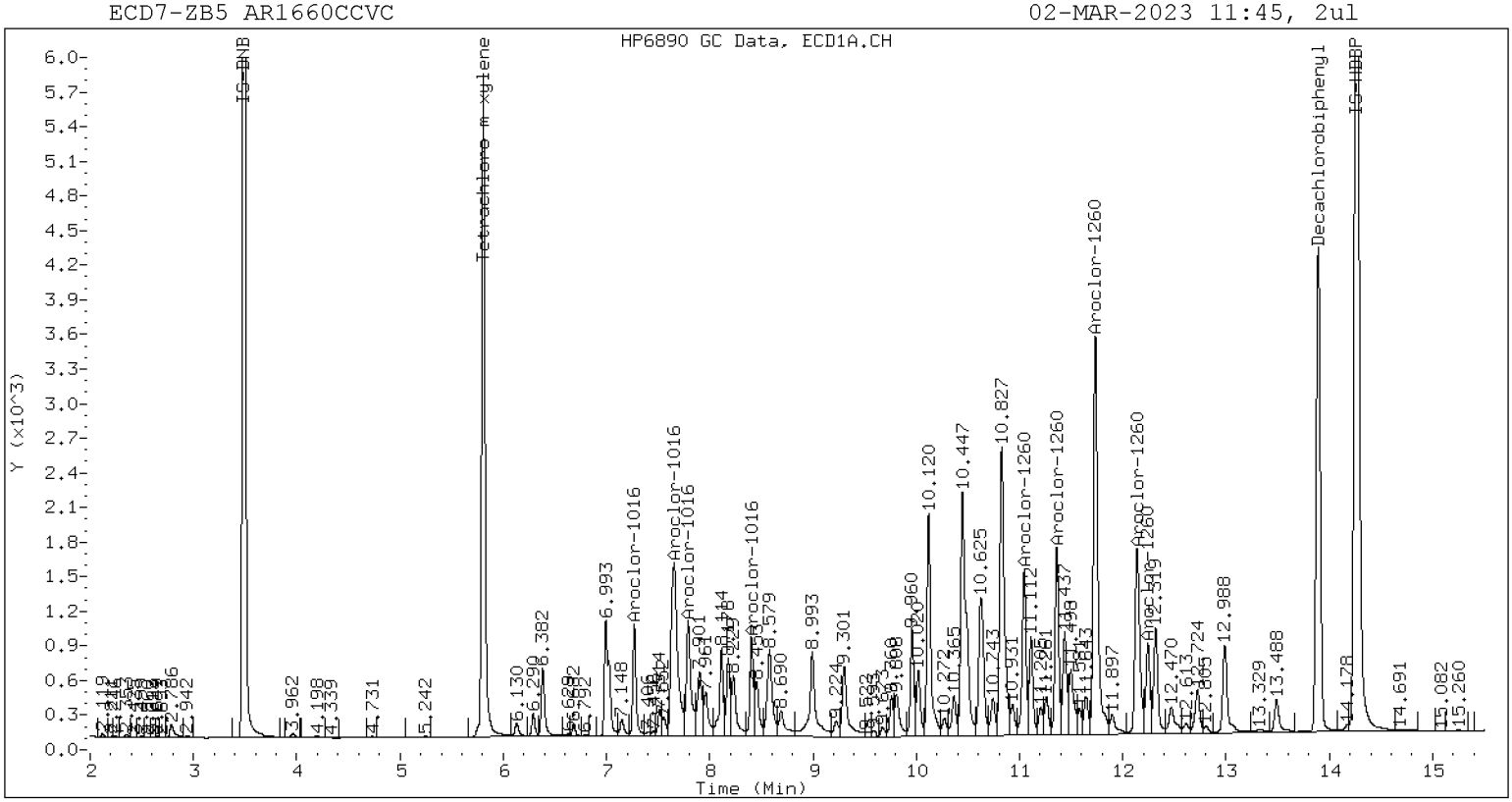
Total PCB Area Col2 (5.787 - 14.019) = 1826018 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

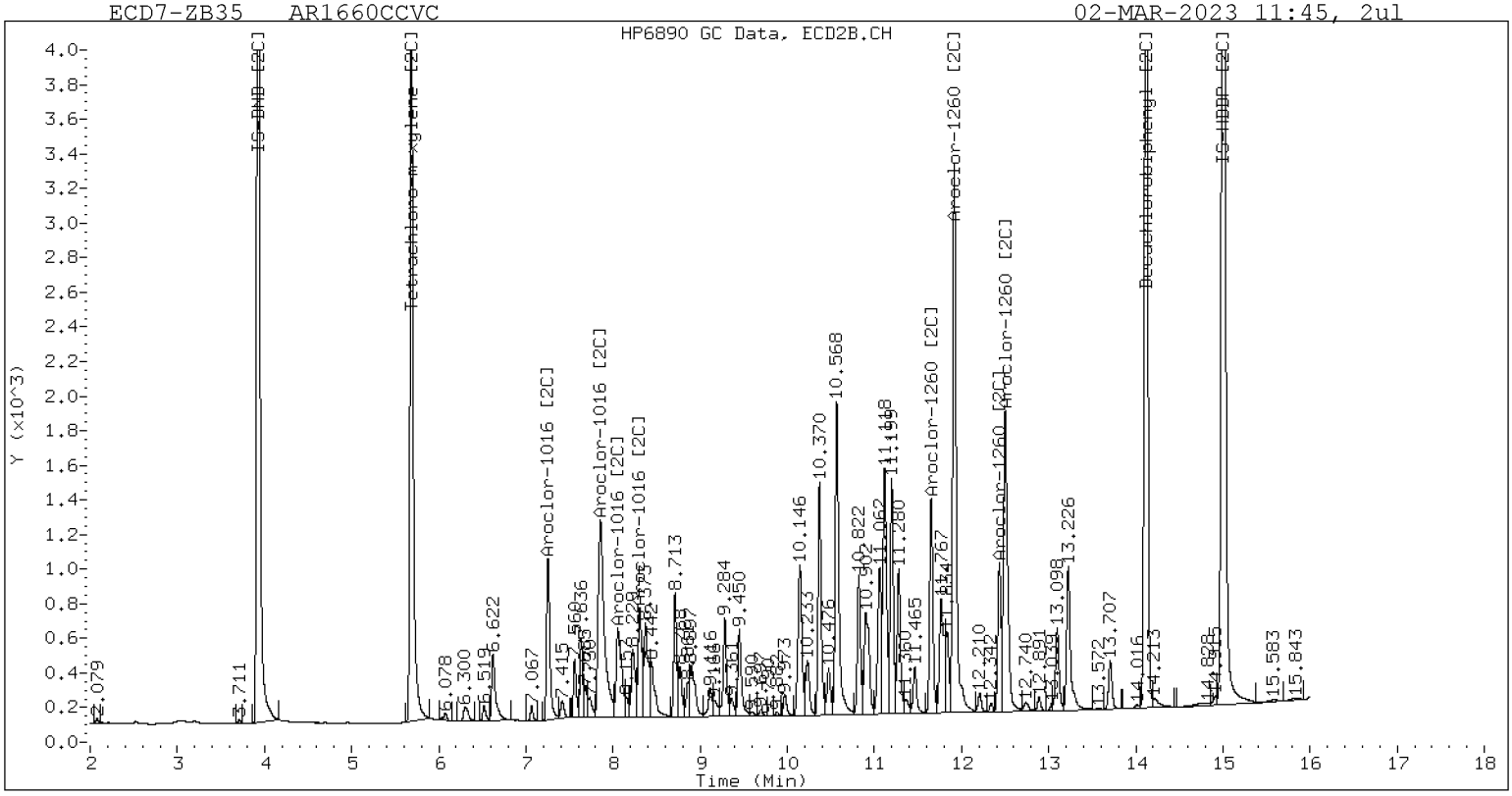
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660CCVC 02-MAR-2023 11:45, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660CCVC 02-MAR-2023 11:45, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	03012383ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLC0019	Injection Date:	03/02/23
Lab Sample ID:	SLC0019-CCVD	Injection Time:	16:04
Sequence Name:	AR1248CCVD		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1248	A	250.00	260	0.0574755	0.0601120		4.0	+/-20
Aroclor-1248 (1)	A	250.00	255		0.0397528			
Aroclor-1248 (2)	A	250.00	256		0.0509064			
Aroclor-1248 (3)	A	250.00	266		0.0996568			
Aroclor-1248 (4)	A	250.00	263		0.0501318			
Aroclor 1248 [2C]	A	250.00	257	0.0444270	0.0456526		2.8	+/-20
Aroclor-1248 (1) [2C]	A	250.00	257		0.0393143			
Aroclor-1248 (2) [2C]	A	250.00	257		0.0406411			
Aroclor-1248 (3) [2C]	A	250.00	261		0.0474949			
Aroclor-1248 (4) [2C]	A	250.00	253		0.0551602			
Decachlorobiphenyl	A	40.000	41.4	0.7878687	0.8145750		3.5	+/-20
Tetrachlorometaxylene	A	40.000	38.8	1.1944880	1.1600750		-3.0	+/-20
Decachlorobiphenyl [2C]	A	40.000	40.2	1.2182710	1.2237600		0.5	+/-20
Tetrachlorometaxylene [2C]	A	40.000	38.9	1.1737210	1.1419590		-2.8	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012383ECD7.D
Data file 2: /230301.b/230301.b/03012383ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248CCVD
Client ID:
Injection Date: 02-MAR-2023 16:04
Report Date: 03/02/2023 16:45
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.808	0.001	243216	5.686	-0.001	200633	38.8	38.9	0.2	Tetrachloro-m-xylene
13.896	0.003	280795	14.118	-0.001	311775	41.4	40.2	2.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	419311	-37.8
Hexabromobiphenyl	1429847	689427	-51.8 <-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	351384	11.5
Hexabromobiphenyl	513946	509536	-0.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col					ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1248	1	8.407	-0.001	52090	254.6	1	8.307	0.000	43170	257.3
Aroclor-1248	2	8.581	-0.000	66705	256.5	2	8.714	0.000	44627	257.3
Aroclor-1248	3	8.999	0.001	130585	266.2	3	9.166	0.000	52153	261.2
Aroclor-1248	4	9.295	-0.000	65690	263.0	4	9.594	0.000	60570	252.7
Total Col1Ave (4 peaks):					260.1	Total Col2Ave (4 peaks):				257.1 RPD = 1
Corrected Ave (3 peaks):					258.0	Corrected Ave (3 peaks):				255.8 RPD = 1
CalAmt %D:					4.0	CalAmt %D:				2.9

Total PCB Area Col1 (5.907 - 13.792) = 1051693 Col1 Total PCB = 0.2 ppm*

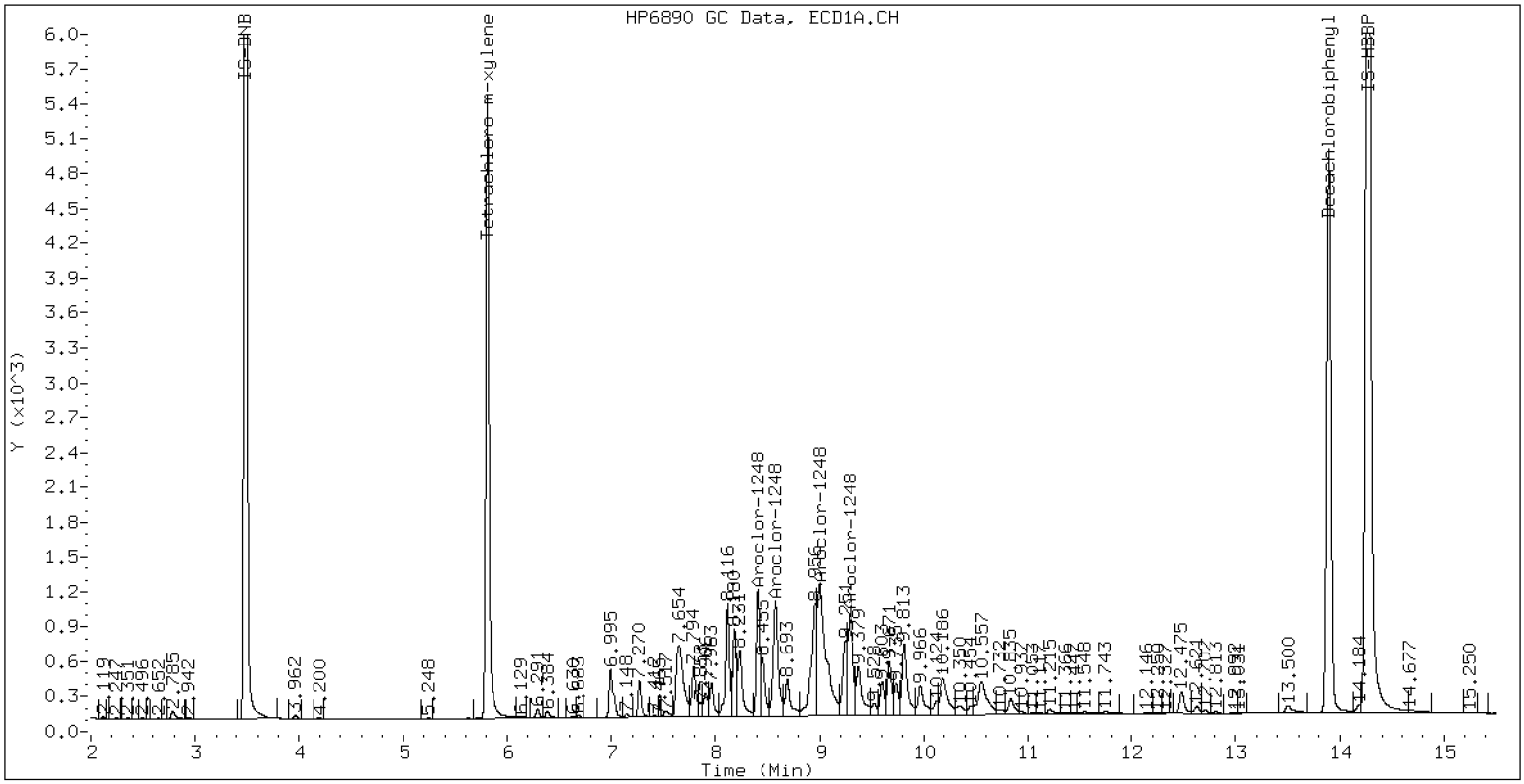
Total PCB Area Col2 (5.787 - 14.019) = 860620 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

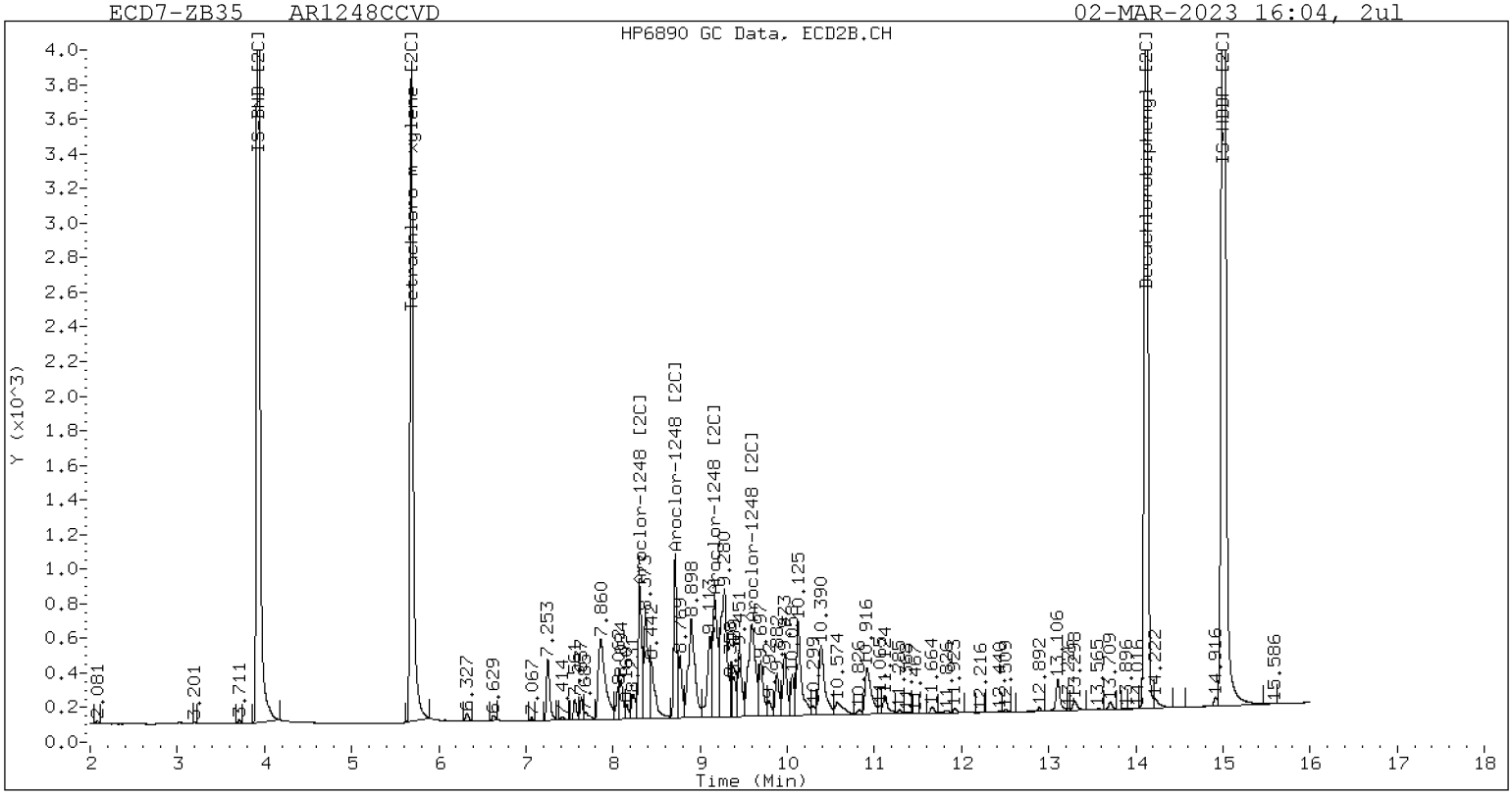
PCB Dual Column Chromatograms

ECD7-ZB5 AR1248CCVD 02-MAR-2023 16:04, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1248CCVD 02-MAR-2023 16:04, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	03012384ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLC0019	Injection Date:	03/02/23
Lab Sample ID:	SLC0019-CCVE	Injection Time:	16:25
Sequence Name:	AR1660CCVE		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT	
Aroclor 1016	A	250.00	269	0.0493662	0.0533071		7.5	+/-20	
Aroclor-1016 (1)	A	250.00	266	0.0303852	0.0323096		6.4		
Aroclor-1016 (2)	A	250.00	272	0.0926308	0.1007083		8.8		
Aroclor-1016 (3)	A	250.00	271	0.0452180	0.0490914		8.4		
Aroclor-1016 (4)	A	250.00	266	0.0292307	0.0311190		6.4		
Aroclor 1016 [2C]	A	250.00	259	0.0545857	0.0574856		3.5	+/-20	
Aroclor-1016 (1) [2C]	A	250.00	249	0.0468313	0.0467142		-0.4		
Aroclor-1016 (2) [2C]	A	250.00	278	0.0949676	0.1056997		11.2		
Aroclor-1016 (3) [2C]	A	250.00	246	0.0428922	0.0422213		-1.6		
Aroclor-1016 (4) [2C]	A	250.00	262	0.0336515	0.0353073		4.8		
Aroclor 1260	A	250.00	326	0.0392091	0.0510715		30.3	+/-20	*
Aroclor-1260 (1)	A	250.00	323	0.0287785	0.0371654		29.2		
Aroclor-1260 (2)	A	250.00	342	0.0300690	0.0410802		36.8		
Aroclor-1260 (3)	A	250.00	323	0.0797517	0.1031722		29.2		
Aroclor-1260 (4)	A	250.00	323	0.0401599	0.0519457		29.2		
Aroclor-1260 (5)	A	250.00	318	0.0172866	0.0219940		27.2		
Aroclor 1260 [2C]	A	250.00	246	0.0699688	0.0705492		-1.7	+/-20	
Aroclor-1260 (1) [2C]	A	250.00	229	0.0470406	0.0430943		-8.4		
Aroclor-1260 (2) [2C]	A	250.00	266	0.1200523	0.1276940		6.4		
Aroclor-1260 (3) [2C]	A	250.00	237	0.0318590	0.0302521		-5.2		
Aroclor-1260 (4) [2C]	A	250.00	251	0.0809231	0.0811562		0.4		
Decachlorobiphenyl	A	40.000	44.8	0.7878687	0.8825264		12.0	+/-20	
Tetrachlorometaxylene	A	40.000	41.9	1.1944880	1.2505520		4.8	+/-20	
Decachlorobiphenyl [2C]	A	40.000	40.5	1.2182710	1.2343340		1.3	+/-20	
Tetrachlorometaxylene [2C]	A	40.000	41.8	1.1737210	1.2273190		4.5	+/-20	

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230301.b/03012384ECD7.D
Data file 2: /230301.b/230301.b/03012384ECD7.D
Method: \\target\share\chem4\ecd7.i\230301.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660CCVE
Client ID:
Injection Date: 02-MAR-2023 16:25
Report Date: 03/02/2023 16:43
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.808	0.001	277458	5.687	0.000	228066	41.9	41.8	0.1	Tetrachloro-m-xylene
13.894	0.001	323761	14.119	0.000	324670	44.8	40.5	10.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	443737	-34.1
Hexabromobiphenyl	1429847	733714	-48.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	371649	17.9
Hexabromobiphenyl	513946	526065	2.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.270	0.001	44803	265.8	1	7.253	-0.001	54254	249.4
Aroclor-1016	2	7.655	0.001	139650	271.8	2	7.858	0.002	122760	278.3
Aroclor-1016	3	7.791	0.001	68074	271.4	3	8.057	0.000	49036	246.1
Aroclor-1016	4	8.405	0.001	43152	266.1	4	8.306	0.000	41006	262.3
Total Col1Ave (4 peaks):					268.8	Total Col2Ave (4 peaks):				259.0 RPD = 4
Corrected Ave (3 peaks):					267.8	Corrected Ave (3 peaks):				252.6 RPD = 6
CalAmt %D:					7.5	CalAmt %D:				3.6
Aroclor-1260	1	11.045	0.001	85215	322.9	1	11.653	0.000	70845	229.0
Aroclor-1260	2	11.362	0.002	94191	341.6	2	11.918	0.001	209923	265.9
Aroclor-1260	3	11.735	0.001	236559	323.4	3	12.436	0.000	49733	237.4
Aroclor-1260	4	12.140	0.001	119104	323.4	4	12.503	0.002	133417	250.7
Aroclor-1260	5	12.244	0.002	50429	318.1	NS	---			----
Total Col1Ave (5 peaks):					325.9	Total Col2Ave (4 peaks):				245.8 RPD = 28
Corrected Ave (4 peaks):					321.9	Corrected Ave (3 peaks):				239.0 RPD = 30
CalAmt %D:					30.3	CalAmt %D:				-1.7

Total PCB Area Col1 (5.907 - 13.792) = 2659172 Col1 Total PCB = 0.5 ppm*

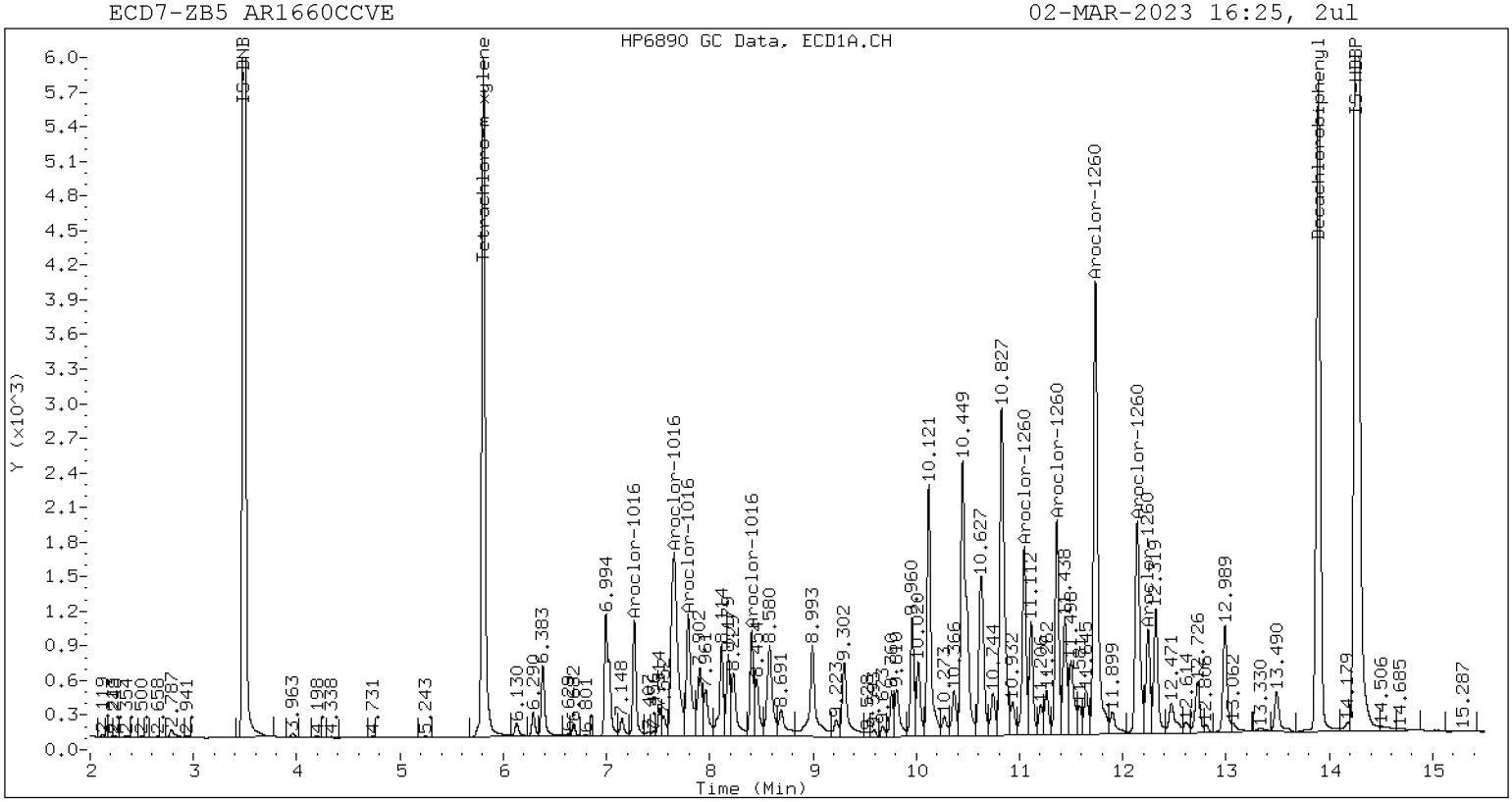
Total PCB Area Col2 (5.787 - 14.019) = 2011311 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

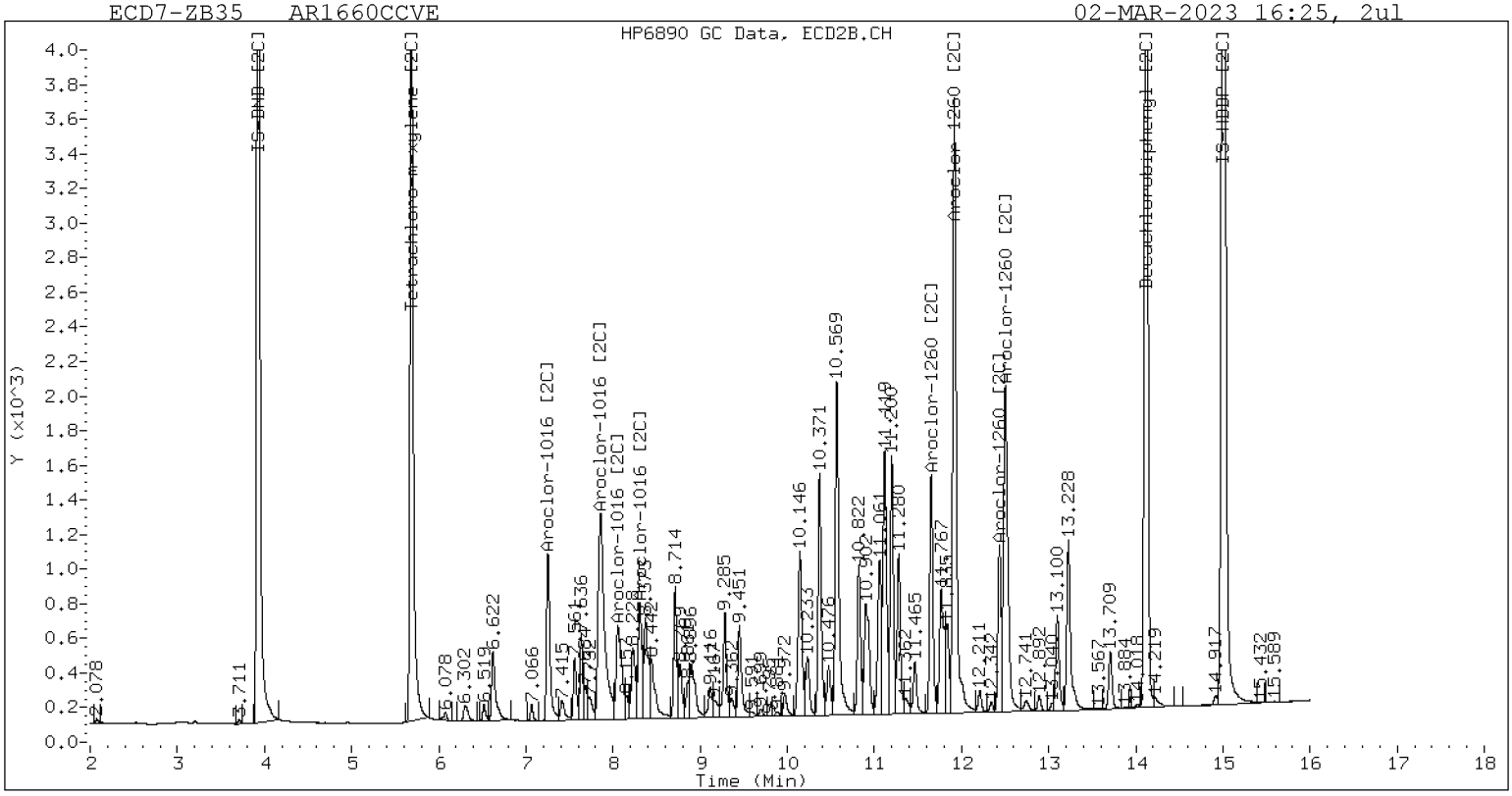
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660CCVE 02-MAR-2023 16:25, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660CCVE 02-MAR-2023 16:25, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8082A

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLB0342
Instrument: ECD7
Calibration: GB00069

Sample Name	Lab Sample ID	Column 1 File ID	Column 2 File ID	Matrix	Analysis Date/Time
Cal Standard	SLB0342-CAL1	02242302ECD7.D	02242302ECD7.D	NA	02/24/23 11:12
Cal Standard	SLB0342-CAL2	02242303ECD7.D	02242303ECD7.D	NA	02/24/23 11:33
Cal Standard	SLB0342-CAL3	02242304ECD7.D	02242304ECD7.D	NA	02/24/23 11:54
Cal Standard	SLB0342-CAL4	02242305ECD7.D	02242305ECD7.D	NA	02/24/23 12:15
Cal Standard	SLB0342-CAL5	02242306ECD7.D	02242306ECD7.D	NA	02/24/23 12:36
Cal Standard	SLB0342-CAL6	02242307ECD7.D	02242307ECD7.D	NA	02/24/23 12:57
Cal Standard	SLB0342-CAL7	02242308ECD7.D	02242308ECD7.D	NA	02/24/23 13:18
Cal Standard	SLB0342-CAL8	02242309ECD7.D	02242309ECD7.D	NA	02/24/23 13:39
Cal Standard	SLB0342-CAL9	02242310ECD7.D	02242310ECD7.D	NA	02/24/23 14:00
Cal Standard	SLB0342-CALA	02242311ECD7.D	02242311ECD7.D	NA	02/24/23 14:21
Cal Standard	SLB0342-CALB	02242312ECD7.D	02242312ECD7.D	NA	02/24/23 14:42
Secondary Cal Check	SLB0342-SCV1	02242313ECD7.D	02242313ECD7.D	NA	02/24/23 15:03
Secondary Cal Check	SLB0342-SCV2	02242314ECD7.D	02242314ECD7.D	NA	02/24/23 15:24
Secondary Cal Check	SLB0342-SCV3	02242315ECD7.D	02242315ECD7.D	NA	02/24/23 15:45
Secondary Cal Check	SLB0342-SCV4	02242316ECD7.D	02242316ECD7.D	NA	02/24/23 16:06
Secondary Cal Check	SLB0342-SCV5	02242317ECD7.D	02242317ECD7.D	NA	02/24/23 16:27
Secondary Cal Check	SLB0342-SCV6	02242318ECD7.D	02242318ECD7.D	NA	02/24/23 16:48

Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8082A

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLC0019
Instrument: ECD7
Calibration: GB00069

Sample Name	Lab Sample ID	Column 1 File ID	Column 2 File ID	Matrix	Analysis Date/Time
Calibration Check	SLC0019-CCV5	03012323ECD7.D	03012323ECD7.D	NA	03/01/23 18:35
Calibration Check	SLC0019-CCV6	03012324ECD7.D	03012324ECD7.D	NA	03/01/23 18:56
Calibration Check	SLC0019-CCV7	03012343ECD7.D	03012343ECD7.D	NA	03/02/23 01:35
Calibration Check	SLC0019-CCV8	03012344ECD7.D	03012344ECD7.D	NA	03/02/23 01:56
Calibration Check	SLC0019-CCV9	03012355ECD7.D	03012355ECD7.D	NA	03/02/23 05:47
Calibration Check	SLC0019-CCVA	03012356ECD7.D	03012356ECD7.D	NA	03/02/23 06:08
Blank	BLB0280-BLK1	03012357ECD7.D	03012357ECD7.D	Solid	03/02/23 06:29
LCS	BLB0280-BS1	03012358ECD7.D	03012358ECD7.D	Solid	03/02/23 06:51
LCS Dup	BLB0280-BSD1	03012359ECD7.D	03012359ECD7.D	Solid	03/02/23 07:12
Reference	BLB0280-SRM1	03012360ECD7.D	03012360ECD7.D	Solid	03/02/23 07:33
LDW23-IT1136	23A0418-01	03012361ECD7.D	03012361ECD7.D	Solid	03/02/23 07:54
LDW23-SC1122	23A0418-03	03012363ECD7.D	03012363ECD7.D	Solid	03/02/23 08:36
LDW23-IT1133	23A0418-05	03012365ECD7.D	03012365ECD7.D	Solid	03/02/23 09:18
LDW23-IT1133-FD	23A0418-06	03012366ECD7.D	03012366ECD7.D	Solid	03/02/23 09:39
LDW23-IT1180	23A0418-07	03012367ECD7.D	03012367ECD7.D	Solid	03/02/23 10:00
LDW23-IT1135	23A0418-10	03012370ECD7.D	03012370ECD7.D	Solid	03/02/23 11:03
Calibration Check	SLC0019-CCVB	03012371ECD7.D	03012371ECD7.D	NA	03/02/23 11:24
Calibration Check	SLC0019-CCVC	03012372ECD7.D	03012372ECD7.D	NA	03/02/23 11:45
LDW23-IT1140	23A0418-11	03012373ECD7.D	03012373ECD7.D	Solid	03/02/23 12:07
LDW23-IT1275	23A0418-12	03012374ECD7.D	03012374ECD7.D	Solid	03/02/23 12:28
LDW23-IT1275	BLB0280-MS1	03012375ECD7.D	03012375ECD7.D	Solid	03/02/23 12:49
LDW23-IT1275	BLB0280-MSD1	03012376ECD7.D	03012376ECD7.D	Solid	03/02/23 13:10
LDW23-IT1142	23A0418-02	03012379ECD7.D	03012379ECD7.D	Solid	03/02/23 14:13
LDW23-IT1141	23A0418-04	03012380ECD7.D	03012380ECD7.D	Solid	03/02/23 14:34
LDW23-IT1218	23A0418-08	03012381ECD7.D	03012381ECD7.D	Solid	03/02/23 14:55
LDW23-IT1216	23A0418-09	03012382ECD7.D	03012382ECD7.D	Solid	03/02/23 15:43
Calibration Check	SLC0019-CCVD	03012383ECD7.D	03012383ECD7.D	NA	03/02/23 16:04
Calibration Check	SLC0019-CCVE	03012384ECD7.D	03012384ECD7.D	NA	03/02/23 16:25

Analytical Resources, LLC
Analytical Chemists and Consultants

ANALYSIS SEQUENCE

SLC0019

Instrument: ECD7
Calibration ID: GB00069

Printed: 3/3/2023 10:00:29AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SLC0019-ICV1	QC		1		L000862	L000844		
SLC0019-ICV2	QC		2		L000856	L000844		
BLB0245-BLK1	QC		3			L000844		
BLB0245-BS1	QC		4			L000844		
BLB0245-BSD1	QC		5			L000844		
23B0025-01	PCB (20 ug/kg) or (MTCA 0.	B 01	6			L000844	Nucor Steel Corporation	
SLC0019-CCV1	QC		7		L000861	L000844		
SLC0019-CCV2	QC		8		L000856	L000844		
SLC0019-CCV3	QC		9		L000860	L000844		
SLC0019-CCV4	QC		10		L000856	L000844		
23A0633-01	PCB (20 ug/kg) or (MTCA 0.	A 01	11			L000844	Seattle Public Utilities	
23A0633-02	PCB (20 ug/kg) or (MTCA 0.	A 01	12			L000844	Seattle Public Utilities	
23A0633-03	PCB (20 ug/kg) or (MTCA 0.	A 01	13			L000844	Seattle Public Utilities	
23A0633-04	PCB (20 ug/kg) or (MTCA 0.	A 01	14			L000844	Seattle Public Utilities	
23A0633-05	PCB (20 ug/kg) or (MTCA 0.	A 01	15			L000844	Seattle Public Utilities	
23A0633-06	PCB (20 ug/kg) or (MTCA 0.	A 01	16			L000844	Seattle Public Utilities	
23A0633-07	PCB (20 ug/kg) or (MTCA 0.	A 01	17			L000844	Seattle Public Utilities	
23A0633-08	PCB (20 ug/kg) or (MTCA 0.	A 01	18			L000844	Seattle Public Utilities	
23A0633-09	PCB (20 ug/kg) or (MTCA 0.	A 01	19			L000844	Seattle Public Utilities	
SLC0019-CCV5	QC		20		L000862	L000844		
SLC0019-CCV6	QC		21		L000856	L000844		

Samples Loaded By Date

Data Processed By Date

ANALYSIS SEQUENCE

SLC0019

Instrument: ECD7
Calibration ID: GB00069

Printed: 3/3/2023 10:00:29AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
23A0633-10	PCB (20 ug/kg) or (MTCA 0.	A 01	22			L000844	Seattle Public Utilities	
23A0633-11	PCB (20 ug/kg) or (MTCA 0.	A 01	23			L000844	Seattle Public Utilities	
23A0633-12	PCB (20 ug/kg) or (MTCA 0.	A 01	24			L000844	Seattle Public Utilities	
BLB0550-BLK1	QC		25			L000844		
BLB0550-BS1	QC		26			L000844		
23B0405-01	8082A PCB	A 01	27			L000844	The Boeing Company [Auburn]	
BLB0597-BLK1	QC		28			L000844		
BLB0597-BS1	QC		29			L000844		
23B0472-01	8082A PCB Water 0.01	D 01	30			L000844	Nucor Steel Corporation	
BLB0282-BLK1	QC		31			L000844		
BLB0282-BS1	QC		32			L000844		
BLB0282-BSD1	QC		33			L000844		
BLB0282-SRM1	QC		34			L000844		
23A0419-01	8082A PCB Solid 4	A 02	35			L000844	Anchor QEA, LLC	
23A0419-02	8082A PCB Solid 4	A 02	36			L000844	Anchor QEA, LLC	
23A0419-03	8082A PCB Solid 4	A 02	37			L000844	Anchor QEA, LLC	
23A0419-04	8082A PCB Solid 4	A 02	38			L000844	Anchor QEA, LLC	
SLC0019-CCV7	QC		39		L000861	L000844		
SLC0019-CCV8	QC		40		L000856	L000844		
23A0419-05	8082A PCB Solid 4	A 02	41			L000844	Anchor QEA, LLC	
23A0419-06	8082A PCB Solid 4	A 02	42			L000844	Anchor QEA, LLC	

Samples Loaded By Date

Data Processed By Date

ANALYSIS SEQUENCE

SLC0019

Instrument: ECD7
Calibration ID: GB00069

Printed: 3/3/2023 10:00:29AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
23A0419-07	8082A PCB Solid 4	A 02	43			L000844	Anchor QEA, LLC	
23A0419-09	8082A PCB Solid 4	A 02	44			L000844	Anchor QEA, LLC	
23A0419-10	8082A PCB Solid 4	A 02	45			L000844	Anchor QEA, LLC	
BLB0282-MS1	QC		46			L000844		
BLB0282-MSD1	QC		47			L000844		
23A0419-12	8082A PCB Solid 4	A 02	48			L000844	Anchor QEA, LLC	
SLC0019-CCV9	QC		49		L000860	L000844		
SLC0019-CCVA	QC		50		L000856	L000844		
BLB0280-BLK1	QC		51			L000844		
BLB0280-BS1	QC		52			L000844		
BLB0280-BSD1	QC		53			L000844		
BLB0280-SRM1	QC		54			L000844		
23A0418-01	8082A PCB Solid 4	A 01	55			L000844	Anchor QEA, LLC	
23A0418-03	8082A PCB Solid 4	A 01	56			L000844	Anchor QEA, LLC	
23A0418-05	8082A PCB Solid 4	A 01	57			L000844	Anchor QEA, LLC	
23A0418-06	8082A PCB Solid 4	A 01	58			L000844	Anchor QEA, LLC	
23A0418-07	8082A PCB Solid 4	A 01	59			L000844	Anchor QEA, LLC	
23A0418-10	8082A PCB Solid 4	A 01	60			L000844	Anchor QEA, LLC	
SLC0019-CCVB	QC		61		L000862	L000844		
SLC0019-CCVC	QC		62		L000856	L000844		
23A0418-11	8082A PCB Solid 4	A 01	63			L000844	Anchor QEA, LLC	

Samples Loaded By Date

Data Processed By Date

ANALYSIS SEQUENCE

SLC0019

Instrument: ECD7
Calibration ID: GB00069

Printed: 3/3/2023 10:00:29AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
23A0418-12	8082A PCB Solid 4	A 01	64			L000844	Anchor QEA, LLC	
BLB0280-MS1	QC		65			L000844		
BLB0280-MSD1	QC		66			L000844		
23A0419-08	8082A PCB Solid 4	A 02	67			L000844	Anchor QEA, LLC	
23A0419-11	8082A PCB Solid 4	A 02	68			L000844	Anchor QEA, LLC	
23A0418-02	8082A PCB Solid 4	A 01	69			L000844	Anchor QEA, LLC	
23A0418-04	8082A PCB Solid 4	A 01	70			L000844	Anchor QEA, LLC	
23A0418-08	8082A PCB Solid 4	A 01	71			L000844	Anchor QEA, LLC	
23A0418-09	8082A PCB Solid 4	A 01	72			L000844	Anchor QEA, LLC	
SLC0019-CCVD	QC		73		L000861	L000844		
SLC0019-CCVE	QC		74		L000856	L000844		

Samples Loaded By Date

Data Processed By Date

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230301.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	01-MAR-2023 10:05	03012301ECD7.D	1	DDTS	
2	01-MAR-2023 10:26	03012302ECD7.D	1	AR1254ICV1	
3	01-MAR-2023 10:47	03012303ECD7.D	1	AR1660ICV2	
4	01-MAR-2023 11:08	03012304ECD7.D	1	BLB0245-BLK1	
5	01-MAR-2023 11:30	03012305ECD7.D	1	BLB0245-BS1	
6	01-MAR-2023 11:51	03012306ECD7.D	1	BLB0245-BSD1	
7	01-MAR-2023 12:12	03012307ECD7.D	1	23B0025-01	
8	01-MAR-2023 12:33	03012308ECD7.D	1	AR1248CCV1	
9	01-MAR-2023 12:54	03012309ECD7.D	1	AR1660CCV2	
10	01-MAR-2023 13:15	03012310ECD7.D	1	BLB0245-BSD1	
11	01-MAR-2023 14:23	03012311ECD7.D	1	AR1242CCV3	
12	01-MAR-2023 14:44	03012312ECD7.D	1	AR1660CCV4	
13	01-MAR-2023 15:05	03012313ECD7.D	1	23A0633-01	
14	01-MAR-2023 15:26	03012314ECD7.D	1	23A0633-02	
15	01-MAR-2023 15:47	03012315ECD7.D	1	23A0633-03	
16	01-MAR-2023 16:08	03012316ECD7.D	1	23A0633-04	
17	01-MAR-2023 16:29	03012317ECD7.D	1	23A0633-05	
18	01-MAR-2023 16:50	03012318ECD7.D	1	23A0633-06	
19	01-MAR-2023 17:11	03012319ECD7.D	1	23A0633-07	
20	01-MAR-2023 17:32	03012320ECD7.D	1	23A0633-08	
21	01-MAR-2023 17:53	03012321ECD7.D	5	23A0633-08RE1	
22	01-MAR-2023 18:14	03012322ECD7.D	1	23A0633-09	
23	01-MAR-2023 18:35	03012323ECD7.D	1	AR1254CCV5	
24	01-MAR-2023 18:56	03012324ECD7.D	1	AR1660CCV6	
25	01-MAR-2023 19:17	03012325ECD7.D	1	23A0633-10	
26	01-MAR-2023 19:38	03012326ECD7.D	1	23A0633-11	
27	01-MAR-2023 19:59	03012327ECD7.D	1	23A0633-12	
28	01-MAR-2023 20:20	03012328ECD7.D	10	23A0633-12RE1	
29	01-MAR-2023 20:41	03012329ECD7.D	1	BLB0550-BLK1	
30	01-MAR-2023 21:02	03012330ECD7.D	1	BLB0550-BS1	
31	01-MAR-2023 21:23	03012331ECD7.D	1	23B0405-01	
32	01-MAR-2023 21:44	03012332ECD7.D	1	BLB0597-BLK1	
33	01-MAR-2023 22:05	03012333ECD7.D	1	BLB0597-BS1	
34	01-MAR-2023 22:26	03012334ECD7.D	1	23B0472-01	
35	01-MAR-2023 22:47	03012335ECD7.D	1	BLB0282-BLK1	
36	01-MAR-2023 23:08	03012336ECD7.D	1	BLB0282-BS1	
37	01-MAR-2023 23:29	03012337ECD7.D	1	BLB0282-BSD1	
38	01-MAR-2023 23:50	03012338ECD7.D	1	BLB0282-SRM1	
39	02-MAR-2023 00:11	03012339ECD7.D	1	23A0419-01	
40	02-MAR-2023 00:32	03012340ECD7.D	1	23A0419-02	
41	02-MAR-2023 00:53	03012341ECD7.D	1	23A0419-03	
42	02-MAR-2023 01:14	03012342ECD7.D	1	23A0419-04	
43	02-MAR-2023 01:35	03012343ECD7.D	1	AR1248CCV7	
44	02-MAR-2023 01:56	03012344ECD7.D	1	AR1660CCV8	
45	02-MAR-2023 02:17	03012345ECD7.D	1	23A0419-05	
46	02-MAR-2023 02:38	03012346ECD7.D	1	23A0419-06	
47	02-MAR-2023 02:59	03012347ECD7.D	1	23A0419-07	
48	02-MAR-2023 03:20	03012348ECD7.D	1	23A0419-08	
49	02-MAR-2023 03:41	03012349ECD7.D	1	23A0419-09	
50	02-MAR-2023 04:02	03012350ECD7.D	1	23A0419-10	

	Inject Date/Time	Filename	DF	LabID	ClientID
51	02-MAR-2023 04:23	03012351ECD7.D	1	BLB0282-MS1	
52	02-MAR-2023 04:44	03012352ECD7.D	1	BLB0282-MSD1	
53	02-MAR-2023 05:05	03012353ECD7.D	1	23A0419-11	
54	02-MAR-2023 05:26	03012354ECD7.D	1	23A0419-12	
55	02-MAR-2023 05:47	03012355ECD7.D	1	AR1242CCV9	
56	02-MAR-2023 06:08	03012356ECD7.D	1	AR1660CCVA	
57	02-MAR-2023 06:29	03012357ECD7.D	1	BLB0280-BLK1	
58	02-MAR-2023 06:51	03012358ECD7.D	1	BLB0280-BS1	
59	02-MAR-2023 07:12	03012359ECD7.D	1	BLB0280-BSD1	
60	02-MAR-2023 07:33	03012360ECD7.D	1	BLB0280-SRM1	
61	02-MAR-2023 07:54	03012361ECD7.D	1	23A0418-01	
62	02-MAR-2023 08:15	03012362ECD7.D	1	23A0418-02	
63	02-MAR-2023 08:36	03012363ECD7.D	1	23A0418-03	
64	02-MAR-2023 08:57	03012364ECD7.D	1	23A0418-04	
65	02-MAR-2023 09:18	03012365ECD7.D	1	23A0418-05	
66	02-MAR-2023 09:39	03012366ECD7.D	1	23A0418-06	
67	02-MAR-2023 10:00	03012367ECD7.D	1	23A0418-07	
68	02-MAR-2023 10:21	03012368ECD7.D	1	23A0418-08	
69	02-MAR-2023 10:42	03012369ECD7.D	1	23A0418-09	
70	02-MAR-2023 11:03	03012370ECD7.D	1	23A0418-10	
71	02-MAR-2023 11:24	03012371ECD7.D	1	AR1254CCVB	
72	02-MAR-2023 11:45	03012372ECD7.D	1	AR1660CCVC	
73	02-MAR-2023 12:07	03012373ECD7.D	1	23A0418-11	
74	02-MAR-2023 12:28	03012374ECD7.D	1	23A0418-12	
75	02-MAR-2023 12:49	03012375ECD7.D	1	BLB0280-MS1	
76	02-MAR-2023 13:10	03012376ECD7.D	1	BLB0280-MSD1	
77	02-MAR-2023 13:31	03012377ECD7.D	20	23A0419-08RE1	
78	02-MAR-2023 13:52	03012378ECD7.D	1	23A0419-11	
79	02-MAR-2023 14:13	03012379ECD7.D	20	23A0418-02RE1	
80	02-MAR-2023 14:34	03012380ECD7.D	20	23A0418-04RE1	
81	02-MAR-2023 14:55	03012381ECD7.D	20	23A0418-08RE2	
82	02-MAR-2023 15:43	03012382ECD7.D	5	23A0418-09RE1	
83	02-MAR-2023 16:04	03012383ECD7.D	1	AR1248CCVD	
84	02-MAR-2023 16:25	03012384ECD7.D	1	AR1660CCVE	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230301.b

ARI Job No.: DDTS Method: PCB.m Instrument: ecd7.i Date: 01-MAR-2023

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1005	03012301ECD7.D	DDTS		1	NO MANUAL INTEGRATION
1026	03012302ECD7.D	AR1254ICV1		1	NO MANUAL INTEGRATION
1047	03012303ECD7.D	AR1660ICV2		1	NO MANUAL INTEGRATION
1108	03012304ECD7.D	BLB0245-BLK1		1	NO MANUAL INTEGRATION
1130	03012305ECD7.D	BLB0245-BS1		1	NO MANUAL INTEGRATION
1151	03012306ECD7.D	BLB0245-BSD1		1	NO MANUAL INTEGRATION
1212	03012307ECD7.D	23B0025-01		1	NO MANUAL INTEGRATION
1233	03012308ECD7.D	AR1248CCV1		1	NO MANUAL INTEGRATION
1254	03012309ECD7.D	AR1660CCV2		1	Aroclor-1260,
1315	03012310ECD7.D	BLB0245-BSD1		1	NO MANUAL INTEGRATION
1423	03012311ECD7.D	AR1242CCV3		1	NO MANUAL INTEGRATION
1444	03012312ECD7.D	AR1660CCV4		1	Aroclor-1260,
1505	03012313ECD7.D	23A0633-01		1	NO MANUAL INTEGRATION
1526	03012314ECD7.D	23A0633-02		1	NO MANUAL INTEGRATION
1547	03012315ECD7.D	23A0633-03		1	NO MANUAL INTEGRATION
1608	03012316ECD7.D	23A0633-04		1	NO MANUAL INTEGRATION
1629	03012317ECD7.D	23A0633-05		1	Tetrachloro-m-xylene,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230301.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1650	03012318ECD7.D	23A0633-06		1	NO MANUAL INTEGRATION
1711	03012319ECD7.D	23A0633-07		1	NO MANUAL INTEGRATION
1732	03012320ECD7.D	23A0633-08		1	NO MANUAL INTEGRATION
1753	03012321ECD7.D	23A0633-08RE1		5	NO MANUAL INTEGRATION
1814	03012322ECD7.D	23A0633-09		1	NO MANUAL INTEGRATION
1835	03012323ECD7.D	AR1254CCV5		1	NO MANUAL INTEGRATION
1856	03012324ECD7.D	AR1660CCV6		1	NO MANUAL INTEGRATION
1917	03012325ECD7.D	23A0633-10		1	Aroclor-1254,
1938	03012326ECD7.D	23A0633-11		1	NO MANUAL INTEGRATION
1959	03012327ECD7.D	23A0633-12		1	NO MANUAL INTEGRATION
2020	03012328ECD7.D	23A0633-12RE1		10	Aroclor-1260,
2041	03012329ECD7.D	BLB0550-BLK1		1	NO MANUAL INTEGRATION
2102	03012330ECD7.D	BLB0550-BS1		1	NO MANUAL INTEGRATION
2123	03012331ECD7.D	23B0405-01		1	NO MANUAL INTEGRATION
2144	03012332ECD7.D	BLB0597-BLK1		1	NO MANUAL INTEGRATION
2205	03012333ECD7.D	BLB0597-BS1		1	NO MANUAL INTEGRATION
2226	03012334ECD7.D	23B0472-01		1	NO MANUAL INTEGRATION
2247	03012335ECD7.D	BLB0282-BLK1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230301.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2308	03012336ECD7.D	BLB0282-BS1		1	NO MANUAL INTEGRATION
2329	03012337ECD7.D	BLB0282-BSD1		1	NO MANUAL INTEGRATION
2350	03012338ECD7.D	BLB0282-SRM1		1	NO MANUAL INTEGRATION
0011	03012339ECD7.D	23A0419-01		1	Aroclor-1254,
0032	03012340ECD7.D	23A0419-02		1	Aroclor-1254, Aroclor-1260,
0053	03012341ECD7.D	23A0419-03		1	Aroclor-1260,
0114	03012342ECD7.D	23A0419-04		1	Aroclor-1254, Aroclor-1260,
0135	03012343ECD7.D	AR1248CCV7		1	NO MANUAL INTEGRATION
0156	03012344ECD7.D	AR1660CCV8		1	Aroclor-1260,
0217	03012345ECD7.D	23A0419-05		1	Aroclor-1254,
0238	03012346ECD7.D	23A0419-06		1	Aroclor-1254,
0259	03012347ECD7.D	23A0419-07		1	Aroclor-1254, Aroclor-1260,
0320	03012348ECD7.D	23A0419-08		1	NO MANUAL INTEGRATION
0341	03012349ECD7.D	23A0419-09		1	NO MANUAL INTEGRATION
0402	03012350ECD7.D	23A0419-10		1	Aroclor-1254,
0423	03012351ECD7.D	BLB0282-MS1		1	NO MANUAL INTEGRATION
0444	03012352ECD7.D	BLB0282-MSD1		1	NO MANUAL INTEGRATION
0505	03012353ECD7.D	23A0419-11		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230301.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0526	03012354ECD7.D	23A0419-12		1	Aroclor-1254,
0547	03012355ECD7.D	AR1242CCV9		1	NO MANUAL INTEGRATION
0608	03012356ECD7.D	AR1660CCVA		1	NO MANUAL INTEGRATION
0629	03012357ECD7.D	BLB0280-BLK1		1	NO MANUAL INTEGRATION
0651	03012358ECD7.D	BLB0280-BS1		1	NO MANUAL INTEGRATION
0712	03012359ECD7.D	BLB0280-BSD1		1	NO MANUAL INTEGRATION
0733	03012360ECD7.D	BLB0280-SRM1		1	NO MANUAL INTEGRATION
0754	03012361ECD7.D	23A0418-01		1	NO MANUAL INTEGRATION
0815	03012362ECD7.D	23A0418-02		1	NO MANUAL INTEGRATION
0836	03012363ECD7.D	23A0418-03		1	Aroclor-1254,
0857	03012364ECD7.D	23A0418-04		1	NO MANUAL INTEGRATION
0918	03012365ECD7.D	23A0418-05		1	Aroclor-1254,
0939	03012366ECD7.D	23A0418-06		1	Aroclor-1254,
1000	03012367ECD7.D	23A0418-07		1	Aroclor-1254,
1021	03012368ECD7.D	23A0418-08		1	NO MANUAL INTEGRATION
1042	03012369ECD7.D	23A0418-09		1	Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268, IS-HBBP, Decachlorobiphenyl,
1103	03012370ECD7.D	23A0418-10		1	NO MANUAL INTEGRATION
1124	03012371ECD7.D	AR1254CCVB		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230301.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1145	03012372ECD7.D	AR1660CCVC		1	NO MANUAL INTEGRATION
1207	03012373ECD7.D	23A0418-11		1	NO MANUAL INTEGRATION
1228	03012374ECD7.D	23A0418-12		1	NO MANUAL INTEGRATION
1249	03012375ECD7.D	BLB0280-MS1		1	NO MANUAL INTEGRATION
1310	03012376ECD7.D	BLB0280-MSD1		1	NO MANUAL INTEGRATION
1331	03012377ECD7.D	23A0419-08RE1		20	NO MANUAL INTEGRATION
1352	03012378ECD7.D	23A0419-11		1	Aroclor-1254,
1413	03012379ECD7.D	23A0418-02RE1		20	NO MANUAL INTEGRATION
1434	03012380ECD7.D	23A0418-04RE1		20	Aroclor-1254,
1455	03012381ECD7.D	23A0418-08RE2		20	Aroclor-1254,
1543	03012382ECD7.D	23A0418-09RE1		5	NO MANUAL INTEGRATION
1604	03012383ECD7.D	AR1248CCVD		1	NO MANUAL INTEGRATION
1625	03012384ECD7.D	AR1660CCVE		1	NO MANUAL INTEGRATION
1005	03012301ECD7.D	DDTS		1	NO MANUAL INTEGRATION
1026	03012302ECD7.D	AR1254ICV1		1	NO MANUAL INTEGRATION
1047	03012303ECD7.D	AR1660ICV2		1	NO MANUAL INTEGRATION
1108	03012304ECD7.D	BLB0245-BLK1		1	NO MANUAL INTEGRATION
1130	03012305ECD7.D	BLB0245-BS1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230301.b\230301.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1151	03012306ECD7.D	BLB0245-BSD1		1	NO MANUAL INTEGRATION
1212	03012307ECD7.D	23B0025-01		1	NO MANUAL INTEGRATION
1233	03012308ECD7.D	AR1248CCV1		1	NO MANUAL INTEGRATION
1254	03012309ECD7.D	AR1660CCV2		1	NO MANUAL INTEGRATION
1315	03012310ECD7.D	BLB0245-BSD1		1	NO MANUAL INTEGRATION
1423	03012311ECD7.D	AR1242CCV3		1	NO MANUAL INTEGRATION
1444	03012312ECD7.D	AR1660CCV4		1	NO MANUAL INTEGRATION
1505	03012313ECD7.D	23A0633-01		1	NO MANUAL INTEGRATION
1526	03012314ECD7.D	23A0633-02		1	NO MANUAL INTEGRATION
1547	03012315ECD7.D	23A0633-03		1	NO MANUAL INTEGRATION
1608	03012316ECD7.D	23A0633-04		1	NO MANUAL INTEGRATION
1629	03012317ECD7.D	23A0633-05		1	NO MANUAL INTEGRATION
1650	03012318ECD7.D	23A0633-06		1	NO MANUAL INTEGRATION
1711	03012319ECD7.D	23A0633-07		1	NO MANUAL INTEGRATION
1732	03012320ECD7.D	23A0633-08		1	NO MANUAL INTEGRATION
1753	03012321ECD7.D	23A0633-08RE1		5	NO MANUAL INTEGRATION
1814	03012322ECD7.D	23A0633-09		1	NO MANUAL INTEGRATION
1835	03012323ECD7.D	AR1254CCV5		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230301.b\230301.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1856	03012324ECD7.D	AR1660CCV6		1	NO MANUAL INTEGRATION
1917	03012325ECD7.D	23A0633-10		1	NO MANUAL INTEGRATION
1938	03012326ECD7.D	23A0633-11		1	NO MANUAL INTEGRATION
1959	03012327ECD7.D	23A0633-12		1	NO MANUAL INTEGRATION
2020	03012328ECD7.D	23A0633-12RE1		10	NO MANUAL INTEGRATION
2041	03012329ECD7.D	BLB0550-BLK1		1	NO MANUAL INTEGRATION
2102	03012330ECD7.D	BLB0550-BS1		1	NO MANUAL INTEGRATION
2123	03012331ECD7.D	23B0405-01		1	NO MANUAL INTEGRATION
2144	03012332ECD7.D	BLB0597-BLK1		1	NO MANUAL INTEGRATION
2205	03012333ECD7.D	BLB0597-BS1		1	NO MANUAL INTEGRATION
2226	03012334ECD7.D	23B0472-01		1	NO MANUAL INTEGRATION
2247	03012335ECD7.D	BLB0282-BLK1		1	NO MANUAL INTEGRATION
2308	03012336ECD7.D	BLB0282-BS1		1	NO MANUAL INTEGRATION
2329	03012337ECD7.D	BLB0282-BSD1		1	NO MANUAL INTEGRATION
2350	03012338ECD7.D	BLB0282-SRM1		1	NO MANUAL INTEGRATION
0011	03012339ECD7.D	23A0419-01		1	NO MANUAL INTEGRATION
0032	03012340ECD7.D	23A0419-02		1	Aroclor-1248 [2C],
0053	03012341ECD7.D	23A0419-03		1	Aroclor-1248 [2C],

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230301.b\230301.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0114	03012342ECD7.D	23A0419-04		1	Aroclor-1248 [2C],
0135	03012343ECD7.D	AR1248CCV7		1	NO MANUAL INTEGRATION
0156	03012344ECD7.D	AR1660CCV8		1	NO MANUAL INTEGRATION
0217	03012345ECD7.D	23A0419-05		1	Aroclor-1248 [2C],
0238	03012346ECD7.D	23A0419-06		1	NO MANUAL INTEGRATION
0259	03012347ECD7.D	23A0419-07		1	Aroclor-1248 [2C],
0320	03012348ECD7.D	23A0419-08		1	NO MANUAL INTEGRATION
0341	03012349ECD7.D	23A0419-09		1	Aroclor-1248 [2C],
0402	03012350ECD7.D	23A0419-10		1	Aroclor-1248 [2C],
0423	03012351ECD7.D	BLB0282-MS1		1	NO MANUAL INTEGRATION
0444	03012352ECD7.D	BLB0282-MSD1		1	NO MANUAL INTEGRATION
0505	03012353ECD7.D	23A0419-11		1	NO MANUAL INTEGRATION
0526	03012354ECD7.D	23A0419-12		1	Aroclor-1248 [2C],
0547	03012355ECD7.D	AR1242CCV9		1	NO MANUAL INTEGRATION
0608	03012356ECD7.D	AR1660CCVA		1	NO MANUAL INTEGRATION
0629	03012357ECD7.D	BLB0280-BLK1		1	NO MANUAL INTEGRATION
0651	03012358ECD7.D	BLB0280-BS1		1	NO MANUAL INTEGRATION
0712	03012359ECD7.D	BLB0280-BSD1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230301.b\230301.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0733	03012360ECD7.D	BLB0280-SRM1		1	NO MANUAL INTEGRATION
0754	03012361ECD7.D	23A0418-01		1	NO MANUAL INTEGRATION
0815	03012362ECD7.D	23A0418-02		1	NO MANUAL INTEGRATION
0836	03012363ECD7.D	23A0418-03		1	Aroclor-1248 [2C],
0857	03012364ECD7.D	23A0418-04		1	NO MANUAL INTEGRATION
0918	03012365ECD7.D	23A0418-05		1	Aroclor-1248 [2C],
0939	03012366ECD7.D	23A0418-06		1	Aroclor-1248 [2C],
1000	03012367ECD7.D	23A0418-07		1	NO MANUAL INTEGRATION
1021	03012368ECD7.D	23A0418-08		1	NO MANUAL INTEGRATION
1042	03012369ECD7.D	23A0418-09		1	NO MANUAL INTEGRATION
1103	03012370ECD7.D	23A0418-10		1	NO MANUAL INTEGRATION
1124	03012371ECD7.D	AR1254CCVB		1	NO MANUAL INTEGRATION
1145	03012372ECD7.D	AR1660CCVC		1	NO MANUAL INTEGRATION
1207	03012373ECD7.D	23A0418-11		1	Aroclor-1248 [2C],
1228	03012374ECD7.D	23A0418-12		1	NO MANUAL INTEGRATION
1249	03012375ECD7.D	BLB0280-MS1		1	NO MANUAL INTEGRATION
1310	03012376ECD7.D	BLB0280-MSD1		1	NO MANUAL INTEGRATION
1331	03012377ECD7.D	23A0419-08RE1		20	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230301.b\230301.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1352	03012378ECD7.D	23A0419-11		1	Aroclor-1248 [2C],
1413	03012379ECD7.D	23A0418-02RE1		20	NO MANUAL INTEGRATION
1434	03012380ECD7.D	23A0418-04RE1		20	NO MANUAL INTEGRATION
1455	03012381ECD7.D	23A0418-08RE2		20	Aroclor-1248 [2C],
1543	03012382ECD7.D	23A0418-09RE1		5	NO MANUAL INTEGRATION
1604	03012383ECD7.D	AR1248CCVD		1	NO MANUAL INTEGRATION
1625	03012384ECD7.D	AR1660CCVE		1	NO MANUAL INTEGRATION

Security Status Report

Date: 02-Mar-2023 16:47

03012301ECD7.D	Data Locked	richardl, 02-Mar-2023 16:47
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03012363ECD7.D	Data Locked	richardl, 02-Mar-2023 16:47
03012364ECD7.D	Data Locked	richardl, 02-Mar-2023 16:47
03012365ECD7.D	Data Locked	richardl, 02-Mar-2023 16:47
03012366ECD7.D	Data Locked	richardl, 02-Mar-2023 16:47
03012367ECD7.D	Data Locked	richardl, 02-Mar-2023 16:47
03012368ECD7.D	Data Locked	richardl, 02-Mar-2023 16:47
03012369ECD7.D	Data Locked	richardl, 02-Mar-2023 16:47
03012370ECD7.D	Data Locked	richardl, 02-Mar-2023 16:47
03012371ECD7.D	Data Locked	richardl, 02-Mar-2023 16:47
03012372ECD7.D	Data Locked	richardl, 02-Mar-2023 16:47
03012373ECD7.D	Data Locked	richardl, 02-Mar-2023 16:47
03012374ECD7.D	Data Locked	richardl, 02-Mar-2023 16:47
03012375ECD7.D	Data Locked	richardl, 02-Mar-2023 16:47
03012376ECD7.D	Data Locked	richardl, 02-Mar-2023 16:47
03012377ECD7.D	Data Locked	richardl, 02-Mar-2023 16:47
03012378ECD7.D	Data Locked	richardl, 02-Mar-2023 16:47
03012379ECD7.D	Data Locked	richardl, 02-Mar-2023 16:47
03012380ECD7.D	Data Locked	richardl, 02-Mar-2023 16:47
03012381ECD7.D	Data Locked	richardl, 02-Mar-2023 16:47
03012382ECD7.D	Data Locked	richardl, 02-Mar-2023 16:47
03012383ECD7.D	Data Locked	richardl, 02-Mar-2023 16:47
03012384ECD7.D	Data Locked	richardl, 02-Mar-2023 16:47

SURROGATE RECOVERY AND RT SUMMARY
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG/WO:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLB0342	Instrument:	ECD7
Calibration:	GB00069	Calibration Date:	02/24/2023

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SLB0342-SCV1 (Water)			Lab File ID: 02242313ECD7.D			Analyzed: 02/24/23 15:03		
Decachlorobiphenyl	40.000	85.8	80 - 120	13.894	13.89483	-0.0008	N/A	
Tetrachlorometaxylene	40.000	87.4	80 - 120	5.807	5.8095	-0.0025	N/A	
Decachlorobiphenyl [2C]	40.000	93.4	80 - 120	14.119	14.11917	-0.0002	N/A	
Tetrachlorometaxylene [2C]	40.000	89.4	80 - 120	5.685	5.687167	-0.0022	N/A	
SLB0342-SCV2 (Water)			Lab File ID: 02242314ECD7.D			Analyzed: 02/24/23 15:24		
Decachlorobiphenyl	40.000	92.5	80 - 120	13.895	13.89483	0.0002	N/A	
Tetrachlorometaxylene	40.000	84.1	80 - 120	5.808	5.8095	-0.0015	N/A	
Decachlorobiphenyl [2C]	40.000	101	80 - 120	14.12	14.11917	0.0008	N/A	
Tetrachlorometaxylene [2C]	40.000	86.3	80 - 120	5.686	5.687167	-0.0012	N/A	
SLB0342-SCV3 (Water)			Lab File ID: 02242315ECD7.D			Analyzed: 02/24/23 15:45		
Decachlorobiphenyl	40.000	82.8	80 - 120	13.893	13.89483	-0.0018	N/A	
Tetrachlorometaxylene	40.000	87.2	80 - 120	5.808	5.8095	-0.0015	N/A	
Decachlorobiphenyl [2C]	40.000	90.8	80 - 120	14.118	14.11917	-0.0012	N/A	
Tetrachlorometaxylene [2C]	40.000	91.0	80 - 120	5.687	5.687167	-0.0002	N/A	
SLB0342-SCV4 (Water)			Lab File ID: 02242316ECD7.D			Analyzed: 02/24/23 16:06		
Decachlorobiphenyl	40.000	86.6	80 - 120	13.894	13.89483	-0.0008	N/A	
Tetrachlorometaxylene	40.000	90.3	80 - 120	5.806	5.8095	-0.0035	N/A	
Decachlorobiphenyl [2C]	40.000	94.8	80 - 120	14.119	14.11917	-0.0002	N/A	
Tetrachlorometaxylene [2C]	40.000	92.7	80 - 120	5.685	5.687167	-0.0022	N/A	
SLB0342-SCV5 (Water)			Lab File ID: 02242317ECD7.D			Analyzed: 02/24/23 16:27		
Decachlorobiphenyl	40.000	86.1	80 - 120	13.894	13.89483	-0.0008	N/A	
Tetrachlorometaxylene	40.000	90.0	80 - 120	5.806	5.8095	-0.0035	N/A	
Decachlorobiphenyl [2C]	40.000	94.6	80 - 120	14.119	14.11917	-0.0002	N/A	
Tetrachlorometaxylene [2C]	40.000	91.6	80 - 120	5.685	5.687167	-0.0022	N/A	
SLB0342-SCV6 (Water)			Lab File ID: 02242318ECD7.D			Analyzed: 02/24/23 16:48		
Decachlorobiphenyl	40.000	128	80 - 120	13.893	13.89483	-0.0018	N/A	
Tetrachlorometaxylene	40.000	92.7	80 - 120	5.806	5.8095	-0.0035	N/A	
Decachlorobiphenyl [2C]	40.000	141	80 - 120	14.118	14.11917	-0.0012	N/A	
Tetrachlorometaxylene [2C]	40.000	95.4	80 - 120	5.685	5.687167	-0.0022	N/A	

SURROGATE RECOVERY AND RT SUMMARY
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG/WO:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0019	Instrument:	ECD7
Calibration:	GB00069	Calibration Date:	02/24/2023

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SLC0019-CCV5 (Solid)			Lab File ID: 03012323ECD7.D			Analyzed: 03/01/23 18:35		
Decachlorobiphenyl	40.000	96.0	80 - 120	13.894	13.89483	-0.0008	N/A	
Tetrachlorometaxylene	40.000	92.8	80 - 120	5.808	5.8095	-0.0015	N/A	
Decachlorobiphenyl [2C]	40.000	98.8	80 - 120	14.119	14.11917	-0.0002	N/A	
Tetrachlorometaxylene [2C]	40.000	99.3	80 - 120	5.686	5.687167	-0.0012	N/A	
SLC0019-CCV6 (Solid)			Lab File ID: 03012324ECD7.D			Analyzed: 03/01/23 18:56		
Decachlorobiphenyl	40.000	101	80 - 120	13.893	13.89483	-0.0018	N/A	
Tetrachlorometaxylene	40.000	99.5	80 - 120	5.807	5.8095	-0.0025	N/A	
Decachlorobiphenyl [2C]	40.000	96.3	80 - 120	14.119	14.11917	-0.0002	N/A	
Tetrachlorometaxylene [2C]	40.000	106	80 - 120	5.686	5.687167	-0.0012	N/A	
SLC0019-CCV7 (Solid)			Lab File ID: 03012343ECD7.D			Analyzed: 03/02/23 01:35		
Decachlorobiphenyl	40.000	93.5	80 - 120	13.895	13.89483	0.0002	N/A	
Tetrachlorometaxylene	40.000	92.5	80 - 120	5.808	5.8095	-0.0015	N/A	
Decachlorobiphenyl [2C]	40.000	100	80 - 120	14.119	14.11917	-0.0002	N/A	
Tetrachlorometaxylene [2C]	40.000	98.5	80 - 120	5.687	5.687167	-0.0002	N/A	
SLC0019-CCV8 (Solid)			Lab File ID: 03012344ECD7.D			Analyzed: 03/02/23 01:56		
Decachlorobiphenyl	40.000	104	80 - 120	13.894	13.89483	-0.0008	N/A	
Tetrachlorometaxylene	40.000	99.3	80 - 120	5.807	5.8095	-0.0025	N/A	
Decachlorobiphenyl [2C]	40.000	99.3	80 - 120	14.119	14.11917	-0.0002	N/A	
Tetrachlorometaxylene [2C]	40.000	105	80 - 120	5.687	5.687167	-0.0002	N/A	
SLC0019-CCV9 (Solid)			Lab File ID: 03012355ECD7.D			Analyzed: 03/02/23 05:47		
Decachlorobiphenyl	40.000	101	80 - 120	13.894	13.89483	-0.0008	N/A	
Tetrachlorometaxylene	40.000	118	80 - 120	5.807	5.8095	-0.0025	N/A	
Decachlorobiphenyl [2C]	40.000	107	80 - 120	14.119	14.11917	-0.0002	N/A	
Tetrachlorometaxylene [2C]	40.000	120	80 - 120	5.687	5.687167	-0.0002	N/A	
SLC0019-CCVA (Solid)			Lab File ID: 03012356ECD7.D			Analyzed: 03/02/23 06:08		
Decachlorobiphenyl	40.000	112	80 - 120	13.892	13.89483	-0.0028	N/A	
Tetrachlorometaxylene	40.000	105	80 - 120	5.807	5.8095	-0.0025	N/A	
Decachlorobiphenyl [2C]	40.000	105	80 - 120	14.118	14.11917	-0.0012	N/A	
Tetrachlorometaxylene [2C]	40.000	107	80 - 120	5.687	5.687167	-0.0002	N/A	

SURROGATE RECOVERY AND RT SUMMARY
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG/WO:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0019	Instrument:	ECD7
Calibration:	GB00069	Calibration Date:	02/24/2023

Surrogate Compound	Spike Level ug/kg wet	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
BLB0280-BLK1 (Solid)			Lab File ID: 03012357ECD7.D			Analyzed: 03/02/23 06:29		
Decachlorobiphenyl	8.0000	93.6	40 - 126	13.89	13.89483	-0.0048	N/A	
Tetrachlorometaxylene	8.0000	74.2	44 - 120	5.806	5.8095	-0.0035	N/A	
Decachlorobiphenyl [2C]	8.0000	91.8	40 - 126	14.117	14.11917	-0.0022	N/A	
Tetrachlorometaxylene [2C]	8.0000	72.5	44 - 120	5.686	5.687167	-0.0012	N/A	
BLB0280-BS1 (Solid)			Lab File ID: 03012358ECD7.D			Analyzed: 03/02/23 06:51		
Decachlorobiphenyl	8.0000	104	40 - 126	13.892	13.89483	-0.0028	N/A	
Tetrachlorometaxylene	8.0000	86.2	44 - 120	5.806	5.8095	-0.0035	N/A	
Decachlorobiphenyl [2C]	8.0000	105	40 - 126	14.116	14.11917	-0.0032	N/A	
Tetrachlorometaxylene [2C]	8.0000	82.8	44 - 120	5.686	5.687167	-0.0012	N/A	
BLB0280-BSD1 (Solid)			Lab File ID: 03012359ECD7.D			Analyzed: 03/02/23 07:12		
Decachlorobiphenyl	8.0000	95.9	40 - 126	13.889	13.89483	-0.0058	N/A	
Tetrachlorometaxylene	8.0000	81.3	44 - 120	5.806	5.8095	-0.0035	N/A	
Decachlorobiphenyl [2C]	8.0000	95.6	40 - 126	14.117	14.11917	-0.0022	N/A	
Tetrachlorometaxylene [2C]	8.0000	77.3	44 - 120	5.686	5.687167	-0.0012	N/A	
BLB0280-SRM1 (Solid)			Lab File ID: 03012360ECD7.D			Analyzed: 03/02/23 07:33		
Decachlorobiphenyl	40.000	101	40 - 126	13.887	13.89483	-0.0078	N/A	
Tetrachlorometaxylene	40.000	85.7	44 - 120	5.806	5.8095	-0.0035	N/A	
Decachlorobiphenyl [2C]	40.000	94.2	40 - 126	14.113	14.11917	-0.0062	N/A	
Tetrachlorometaxylene [2C]	40.000	86.7	44 - 120	5.684	5.687167	-0.0032	N/A	
23A0418-01 (Solid)			Lab File ID: 03012361ECD7.D			Analyzed: 03/02/23 07:54		
Decachlorobiphenyl	7.9637	98.8	40 - 126	13.89	13.89483	-0.0048	N/A	
Tetrachlorometaxylene	7.9637	78.7	44 - 120	5.806	5.8095	-0.0035	N/A	
Decachlorobiphenyl [2C]	7.9637	92.6	40 - 126	14.116	14.11917	-0.0032	N/A	
Tetrachlorometaxylene [2C]	7.9637	77.7	44 - 120	5.686	5.687167	-0.0012	N/A	
23A0418-03 (Solid)			Lab File ID: 03012363ECD7.D			Analyzed: 03/02/23 08:36		
Decachlorobiphenyl	7.9930	83.4	40 - 126	13.885	13.89483	-0.0098	N/A	
Tetrachlorometaxylene	7.9930	63.8	44 - 120	5.804	5.8095	-0.0055	N/A	
Decachlorobiphenyl [2C]	7.9930	76.9	40 - 126	14.111	14.11917	-0.0082	N/A	
Tetrachlorometaxylene [2C]	7.9930	72.3	44 - 120	5.682	5.687167	-0.0052	N/A	

SURROGATE RECOVERY AND RT SUMMARY
EPA 8082A

Laboratory: Analytical Resources, LLC
SDG/WO: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLC0019
Instrument: ECD7
Calibration: GB00069
Calibration Date: 02/24/2023

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
23A0418-05 (Solid)			Lab File ID: 03012365ECD7.D			Analyzed: 03/02/23 09:18		
Decachlorobiphenyl	7.9752	97.3	40 - 126	13.884	13.89483	-0.0108	N/A	
Tetrachlorometaxylene	7.9752	61.7	44 - 120	5.803	5.8095	-0.0065	N/A	
Decachlorobiphenyl [2C]	7.9752	100	40 - 126	14.111	14.11917	-0.0082	N/A	
Tetrachlorometaxylene [2C]	7.9752	70.1	44 - 120	5.68	5.687167	-0.0072	N/A	
23A0418-06 (Solid)			Lab File ID: 03012366ECD7.D			Analyzed: 03/02/23 09:39		
Decachlorobiphenyl	7.9804	92.3	40 - 126	13.885	13.89483	-0.0098	N/A	
Tetrachlorometaxylene	7.9804	59.4	44 - 120	5.803	5.8095	-0.0065	N/A	
Decachlorobiphenyl [2C]	7.9804	94.1	40 - 126	14.111	14.11917	-0.0082	N/A	
Tetrachlorometaxylene [2C]	7.9804	66.0	44 - 120	5.68	5.687167	-0.0072	N/A	
23A0418-07 (Solid)			Lab File ID: 03012367ECD7.D			Analyzed: 03/02/23 10:00		
Decachlorobiphenyl	7.9920	95.9	40 - 126	13.886	13.89483	-0.0088	N/A	
Tetrachlorometaxylene	7.9920	75.7	44 - 120	5.803	5.8095	-0.0065	N/A	
Decachlorobiphenyl [2C]	7.9920	93.5	40 - 126	14.112	14.11917	-0.0072	N/A	
Tetrachlorometaxylene [2C]	7.9920	81.3	44 - 120	5.682	5.687167	-0.0052	N/A	
23A0418-10 (Solid)			Lab File ID: 03012370ECD7.D			Analyzed: 03/02/23 11:03		
Decachlorobiphenyl	7.9562	111	40 - 126	13.889	13.89483	-0.0058	N/A	
Tetrachlorometaxylene	7.9562	77.5	44 - 120	5.806	5.8095	-0.0035	N/A	
Decachlorobiphenyl [2C]	7.9562	90.7	40 - 126	14.115	14.11917	-0.0042	N/A	
Tetrachlorometaxylene [2C]	7.9562	78.7	44 - 120	5.684	5.687167	-0.0032	N/A	
SLC0019-CCVB (Solid)			Lab File ID: 03012371ECD7.D			Analyzed: 03/02/23 11:24		
Decachlorobiphenyl	40.000	102	80 - 120	13.893	13.89483	-0.0018	N/A	
Tetrachlorometaxylene	40.000	99.5	80 - 120	5.807	5.8095	-0.0025	N/A	
Decachlorobiphenyl [2C]	40.000	106	80 - 120	14.117	14.11917	-0.0022	N/A	
Tetrachlorometaxylene [2C]	40.000	99.5	80 - 120	5.687	5.687167	-0.0002	N/A	
SLC0019-CCVC (Solid)			Lab File ID: 03012372ECD7.D			Analyzed: 03/02/23 11:45		
Decachlorobiphenyl	40.000	108	80 - 120	13.892	13.89483	-0.0028	N/A	
Tetrachlorometaxylene	40.000	106	80 - 120	5.806	5.8095	-0.0035	N/A	
Decachlorobiphenyl [2C]	40.000	105	80 - 120	14.119	14.11917	-0.0002	N/A	
Tetrachlorometaxylene [2C]	40.000	106	80 - 120	5.686	5.687167	-0.0012	N/A	

SURROGATE RECOVERY AND RT SUMMARY
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG/WO:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0019	Instrument:	ECD7
Calibration:	GB00069	Calibration Date:	02/24/2023

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
23A0418-11 (Solid)			Lab File ID: 03012373ECD7.D			Analyzed: 03/02/23 12:07		
Decachlorobiphenyl	7.9866	94.1	40 - 126	13.885	13.89483	-0.0098	N/A	
Tetrachlorometaxylene	7.9866	80.6	44 - 120	5.805	5.8095	-0.0045	N/A	
Decachlorobiphenyl [2C]	7.9866	87.8	40 - 126	14.112	14.11917	-0.0072	N/A	
Tetrachlorometaxylene [2C]	7.9866	85.9	44 - 120	5.683	5.687167	-0.0042	N/A	
23A0418-12 (Solid)			Lab File ID: 03012374ECD7.D			Analyzed: 03/02/23 12:28		
Decachlorobiphenyl	7.9987	100	40 - 126	13.887	13.89483	-0.0078	N/A	
Tetrachlorometaxylene	7.9987	75.6	44 - 120	5.806	5.8095	-0.0035	N/A	
Decachlorobiphenyl [2C]	7.9987	91.9	40 - 126	14.113	14.11917	-0.0062	N/A	
Tetrachlorometaxylene [2C]	7.9987	76.4	44 - 120	5.685	5.687167	-0.0022	N/A	
BLB0280-MS1 (Solid)			Lab File ID: 03012375ECD7.D			Analyzed: 03/02/23 12:49		
Decachlorobiphenyl	7.9987	105	40 - 126	13.888	13.89483	-0.0068	N/A	
Tetrachlorometaxylene	7.9987	78.5	44 - 120	5.807	5.8095	-0.0025	N/A	
Decachlorobiphenyl [2C]	7.9987	92.8	40 - 126	14.115	14.11917	-0.0042	N/A	
Tetrachlorometaxylene [2C]	7.9987	76.4	44 - 120	5.686	5.687167	-0.0012	N/A	
BLB0280-MSD1 (Solid)			Lab File ID: 03012376ECD7.D			Analyzed: 03/02/23 13:10		
Decachlorobiphenyl	7.9987	104	40 - 126	13.889	13.89483	-0.0058	N/A	
Tetrachlorometaxylene	7.9987	75.7	44 - 120	5.806	5.8095	-0.0035	N/A	
Decachlorobiphenyl [2C]	7.9987	89.5	40 - 126	14.115	14.11917	-0.0042	N/A	
Tetrachlorometaxylene [2C]	7.9987	73.3	44 - 120	5.686	5.687167	-0.0012	N/A	
23A0418-02 (Solid)			Lab File ID: 03012379ECD7.D			Analyzed: 03/02/23 14:13		
Decachlorobiphenyl	7.9757	127	40 - 126	13.89	13.89483	-0.0048	N/A	
Tetrachlorometaxylene	7.9757	103	44 - 120	5.807	5.8095	-0.0025	N/A	
Decachlorobiphenyl [2C]	7.9757	112	40 - 126	14.115	14.11917	-0.0042	N/A	
Tetrachlorometaxylene [2C]	7.9757	106	44 - 120	5.687	5.687167	-0.0002	N/A	
23A0418-04 (Solid)			Lab File ID: 03012380ECD7.D			Analyzed: 03/02/23 14:34		
Decachlorobiphenyl	7.9868	123	40 - 126	13.888	13.89483	-0.0068	N/A	
Tetrachlorometaxylene	7.9868	107	44 - 120	5.806	5.8095	-0.0035	N/A	
Decachlorobiphenyl [2C]	7.9868	103	40 - 126	14.114	14.11917	-0.0052	N/A	
Tetrachlorometaxylene [2C]	7.9868	115	44 - 120	5.686	5.687167	-0.0012	N/A	

SURROGATE RECOVERY AND RT SUMMARY
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG/WO:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0019	Instrument:	ECD7
Calibration:	GB00069	Calibration Date:	02/24/2023

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
23A0418-08 (Solid)			Lab File ID: 03012381ECD7.D			Analyzed: 03/02/23 14:55		
Decachlorobiphenyl	7.9866	153	40 - 126	13.886	13.89483	-0.0088	N/A	
Tetrachlorometaxylene	7.9866	76.8	44 - 120	5.805	5.8095	-0.0045	N/A	
Decachlorobiphenyl [2C]	7.9866	108	40 - 126	14.113	14.11917	-0.0062	N/A	
Tetrachlorometaxylene [2C]	7.9866	79.6	44 - 120	5.683	5.687167	-0.0042	N/A	
23A0418-09 (Solid)			Lab File ID: 03012382ECD7.D			Analyzed: 03/02/23 15:43		
Decachlorobiphenyl	7.9914	93.9	40 - 126	13.898	13.89483	0.0032	N/A	
Tetrachlorometaxylene	7.9914	79.7	44 - 120	5.821	5.8095	0.0115	N/A	
Decachlorobiphenyl [2C]	7.9914	106	40 - 126	14.116	14.11917	-0.0032	N/A	
Tetrachlorometaxylene [2C]	7.9914	80.8	44 - 120	5.681	5.687167	-0.0062	N/A	
SLC0019-CCVD (Solid)			Lab File ID: 03012383ECD7.D			Analyzed: 03/02/23 16:04		
Decachlorobiphenyl	40.000	104	80 - 120	13.895	13.89483	0.0002	N/A	
Tetrachlorometaxylene	40.000	97.0	80 - 120	5.807	5.8095	-0.0025	N/A	
Decachlorobiphenyl [2C]	40.000	101	80 - 120	14.118	14.11917	-0.0012	N/A	
Tetrachlorometaxylene [2C]	40.000	97.3	80 - 120	5.686	5.687167	-0.0012	N/A	
SLC0019-CCVE (Solid)			Lab File ID: 03012384ECD7.D			Analyzed: 03/02/23 16:25		
Decachlorobiphenyl	40.000	112	80 - 120	13.893	13.89483	-0.0018	N/A	
Tetrachlorometaxylene	40.000	105	80 - 120	5.807	5.8095	-0.0025	N/A	
Decachlorobiphenyl [2C]	40.000	101	80 - 120	14.119	14.11917	-0.0002	N/A	
Tetrachlorometaxylene [2C]	40.000	105	80 - 120	5.687	5.687167	-0.0002	N/A	

Analytical Resources, LLC
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLB0342	Instrument:	ECD7
		Calibration:	GB00069

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (SLB0342-SCV1)		(Water)		Lab File ID: 02242313ECD7.D				Analyzed: 02/24/23 15:03	
1-Bromo-2-Nitrobenzene	645975	3.489	673778	3.493	96	50 - 200	-0.004	+/-0.50	
Hexabromobiphenyl	1524245	14.268	1429847	14.268	107	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	316115	3.927	315256	3.928	100	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl [2C]	556950	15.007	513946	15.008	108	50 - 200	-0.001	+/-0.50	
Secondary Cal Check (SLB0342-SCV2)		(Water)		Lab File ID: 02242314ECD7.D				Analyzed: 02/24/23 15:24	
1-Bromo-2-Nitrobenzene	705650	3.493	673778	3.493	105	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	1555683	14.267	1429847	14.268	109	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	340433	3.929	315256	3.928	108	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl [2C]	565609	15.008	513946	15.008	110	50 - 200	0.000	+/-0.50	
Secondary Cal Check (SLB0342-SCV3)		(Water)		Lab File ID: 02242315ECD7.D				Analyzed: 02/24/23 15:45	
1-Bromo-2-Nitrobenzene	646554	3.49	673778	3.493	96	50 - 200	-0.003	+/-0.50	
Hexabromobiphenyl	1529451	14.268	1429847	14.268	107	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	316066	3.928	315256	3.928	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	557213	15.008	513946	15.008	108	50 - 200	0.000	+/-0.50	
Secondary Cal Check (SLB0342-SCV4)		(Water)		Lab File ID: 02242316ECD7.D				Analyzed: 02/24/23 16:06	
1-Bromo-2-Nitrobenzene	656887	3.488	673778	3.493	97	50 - 200	-0.005	+/-0.50	
Hexabromobiphenyl	1585505	14.267	1429847	14.268	111	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	320936	3.925	315256	3.928	102	50 - 200	-0.003	+/-0.50	
Hexabromobiphenyl [2C]	570006	15.007	513946	15.008	111	50 - 200	-0.001	+/-0.50	
Secondary Cal Check (SLB0342-SCV5)		(Water)		Lab File ID: 02242317ECD7.D				Analyzed: 02/24/23 16:27	
1-Bromo-2-Nitrobenzene	661953	3.489	673778	3.493	98	50 - 200	-0.004	+/-0.50	
Hexabromobiphenyl	1574993	14.268	1429847	14.268	110	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	317807	3.926	315256	3.928	101	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	565951	15.007	513946	15.008	110	50 - 200	-0.001	+/-0.50	
Secondary Cal Check (SLB0342-SCV6)		(Water)		Lab File ID: 02242318ECD7.D				Analyzed: 02/24/23 16:48	
1-Bromo-2-Nitrobenzene	656592	3.489	673778	3.493	97	50 - 200	-0.004	+/-0.50	
Hexabromobiphenyl	1584453	14.268	1429847	14.268	111	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	314741	3.926	315256	3.928	100	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	568346	15.007	513946	15.008	111	50 - 200	-0.001	+/-0.50	

Analytical Resources, LLC
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0019	Instrument:	ECD7
		Calibration:	GB00069

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Blank (BLB0280-BLK1)		(Solid)	Lab File ID: 03012357ECD7.D				Analyzed: 03/02/23 06:29		
1-Bromo-2-Nitrobenzene	431886	3.489	388952	3.489	111	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	639276	14.262	575724	14.265	111	50 - 200	-0.003	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	372897	3.927	325484	3.928	115	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl [2C]	488763	15.005	436098	15.005	112	50 - 200	0.000	+/-0.50	
LCS (BLB0280-BS1)		(Solid)	Lab File ID: 03012358ECD7.D				Analyzed: 03/02/23 06:51		
1-Bromo-2-Nitrobenzene	440692	3.489	388952	3.489	113	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	677092	14.262	575724	14.265	118	50 - 200	-0.003	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	382197	3.927	325484	3.928	117	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl [2C]	509071	15.004	436098	15.005	117	50 - 200	-0.001	+/-0.50	
LCS Dup (BLB0280-BSD1)		(Solid)	Lab File ID: 03012359ECD7.D				Analyzed: 03/02/23 07:12		
1-Bromo-2-Nitrobenzene	421733	3.489	388952	3.489	108	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	688381	14.261	575724	14.265	120	50 - 200	-0.004	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	366246	3.928	325484	3.928	113	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	519364	15.005	436098	15.005	119	50 - 200	0.000	+/-0.50	
Reference (BLB0280-SRM1)		(Solid)	Lab File ID: 03012360ECD7.D				Analyzed: 03/02/23 07:33		
1-Bromo-2-Nitrobenzene	424623	3.489	388952	3.489	109	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	588788	14.255	575724	14.265	102	50 - 200	-0.010	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	354041	3.927	325484	3.928	109	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl [2C]	479640	14.999	436098	15.005	110	50 - 200	-0.006	+/-0.50	
LDW23-IT1136 (23A0418-01)		(Solid)	Lab File ID: 03012361ECD7.D				Analyzed: 03/02/23 07:54		
1-Bromo-2-Nitrobenzene	430777	3.489	388952	3.489	111	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	668847	14.258	575724	14.265	116	50 - 200	-0.007	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	374092	3.928	325484	3.928	115	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	510892	15.003	436098	15.005	117	50 - 200	-0.002	+/-0.50	
LDW23-SC1122 (23A0418-03)		(Solid)	Lab File ID: 03012363ECD7.D				Analyzed: 03/02/23 08:36		
1-Bromo-2-Nitrobenzene	432063	3.488	388952	3.489	111	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl	432920	14.249	575724	14.265	75	50 - 200	-0.016	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	346127	3.926	325484	3.928	106	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	390296	14.995	436098	15.005	89	50 - 200	-0.010	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8082A

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Sequence: SLC0019

SDG: 23A0418
Project: AOC5 MR Phase 1
Instrument: ECD7
Calibration: GB00069

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LDW23-IT1133 (23A0418-05)		(Solid)	Lab File ID: 03012365ECD7.D				Analyzed: 03/02/23 09:18		
1-Bromo-2-Nitrobenzene	441680	3.488	388952	3.489	114	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl	368282	14.249	575724	14.265	64	50 - 200	-0.016	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	348331	3.926	325484	3.928	107	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	329834	14.996	436098	15.005	76	50 - 200	-0.009	+/-0.50	
LDW23-IT1133-FD (23A0418-06)		(Solid)	Lab File ID: 03012366ECD7.D				Analyzed: 03/02/23 09:39		
1-Bromo-2-Nitrobenzene	435154	3.489	388952	3.489	112	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	372373	14.25	575724	14.265	65	50 - 200	-0.015	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	350485	3.926	325484	3.928	108	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	332826	14.998	436098	15.005	76	50 - 200	-0.007	+/-0.50	
LDW23-IT1180 (23A0418-07)		(Solid)	Lab File ID: 03012367ECD7.D				Analyzed: 03/02/23 10:00		
1-Bromo-2-Nitrobenzene	443704	3.488	388952	3.489	114	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl	409934	14.252	575724	14.265	71	50 - 200	-0.013	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	363818	3.926	325484	3.928	112	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	354884	14.998	436098	15.005	81	50 - 200	-0.007	+/-0.50	
LDW23-IT1135 (23A0418-10)		(Solid)	Lab File ID: 03012370ECD7.D				Analyzed: 03/02/23 11:03		
1-Bromo-2-Nitrobenzene	435532	3.49	388952	3.489	112	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl	461048	14.258	575724	14.265	80	50 - 200	-0.007	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	366971	3.927	325484	3.928	113	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl [2C]	382398	15.002	436098	15.005	88	50 - 200	-0.003	+/-0.50	
LDW23-IT1140 (23A0418-11)		(Solid)	Lab File ID: 03012373ECD7.D				Analyzed: 03/02/23 12:07		
1-Bromo-2-Nitrobenzene	428496	3.489	413351	3.489	104	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	423003	14.251	564723	14.264	75	50 - 200	-0.013	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	354332	3.927	345427	3.927	103	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	364377	14.996	436027	15.005	84	50 - 200	-0.009	+/-0.50	
LDW23-IT1275 (23A0418-12)		(Solid)	Lab File ID: 03012374ECD7.D				Analyzed: 03/02/23 12:28		
1-Bromo-2-Nitrobenzene	449800	3.49	413351	3.489	109	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl	524576	14.254	564723	14.264	93	50 - 200	-0.010	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	381635	3.928	345427	3.927	110	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl [2C]	426062	15.001	436027	15.005	98	50 - 200	-0.004	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8082A

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Sequence: SLC0019

SDG: 23A0418
Project: AOC5 MR Phase 1
Instrument: ECD7
Calibration: GB00069

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Matrix Spike (BLB0280-MS1)		(Solid)	Lab File ID: 03012375ECD7.D				Analyzed: 03/02/23 12:49		
1-Bromo-2-Nitrobenzene	433722	3.49	413351	3.489	105	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl	574384	14.26	564723	14.264	102	50 - 200	-0.004	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	372147	3.928	345427	3.927	108	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl [2C]	460326	15.003	436027	15.005	106	50 - 200	-0.002	+/-0.50	
Matrix Spike Dup (BLB0280-MSD1)		(Solid)	Lab File ID: 03012376ECD7.D				Analyzed: 03/02/23 13:10		
1-Bromo-2-Nitrobenzene	449316	3.489	413351	3.489	109	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	624617	14.258	564723	14.264	111	50 - 200	-0.006	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	386470	3.927	345427	3.927	112	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	488857	15.001	436027	15.005	112	50 - 200	-0.004	+/-0.50	
LDW23-IT1142 (23A0418-02)		(Solid)	Lab File ID: 03012379ECD7.D				Analyzed: 03/02/23 14:13		
1-Bromo-2-Nitrobenzene	389125	3.489	413351	3.489	94	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	548090	14.26	564723	14.264	97	50 - 200	-0.004	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	334555	3.928	345427	3.927	97	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl [2C]	449490	15.004	436027	15.005	103	50 - 200	-0.001	+/-0.50	
LDW23-IT1141 (23A0418-04)		(Solid)	Lab File ID: 03012380ECD7.D				Analyzed: 03/02/23 14:34		
1-Bromo-2-Nitrobenzene	398049	3.489	413351	3.489	96	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	582949	14.258	564723	14.264	103	50 - 200	-0.006	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	340470	3.928	345427	3.927	99	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl [2C]	472027	15.002	436027	15.005	108	50 - 200	-0.003	+/-0.50	
LDW23-IT1218 (23A0418-08)		(Solid)	Lab File ID: 03012381ECD7.D				Analyzed: 03/02/23 14:55		
1-Bromo-2-Nitrobenzene	416662	3.489	413351	3.489	101	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	541936	14.255	564723	14.264	96	50 - 200	-0.009	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	353639	3.927	345427	3.927	102	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	469375	14.999	436027	15.005	108	50 - 200	-0.006	+/-0.50	
LDW23-IT1216 (23A0418-09)		(Solid)	Lab File ID: 03012382ECD7.D				Analyzed: 03/02/23 15:43		
1-Bromo-2-Nitrobenzene	446706	3.501	413351	3.489	108	50 - 200	0.012	+/-0.50	
Hexabromobiphenyl	674809	14.268	564723	14.264	119	50 - 200	0.004	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	377518	3.922	345427	3.927	109	50 - 200	-0.005	+/-0.50	
Hexabromobiphenyl [2C]	526651	15.004	436027	15.005	121	50 - 200	-0.001	+/-0.50	

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Sediment	Laboratory ID:	23A0418-02	File ID:	03012379ECD7.D
Sampled:	01/18/23 08:47	Prepared:	02/14/23 11:38	Analyzed:	03/02/23 14:13
Solids:	75.44	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BLB0280	Sequence:	SLC0019		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1254	* 1	9.292	9.298	0.006	60391	536	7.
	2	9.461	9.449	0.012	58377.6	575	
Aroclor 1260	1	11.04	11.04467	0.00467	8003.2	116	25.6
	* 2	11.654	11.6535	0.0005	13460.5	150	

* Column used for quantitation

Analytical Resources, LLC
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Sediment	Laboratory ID:	23A0418-03	File ID:	03012363ECD7.D
Sampled:	01/18/23 10:39	Prepared:	02/14/23 11:38	Analyzed:	03/02/23 08:36
Solids:	49.47	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BLB0280	Sequence:	SLC0019		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	1	8.395	8.405	0.01	67835.75	45.0	6.5
	* 2	8.298	8.307	0.009	42255.25	48.0	
Aroclor 1254	1	9.284	9.298	0.014	93310.2	50.9	20.6
	* 2	9.436	9.449	0.013	106992.6	62.6	
Aroclor 1260	1	11.031	11.04467	0.0137	58824.2	57.3	3.1
	* 2	11.64	11.6535	0.0135	87602.25	59.1	

* Column used for quantitation

Analytical Resources, LLC
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Sediment	Laboratory ID:	23A0418-04	File ID:	03012380ECD7.D
Sampled:	01/18/23 11:03	Prepared:	02/14/23 11:38	Analyzed:	03/02/23 14:34
Solids:	58.59	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BLB0280	Sequence:	SLC0019		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1254	1	9.29	9.298	0.008	30787.6	497	3.4
	* 2	9.479	9.449	0.03	44979.8	514	

* Column used for quantitation

Analytical Resources, LLC
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Sediment	Laboratory ID:	23A0418-05	File ID:	03012365ECD7.D
Sampled:	01/18/23 11:13	Prepared:	02/14/23 11:38	Analyzed:	03/02/23 09:18
Solids:	71.61	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BLB0280	Sequence:	SLC0019		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	* 1	8.394	8.405	0.011	178942	115	29.8
	2	8.296	8.307	0.011	86368.5	85.2	
Aroclor 1254	1	9.284	9.298	0.014	266960.4	139	24.6
	* 2	9.435	9.449	0.014	298934.6	178	
Aroclor 1260	1	11.031	11.04467	0.0137	124044.8	136	6.1
	* 2	11.64	11.6535	0.0135	175479.8	128	

* Column used for quantitation

Analytical Resources, LLC
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Sediment	Laboratory ID:	23A0418-06	File ID:	03012366ECD7.D
Sampled:	01/18/23 11:13	Prepared:	02/14/23 11:38	Analyzed:	03/02/23 09:39
Solids:	74.81	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BLB0280	Sequence:	SLC0019		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	* 1	8.394	8.405	0.011	64627.75	42.5	16.3
	2	8.297	8.307	0.01	36641	36.1	
Aroclor 1254	1	9.283	9.298	0.015	95693.8	55.8	16.
	* 2	9.438	9.449	0.011	110297.4	65.5	
Aroclor 1260	1	11.031	11.04467	0.0137	45800.2	50.0	3.9
	* 2	11.641	11.6535	0.0125	65357.75	48.1	

* Column used for quantitation

Analytical Resources, LLC
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Sediment	Laboratory ID:	23A0418-07	File ID:	03012367ECD7.D
Sampled:	01/18/23 13:14	Prepared:	02/14/23 11:38	Analyzed:	03/02/23 10:00
Solids:	79.85	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BLB0280	Sequence:	SLC0019		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1254	1	9.283	9.298	0.015	25513.6	12.6	35.8
	* 2	9.437	9.449	0.012	36948.4	18.1	
Aroclor 1260	1	11.039	11.04467	0.00567	19267.8	20.7	19.2
	* 2	11.642	11.6535	0.0115	31302.75	25.1	

* Column used for quantitation

Analytical Resources, LLC
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Sediment	Laboratory ID:	23A0418-08	File ID:	03012381ECD7.D
Sampled:	01/18/23 13:42	Prepared:	02/14/23 11:38	Analyzed:	03/02/23 14:55
Solids:	58.95	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BLB0280	Sequence:	SLC0019		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	* 1	8.398	8.405	0.007	88125.5	1200	18.2
	2	8.3	8.307	0.007	52061	1000	
Aroclor 1254	1	9.288	9.298	0.01	133293.2	1520	13.5
	* 2	9.439	9.449	0.01	151111	1740	
Aroclor 1260	1	11.034	11.04467	0.0107	44941.8	653	5.7
	* 2	11.645	11.6535	0.0085	66056	691	

* Column used for quantitation

Analytical Resources, LLC
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Sediment	Laboratory ID:	23A0418-11	File ID:	03012373ECD7.D
Sampled:	01/18/23 14:47	Prepared:	02/14/23 11:38	Analyzed:	03/02/23 12:07
Solids:	73.74	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BLB0280	Sequence:	SLC0019		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	1	8.397	8.405	0.008	19317.75	7.9	2.5
	* 2	8.3	8.307	0.007	8747.5	8.1	
Aroclor 1254	1	9.286	9.298	0.012	39275.6	16.6	25.3
	* 2	9.44	9.449	0.009	43880.8	21.4	
Aroclor 1260	1	11.033	11.04467	0.0117	39410.2	39.6	15.5
	* 2	11.642	11.6535	0.0115	69066.5	33.9	

* Column used for quantitation

Analytical Resources, LLC
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Sediment	Laboratory ID:	23A0418-12	File ID:	03012374ECD7.D
Sampled:	01/18/23 15:09	Prepared:	02/14/23 11:38	Analyzed:	03/02/23 12:28
Solids:	79.58	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BLB0280	Sequence:	SLC0019		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1260	1	11.036	11.04467	0.00867	15801	13.0	11.6
	* 2	11.645	11.6535	0.0085	23987.25	14.6	

* Column used for quantitation

HOLDING TIME SUMMARY

Analysis: EPA 8082A

Laboratory: Analytical Resources, LLC SDG: 23A0418

Client: Anchor QEA, LLC Project: AOC5 MR Phase 1

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW23-IT1136 23A0418-01	01/18/23 08:28	01/18/23 16:36	02/14/23 11:38	27	365	03/02/23 07:54	16	40	
LDW23-IT1142 23A0418-02	01/18/23 08:47	01/18/23 16:36	02/14/23 11:38	27	365	03/02/23 14:13	16	40	
LDW23-SC1122 23A0418-03	01/18/23 10:39	01/18/23 16:36	02/14/23 11:38	27	365	03/02/23 08:36	16	40	
LDW23-IT1141 23A0418-04	01/18/23 11:03	01/18/23 16:36	02/14/23 11:38	27	365	03/02/23 14:34	16	40	
LDW23-IT1133 23A0418-05	01/18/23 11:13	01/18/23 16:36	02/14/23 11:38	27	365	03/02/23 09:18	16	40	
LDW23-IT1133-FD 23A0418-06	01/18/23 11:13	01/18/23 16:36	02/14/23 11:38	27	365	03/02/23 09:39	16	40	
LDW23-IT1180 23A0418-07	01/18/23 13:14	01/18/23 16:36	02/14/23 11:38	26	365	03/02/23 10:00	16	40	
LDW23-IT1218 23A0418-08	01/18/23 13:42	01/18/23 16:36	02/14/23 11:38	26	365	03/02/23 14:55	16	40	
LDW23-IT1216 23A0418-09	01/18/23 13:57	01/18/23 16:36	02/14/23 11:38	26	365	03/02/23 15:43	16	40	
LDW23-IT1135 23A0418-10	01/18/23 14:23	01/18/23 16:36	02/14/23 11:38	26	365	03/02/23 11:03	16	40	
LDW23-IT1140 23A0418-11	01/18/23 14:47	01/18/23 16:36	02/14/23 11:38	26	365	03/02/23 12:07	16	40	
LDW23-IT1275 23A0418-12	01/18/23 15:09	01/18/23 16:36	02/14/23 11:38	26	365	03/02/23 12:28	16	40	
Matrix Spike BLB0280-MS1	01/18/23 15:09	01/18/23 16:36	02/14/23 11:38	26	365	03/02/23 12:49	16	40	
Matrix Spike Dup BLB0280-MSD1	01/18/23 15:09	01/18/23 16:36	02/14/23 11:38	26	365	03/02/23 13:10	16	40	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

EPA 8082A

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Instrument: ECD7

Analyte	MDL	RL	Units
Aroclor 1016	1.6	4.0	ug/kg
Aroclor 1016 [2C]	1.6	4.0	ug/kg
Aroclor 1221	1.6	4.0	ug/kg
Aroclor 1221 [2C]	1.6	4.0	ug/kg
Aroclor 1232	1.6	4.0	ug/kg
Aroclor 1232 [2C]	1.6	4.0	ug/kg
Aroclor 1242	1.6	4.0	ug/kg
Aroclor 1242 [2C]	1.6	4.0	ug/kg
Aroclor 1248	1.6	4.0	ug/kg
Aroclor 1248 [2C]	1.6	4.0	ug/kg
Aroclor 1254	1.6	4.0	ug/kg
Aroclor 1254 [2C]	1.6	4.0	ug/kg
Aroclor 1260	0.6	4.0	ug/kg
Aroclor 1260 [2C]	0.6	4.0	ug/kg

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

Catalog No: S-279N
Description: Tetrachloro-m-xylene
Lot: 0052481B-1
Solvent: N/A
Hazards: *Refer to SDS for complete safety information*

Signal Word: Warning

Date Certified: Jul 28, 2005
Expiration: Jul 28, 2015
Sample Size: 100 mg
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

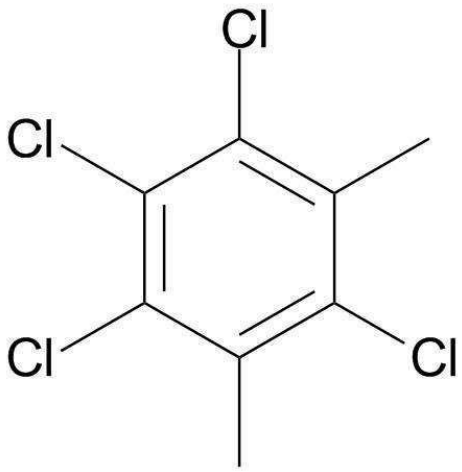
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER AR-1463

ilac-MRA

Component	CAS #	Purity % (GC/FID)	Prepared Concentration	Certified Analyte Concentration[1]
Tetrachloro-meta-xylene	877-09-8	96.0	N/A	N/A

Identification:

Molecular formula: C8H6Cl4
Molecular weight: 243.94



C000147
tetrachlormetaxylene
Expires 1/15/2020
Prepared By Joshua Rains 1/15/2014

This Certified Reference Material was verified in accordance with ISO/IEC 17025

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] The Uncertainty calculated for this product is ±2.4%. These values are the expanded uncertainty and represent an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

Metrological traceability is established through in-house validated methods.

Purity, if stated, is equal to 100% minus found impurity components. Impurity components have not been identified.

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015

QR-ORG/INO-001
Rev. 5/18

AccuStandard
125 Market Street
New Haven, CT 06513
(203) 786-5290

CERTIFICATE OF PRODUCT DATA

PRODUCT: C-209N
DESCRIPTION: 2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl
LOT #: 990521LB-AC
SOLVENT: N/A

EXPIRATION: Jul 28, 2015

This product is guaranteed accurate to ±0.5% of the Certified Analyte concentration through the Expiration Date on the Label.

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1]	Certified Analyte Concentration[2]
2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	2051-24-3	100	N/A	N/A

C000148
decachlorbiphenyl
Expires 1/15/2020
Prepared By Joshua Rains 1/15/2014

* I1768A

Certified by: R. Cooper

1. All weights are traceable through National Institute of Standards & Technology, Test No. 822/264480
2. Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty calculated for this product is ±4% which is the Combined Uncertainty uc(y). It represents an estimated standard deviation equal to the positive square root of the total variance of the uncertainty of components. The Expanded Uncertainty is U which is Uc(y) *K where K is the coverage factor at the 95% confidence level (K=2).
3. A product with a suffix (-1A, -2B, etc.) on its lot# has had its expiration date extended and is identical to the same lot# without the suffix.

Please note: AccuStandard follows the U.S. conventions in reporting numerical values, on both certificates and labels.

A comma (,) is used to separate units of one-thousand or greater.
A period (.) is used as a decimal place marker.

This product was manufactured in accordance to quality system requirements of ISO 9001:2000 and ISO 17025

* Recertified 2 4-6-09 JS

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Analytical Standard Record

Standard ID: C000148 **Printed: 4/23/2015 11:54:44AM**

Description:	decachlorbiphenyl	Expires:	15-Jan-2020
Standard Type:	Other	Prepared:	15-Jan-2014
Solvent:	na/a	Prepared By:	Joshua Rains
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	27-Feb-2015 13:03 by JGR
Vendor:	Accustandard	Lot #:	990521lb-ac
Vendor Catalog #:			

Comments

see i1768a
SOM calibrations added 06/12/14 sdrd

Analyte	CAS Number	Concentration	Units
Decachlorobiphenyl [2C]	2051-24-3	1000000	ug/mL
Decachlorobiphenyl	2051-24-3	1000000	ug/mL
DCB 1660 [2C]	2051-24-3	1000000	ug/mL
DCB 1660	2051-24-3	1000000	ug/mL
DCB [2C]	2051-24-3	1000000	ug/mL
DCB (A) [2C]	2051-24-3	1000000	ug/mL
DCB (A)	2051-24-3	1000000	ug/mL
DCB	2051-24-3	1000000	ug/mL

Reviewed By Date

Certificate of Analysis

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Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101461
Description: Aroclor 1254
Storage: 4 °C
Provided As: 1 mL in 2 mL Ampoule in Hexane

Lot Number: CL13053
Certification Date: November 29, 2018
Expiration Date: November 30, 2026

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1254	11097-69-1	1000	± 0.246%

I09808
Recd. JP
02/24/20

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

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Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ilac-MRA ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL11110613_us

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Access your Safety Data Sheets and digital Certificates at **www.phenova.com/documents.**

Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101462
Description: Aroclor 1260
Storage: 4 °C
Provided As: 1 mL in 2 mL Ampoule in Hexane

Lot Number: CL16516
Certification Date: March 4, 2021
Expiration Date: February 28, 2029

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1260	11096-82-5	1000	± 0.553%

J 006465

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Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101468
Description: Aroclor 1221
Storage: 4 °C
Provided As: 1 mL in 2 mL Ampoule in Isooctane

Lot Number: CL14017
Certification Date: August 20, 2019
Expiration Date: August 31, 2027

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1221	11104-28-2	1000	± 0.553%

J00466
Rec'd
06/18/21

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Reference Material Producer
Certicate No. 2427.02

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Phenova is an accredited ISO/IEC 17034 Reference Material Producer and ISO/IEC 17025 accredited Chemical Testing Laboratory.

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1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO 17034[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.

4. Handling and Usage Notes: Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.

12. Period of Validity: The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.
[3] ISO 17034 – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

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Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101469
Description: Aroclor 1232
Storage: 4 °C
Provided As: 1 mL in 2 mL Ampoule in Isooctane

Lot Number: CL14914
Certification Date: January 31, 2020
Expiration Date: January 31, 2028

Andrea L Gill
Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1232	11141-16-5	1000	± 0.738%

J006467 JR
read
06/18/21

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Reference Material Producer
Certicate No. 2427.02

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Phenova is an accredited ISO/IEC 17034 Reference Material Producer and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ACCREDITED
Chemical Testing Laboratory
Certicate No. 2427.03

IL64691018_US

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1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO 17034[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.

4. Handling and Usage Notes: Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.

12. Period of Validity: The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.
[3] ISO 17034 – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

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Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.:	AL0-101470	**Lot Number:**	CL14018
Description:	Aroclor 1242	**Certification Date:**	August 20, 2019
Storage:	4 °C	**Expiration Date:**	August 31, 2027
Provided As:	1 mL in 2 mL Ampoule in Isooctane		

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1242	53469-21-9	1000	± 0.553%

J006468
Read JR
06/18/21

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Reference Material Producer
Certicate No. 2427.02

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Phenova is an accredited ISO/IEC 17034 Reference Material Producer and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ACCREDITED
Chemical Testing Laboratory
Certicate No. 2427.03

IL64691018_us

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1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO 17034[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.

4. Handling and Usage Notes: Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

   $$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

   Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.

12. Period of Validity: The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.
[3] ISO 17034 – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

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Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.:	AL0-101471	**Lot Number:**	CL15384
Description:	Aroclor 1248	**Certification Date:**	June 19, 2020
Storage:	4 °C	**Expiration Date:**	June 30, 2028
Provided As:	1 mL in 2 mL Ampoule in Isooctane		

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1248	12672-29-6	1000	± 0.520%

JJ06469
Reed, JR
06/18/21

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Reference Material Producer
Certicate No. 2427.02

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ACCREDITED
Chemical Testing Laboratory
Certicate No. 2427.03

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Certificate of Analysis

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1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO 17034[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.

4. Handling and Usage Notes: Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.

12. Period of Validity: The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.
[3] ISO 17034 – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

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Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.:	AL0-101474	**Lot Number:**	CL11330
Description:	Aroclor 1262	**Certification Date:**	May 15, 2015
Storage:	4 °C	**Expiration Date:**	April 30, 2023
Provided As:	1 mL in 2 mL Ampoule in Isooctane	**Revision Date:**	April 2, 2018

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1262	37324-23-5	1000	± 0.516%

J 00647
Red JR
06/18/21

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Reference Material Producer
Certificate No. 2427.02

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Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

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1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO Guide 34[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in the calibration and calibration verification of chromatographic instrumentation performed in routine laboratory analysis.

4. Instruction: Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all certified analytes in the mixture.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Material Safety Data Sheet (MSDS) is available at www.phenomenex.com/mysupport.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO Guide 34. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO Guide 34.

12. Period of Validity: The Certified Values and their uncertainties are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31:2000(E) – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35:2006(E) – Reference Material – General and Statistical Principles for Certification.
[3] ISO Guide 34:2009(E) – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025:2005(E) – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

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Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.:	AL0-101475	**Lot Number:**	CL11331
Description:	Aroclor 1268	**Certification Date:**	May 15, 2015
Storage:	4 °C	**Expiration Date:**	April 30, 2023
Provided As:	1 mL in 2 mL Ampoule in Isooctane	**Revision Date:**	April 2, 2018

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1268	11100-14-4	1000	± 0.516%

J006472
Rec'd
06/18/21

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

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Chemical Testing Laboratory
Certificate No. 2427.03

IL11110613_us

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1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO Guide 34[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in the calibration and calibration verification of chromatographic instrumentation performed in routine laboratory analysis.

4. Instruction: Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all certified analytes in the mixture.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Material Safety Data Sheet (MSDS) is available at www.phenomenex.com/mysupport.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO Guide 34. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO Guide 34.

12. Period of Validity: The Certified Values and their uncertainties are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31:2000(E) – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35:2006(E) – Reference Material – General and Statistical Principles for Certification.
[3] ISO Guide 34:2009(E) – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025:2005(E) – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

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Reference Material Producer
Certificate No. 2427.02

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Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

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Certificate No. 2427.03

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Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101467
Description: Aroclor 1016
Storage: 4 °C
Provided As: 1 mL in 2 mL Ampoule in Isooctane

Lot Number: CL16555
Certification Date: June 22, 2021
Expiration Date: February 28, 2029

Andrea Gill, Certified Reference Materials Manager

J012591
AROCLOR 1016
Expires 2/28/2029
Prepared By Joshua Rains 11/26/2021

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1016	12674-11-2	1000	± 0.310%

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Reference Material Producer
Certicate No. 2427.02

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4. Handling and Usage Notes: Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

   Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.

12. Period of Validity: The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

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[2] ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.
[3] ISO 17034 – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

Certificate of Analysis

Agilent

Aroclor 1016 Solution

Product Number: PP-282 **Page:** 1 of 1

Lot Number: CR-0761 **Lot Issue Date:** 28-Feb-2017 **Expiration Date:** 31-Mar-2025

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1016	012674-11-2	NT01016	100.2 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

K1254 Reed JR 02/05/22

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

John Russo
President

Monica Bourgeois
Director of QA/RA

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

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Certificate of Analysis

Product Name: Aroclor 1260 Standard

Product Number: PP-362-1 **Lot Issue Date:** 20-Jan-2021

Lot Number: 0006582048 **Expiration Date:** 28-Feb-2025

Description:
This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	Concentration ± Uncertainty
Aroclor 1260	011096-82-5	NT01023	100.4 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage Conditions: Store at Room Temperature (15° to 30°C).

K 1255

Traceability:
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:
This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Hazards:
Refer to the Safety Data Sheet on www.agilent.com for information regarding this RM.

Expiration of Certification:
The certification of this RM is valid until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

Maintenance of Certification:
If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

Sample lot approver:

MJBourgeois

Monica Bourgeois
QMS Representative

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

ISO 17034 Cert
No. AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026

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Certificate of Analysis
ISO Guide 34

Aroclor 1242 Solution

Product Number: PP-312 **Page:** 1 of 1

Lot Number: CS-6293 **Lot Issue Date:** 04-Jan-2019 **Expiration Date:** 31-Jan-2023

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with Agilent's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1242	053469-21-9	NT01020	100.4 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

K1256

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

M Bourgeois

Monica Bourgeois
QMS Representative

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER
ISO Guide 34 Cert No.
AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026
registered ISO 9001 Quality Management System

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
ISO17025 Cert No.
AT-1937

ISO 17034

Agilent
Trusted Answers

Reference Material Certificate

Product Name:	Aroclor 1248 Standard	**Lot Number:**	0006626997
Product Number:	PP-342-1	**Lot Issue Date:**	17-Aug-2021
Storage Conditions:	Store at Room Temperature (15° to 30°C).	**Expiration Date:**	30-Sep-2025

	CERTIFIED VALUES				
Component Name	Concentration		Expanded Uncertainty	CAS#	Analyte Lot
Aroclor 1248	100.3	±	0.5 µg/mL	012672-29-6	NT01582

Matrix: isooctane (2,2,4-trimethylpentane)

K1257

Description:
This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above.

Traceability:
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:
This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Safety:
Refer to the Safety Data Sheet on www.agilent.com for information regarding this analytical reference material.

Intended Use:
This analytical reference standard is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

Expiration of Certification:
The certification of this analytical reference standard is valid until the expiration date specified above, provided the material is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the material is damaged, contaminated, or otherwise modified.

Certificate of Analysis

Agilent

Aroclor 1254 Solution

Product Number: PP-352 **Page:** 1 of 1

Lot Number: CS-2321 **Lot Issue Date:** 04-May-2018 **Expiration Date:** 31-May-2026

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1254	011097-69-1	RM00922	100.4 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

K1258

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

John Russo
President

Monica Bourgeois
Director of QA/RA

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

ISO 9001
Registered
TUV USA, Inc.

Agilent

Certificate of Analysis

Product Name: Aroclor 1221 Standard

Product Number: PP-292-1 **Lot Issue Date:** 28-Apr-2020

Lot Number: 0006535333 **Expiration Date:** 31-May-2024

Description:

This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system, and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	Concentration ± Uncertainty
Aroclor 1221	011104-28-2	RM04278	100.2 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage Conditions: Store at Room Temperature (15° to 30°C).

K1259

Traceability:

The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:

This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:

This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

Instructions for Use:

Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Hazards:

Refer to the Safety Data Sheet on www.agilent.com for information regarding this RM.

Expiration of Certification:

The certification of this RM is valid until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

Maintenance of Certification:

If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

Sample lot approver:

MBourgeois

Monica Bourgeois
QMS Representative

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

ISO 17034 Cert No. AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026

www.agilent.com/quality/
CSD-QA-015.1

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

ISO 17025 Cert No. AT-1937

250 Smith Street North Kingstown, Rhode Island 02852 www.agilent.com/quality

Agilent

Certificate of Analysis
ISO 17034

Aroclor 1262 Standard

Product Number: PP-372-1 **Page:** 1 of 1

Lot Number: 0006499800 **Lot Issue Date:** 04-Nov-2019 **Expiration Date:** 30-Nov-2023

This ISO 17034 Reference Material (RM) was manufactured and verified in accordance with Agilent Technologies ISO 9001 registered quality system. A review of the gravimetric preparation data by our ISO 17025 accredited laboratory serves to verify the concentration of each analyte. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1262	037324-23-5	RM14263	100.0 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

K1260

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

Monica Bourgeois
QMS Representative

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER
ISO 17034 Cert No. AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026 registered ISO 9001 Quality Management System

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
ISO 17025 Cert No. AT-1937

Agilent

Certificate of Analysis
ISO 17034

Aroclor 1232 Standard

Product Number: PP-302-1 **Page:** 1 of 1

Lot Number: CF-2197A **Lot Issue Date:** 05-Jul-2016 **Expiration Date:** 31-Aug-2023

This ISO 17034 Reference Material (RM) was manufactured and verified in accordance with Agilent's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1232	011141-16-5	NT01717	100.4 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

K1261

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

M Bourgeois

Monica Bourgeois
QMS Representative

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER
ISO 17034 Cert No. AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026 registered ISO 9001 Quality Management System

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
ISO17025 Cert No. AT-1937

Agilent

Certificate of Analysis

Product Name: Aroclor 1268 Standard

Product Number: PP-382-1 **Lot Issue Date:** 09-Feb-2021

Lot Number: 0006587800 **Expiration Date:** 31-Mar-2029

Description:
This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	Concentration ± Uncertainty
Aroclor 1268	011100-14-4	RM00937	100.0 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage Conditions: Store at Room Temperature (15° to 30°C).

K1262

Traceability:
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:
This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Hazards:
Refer to the Safety Data Sheet on www.agilent.com for information regarding this RM.

Expiration of Certification:
The certification of this RM is valid until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

Maintenance of Certification:
If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

Sample lot approver:

Monica Bourgeois
QMS Representative

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER
ISO 17034 Cert No. AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026
Page: 1 of 1
www.agilent.com/quality/
CSD-QA-015.1

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
ISO 17025 Cert No. AT-1937

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101467
Description: Aroclor 1016
Storage: 4 °C
Provided As: 1 mL in 2 mL Ampoule in Isooctane

Lot Number: CL12975
Certification Date: November 19, 2018
Expiration Date: October 31, 2026

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1016	12674-11-2	1000	± 0.553%

K5829

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

phenova® Certified Reference Materials

Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

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Chemical Testing Laboratory
Certificate No. 2427.03

IL11110613_us

Certificate of Analysis

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Access your MSDS and digital C of A at www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards

1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO Guide 34[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in the calibration and calibration verification of chromatographic instrumentation performed in routine laboratory analysis.

4. Instruction: Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all certified analytes in the mixture.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Material Safety Data Sheet (MSDS) is available at www.phenomenex.com/mysupport.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

   $$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

   Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO Guide 34. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO Guide 34.

12. Period of Validity: The Certified Values and their uncertainties are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31:2000(E) – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35:2006(E) – Reference Material – General and Statistical Principles for Certification.
[3] ISO Guide 34:2009(E) – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025:2005(E) – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

phenova® Certified Reference Materials

Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

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Chemical Testing Laboratory
Certificate No. 2427.03

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Certificate of Analysis

Produced by Phenova
6390 Joyce Drive STE 100, Golden, CO 80403 USA ▪ Tel: 303-940-0033 ▪ Fax: 303-940-0043 ▪ info@phenova.com
Access your Safety Data Sheets and digital Certificates at **www.phenova.com/documents.**

Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101462
Description: Aroclor 1260
Storage: 4 °C
Provided As: 1 mL in 2 mL Ampoule in Hexane

Lot Number: CL18021
Certification Date: February 14, 2022
Expiration Date: February 28, 2030

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1260	11096-82-5	1000	± 0.553%

K005830

ACCREDITED
Reference Material Producer
Certicate No. 2427.02

Phenova is an accredited ISO/IEC 17034 Reference Material Producer and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ACCREDITED
Chemical Testing Laboratory
Certicate No. 2427.03

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Certificate of Analysis

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6390 Joyce Drive STE 100, Golden, CO 80403 USA ▪ Tel: 303-940-0033 ▪ Fax: 303-940-0043 ▪ info@phenova.com
Access your Safety Data Sheets and digital Certificates at **www.phenova.com/documents.**

1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO 17034[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.

4. Handling and Usage Notes: Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.

12. Period of Validity: The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.
[3] ISO 17034 – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

Analytical Resources, LLC
Analytical Chemists and Consultants

LDW23-IT1136

Form 1
ORGANIC ANALYSIS DATA SHEET
EPA 1613B
Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-01 C	File ID:	23031311
Sampled:	01/18/23 08:28	Prepared:	02/14/23 17:30	Analyzed:	03/13/23 18:37
% Solids:	83.97	Preparation:	EPA 1613	Initial/Final:	11.97 g Wet / 20 uL
Result Basis:	Dry	Sequence:	SLC0171	Calibration:	GC00015
Batch:	BLB0228	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

CAS NO.	COMPOUND	DF/Split	Ion Ratio	Ratio Limits	EDL	RL	Result	Units	Q
51207-31-9	2,3,7,8-TCDF	1		0.655-0.886	0.198	0.995	ND	ng/kg	U
1746-01-6	2,3,7,8-TCDD	1		0.655-0.886	0.134	0.995	ND	ng/kg	U
57117-41-6	1,2,3,7,8-PeCDF	1		1.318-1.783	0.179	0.995	ND	ng/kg	U
57117-31-4	2,3,4,7,8-PeCDF	1		1.318-1.783	0.161	0.995	ND	ng/kg	U
40321-76-4	1,2,3,7,8-PeCDD	1		1.318-1.783	0.205	0.995	ND	ng/kg	U
70648-26-9	1,2,3,4,7,8-HxCDF	1	1.132	1.054-1.426	0.070	0.995	0.234	ng/kg	J
57117-44-9	1,2,3,6,7,8-HxCDF	1	1.007	1.054-1.426	0.073	0.995	0.093	ng/kg	EMPC, J
60851-34-5	2,3,4,6,7,8-HxCDF	1		1.054-1.426	0.076	0.995	ND	ng/kg	U
72918-21-9	1,2,3,7,8,9-HxCDF	1		1.054-1.426	0.086	0.995	ND	ng/kg	U
39227-28-6	1,2,3,4,7,8-HxCDD	1		1.054-1.426	0.106	0.995	ND	ng/kg	U
57653-85-7	1,2,3,6,7,8-HxCDD	1	1.030	1.054-1.426	0.106	0.995	0.332	ng/kg	EMPC, J
19408-74-3	1,2,3,7,8,9-HxCDD	1	1.159	1.054-1.426	0.117	0.995	0.459	ng/kg	J
67562-39-4	1,2,3,4,6,7,8-HpCDF	1	1.250	0.893-1.208	0.158	0.995	1.32	ng/kg	EMPC, B
55673-89-7	1,2,3,4,7,8,9-HpCDF	1		0.893-1.208	0.230	0.995	ND	ng/kg	U
35822-46-9	1,2,3,4,6,7,8-HpCDD	1	0.958	0.893-1.208	0.172	2.49	8.55	ng/kg	B
39001-02-0	OCDF	1	0.933	0.757-1.024	0.228	2.49	2.91	ng/kg	
3268-87-9	OCDD	1	0.860	0.757-1.024	0.246	9.95	62.2	ng/kg	B

Homologue Groups

55722-27-5	Total TCDF	1	0.000			0.995	ND	ng/kg	
41903-57-5	Total TCDD	1	0.000			0.995	ND	ng/kg	
30402-15-4	Total PeCDF	1	0.000			0.995	0.436	ng/kg	
36088-22-9	Total PeCDD	1	0.000			0.995	ND	ng/kg	
55684-94-1	Total HxCDF	1	0.000			0.995	0.791	ng/kg	
34465-46-8	Total HxCDD	1	0.000			0.995	1.15	ng/kg	
38998-75-3	Total HpCDF	1	0.000			0.995	2.32	ng/kg	
37871-00-4	Total HpCDD	1	0.000			0.995	17.4	ng/kg	

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 0.230
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 0.451

LDW23-IT1136

Form 2

ORGANIC ANALYSIS DATA SHEET

EPA 1613B

Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Sediment	Laboratory ID:	23A0418-01	File ID:	23031311
Sampled:	01/18/23 08:28	Prepared:	02/14/23 17:30	Analyzed:	03/13/23 18:37
Solids Wt%:	83.97	Preparation:	EPA 1613	Initial/Final:	11.97 g / 20 uL
Result Basis:	Dry	Sequence:	SLC0171	Calibration:	GC00015
Batch:	BLB0228	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

Labels	DF/Split	Ion Ratio	Ratio Limits	EDL	% REC	QC LIMITS	Q
13C12-2,3,7,8-TCDF		0.701	0.655-0.886	0.131	57.0	24 - 169 %	
13C12-2,3,7,8-TCDD		0.784	0.655-0.886	0.186	82.5	25 - 164 %	
13C12-1,2,3,7,8-PeCDF		1.531	1.318-1.783	0.211	85.8	24 - 185 %	
13C12-2,3,4,7,8-PeCDF		1.450	1.318-1.783	0.235	90.7	21 - 178 %	
13C12-1,2,3,7,8-PeCDD		1.666	1.318-1.783	0.156	81.0	25 - 181 %	
13C12-1,2,3,4,7,8-HxCDF		0.509	0.434-0.587	0.239	91.4	26 - 152 %	
13C12-1,2,3,6,7,8-HxCDF		0.516	0.434-0.587	0.201	83.7	26 - 123 %	
13C12-2,3,4,6,7,8-HxCDF		0.516	0.434-0.587	0.247	90.3	28 - 136 %	
13C12-1,2,3,7,8,9-HxCDF		0.531	0.434-0.587	0.299	97.5	29 - 147 %	
13C12-1,2,3,4,7,8-HxCDD		1.300	1.054-1.426	0.198	92.8	32 - 141 %	
13C12-1,2,3,6,7,8-HxCDD		1.245	1.054-1.426	0.170	83.9	28 - 130 %	
13C12-1,2,3,4,6,7,8-HpCDF		0.435	0.374-0.506	0.210	74.3	28 - 143 %	
13C12-1,2,3,4,7,8,9-HpCDF		0.431	0.374-0.506	0.245	73.3	26 - 138 %	
13C12-1,2,3,4,6,7,8-HpCDD		1.042	0.893-1.208	0.189	82.3	23 - 140 %	
13C12-OCDD		0.884	0.757-1.024	0.262	86.2	17 - 157 %	
37Cl4-2,3,7,8-TCDD		328.000		0.072	67.1	35 - 197 %	

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\230313D1.qld
Last Altered: Tuesday, March 14, 2023 09:54:11 Pacific Daylight Time
Printed: Tuesday, March 14, 2023 11:12:35 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin230313.mdb 13 Mar 2023 11:32:39
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 11:57:27

ID: 23A0418-01, Name: 23031311, Date: 13-Mar-2023, Time: 18:37:45, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF					0.702		0.770	622	847								
12378-PeCDF					0.679		1.550	518	954								
23478-PeCDF					0.786		1.550	518	954								
123478-HxCDF	34.738	1.001	3.546e2	3.132e2	1.166	1.132	1.240	525	548	4.93e3	3.48e3	9.4	6.4	NO	bd	bb	0.117
234678-HxCDF					1.140		1.240	525	548								
123678-HxCDF	34.872	1.001	1.357e2	1.348e2	1.091	1.007	1.240	525	548	2.40e3	2.64e3	4.6	4.8	YES	db	bb	0.047
123789-HxCDF					1.137		1.240	525	548								
1234678-HpCDF	38.627	1.000	1.120e3	8.958e2	1.003	1.250	1.050	675	721	1.84e4	1.58e4	27.2	21.9	YES	bb	bb	0.662
1234789-HpCDF					0.953		1.050	675	721								
OCDF	45.039	1.005	1.657e3	1.776e3	0.778	0.933	0.890	467	636	2.05e4	2.18e4	44.0	34.2	NO	bb	bb	1.461
2378-TCDD					1.149		0.770	1064	646								
12378-PeCDD					1.022		1.550	945	660								
123478-HxCDD					0.996		1.240	656	554								
123678-HxCDD	35.964	1.000	3.751e2	3.641e2	1.001	1.030	1.240	656	554	7.39e3	5.72e3	11.3	10.3	YES	bb	bb	0.167
123789-HxCDD	36.365	1.012	4.852e2	4.186e2	0.907	1.159	1.240	656	554	7.01e3	5.83e3	10.7	10.5	NO	bb	bb	0.231
1234678-HpCDD	40.109	1.000	6.888e3	7.187e3	1.039	0.958	1.050	791	636	1.07e5	1.12e5	135.1	176.1	NO	bb	bd	4.295
OCDD	44.810	1.000	4.019e4	4.671e4	0.920	0.860	0.890	721	687	5.01e5	5.81e5	695.1	846.4	NO	bb	bb	31.279
13C-2378-TCDF	25.577	1.007	1.682e5	2.397e5	1.620	0.701	0.770	1285	1172	2.60e6	3.73e6	2020.0	3183.4	NO	bb	bb	56.965
13C-12378-PeCDF	29.736	1.171	2.846e5	1.859e5	1.240	1.531	1.550	1527	1500	4.37e6	2.91e6	2861.5	1939.5	NO	bb	bb	85.839
13C-23478-PeCDF	31.073	1.224	2.652e5	1.828e5	1.118	1.450	1.550	1527	1500	4.11e6	2.81e6	2689.0	1871.7	NO	bb	bb	90.693
13C-123478-HxCDF	34.716	0.955	1.644e5	3.232e5	1.168	0.509	0.510	1304	2168	2.63e6	5.07e6	2020.8	2340.5	NO	bd	bd	91.446
13C-123678-HxCDF	34.850	0.959	1.803e5	3.495e5	1.386	0.516	0.510	1304	2168	2.75e6	5.32e6	2110.2	2453.0	NO	dd	dd	83.727
13C-234678-HxCDF	35.719	0.983	1.584e5	3.070e5	1.129	0.516	0.510	1304	2168	2.53e6	4.97e6	1939.7	2294.0	NO	bb	bb	90.295
13C-123789-HxCDF	36.755	1.011	1.438e5	2.710e5	0.932	0.531	0.510	1304	2168	2.26e6	4.34e6	1736.4	2001.2	NO	bb	bb	97.540
13C-1234678-HpCDF	38.616	1.063	9.199e4	2.117e5	0.895	0.435	0.440	913	1431	1.60e6	3.65e6	1749.6	2553.1	NO	bb	bb	74.318
13C-1234789-HpCDF	40.821	1.123	7.757e4	1.799e5	0.770	0.431	0.440	913	1431	1.15e6	2.68e6	1256.0	1872.3	NO	bb	bb	73.280
13C-1234-TCDD	25.393	0.000	1.945e5	2.474e5	1.000	0.786	0.770	1672	806	3.03e6	3.87e6	1813.5	4797.0	NO	bb	bb	100.000
13C-2378-TCDD	26.212	1.032	1.847e5	2.355e5	1.152	0.784	0.770	1672	806	2.91e6	3.68e6	1742.8	4566.7	NO	bb	bb	82.510
13C-12378-PeCDD	31.329	1.234	1.854e5	1.113e5	0.829	1.666	1.550	725	767	2.85e6	1.68e6	3938.3	2190.4	NO	bb	bb	80.991
13C-123478-HxCDD	35.841	0.986	2.381e5	1.832e5	0.995	1.300	1.240	1335	1116	3.88e6	2.92e6	2903.6	2614.8	NO	bd	bd	92.752
13C-123678-HxCDD	35.953	0.989	2.455e5	1.972e5	1.157	1.245	1.240	1335	1116	3.76e6	3.09e6	2818.9	2766.6	NO	dd	db	83.862
13C-1234678-HpCDD	40.097	1.103	1.610e5	1.544e5	0.840	1.042	1.050	1087	886	2.44e6	2.30e6	2241.9	2592.5	NO	bb	bb	82.254
13C-OCDD	44.792	1.232	2.835e5	3.205e5	0.767	0.884	0.890	1109	1399	3.49e6	3.94e6	3144.7	2817.9	NO	bb	bb	172.427
13C-123789-HxCDD	36.343	0.000	2.554e5	2.010e5	1.000	1.271	1.240	1335	1116	4.16e6	3.31e6	3117.5	2969.3	NO	bb	bb	100.000
37CL-2378-TCDD	26.240	1.033	1.529e5		1.288			1073		2.32e6		2163.9			bb		26.858

Dataset: T:\Autospec\Processed Data Batch\230313D1.qld
Last Altered: Tuesday, March 14, 2023 09:54:11 Pacific Daylight Time
Printed: Tuesday, March 14, 2023 11:12:35 Pacific Daylight Time

ID: 23A0418-01, Name: 23031311, Date: 13-Mar-2023, Time: 18:37:45, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF					0.802		0.770	622	847								
1289-TCDF					0.678		0.770	622	847								
13468-PECDF					1.246		1.550	593	864								
12389-PECDF					0.496		1.550	518	954								
123468-HXCDF					1.169		1.240	525	548								
1368-TCDD					1.015		0.770	1064	646								
1289-TCDD					0.909		0.770	1064	646								
12479-PECDD					2.301		1.550	945	660								
12389-PECDD					1.184		1.550	945	660								
124679-HXCDD	33.836	0.944	9.424e2	6.813e2	1.115	1.383	1.240	656	554	1.54e4	9.76e3	23.5	17.6	NO	bb	bb	0.346
1234679-HPCDD	39.072	0.974	8.054e3	7.883e3	1.137	1.022	1.050	791	636	1.34e5	1.31e5	169.1	206.4	NO	bb	bb	4.445
Total-tetrafurans			0.000e0		0.727			622		0.00e0							
Total-penta1			5.924e2					593		7.68e3							0.219
Total-pentafurans			0.000e0		0.654			518		0.00e0							
Total-hexafurans			1.219e3		1.141			525		1.94e4							0.398
Total-heptafurans			1.545e3		0.978			675		2.24e4							1.164
Total-Furans			5.013e3		0.922			622		7.01e4							3.242
Total-tetradioxins			0.000e0		1.024			1064		0.00e0							
Total-pentadioxins			0.000e0		1.502			945		0.00e0							
Total-hexadioxins			1.428e3		1.005			656		2.24e4							0.576
Total-heptadioxins			1.494e4		1.088			791		2.41e5							8.740
Total-Dioxins			5.656e4		1.130			1064		7.64e5							40.596
Total-TEQ			6.157e4					1064		8.34e5							43.838
FUNCTION1 PFK			2.363e7					431150		3.10e7							
FUNCTION2 PFK			5.236e5					271178		1.52e7							0.000
FUNCTION3 PFK			4.623e7					380475		1.96e6							0.000
FUNCTION4 PFK			2.426e7					320992		1.97e7							
FUNCTION5 PFK			1.975e5					218615		6.29e6							
FUNCTION1 HXCD...			4.121e2					547		5.52e3							0.000
FUNCTION1 HPCD...																	
FUNCTION2 HPCD...			1.524e2					654		3.67e3							0.000
FUNCTION3 OCDPE			3.095e2					501		5.81e3							0.000
FUNCTION4 NCDPE			6.393e3					769		1.14e5							0.000
FUNCTION5 DCDPE			0.000e0					532		0.00e0							

Method: T:\Autospec\Methods\Dioxin230313.mdb 13 Mar 2023 11:32:39
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 11:57:27

ID: 23A0418-01, Name: 23031311, Date: 13-Mar-2023, Time: 18:37:45, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-penta1	27.02	5.924e2	3.521e2		1.68	1.55	13.0	YES	NO	bb	bd	0.219

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123478-HxCDF	34.74	3.546e2	3.132e2	1.166	1.13	1.24	9.4	YES	NO	bd	bb	0.117
2	Total-hexafurans	34.10	8.648e2	6.518e2	1.141	1.33	1.24	27.6	YES	NO	bb	bb	0.280

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-heptafurans	39.27	1.545e3	1.649e3	0.978	0.94	1.05	33.2	YES	NO	bb	bb	1.164

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123478-HxCDF	34.74	3.546e2	3.132e2	1.166	1.13	1.24	9.4	YES	NO	bd	bb	0.117
2	Total-hexafurans	34.10	8.648e2	6.518e2	1.141	1.33	1.24	27.6	YES	NO	bb	bb	0.280
3	Total-heptafurans	39.27	1.545e3	1.649e3	0.978	0.94	1.05	33.2	YES	NO	bb	bb	1.164
4	OCDF	45.04	1.657e3	1.776e3	0.778	0.93	0.89	44.0	YES	NO	bb	bb	1.461
5	Total-penta1	27.02	5.924e2	3.521e2		1.68	1.55	13.0	YES	NO	bb	bd	0.219

ID: 23A0418-01, Name: 23031311, Date: 13-Mar-2023, Time: 18:37:45, Conditions: AUTOSPEC01, User: pk

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	124679-HXCDD	33.84	9.424e2	6.813e2	1.115	1.38	1.24	23.5	YES	NO	bb	bb	0.346
2	123789-HxCDD	36.37	4.852e2	4.186e2	0.907	1.16	1.24	10.7	YES	NO	bb	bb	0.231

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.11	6.888e3	7.187e3	1.039	0.96	1.05	135.1	YES	NO	bb	bd	4.295
2	1234679-HPCDD	39.07	8.054e3	7.883e3	1.137	1.02	1.05	169.1	YES	NO	bb	bb	4.445

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	124679-HXCDD	33.84	9.424e2	6.813e2	1.115	1.38	1.24	23.5	YES	NO	bb	bb	0.346
2	1234678-HpCDD	40.11	6.888e3	7.187e3	1.039	0.96	1.05	135.1	YES	NO	bb	bd	4.295
3	1234679-HPCDD	39.07	8.054e3	7.883e3	1.137	1.02	1.05	169.1	YES	NO	bb	bb	4.445
4	123789-HxCDD	36.37	4.852e2	4.186e2	0.907	1.16	1.24	10.7	YES	NO	bb	bb	0.231
5	OCDD	44.81	4.019e4	4.671e4	0.920	0.86	0.89	695.1	YES	NO	bb	bb	31.279

ID: 23A0418-01, Name: 23031311, Date: 13-Mar-2023, Time: 18:37:45, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123478-HxCDF	34.74	3.546e2	3.132e2	1.166	1.13	1.24	9.4	YES	NO	bd	bb	0.117
2	Total-hexafurans	34.10	8.648e2	6.518e2	1.141	1.33	1.24	27.6	YES	NO	bb	bb	0.280
3	Total-heptafurans	39.27	1.545e3	1.649e3	0.978	0.94	1.05	33.2	YES	NO	bb	bb	1.164
4	OCDF	45.04	1.657e3	1.776e3	0.778	0.93	0.89	44.0	YES	NO	bb	bb	1.461
5	Total-penta1	27.02	5.924e2	3.521e2		1.68	1.55	13.0	YES	NO	bb	bd	0.219
6	124679-HXCDD	33.84	9.424e2	6.813e2	1.115	1.38	1.24	23.5	YES	NO	bb	bb	0.346
7	1234678-HpCDD	40.11	6.888e3	7.187e3	1.039	0.96	1.05	135.1	YES	NO	bb	bd	4.295
8	1234679-HPCDD	39.07	8.054e3	7.883e3	1.137	1.02	1.05	169.1	YES	NO	bb	bb	4.445
9	123789-HxCDD	36.37	4.852e2	4.186e2	0.907	1.16	1.24	10.7	YES	NO	bb	bb	0.231
10	OCDD	44.81	4.019e4	4.671e4	0.920	0.86	0.89	695.1	YES	NO	bb	bb	31.279

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	21.30	2.363e7					71.9	YES		bb		

Dataset: T:\Autospec\Processed Data Batch\230313D1.qld
Last Altered: Tuesday, March 14, 2023 09:54:11 Pacific Daylight Time
Printed: Tuesday, March 14, 2023 11:12:35 Pacific Daylight Time

ID: 23A0418-01, Name: 23031311, Date: 13-Mar-2023, Time: 18:37:45, Conditions: AUTOSPEC01, User: pk

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	27.90	4.424e3					0.7	NO		bd		0.000
2	FUNCTION2 PFK	29.50	1.043e4					1.4	NO		db		0.000
3	FUNCTION2 PFK	29.47	9.641e3					1.3	NO		bd		0.000
4	FUNCTION2 PFK	29.38	8.783e3					1.1	NO		db		0.000
5	FUNCTION2 PFK	29.36	1.222e4					1.7	NO		bd		0.000
6	FUNCTION2 PFK	29.31	2.994e3					0.6	NO		bb		0.000
7	FUNCTION2 PFK	29.07	5.795e3					0.7	NO		db		0.000
8	FUNCTION2 PFK	29.01	6.620e3					1.1	NO		dd		0.000
9	FUNCTION2 PFK	28.97	4.572e3					0.7	NO		bd		0.000
10	FUNCTION2 PFK	28.79	3.171e3					0.5	NO		bb		0.000
11	FUNCTION2 PFK	28.68	5.142e3					0.8	NO		bb		0.000
12	FUNCTION2 PFK	28.62	4.690e3					0.8	NO		bb		0.000
13	FUNCTION2 PFK	28.24	1.046e4					1.2	NO		bb		0.000
14	FUNCTION2 PFK	28.15	2.354e4					1.6	NO		bb		0.000
15	FUNCTION2 PFK	28.05	1.379e4					1.4	NO		db		0.000
16	FUNCTION2 PFK	28.02	1.192e4					1.7	NO		bd		0.000
17	FUNCTION2 PFK	27.94	1.701e4					1.8	NO		db		0.000
18	FUNCTION2 PFK	31.02	1.746e3					0.6	NO		bb		0.000
19	FUNCTION2 PFK	30.97	1.940e3					0.5	NO		db		0.000
20	FUNCTION2 PFK	30.94	3.430e3					0.5	NO		bd		0.000
21	FUNCTION2 PFK	30.82	9.009e3					1.1	NO		bb		0.000
22	FUNCTION2 PFK	30.71	2.083e4					1.4	NO		db		0.000
23	FUNCTION2 PFK	30.60	2.021e4					1.8	NO		bd		0.000
24	FUNCTION2 PFK	30.53	1.422e4					1.2	NO		bb		0.000
25	FUNCTION2 PFK	30.45	1.228e3					0.4	NO		bb		0.000
26	FUNCTION2 PFK	30.34	9.252e2					0.3	NO		bb		0.000
27	FUNCTION2 PFK	30.13	1.191e4					0.9	NO		bb		0.000
28	FUNCTION2 PFK	30.04	1.049e4					0.9	NO		bb		0.000
29	FUNCTION2 PFK	29.96	3.156e4					2.4	NO		db		0.000
30	FUNCTION2 PFK	29.90	2.072e4					2.3	NO		dd		0.000
31	FUNCTION2 PFK	29.84	1.405e4					1.3	NO		dd		0.000
32	FUNCTION2 PFK	29.80	2.469e4					1.9	NO		bd		0.000
33	FUNCTION2 PFK	29.69	1.702e4					1.4	NO		bb		0.000
34	FUNCTION2 PFK	32.57	7.436e3					1.0	NO		db		0.000
35	FUNCTION2 PFK	32.51	8.407e3					0.9	NO		bd		0.000
36	FUNCTION2 PFK	32.42	3.362e3					0.7	NO		bb		0.000
37	FUNCTION2 PFK	32.33	6.003e3					0.8	NO		bb		0.000

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION2 PFK	32.28	9.019e3					1.2	NO		db		0.000
39	FUNCTION2 PFK	32.23	1.014e4					1.3	NO		dd		0.000
40	FUNCTION2 PFK	32.19	1.676e4					1.4	NO		bd		0.000
41	FUNCTION2 PFK	32.09	1.570e4					1.6	NO		db		0.000
42	FUNCTION2 PFK	32.02	2.320e4					1.7	NO		dd		0.000
43	FUNCTION2 PFK	31.99	1.116e4					1.4	NO		bd		0.000
44	FUNCTION2 PFK	31.67	6.360e3					0.9	NO		bb		0.000
45	FUNCTION2 PFK	31.63	6.830e3					1.1	NO		bb		0.000
46	FUNCTION2 PFK	31.52	1.174e3					0.4	NO		bb		0.000
47	FUNCTION2 PFK	31.44	2.534e4					1.9	NO		bb		0.000
48	FUNCTION2 PFK	31.17	9.789e3					1.1	NO		bb		0.000
49	FUNCTION2 PFK	31.06	3.802e3					0.6	NO		bb		0.000

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	34.59	4.623e7					5.1	YES		bb		0.000

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	37.66	2.426e7					61.5	YES		bb		

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PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	44.35	1.864e4					1.4	NO		bb		
2	FUNCTION5 PFK	44.10	3.178e3					0.8	NO		db		
3	FUNCTION5 PFK	44.06	6.178e3					1.3	NO		bd		
4	FUNCTION5 PFK	43.85	1.605e4					1.7	NO		bb		
5	FUNCTION5 PFK	43.68	8.628e2					0.4	NO		bb		
6	FUNCTION5 PFK	43.57	2.624e3					0.7	NO		bb		
7	FUNCTION5 PFK	43.53	8.562e3					1.4	NO		bb		
8	FUNCTION5 PFK	43.24	1.682e4					1.2	NO		bb		
9	FUNCTION5 PFK	42.69	9.645e3					1.5	NO		bb		
10	FUNCTION5 PFK	42.63	7.629e3					1.3	NO		db		
11	FUNCTION5 PFK	42.60	1.223e4					2.5	NO		bd		
12	FUNCTION5 PFK	45.70	7.830e3					1.6	NO		bb		
13	FUNCTION5 PFK	45.58	1.060e3					0.5	NO		bb		
14	FUNCTION5 PFK	45.52	6.872e3					1.0	NO		bb		
15	FUNCTION5 PFK	45.49	2.353e3					0.7	NO		bb		
16	FUNCTION5 PFK	45.40	1.114e4					2.0	NO		db		
17	FUNCTION5 PFK	45.36	1.981e4					2.4	NO		dd		
18	FUNCTION5 PFK	45.30	1.250e4					1.7	NO		dd		
19	FUNCTION5 PFK	45.25	2.207e4					2.2	NO		dd		
20	FUNCTION5 PFK	45.19	1.055e4					2.0	NO		bd		
21	FUNCTION5 PFK	44.80	8.645e2					0.4	NO		bb		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	27.62	1.015e2					1.8	NO		bb		0.000
2	FUNCTION1 HXCD...	27.06	7.420e1					1.9	NO		bb		0.000
3	FUNCTION1 HXCD...	25.42	8.491e1					2.6	NO		bb		0.000
4	FUNCTION1 HXCD...	24.72	7.905e1					2.0	NO		bb		0.000
5	FUNCTION1 HXCD...	24.12	7.239e1					1.8	NO		bb		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

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ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	30.48	7.325e1					3.5	YES		bb		0.000
2	FUNCTION2 HPCD...	29.99	7.911e1					2.1	NO		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	36.48	7.562e1					4.3	YES		bb		0.000
2	FUNCTION3 OCDPE	36.34	1.159e2					4.8	YES		bb		0.000
3	FUNCTION3 OCDPE	32.70	1.180e2					2.6	NO		bb		0.000

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	38.38	1.279e2					3.0	YES		db		0.000
2	FUNCTION4 NCDPE	38.25	6.265e3					144.8	YES		bd		0.000

ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

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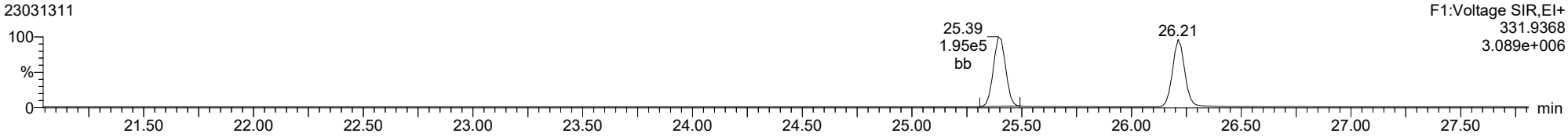
13C-1234-TCDD



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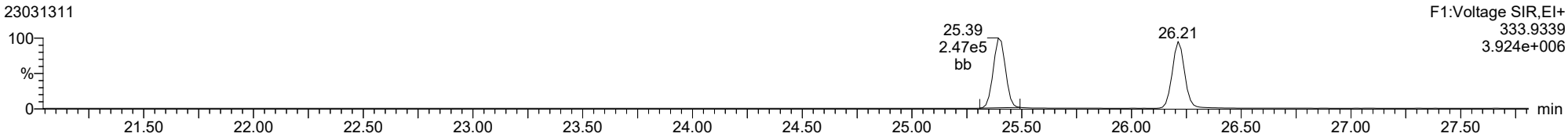
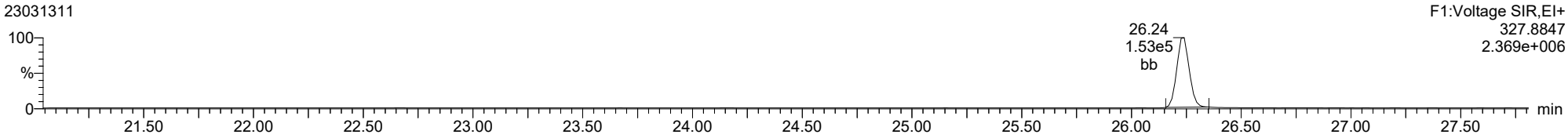


37CL-2378-TCDD



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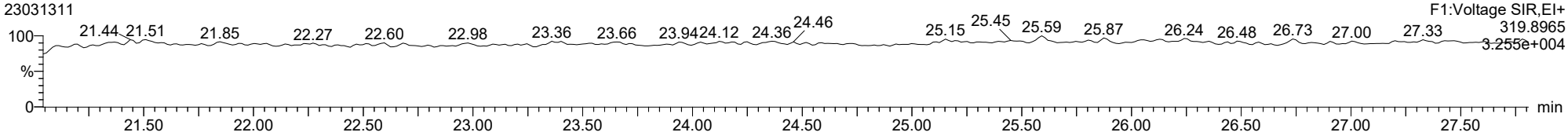

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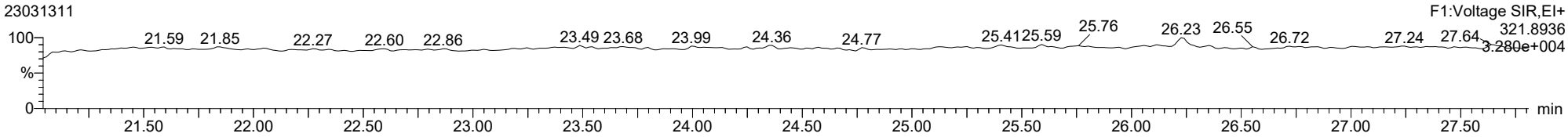

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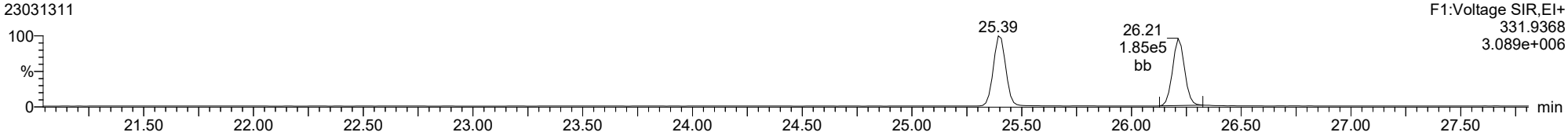

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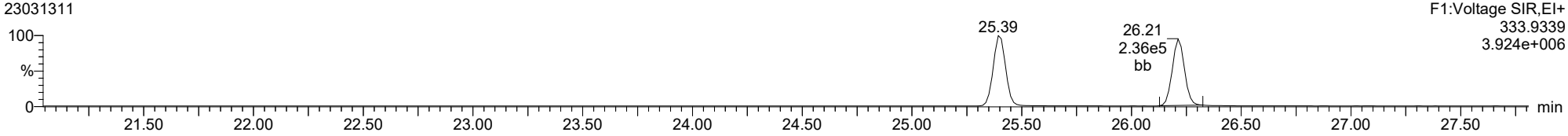
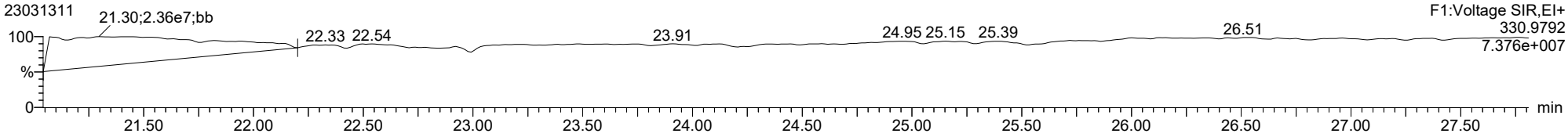


FUNCTION1 PFK



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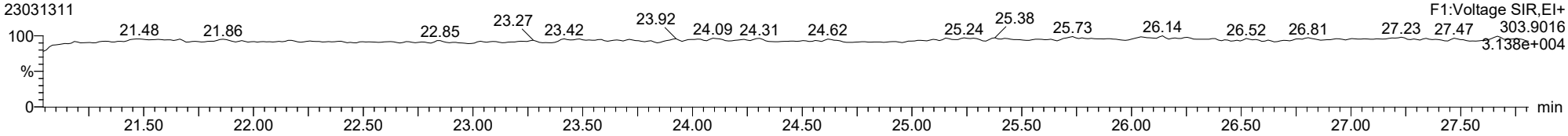

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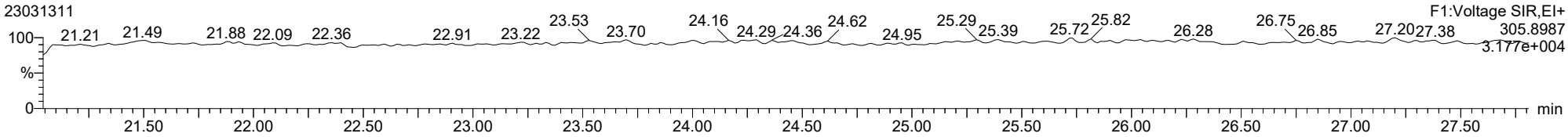

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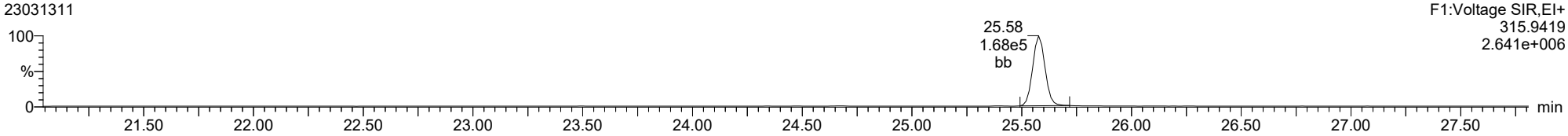

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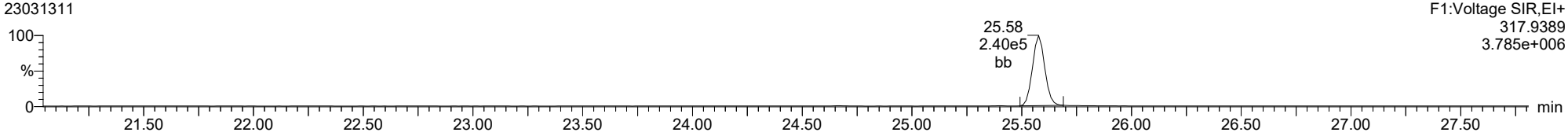
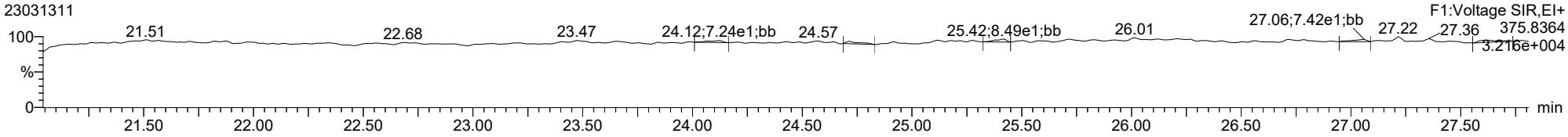


FUNCTION1 HXCDPE



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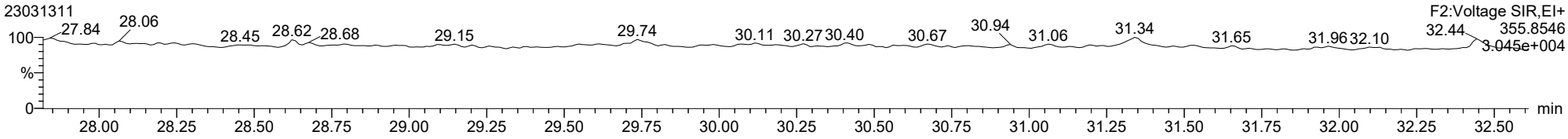
12378-PeCDD



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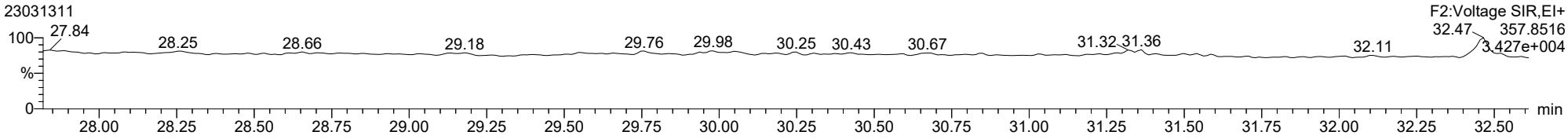

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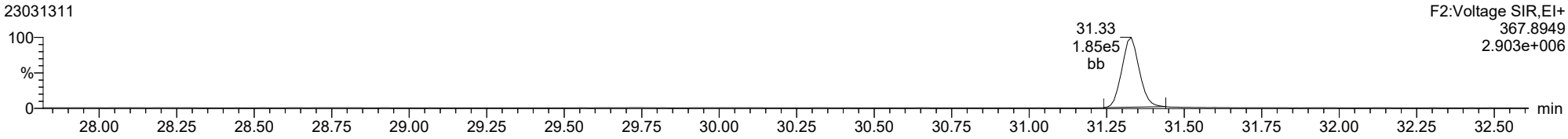

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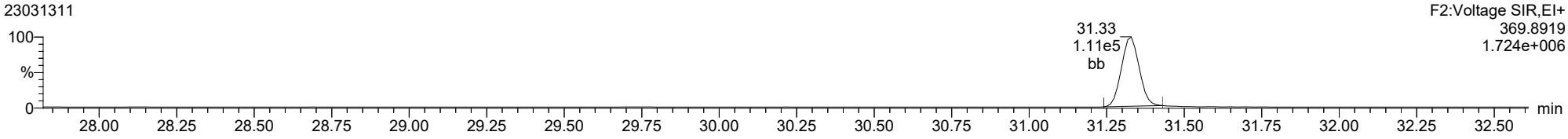
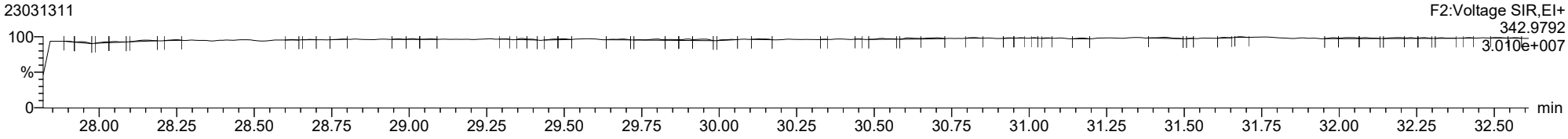


FUNCTION2 PFK



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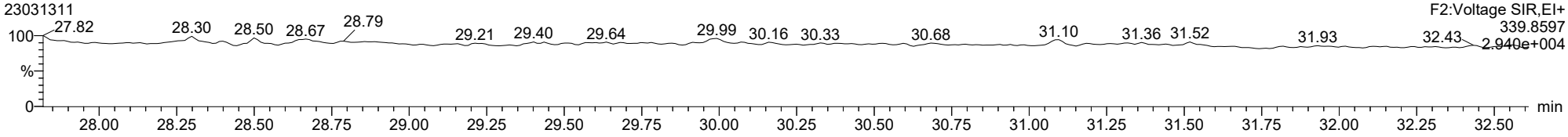
12378-PeCDF



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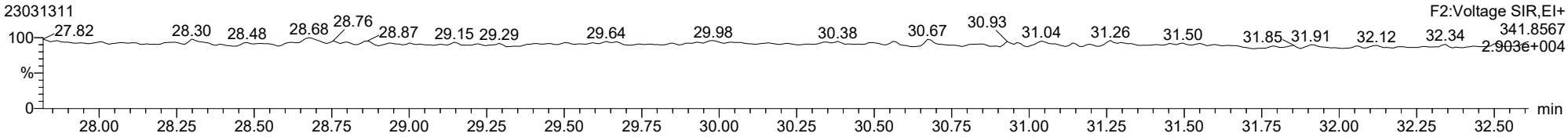

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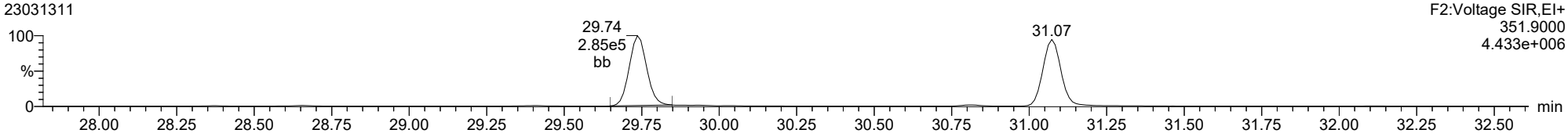

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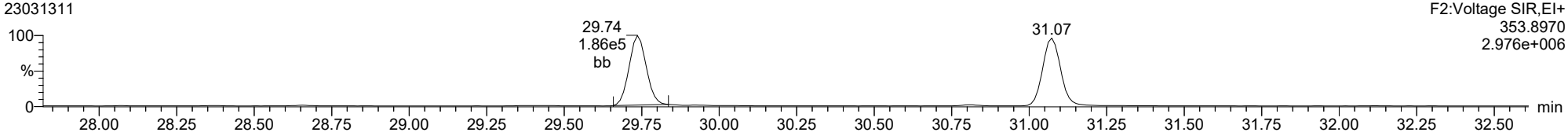
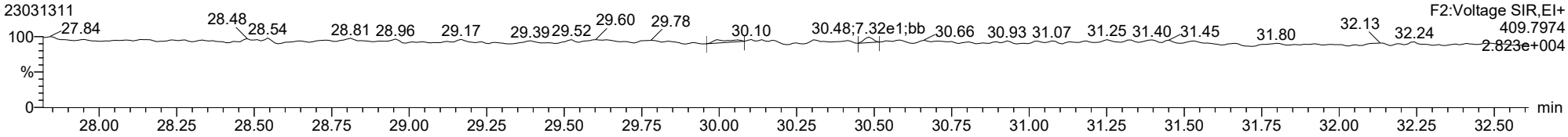


FUNCTION2 HPCDPE



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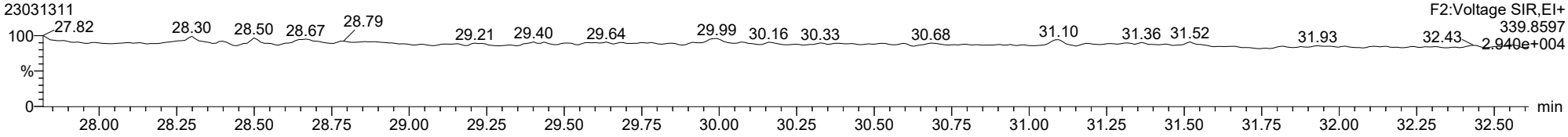
23478-PeCDF



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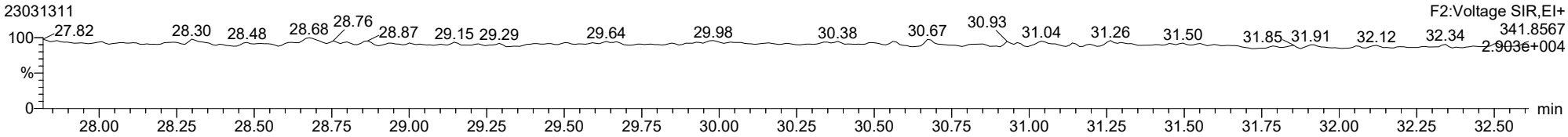

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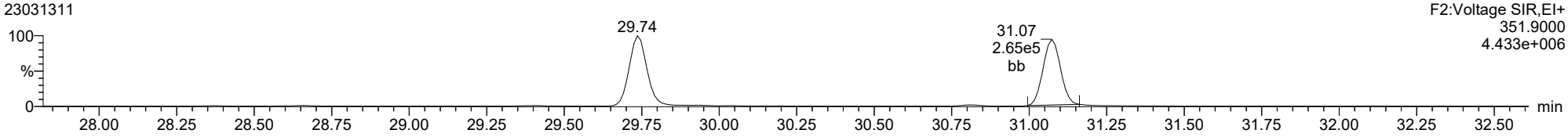

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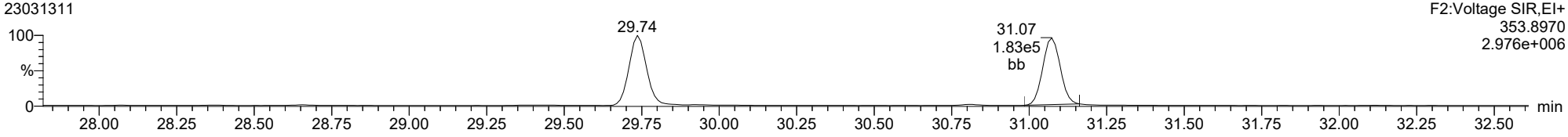
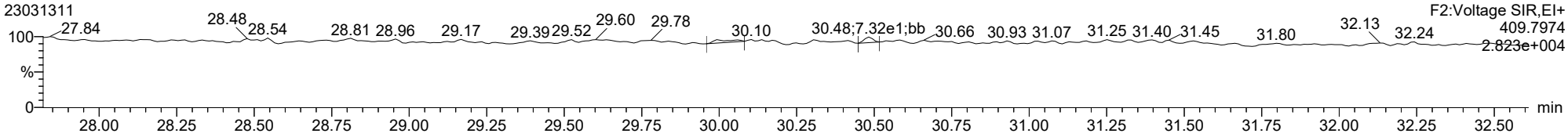


FUNCTION2 HPCDPE



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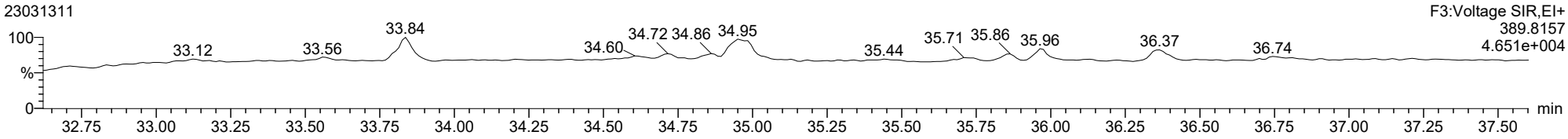
123478-HxCDD



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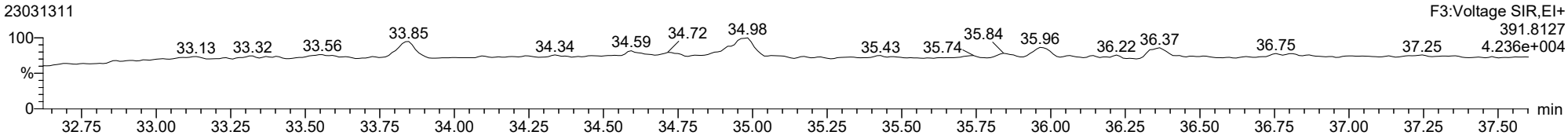

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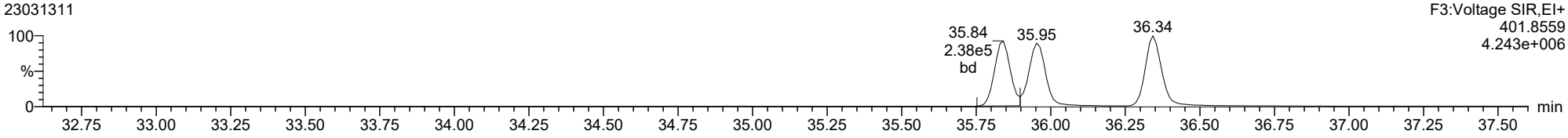

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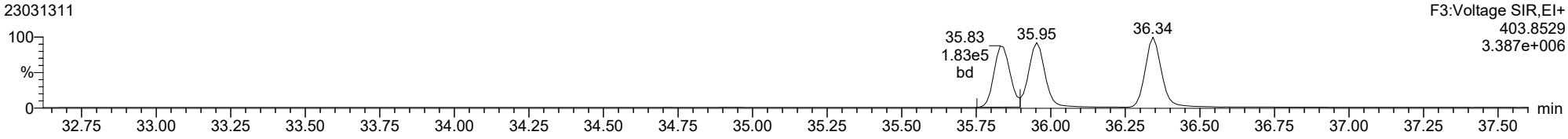
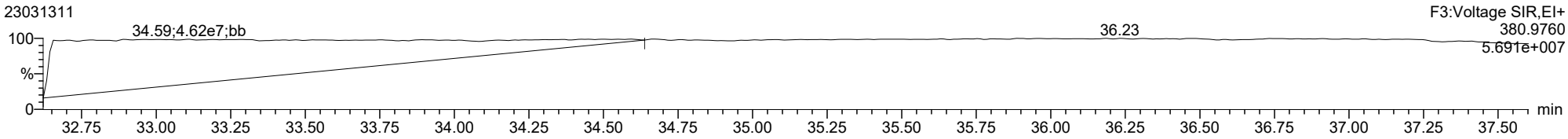


FUNCTION3 PFK



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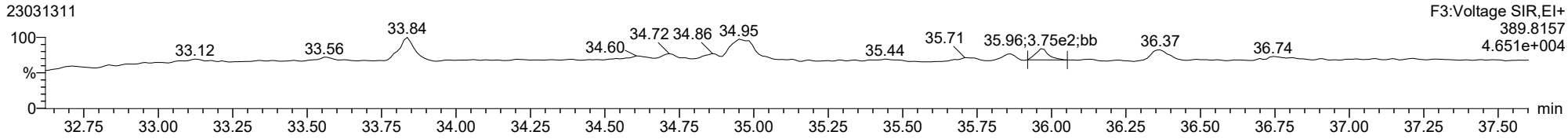
123678-HxCDD



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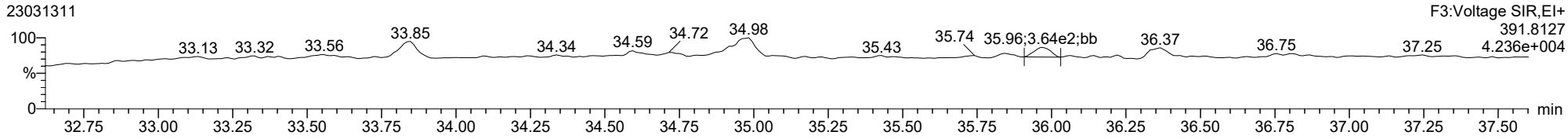

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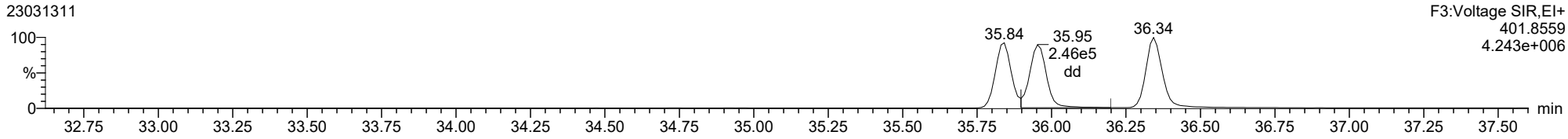

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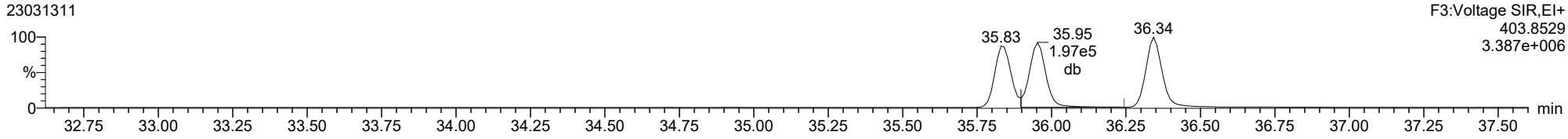

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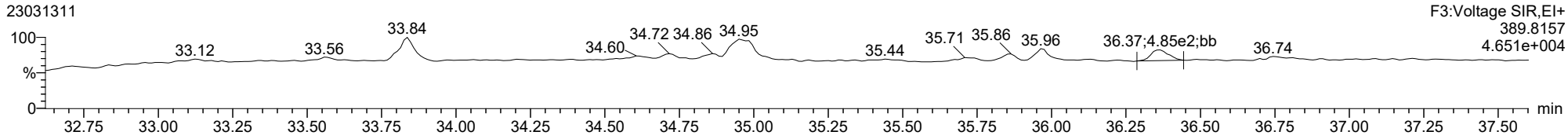

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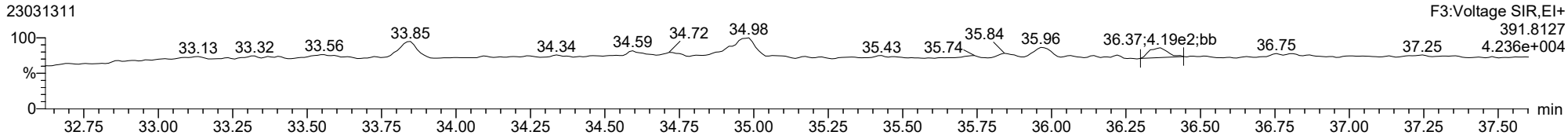

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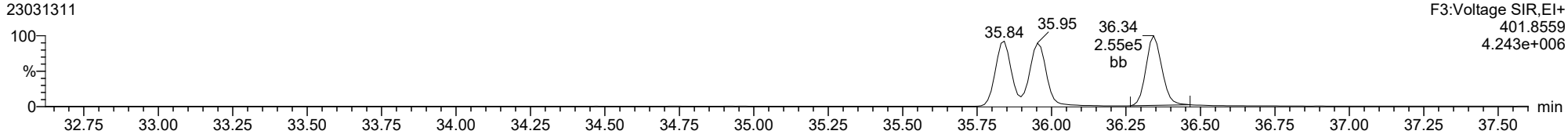

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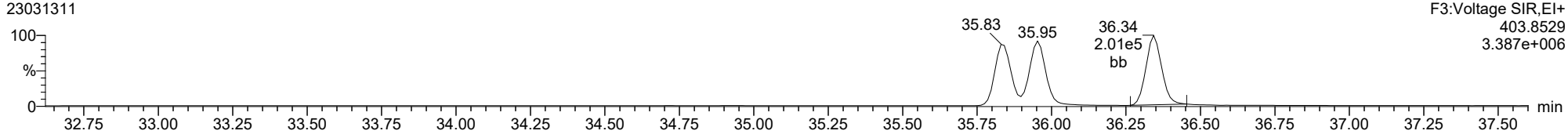

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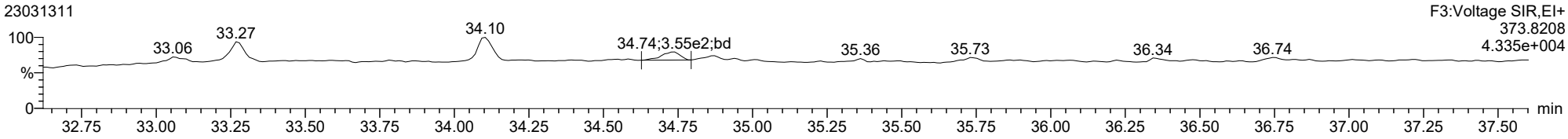

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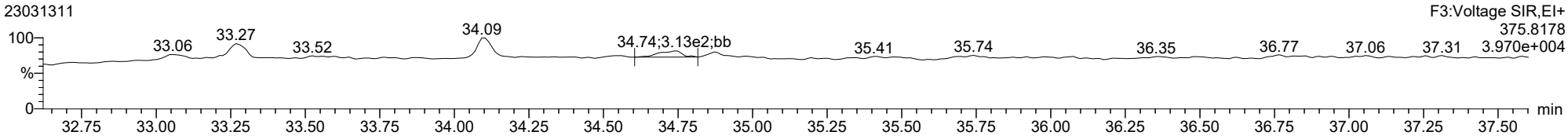

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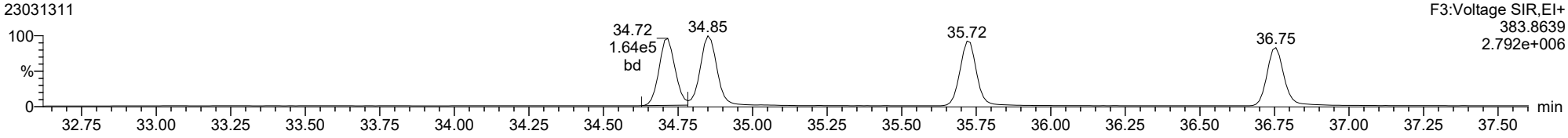

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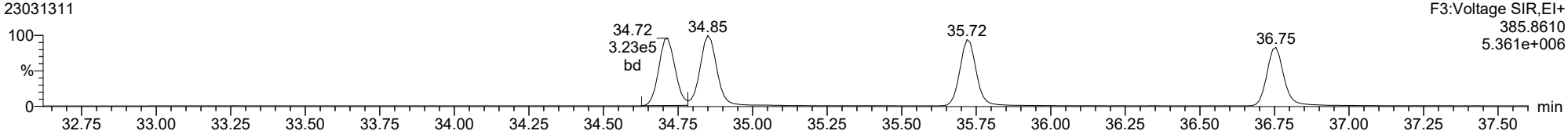

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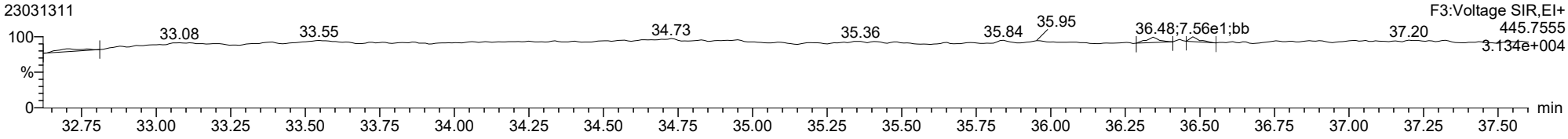

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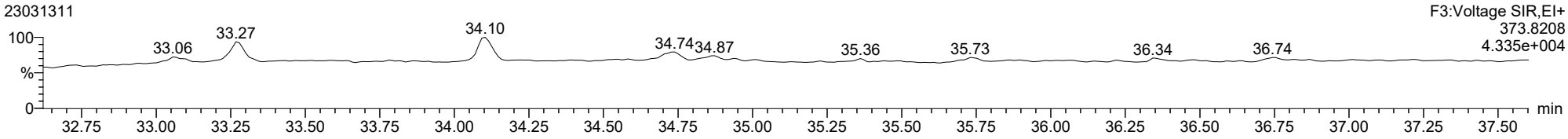

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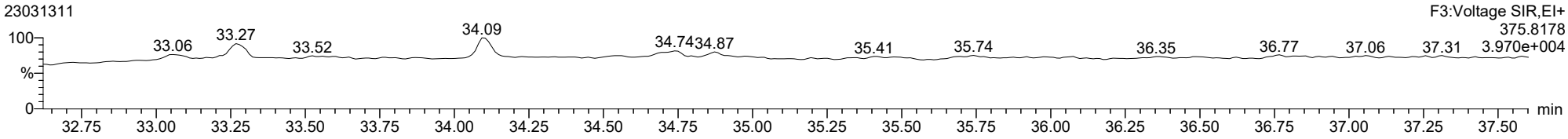

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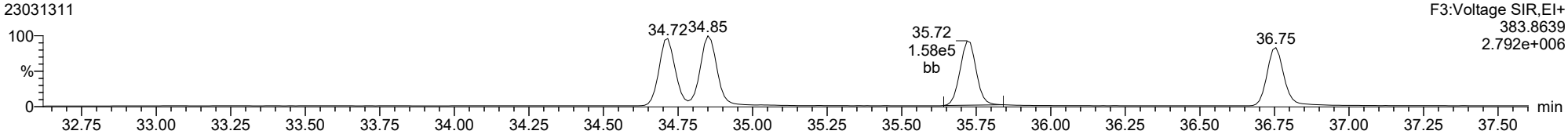

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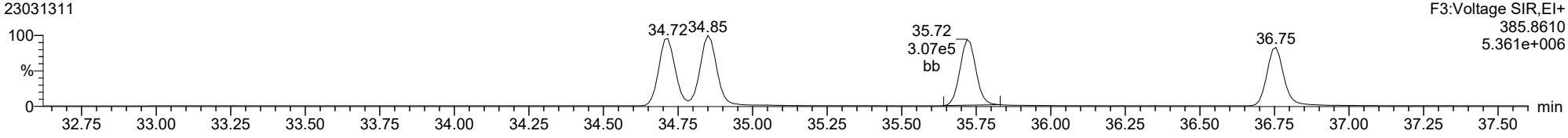

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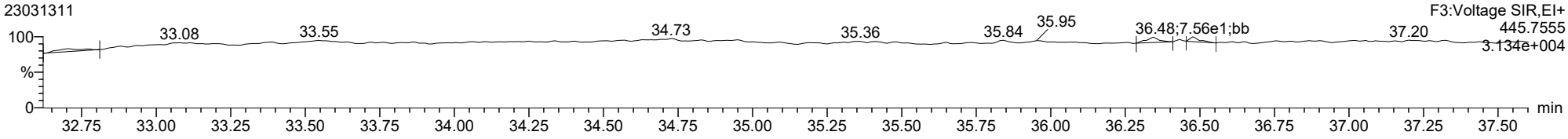

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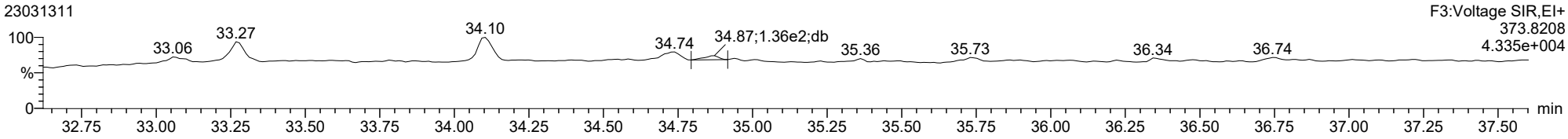

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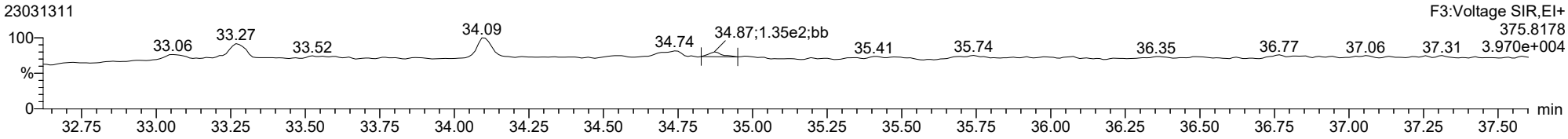

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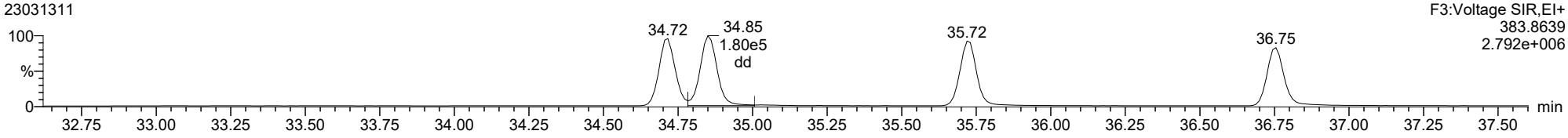

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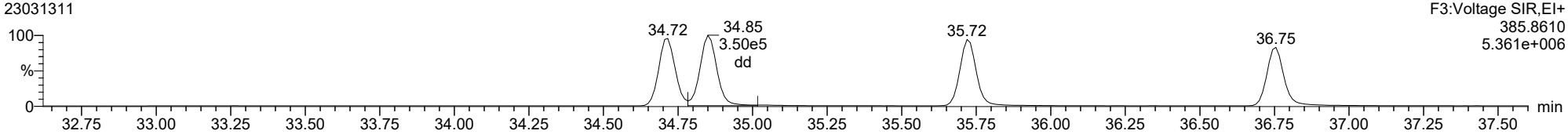

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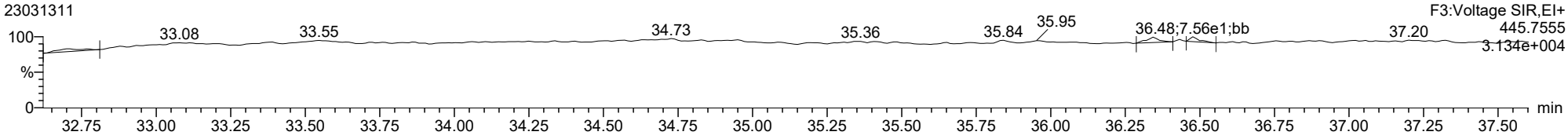

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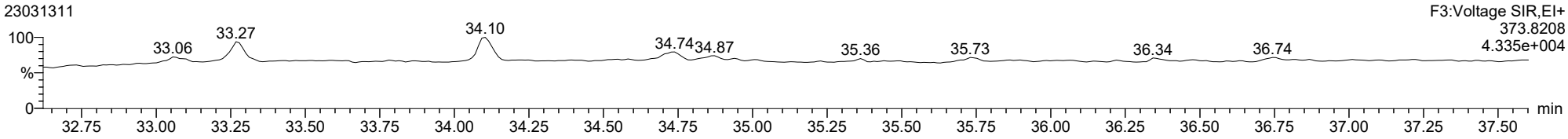

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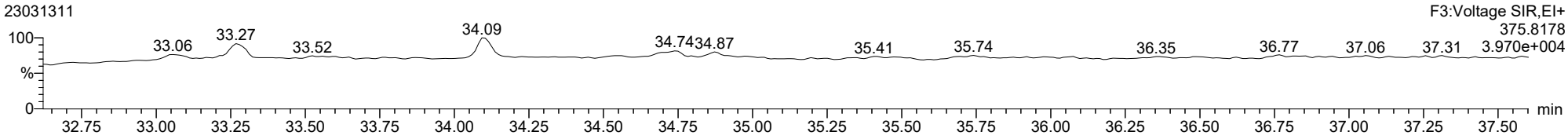

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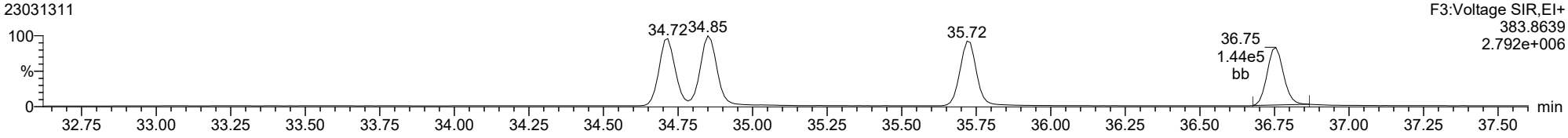

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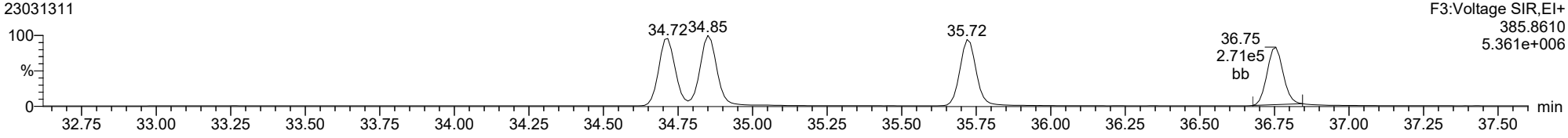

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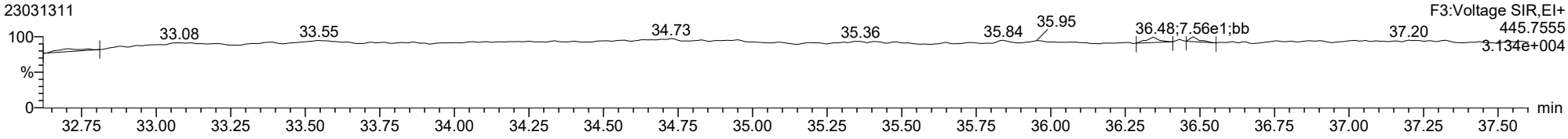

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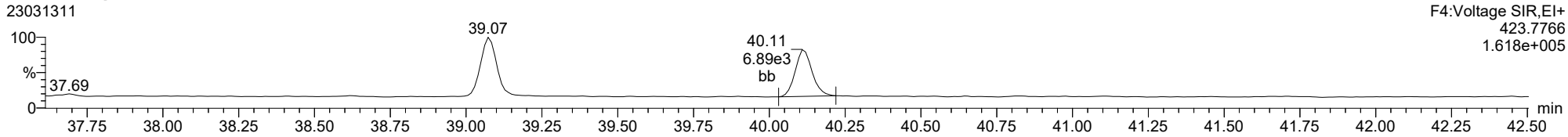

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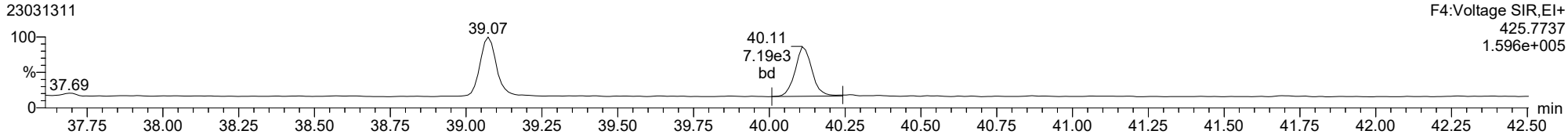

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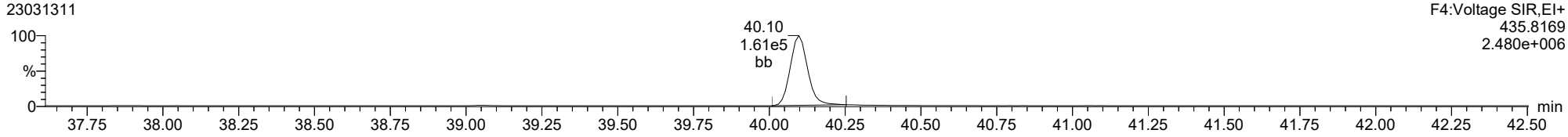

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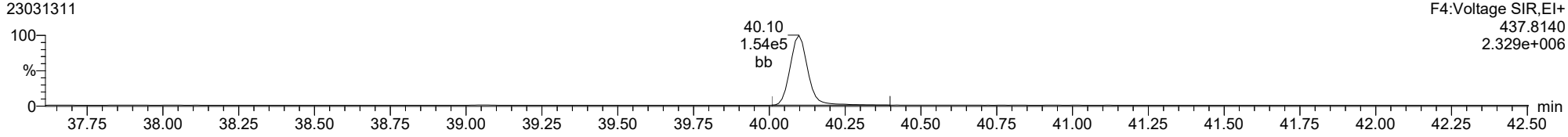

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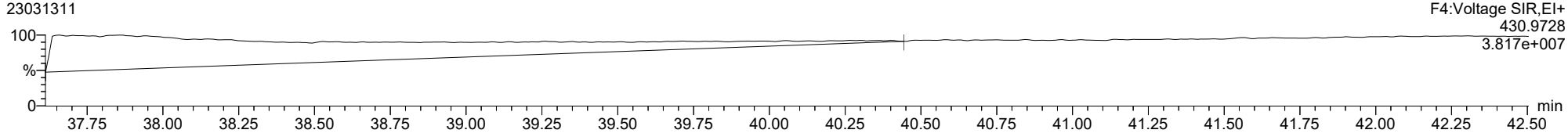

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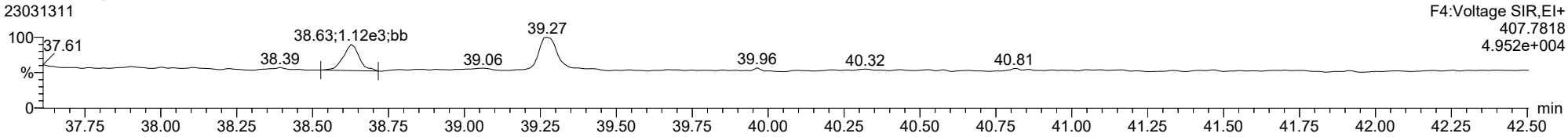

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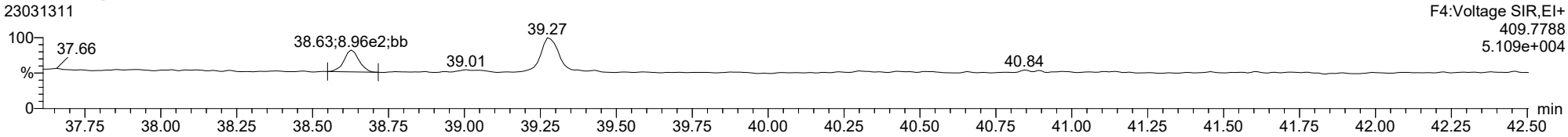

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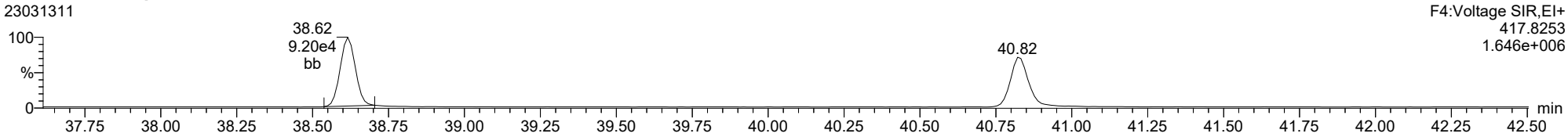

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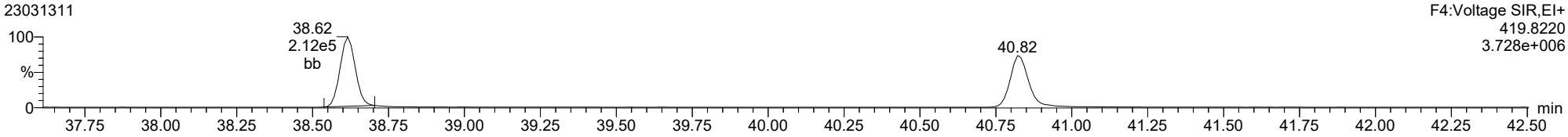

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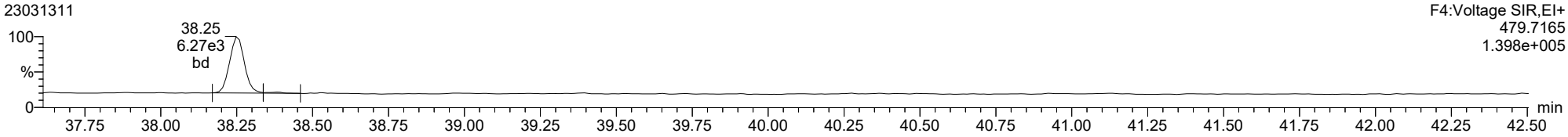

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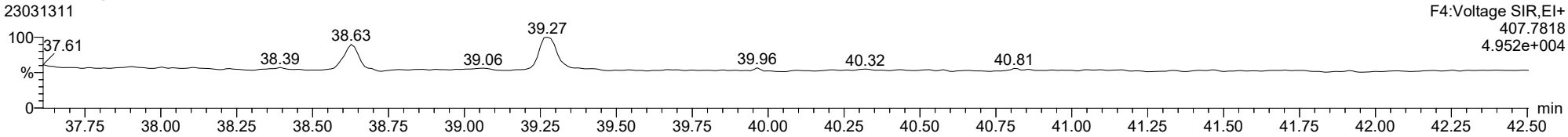

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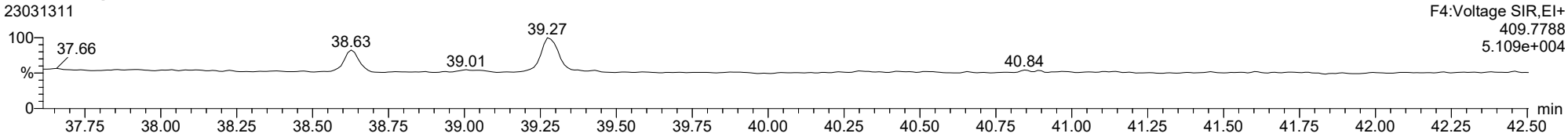

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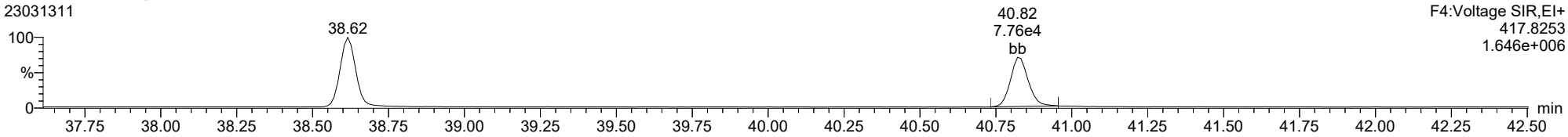

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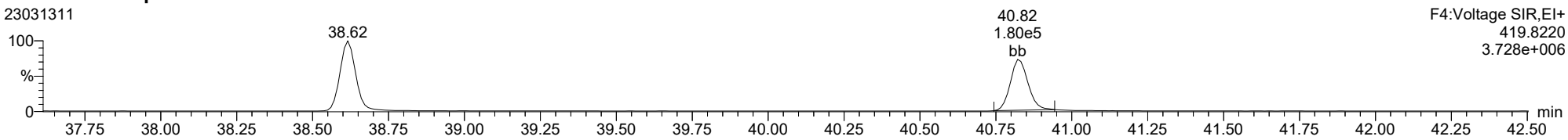

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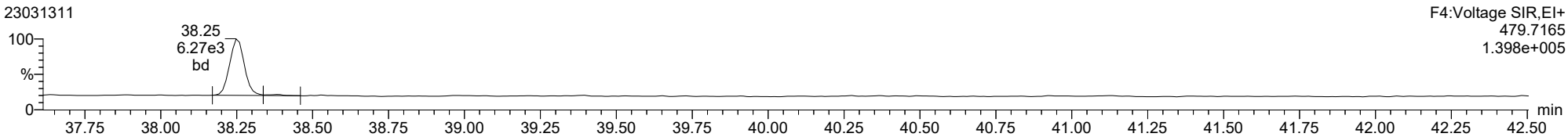

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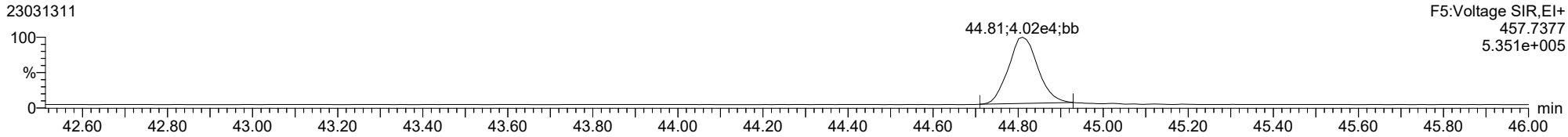

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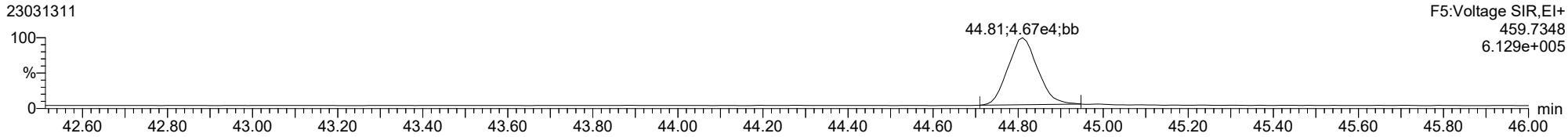

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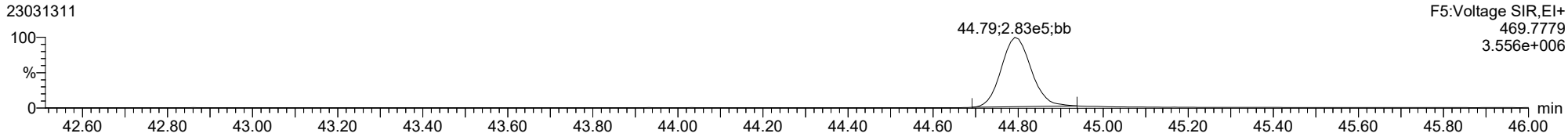

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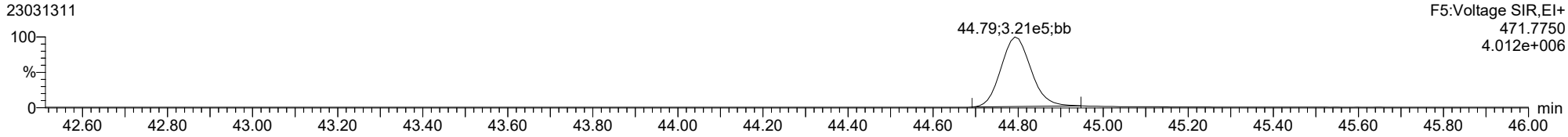

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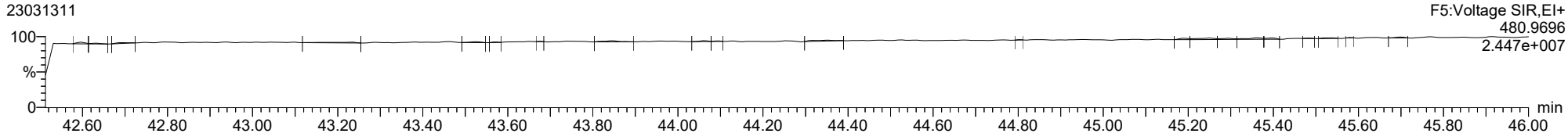

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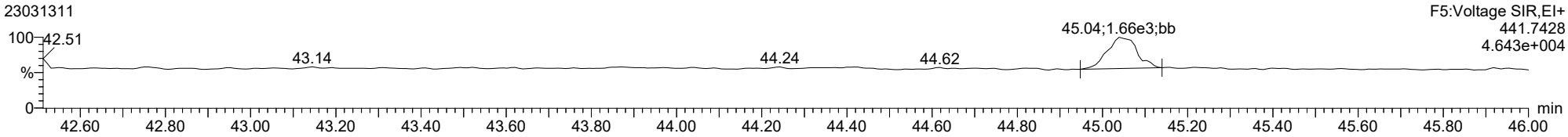

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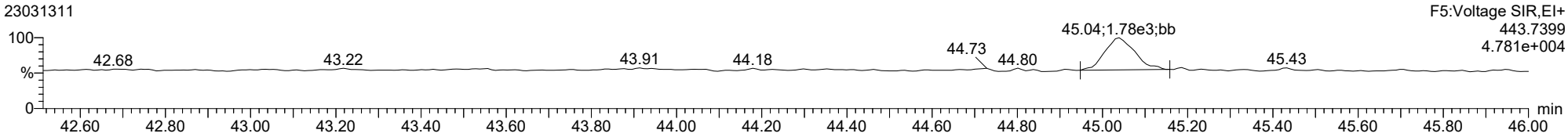

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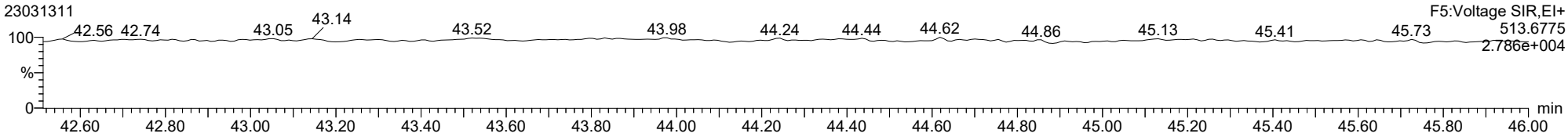

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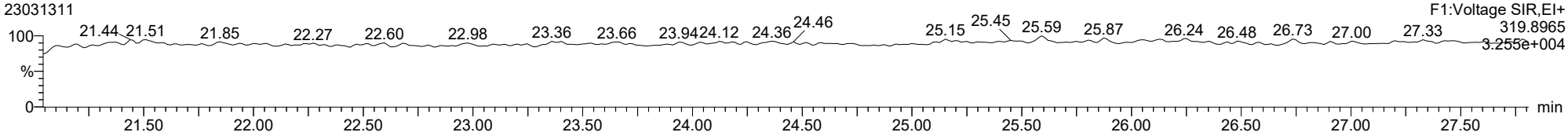

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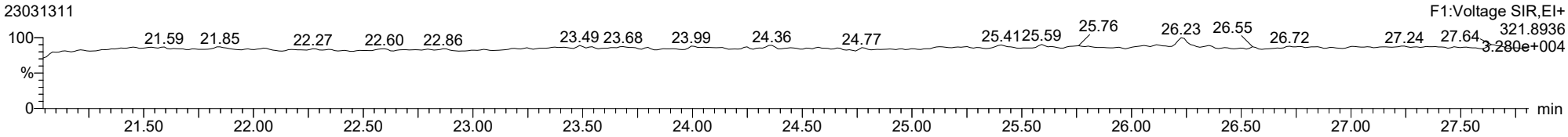

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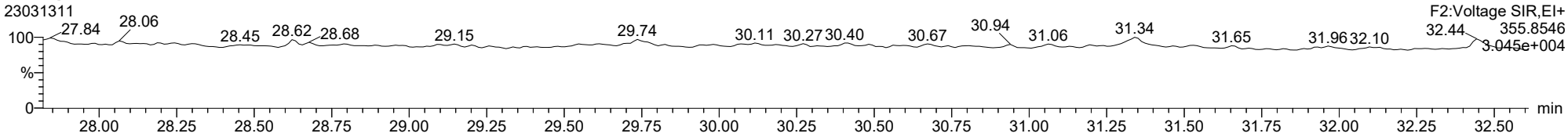

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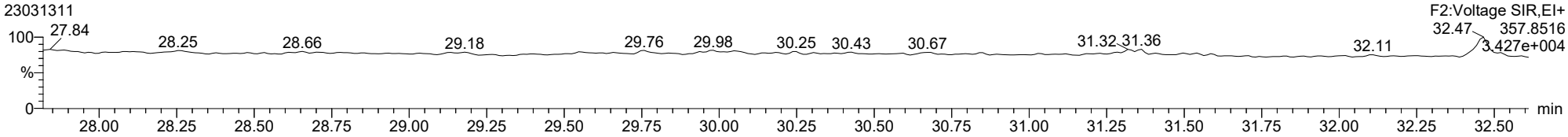

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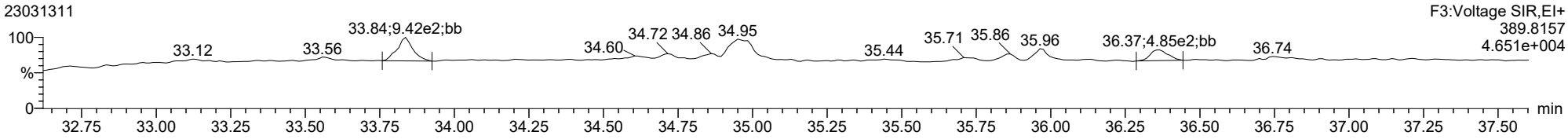

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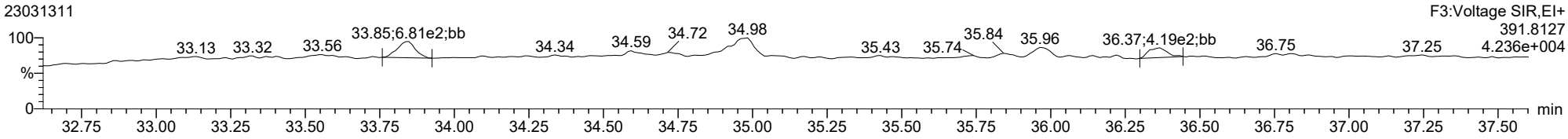

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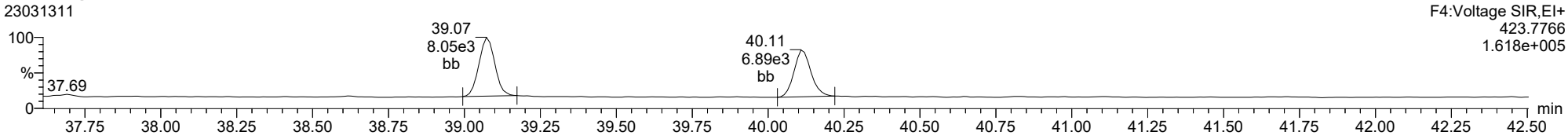
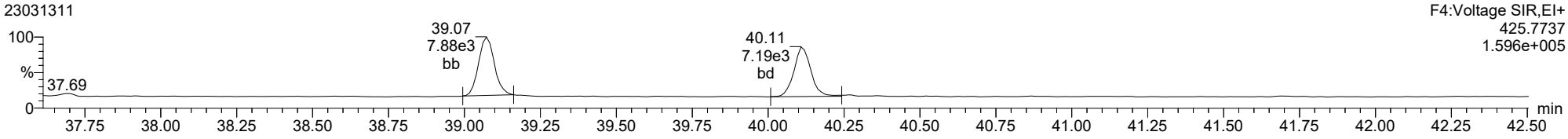
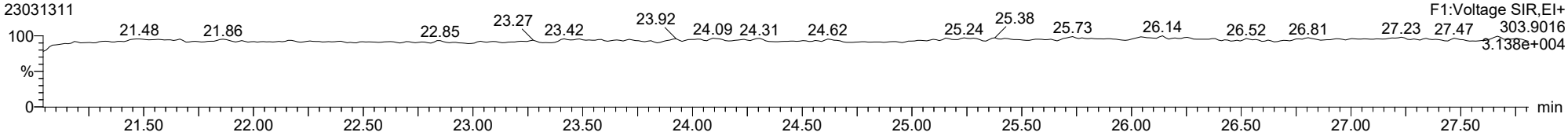


Total-heptadioxins

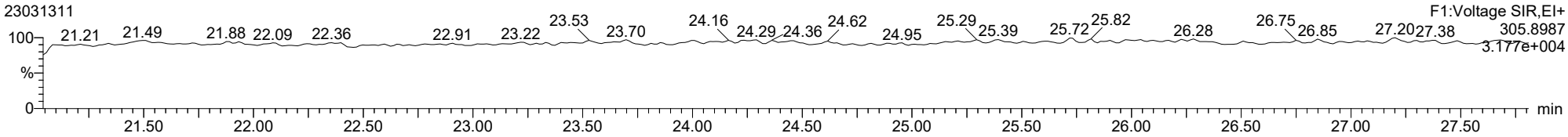


ID: 23A0418-01, Name: 23031311, Date: 13-Mar-2023, Time: 18:37:45, Conditions: AUTOSPEC01, User: pk

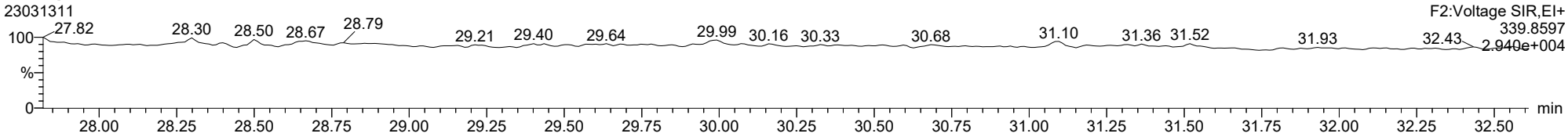
Total-tetrafurans



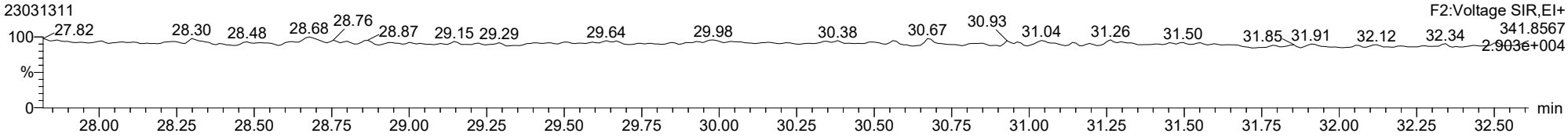
Total-tetrafurans



Total-pentafurans



Total-pentafurans



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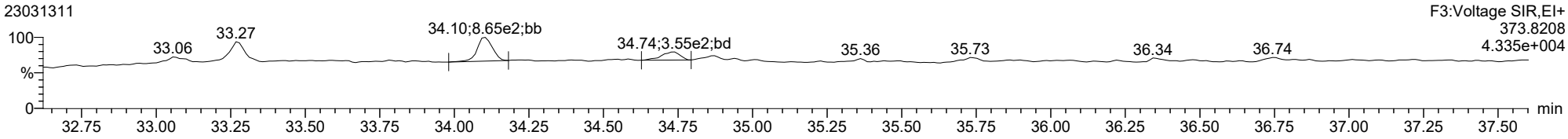
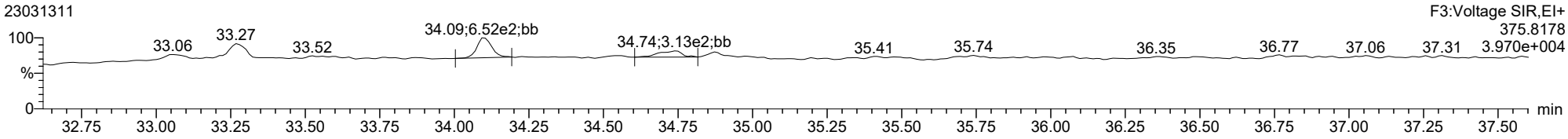
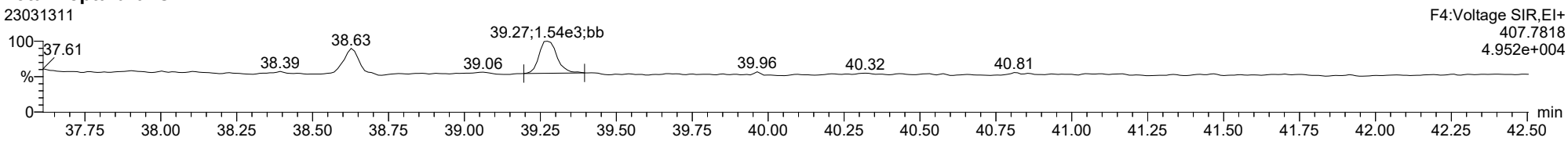
Total-hexafurans



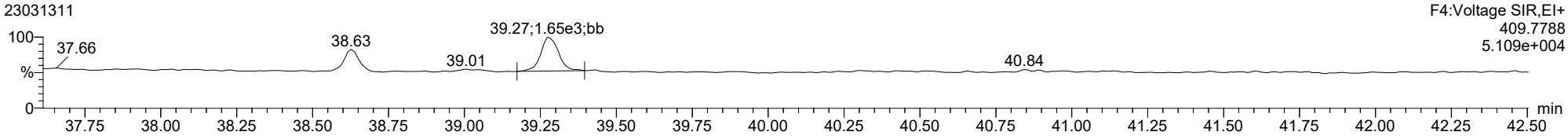
Total-hexafurans



Total-heptafurans



Total-heptafurans



Analytical Resources, LLC
Analytical Chemists and Consultants

LDW23-IT1142

Form 1
ORGANIC ANALYSIS DATA SHEET
EPA 1613B
Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-02 C	File ID:	23031312
Sampled:	01/18/23 08:47	Prepared:	02/14/23 17:30	Analyzed:	03/13/23 19:26
% Solids:	78.39	Preparation:	EPA 1613	Initial/Final:	12.81 g Wet / 20 uL
Result Basis:	Dry	Sequence:	SLC0171	Calibration:	GC00015
Batch:	BLB0228	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

CAS NO.	COMPOUND	DF/Split	Ion Ratio	Ratio Limits	EDL	RL	Result	Units	Q
51207-31-9	2,3,7,8-TCDF	1		0.655-0.886	0.379	0.996	ND	ng/kg	U
1746-01-6	2,3,7,8-TCDD	1	0.253	0.655-0.886	0.120	0.996	0.318	ng/kg	EMPC, J
57117-41-6	1,2,3,7,8-PeCDF	1		1.318-1.783	0.308	0.996	ND	ng/kg	U
57117-31-4	2,3,4,7,8-PeCDF	1	1.426	1.318-1.783	0.286	0.996	2.08	ng/kg	
40321-76-4	1,2,3,7,8-PeCDD	1	1.724	1.318-1.783	0.258	0.996	1.93	ng/kg	
70648-26-9	1,2,3,4,7,8-HxCDF	1	1.115	1.054-1.426	0.132	0.996	1.75	ng/kg	
57117-44-9	1,2,3,6,7,8-HxCDF	1	0.941	1.054-1.426	0.131	0.996	0.915	ng/kg	EMPC, J
60851-34-5	2,3,4,6,7,8-HxCDF	1	1.276	1.054-1.426	0.134	0.996	1.33	ng/kg	
72918-21-9	1,2,3,7,8,9-HxCDF	1	0.816	1.054-1.426	0.146	0.996	0.405	ng/kg	EMPC, J
39227-28-6	1,2,3,4,7,8-HxCDD	1	1.277	1.054-1.426	0.202	0.996	2.38	ng/kg	
57653-85-7	1,2,3,6,7,8-HxCDD	1	1.129	1.054-1.426	0.192	0.996	5.90	ng/kg	
19408-74-3	1,2,3,7,8,9-HxCDD	1	1.240	1.054-1.426	0.217	0.996	6.79	ng/kg	
67562-39-4	1,2,3,4,6,7,8-HpCDF	1	0.997	0.893-1.208	0.145	0.996	16.8	ng/kg	B
55673-89-7	1,2,3,4,7,8,9-HpCDF	1	1.069	0.893-1.208	0.195	0.996	1.30	ng/kg	
35822-46-9	1,2,3,4,6,7,8-HpCDD	1	1.031	0.893-1.208	0.354	2.49	155	ng/kg	B
39001-02-0	OCDF	1	0.801	0.757-1.024	0.262	2.49	37.3	ng/kg	
3268-87-9	OCDD	1	0.856	0.757-1.024	0.400	9.96	1030	ng/kg	B

Homologue Groups

55722-27-5	Total TCDF	1	0.000			0.996	29.1	ng/kg	
41903-57-5	Total TCDD	1	0.000			0.996	0.984	ng/kg	
30402-15-4	Total PeCDF	1	0.000			0.996	26.3	ng/kg	
36088-22-9	Total PeCDD	1	0.000			0.996	5.91	ng/kg	
55684-94-1	Total HxCDF	1	0.000			0.996	26.0	ng/kg	
34465-46-8	Total HxCDD	1	0.000			0.996	49.8	ng/kg	
38998-75-3	Total HpCDF	1	0.000			0.996	47.0	ng/kg	
37871-00-4	Total HpCDD	1	0.000			0.996	298	ng/kg	

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 6.87
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 6.89

LDW23-IT1142

Form 2

ORGANIC ANALYSIS DATA SHEET

EPA 1613B

Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Sediment	Laboratory ID:	23A0418-02	File ID:	23031312
Sampled:	01/18/23 08:47	Prepared:	02/14/23 17:30	Analyzed:	03/13/23 19:26
Solids Wt%:	78.39	Preparation:	EPA 1613	Initial/Final:	12.81 g / 20 uL
Result Basis:	Dry	Sequence:	SLC0171	Calibration:	GC00015
Batch:	BLB0228	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

Labels	DF/Split	Ion Ratio	Ratio Limits	EDL	% REC	QC LIMITS	Q
13C12-2,3,7,8-TCDF		0.741	0.655-0.886	0.158	78.2	24 - 169 %	
13C12-2,3,7,8-TCDD		0.776	0.655-0.886	0.199	109	25 - 164 %	
13C12-1,2,3,7,8-PeCDF		1.490	1.318-1.783	0.213	95.4	24 - 185 %	
13C12-2,3,4,7,8-PeCDF		1.498	1.318-1.783	0.236	99.5	21 - 178 %	
13C12-1,2,3,7,8-PeCDD		1.666	1.318-1.783	0.193	87.6	25 - 181 %	
13C12-1,2,3,4,7,8-HxCDF		0.513	0.434-0.587	0.264	104	26 - 152 %	
13C12-1,2,3,6,7,8-HxCDF		0.499	0.434-0.587	0.223	94.7	26 - 123 %	
13C12-2,3,4,6,7,8-HxCDF		0.501	0.434-0.587	0.273	104	28 - 136 %	
13C12-1,2,3,7,8,9-HxCDF		0.500	0.434-0.587	0.331	116	29 - 147 %	
13C12-1,2,3,4,7,8-HxCDD		1.275	1.054-1.426	0.355	106	32 - 141 %	
13C12-1,2,3,6,7,8-HxCDD		1.252	1.054-1.426	0.305	97.9	28 - 130 %	
13C12-1,2,3,4,6,7,8-HpCDF		0.441	0.374-0.506	0.357	101	28 - 143 %	
13C12-1,2,3,4,7,8,9-HpCDF		0.429	0.374-0.506	0.415	106	26 - 138 %	
13C12-1,2,3,4,6,7,8-HpCDD		1.100	0.893-1.208	0.250	116	23 - 140 %	
13C12-OCDD		0.886	0.757-1.024	0.264	116	17 - 157 %	
37Cl4-2,3,7,8-TCDD		328.000		0.099	176	35 - 197 %	

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\230313D1.qld
Last Altered: Tuesday, March 14, 2023 09:54:11 Pacific Daylight Time
Printed: Tuesday, March 14, 2023 11:12:47 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin230313.mdb 13 Mar 2023 11:32:39
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 11:57:27

ID: 23A0418-02, Name: 23031312, Date: 13-Mar-2023, Time: 19:26:46, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF					0.702		0.770	1906	1643								
12378-PeCDF					0.679		1.550	1549	1141								
23478-PeCDF	31.061	1.000	2.294e3	1.609e3	0.786	1.426	1.550	1549	1141	2.99e4	1.90e4	19.3	16.6	NO	db	db	1.046
123478-HxCDF	34.727	1.001	2.338e3	2.097e3	1.166	1.115	1.240	808	883	3.95e4	3.07e4	48.9	34.8	NO	dd	dd	0.881
234678-HxCDF	35.729	1.000	1.778e3	1.393e3	1.140	1.276	1.240	808	883	1.78e4	1.61e4	22.0	18.2	NO	bb	bb	0.670
123678-HxCDF	34.860	1.000	1.127e3	1.198e3	1.091	0.941	1.240	808	883	2.00e4	1.90e4	24.8	21.5	YES	db	db	0.459
123789-HxCDF	36.721	0.999	3.977e2	4.874e2	1.137	0.816	1.240	808	883	8.26e3	6.83e3	10.2	7.7	YES	bd	bd	0.203
1234678-HpCDF	38.626	1.000	1.358e4	1.361e4	1.003	0.997	1.050	670	669	2.27e5	2.22e5	339.2	331.4	NO	bd	bb	8.451
1234789-HpCDF	40.832	1.000	9.316e2	8.714e2	0.953	1.069	1.050	670	669	1.39e4	1.17e4	20.8	17.5	NO	bb	bb	0.652
OCDF	45.038	1.005	2.044e4	2.551e4	0.778	0.801	0.890	510	842	2.32e5	2.89e5	456.0	343.7	NO	bb	bb	18.712
2378-TCDD	26.226	1.000	1.975e2	7.818e2	1.149	0.253	0.770	1179	692	4.72e3	1.12e4	4.0	16.2	YES	bb	bd	0.159
12378-PeCDD	31.351	1.001	1.943e3	1.127e3	1.022	1.724	1.550	892	1193	2.62e4	1.80e4	29.4	15.1	NO	bb	bb	0.970
123478-HxCDD	35.852	1.000	2.484e3	1.946e3	0.996	1.277	1.240	1043	920	4.03e4	3.10e4	38.6	33.6	NO	bd	bd	1.197
123678-HxCDD	35.963	1.000	6.303e3	5.583e3	1.001	1.129	1.240	1043	920	1.02e5	9.14e4	97.6	99.3	NO	dd	dd	2.964
123789-HxCDD	36.353	1.011	6.612e3	5.334e3	0.907	1.240	1.240	1043	920	1.03e5	8.70e4	98.6	94.5	NO	bb	bb	3.409
1234678-HpCDD	40.107	1.000	1.417e5	1.374e5	1.039	1.031	1.050	1677	1415	2.17e6	2.14e6	1294.2	1512.8	NO	bb	bb	77.670
OCDD	44.809	1.000	6.950e5	8.117e5	0.920	0.856	0.890	1444	994	8.67e6	1.01e7	6001.7	10191.2	NO	bb	bb	518.821
13C-2378-TCDF	25.562	1.007	2.301e5	3.105e5	1.620	0.741	0.770	1552	1308	3.40e6	4.66e6	2188.6	3564.9	NO	bb	bb	78.192
13C-12378-PeCDF	29.736	1.171	3.021e5	2.027e5	1.240	1.490	1.550	1356	1598	4.60e6	3.05e6	3388.6	1907.2	NO	bb	bb	95.372
13C-23478-PeCDF	31.061	1.223	2.845e5	1.899e5	1.118	1.498	1.550	1356	1598	4.29e6	2.83e6	3165.8	1773.5	NO	bb	bb	99.456
13C-123478-HxCDF	34.704	0.955	1.464e5	2.854e5	1.168	0.513	0.510	1294	1634	2.22e6	4.40e6	1715.2	2689.8	NO	bd	bd	104.473
13C-123678-HxCDF	34.849	0.959	1.545e5	3.098e5	1.386	0.499	0.510	1294	1634	2.36e6	4.62e6	1822.9	2826.2	NO	db	dd	94.678
13C-234678-HxCDF	35.718	0.983	1.387e5	2.766e5	1.129	0.501	0.510	1294	1634	2.21e6	4.36e6	1707.1	2669.6	NO	bb	bb	103.965
13C-123789-HxCDF	36.743	1.011	1.278e5	2.554e5	0.932	0.500	0.510	1294	1634	2.03e6	4.02e6	1571.5	2461.7	NO	bb	bb	116.273
13C-1234678-HpCDF	38.615	1.063	9.816e4	2.227e5	0.895	0.441	0.440	930	2099	1.69e6	3.79e6	1813.9	1805.8	NO	bb	bb	101.319
13C-1234789-HpCDF	40.820	1.123	8.704e4	2.029e5	0.770	0.429	0.440	930	2099	1.29e6	2.99e6	1390.1	1426.7	NO	bb	bb	106.496
13C-1234-TCDD	25.393	0.000	1.880e5	2.387e5	1.000	0.788	0.770	1701	871	2.95e6	3.74e6	1733.6	4293.1	NO	bb	bb	100.000
13C-2378-TCDD	26.212	1.032	2.336e5	3.010e5	1.152	0.776	0.770	1701	871	3.56e6	4.56e6	2091.8	5234.8	NO	bb	bb	108.705
13C-12378-PeCDD	31.317	1.233	1.935e5	1.162e5	0.829	1.666	1.550	1072	718	2.95e6	1.79e6	2751.6	2488.1	NO	bb	bb	87.574
13C-123478-HxCDD	35.841	0.986	2.084e5	1.635e5	0.995	1.275	1.240	1614	1737	3.27e6	2.56e6	2025.8	1473.3	NO	bd	bd	105.651
13C-123678-HxCDD	35.952	0.989	2.228e5	1.779e5	1.157	1.252	1.240	1614	1737	3.39e6	2.70e6	2101.4	1556.0	NO	dd	dd	97.919
13C-1234678-HpCDD	40.096	1.103	1.812e5	1.646e5	0.840	1.100	1.050	920	1074	2.63e6	2.43e6	2861.6	2258.8	NO	bd	bb	116.366
13C-OCDD	44.791	1.232	2.965e5	3.348e5	0.767	0.886	0.890	852	1068	3.72e6	4.21e6	4365.3	3943.2	NO	bb	bb	232.567
13C-123789-HxCDD	36.342	0.000	1.973e5	1.564e5	1.000	1.262	1.240	1614	1737	3.16e6	2.53e6	1958.4	1458.7	NO	bb	bb	100.000
37CL-2378-TCDD	26.226	1.033	3.870e5		1.288			1423		6.03e6		4235.9			bb		70.434

Dataset: T:\Autospec\Processed Data Batch\230313D1.qld
Last Altered: Tuesday, March 14, 2023 09:54:11 Pacific Daylight Time
Printed: Tuesday, March 14, 2023 11:12:47 Pacific Daylight Time

ID: 23A0418-02, Name: 23031312, Date: 13-Mar-2023, Time: 19:26:46, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF	22.003	0.861	2.523e3	1.292e3	0.802	1.953	0.770	1906	1643	3.85e4	2.02e4	20.2	12.3	YES	bd	bb	0.880
1289-TCDF					0.678		0.770	1906	1643								
13468-PECDF					1.246		1.550	1723	1651								
12389-PECDF					0.496		1.550	1549	1141								
123468-HXCDF	33.056	0.952	4.131e3	3.229e3	1.169	1.280	1.240	808	883	6.50e4	4.98e4	80.5	56.4	NO	bb	bb	1.458
1368-TCDD	23.359	0.891	7.232e2	9.295e2	1.015	0.778	0.770	1179	692	1.17e4	1.44e4	9.9	20.7	NO	bb	bb	0.305
1289-TCDD					0.909		0.770	1179	692								
12479-PECDD	28.621	0.914	2.146e3	2.260e3	2.301	0.949	1.550	892	1193	2.23e4	2.42e4	25.0	20.3	YES	MM	MM	0.618
12389-PECDD					1.184		1.550	892	1193								
124679-HXCDD	33.835	0.944	1.320e4	1.082e4	1.115	1.220	1.240	1043	920	2.02e5	1.62e5	193.7	176.2	NO	bb	bb	5.789
1234679-HPCDD	39.071	0.974	1.428e5	1.398e5	1.137	1.021	1.050	1677	1415	2.38e6	2.36e6	1419.3	1664.8	NO	bb	bb	71.863
Total-tetrafurans			2.521e4		0.727			1906		3.29e5							14.619
Total-penta1			1.576e4					1723		2.20e5							5.595
Total-pentafurans			1.516e4		0.654			1549		2.30e5							7.632
Total-hexafurans			3.504e4		1.141			808		5.04e5							13.038
Total-heptafurans			3.581e4		0.978			670		5.81e5							23.589
Total-Furans			1.487e5		0.922			1906		2.12e6							83.835
Total-tetradioxins			1.189e3		1.024			1179		1.94e4							0.494
Total-pentadioxins			7.608e3		1.502			892		1.07e5							2.965
Total-hexadioxins			5.388e4		1.005			1043		7.09e5							24.979
Total-heptadioxins			2.844e5		1.088			1677		4.55e6							149.533
Total-Dioxins			1.042e6		1.130			1179		1.41e7							696.793
Total-TEQ			1.191e6					1179		1.62e7							780.628
FUNCTION1 PFK			1.048e6					410159		1.11e7							
FUNCTION2 PFK			1.370e5					247064		3.70e6							0.000
FUNCTION3 PFK			5.410e7					329323		5.06e7							0.000
FUNCTION4 PFK			1.055e5					267454		3.52e6							
FUNCTION5 PFK			1.572e5					190127		4.78e6							
FUNCTION1 HXCD...			2.128e4					900		3.20e5							0.000
FUNCTION1 HPCD...																	
FUNCTION2 HPCD...			3.974e2					982		9.32e3							0.000
FUNCTION3 OCDPE			0.000e0					379		0.00e0							
FUNCTION4 NCDPE			2.936e4					546		5.12e5							0.000
FUNCTION5 DCDPE			0.000e0					473		0.00e0							

Method: T:\Autospec\Methods\Dioxin230313.mdb 13 Mar 2023 11:32:39
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 11:57:27

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TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	24.43	1.063e3	1.524e3	0.727	0.70	0.77	6.6	YES	NO	dd	dd	0.658
2	Total-tetrafurans	24.26	4.609e3	5.820e3	0.727	0.79	0.77	25.0	YES	NO	dd	dd	2.654
3	Total-tetrafurans	24.09	3.090e3	4.024e3	0.727	0.77	0.77	17.5	YES	NO	dd	dd	1.810
4	Total-tetrafurans	23.99	3.244e3	4.397e3	0.727	0.74	0.77	23.9	YES	NO	dd	dd	1.944
5	Total-tetrafurans	23.85	6.375e3	7.825e3	0.727	0.81	0.77	44.0	YES	NO	dd	dd	3.613
6	Total-tetrafurans	22.26	1.750e3	2.092e3	0.727	0.84	0.77	13.4	YES	NO	db	bd	0.978
7	Total-tetrafurans	27.19	5.079e3	6.559e3	0.727	0.77	0.77	42.2	YES	NO	bb	bb	2.961

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-penta1	27.02	1.576e4	1.014e4		1.55	1.55	127.7	YES	NO	db	db	5.595

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentafurans	28.30	4.078e3	2.456e3	0.654	1.66	1.55	40.9	YES	NO	dd	db	2.041
2	Total-pentafurans	28.24	1.876e3	1.167e3	0.654	1.61	1.55	22.7	YES	NO	bd	bd	0.951
3	Total-pentafurans	28.00	1.343e3	7.919e2	0.654	1.70	1.55	14.1	YES	NO	bd	bb	0.667
4	Total-pentafurans	30.93	9.081e2	6.865e2	0.654	1.32	1.55	8.4	YES	NO	dd	dd	0.498
5	Total-pentafurans	30.82	6.164e2	3.844e2	0.654	1.60	1.55	5.5	YES	NO	bd	bd	0.313
6	Total-pentafurans	30.13	1.657e3	1.116e3	0.654	1.48	1.55	16.8	YES	NO	db	db	0.866
7	Total-pentafurans	29.96	2.391e3	1.610e3	0.654	1.48	1.55	20.7	YES	NO	bd	bd	1.250
8	23478-PeCDF	31.06	2.294e3	1.609e3	0.786	1.43	1.55	19.3	YES	NO	db	db	1.046

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	234678-HxCDF	35.73	1.778e3	1.393e3	1.140	1.28	1.24	22.0	YES	NO	bb	bb	0.670
2	123478-HxCDF	34.73	2.338e3	2.097e3	1.166	1.11	1.24	48.9	YES	NO	dd	dd	0.881
3	Total-hexafurans	34.56	8.823e2	7.070e2	1.141	1.25	1.24	15.1	YES	NO	bd	bd	0.329
4	Total-hexafurans	34.10	1.067e4	8.429e3	1.141	1.27	1.24	189.2	YES	NO	bb	bb	3.953
5	Total-hexafurans	33.27	1.524e4	1.252e4	1.141	1.22	1.24	267.8	YES	NO	bd	bb	5.747
6	123468-HXCDF	33.06	4.131e3	3.229e3	1.169	1.28	1.24	80.5	YES	NO	bb	bb	1.458

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HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	40.83	9.316e2	8.714e2	0.953	1.07	1.05	20.8	YES	NO	bb	bb	0.652
2	Total-heptafurans	39.27	2.130e4	2.197e4	0.978	0.97	1.05	507.3	YES	NO	bd	bd	14.486
3	1234678-HpCDF	38.63	1.358e4	1.361e4	1.003	1.00	1.05	339.2	YES	NO	bd	bb	8.451

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	24.43	1.063e3	1.524e3	0.727	0.70	0.77	6.6	YES	NO	dd	dd	0.658
2	Total-tetrafurans	24.26	4.609e3	5.820e3	0.727	0.79	0.77	25.0	YES	NO	dd	dd	2.654
3	Total-tetrafurans	24.09	3.090e3	4.024e3	0.727	0.77	0.77	17.5	YES	NO	dd	dd	1.810
4	Total-tetrafurans	23.99	3.244e3	4.397e3	0.727	0.74	0.77	23.9	YES	NO	dd	dd	1.944
5	Total-tetrafurans	23.85	6.375e3	7.825e3	0.727	0.81	0.77	44.0	YES	NO	dd	dd	3.613
6	Total-tetrafurans	22.26	1.750e3	2.092e3	0.727	0.84	0.77	13.4	YES	NO	db	bd	0.978
7	Total-Furans	27.67	1.311e3	1.935e3	0.922	0.68	0.77	11.2	YES	NO	bb	bb	0.652
8	Total-tetrafurans	27.19	5.079e3	6.559e3	0.727	0.77	0.77	42.2	YES	NO	bb	bb	2.961
9	Total-pentafurans	28.30	4.078e3	2.456e3	0.654	1.66	1.55	40.9	YES	NO	dd	db	2.041
10	Total-pentafurans	28.24	1.876e3	1.167e3	0.654	1.61	1.55	22.7	YES	NO	bd	bd	0.951
11	Total-pentafurans	28.00	1.343e3	7.919e2	0.654	1.70	1.55	14.1	YES	NO	bd	bb	0.667
12	Total-pentafurans	30.93	9.081e2	6.865e2	0.654	1.32	1.55	8.4	YES	NO	dd	dd	0.498
13	Total-pentafurans	30.82	6.164e2	3.844e2	0.654	1.60	1.55	5.5	YES	NO	bd	bd	0.313
14	Total-pentafurans	30.13	1.657e3	1.116e3	0.654	1.48	1.55	16.8	YES	NO	db	db	0.866
15	Total-pentafurans	29.96	2.391e3	1.610e3	0.654	1.48	1.55	20.7	YES	NO	bd	bd	1.250
16	23478-PeCDF	31.06	2.294e3	1.609e3	0.786	1.43	1.55	19.3	YES	NO	db	db	1.046
17	234678-HxCDF	35.73	1.778e3	1.393e3	1.140	1.28	1.24	22.0	YES	NO	bb	bb	0.670
18	123478-HxCDF	34.73	2.338e3	2.097e3	1.166	1.11	1.24	48.9	YES	NO	dd	dd	0.881
19	Total-hexafurans	34.56	8.823e2	7.070e2	1.141	1.25	1.24	15.1	YES	NO	bd	bd	0.329
20	Total-hexafurans	34.10	1.067e4	8.429e3	1.141	1.27	1.24	189.2	YES	NO	bb	bb	3.953
21	Total-hexafurans	33.27	1.524e4	1.252e4	1.141	1.22	1.24	267.8	YES	NO	bd	bb	5.747
22	123468-HXCDF	33.06	4.131e3	3.229e3	1.169	1.28	1.24	80.5	YES	NO	bb	bb	1.458
23	1234789-HpCDF	40.83	9.316e2	8.714e2	0.953	1.07	1.05	20.8	YES	NO	bb	bb	0.652
24	Total-heptafurans	39.27	2.130e4	2.197e4	0.978	0.97	1.05	507.3	YES	NO	bd	bd	14.486
25	1234678-HpCDF	38.63	1.358e4	1.361e4	1.003	1.00	1.05	339.2	YES	NO	bd	bb	8.451
26	OCDF	45.04	2.044e4	2.551e4	0.778	0.80	0.89	456.0	YES	NO	bb	bb	18.712
27	Total-penta1	27.02	1.576e4	1.014e4		1.55	1.55	127.7	YES	NO	db	db	5.595

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TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	23.63	4.654e2	5.721e2	1.024	0.81	0.77	6.5	YES	NO	bb	bb	0.189
2	1368-TCDD	23.36	7.232e2	9.295e2	1.015	0.78	0.77	9.9	YES	NO	bb	bb	0.305

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentadioxins	29.74	1.264e3	8.282e2	1.502	1.53	1.55	21.2	YES	NO	bb	bb	0.450
2	Total-pentadioxins	29.13	5.150e2	3.085e2	1.502	1.67	1.55	6.7	YES	NO	bb	bb	0.177
3	12378-PeCDD	31.35	1.943e3	1.127e3	1.022	1.72	1.55	29.4	YES	NO	bb	bb	0.970
4	Total-pentadioxins	30.66	4.445e2	2.676e2	1.502	1.66	1.55	8.3	YES	NO	bb	db	0.153
5	Total-pentadioxins	30.27	6.087e2	4.330e2	1.502	1.41	1.55	8.6	YES	NO	db	db	0.224
6	Total-pentadioxins	30.09	1.071e3	6.059e2	1.502	1.77	1.55	17.1	YES	NO	dd	dd	0.360
7	Total-pentadioxins	29.96	1.762e3	1.176e3	1.502	1.50	1.55	28.6	YES	NO	bd	bd	0.631

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123678-HxCDD	35.96	6.303e3	5.583e3	1.001	1.13	1.24	97.6	YES	NO	dd	dd	2.964
2	123478-HxCDD	35.85	2.484e3	1.946e3	0.996	1.28	1.24	38.6	YES	NO	bd	bd	1.197
3	Total-hexadioxins	34.97	2.169e4	1.690e4	1.005	1.28	1.24	193.9	YES	NO	bb	bd	9.945
4	Total-hexadioxins	34.60	3.595e3	2.906e3	1.005	1.24	1.24	57.6	YES	NO	bb	bb	1.675
5	124679-HXCDD	33.84	1.320e4	1.082e4	1.115	1.22	1.24	193.7	YES	NO	bb	bb	5.789
6	123789-HxCDD	36.35	6.612e3	5.334e3	0.907	1.24	1.24	98.6	YES	NO	bb	bb	3.409

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.11	1.417e5	1.374e5	1.039	1.03	1.05	1294.2	YES	NO	bb	bb	77.670
2	1234679-HPCDD	39.07	1.428e5	1.398e5	1.137	1.02	1.05	1419.3	YES	NO	bb	bb	71.863

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Last Altered: Tuesday, March 14, 2023 09:54:11 Pacific Daylight Time
Printed: Tuesday, March 14, 2023 11:12:47 Pacific Daylight Time

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Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	23.63	4.654e2	5.721e2	1.024	0.81	0.77	6.5	YES	NO	bb	bb	0.189
2	1368-TCDD	23.36	7.232e2	9.295e2	1.015	0.78	0.77	9.9	YES	NO	bb	bb	0.305
3	Total-pentadioxins	29.74	1.264e3	8.282e2	1.502	1.53	1.55	21.2	YES	NO	bb	bb	0.450
4	Total-pentadioxins	29.13	5.150e2	3.085e2	1.502	1.67	1.55	6.7	YES	NO	bb	bb	0.177
5	12378-PeCDD	31.35	1.943e3	1.127e3	1.022	1.72	1.55	29.4	YES	NO	bb	bb	0.970
6	Total-pentadioxins	30.66	4.445e2	2.676e2	1.502	1.66	1.55	8.3	YES	NO	bb	db	0.153
7	Total-pentadioxins	30.27	6.087e2	4.330e2	1.502	1.41	1.55	8.6	YES	NO	db	db	0.224
8	Total-pentadioxins	30.09	1.071e3	6.059e2	1.502	1.77	1.55	17.1	YES	NO	dd	dd	0.360
9	Total-pentadioxins	29.96	1.762e3	1.176e3	1.502	1.50	1.55	28.6	YES	NO	bd	bd	0.631
10	123678-HxCDD	35.96	6.303e3	5.583e3	1.001	1.13	1.24	97.6	YES	NO	dd	dd	2.964
11	123478-HxCDD	35.85	2.484e3	1.946e3	0.996	1.28	1.24	38.6	YES	NO	bd	bd	1.197
12	Total-hexadioxins	34.97	2.169e4	1.690e4	1.005	1.28	1.24	193.9	YES	NO	bb	bd	9.945
13	Total-hexadioxins	34.60	3.595e3	2.906e3	1.005	1.24	1.24	57.6	YES	NO	bb	bb	1.675
14	124679-HXCDD	33.84	1.320e4	1.082e4	1.115	1.22	1.24	193.7	YES	NO	bb	bb	5.789
15	123789-HxCDD	36.35	6.612e3	5.334e3	0.907	1.24	1.24	98.6	YES	NO	bb	bb	3.409
16	1234678-HpCDD	40.11	1.417e5	1.374e5	1.039	1.03	1.05	1294.2	YES	NO	bb	bb	77.670
17	1234679-HPCDD	39.07	1.428e5	1.398e5	1.137	1.02	1.05	1419.3	YES	NO	bb	bb	71.863
18	OCDD	44.81	6.950e5	8.117e5	0.920	0.86	0.89	6001.7	YES	NO	bb	bb	518.821

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	24.43	1.063e3	1.524e3	0.727	0.70	0.77	6.6	YES	NO	dd	dd	0.658
2	Total-tetrafurans	24.26	4.609e3	5.820e3	0.727	0.79	0.77	25.0	YES	NO	dd	dd	2.654
3	Total-tetrafurans	24.09	3.090e3	4.024e3	0.727	0.77	0.77	17.5	YES	NO	dd	dd	1.810
4	Total-tetrafurans	23.99	3.244e3	4.397e3	0.727	0.74	0.77	23.9	YES	NO	dd	dd	1.944
5	Total-tetrafurans	23.85	6.375e3	7.825e3	0.727	0.81	0.77	44.0	YES	NO	dd	dd	3.613
6	Total-tetrafurans	22.26	1.750e3	2.092e3	0.727	0.84	0.77	13.4	YES	NO	db	bd	0.978
7	Total-Furans	27.67	1.311e3	1.935e3	0.922	0.68	0.77	11.2	YES	NO	bb	bb	0.652
8	Total-tetrafurans	27.19	5.079e3	6.559e3	0.727	0.77	0.77	42.2	YES	NO	bb	bb	2.961
9	Total-pentafurans	28.30	4.078e3	2.456e3	0.654	1.66	1.55	40.9	YES	NO	dd	db	2.041
10	Total-pentafurans	28.24	1.876e3	1.167e3	0.654	1.61	1.55	22.7	YES	NO	bd	bd	0.951
11	Total-pentafurans	28.00	1.343e3	7.919e2	0.654	1.70	1.55	14.1	YES	NO	bd	bb	0.667
12	Total-pentafurans	30.93	9.081e2	6.865e2	0.654	1.32	1.55	8.4	YES	NO	dd	dd	0.498
13	Total-pentafurans	30.82	6.164e2	3.844e2	0.654	1.60	1.55	5.5	YES	NO	bd	bd	0.313
14	Total-pentafurans	30.13	1.657e3	1.116e3	0.654	1.48	1.55	16.8	YES	NO	db	db	0.866
15	Total-pentafurans	29.96	2.391e3	1.610e3	0.654	1.48	1.55	20.7	YES	NO	bd	bd	1.250
16	23478-PeCDF	31.06	2.294e3	1.609e3	0.786	1.43	1.55	19.3	YES	NO	db	db	1.046
17	234678-HxCDF	35.73	1.778e3	1.393e3	1.140	1.28	1.24	22.0	YES	NO	bb	bb	0.670
18	123478-HxCDF	34.73	2.338e3	2.097e3	1.166	1.11	1.24	48.9	YES	NO	dd	dd	0.881
19	Total-hexafurans	34.56	8.823e2	7.070e2	1.141	1.25	1.24	15.1	YES	NO	bd	bd	0.329
20	Total-hexafurans	34.10	1.067e4	8.429e3	1.141	1.27	1.24	189.2	YES	NO	bb	bb	3.953
21	Total-hexafurans	33.27	1.524e4	1.252e4	1.141	1.22	1.24	267.8	YES	NO	bd	bb	5.747
22	123468-HXCDF	33.06	4.131e3	3.229e3	1.169	1.28	1.24	80.5	YES	NO	bb	bb	1.458
23	1234789-HpCDF	40.83	9.316e2	8.714e2	0.953	1.07	1.05	20.8	YES	NO	bb	bb	0.652
24	Total-heptafurans	39.27	2.130e4	2.197e4	0.978	0.97	1.05	507.3	YES	NO	bd	bd	14.486
25	1234678-HpCDF	38.63	1.358e4	1.361e4	1.003	1.00	1.05	339.2	YES	NO	bd	bb	8.451
26	OCDF	45.04	2.044e4	2.551e4	0.778	0.80	0.89	456.0	YES	NO	bb	bb	18.712
27	Total-penta1	27.02	1.576e4	1.014e4		1.55	1.55	127.7	YES	NO	db	db	5.595
28	Total-tetradioxins	23.63	4.654e2	5.721e2	1.024	0.81	0.77	6.5	YES	NO	bb	bb	0.189
29	1368-TCDD	23.36	7.232e2	9.295e2	1.015	0.78	0.77	9.9	YES	NO	bb	bb	0.305
30	Total-pentadioxins	29.74	1.264e3	8.282e2	1.502	1.53	1.55	21.2	YES	NO	bb	bb	0.450
31	Total-pentadioxins	29.13	5.150e2	3.085e2	1.502	1.67	1.55	6.7	YES	NO	bb	bb	0.177
32	12378-PeCDD	31.35	1.943e3	1.127e3	1.022	1.72	1.55	29.4	YES	NO	bb	bb	0.970
33	Total-pentadioxins	30.66	4.445e2	2.676e2	1.502	1.66	1.55	8.3	YES	NO	bb	db	0.153
34	Total-pentadioxins	30.27	6.087e2	4.330e2	1.502	1.41	1.55	8.6	YES	NO	db	db	0.224
35	Total-pentadioxins	30.09	1.071e3	6.059e2	1.502	1.77	1.55	17.1	YES	NO	dd	dd	0.360
36	Total-pentadioxins	29.96	1.762e3	1.176e3	1.502	1.50	1.55	28.6	YES	NO	bd	bd	0.631
37	123678-HxCDD	35.96	6.303e3	5.583e3	1.001	1.13	1.24	97.6	YES	NO	dd	dd	2.964

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	123478-HxCDD	35.85	2.484e3	1.946e3	0.996	1.28	1.24	38.6	YES	NO	bd	bd	1.197
39	Total-hexadioxins	34.97	2.169e4	1.690e4	1.005	1.28	1.24	193.9	YES	NO	bb	bd	9.945
40	Total-hexadioxins	34.60	3.595e3	2.906e3	1.005	1.24	1.24	57.6	YES	NO	bb	bb	1.675
41	124679-HXCDD	33.84	1.320e4	1.082e4	1.115	1.22	1.24	193.7	YES	NO	bb	bb	5.789
42	123789-HxCDD	36.35	6.612e3	5.334e3	0.907	1.24	1.24	98.6	YES	NO	bb	bb	3.409
43	1234678-HpCDD	40.11	1.417e5	1.374e5	1.039	1.03	1.05	1294.2	YES	NO	bb	bb	77.670
44	1234679-HPCDD	39.07	1.428e5	1.398e5	1.137	1.02	1.05	1419.3	YES	NO	bb	bb	71.863
45	OCDD	44.81	6.950e5	8.117e5	0.920	0.86	0.89	6001.7	YES	NO	bb	bb	518.821

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	24.42	1.622e4					1.0	NO		bb		
2	FUNCTION1 PFK	24.35	9.813e3					0.9	NO		bb		
3	FUNCTION1 PFK	24.29	2.742e3					0.5	NO		bb		
4	FUNCTION1 PFK	24.15	8.323e3					0.8	NO		bb		
5	FUNCTION1 PFK	24.07	3.373e4					1.9	NO		bb		
6	FUNCTION1 PFK	23.80	4.284e3					0.7	NO		bb		
7	FUNCTION1 PFK	23.58	6.294e5					2.1	NO		bb		
8	FUNCTION1 PFK	23.12	3.365e4					1.6	NO		bb		
9	FUNCTION1 PFK	22.68	7.346e3					0.7	NO		bb		
10	FUNCTION1 PFK	22.44	2.970e3					0.5	NO		bb		
11	FUNCTION1 PFK	22.31	4.260e4					1.4	NO		bb		
12	FUNCTION1 PFK	22.06	1.235e4					1.1	NO		bb		
13	FUNCTION1 PFK	21.95	1.992e4					1.4	NO		bb		
14	FUNCTION1 PFK	21.24	1.068e4					0.5	NO		bb		
15	FUNCTION1 PFK	21.14	4.211e3					0.7	NO		bb		
16	FUNCTION1 PFK	27.72	4.503e4					1.1	NO		bb		
17	FUNCTION1 PFK	27.37	8.080e3					0.9	NO		bb		
18	FUNCTION1 PFK	27.13	1.644e4					1.2	NO		db		
19	FUNCTION1 PFK	27.07	9.705e3					0.9	NO		bd		
20	FUNCTION1 PFK	26.95	3.029e4					1.4	NO		bb		
21	FUNCTION1 PFK	26.51	2.480e4					1.4	NO		bb		
22	FUNCTION1 PFK	26.27	1.233e4					1.1	NO		bb		
23	FUNCTION1 PFK	25.83	3.262e3					0.6	NO		bb		
24	FUNCTION1 PFK	25.46	5.981e4					2.8	NO		bb		

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	29.96	1.285e4					1.8	NO		bd		0.000
2	FUNCTION2 PFK	29.20	4.227e4					2.6	NO		bb		0.000
3	FUNCTION2 PFK	28.67	1.359e4					1.5	NO		bb		0.000
4	FUNCTION2 PFK	28.57	5.840e3					1.1	NO		bb		0.000
5	FUNCTION2 PFK	27.99	1.561e3					0.6	NO		bb		0.000
6	FUNCTION2 PFK	27.92	2.815e4					2.4	NO		bb		0.000
7	FUNCTION2 PFK	31.92	8.193e3					1.0	NO		bb		0.000
8	FUNCTION2 PFK	31.32	5.571e3					1.3	NO		bb		0.000
9	FUNCTION2 PFK	30.04	9.338e3					1.1	NO		bb		0.000
10	FUNCTION2 PFK	29.99	9.676e3					1.8	NO		db		0.000

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	34.59	2.291e6					28.9	YES		db		0.000
2	FUNCTION3 PFK	32.87	5.181e7					124.6	YES		bd		0.000

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	41.21	1.261e4					2.0	NO		bb		
2	FUNCTION4 PFK	40.63	8.377e3					1.3	NO		bb		
3	FUNCTION4 PFK	40.37	1.559e3					0.5	NO		bb		
4	FUNCTION4 PFK	40.10	9.210e3					1.4	NO		bb		
5	FUNCTION4 PFK	38.18	1.608e3					0.5	NO		bb		
6	FUNCTION4 PFK	37.76	5.558e3					1.1	NO		bb		
7	FUNCTION4 PFK	37.71	1.325e4					2.3	NO		db		
8	FUNCTION4 PFK	37.68	1.667e4					2.4	NO		bd		
9	FUNCTION4 PFK	42.41	5.711e3					1.0	NO		bb		
10	FUNCTION4 PFK	41.70	3.090e4					0.6	NO		bb		

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PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	44.18	4.048e3					1.1	NO		db		
2	FUNCTION5 PFK	44.14	6.174e3					1.6	NO		bd		
3	FUNCTION5 PFK	43.85	2.971e3					0.8	NO		bb		
4	FUNCTION5 PFK	43.77	1.751e4					1.6	NO		bb		
5	FUNCTION5 PFK	43.70	4.967e3					1.2	NO		bb		
6	FUNCTION5 PFK	43.53	3.568e3					0.8	NO		bb		
7	FUNCTION5 PFK	43.48	2.431e3					1.0	NO		bb		
8	FUNCTION5 PFK	43.43	8.400e3					1.3	NO		bb		
9	FUNCTION5 PFK	43.18	4.719e3					1.3	NO		db		
10	FUNCTION5 PFK	43.15	2.239e3					0.7	NO		bd		
11	FUNCTION5 PFK	42.78	3.550e3					0.9	NO		db		
12	FUNCTION5 PFK	42.75	2.998e4					1.0	NO		bd		
13	FUNCTION5 PFK	42.56	6.766e3					1.4	NO		bb		
14	FUNCTION5 PFK	45.50	2.296e3					0.8	NO		bb		
15	FUNCTION5 PFK	45.44	8.430e3					1.5	NO		bb		
16	FUNCTION5 PFK	45.38	4.190e3					1.2	NO		bb		
17	FUNCTION5 PFK	45.32	9.668e3					1.6	NO		bb		
18	FUNCTION5 PFK	45.18	8.116e2					0.5	NO		bb		
19	FUNCTION5 PFK	44.42	8.581e3					1.7	NO		db		
20	FUNCTION5 PFK	44.38	2.485e4					2.4	NO		bd		
21	FUNCTION5 PFK	44.22	1.077e3					0.6	NO		bb		

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ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	23.66	3.198e3					55.6	YES		bd		0.000
2	FUNCTION1 HXCD...	23.15	1.384e3					15.2	YES		bb		0.000
3	FUNCTION1 HXCD...	22.81	6.483e2					10.6	YES		bb		0.000
4	FUNCTION1 HXCD...	22.60	3.351e2					6.2	YES		bb		0.000
5	FUNCTION1 HXCD...	22.27	2.182e2					4.4	YES		db		0.000
6	FUNCTION1 HXCD...	22.13	9.327e3					164.0	YES		bd		0.000
7	FUNCTION1 HXCD...	21.21	3.010e2					3.9	YES		bb		0.000
8	FUNCTION1 HXCD...	26.85	9.508e1					2.4	NO		bb		0.000
9	FUNCTION1 HXCD...	25.48	4.055e2					6.2	YES		bb		0.000
10	FUNCTION1 HXCD...	24.91	7.302e1					2.5	NO		bb		0.000
11	FUNCTION1 HXCD...	24.83	2.658e2					5.7	YES		bb		0.000
12	FUNCTION1 HXCD...	24.63	2.860e3					45.3	YES		bb		0.000
13	FUNCTION1 HXCD...	24.31	2.798e2					4.9	YES		bb		0.000
14	FUNCTION1 HXCD...	23.85	1.894e3					28.6	YES		db		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	30.11	1.068e2					1.9	NO		bb		0.000
2	FUNCTION2 HPCD...	29.74	1.008e2					2.8	NO		db		0.000
3	FUNCTION2 HPCD...	29.70	7.035e1					2.7	NO		bd		0.000
4	FUNCTION2 HPCD...	28.22	1.194e2					2.2	NO		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	38.25	2.936e4					938.7	YES		bb		0.000

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ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

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Method: T:\Autospec\Methods\Dioxin230313.mdb 13 Mar 2023 11:32:39
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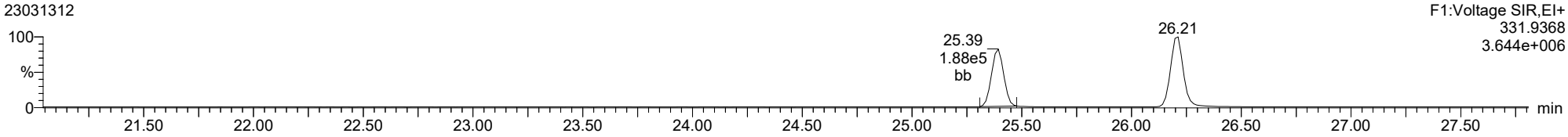
ID: 23A0418-02, Name: 23031312, Date: 13-Mar-2023, Time: 19:26:46, Conditions: AUTOSPEC01, User: pk

13C-1234-TCDD



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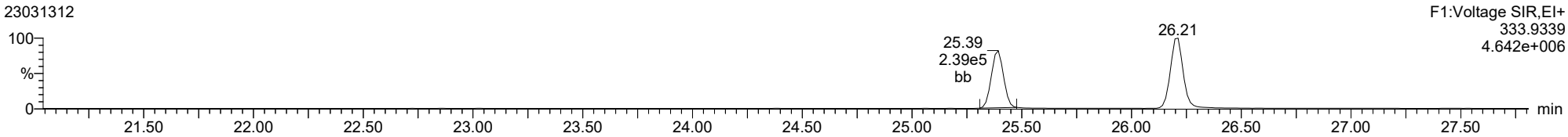

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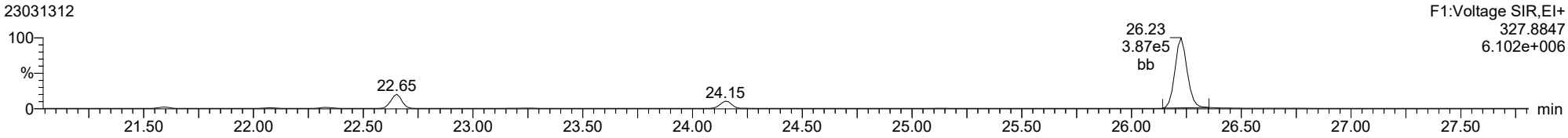

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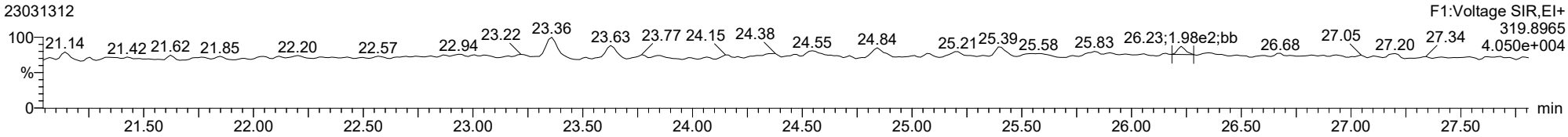
2378-TCDD



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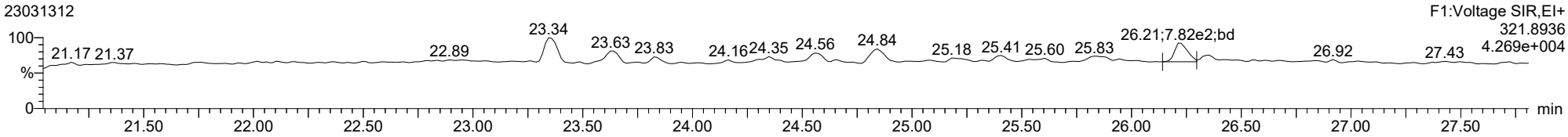

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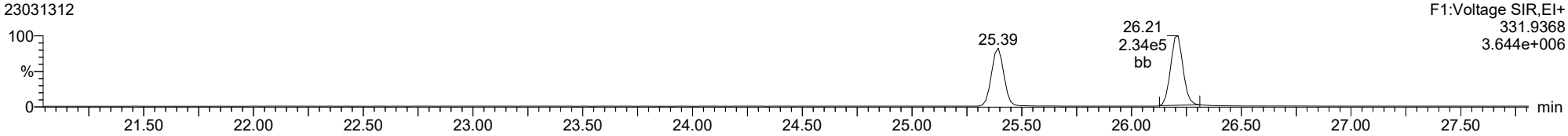

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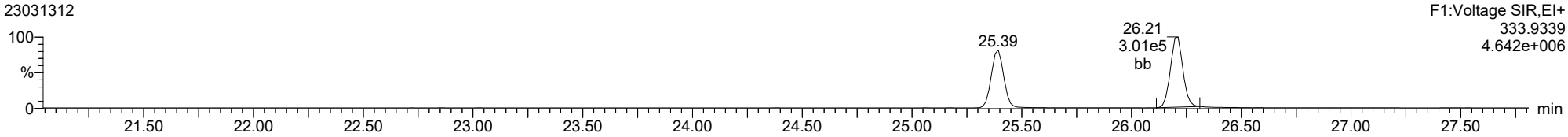
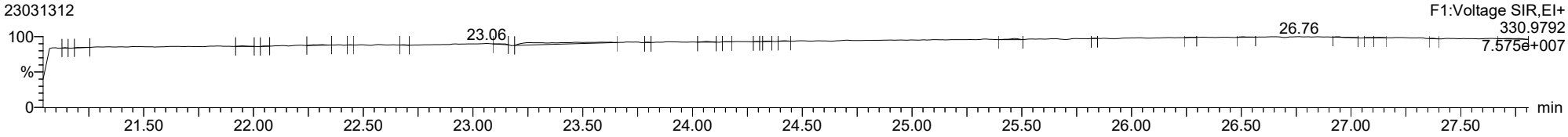


FUNCTION1 PFK



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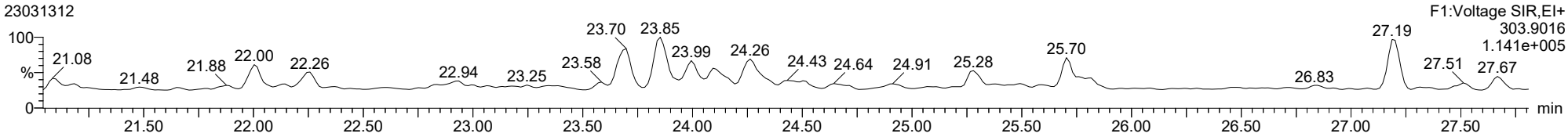

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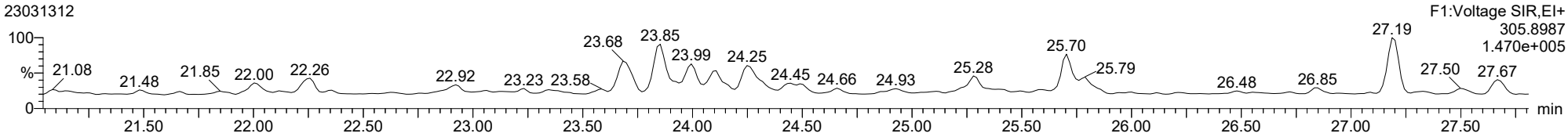

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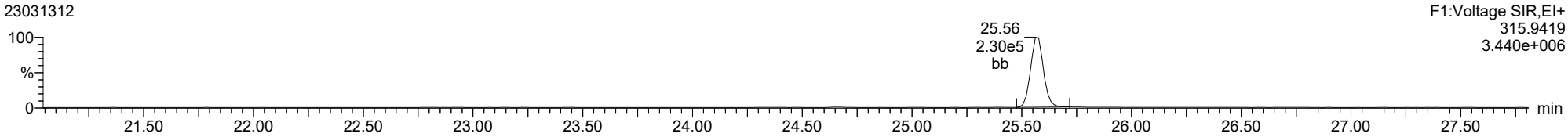

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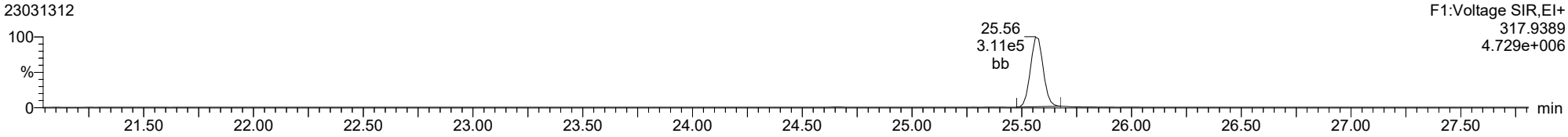

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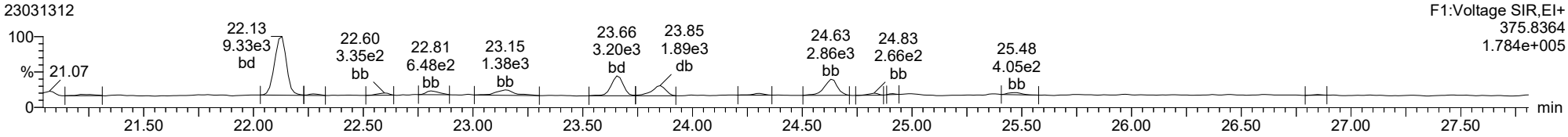

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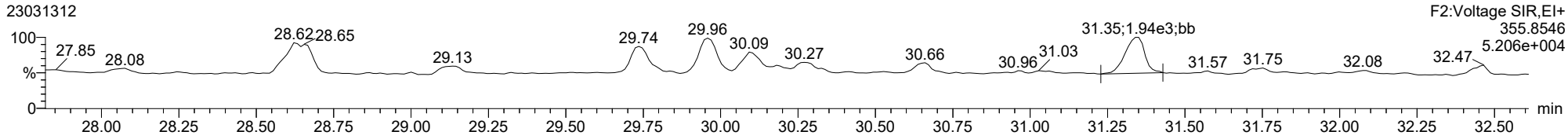
12378-PeCDD



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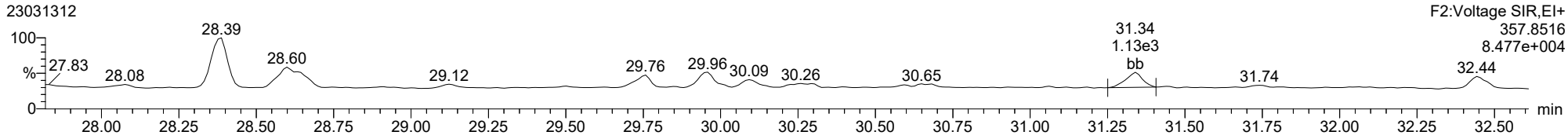

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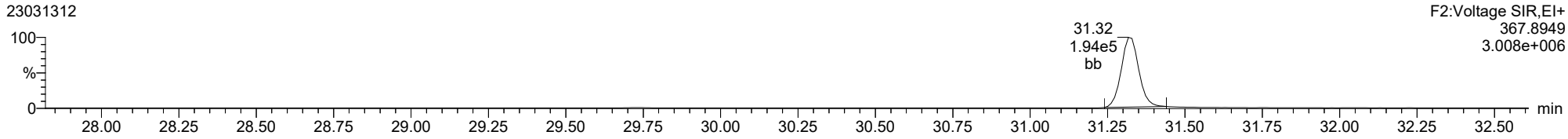

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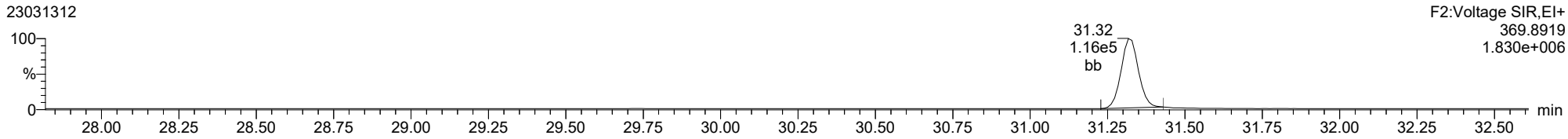
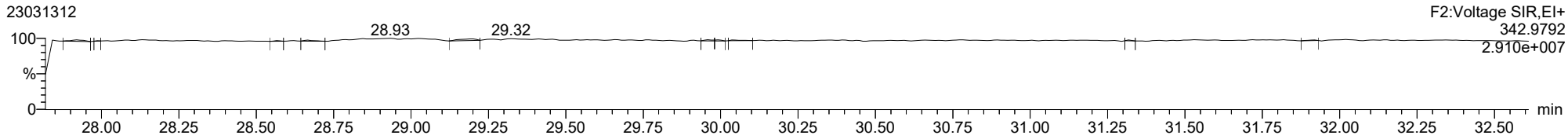


FUNCTION2 PFK



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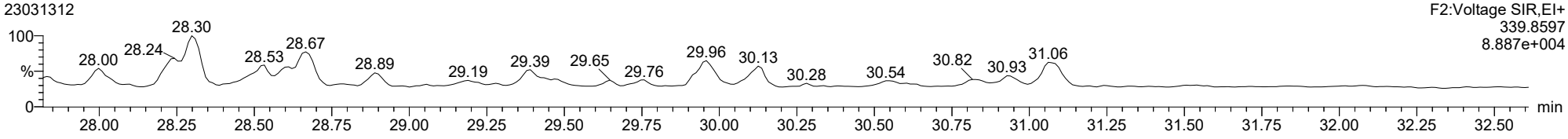
12378-PeCDF



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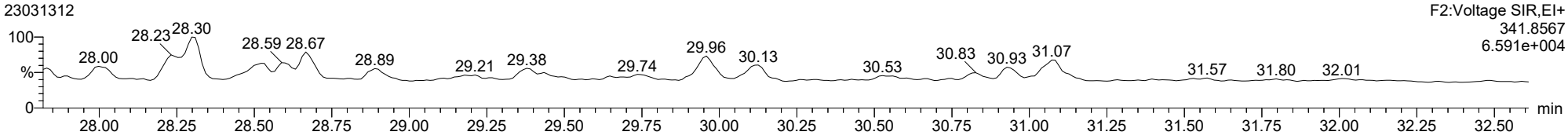

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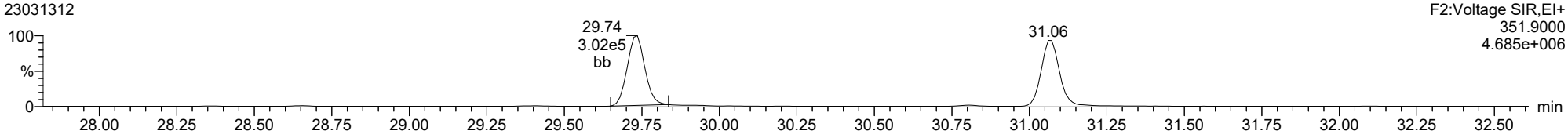

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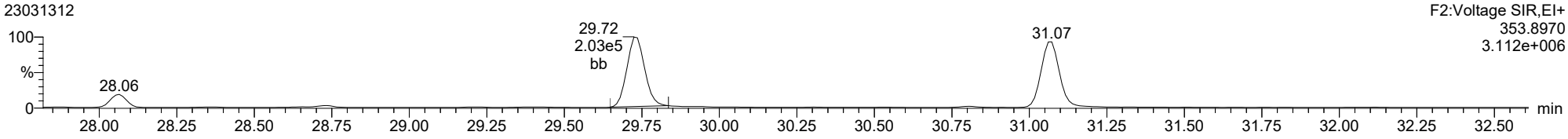
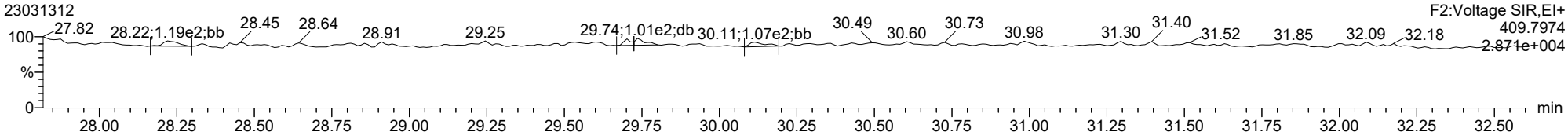


FUNCTION2 HPCDPE



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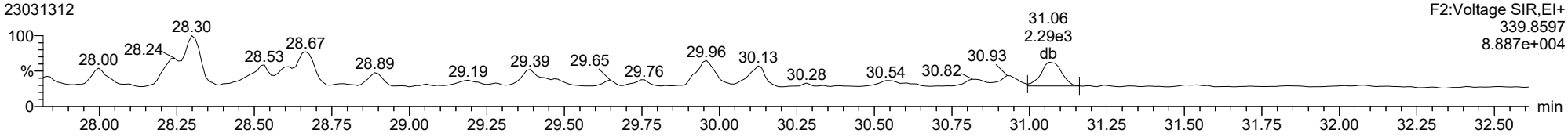
23478-PeCDF



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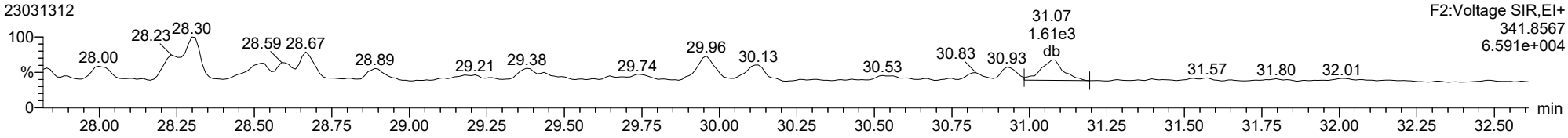

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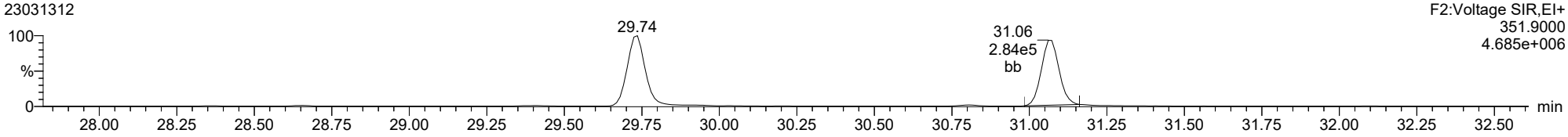

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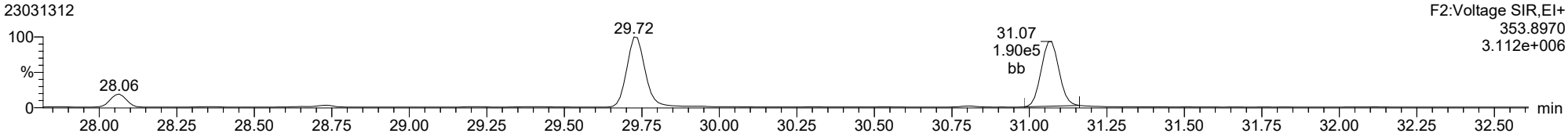
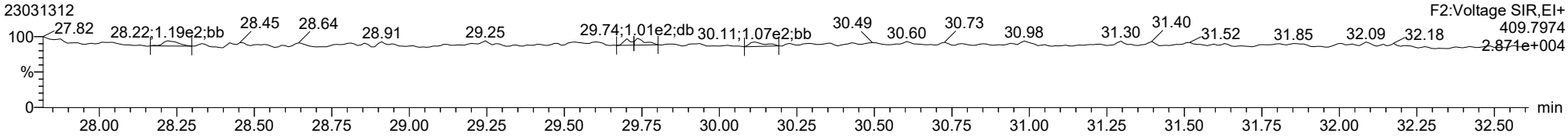


FUNCTION2 HPCDPE



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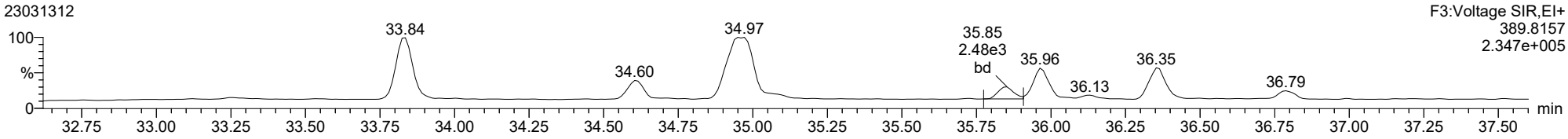

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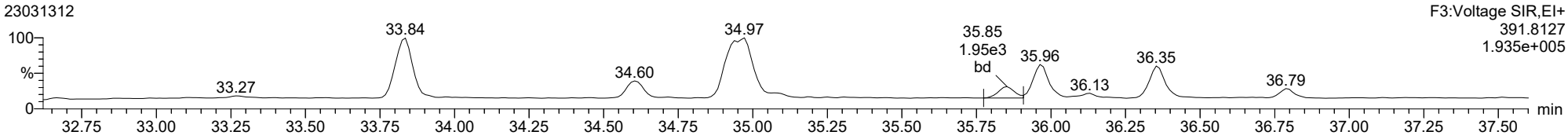

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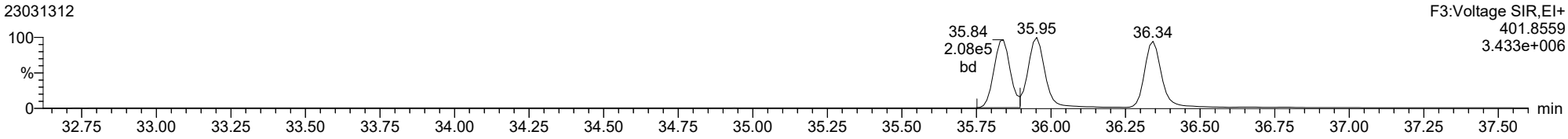

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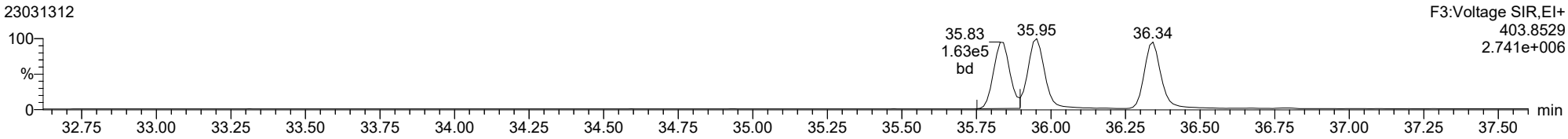

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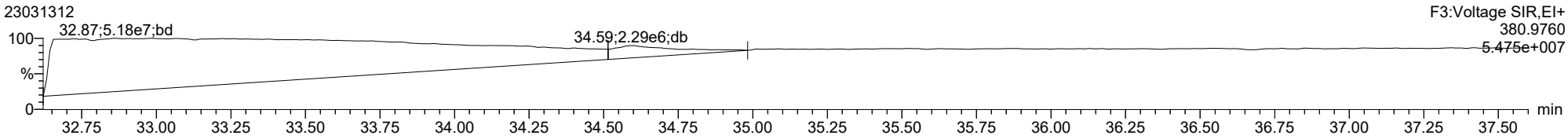

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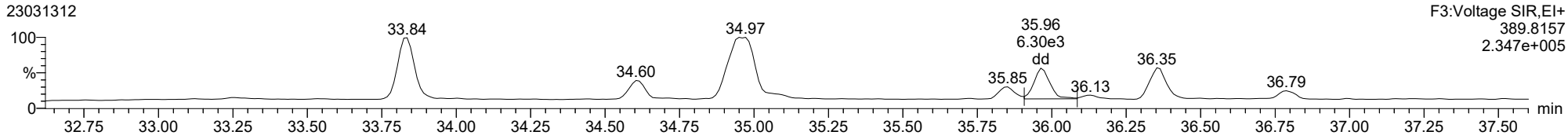

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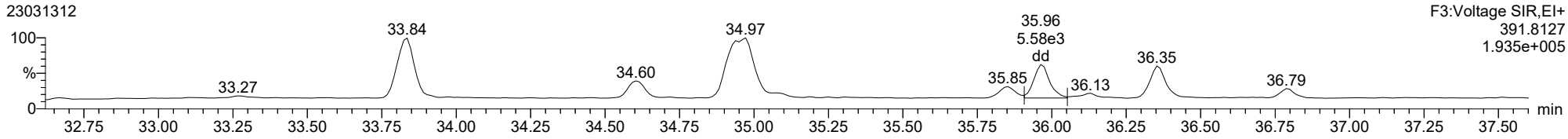

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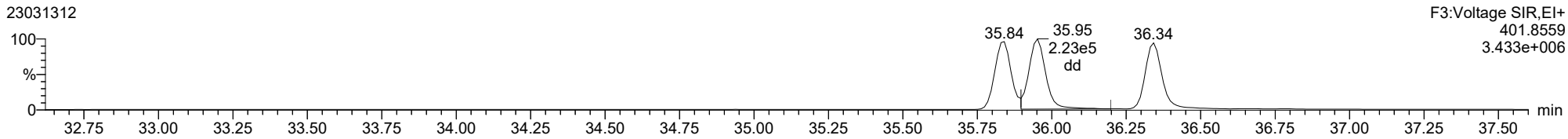

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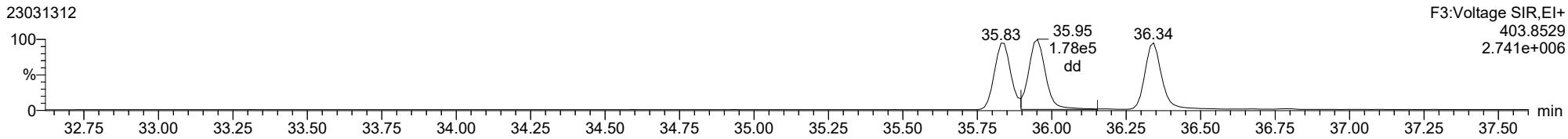

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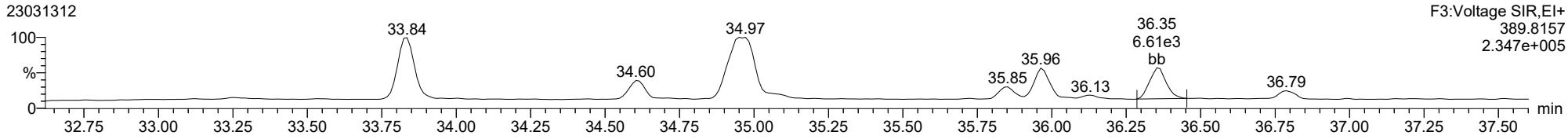

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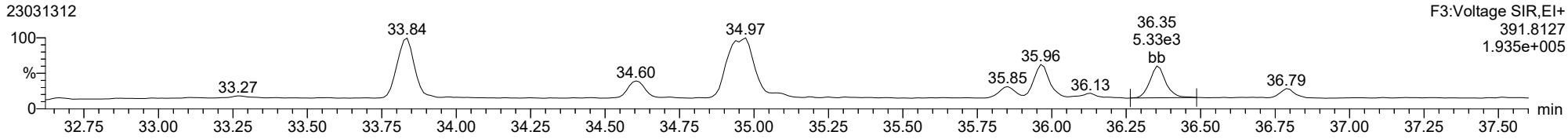

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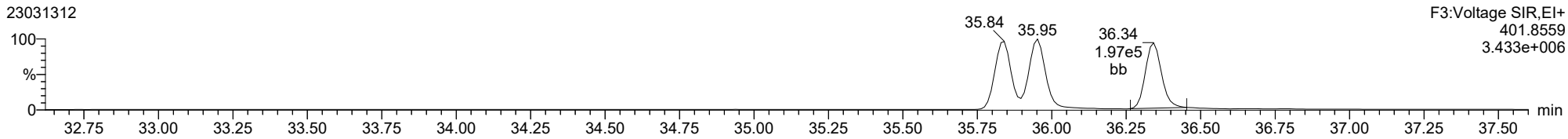

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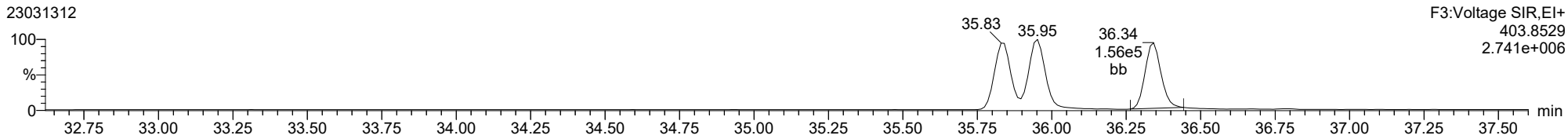

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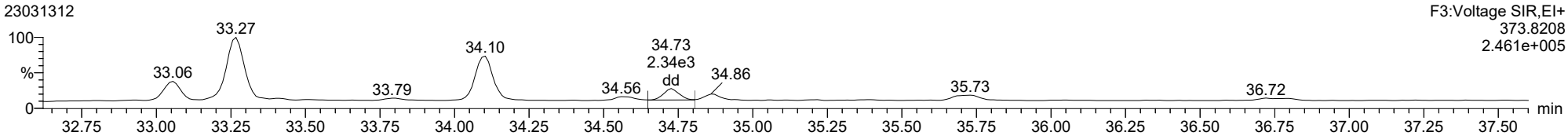

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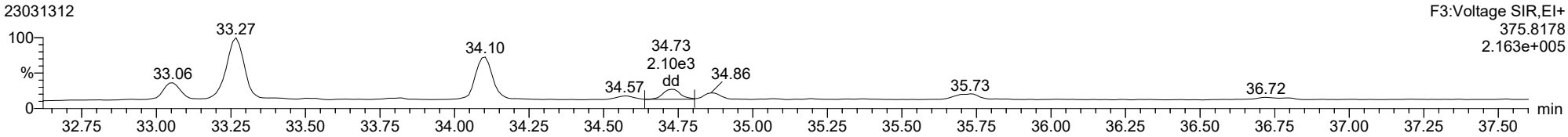

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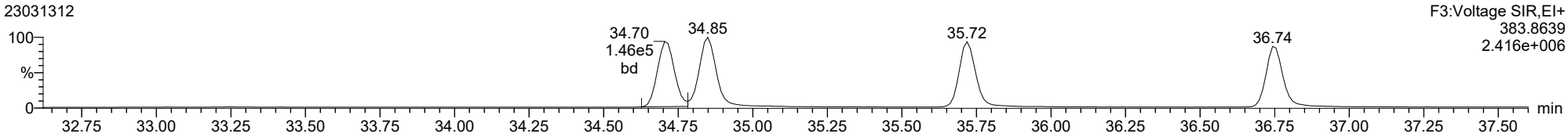

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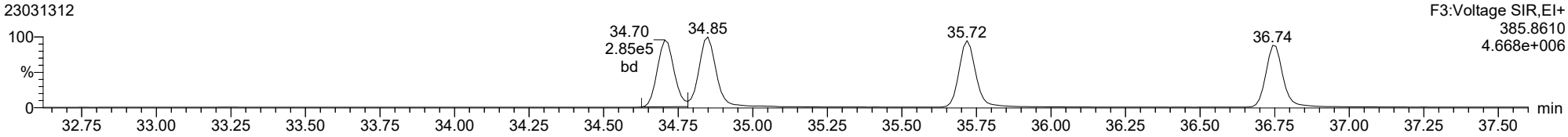
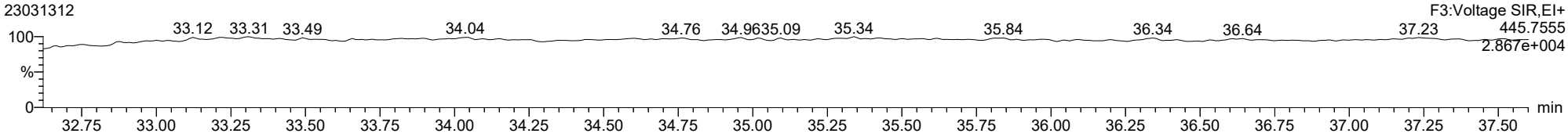


FUNCTION3 OCDPE



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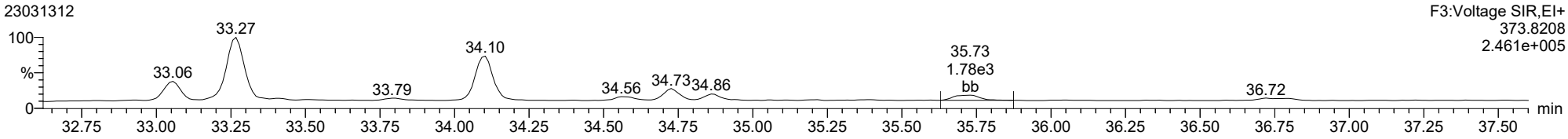

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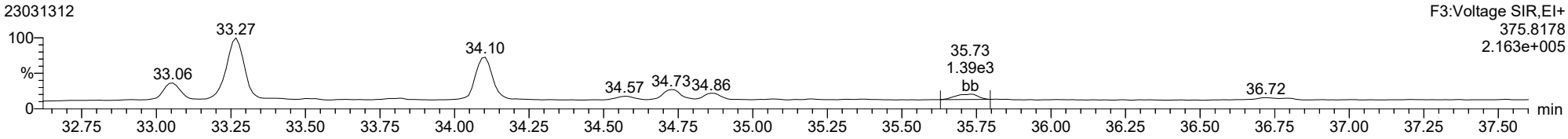

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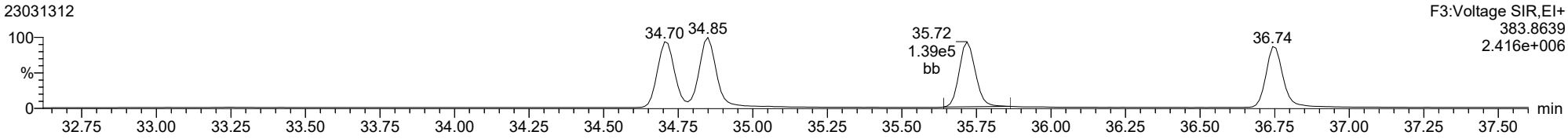

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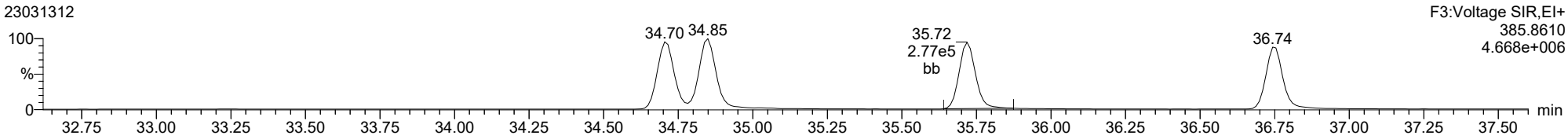

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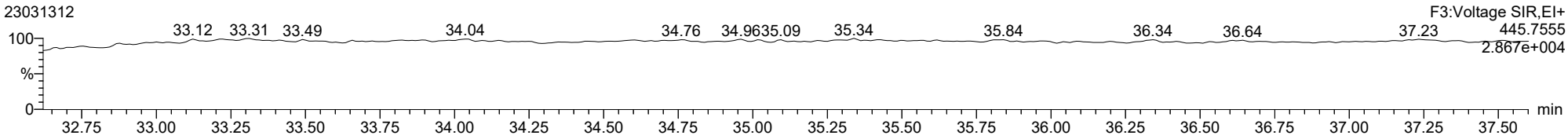

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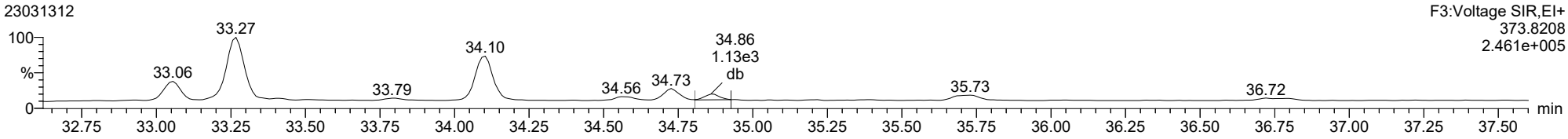

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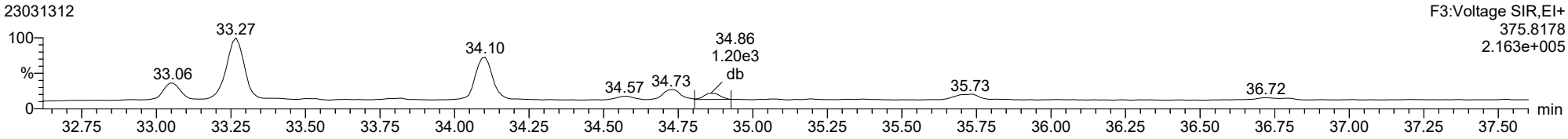

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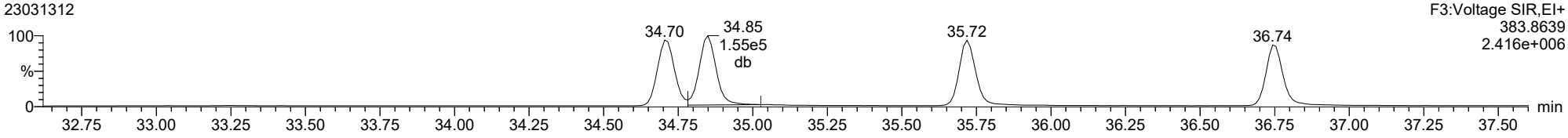

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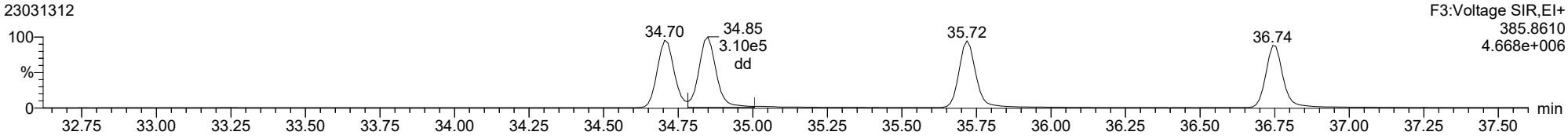

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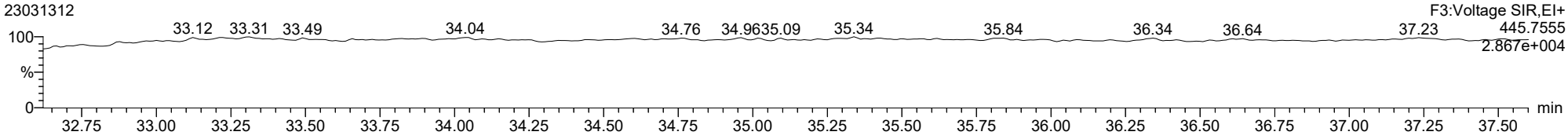

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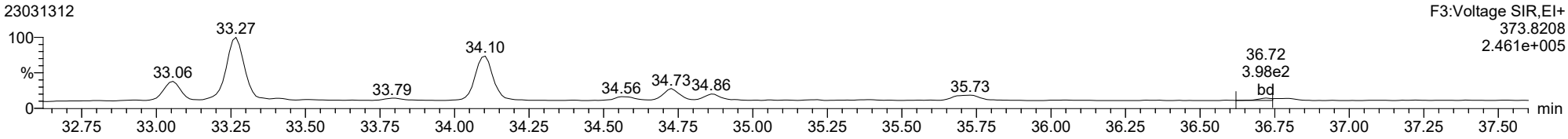

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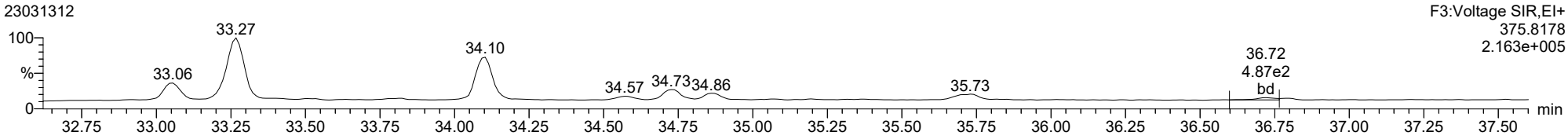

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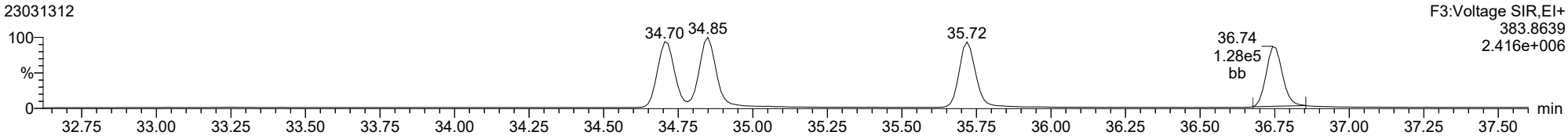

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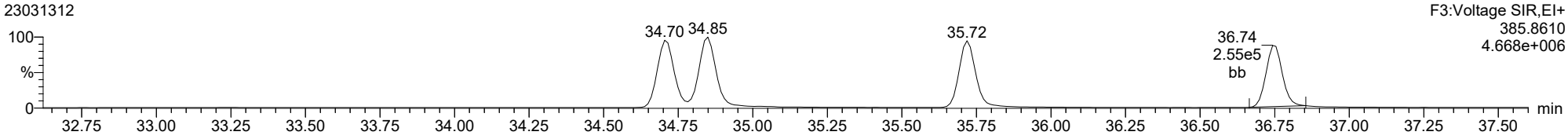

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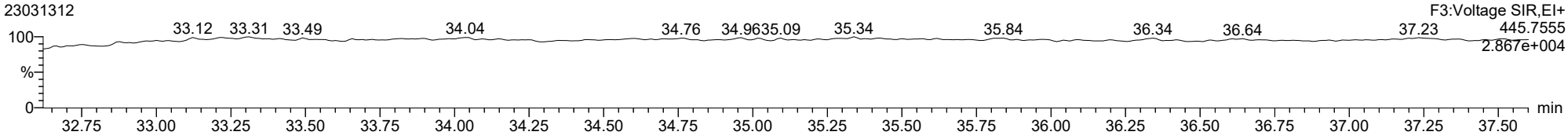

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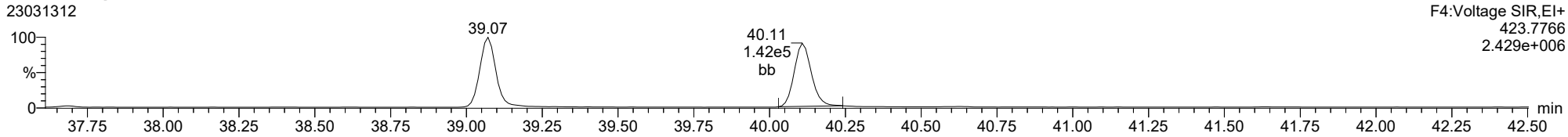
1234678-HpCDD



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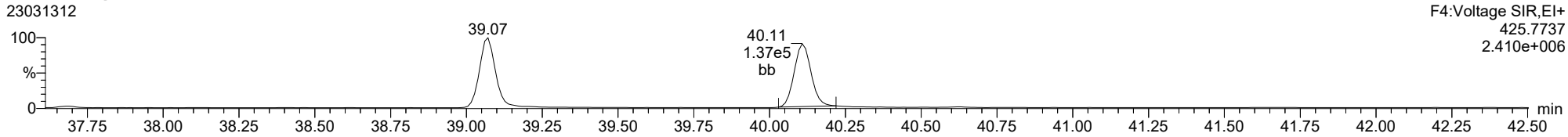

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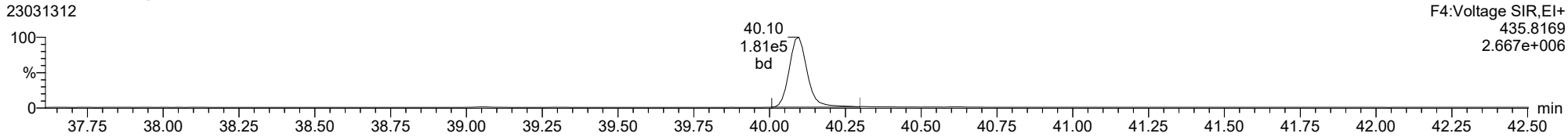

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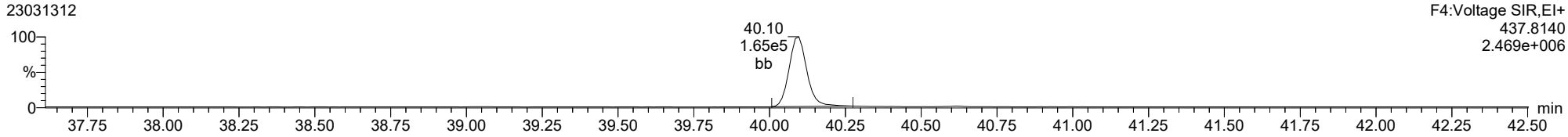
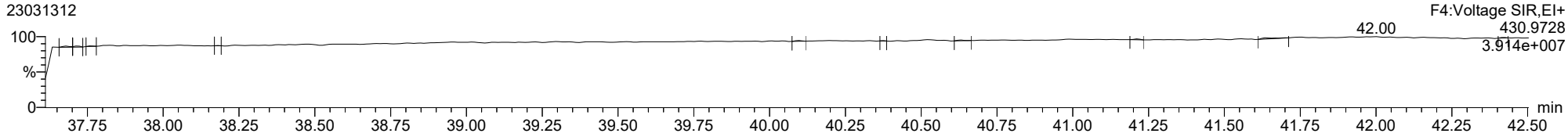


FUNCTION4 PFK



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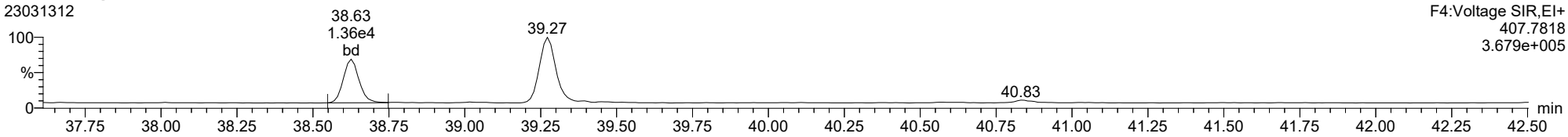

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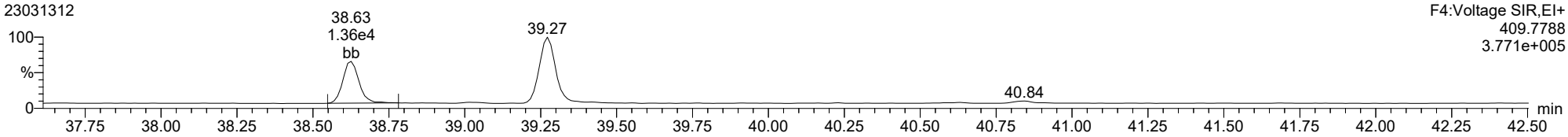

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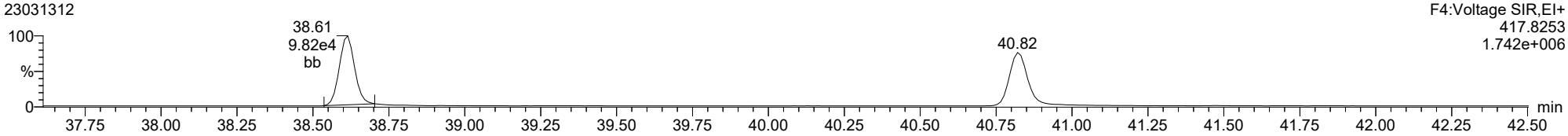

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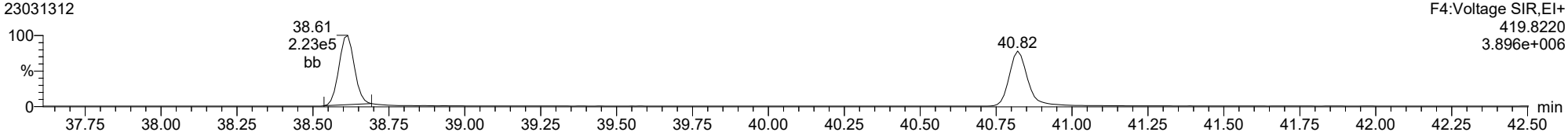
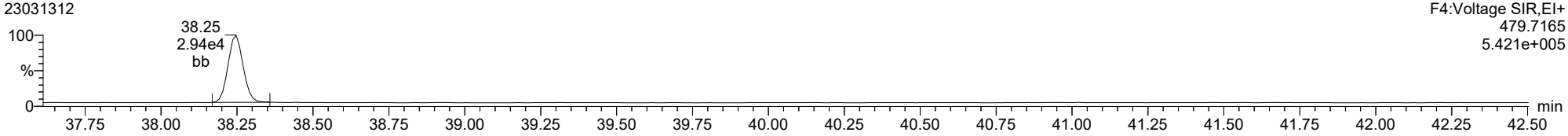


FUNCTION4 NCDPE



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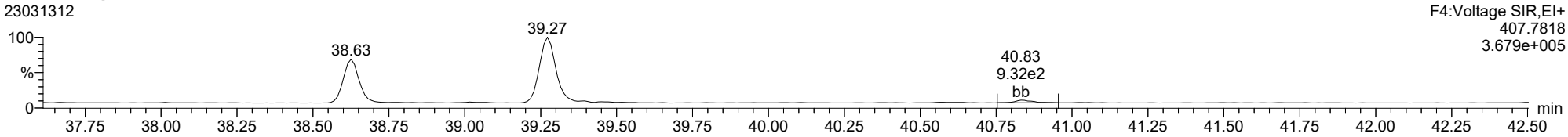

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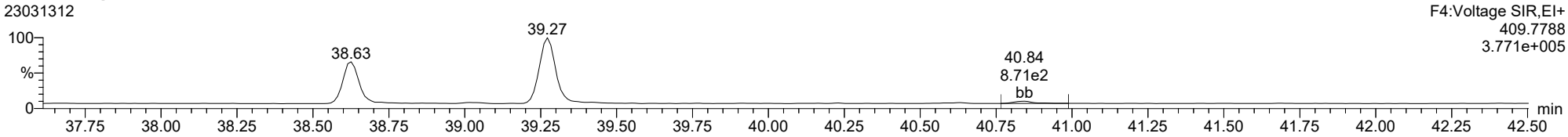

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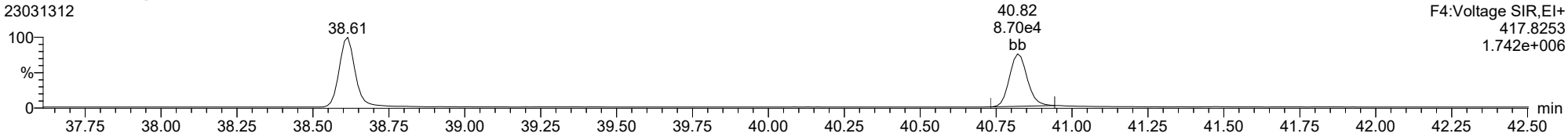

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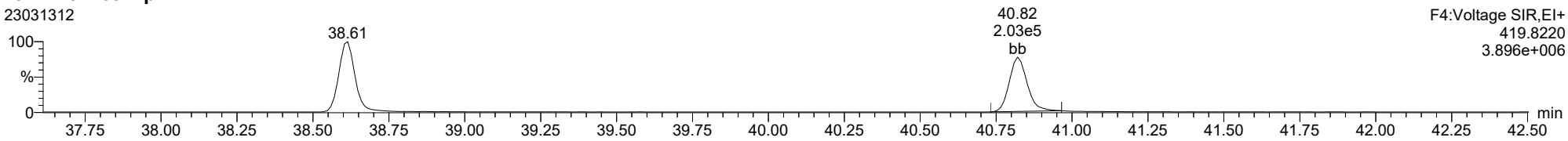
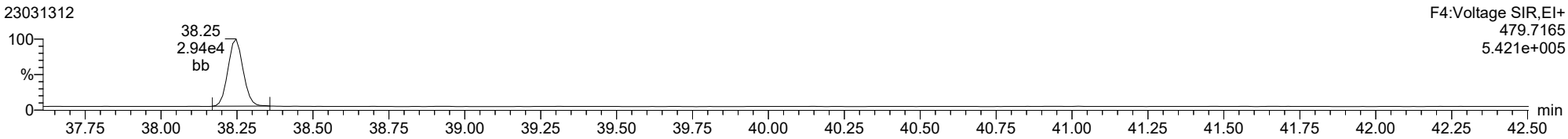


FUNCTION4 NCDPE



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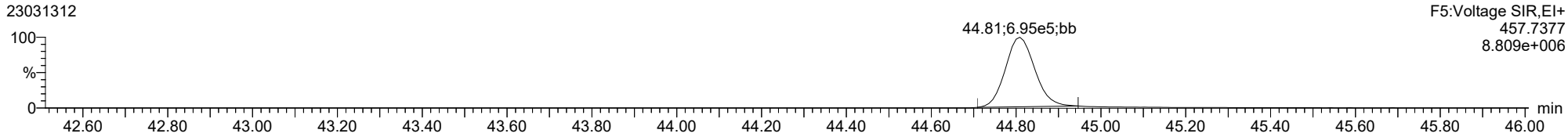
OCDD



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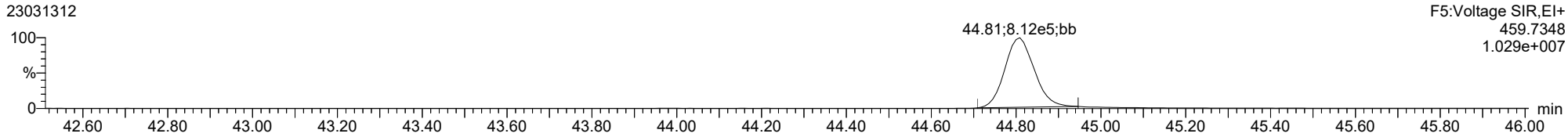

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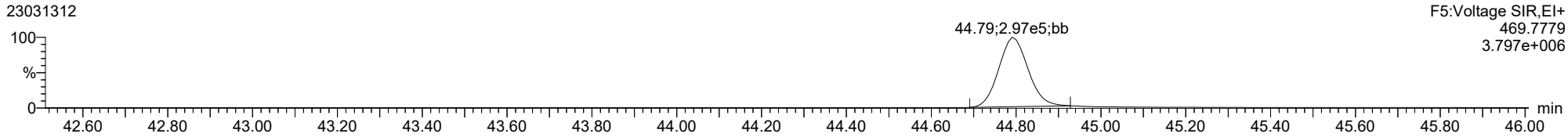

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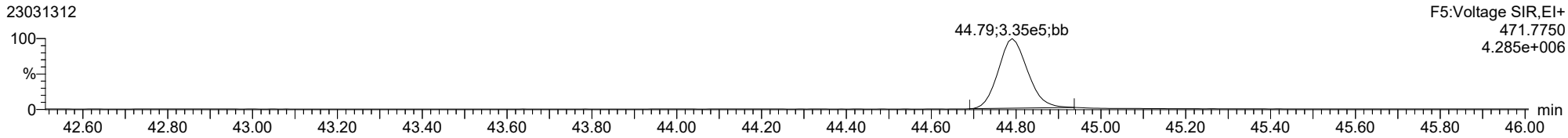
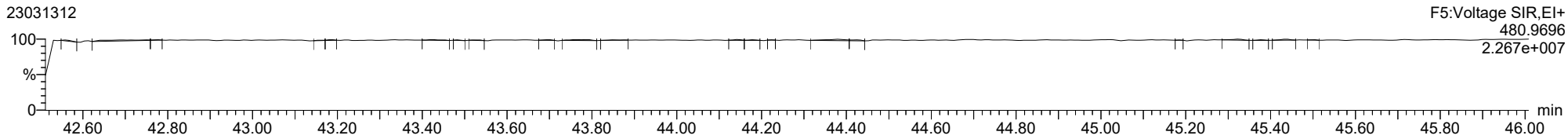


FUNCTION5 PFK



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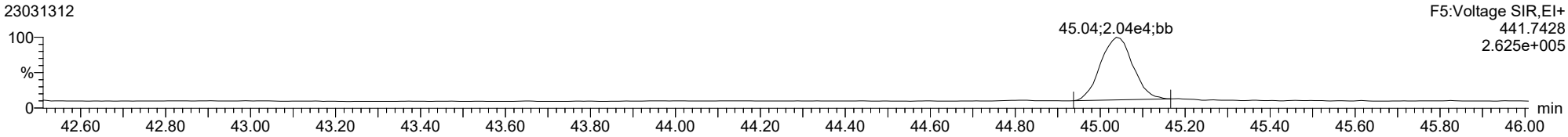
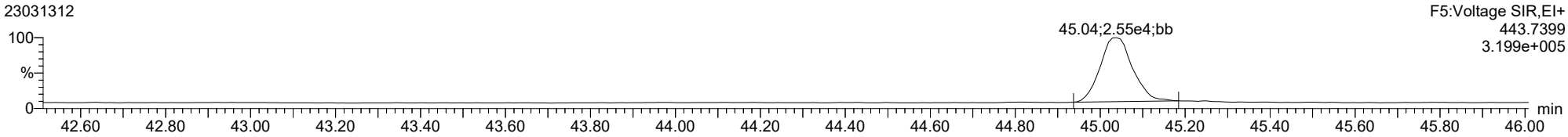
Printed: Tuesday, March 14, 2023 11:12:47 Pacific Daylight Time

ID: 23A0418-02, Name: 23031312, Date: 13-Mar-2023, Time: 19:26:46, Conditions: AUTOSPEC01, User: pk

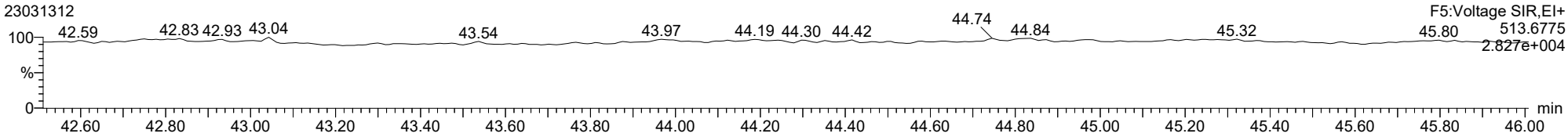
OCDF



OCDF

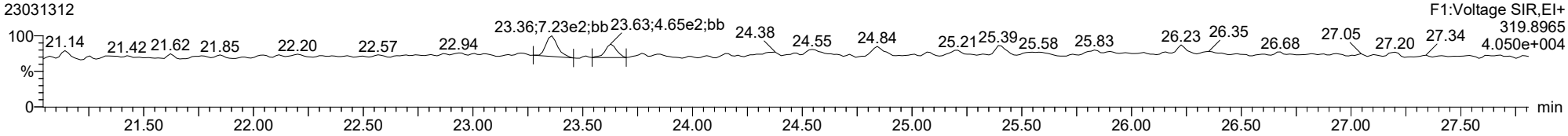


FUNCTION5 DCDPE



ID: 23A0418-02, Name: 23031312, Date: 13-Mar-2023, Time: 19:26:46, Conditions: AUTOSPEC01, User: pk

Total-tetradioxins



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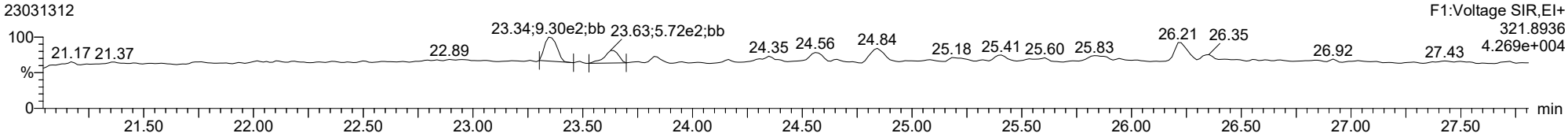
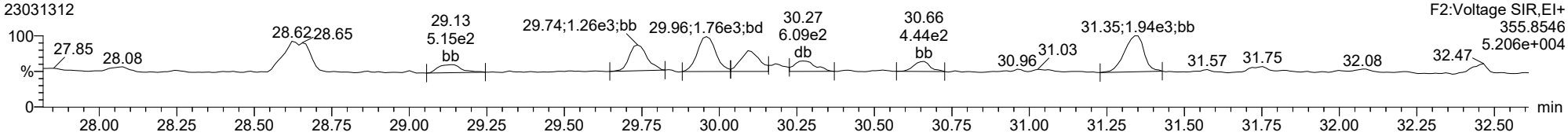
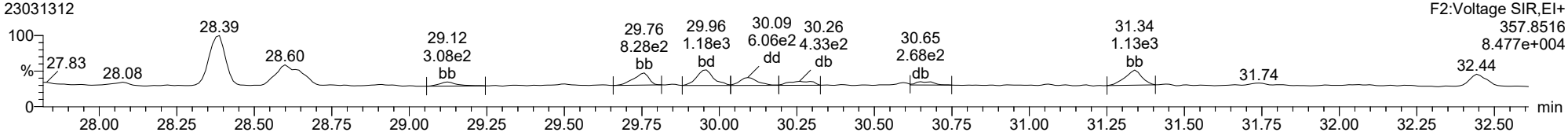


Total-pentadioxins



Total-pentadioxins



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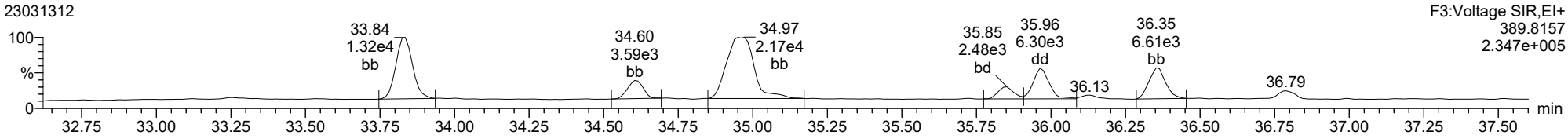
Total-hexadioxins



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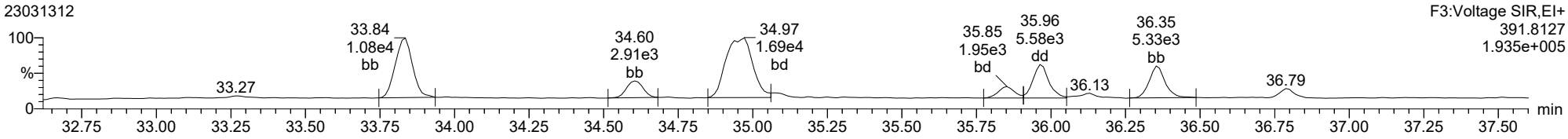

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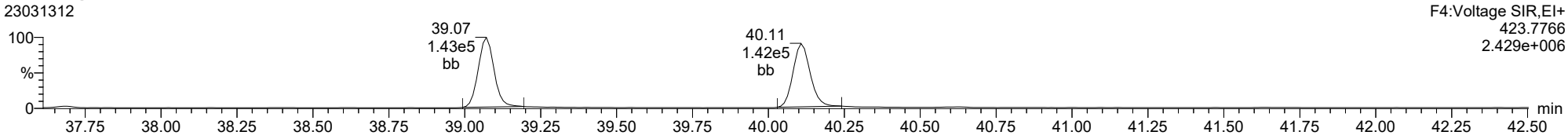
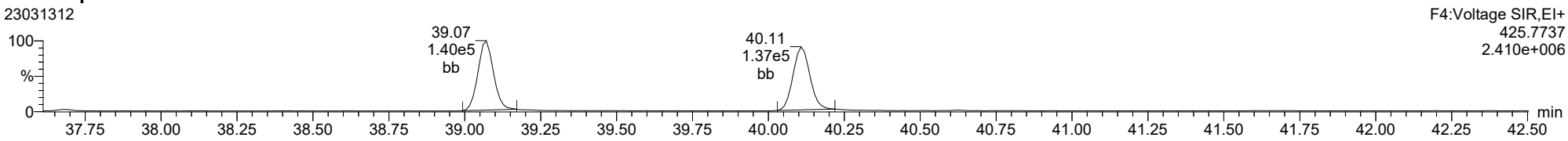


Total-heptadioxins



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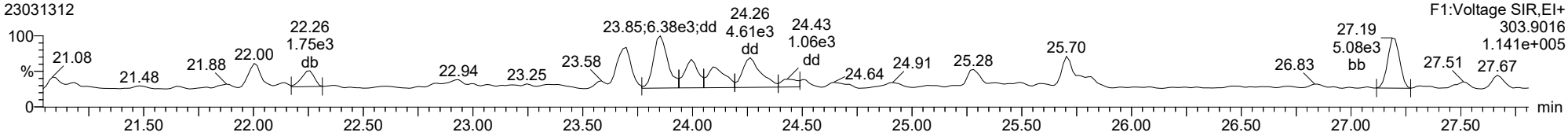
Total-tetrafurans



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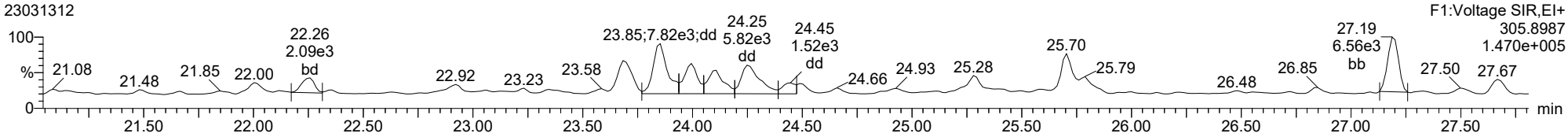

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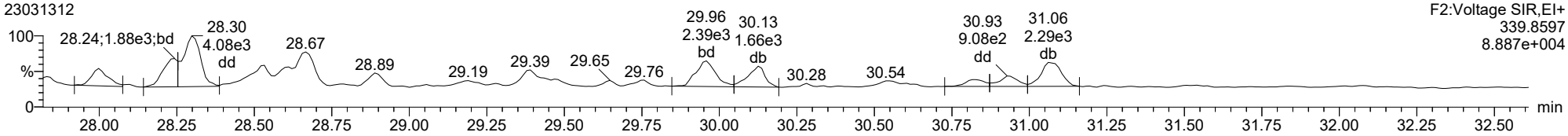

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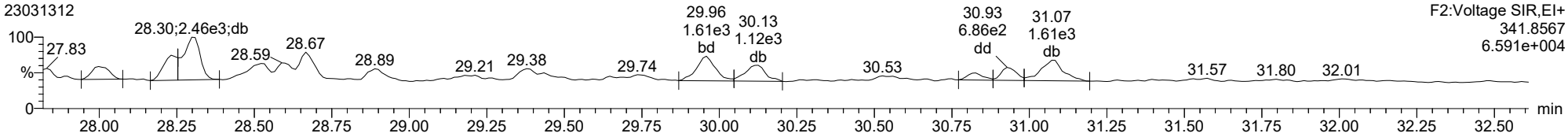

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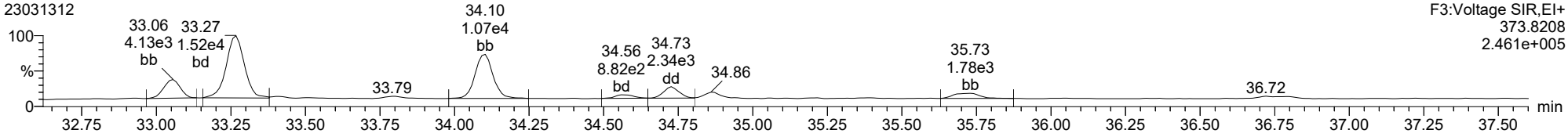
ID: 23A0418-02, Name: 23031312, Date: 13-Mar-2023, Time: 19:26:46, Conditions: AUTOSPEC01, User: pk

Total-hexafurans



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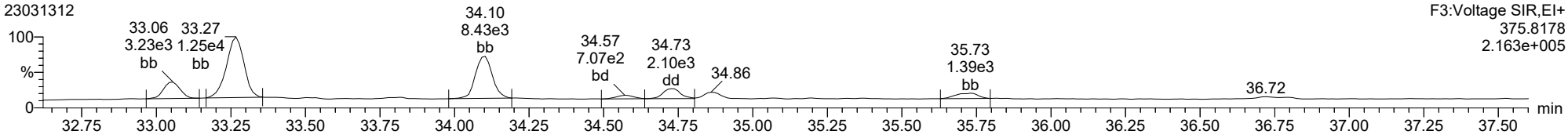

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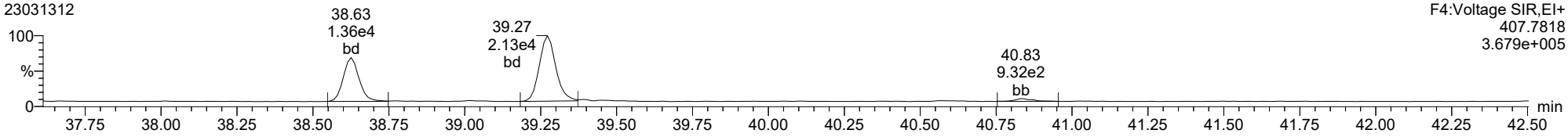

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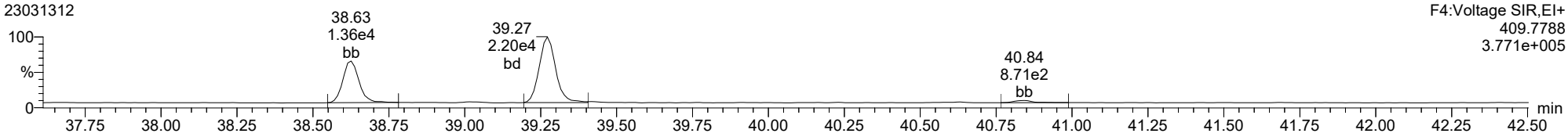

Analytical Resources, LLC
Analytical Chemists and Consultants

LDW23-IT1135

Form 1
ORGANIC ANALYSIS DATA SHEET
EPA 1613B
Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-10 C	File ID:	23031313
Sampled:	01/18/23 14:23	Prepared:	02/14/23 17:30	Analyzed:	03/13/23 20:15
% Solids:	74.26	Preparation:	EPA 1613	Initial/Final:	13.55 g Wet / 20 uL
Result Basis:	Dry	Sequence:	SLC0171	Calibration:	GC00015
Batch:	BLB0228	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

CAS NO.	COMPOUND	DF/Split	Ion Ratio	Ratio Limits	EDL	RL	Result	Units	Q
51207-31-9	2,3,7,8-TCDF	1		0.655-0.886	0.213	0.994	ND	ng/kg	U
1746-01-6	2,3,7,8-TCDD	1		0.655-0.886	0.146	0.994	ND	ng/kg	U
57117-41-6	1,2,3,7,8-PeCDF	1		1.318-1.783	0.184	0.994	ND	ng/kg	U
57117-31-4	2,3,4,7,8-PeCDF	1		1.318-1.783	0.185	0.994	ND	ng/kg	U
40321-76-4	1,2,3,7,8-PeCDD	1		1.318-1.783	0.275	0.994	ND	ng/kg	U
70648-26-9	1,2,3,4,7,8-HxCDF	1	1.488	1.054-1.426	0.090	0.994	0.123	ng/kg	EMPC, J
57117-44-9	1,2,3,6,7,8-HxCDF	1		1.054-1.426	0.092	0.994	ND	ng/kg	U
60851-34-5	2,3,4,6,7,8-HxCDF	1		1.054-1.426	0.094	0.994	ND	ng/kg	U
72918-21-9	1,2,3,7,8,9-HxCDF	1		1.054-1.426	0.105	0.994	ND	ng/kg	U
39227-28-6	1,2,3,4,7,8-HxCDD	1	0.884	1.054-1.426	0.118	0.994	0.096	ng/kg	EMPC, J
57653-85-7	1,2,3,6,7,8-HxCDD	1		1.054-1.426	0.118	0.994	ND	ng/kg	U
19408-74-3	1,2,3,7,8,9-HxCDD	1	1.625	1.054-1.426	0.130	0.994	0.335	ng/kg	EMPC, J
67562-39-4	1,2,3,4,6,7,8-HpCDF	1	1.105	0.893-1.208	0.121	0.994	0.871	ng/kg	J, B
55673-89-7	1,2,3,4,7,8,9-HpCDF	1		0.893-1.208	0.173	0.994	ND	ng/kg	U
35822-46-9	1,2,3,4,6,7,8-HpCDD	1	0.900	0.893-1.208	0.173	2.48	8.19	ng/kg	B
39001-02-0	OCDF	1	0.858	0.757-1.024	0.237	2.48	1.77	ng/kg	J
3268-87-9	OCDD	1	0.860	0.757-1.024	0.263	9.94	70.1	ng/kg	B

Homologue Groups

55722-27-5	Total TCDF	1	0.000			0.994	ND	ng/kg	
41903-57-5	Total TCDD	1	0.000			0.994	ND	ng/kg	
30402-15-4	Total PeCDF	1	0.000			0.994	0.315	ng/kg	
36088-22-9	Total PeCDD	1	0.000			0.994	ND	ng/kg	
55684-94-1	Total HxCDF	1	0.000			0.994	0.848	ng/kg	
34465-46-8	Total HxCDD	1	0.000			0.994	0.792	ng/kg	
38998-75-3	Total HpCDF	1	0.000			0.994	2.72	ng/kg	
37871-00-4	Total HpCDD	1	0.000			0.994	15.6	ng/kg	

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 0.168
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 0.441

LDW23-IT1135

Form 2

ORGANIC ANALYSIS DATA SHEET

EPA 1613B

Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Sediment	Laboratory ID:	23A0418-10	File ID:	23031313
Sampled:	01/18/23 14:23	Prepared:	02/14/23 17:30	Analyzed:	03/13/23 20:15
Solids Wt%:	74.26	Preparation:	EPA 1613	Initial/Final:	13.55 g / 20 uL
Result Basis:	Dry	Sequence:	SLC0171	Calibration:	GC00015
Batch:	BLB0228	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

Labels	DF/Split	Ion Ratio	Ratio Limits	EDL	% REC	QC LIMITS	Q
13C12-2,3,7,8-TCDF		0.726	0.655-0.886	0.124	65.6	24 - 169 %	
13C12-2,3,7,8-TCDD		0.768	0.655-0.886	0.227	87.7	25 - 164 %	
13C12-1,2,3,7,8-PeCDF		1.487	1.318-1.783	0.195	88.9	24 - 185 %	
13C12-2,3,4,7,8-PeCDF		1.489	1.318-1.783	0.216	84.4	21 - 178 %	
13C12-1,2,3,7,8-PeCDD		1.605	1.318-1.783	0.175	66.2	25 - 181 %	
13C12-1,2,3,4,7,8-HxCDF		0.502	0.434-0.587	0.271	96.1	26 - 152 %	
13C12-1,2,3,6,7,8-HxCDF		0.506	0.434-0.587	0.228	93.7	26 - 123 %	
13C12-2,3,4,6,7,8-HxCDF		0.515	0.434-0.587	0.280	97.5	28 - 136 %	
13C12-1,2,3,7,8,9-HxCDF		0.512	0.434-0.587	0.340	106	29 - 147 %	
13C12-1,2,3,4,7,8-HxCDD		1.287	1.054-1.426	0.313	99.8	32 - 141 %	
13C12-1,2,3,6,7,8-HxCDD		1.272	1.054-1.426	0.269	94.8	28 - 130 %	
13C12-1,2,3,4,6,7,8-HpCDF		0.442	0.374-0.506	0.349	90.0	28 - 143 %	
13C12-1,2,3,4,7,8,9-HpCDF		0.435	0.374-0.506	0.406	88.0	26 - 138 %	
13C12-1,2,3,4,6,7,8-HpCDD		1.044	0.893-1.208	0.248	95.6	23 - 140 %	
13C12-OCDD		0.878	0.757-1.024	0.342	98.9	17 - 157 %	
37Cl4-2,3,7,8-TCDD		328.000		0.086	67.7	35 - 197 %	

* Values outside of QC limits

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Printed: Tuesday, March 14, 2023 11:13:02 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin230313.mdb 13 Mar 2023 11:32:39
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 11:57:27

ID: 23A0418-10, Name: 23031313, Date: 13-Mar-2023, Time: 20:15:51, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF					0.702		0.770	685	921								
12378-PeCDF					0.679		1.550	678	730								
23478-PeCDF					0.786		1.550	678	730								
123478-HxCDF	34.727	1.001	1.817e2	1.221e2	1.166	1.488	1.240	548	609	3.02e3	2.12e3	5.5	3.5	YES	bb	bb	0.062
234678-HxCDF					1.140		1.240	548	609								
123678-HxCDF					1.091		1.240	548	609								
123789-HxCDF					1.137		1.240	548	609								
1234678-HpCDF	38.616	1.000	6.961e2	6.300e2	1.003	1.105	1.050	501	537	1.54e4	1.08e4	30.7	20.0	NO	bb	bb	0.438
1234789-HpCDF					0.953		1.050	501	537								
OCDF	45.029	1.005	9.068e2	1.057e3	0.778	0.858	0.890	498	582	1.45e4	1.71e4	29.2	29.5	NO	bd	bd	0.888
2378-TCDD					1.149		0.770	1020	738								
12378-PeCDD					1.022		1.550	759	795								
123478-HxCDD	35.830	1.000	8.429e1	9.532e1	0.996	0.884	1.240	662	540	2.54e3	2.23e3	3.8	4.1	YES	bb	MM	0.049
123678-HxCDD					1.001		1.240	662	540								
123789-HxCDD	36.343	1.011	3.703e2	2.279e2	0.907	1.625	1.240	662	540	4.54e3	3.62e3	6.9	6.7	YES	bb	bb	0.169
1234678-HpCDD	40.097	1.000	6.096e3	6.775e3	1.039	0.900	1.050	694	720	9.53e4	1.06e5	137.3	146.7	NO	bb	bb	4.119
OCDD	44.801	1.000	4.266e4	4.959e4	0.920	0.860	0.890	762	655	4.99e5	6.19e5	655.5	944.2	NO	bb	bb	35.281
13C-2378-TCDF	25.563	1.007	1.817e5	2.504e5	1.620	0.726	0.770	1235	892	2.70e6	3.69e6	2184.2	4131.7	NO	bb	bb	65.606
13C-12378-PeCDF	29.725	1.171	2.679e5	1.802e5	1.240	1.487	1.550	1302	1260	4.01e6	2.74e6	3084.6	2175.9	NO	bb	bb	88.880
13C-23478-PeCDF	31.062	1.224	2.294e5	1.541e5	1.118	1.489	1.550	1302	1260	3.44e6	2.32e6	2645.7	1841.5	NO	bb	bb	84.386
13C-123478-HxCDF	34.705	0.955	1.407e5	2.800e5	1.168	0.502	0.510	1226	1876	2.20e6	4.36e6	1791.1	2322.0	NO	bd	bd	96.127
13C-123678-HxCDF	34.839	0.959	1.637e5	3.232e5	1.386	0.506	0.510	1226	1876	2.30e6	4.45e6	1876.7	2373.8	NO	dd	db	93.746
13C-234678-HxCDF	35.708	0.983	1.402e5	2.721e5	1.129	0.515	0.510	1226	1876	2.18e6	4.24e6	1778.2	2261.9	NO	bb	bb	97.483
13C-123789-HxCDF	36.744	1.011	1.258e5	2.456e5	0.932	0.512	0.510	1226	1876	1.96e6	3.85e6	1602.3	2055.1	NO	bb	bb	106.409
13C-1234678-HpCDF	38.604	1.063	9.252e4	2.092e5	0.895	0.442	0.440	1320	1741	1.56e6	3.54e6	1179.6	2031.4	NO	bb	bb	89.977
13C-1234789-HpCDF	40.810	1.123	7.692e4	1.767e5	0.770	0.435	0.440	1320	1741	1.14e6	2.53e6	860.0	1455.6	NO	bb	bb	87.950
13C-1234-TCDD	25.379	0.000	1.797e5	2.268e5	1.000	0.792	0.770	1782	989	2.79e6	3.50e6	1566.2	3534.8	NO	bb	bb	100.000
13C-2378-TCDD	26.198	1.032	1.785e5	2.325e5	1.152	0.768	0.770	1782	989	2.72e6	3.55e6	1525.6	3587.1	NO	bb	bb	87.729
13C-12378-PeCDD	31.318	1.234	1.375e5	8.568e4	0.829	1.605	1.550	840	695	2.03e6	1.27e6	2420.7	1827.6	NO	bb	bb	66.244
13C-123478-HxCDD	35.830	0.986	2.093e5	1.627e5	0.995	1.287	1.240	1456	1597	3.44e6	2.60e6	2358.9	1627.2	NO	bd	bd	99.785
13C-123678-HxCDD	35.942	0.989	2.299e5	1.807e5	1.157	1.272	1.240	1456	1597	3.40e6	2.69e6	2333.2	1687.7	NO	db	dd	94.777
13C-1234678-HpCDD	40.086	1.103	1.536e5	1.472e5	0.840	1.044	1.050	1079	965	2.40e6	2.24e6	2225.7	2316.0	NO	bb	bb	95.575
13C-OCDD	44.783	1.233	2.657e5	3.028e5	0.767	0.878	0.890	1648	923	3.27e6	3.68e6	1981.9	3980.4	NO	bb	bb	197.742
13C-123789-HxCDD	36.332	0.000	2.096e5	1.650e5	1.000	1.270	1.240	1456	1597	3.27e6	2.62e6	2244.6	1642.0	NO	bb	bb	100.000
37CL-2378-TCDD	26.226	1.033	1.418e5		1.288			1176		2.17e6		1843.7			bb		27.092

Dataset: T:\Autospec\Processed Data Batch\230313D1.qld
Last Altered: Tuesday, March 14, 2023 09:54:11 Pacific Daylight Time
Printed: Tuesday, March 14, 2023 11:13:02 Pacific Daylight Time

ID: 23A0418-10, Name: 23031313, Date: 13-Mar-2023, Time: 20:15:51, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF					0.802		0.770	685	921								
1289-TCDF					0.678		0.770	685	921								
13468-PECDF					1.246		1.550	462	1076								
12389-PECDF					0.496		1.550	678	730								
123468-HXCDF	33.056	0.952	3.157e2	1.053e2	1.169	2.998	1.240	548	609	4.10e3	2.11e3	7.5	3.5	YES	bd	bb	0.086
1368-TCDD					1.015		0.770	1020	738								
1289-TCDD					0.909		0.770	1020	738								
12479-PECDD					2.301		1.550	759	795								
12389-PECDD					1.184		1.550	759	795								
124679-HXCDD	33.825	0.944	9.501e2	7.024e2	1.115	1.353	1.240	662	540	1.27e4	9.36e3	19.2	17.3	NO	bb	bb	0.398
1234679-HPCDD	39.061	0.974	6.583e3	6.140e3	1.137	1.072	1.050	694	720	9.39e4	9.76e4	135.2	135.5	NO	bb	bb	3.721
Total-tetrafurans			0.000e0		0.727			685		0.00e0							
Total-penta1			3.728e2					462		5.85e3							0.158
Total-pentafurans			0.000e0		0.654			678		0.00e0							
Total-hexafurans			1.181e3		1.141			548		1.65e4							0.426
Total-heptafurans			1.914e3		0.978			501		3.45e4							1.366
Total-Furans			4.374e3		0.922			685		7.14e4							2.840
Total-tetradioxins			0.000e0		1.024			1020		0.00e0							
Total-pentadioxins			0.000e0		1.502			759		0.00e0							
Total-hexadioxins			9.501e2		1.005			662		1.27e4							0.398
Total-heptadioxins			1.268e4		1.088			694		1.89e5							7.840
Total-Dioxins			5.629e4		1.130			1020		7.01e5							43.519
Total-TEQ			6.067e4					1020		7.72e5							46.358
FUNCTION1 PFK			1.682e5					377284		2.11e6							
FUNCTION2 PFK			2.576e7					231006		1.13e7							0.000
FUNCTION3 PFK			4.894e7					303104		3.53e6							0.000
FUNCTION4 PFK			7.134e5					281818		1.64e7							
FUNCTION5 PFK			1.333e5					175238		3.59e6							
FUNCTION1 HXCD...			2.307e2					505		3.30e3							0.000
FUNCTION1 HPCD...																	
FUNCTION2 HPCD...			7.237e1					914		1.89e3							0.000
FUNCTION3 OCDPE			1.793e2					451		2.44e3							0.000
FUNCTION4 NCDPE			4.797e4					579		8.31e5							0.000
FUNCTION5 DCDPE			9.070e1					558		1.14e3							0.000

Method: T:\Autospec\Methods\Dioxin230313.mdb 13 Mar 2023 11:32:39
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 11:57:27

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TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-penta1	27.02	3.728e2	2.784e2		1.34	1.55	12.7	YES	NO	bb	bb	0.158

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexafurans	34.10	6.253e2	4.722e2	1.141	1.32	1.24	15.6	YES	NO	bb	bb	0.228
2	Total-hexafurans	33.25	5.553e2	4.040e2	1.141	1.37	1.24	14.5	YES	NO	db	bb	0.199

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-heptafurans	39.26	1.218e3	1.303e3	0.978	0.93	1.05	38.1	YES	NO	bb	bb	0.928
2	1234678-HpCDF	38.62	6.961e2	6.300e2	1.003	1.10	1.05	30.7	YES	NO	bb	bb	0.438

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexafurans	34.10	6.253e2	4.722e2	1.141	1.32	1.24	15.6	YES	NO	bb	bb	0.228
2	Total-hexafurans	33.25	5.553e2	4.040e2	1.141	1.37	1.24	14.5	YES	NO	db	bb	0.199
3	Total-heptafurans	39.26	1.218e3	1.303e3	0.978	0.93	1.05	38.1	YES	NO	bb	bb	0.928
4	1234678-HpCDF	38.62	6.961e2	6.300e2	1.003	1.10	1.05	30.7	YES	NO	bb	bb	0.438
5	OCDF	45.03	9.068e2	1.057e3	0.778	0.86	0.89	29.2	YES	NO	bd	bd	0.888
6	Total-penta1	27.02	3.728e2	2.784e2		1.34	1.55	12.7	YES	NO	bb	bb	0.158

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TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	124679-HXCDD	33.82	9.501e2	7.024e2	1.115	1.35	1.24	19.2	YES	NO	bb	bb	0.398

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.10	6.096e3	6.775e3	1.039	0.90	1.05	137.3	YES	NO	bb	bb	4.119
2	1234679-HPCDD	39.06	6.583e3	6.140e3	1.137	1.07	1.05	135.2	YES	NO	bb	bb	3.721

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	124679-HXCDD	33.82	9.501e2	7.024e2	1.115	1.35	1.24	19.2	YES	NO	bb	bb	0.398
2	OCDD	44.80	4.266e4	4.959e4	0.920	0.86	0.89	655.5	YES	NO	bb	bb	35.281
3	1234678-HpCDD	40.10	6.096e3	6.775e3	1.039	0.90	1.05	137.3	YES	NO	bb	bb	4.119
4	1234679-HPCDD	39.06	6.583e3	6.140e3	1.137	1.07	1.05	135.2	YES	NO	bb	bb	3.721

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexafurans	34.10	6.253e2	4.722e2	1.141	1.32	1.24	15.6	YES	NO	bb	bb	0.228
2	Total-hexafurans	33.25	5.553e2	4.040e2	1.141	1.37	1.24	14.5	YES	NO	db	bb	0.199
3	Total-heptafurans	39.26	1.218e3	1.303e3	0.978	0.93	1.05	38.1	YES	NO	bb	bb	0.928
4	1234678-HpCDF	38.62	6.961e2	6.300e2	1.003	1.10	1.05	30.7	YES	NO	bb	bb	0.438
5	OCDF	45.03	9.068e2	1.057e3	0.778	0.86	0.89	29.2	YES	NO	bd	bd	0.888
6	Total-penta1	27.02	3.728e2	2.784e2		1.34	1.55	12.7	YES	NO	bb	bb	0.158
7	124679-HXCDD	33.82	9.501e2	7.024e2	1.115	1.35	1.24	19.2	YES	NO	bb	bb	0.398
8	OCDD	44.80	4.266e4	4.959e4	0.920	0.86	0.89	655.5	YES	NO	bb	bb	35.281
9	1234678-HpCDD	40.10	6.096e3	6.775e3	1.039	0.90	1.05	137.3	YES	NO	bb	bb	4.119
10	1234679-HPCDD	39.06	6.583e3	6.140e3	1.137	1.07	1.05	135.2	YES	NO	bb	bb	3.721

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	21.23	1.682e5					5.6	YES		bb		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	31.06	1.052e5					6.0	YES		db		0.000
2	FUNCTION2 PFK	29.12	2.565e7					43.1	YES		bd		0.000

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	35.43	4.886e7					8.4	YES		bb		0.000
2	FUNCTION3 PFK	37.11	7.916e4					3.2	YES		bb		0.000

Dataset: T:\Autospec\Processed Data Batch\230313D1.qld
Last Altered: Tuesday, March 14, 2023 09:54:11 Pacific Daylight Time
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ID: 23A0418-10, Name: 23031313, Date: 13-Mar-2023, Time: 20:15:51, Conditions: AUTOSPEC01, User: pk

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	39.56	1.184e4					1.0	NO		bd		
2	FUNCTION4 PFK	39.48	1.641e3					0.5	NO		bb		
3	FUNCTION4 PFK	39.32	9.331e2					0.3	NO		bb		
4	FUNCTION4 PFK	39.05	9.511e3					1.3	NO		bb		
5	FUNCTION4 PFK	38.98	9.236e3					1.2	NO		bb		
6	FUNCTION4 PFK	38.93	5.290e3					0.8	NO		bb		
7	FUNCTION4 PFK	38.73	9.883e2					0.3	NO		bb		
8	FUNCTION4 PFK	38.57	9.889e2					0.3	NO		bb		
9	FUNCTION4 PFK	38.42	1.252e4					1.1	NO		bb		
10	FUNCTION4 PFK	38.29	1.923e4					1.4	NO		db		
11	FUNCTION4 PFK	38.15	2.733e4					1.5	NO		bd		
12	FUNCTION4 PFK	38.08	4.739e3					0.8	NO		bb		
13	FUNCTION4 PFK	37.89	8.038e4					1.5	NO		bb		
14	FUNCTION4 PFK	37.69	2.772e4					3.0	NO		bb		
15	FUNCTION4 PFK	40.80	8.786e3					1.1	NO		dd		
16	FUNCTION4 PFK	40.77	8.576e3					1.1	NO		dd		
17	FUNCTION4 PFK	40.73	1.085e4					1.2	NO		dd		
18	FUNCTION4 PFK	40.69	5.885e3					0.8	NO		bd		
19	FUNCTION4 PFK	40.60	1.072e4					1.1	NO		bb		
20	FUNCTION4 PFK	40.51	1.245e4					1.3	NO		db		
21	FUNCTION4 PFK	40.45	6.879e3					0.9	NO		dd		
22	FUNCTION4 PFK	40.42	6.177e3					0.8	NO		bd		
23	FUNCTION4 PFK	40.30	8.824e3					1.3	NO		bb		
24	FUNCTION4 PFK	40.24	1.687e4					1.5	NO		db		
25	FUNCTION4 PFK	40.12	3.165e4					1.4	NO		bd		
26	FUNCTION4 PFK	40.05	1.575e3					0.5	NO		bb		
27	FUNCTION4 PFK	40.02	1.170e4					0.8	NO		bb		
28	FUNCTION4 PFK	39.90	1.092e4					1.2	NO		bb		
29	FUNCTION4 PFK	39.84	1.636e3					0.5	NO		bb		
30	FUNCTION4 PFK	39.61	4.601e3					0.8	NO		db		
31	FUNCTION4 PFK	42.23	2.511e4					2.4	NO		bd		
32	FUNCTION4 PFK	42.14	2.022e4					1.7	NO		db		
33	FUNCTION4 PFK	42.08	4.037e4					2.2	NO		dd		
34	FUNCTION4 PFK	41.97	5.426e3					0.7	NO		dd		
35	FUNCTION4 PFK	41.92	8.829e3					1.4	NO		bd		
36	FUNCTION4 PFK	41.84	1.025e4					1.1	NO		db		
37	FUNCTION4 PFK	41.80	5.001e3					0.9	NO		bd		

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION4 PFK	41.62	3.127e3					0.6	NO		bb		
39	FUNCTION4 PFK	41.53	4.105e4					1.8	NO		db		
40	FUNCTION4 PFK	41.43	8.046e3					1.0	NO		dd		
41	FUNCTION4 PFK	41.33	7.713e4					2.5	NO		dd		
42	FUNCTION4 PFK	41.23	1.095e4					1.7	NO		bd		
43	FUNCTION4 PFK	41.16	1.527e4					1.5	NO		db		
44	FUNCTION4 PFK	41.10	1.878e4					1.6	NO		dd		
45	FUNCTION4 PFK	41.07	1.080e4					1.5	NO		bd		
46	FUNCTION4 PFK	40.83	5.848e3					1.0	NO		db		
47	FUNCTION4 PFK	42.41	9.532e2					0.3	NO		bb		
48	FUNCTION4 PFK	42.37	1.224e4					1.2	NO		bb		
49	FUNCTION4 PFK	42.27	2.351e4					1.6	NO		db		

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	45.53	8.131e2					0.5	NO		bb		
2	FUNCTION5 PFK	44.89	5.816e4					3.7	YES		db		
3	FUNCTION5 PFK	44.77	5.359e3					1.3	NO		dd		
4	FUNCTION5 PFK	44.73	5.217e3					1.3	NO		bd		
5	FUNCTION5 PFK	44.52	1.851e4					2.0	NO		db		
6	FUNCTION5 PFK	44.44	5.132e3					1.6	NO		bd		
7	FUNCTION5 PFK	44.16	8.244e2					0.5	NO		bb		
8	FUNCTION5 PFK	44.11	5.093e3					1.4	NO		db		
9	FUNCTION5 PFK	44.06	6.051e3					1.2	NO		bd		
10	FUNCTION5 PFK	43.89	2.153e3					0.9	NO		bb		
11	FUNCTION5 PFK	42.91	5.762e3					1.2	NO		bb		
12	FUNCTION5 PFK	42.81	7.267e3					1.6	NO		bb		
13	FUNCTION5 PFK	45.97	7.388e3					1.8	NO		bb		
14	FUNCTION5 PFK	45.67	5.536e3					1.5	NO		bb		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	26.78	1.039e2					2.6	NO		bb		0.000
2	FUNCTION1 HXCD...	25.72	1.268e2					3.9	YES		bb		0.000

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ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	29.70	7.237e1					2.1	NO		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	36.33	1.065e2					3.2	YES		bb		0.000
2	FUNCTION3 OCDPE	35.69	7.281e1					2.2	NO		bb		0.000

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	38.24	4.797e4					1435.5	YES		bb		0.000

ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 DCDPE	43.86	9.070e1					2.0	NO		bb		0.000

Dataset: T:\Autospec\Processed Data Batch\230313D1.qld
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Method: T:\Autospec\Methods\Dioxin230313.mdb 13 Mar 2023 11:32:39
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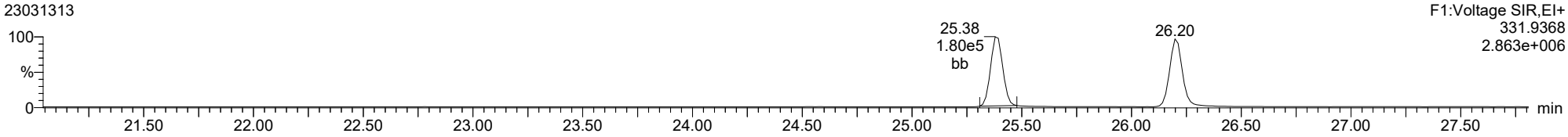
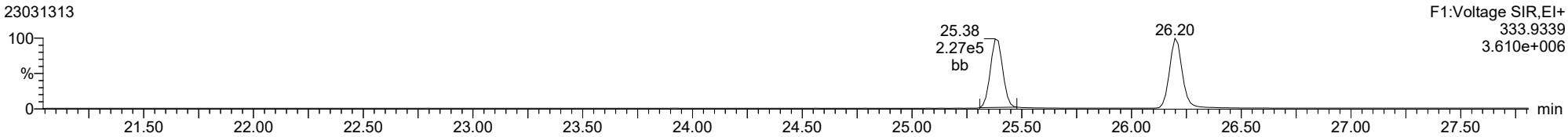
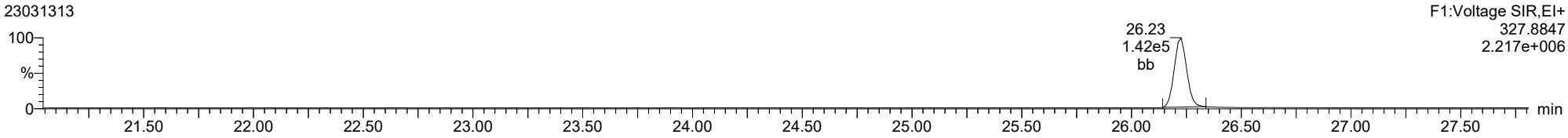
13C-1234-TCDD



13C-1234-TCDD



37CL-2378-TCDD



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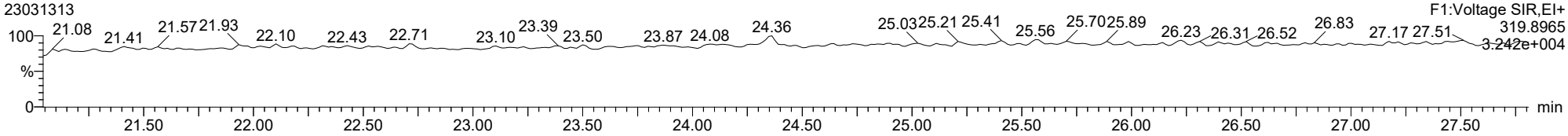
2378-TCDD



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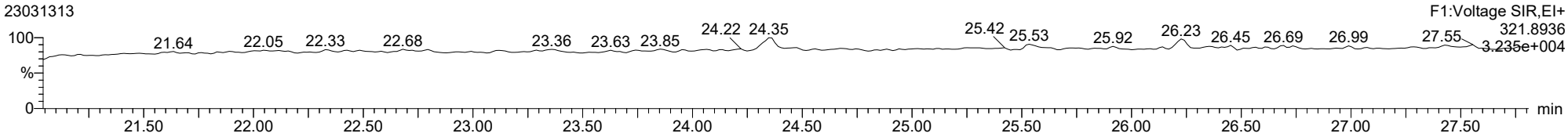
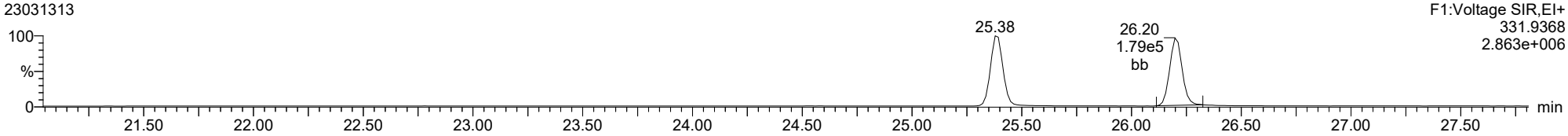
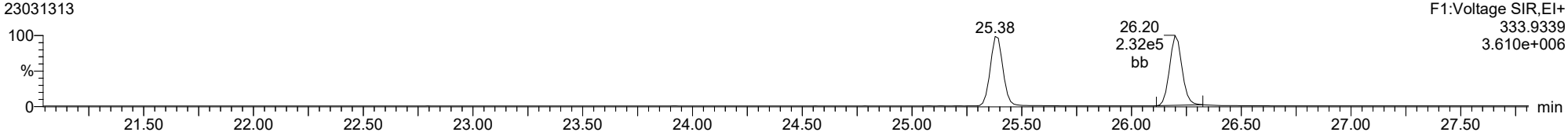


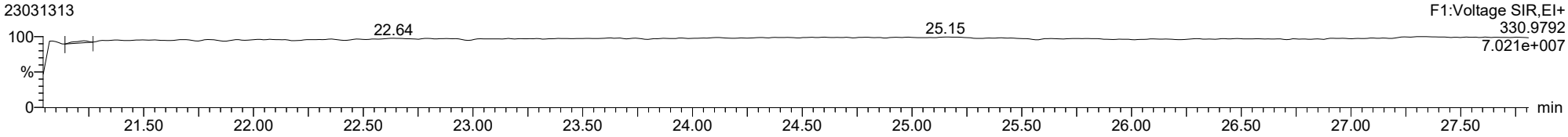
13C-2378-TCDD



13C-2378-TCDD



FUNCTION1 PFK



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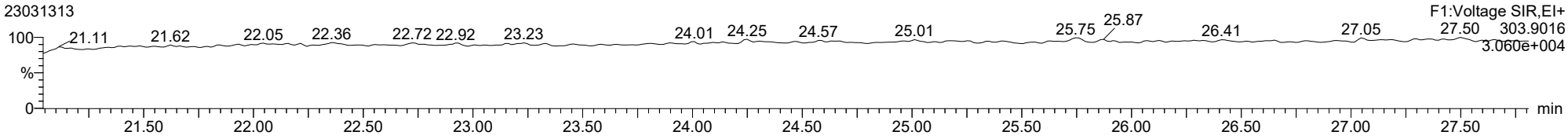
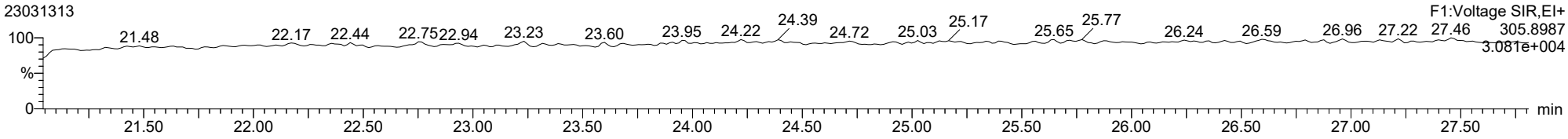
2378-TCDF



2378-TCDF



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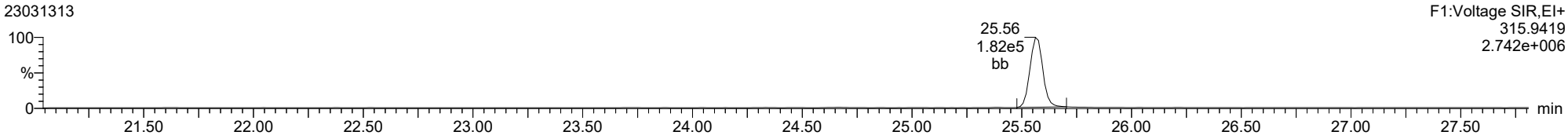

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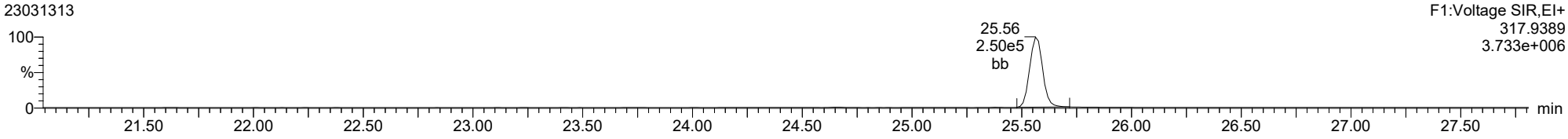
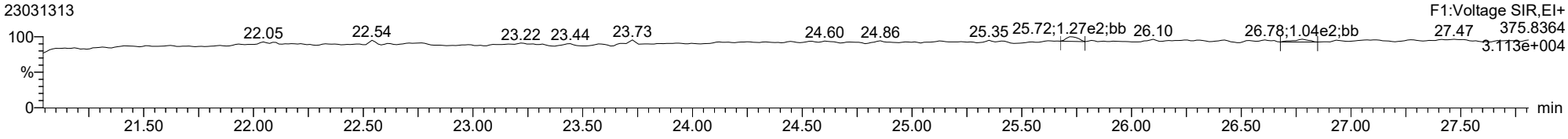


FUNCTION1 HXCDPE



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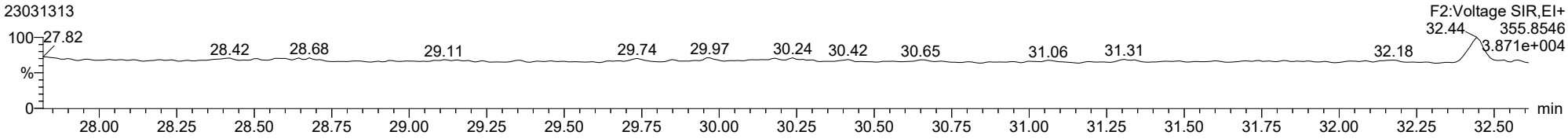
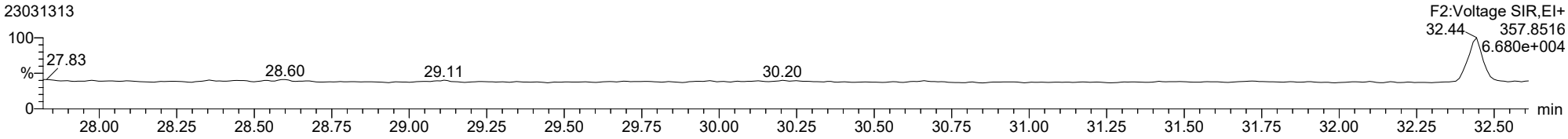
12378-PeCDD



12378-PeCDD



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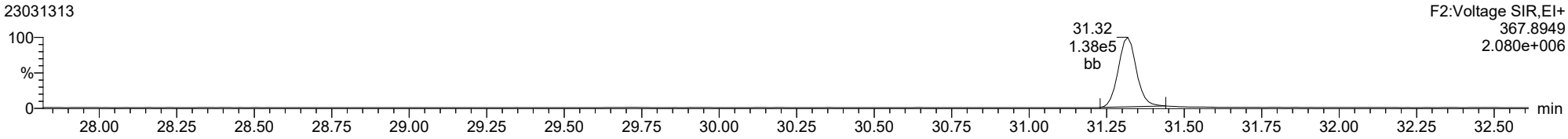

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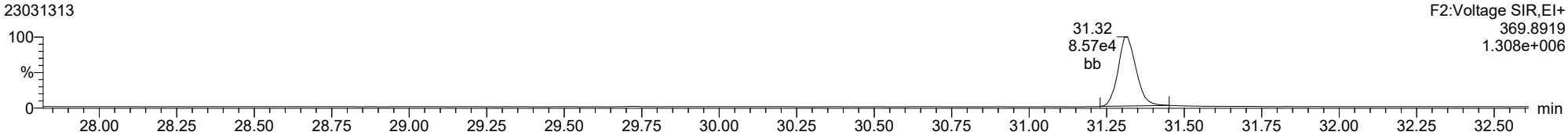
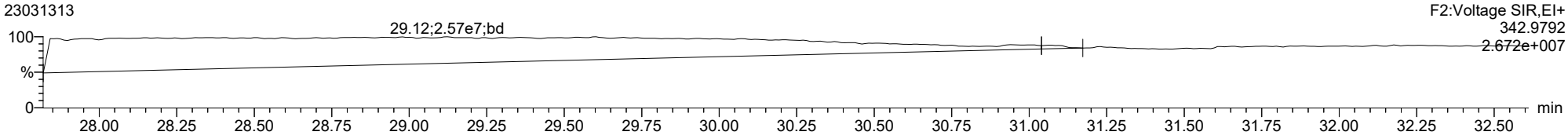


FUNCTION2 PFK



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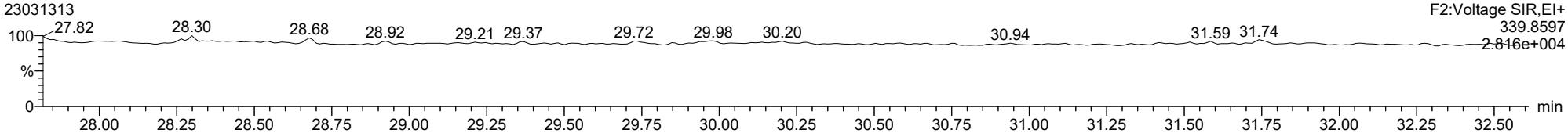
12378-PeCDF



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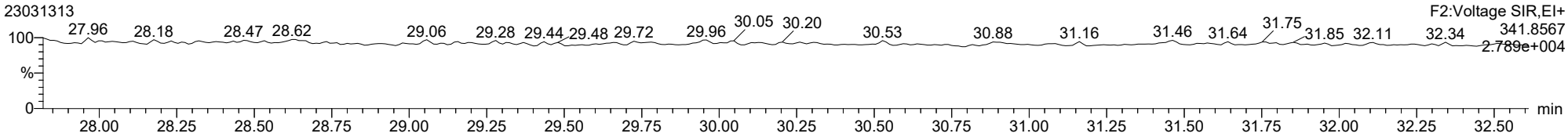

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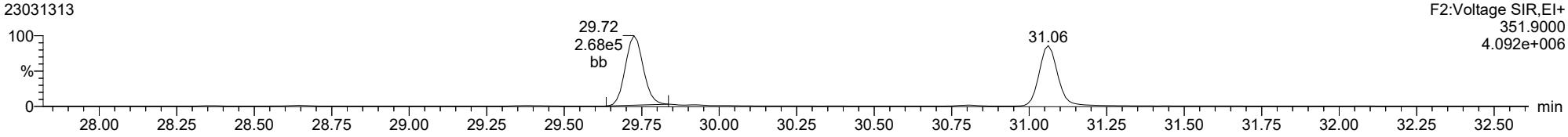

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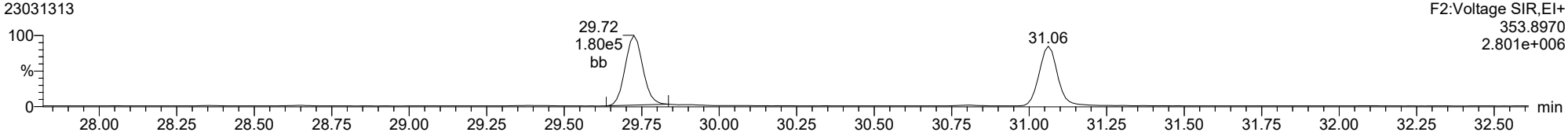
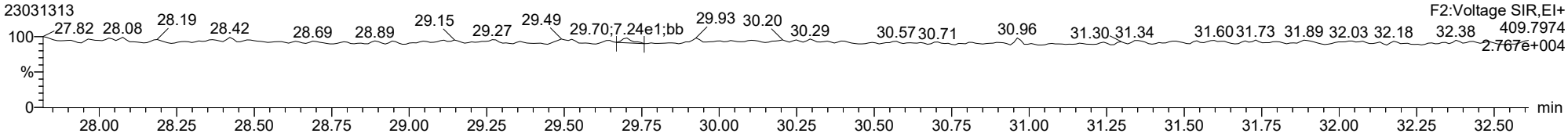


FUNCTION2 HPCDPE



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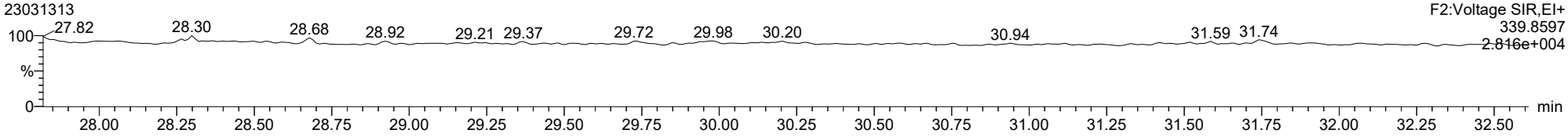
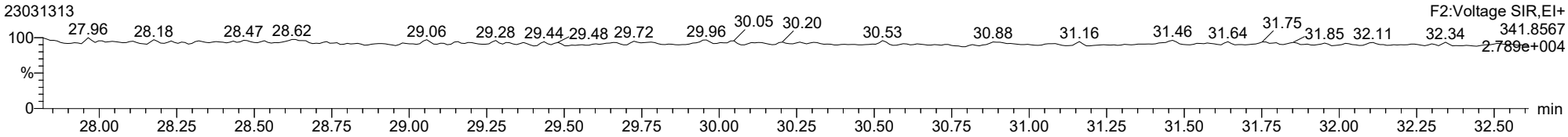
23478-PeCDF



23478-PeCDF



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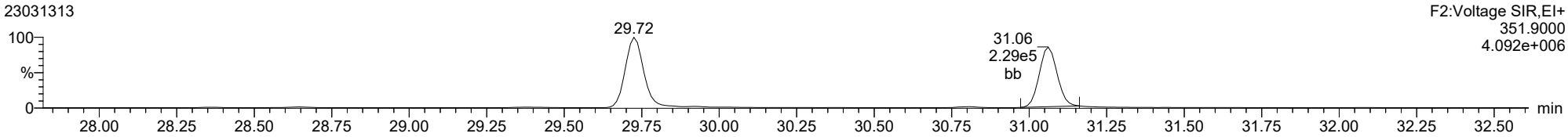

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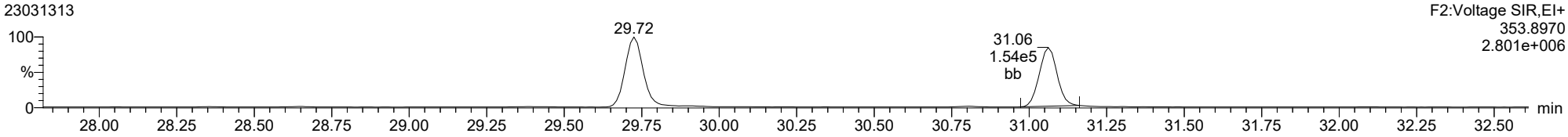
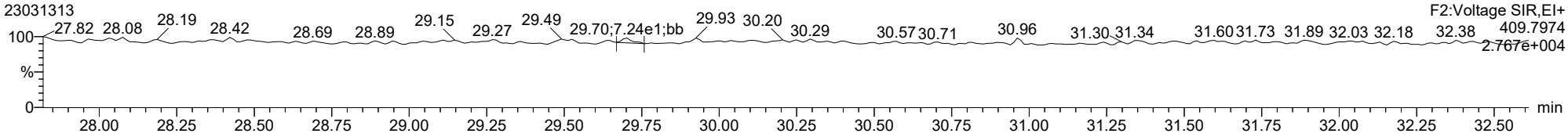


FUNCTION2 HPCDPE



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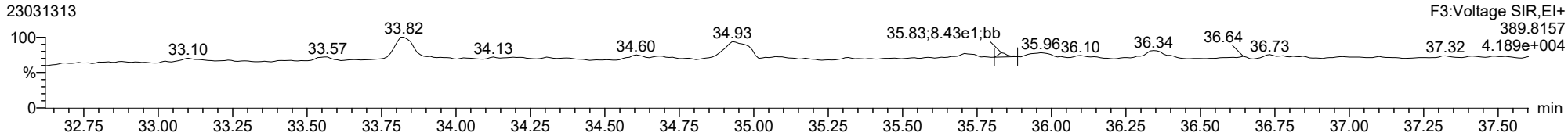
123478-HxCDD



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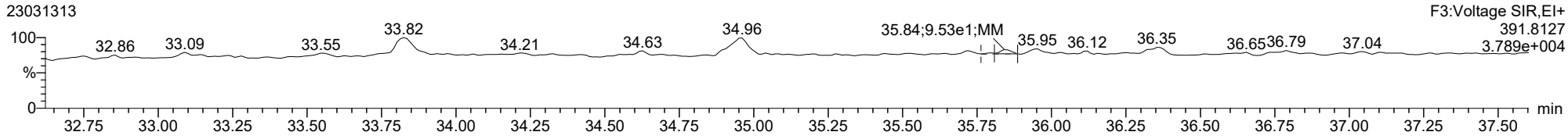

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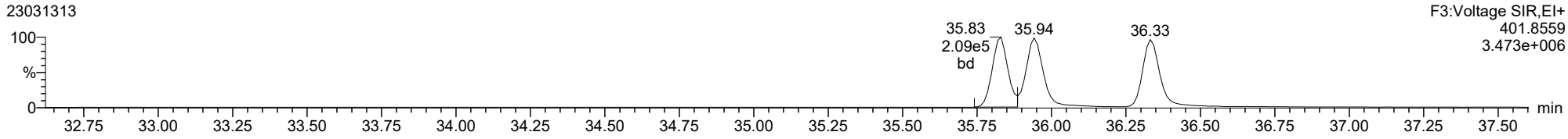

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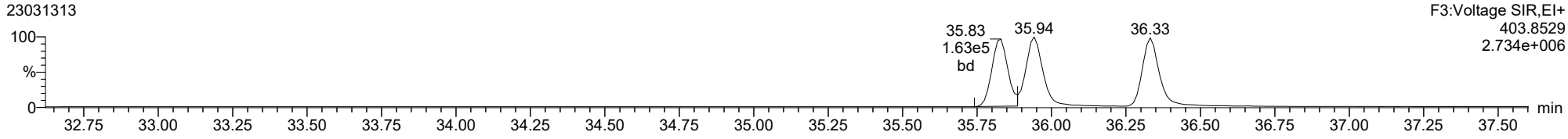
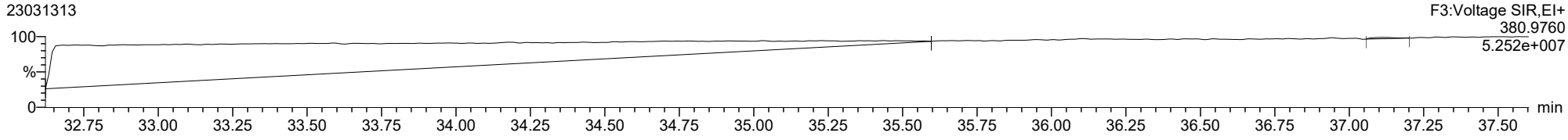


FUNCTION3 PFK



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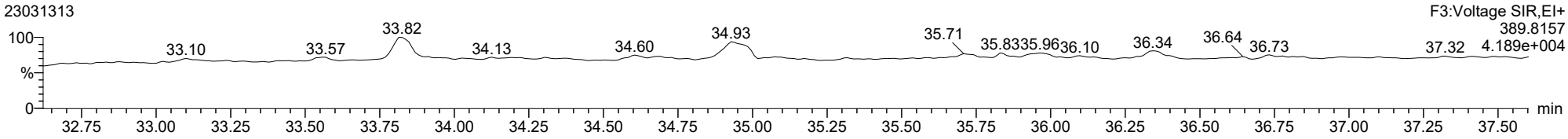
123678-HxCDD



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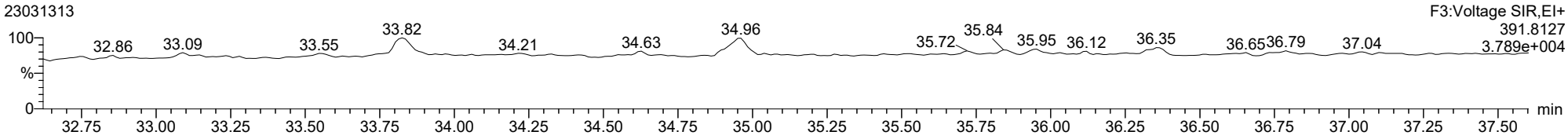

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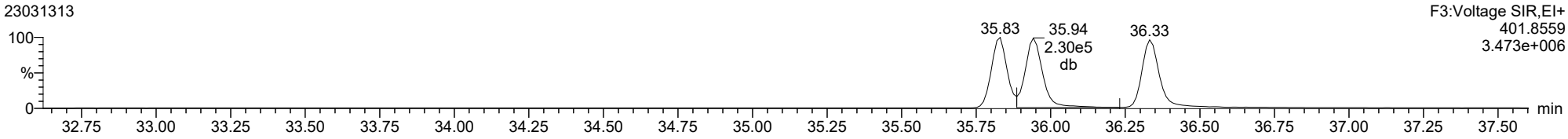

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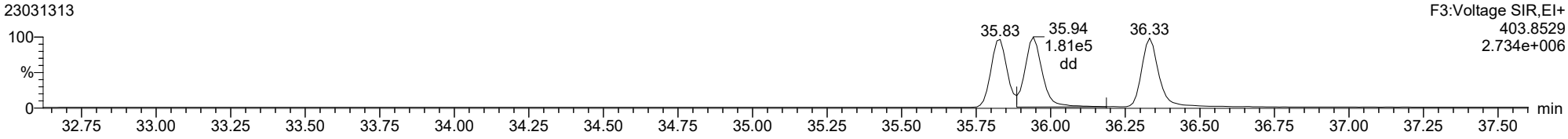

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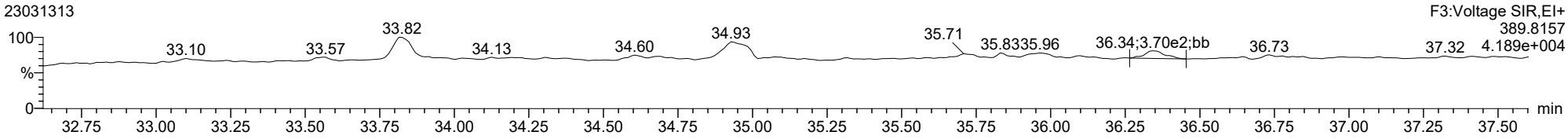
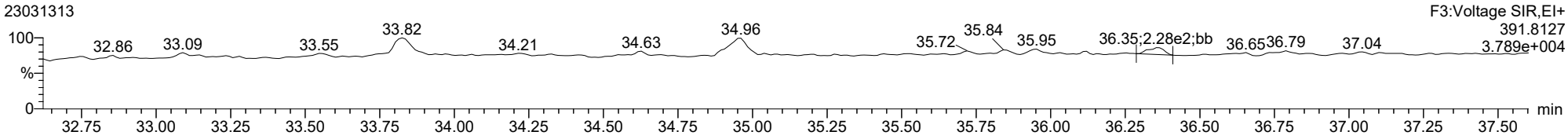
123789-HxCDD



123789-HxCDD



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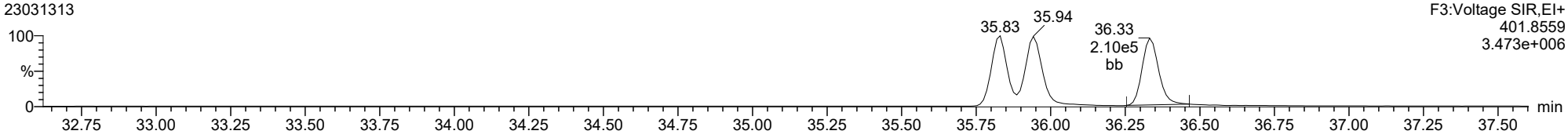

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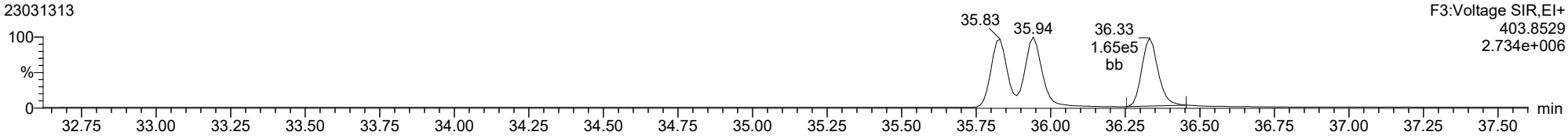

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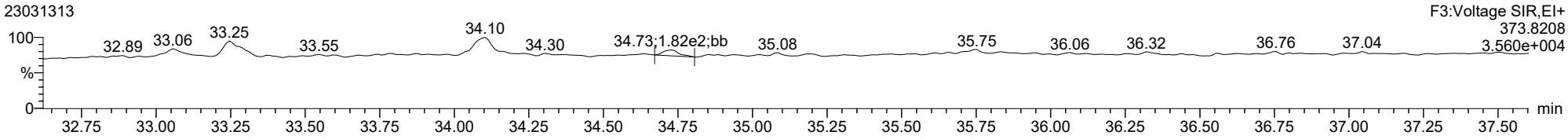
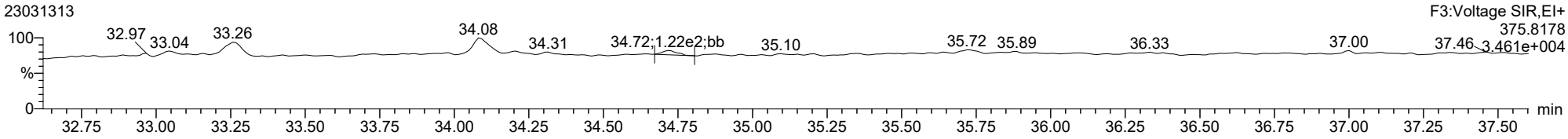


123478-HxCDF



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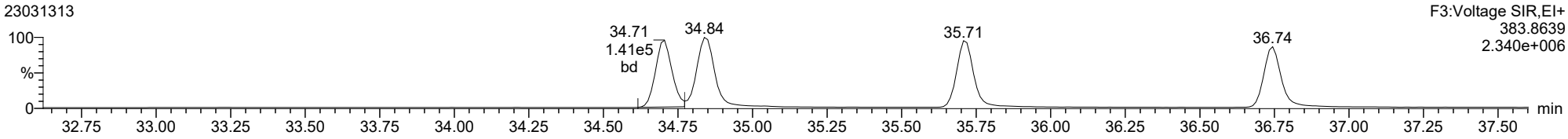

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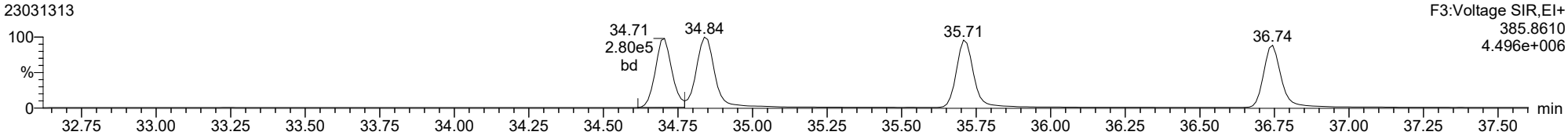
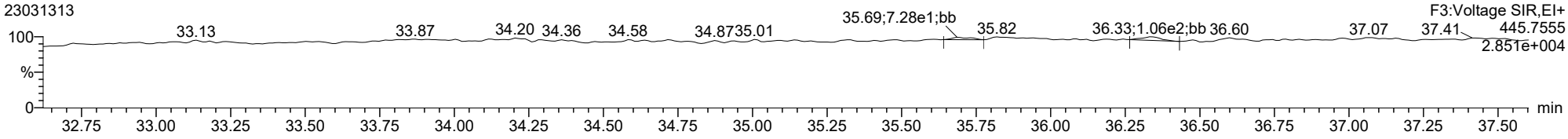


FUNCTION3 OCDPE



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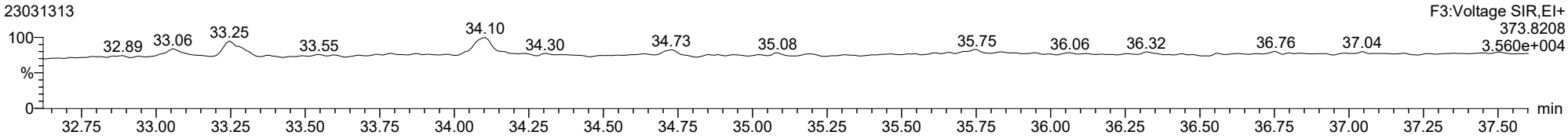
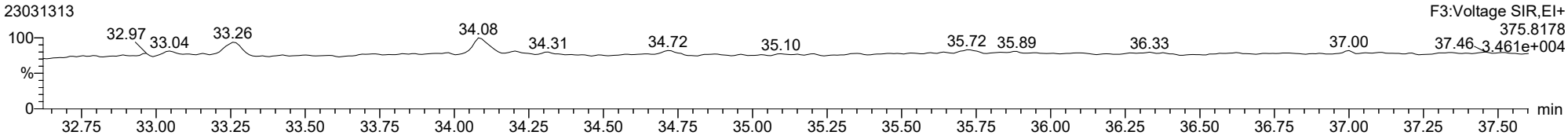
234678-HxCDF



234678-HxCDF



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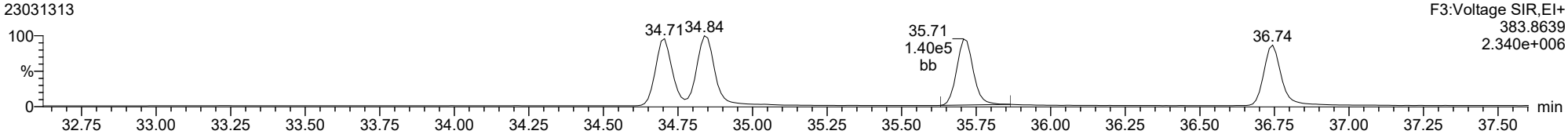

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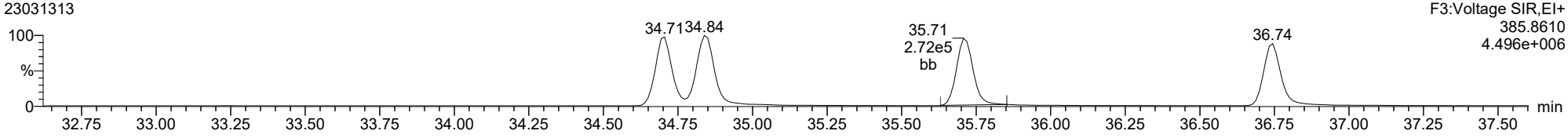
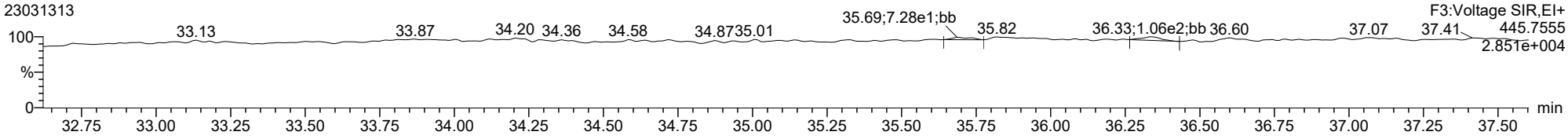


FUNCTION3 OCDPE



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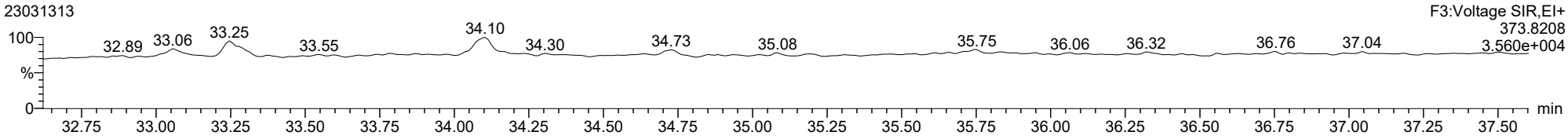
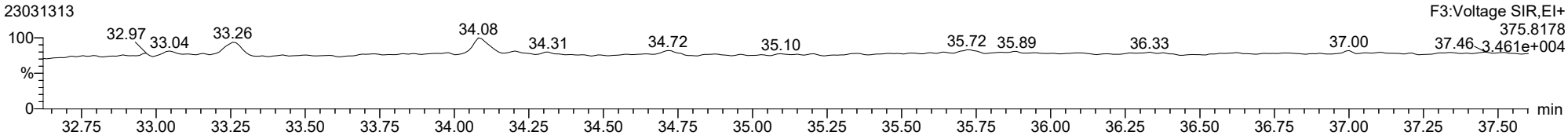
123678-HxCDF



123678-HxCDF



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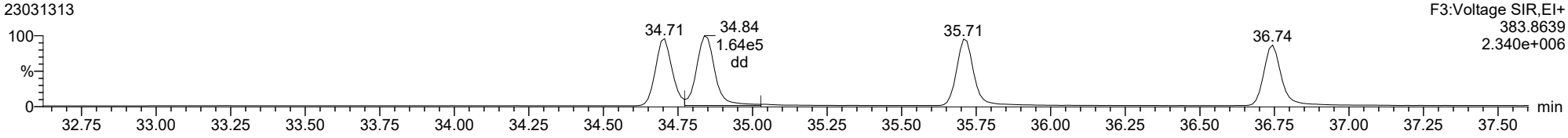

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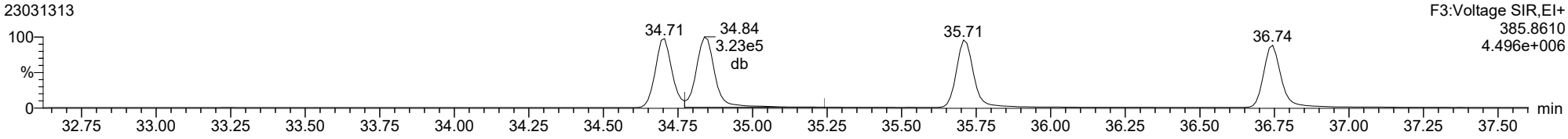
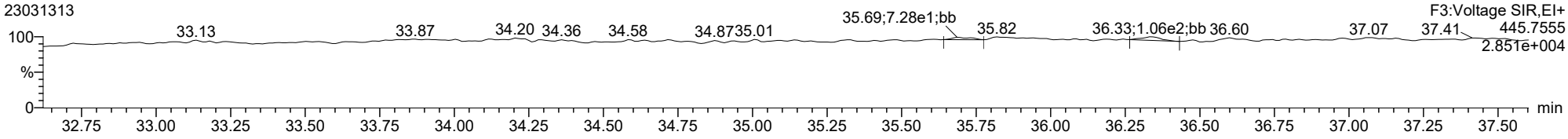


FUNCTION3 OCDPE



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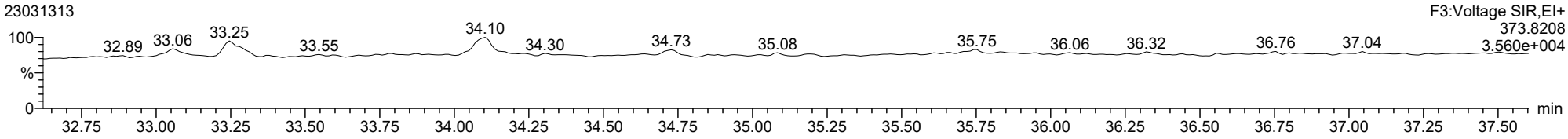
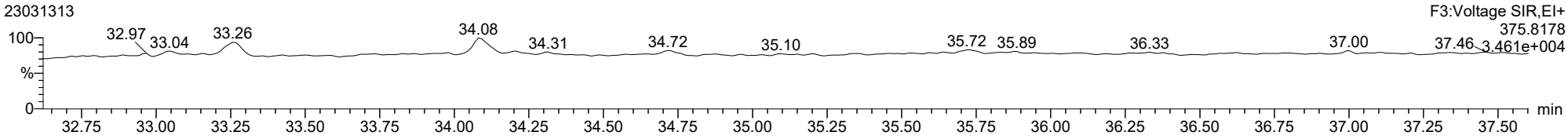
123789-HxCDF



123789-HxCDF



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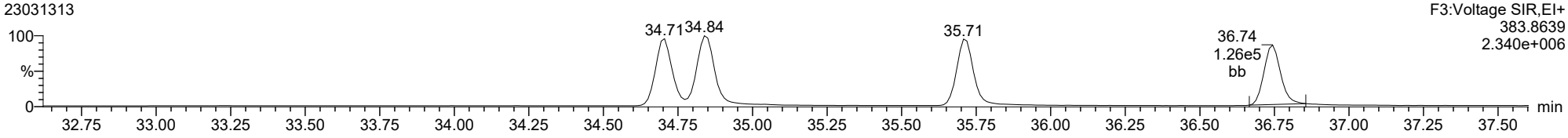
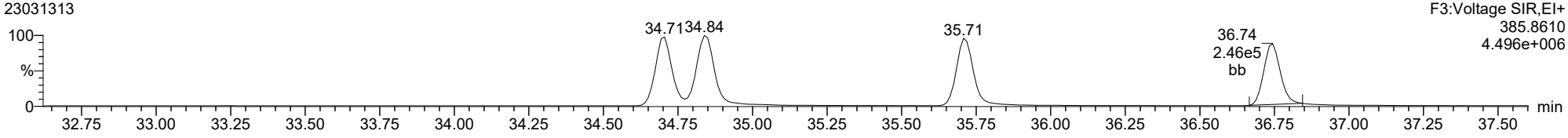
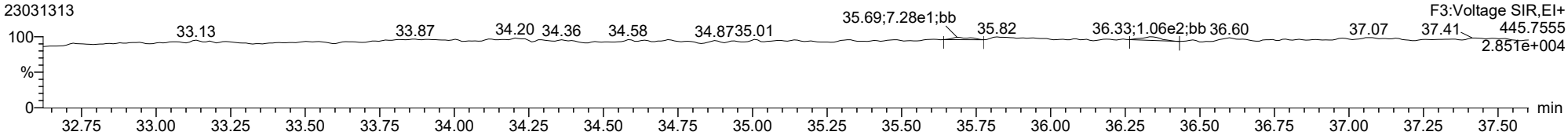


13C-123789-HxCDF

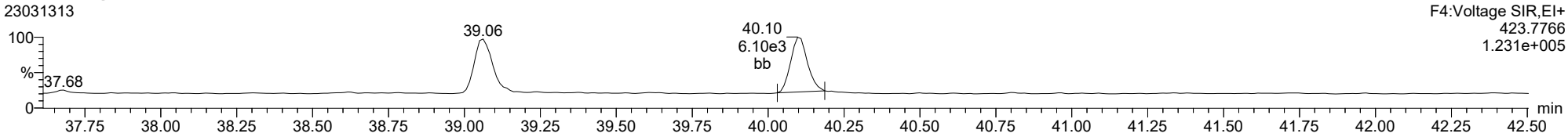


FUNCTION3 OCDPE



ID: 23A0418-10, Name: 23031313, Date: 13-Mar-2023, Time: 20:15:51, Conditions: AUTOSPEC01, User: pk

1234678-HpCDD



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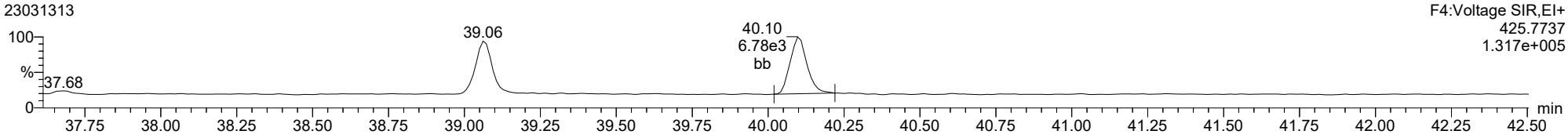

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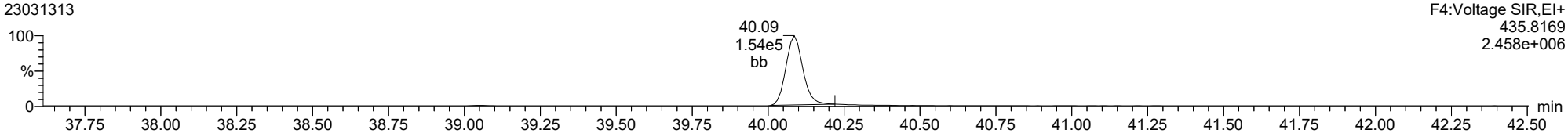

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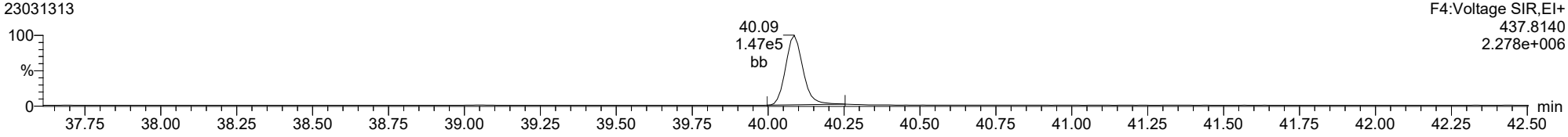

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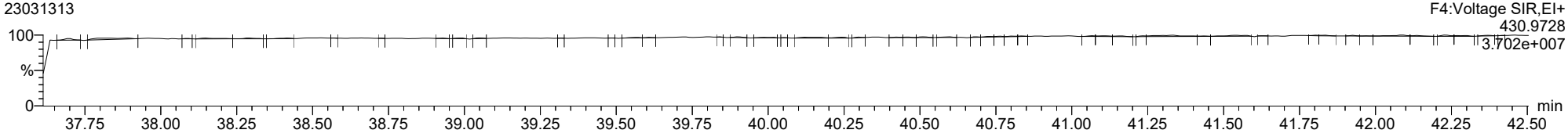

ID: 23A0418-10, Name: 23031313, Date: 13-Mar-2023, Time: 20:15:51, Conditions: AUTOSPEC01, User: pk

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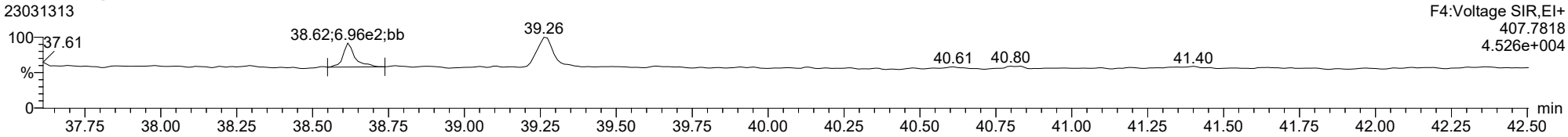

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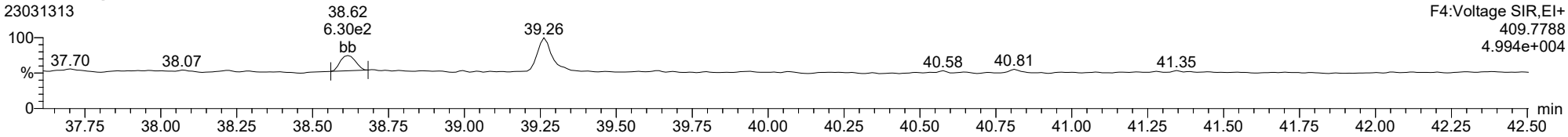

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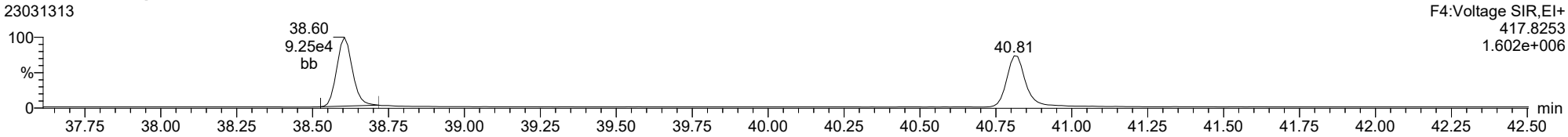

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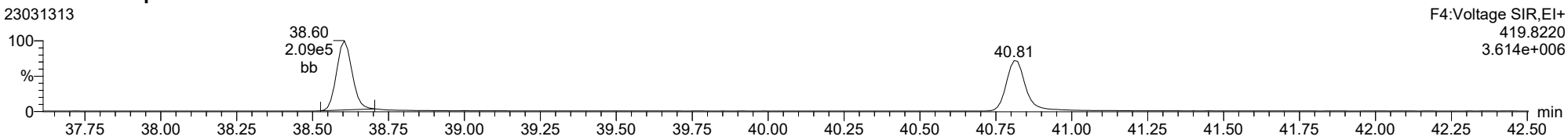

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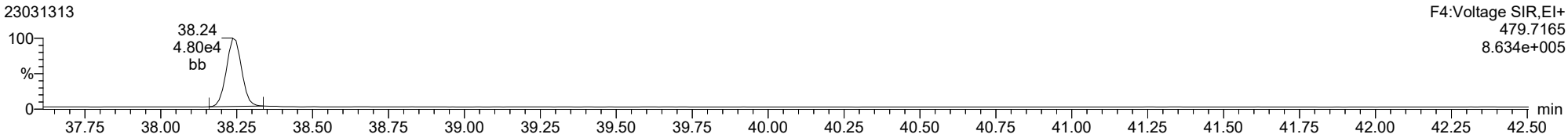
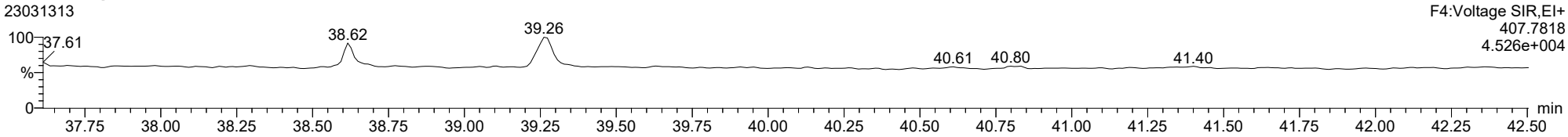


ID: 23A0418-10, Name: 23031313, Date: 13-Mar-2023, Time: 20:15:51, Conditions: AUTOSPEC01, User: pk

1234789-HpCDF



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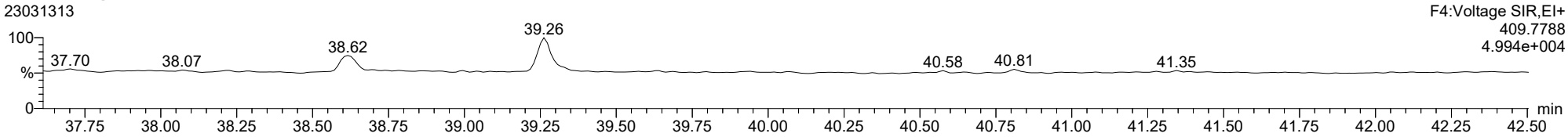

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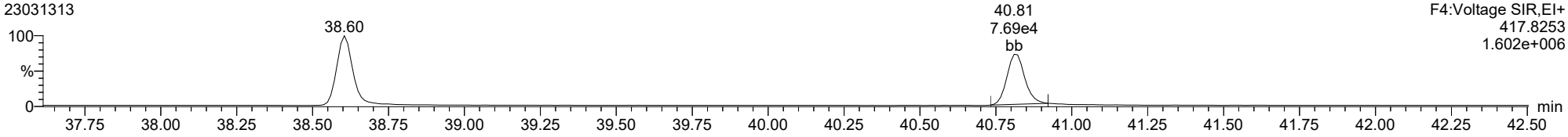

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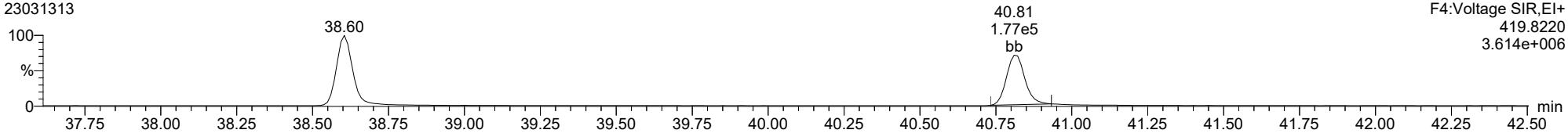

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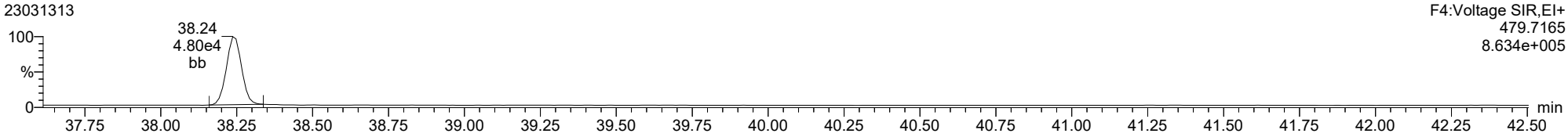
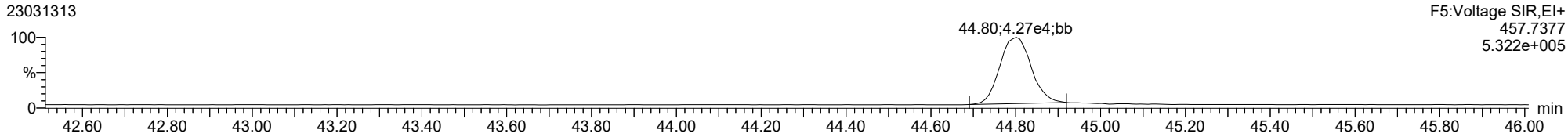
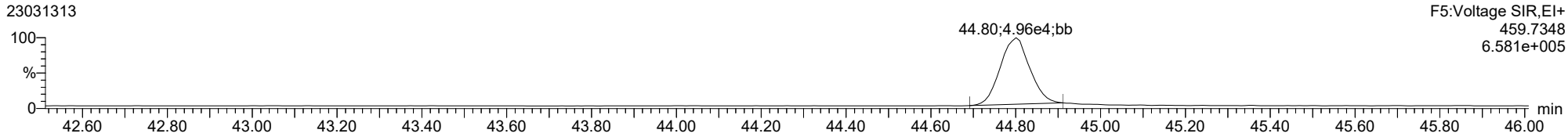


ID: 23A0418-10, Name: 23031313, Date: 13-Mar-2023, Time: 20:15:51, Conditions: AUTOSPEC01, User: pk

OCDD



OCDD



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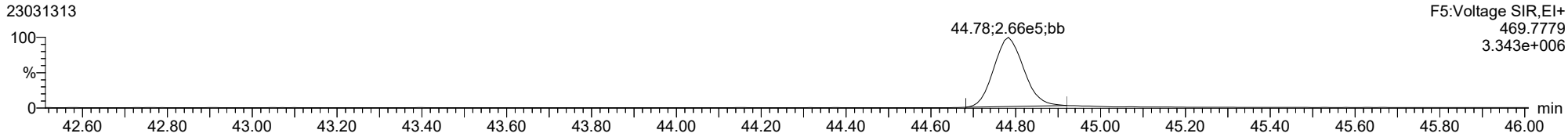

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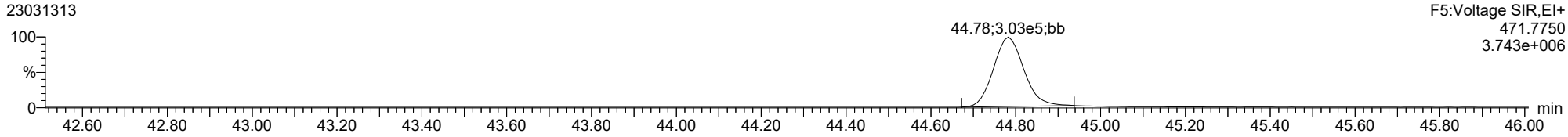
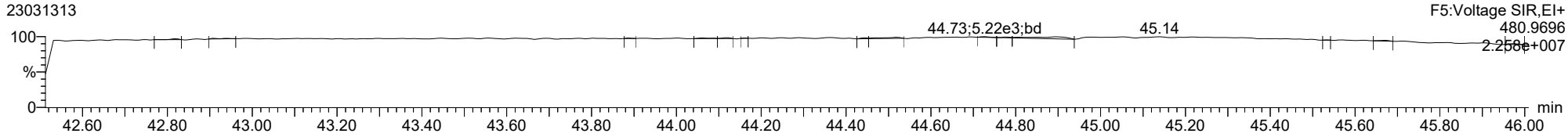
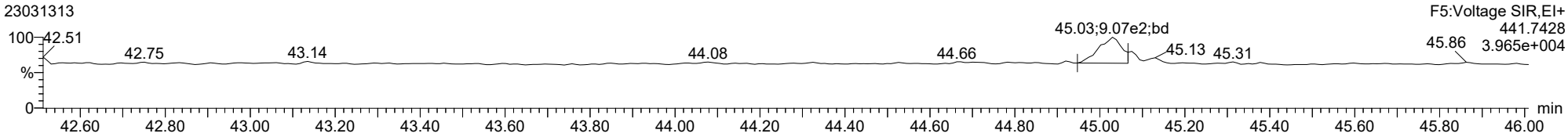


FUNCTION5 PFK



ID: 23A0418-10, Name: 23031313, Date: 13-Mar-2023, Time: 20:15:51, Conditions: AUTOSPEC01, User: pk

OCDF



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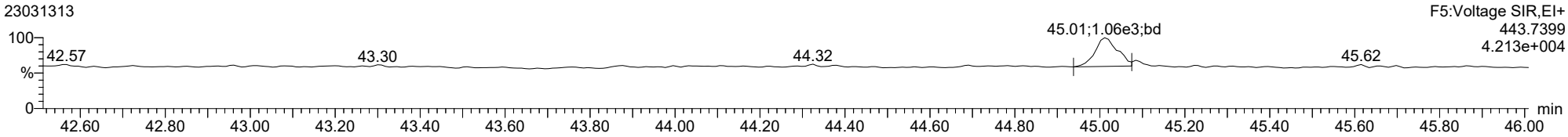
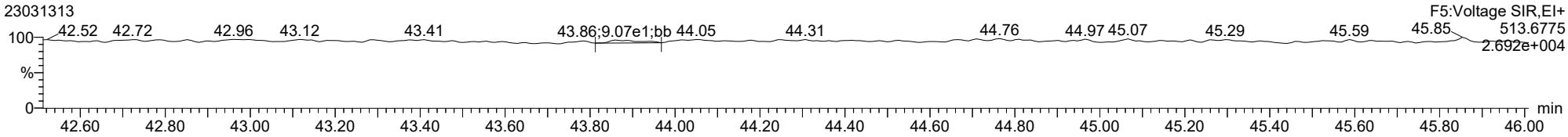
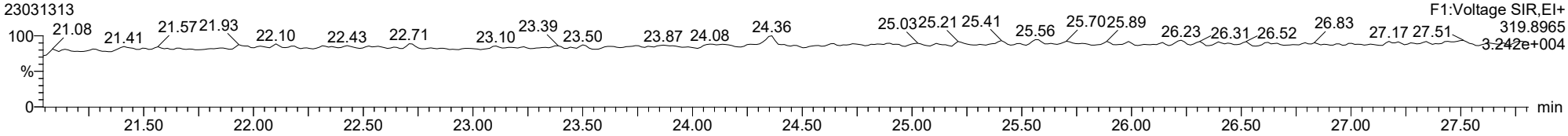


FUNCTION5 DCDPE

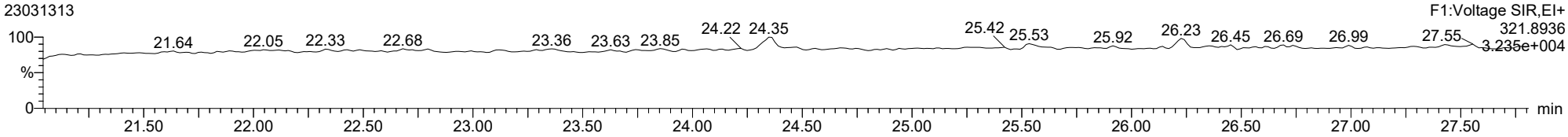


ID: 23A0418-10, Name: 23031313, Date: 13-Mar-2023, Time: 20:15:51, Conditions: AUTOSPEC01, User: pk

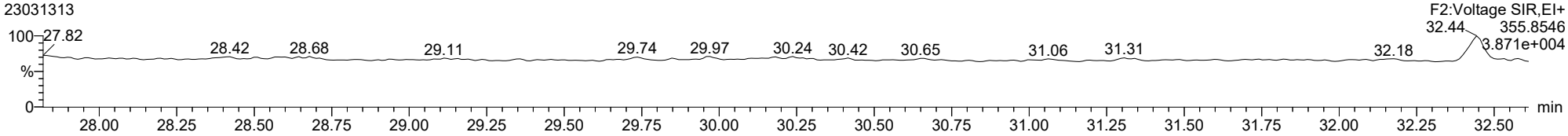
Total-tetradioxins



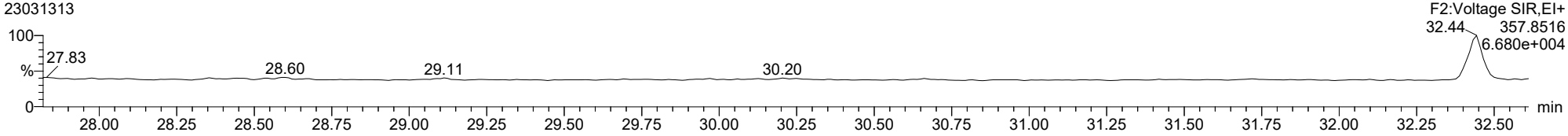
Total-tetradioxins



Total-pentadioxins

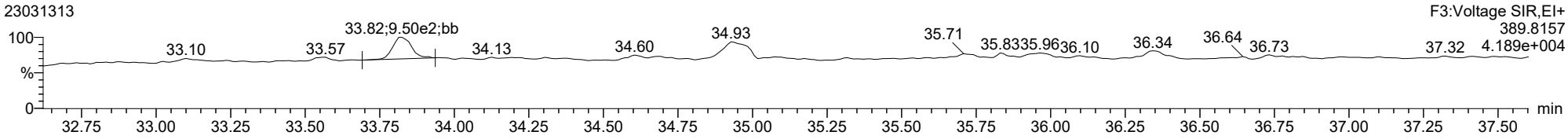


Total-pentadioxins

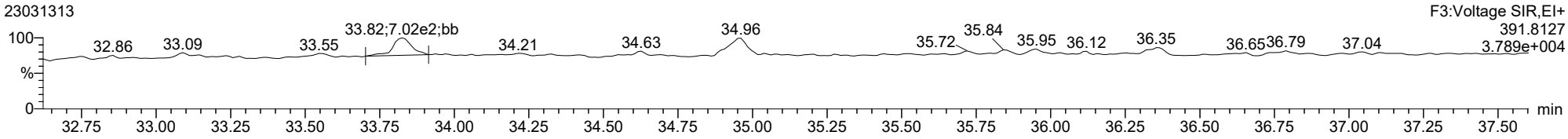


ID: 23A0418-10, Name: 23031313, Date: 13-Mar-2023, Time: 20:15:51, Conditions: AUTOSPEC01, User: pk

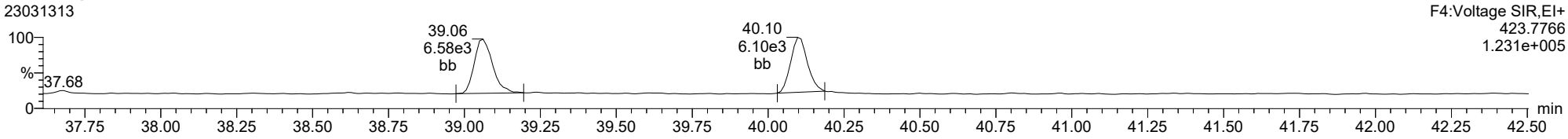
Total-hexadioxins



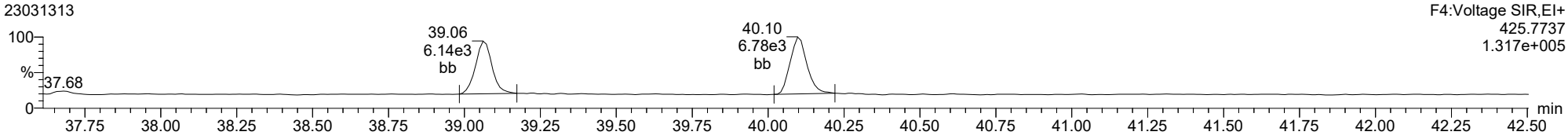
Total-hexadioxins



Total-heptadioxins

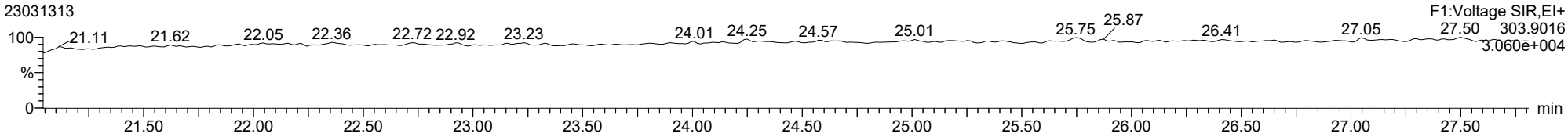


Total-heptadioxins

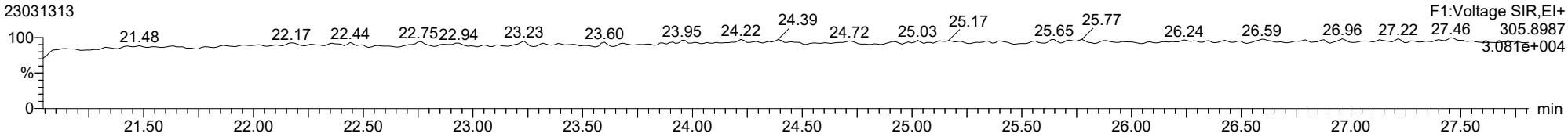


ID: 23A0418-10, Name: 23031313, Date: 13-Mar-2023, Time: 20:15:51, Conditions: AUTOSPEC01, User: pk

Total-tetrafurans



Total-tetrafurans



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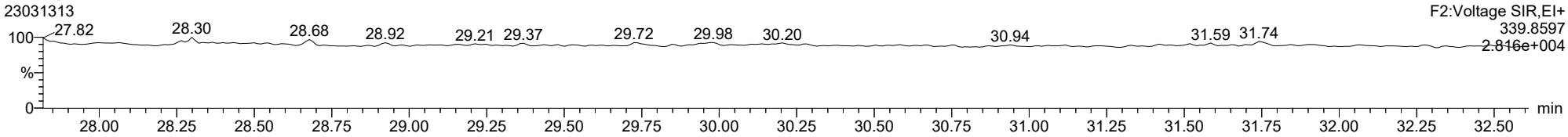

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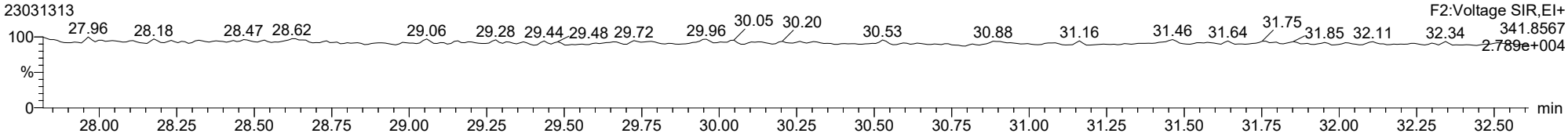

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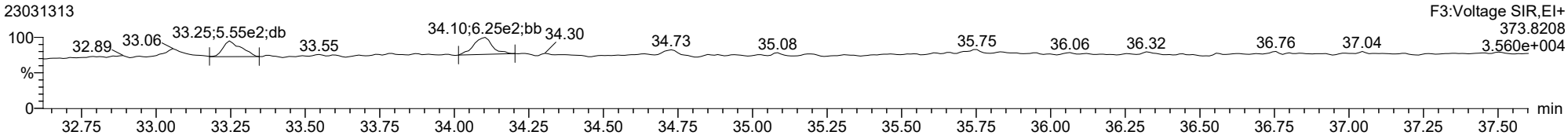
Total-hexafurans



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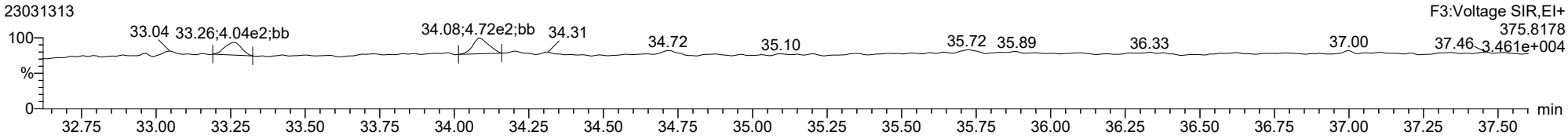

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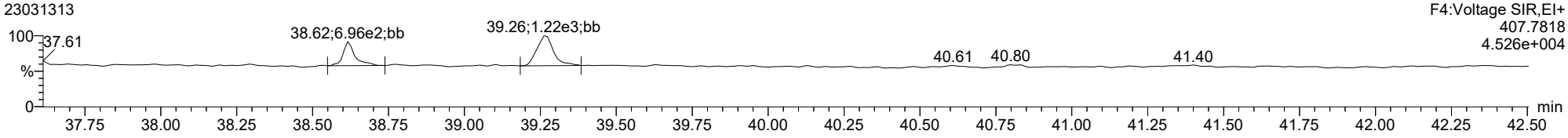

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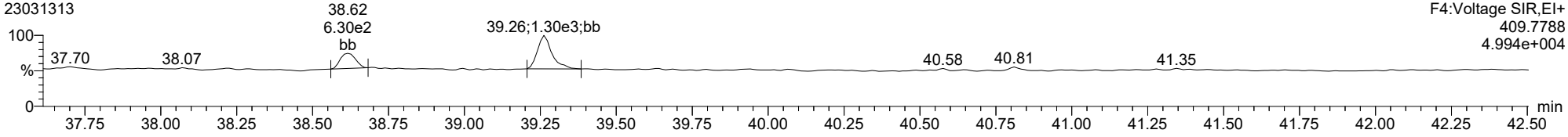


PREPARATION BATCH SUMMARY

EPA 1613B

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Batch: BLB0228 Batch Matrix: Solid
Preparation: EPA 1613

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-IT1136	23A0418-01	23031311	02/14/23 17:30	
LDW23-IT1142	23A0418-02	23031312	02/14/23 17:30	
LDW23-IT1135	23A0418-10	23031313	02/14/23 17:30	
Blank	BLB0228-BLK1	23031304	02/14/23 17:30	
LCS	BLB0228-BS1	23031305	02/14/23 17:30	
Reference	BLB0228-SRM1	23031306	02/14/23 17:30	

Analytical Resources, LLC
Analytical Chemists and Consultants

HRGCMS Dioxin/Furan Preparation Bench Sheet EPA Methods 8290A or 1613B

Batch: BLB0228

Solid Samples

ARI Work Orders:	23A0295,23A0417,418,419,420,455	
Matrix (circle one)	(Soil) Sediment Oil Tissue	
Extraction Method	Start Date/Time:	End Date/Time:
(Soxhlet) SepF Shake out	2/14/23 17:30	2/15/23 09:56

Reagents/Equipment Used	NA	ID / Lot Number	Initials	Date
Glasswool		J01285Ø	DP	2/27/23
Basic Silica		KØØ2255	DP	2/27/23
Acid Silica		KØ11Ø12	DP	2/27/23
Activated Florisil		KØØ595C	DP	2/27/23
Balance		24650344	DP	2/14/23
Toluene		KØ11233	DP	2/14/23
Hexane		KØ11373/LØØØ889	DP	2/17/23
CH2Cl2		KØØ5158	DP	2/27/23
H2SO4		LØØ1033	DP	2/23/23
Na2SO4		LØØ1285	DP	2/14/23
Other (RM)		LØØ1273	DP	2/14/23
0% Silica		KØ11Ø54	DP	2/27/23
Nonane		LØØ6038	DP	2/28/23

Lab Number & Container	Sample Name	% Solids	Sample Weight Equal to dry (g) (Target Dry)	Actual	RotoVap 45 °C	Water Trap Vol (mL)	Final Vol. (uL)
23A0295-04 A	LDW23-SC1023B	56.16	(17.81)	17.87	(1)/2	5.8	20
23A0417-01 C	LDW23-SS1127	66.61	(15.01)	15.01	1/(2)	4.2	20
23A0417-03 C	LDW23-SS1095	43.48	(23.00)	23.02	(1)/2	11.1	20
23A0417-05 C	LDW23-SS1089	69.22	(14.45)	14.50	1/(2)	4.5	20
23A0418-01 C	LDW23-IT1136	83.97	(11.91)	11.97	(1)/2	1.8	20
23A0418-02 C	LDW23-IT1142	78.39	(12.76)	12.81	1/(2)	2.4	20
23A0418-10 C	LDW23-IT1135	74.26	(13.47)	13.55	(1)/2	3.5	20
23A0419-02 C	LDW23-SS1045	48.59	(20.58)	20.62	1/(2)	10.4	20
23A0419-04 C	LDW23-SS1135	68.57	(14.58)	14.63	(1)/2	4.Ø	20
23A0419-05 C	LDW23-SS1136	77.3	(12.94)	12.98	1/(2)	3.Ø	20
23A0419-08 C	LDW23-SS1142	71	(14.09)	14.13	(1)/2	4.Ø	20
23A0419-09 C	LDW23-SS1202	61.44	(16.28)	16.29	1/(2)	6.9	20
23A0420-01 C	LDW23-SC1045	52.01	(19.23)	19.29	(1)/2	8.Ø	20
23A0420-04 C	LDW23-IT1051	70.3	(14.23)	14.34	1/(2)	4.Ø	20
23A0420-08 C	LDW23-SC1004	57.53	(17.38)	17.42	(1)/2	7.Ø	20
23A0455-03 B	LDW23-SS1031	50	(20.00)	20.01	1/(2)	8.Ø	20
23A0455-08 B	LDW23-SS1023	50.51	(19.80)	19.83	(1)/2	5.Ø	20
23A0455-15 B	LDW23-SS1051	54.84	(18.24)	18.34	1/(3)	6.Ø	20
23A0455-16 B	LDW23-SS1052	48.29	(20.71)	20.71	(1)/2	9.5	20
BLB0228-BLK1	Blank	100	()	10.01	(1)/2	Ø.Ø	20
BLB0228-BS1	LCS	100	()	10.01	1/(2)	Ø.Ø	20
BLB0228-DUP1	23A0417-01C Duplicate	66.61	(15.01)	15.01	(1)/2	4.Ø	20
BLB0228-SRM1	Reference	100	()	10.09	1/(2)	Ø.Ø	20
Prep Analyst / Date:	DP 2/14/23				DP 2/22/23	DP 2/15/23	

Standards Used	Vol	ID / Lot Number	Concentration	Expiration Date	Analyst	Witness	Date
Recovery Standard	1.0 mL	KØ11158	2/4 ng/mL	12/2/23	DP	TW	2/14/23
OPR	1.0 mL	KØØ6ØØ3	0.2/1.0/2.0 ng/mL	6/30/23	DP	TW	2/14/23
~~QLS Standard~~	~~1.0 mL~~		~~0.1/0.5/0.1ng/mL ng/L~~				
Cleanu-up Standard	1.0 mL	LØØ1332	0.8 ng/mL	2/8/24	DP	TW	2/27/23

Verify Client ID
Analyst / Date: DP 2/14/23

Acid Clean (Y) N
Analyst / Date: DP 2/23/23

Silica-Florisil Clean (Y) N
Analyst / Date: DP 2/27/23

3/8/23

Printed: 2/9/2023 7:22:17AM

HRGCMS Dioxin/Furan Preparation Bench Sheet EPA Methods 8290A or 1613B

Batch: BLB0228

Solid Samples

Supervisor Review By Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Dioxin Extraction Laboratory – Glassware

Batch ID: BLB0228 Work Order: 23A0295, 23A0417, 23A0418, 23A0419, 23A0420, 23A0455 Extraction Parameter: Dioxin ARI Analyst

ARI Sample ID		300 mL Flat Bottom	Small Soxhlet	Large Soxhlet	250 mL Beaker	Funnel	Column	Florisil Column	Turbo Tube	Sep Funnel	Erlenmeyer Flask	Centrifuge Bottle	Turbo-Vap	Vortex Mixer	Heating Mantle
BLB0228	-BLK1	21	6		239	93	33	4	26				4	4	
	-BS1	8	19		40	70	2	58	83				4	4	
	-DUP1	34	1		8	69	15	8	58				4	4	
	-SRM1	56	28		9	43	41	68	64				4	4	
23A0295	-04A	63		68	46	54	14	77	74				4	4	
23A0417	-01C	86	57		29	41	197	39	13				4	4	
	-03C	28		33	2	35	9	166	5				4	4	
	-05C	3	62		256	4	24	29	23				4	4	
23A0418	-01C	19	4		48	94	75	123	17				4	4	
	-02C	76	3		1	36	9	7	9				4	4	
	-10C	59	74		10	13	45	167	19				4	4	
23A0419	-02C	45		46	2	6	225	38	10				4	4	
	-04C	7	87		259	48	119	60	3				4	4	
	-05C	14	31		6	68	145	3	20				4	4	
	-08C	44	18		18	10	23	10	82				4	4	
	-09C	68	80		32	51	42	79	60				4	4	
23A0420	-01C	47		63	4	43	222	150	41				4	4	
	-04C	29	116		34	49	62	1	32				4	4	
	-08C	51		21	37	64	10	70	85				4	4	
23A0455	-03B	87		66	16	58	224	14	39				4	4	
	-08B	25		47	~~88~~ 88	65	2000	37	77				4	4	
	-15B	22		61	35	52	37	43	25				4	4	
	-16B	9		58	52	91	217	103	24				4	4	

TOTAL SOLIDS BENCHSHEET

Method HRSM01.2

(dry at 110 C)

Batch:	BLA0399
Date:	
Analyst:	JW
Drying Oven:	018
Analytical Balance:	24650344

Instrumentation

Batch drying time

Record times as mm/dd/yy hh:mm

Date/time in oven:	02/08/23	12:12
Date/time out:	02/09/23	0508
Elapsed hrs:	0.0	

Oven Temp, C: 112

TS (%) calculated as:

Final dry wt (g) = (Dry Wt - Tare Wt)

TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)

Oven Temps, °C	
Start Temp:	112
End Temp:	112

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
23A0295-04 A	0.81	11.12	6.64			No
23A0417-01 C	0.80	11.88	8.18			~~No~~ Yes
23A0417-03 |	0.81	11.09	5.28			~~No~~ Yes
23A0417-05 |	0.81	11.63	8.34			~~No~~ Yes
23A0418-01 |	0.81	11.23	9.56			No
23A0418-02 |	0.81	11.59	9.26			~~No~~ Yes
23A0418-10 |	0.79	11.28	8.56			No
23A0419-02 |	0.82	11.44	5.98			~~No~~ Yes
23A0419-04 |	0.80	11.49	8.13			~~No~~ Yes
23A0419-05 |	0.80	11.55	9.11			~~No~~ Yes
23A0419-08 |	0.81	11.36	8.34			~~No~~ Yes
23A0419-09 |	0.82	11.48	7.37			~~No~~ Yes
23A0420-01 |	0.80	11.51	6.37			No Yes
23A0420-04 |	0.80	11.71	8.47			~~No~~ Yes
23A0420-08 ↓	0.81	11.57	7.44			~~No~~ Yes
23A0455-03 B	0.81	11.51	6.16			~~No~~ Yes
23A0455-08 |	0.81	11.60	6.24			~~No~~ Yes
23A0455-15 |	0.80	11.85	6.86			~~No~~ Yes
23A0455-16 ↓	0.80	11.90	6.16			~~No~~ Yes

TOTAL SOLIDS BENCHSHEET

Method HRSM01.2

(dry at 110 C)

Instrumentation

Batch:	BLA0399
Date:	2/9/2023 5:08
Analyst:	TW
Drying Oven:	18
Analytical Balance:	24650344

Batch drying time

Record times as mm/dd/yy hh:mm

Date/time in oven:	2/8/2023 12:12	
Date/time out:	2/9/2023 5:08	
Elapsed hrs:	16.9	

Oven Temp, C TS (%) calculated as:

112 Final dry wt (g) = (Dry Wt - Tare Wt)

112 TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)

Oven Temps, °C	
Start Temp:	112
End Temp:	112

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
23A0295-04	0.8100	11.1200	6.6000	5.79	**56.16%**	No
23A0417-01	0.8000	11.8800	8.1800	7.38	**66.61%**	Yes
23A0417-03	0.8100	11.0900	5.2800	4.47	**43.48%**	Yes
23A0417-05	0.8100	11.6300	8.3000	7.49	**69.22%**	Yes
23A0418-01	0.8100	11.2300	9.5600	8.75	**83.97%**	No
23A0418-02	0.8100	11.5900	9.2600	8.45	**78.39%**	Yes
23A0418-10	0.7900	11.2800	8.5800	7.79	**74.26%**	No
23A0419-02	0.8200	11.4400	5.9800	5.16	**48.59%**	Yes
23A0419-04	0.8000	11.4900	8.1300	7.33	**68.57%**	Yes
23A0419-05	0.8000	11.5500	9.1100	8.31	**77.30%**	Yes
23A0419-08	0.8100	11.3600	8.3000	7.49	**71.00%**	Yes
23A0419-09	0.8200	11.4800	7.3700	6.55	**61.44%**	Yes
23A0420-01	0.8000	11.5100	6.3700	5.57	**52.01%**	Yes
23A0420-04	0.8000	11.7100	8.4700	7.67	**70.30%**	Yes
23A0420-08	0.8100	11.5700	7.0000	6.19	**57.53%**	Yes
23A0455-03	0.8100	11.5100	6.1600	5.35	**50.00%**	Yes
23A0455-08	0.8100	11.6000	6.2600	5.45	**50.51%**	Yes
23A0455-15	0.8000	11.8500	6.8600	6.06	**54.84%**	Yes
23A0455-16	0.8000	11.9000	6.1600	5.36	**48.29%**	Yes

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

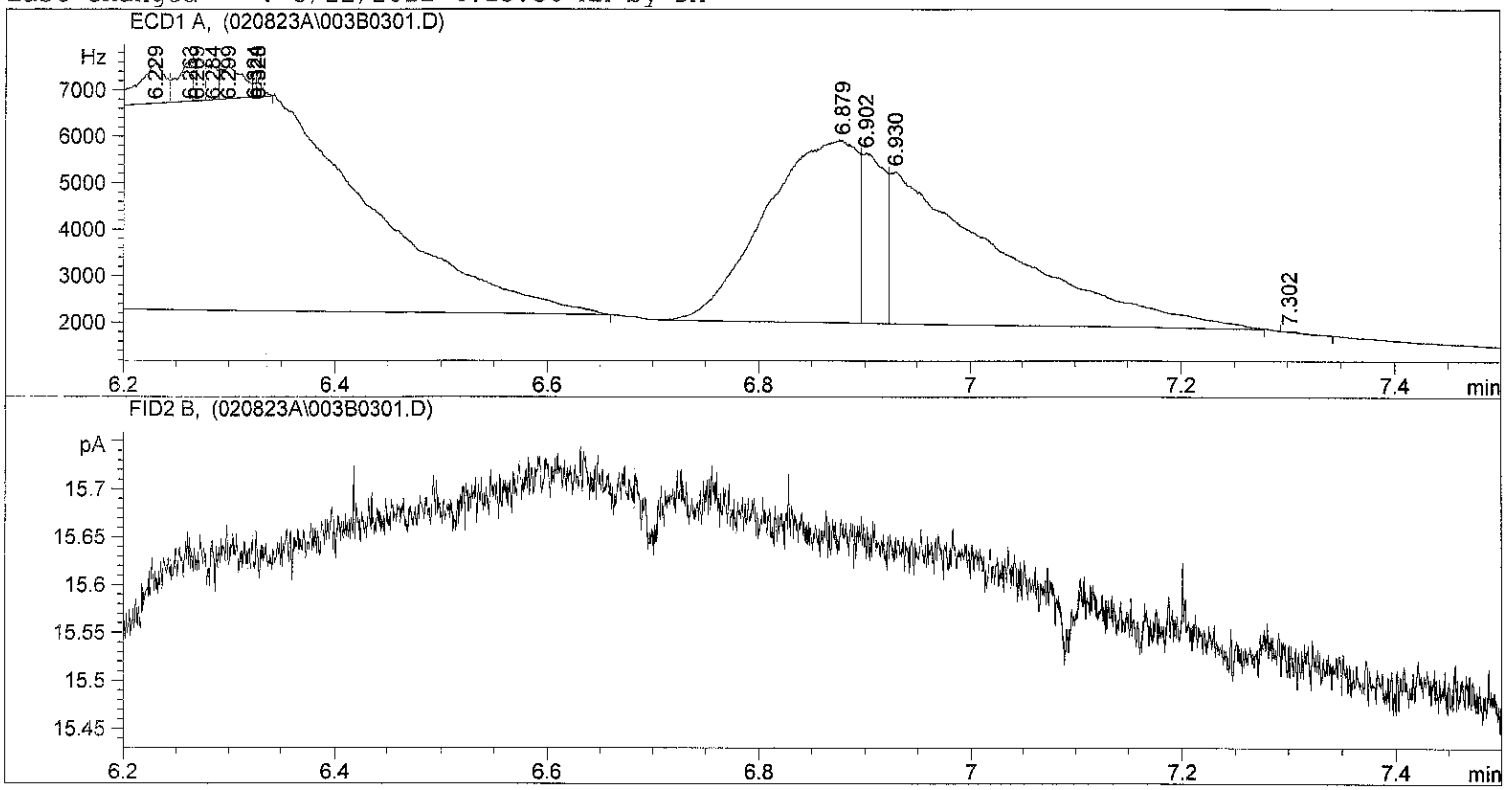
Extraction Parameter: Dioxin Extraction Batch: _____

Total Solids Batch: BLA0399 Work Order(s): 23A0417, 418, 419, 420, 455, 467

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☑ No Anomalies (standard soil/wet sediment/sand/gravel)= 418-01	
☑ Standing Water Decanted (Not shared)= 417-01, 03, 05, 418-02, 419-02 ~~08~~, 420-01-08, 455-03-16	TW 2/8/23
☐ Standing Water Homogenized (Shared samples)=	
☑ Clay/Clumps (Difficult to homogenize)= 418-10, 419-04, 08, 420-01-03, 295-04	TW 2/8/23
☑ Rocks (%+size)? 417-05, 420-04 = <1% small rocks 419-05 = ~5% small rocks	TW 2/8/23
☑ Organics (Leaves/sticks/grass)= 419-08,	
☑ Oily, obvious fuel/sulfur odors= 455-03	
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☐ Previously Frozen =	
☑ Other (Details)=	
455-15: Black, rubbery, synthetic smell/look	TW 2/8/23
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☒ Other Notes/Comments= (Note problems, concerns, corrective actions).	
Rotovaped to 23A0418-02c on 2/17/23.	DD 2/17/23
Sample 23A0418-02 might have ~~been~~ double clean-up Std.	DD 2/27/23
☐ Share Samples Y / N	
☐ Multiple Jars Y / N	
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

Injection Date : 2/8/2023 1:55:30 PM Seq. Line : 3
Sample Name : CS4 Location : Vial 3
Acq. Operator : TW Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\020823A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 3/22/2022 4:13:36 AM by DM



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.206	BP	0.0000	8.66767e4	664.88849	10.84094
2	5.587	VV S	0.0447	1.09698e5	2.98286e4	13.72025
3	5.683	VV S	0.1588	3.93675e5	4.13187e4	49.23825
4	5.978	BV T	5.04e-3	18.05461	57.88772	0.00226
5	6.047	PB S	0.1853	1.51055e5	9539.49121	18.89300
6	6.058	BV T	9.75e-3	174.80591	238.65413	0.02186
7	6.080	PB T	1.78e-3	3.53057	33.02444	0.00044
8	6.150	BV T	3.34e-3	9.06364	45.21567	0.00113
9	6.161	PV T	0.0000	35.20145	22.02009	0.00440
10	6.179	PV T	0.0163	61.39373	45.64867	0.00768
11	6.194	PV T	8.10e-3	244.74156	391.26068	0.03061
12	6.229	PV T	0.0207	1463.61755	850.93054	0.18306
13	6.263	PV T	0.0120	843.85364	860.64862	0.10554
14	6.269	PV T	8.67e-3	627.01740	885.06689	0.07842
15	6.284	PV T	8.71e-3	533.15363	748.61572	0.06668
16	6.299	PV T	0.0180	1025.12476	702.49194	0.12822
17	6.324	PV T	3.63e-3	65.86477	302.11624	0.00824

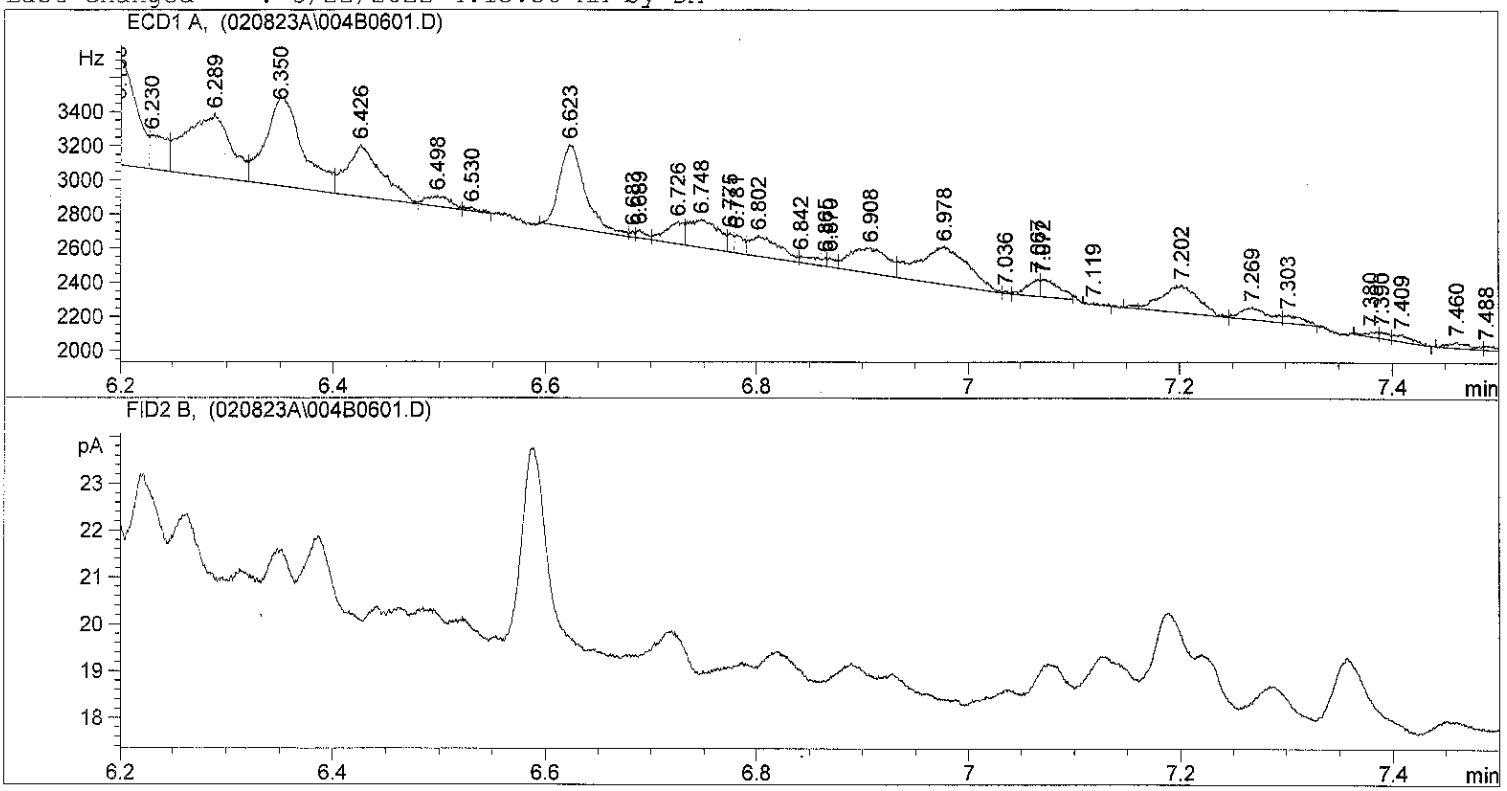
Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.328	PB T	7.09e-3	132.00352	310.52213	0.01651
19	6.879	PV	0.0711	2.34277e4	3920.70630	2.93017
20	6.902	VV	0.0183	5542.96191	3652.82300	0.69328
21	6.930	VB	0.0876	2.42131e4	3267.66821	3.02841
22	7.302	PP	2.86e-3	5.18017	26.76217	0.00065
Totals :				7.99532e5	9.77138e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

*** End of Report ***

```
Injection Date  : 2/8/2023 2:29:08 PM          Seq. Line :   6
Sample Name     : 23A0295 04                   Location : Vial 4
Acq. Operator   : TW                              Inj :   1
                                               Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\020823A.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 3/22/2022 4:13:36 AM by DM
```



Area Percent Report

```
Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
```

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.229	BP	3.57e-3	6.02172	25.33255	0.01465
2	5.260	VV	0.0105	517.66351	636.44055	1.25981
3	5.265	VV	0.0120	621.50671	638.06256	1.51252
4	5.293	VV	0.0173	549.58148	398.05145	1.33748
5	5.339	VV	0.0174	746.33356	525.60638	1.81631
6	5.373	VV	0.0177	767.40723	554.69446	1.86759
7	5.391	VV	3.50e-3	59.52319	239.68765	0.14486
8	5.417	VV	0.0165	461.04587	355.50174	1.12202
9	5.423	VV	8.67e-3	226.67284	344.79965	0.55164
10	5.438	VV	6.95e-3	185.63216	351.98215	0.45176
11	5.446	VV	7.56e-3	226.15720	402.15451	0.55039
12	5.473	VV	0.0201	2214.69873	1368.04443	5.38978
13	5.507	VV	0.0208	1899.09534	1176.87427	4.62171
14	5.551	VV	0.0148	358.10165	289.72662	0.87149
15	5.586	VB	0.0291	2793.56641	1145.48547	6.79853
16	5.645	BV	0.0182	899.67645	597.65887	2.18949
17	5.664	VV	4.49e-3	183.34435	550.51160	0.44619

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.688	VV	0.0309	3660.92407	1409.61597	8.90937
19	5.729	VV	7.56e-3	533.47156	894.63739	1.29828
20	5.739	VV	0.0193	1432.10596	884.74542	3.48523
21	5.781	VV	0.0204	1232.63892	727.20807	2.99980
22	5.810	VV	0.0225	1386.06030	732.41357	3.37317
23	5.837	VV	3.71e-3	142.18623	533.31152	0.34603
24	5.861	VV	0.0270	2583.52100	1157.08142	6.28736
25	5.901	VV	9.83e-3	402.50500	508.67346	0.97955
26	5.930	VV	0.0181	1095.45581	745.53204	2.66594
27	5.944	VV	6.68e-3	374.58398	743.56281	0.91160
28	5.952	VV	0.0117	695.36249	760.99762	1.69226
29	5.972	VV	0.0147	836.39032	683.37524	2.03547
30	5.998	VV	0.0168	854.52460	672.59082	2.07961
31	6.012	VV	6.44e-3	311.27676	667.57452	0.75754
32	6.022	VV	7.28e-3	398.41943	695.64258	0.96961
33	6.030	VV	0.0464	1988.57068	714.67908	4.83946
34	6.104	VV	7.21e-3	196.44687	357.44254	0.47808
35	6.116	VV	0.0212	714.97156	405.47003	1.73998
36	6.144	VV	5.29e-3	133.84894	333.01926	0.32574
37	6.153	VV	9.22e-3	274.74622	372.00192	0.66863
38	6.162	VV	8.55e-3	245.76323	379.67969	0.59810
39	6.198	VV	0.0284	1472.86377	623.36548	3.58442
40	6.230	VB	0.0139	229.54462	198.96986	0.55863
41	6.289	BV	0.0340	1070.24390	371.95908	2.60459
42	6.350	VV	0.0283	1266.63757	532.68616	3.08254
43	6.426	VV	0.0267	676.30304	302.74939	1.64588
44	6.498	VV	0.0189	94.13110	62.15283	0.22908
45	6.530	VP	9.92e-3	16.08724	21.04246	0.03915
46	6.623	PV	0.0205	819.81897	484.47818	1.99514
47	6.683	VV	3.65e-3	9.29171	35.53580	0.02261
48	6.689	VV	8.22e-3	29.24295	47.28236	0.07117
49	6.726	VV	0.0143	154.65782	131.43607	0.37638
50	6.748	VV	0.0233	323.99377	166.69981	0.78848
51	6.775	VV	5.79e-3	41.99701	111.53319	0.10221
52	6.781	VV	7.15e-3	62.17921	110.71663	0.15132
53	6.802	VV	0.0243	235.55606	120.21734	0.57326
54	6.842	VV	0.0136	47.23201	41.83913	0.11495
55	6.865	VV	3.92e-3	11.85912	50.42408	0.02886
56	6.870	VV	7.16e-3	29.44323	55.72210	0.07165
57	6.908	VV	0.0294	370.06851	149.82793	0.90061
58	6.978	VP	0.0384	717.28583	222.30611	1.74562
59	7.036	VP	4.88e-3	4.82910	13.81245	0.01175
60	7.067	VV	0.0107	83.38009	102.91669	0.20292
61	7.072	VB	0.0145	123.56033	103.39581	0.30070
62	7.119	PP	9.57e-3	5.22175	9.09806	0.01271
63	7.202	BV	0.0293	391.67313	159.46561	0.95319
64	7.269	VV	0.0224	128.27414	71.24173	0.31217
65	7.303	VP	0.0214	61.62396	48.09589	0.14997
66	7.380	BV	9.58e-3	23.94708	31.11692	0.05828
67	7.390	VV	7.20e-3	21.66171	38.28507	0.05272
68	7.409	VP	0.0139	47.85396	41.85389	0.11646
69	7.460	BV	0.0165	47.43949	35.26856	0.11545
70	7.488	VB	0.0107	22.65638	26.18906	0.05514
71	7.610	PB	0.0241	215.91650	107.13709	0.52546
72	7.698	PB	9.10e-3	10.82723	16.83511	0.02635
73	7.770	BP	0.0131	13.60996	17.27345	0.03312
Totals :				4.10907e4	2.86428e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

==========

*** End of Report ***

```
Injection Date  : 2/8/2023 2:40:21 PM          Seq. Line :   7
Sample Name     : 23A0417 01                    Location : Vial 5
Acq. Operator   : TW                               Inj :   1
                                              Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\020823A.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 3/22/2022 4:13:36 AM by DM
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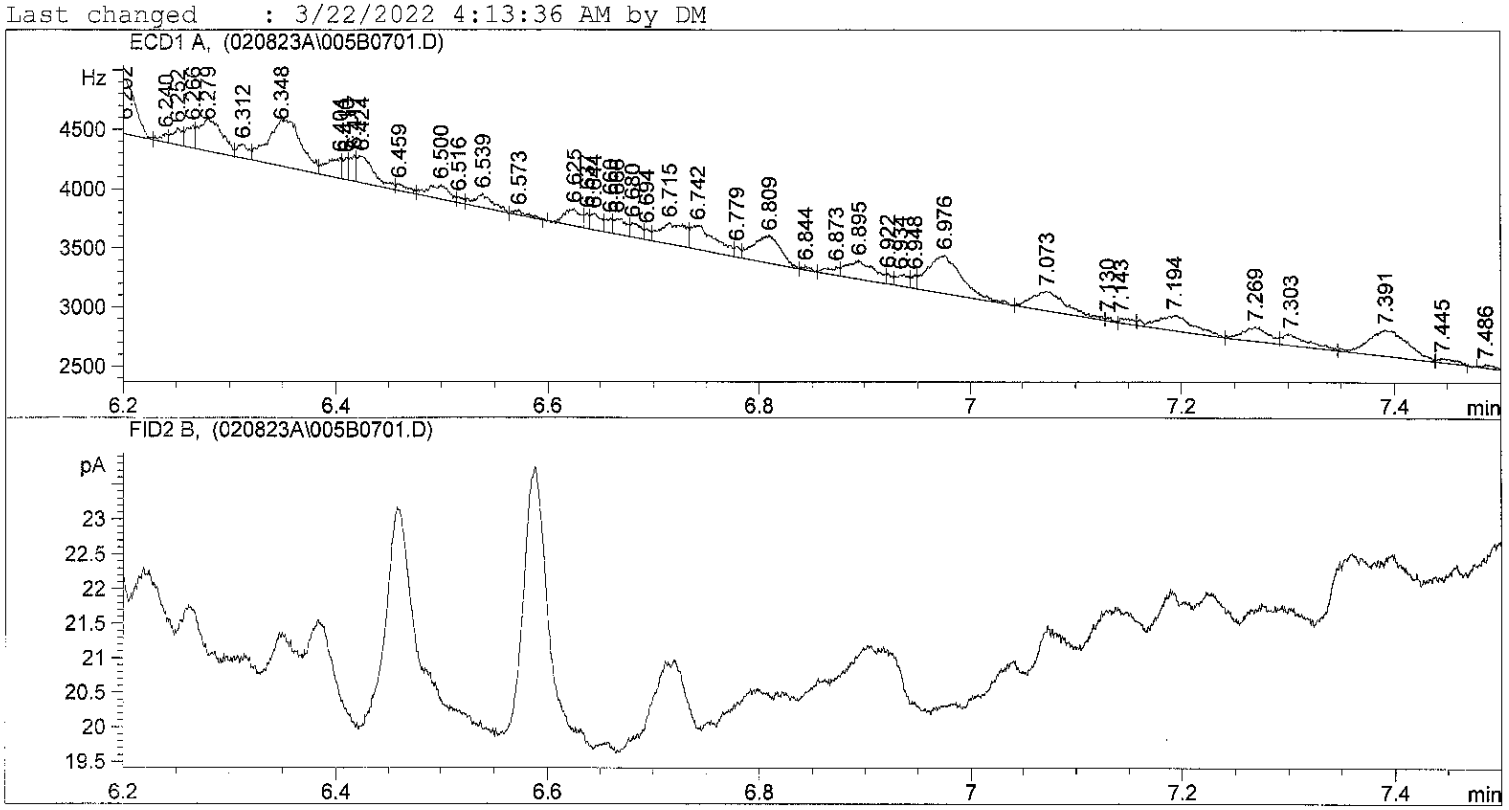

Area Percent Report

```
Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
```

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.255	BV	0.0146	815.45447	710.09045	2.99082
2	5.268	VV	0.0202	1142.00171	694.57098	4.18849
3	5.318	VV	0.0194	1434.73865	1059.06042	5.26215
4	5.373	VV	0.0239	1731.56482	890.38507	6.35082
5	5.410	VV	9.35e-3	227.41800	310.13651	0.83410
6	5.423	VV	5.54e-3	96.70369	248.39459	0.35468
7	5.430	VV	5.17e-3	76.49197	195.17186	0.28055
8	5.438	VV	4.63e-3	61.26772	196.64864	0.22471
9	5.444	VV	4.91e-3	71.43562	193.45360	0.26200
10	5.474	VV S	0.0191	2531.69067	1932.20728	9.28542
11	5.509	VV S	0.0217	762.01013	586.13397	2.79481
12	5.689	VV S	0.0708	4071.45752	958.04388	14.93278
13	5.943	VV S	0.0551	4114.08594	1244.46411	15.08913
14	5.978	VB S	0.0153	141.42451	131.48395	0.51870
15	6.022	BV	5.89e-3	35.59397	88.59785	0.13055
16	6.046	VV	0.0110	274.10944	312.02682	1.00534
17	6.052	VP	0.0100	251.33211	324.74152	0.92180

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.098	VV	0.0166	458.79041	335.46207	1.68269
19	6.123	VV	0.0105	142.64905	176.00731	0.52319
20	6.144	VV	9.40e-3	89.12443	123.82484	0.32688
21	6.155	VV	9.46e-3	95.27046	134.61903	0.34942
22	6.167	VV	4.74e-3	46.32471	137.34149	0.16990
23	6.202	VV	0.0210	757.72601	452.08609	2.77909
24	6.240	VV	6.43e-3	37.51903	77.69917	0.13761
25	6.252	VV	8.39e-3	89.05262	140.63072	0.32662
26	6.266	VV	6.74e-3	98.96951	188.09015	0.36299
27	6.279	VV	0.0188	411.40167	272.41479	1.50889
28	6.312	VV	9.11e-3	84.97085	119.22510	0.31165
29	6.348	VV	0.0258	847.00513	394.98862	3.10654
30	6.404	VV	0.0132	156.97188	175.63280	0.57572
31	6.410	VV	4.90e-3	64.95693	184.86223	0.23824
32	6.417	VV	4.59e-3	80.40128	223.99045	0.29489
33	6.424	VV	0.0149	259.08554	221.31073	0.95024
34	6.459	VV	0.0102	45.13975	56.25411	0.16556
35	6.500	VV	0.0160	158.18497	121.14268	0.58017
36	6.516	VV	5.66e-3	21.28885	51.15183	0.07808
37	6.539	VV	0.0151	136.32153	118.20748	0.49998
38	6.573	VP	0.0108	32.95963	38.62346	0.12089
39	6.625	BV	0.0123	146.17775	145.82083	0.53613
40	6.637	VV	4.63e-3	42.14490	128.39906	0.15457
41	6.644	VV	9.09e-3	91.84103	135.84891	0.33684
42	6.660	VV	5.86e-3	54.58728	121.13416	0.20021
43	6.666	VV	0.0104	111.00921	132.72304	0.40715
44	6.680	VV	8.77e-3	83.29161	118.96418	0.30549
45	6.694	VV	5.37e-3	36.21357	92.42789	0.13282
46	6.715	VV	0.0206	302.73218	178.81856	1.11032
47	6.742	VV	0.0202	339.98639	202.57716	1.24696
48	6.779	VV	5.43e-3	34.99967	92.11266	0.12837
49	6.809	VP	0.0212	411.33746	232.41306	1.50865
50	6.844	VV	5.69e-3	14.91999	34.19013	0.05472
51	6.873	VV	0.0109	52.64597	75.83879	0.19309
52	6.895	VV	0.0219	282.10153	154.69080	1.03466
53	6.922	VV	5.64e-3	30.46431	90.10273	0.11173
54	6.934	VV	0.0105	81.36338	95.98094	0.29841
55	6.948	VV	4.64e-3	38.68324	117.63535	0.14188
56	6.976	VP	0.0276	721.37457	325.65369	2.64577
57	7.073	VV	0.0277	379.64487	164.92775	1.39241
58	7.130	VP	5.37e-3	12.37164	30.23129	0.04538
59	7.143	VB	0.0116	37.78104	40.13753	0.13857
60	7.194	BP	0.0295	320.26309	130.11871	1.17462
61	7.269	VV	0.0210	205.15720	118.62156	0.75245
62	7.303	VV	0.0202	159.15649	95.55270	0.58373
63	7.391	VV	0.0313	577.84399	220.77844	2.11934
64	7.445	VB	0.0155	48.54186	37.51603	0.17804
65	7.486	BP	0.0107	23.12334	28.34205	0.08481
66	7.555	PV	0.0238	320.04401	162.65607	1.17382
67	7.602	VP	0.0306	263.26691	102.38871	0.96558
68	7.678	VV	7.71e-3	17.07394	28.03465	0.06262
69	7.684	VP	5.18e-3	8.28595	20.21348	0.03039
70	7.695	VB	5.79e-3	7.57964	17.71121	0.02780
71	7.765	PP	0.0184	56.32850	38.21889	0.20659
Totals :				2.72652e4	1.75300e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

Results obtained with enhanced integrator!

*** End of Report ***

```
Injection Date  : 2/8/2023 2:51:33 PM          Seq. Line :   8
Sample Name     : 23A0417 03                   Location : Vial 6
Acq. Operator   : TW                               Inj :   1
                                              Inj Volume : 1 µl

Sequence File   : C:\HPCHEM\2\SEQUENCE\020823A.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 3/22/2022 4:13:36 AM by DM
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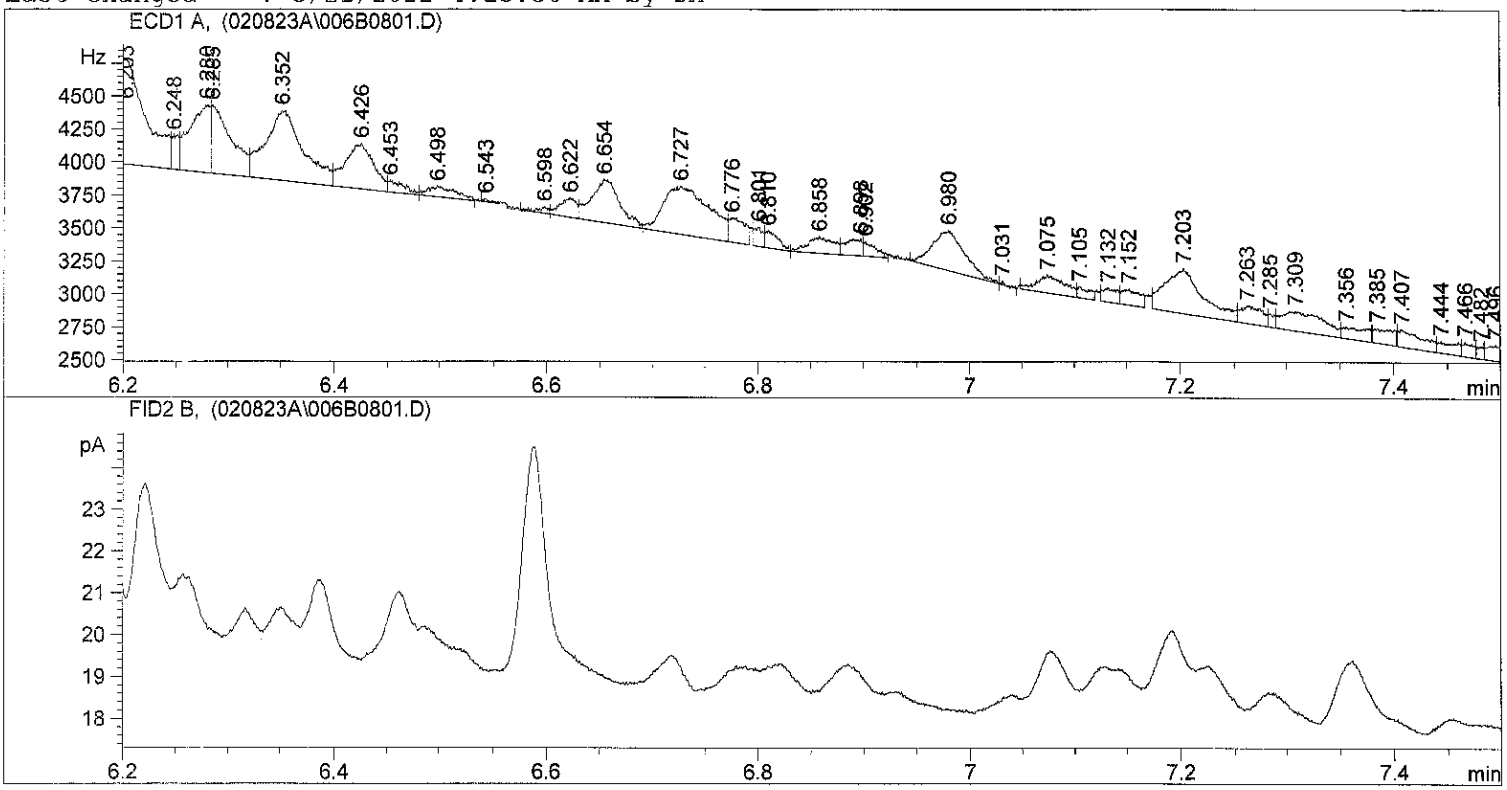

Area Percent Report

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Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
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Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.235	BV	8.96e-3	521.33185	745.51953	1.04245
2	5.257	VV	0.0154	1050.59021	875.67999	2.10076
3	5.262	VV	0.0161	1162.55261	877.77887	2.32464
4	5.309	VV	0.0142	304.24091	269.31735	0.60836
5	5.332	VV	7.98e-3	164.76659	283.33685	0.32947
6	5.339	VV	6.19e-3	125.92272	306.92709	0.25179
7	5.345	VV	6.07e-3	123.20325	272.64142	0.24636
8	5.372	VV	0.0195	756.34106	466.33102	1.51238
9	5.392	VV	3.64e-3	94.98354	364.19858	0.18993
10	5.397	VV	6.65e-3	194.43192	387.75223	0.38879
11	5.412	VV	8.05e-3	255.19582	399.60593	0.51029
12	5.416	VV	4.99e-3	150.95488	401.02234	0.30185
13	5.447	VV	0.0215	1128.91724	631.24237	2.25738
14	5.474	VV	0.0193	1495.22876	962.33270	2.98986
15	5.512	VV	0.0222	1604.82605	868.53864	3.20901
16	5.542	VV	8.38e-3	191.53056	287.27008	0.38298
17	5.588	VV	0.0193	1347.14050	840.14380	2.69374

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.595	VV	0.0146	1006.82550	826.89423	2.01325
19	5.620	VV	0.0100	619.00629	764.44983	1.23776
20	5.633	VV	5.68e-3	273.95837	747.53064	0.54781
21	5.638	VV	4.85e-3	295.79016	776.05646	0.59146
22	5.646	VV	0.0103	672.98041	809.72723	1.34569
23	5.688	VV	0.0321	4503.06445	1702.32898	9.00432
24	5.727	VV	9.89e-3	714.15991	916.16443	1.42803
25	5.746	VV	0.0218	1798.50964	989.72675	3.59630
26	5.785	VV	0.0172	961.86450	729.87408	1.92334
27	5.812	VV	0.0287	1938.82629	817.85364	3.87687
28	5.861	VV	0.0283	2982.26050	1285.88770	5.96332
29	5.903	VV	8.03e-3	382.73541	617.48114	0.76532
30	5.929	VV	0.0158	1243.80432	979.04144	2.48711
31	5.945	VV	0.0226	1874.88342	993.52832	3.74901
32	5.977	VV	0.0105	637.29865	751.07623	1.27434
33	6.001	VV	0.0187	1272.07666	819.67346	2.54364
34	6.030	VV	0.0336	2759.02441	976.01569	5.51694
35	6.090	VV	9.94e-3	415.32602	519.04919	0.83049
36	6.095	VV	0.0323	1486.13696	547.20074	2.97168
37	6.147	VV	4.19e-3	120.63813	391.55795	0.24123
38	6.160	VV	0.0131	471.70526	447.26956	0.94322
39	6.203	VV	0.0343	2231.59521	796.52960	4.46230
40	6.248	VV	5.87e-3	120.08164	256.00034	0.24012
41	6.280	VV	0.0165	683.60651	514.77844	1.36694
42	6.285	VV	0.0162	699.81256	515.96570	1.39934
43	6.352	VV	0.0290	1304.19263	531.27765	2.60786
44	6.426	VV	0.0222	632.58740	342.20044	1.26492
45	6.453	VV	0.0139	94.11954	84.91534	0.18820
46	6.498	VB	0.0217	145.70573	79.73717	0.29135
47	6.543	BP	5.16e-3	9.38791	24.00495	0.01877
48	6.598	PV	8.01e-3	29.96703	48.50067	0.05992
49	6.622	VV	0.0126	151.87347	144.92320	0.30369
50	6.654	VV	0.0221	600.76288	325.43271	1.20128
51	6.727	VV	0.0366	1114.50256	363.64456	2.22856
52	6.776	VB	0.0131	201.40446	185.65668	0.40273
53	6.801	BV	7.39e-3	84.77335	145.75244	0.16951
54	6.810	VP	0.0145	111.37266	128.02638	0.22270
55	6.858	VV	0.0204	209.82632	123.75417	0.41957
56	6.898	VV	0.0141	138.73624	125.91805	0.27742
57	6.902	VB	9.98e-3	88.32461	109.84135	0.17661
58	6.980	BV	0.0255	628.91467	303.96313	1.25758
59	7.031	VP	3.65e-3	5.44856	23.98592	0.01089
60	7.075	BV	0.0236	251.47235	129.96202	0.50284
61	7.105	VB	0.0102	64.59859	82.25236	0.12917
62	7.132	BV	0.0118	102.11861	106.32062	0.20420
63	7.152	VB	0.0152	140.59741	122.69398	0.28114
64	7.203	BB	0.0304	824.10864	336.44891	1.64789
65	7.263	BV	0.0174	193.08934	132.30629	0.38610
66	7.285	VB	6.14e-3	42.35452	97.38612	0.08469
67	7.309	BV	0.0348	413.84198	147.08018	0.82752
68	7.356	VV	0.0200	142.25491	84.83192	0.28445
69	7.385	VB	0.0150	142.48834	115.58903	0.28492
70	7.407	BV	0.0193	209.38939	130.61740	0.41869
71	7.444	VV	0.0209	105.74757	84.20407	0.21145
72	7.466	VB	8.88e-3	77.97742	107.32687	0.15592
73	7.482	BV	6.80e-3	38.46377	94.21661	0.07691
74	7.496	VB	0.0213	214.73947	121.06731	0.42939
75	7.530	BP	0.0162	131.72638	98.32513	0.26340
76	7.617	VV	0.0334	347.54767	132.37057	0.69496
77	7.644	VV	4.64e-3	27.65198	83.97115	0.05529
78	7.656	VV	0.0142	75.55587	65.76975	0.15108
79	7.678	VV	9.30e-3	36.09155	50.73938	0.07217
80	7.692	VB	6.60e-3	16.38600	30.83969	0.03277
81	7.740	BB	2.20e-3	1.74134	12.68031	0.00348
82	7.755	PB	6.81e-3	11.20881	21.05810	0.02241

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
83	7.771	BP	4.46e-3	8.31793	25.14285	0.01663
84	7.799	BPA	1.18e-3	5.32108e-1	7.52672	0.00106
Totals :				5.00100e4	3.42436e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

*** End of Report ***

```
Injection Date  : 2/8/2023 3:02:45 PM          Seq. Line :   9
Sample Name     : 23A0417 05                   Location : Vial 7
Acq. Operator   : TW                               Inj :   1
                                             Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\020823A.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 3/22/2022 4:13:36 AM by DM
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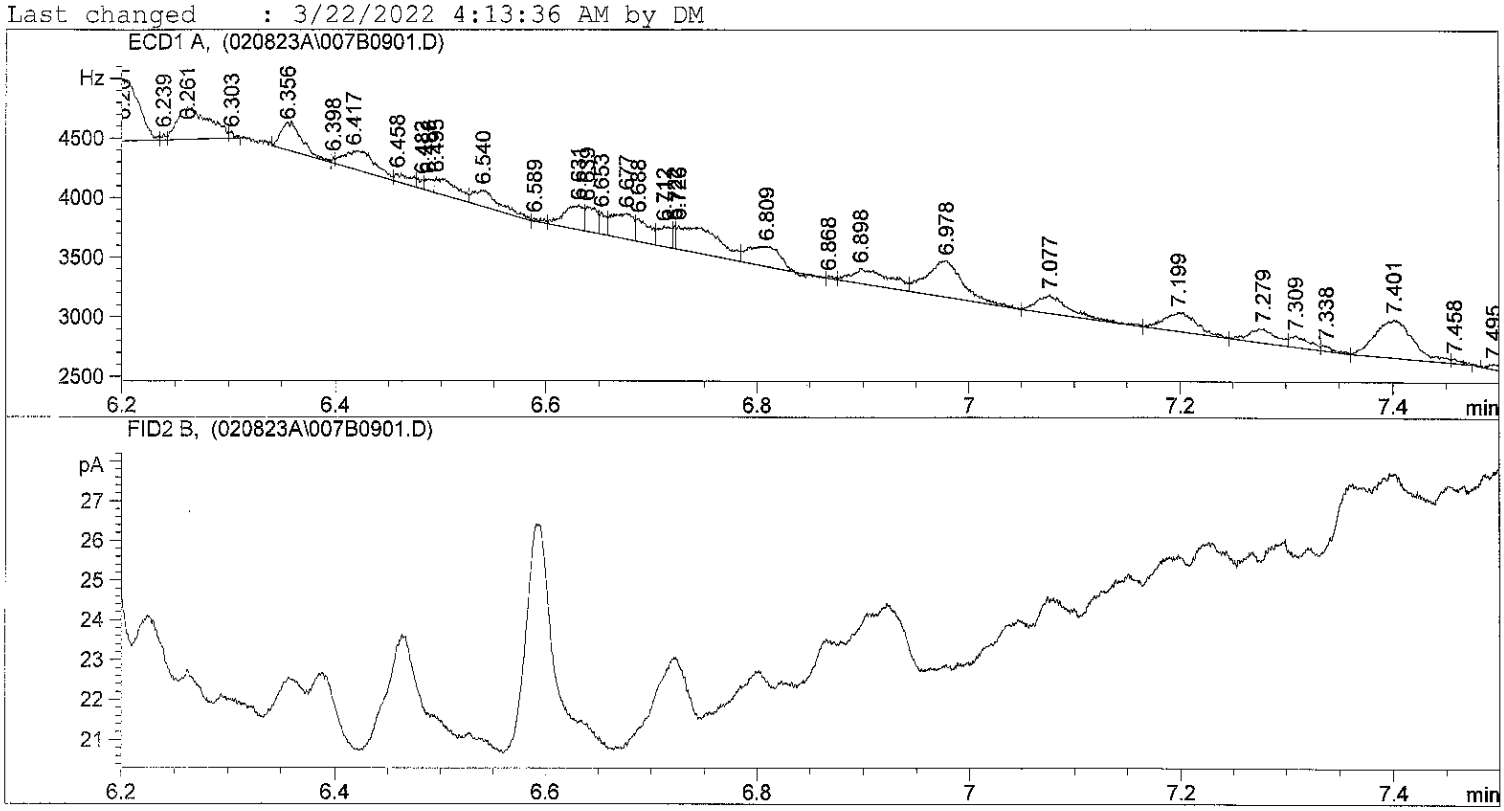

Area Percent Report

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Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
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Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.255	BV	0.0133	347.30539	377.52606	0.91560
2	5.264	VV	3.94e-3	97.55769	340.64270	0.25719
3	5.282	VV	0.0196	703.62549	457.13269	1.85497
4	5.318	VV	0.0197	2239.51025	1411.91626	5.90402
5	5.376	VV	0.0287	1964.45154	815.16602	5.17889
6	5.423	VV	3.48e-3	51.35733	208.11522	0.13539
7	5.443	VV	0.0123	292.77487	292.95859	0.77184
8	5.476	VV	0.0207	1924.69971	1237.59155	5.07409
9	5.512	VV	0.0219	1123.31433	639.60583	2.96140
10	5.563	VV	0.0182	344.57837	241.61873	0.90841
11	5.589	VV	0.0119	301.12103	320.93317	0.79385
12	5.593	VV	9.36e-3	226.61594	316.09338	0.59743
13	5.622	VV	0.0120	261.57596	267.16254	0.68959
14	5.636	VV	0.0116	306.84467	324.37503	0.80893
15	5.647	VV	8.92e-3	237.10547	324.71320	0.62508
16	5.656	VV	3.81e-3	82.56342	299.67459	0.21766
17	5.693	VV	0.0238	1657.61243	864.14038	4.36997

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.712	VV	0.0204	969.19366	576.16937	2.55509
19	5.755	VV	0.0207	1021.14325	591.89771	2.69204
20	5.781	VV	0.0139	474.02039	422.03165	1.24966
21	5.809	VV	0.0135	557.74597	568.20441	1.47039
22	5.818	VV	0.0165	717.73016	533.98267	1.89215
23	5.866	VV	0.0227	1666.52869	888.43384	4.39347
24	5.887	VV	4.53e-3	189.22620	534.83038	0.49886
25	5.895	VV	6.26e-3	245.96074	506.94196	0.64843
26	5.909	VV	9.13e-3	364.36298	486.95380	0.96057
27	5.946	VV	0.0228	4279.56396	2472.85229	11.28222
28	5.978	VV	0.0109	576.71362	653.17468	1.52039
29	5.990	VV	6.62e-3	320.61884	601.28186	0.84525
30	6.002	VV	0.0135	641.69257	598.49139	1.69169
31	6.018	VV	3.67e-3	133.24860	506.17755	0.35128
32	6.054	VV	0.0332	2351.88599	842.29340	6.20028
33	6.101	VV	0.0227	1402.49060	738.86334	3.69739
34	6.134	VV	4.92e-3	143.52238	427.32123	0.37837
35	6.141	VV	0.0175	447.70709	426.64978	1.18029
36	6.162	VV	0.0143	378.05066	317.21991	0.99666
37	6.181	VV	5.05e-3	100.78380	290.39023	0.26570
38	6.201	VV	0.0227	945.91345	505.05963	2.49371
39	6.239	VV	3.26e-3	12.74979	55.95242	0.03361
40	6.261	VV	0.0262	551.73035	266.37137	1.45453
41	6.303	VB	5.98e-3	17.16174	47.83054	0.04524
42	6.356	BV	0.0171	315.34674	228.87935	0.83135
43	6.398	VV	2.30e-3	7.62406	52.42258	0.02010
44	6.417	VV	0.0257	332.71732	153.65392	0.87714
45	6.458	VB	0.0149	79.87435	67.89582	0.21057
46	6.482	BV	4.95e-3	29.09678	78.06127	0.07671
47	6.488	VV	8.88e-3	52.59761	98.75021	0.13866
48	6.495	VV	0.0191	199.12570	125.57646	0.52496
49	6.540	VP	0.0215	243.99162	138.67888	0.64324
50	6.589	VV	8.98e-3	17.24462	24.01306	0.04546
51	6.631	VV	0.0159	258.99576	202.80991	0.68279
52	6.639	VV	9.00e-3	156.35497	212.08881	0.41220
53	6.653	VV	5.56e-3	77.10444	181.18547	0.20327
54	6.677	VV	0.0173	295.38959	214.61784	0.77874
55	6.688	VV	0.0118	178.47119	193.49361	0.47050
56	6.712	VV	0.0111	152.76973	166.68944	0.40275
57	6.722	VV	2.74e-3	35.10620	191.43936	0.09255
58	6.726	VV	0.0348	577.18127	196.71281	1.52162
59	6.809	VP	0.0252	338.69150	171.54057	0.89289
60	6.868	VV	5.20e-3	8.76129	21.28361	0.02310
61	6.898	VV	0.0315	335.09009	125.55132	0.88340
62	6.978	VP	0.0285	727.82648	307.00403	1.91877
63	7.077	VP	0.0260	327.66397	153.97694	0.86382
64	7.199	VP	0.0256	338.70749	159.20059	0.89293
65	7.279	VV	0.0212	216.47658	122.72334	0.57070
66	7.309	VV	0.0160	118.86810	93.68621	0.31337
67	7.338	VP	0.0110	36.71853	45.70008	0.09680
68	7.401	VV	0.0296	797.66028	320.53537	2.10287
69	7.458	VB	8.83e-3	25.72585	38.33428	0.06782
70	7.495	PP	0.0113	42.15821	45.10283	0.11114
71	7.563	VV	0.0260	545.93866	253.04730	1.43926
72	7.612	VP	0.0280	319.88290	136.29251	0.84331
73	7.719	BP	0.0124	16.45978	15.96781	0.04339
74	7.763	VV	7.24e-3	12.31849	23.04581	0.03248
75	7.771	VV	4.39e-3	10.38412	30.36786	0.02738
76	7.779	VBA	0.0106	31.24795	36.41956	0.08238
Totals :				3.79319e4	2.72255e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

*** End of Report ***

```
Injection Date  : 2/8/2023 3:13:58 PM          Seq. Line :  10
Sample Name     : 23A0418 01                   Location : Vial 8
Acq. Operator   : TW                              Inj :   1
                                               Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\020823A.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 3/22/2022 4:13:36 AM by DM
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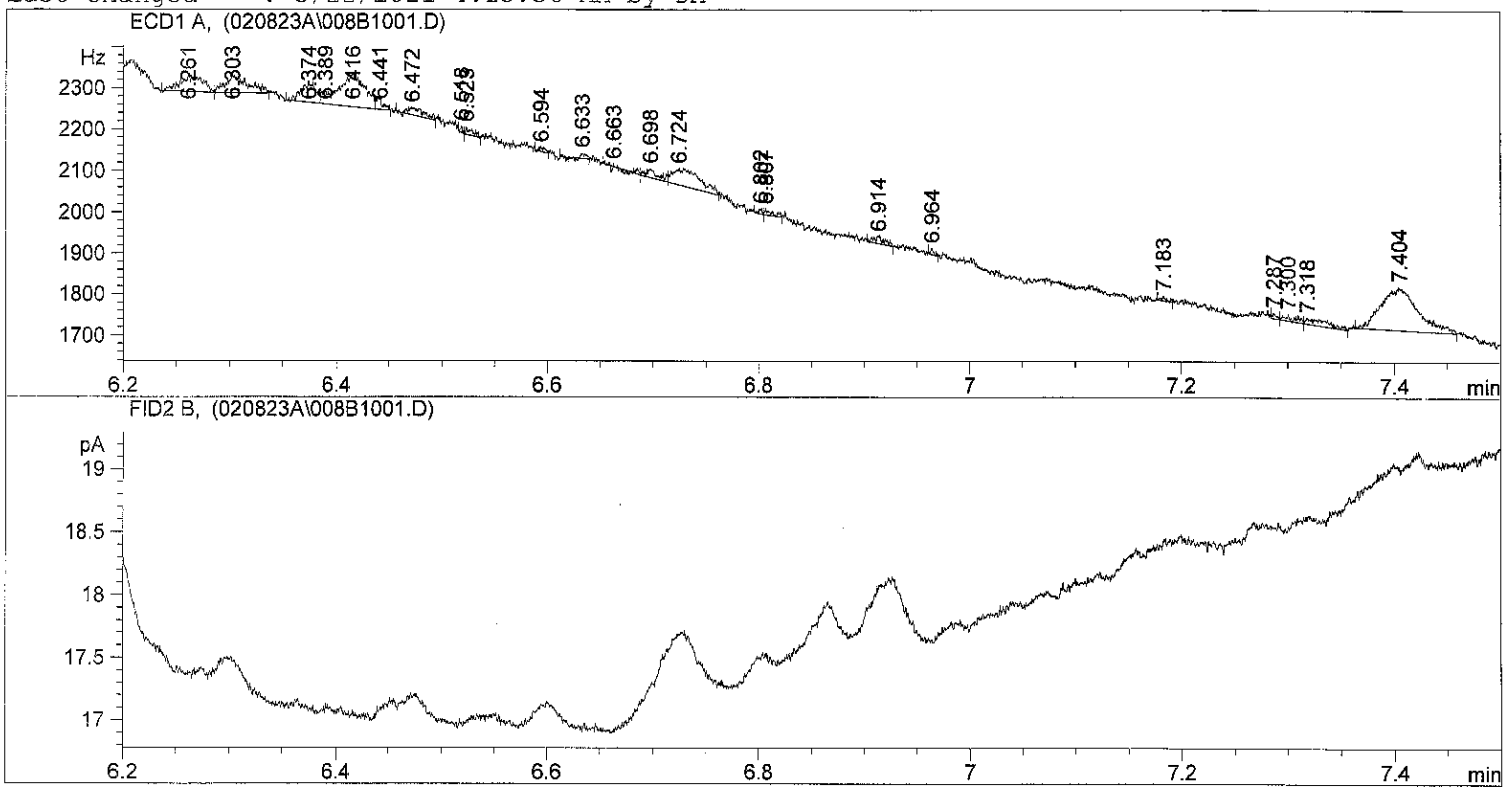

Area Percent Report

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Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
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Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.256	PV	0.0153	162.73949	129.29457	2.38024
2	5.284	VV	0.0148	148.65704	122.00686	2.17427
3	5.320	VV	0.0158	722.65741	595.10913	10.56966
4	5.391	VP	0.0200	394.89487	242.86368	5.77577
5	5.476	VV	0.0185	228.76073	149.02046	3.34588
6	5.522	VV	0.0210	143.25690	83.42520	2.09529
7	5.561	VP	0.0123	46.37456	46.96839	0.67828
8	5.606	VP	0.0152	28.12291	24.18949	0.41133
9	5.639	VV	9.53e-3	18.15099	27.41008	0.26548
10	5.677	VV	0.0183	122.65091	83.73656	1.79390
11	5.691	VV	5.43e-3	22.56688	54.54949	0.33007
12	5.695	VV	7.83e-3	31.33781	50.54073	0.45835
13	5.731	VV	0.0182	95.10723	62.42218	1.39105
14	5.762	VP	0.0139	77.38287	73.20264	1.13181
15	5.950	VB S	0.0197	2476.90796	1914.70190	36.22749
16	6.008	PP	3.17e-3	3.09422	15.21701	0.04526
17	6.059	PV	0.0174	410.88821	304.21194	6.00969

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.107	VV	0.0176	576.51849	425.37735	8.43221
19	6.154	VV	0.0282	159.60561	71.54710	2.33441
20	6.261	PP	0.0168	55.83662	40.28873	0.81667
21	6.303	VB	0.0157	59.75159	46.11890	0.87393
22	6.374	PV	0.0111	44.31026	48.37506	0.64809
23	6.389	VV	6.46e-3	15.34341	30.54430	0.22441
24	6.416	VV	0.0192	125.76698	78.68539	1.83948
25	6.441	VB	5.01e-3	12.18266	32.24461	0.17818
26	6.472	BP	0.0122	17.45177	17.58265	0.25525
27	6.518	BP	1.97e-3	1.77035	15.09910	0.02589
28	6.523	VP	5.98e-3	8.11490	16.96809	0.11869
29	6.594	BB	6.77e-3	3.90520	9.61684	0.05712
30	6.633	PB	3.04e-3	2.41670	12.60909	0.03535
31	6.663	PP	0.0000	1.66399	4.27341	0.02434
32	6.698	VB	9.93e-3	16.51320	21.09516	0.24152
33	6.724	BB	0.0241	76.06440	38.39069	1.11253
34	6.802	PP	3.55e-3	2.77657	12.70730	0.04061
35	6.807	VB	6.63e-3	6.69535	12.96153	0.09793
36	6.914	PP	9.67e-3	11.73880	15.80258	0.17169
37	6.964	BB	3.12e-3	3.14714	14.57575	0.04603
38	7.183	BP	4.26e-3	2.40083	9.39084	0.03511
39	7.287	BB	3.86e-3	3.74117	13.38126	0.05472
40	7.300	BB	8.67e-3	9.80525	14.17358	0.14341
41	7.318	BP	0.0200	22.19640	13.48082	0.32465
42	7.404	BB	0.0283	247.57233	103.60189	3.62102
43	7.507	PP	2.26e-3	1.20800	7.57877	0.01767
44	7.563	BV	0.0254	215.04582	102.97736	3.14528
Totals :				6837.09475	5208.31850	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

*** End of Report ***

```
Injection Date  : 2/8/2023 3:25:10 PM          Seq. Line :  11
Sample Name     : 23A0418 02                   Location : Vial 9
Acq. Operator   : TW                               Inj :  1
                                             Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\020823A.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 3/22/2022 4:13:36 AM by DM
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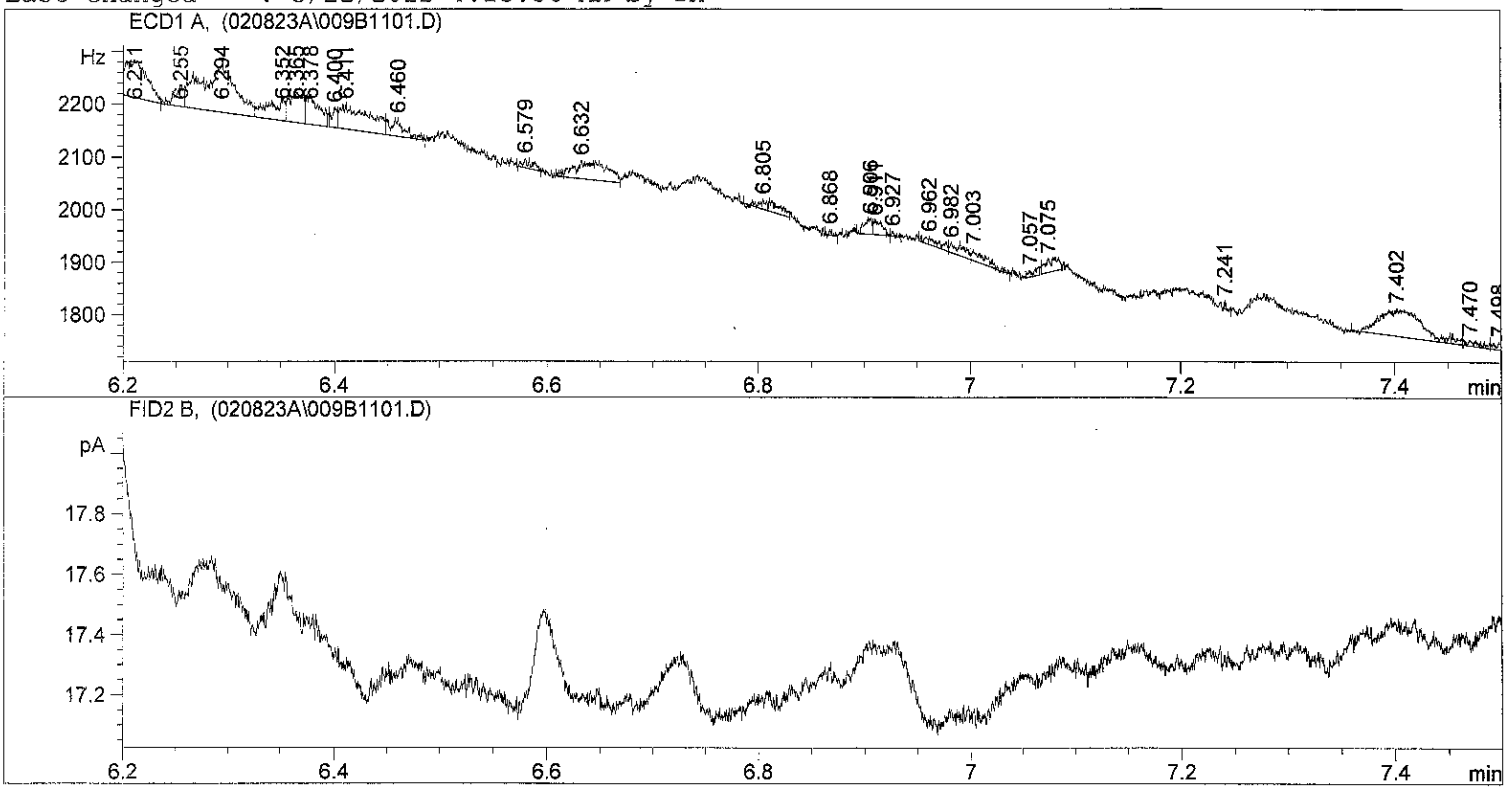

Area Percent Report

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Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
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Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.284	BV	0.0205	185.98737	109.28689	2.57529
2	5.320	VV	0.0156	205.36978	176.54172	2.84367
3	5.340	VB	5.78e-3	15.26789	34.38035	0.21141
4	5.379	BB	0.0252	652.25092	325.14948	9.03146
5	5.479	PV	0.0185	984.65771	681.25378	13.63416
6	5.515	VV	0.0160	188.90533	144.72467	2.61570
7	5.604	VV	0.0206	76.81649	46.22050	1.06365
8	5.659	VV	0.0178	89.96937	60.87792	1.24577
9	5.693	VV	0.0202	566.40369	366.13708	7.84276
10	5.740	VV	0.0245	227.35078	110.28571	3.14804
11	5.799	VV	0.0239	264.88922	133.76959	3.66781
12	5.815	VV	0.0170	171.92314	120.77317	2.38055
13	5.867	VV	0.0208	404.88681	240.85974	5.60631
14	5.890	VV	0.0197	327.11383	197.28690	4.52941
15	5.953	VV	0.0271	1393.68555	668.28003	19.29781
16	6.005	VB	0.0108	42.09756	51.14014	0.58291
17	6.058	BV	0.0177	116.95119	81.89530	1.61938

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.107	VV	0.0208	199.49174	115.44548	2.76228
19	6.158	VV	9.98e-3	29.13929	37.84408	0.40348
20	6.177	VV	0.0136	42.28775	37.95765	0.58554
21	6.211	VP	0.0190	113.91133	72.05461	1.57728
22	6.255	VV	7.37e-3	23.67378	42.04136	0.32780
23	6.294	VV	0.0280	205.30719	88.87523	2.84281
24	6.352	VV	0.0139	43.87957	39.67142	0.60758
25	6.365	VV	0.0108	50.18553	56.04232	0.69490
26	6.378	VB	0.0106	47.02105	56.00593	0.65108
27	6.400	BV	4.83e-3	12.24129	37.28984	0.16950
28	6.411	VB	0.0225	88.92070	47.27440	1.23125
29	6.460	BP	0.0108	29.65022	33.12469	0.41055
30	6.579	PB	7.45e-3	9.90240	16.87609	0.13711
31	6.632	PV	0.0263	74.67782	33.85627	1.03403
32	6.805	PB	0.0155	23.24734	18.00794	0.32190
33	6.868	PP	2.79e-3	1.48100	9.64122	0.02051
34	6.906	BV	6.86e-3	15.25563	28.43117	0.21124
35	6.911	VV	7.41e-3	15.58032	26.67681	0.21573
36	6.927	VB	2.69e-3	1.43526	8.87971	0.01987
37	6.962	BB	0.0138	14.07645	13.65695	0.19491
38	6.982	BV	0.0121	17.29800	17.57958	0.23952
39	7.003	VP	0.0114	19.12300	20.72646	0.26479
40	7.057	PB	7.03e-3	6.73690	12.21609	0.09328
41	7.075	BB	0.0105	21.83802	25.76926	0.30238
42	7.241	PB	1.66e-3	1.19383	13.11695	0.01653
43	7.402	PB	0.0325	141.54851	51.41534	1.95997
44	7.470	BB	0.0105	9.23284	11.07384	0.12784
45	7.498	BP	0.0108	11.64192	13.31694	0.16120
46	7.619	BB	0.0168	36.96336	26.64604	0.51182
47	7.664	BP	0.0000	5.21228e-1	1.84591	0.00722
Totals :				7221.98991	4562.22254	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

*** End of Report ***

```
Injection Date  : 2/8/2023 3:36:23 PM          Seq. Line :  12
Sample Name     : 23A0418 10                   Location : Vial 10
Acq. Operator   : TW                               Inj :  1
                                             Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\020823A.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 3/22/2022 4:13:36 AM by DM
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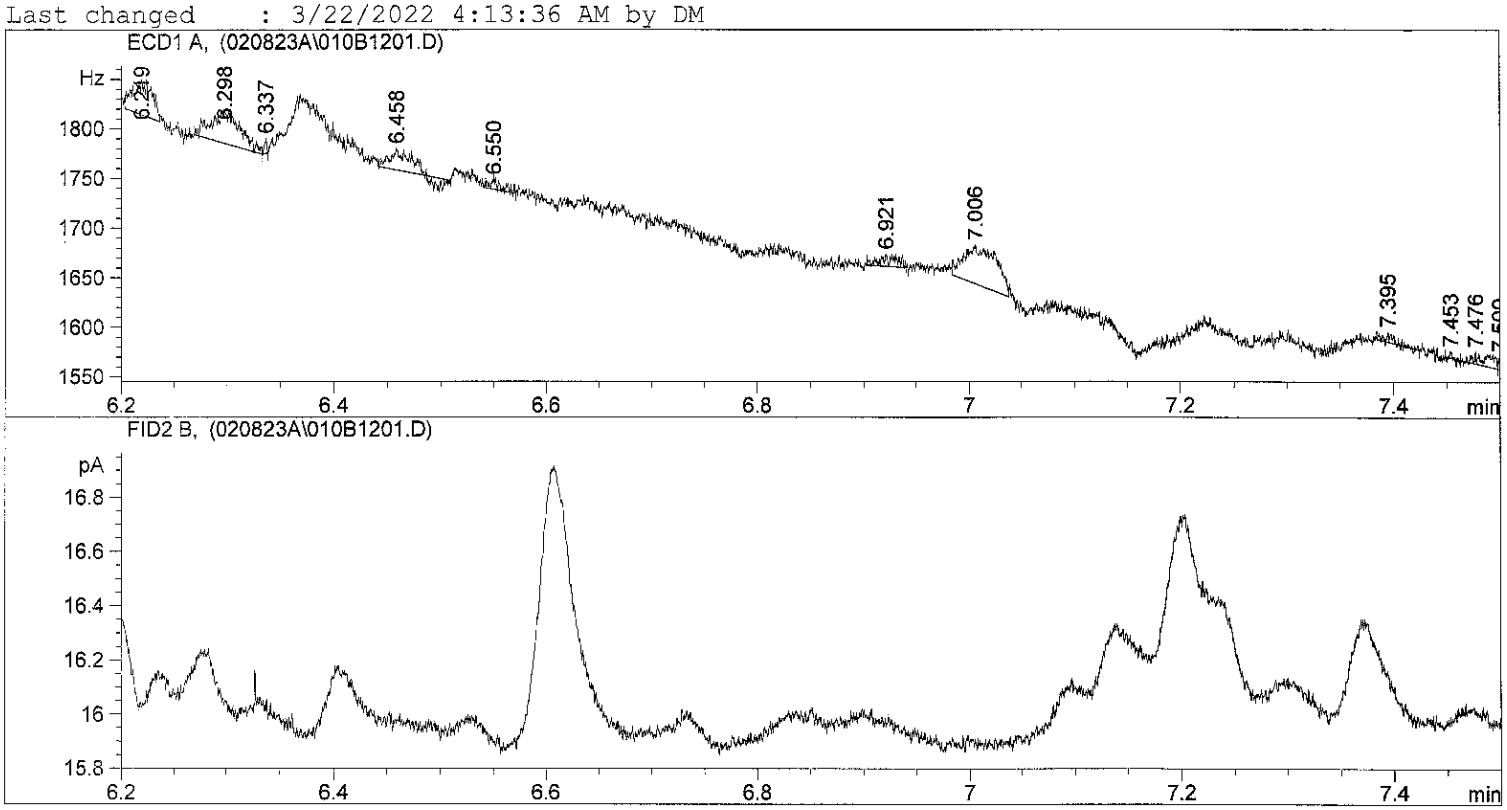

Area Percent Report

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Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
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Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.217	BB	0.0140	19.96141	17.85999	0.58222
2	5.324	PV	0.0427	235.87700	66.06883	6.87992
3	5.353	VB	0.0209	85.99411	51.95572	2.50822
4	5.392	BV	0.0131	43.37379	40.60246	1.26510
5	5.422	VP	0.0205	46.77159	27.13833	1.36421
6	5.496	VV	0.0255	159.11696	75.85979	4.64103
7	5.530	VV	0.0233	249.72490	133.12386	7.28383
8	5.558	VP	0.0108	40.37194	46.11444	1.17754
9	5.610	VV	0.0159	74.92420	56.34252	2.18534
10	5.619	VB	8.73e-3	38.77602	54.33096	1.13100
11	5.718	BV	0.0260	80.01202	36.45005	2.33374
12	5.734	VB	0.0143	32.62025	29.10176	0.95145
13	5.830	PV	0.0294	230.39557	95.43566	6.72004
14	5.869	VV	0.0197	148.93250	89.93824	4.34397
15	5.944	VV	0.0489	1575.69128	379.02917	45.95882
16	6.041	VP	0.0157	82.59758	63.63636	2.40916
17	6.130	BP	0.0156	18.53795	14.44320	0.54070

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.219	BB	0.0154	42.05111	34.64790	1.22652
19	6.298	BP	0.0233	62.26445	33.45536	1.81609
20	6.337	VP	2.63e-3	2.22899	14.21385	0.06501
21	6.458	PB	0.0125	20.93421	20.94570	0.61060
22	6.550	BP	0.0129	6.85344	8.86918	0.19990
23	6.921	BB	0.0132	12.50003	11.58583	0.36459
24	7.006	BB	0.0271	85.46437	38.22853	2.49277
25	7.395	BP	7.15e-3	5.09803	9.07597	0.14870
26	7.453	PB	1.07e-3	3.35659e-2	5.39775	0.00098
27	7.476	BV	0.0146	11.61378	10.74345	0.33874
28	7.500	VP	0.0119	11.54760	11.90927	0.33681
29	7.790	PBA	5.13e-3	4.21660	10.85319	0.12299
Totals :				3428.48524	1487.35732	

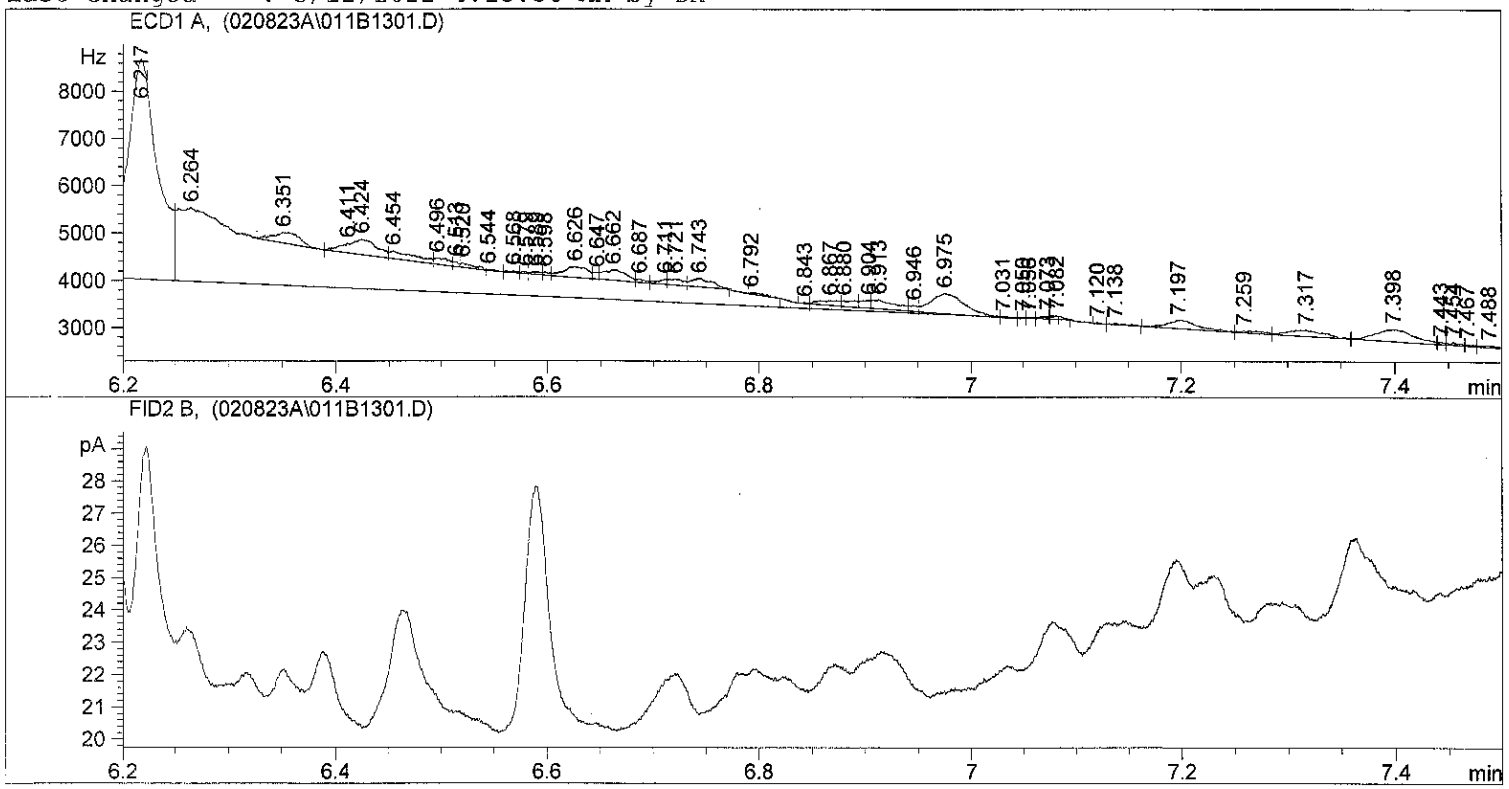
Results obtained with enhanced integrator!

Signal 2: FID2 B,

*** End of Report ***

Injection Date : 2/8/2023 3:47:33 PM Seq. Line : 13
Sample Name : 23A0419 02 Location : Vial 11
Acq. Operator : TW Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\020823A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 3/22/2022 4:13:36 AM by DM



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.233	BV	0.0138	476.45328	454.57462	0.51335
2	5.257	VV	0.0120	434.18112	469.36865	0.46781
3	5.266	VV	0.0174	649.95868	461.86673	0.70030
4	5.317	VP	0.0146	1064.45105	926.16876	1.14689
5	5.393	VV	0.0309	1797.87891	702.29230	1.93712
6	5.444	VV	0.0177	1157.22144	779.15558	1.24685
7	5.458	VV	3.83e-3	155.75203	600.49158	0.16781
8	5.474	VV	0.0179	1497.46948	1057.72791	1.61345
9	5.511	VV	0.0256	2634.11938	1269.22461	2.83813
10	5.553	VV	9.44e-3	273.29517	352.79767	0.29446
11	5.586	VV	0.0163	1023.42578	759.99768	1.10269
12	5.594	VV	0.0104	443.21146	707.37396	0.47754
13	5.609	VV	4.75e-3	203.08759	571.04205	0.21882
14	5.613	VV	3.40e-3	136.55370	568.59100	0.14713
15	5.628	VV	0.0106	545.30859	636.61505	0.58754
16	5.641	VV	0.0148	828.77808	682.21582	0.89297
17	5.655	VV	6.03e-3	308.34354	662.46759	0.33222

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.692	VV	0.0291	3474.95898	1465.23706	3.74409
19	5.717	VV	7.57e-3	608.51306	1049.26782	0.65564
20	5.734	VV	9.20e-3	776.09338	1053.10168	0.83620
21	5.751	VV	0.0218	2105.52759	1159.54871	2.26860
22	5.785	VV	0.0172	1490.18945	1048.70911	1.60560
23	5.811	VV	0.0234	2306.55640	1169.63525	2.48520
24	5.841	VV	6.97e-3	506.39511	927.52887	0.54561
25	5.866	VV	0.0348	5298.26221	1852.43164	5.70861
26	5.946	VV S	0.0252	6341.68750	3272.77173	6.83284
27	6.045	VV S	0.1385	1.59792e4	1922.76843	17.21680
28	6.101	BV T	0.0152	561.72687	475.21698	0.60523
29	6.122	VV T	4.95e-3	39.34855	132.43436	0.04240
30	6.149	VV T	0.0385	46.93181	14.69083	0.05057
31	6.156	VV T	0.0157	18.75775	15.06542	0.02021
32	6.173	VV T	9.39e-4	6.53338e-1	54.89624	0.00070
33	6.217	VV S	0.0299	1.05513e4	4651.73682	11.36848
34	6.264	VB S	0.2373	2.21779e4	1557.58179	23.89552
35	6.351	BV T	0.0218	400.95480	220.99335	0.43201
36	6.411	PV T	8.82e-3	144.12952	204.66173	0.15529
37	6.424	PV T	0.0185	508.58496	327.25262	0.54797
38	6.454	PV T	0.0215	294.90741	164.56644	0.31775
39	6.496	PV T	0.0123	132.88893	130.48589	0.14318
40	6.513	PV T	5.56e-3	32.86663	98.53318	0.03541
41	6.520	PV T	0.0109	88.47569	100.34955	0.09533
42	6.544	PV T	9.66e-3	15.69776	27.08994	0.01691
43	6.568	PV T	5.26e-3	18.72460	48.92590	0.02017
44	6.579	PV T	6.15e-3	16.14340	43.74378	0.01739
45	6.589	PV T	7.33e-3	35.15026	59.16707	0.03787
46	6.598	PV T	7.24e-3	26.74384	61.54890	0.02882
47	6.626	PV T	0.0185	351.51505	228.86658	0.37874
48	6.647	PV T	5.06e-3	52.92997	138.48343	0.05703
49	6.662	PV T	0.0182	321.57904	218.62427	0.34648
50	6.687	PV T	8.73e-3	35.66878	68.13031	0.03843
51	6.711	PV T	6.93e-3	59.62995	109.84121	0.06425
52	6.721	PV T	0.0116	120.89310	126.32874	0.13026
53	6.743	PB T	0.0172	240.22905	172.86629	0.25883
54	6.792	BB T	0.0151	41.50498	33.47485	0.04472
55	6.843	BV T	5.52e-3	7.90048	23.86957	0.00851
56	6.867	PV T	0.0169	135.44463	98.33655	0.14593
57	6.880	PV T	0.0120	118.82906	121.40172	0.12803
58	6.904	PV T	8.40e-3	104.78790	160.92395	0.11290
59	6.913	PV T	0.0180	282.20795	188.97322	0.30406
60	6.946	PV T	7.57e-3	69.50109	123.39657	0.07488
61	6.975	PV T	0.0257	931.22357	428.66296	1.00335
62	7.031	PV T	0.0106	16.57218	26.16273	0.01786
63	7.050	PV T	3.27e-3	6.28066	27.40770	0.00677
64	7.056	PV T	4.08e-3	7.26370	24.33290	0.00783
65	7.073	PV T	5.71e-3	10.92734	25.94062	0.01177
66	7.082	PB T	6.00e-3	9.93984	27.60172	0.01071
67	7.120	PV	4.81e-3	7.54522	21.95337	0.00813
68	7.138	VB	0.0135	32.73728	29.50273	0.03527
69	7.197	PV	0.0241	360.90405	179.35376	0.38886
70	7.259	VV	0.0211	66.89769	37.69444	0.07208
71	7.317	VV	0.0269	297.09760	134.08533	0.32011
72	7.398	VV	0.0292	638.19153	259.88248	0.68762
73	7.443	VV	5.20e-3	20.43747	51.87404	0.02202
74	7.454	VV	8.22e-3	36.51320	55.93739	0.03934
75	7.467	VB	6.43e-3	17.38352	34.77761	0.01873
76	7.488	BP	0.0139	44.19710	38.65467	0.04762
77	7.530	VV	6.13e-3	14.51900	34.33236	0.01564
78	7.542	VV	6.55e-3	42.35155	80.32009	0.04563
79	7.559	VV	0.0202	273.00043	160.91420	0.29414
80	7.612	VV	0.0305	230.97661	90.15663	0.24887
81	7.662	VV	4.95e-3	11.48564	30.79850	0.01238
82	7.671	VV	0.0139	56.59897	52.09201	0.06098

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
83	7.691	VV	9.06e-3	29.70976	41.94360	0.03201
84	7.706	VB	0.0167	36.33719	26.25695	0.03915
85	7.751	PV	0.0105	18.32435	23.49723	0.01974
86	7.771	VP	0.0137	23.03991	28.07760	0.02482
Totals :				9.28118e4	3.87576e4	

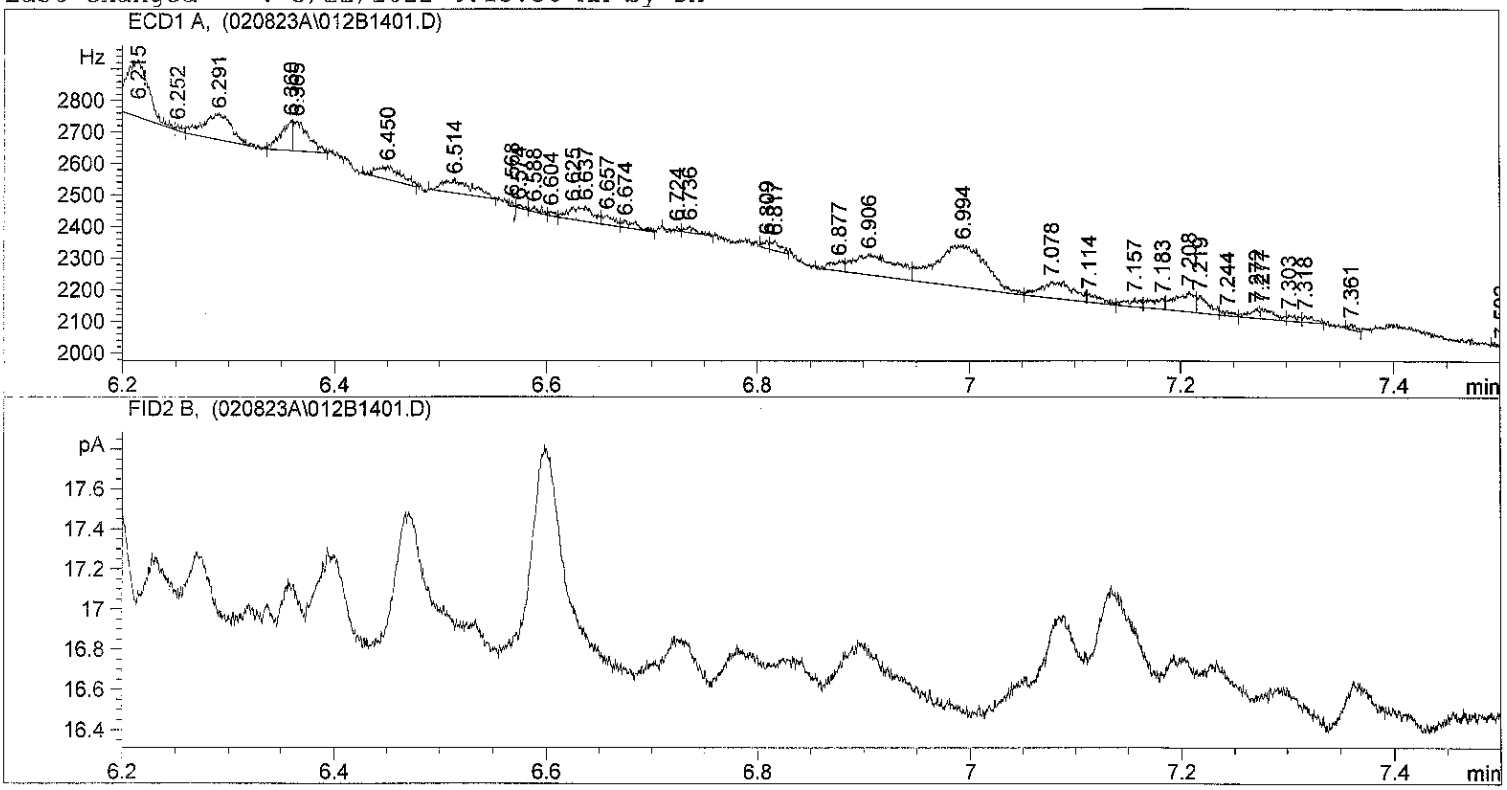
Results obtained with enhanced integrator!

Signal 2: FID2 B,

*** End of Report ***

Injection Date : 2/8/2023 3:58:45 PM Seq. Line : 14
Sample Name : 23A0419 04 Location : Vial 12
Acq. Operator : TW Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\020823A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 3/22/2022 4:13:36 AM by DM



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.281	PV	0.0380	1392.97693	436.78946	8.60048
2	5.312	VV	3.77e-3	49.47386	218.78587	0.30546
3	5.317	VB	0.0129	242.26303	237.30345	1.49577
4	5.376	BV	0.0331	1150.31458	420.83429	7.10224
5	5.447	VV	0.0196	493.16199	305.50455	3.04487
6	5.452	VV	4.65e-3	114.08431	313.42929	0.70438
7	5.478	VV	0.0213	1008.16901	578.81018	6.22461
8	5.506	VV	0.0241	1143.85791	577.05591	7.06237
9	5.588	VV	0.0172	619.04932	434.64249	3.82212
10	5.596	VV	0.0190	710.87079	445.31863	4.38904
11	5.624	VV	7.36e-3	146.93582	246.40495	0.90721
12	5.637	VV	4.57e-3	64.17200	198.34702	0.39621
13	5.643	VV	0.0160	253.61955	189.53732	1.56589
14	5.666	VV	6.41e-3	82.70788	178.40749	0.51065
15	5.693	VV	0.0209	557.52844	316.78461	3.44228
16	5.717	VV	0.0192	379.77264	240.39746	2.34478
17	5.745	VB	0.0168	214.45126	154.49857	1.32406

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.792	BV	0.0230	288.01025	151.18965	1.77822
19	5.826	VV	0.0183	260.27249	181.65096	1.60697
20	5.894	VV	0.0330	3465.24902	1255.70447	21.39504
21	5.937	VV	0.0195	1091.16638	687.16132	6.73705
22	5.977	VV	0.0137	229.11496	206.81931	1.41459
23	6.000	VP	0.0128	102.85414	98.16998	0.63504
24	6.038	VB	0.0105	21.35237	27.49969	0.13183
25	6.113	PP	6.99e-3	9.77132	19.02386	0.06033
26	6.129	VV	4.95e-3	10.17864	27.30000	0.06284
27	6.137	VP	5.78e-3	14.45246	33.85650	0.08923
28	6.158	VV	5.31e-3	7.56813	22.58284	0.04673
29	6.166	VV	2.90e-3	4.57893	23.17664	0.02827
30	6.170	VV	7.20e-3	15.28397	27.02565	0.09437
31	6.215	VV	0.0196	296.48099	181.95056	1.83052
32	6.252	VP	4.63e-3	6.32954	18.34366	0.03908
33	6.291	VP	0.0236	152.43686	81.65257	0.94117
34	6.360	VV	0.0104	74.14548	94.32375	0.45779
35	6.365	VP	0.0122	90.30084	92.28495	0.55753
36	6.450	PB	0.0188	66.93188	42.49412	0.41325
37	6.514	BB	0.0220	80.94071	43.80221	0.49974
38	6.568	PV	1.86e-3	1.58497	14.70962	0.00979
39	6.574	VB	6.06e-3	4.17939	8.93283	0.02580
40	6.588	BP	7.10e-3	7.75639	14.83860	0.04789
41	6.604	VP	5.83e-3	5.18997	14.83460	0.03204
42	6.625	VV	6.48e-3	20.08762	39.83491	0.12402
43	6.637	VB	0.0115	46.15977	48.51601	0.28500
44	6.657	BV	9.72e-3	23.66361	30.95971	0.14610
45	6.674	VP	0.0134	21.66717	20.39135	0.13378
46	6.724	BV	1.79e-3	1.43573	14.13250	0.00886
47	6.736	VB	7.97e-3	13.38426	21.17999	0.08264
48	6.809	BV	4.53e-3	8.78668	26.05229	0.05425
49	6.817	VB	8.36e-3	19.52429	30.93466	0.12055
50	6.877	PV	0.0113	28.30501	31.91000	0.17476
51	6.906	VV	0.0329	180.72781	65.67590	1.11584
52	6.994	VP	0.0382	432.69928	133.53177	2.67156
53	7.078	VV	0.0265	111.63512	51.54913	0.68925
54	7.114	VP	0.0117	22.78008	23.84934	0.14065
55	7.157	VV	0.0101	21.80869	26.84818	0.13465
56	7.183	VV	0.0118	29.25387	32.29038	0.18062
57	7.208	VV	0.0148	77.61890	63.88055	0.47923
58	7.219	VB	9.71e-3	41.28157	52.85612	0.25488
59	7.244	BP	8.44e-3	10.03579	14.92559	0.06196
60	7.272	VV	8.52e-3	19.33467	29.98754	0.11938
61	7.277	VB	0.0104	27.78467	33.15218	0.17155
62	7.303	BV	7.64e-3	11.77328	18.97219	0.07269
63	7.318	VB	9.31e-3	14.15439	19.40221	0.08739
64	7.361	BP	5.73e-3	7.77632	17.67407	0.04801
65	7.502	BP	8.58e-3	5.55226	7.91846	0.03428
66	7.533	PP	4.69e-3	4.85772	13.85113	0.02999
67	7.615	PV	0.0115	25.01267	26.23672	0.15443
68	7.628	VV	6.54e-3	11.79673	24.85177	0.07283
69	7.638	VB	8.97e-3	18.39002	26.92785	0.11354
70	7.658	BP	7.19e-3	8.92217	16.81404	0.05509
71	7.772	BB	2.25e-3	7.60391e-1	8.42378	0.00469
Totals :				1.61965e4	9835.71019	

Results obtained with enhanced integrator!

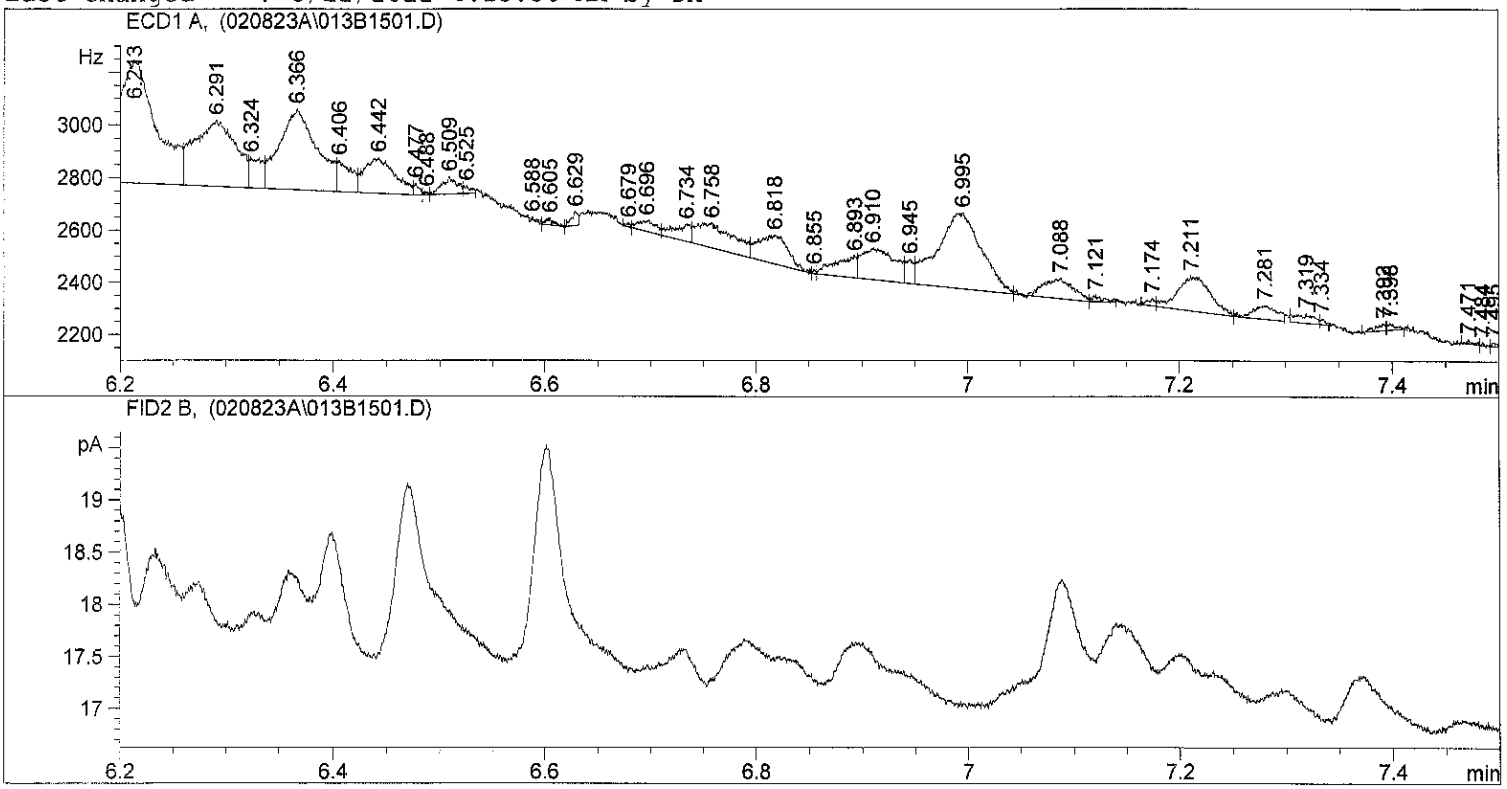
Signal 2: FID2 B,

Results obtained with enhanced integrator!

*** End of Report ***

Injection Date : 2/8/2023 4:09:56 PM Seq. Line : 15
Sample Name : 23A0419 05 Location : Vial 13
Acq. Operator : TW Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\020823A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 3/22/2022 4:13:36 AM by DM



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.239	BV	5.45e-3	11.83500	28.48541	0.04615
2	5.245	VV	4.99e-3	15.24343	40.55589	0.05945
3	5.274	VV	0.0185	257.26080	173.13242	1.00325
4	5.294	VV	7.16e-3	76.39262	135.86563	0.29791
5	5.322	VV	0.0175	285.58530	202.05225	1.11370
6	5.348	VV	0.0166	333.70230	240.80516	1.30135
7	5.378	VV	0.0171	797.43378	571.38611	3.10977
8	5.405	VV	0.0214	854.96179	499.62399	3.33412
9	5.454	VV	0.0143	279.62906	237.65984	1.09048
10	5.477	VV	0.0207	1608.27026	1023.33942	6.27181
11	5.514	VV	0.0303	1099.13538	429.25928	4.28633
12	5.607	VV	0.0280	695.09277	295.67511	2.71067
13	5.640	VV	0.0164	460.57288	340.59909	1.79611
14	5.650	VV	0.0214	619.58282	351.74942	2.41620
15	5.696	VV	0.0334	1768.65308	657.37677	6.89726
16	5.756	VV	0.0227	837.17908	437.70978	3.26477
17	5.798	VV	0.0208	682.23834	393.17737	2.66054

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.819	VV	0.0280	948.94629	413.16623	3.70063
19	5.851	VV	3.62e-3	87.53948	338.30728	0.34138
20	5.874	VV	0.0383	2136.34961	657.45148	8.33118
21	5.943	VV	0.0286	1506.61963	676.50275	5.87540
22	5.983	VV	0.0161	591.47375	445.46649	2.30659
23	6.005	VV	0.0221	792.55469	450.15430	3.09075
24	6.040	VV	0.0403	1582.80896	465.08493	6.17252
25	6.125	VV	0.0330	834.33936	304.07053	3.25370
26	6.159	VV	6.36e-3	126.92483	248.33682	0.49497
27	6.176	VV	0.0170	383.60745	276.20132	1.49596
28	6.213	VV	0.0305	1203.42322	470.34946	4.69302
29	6.291	VV	0.0324	683.66760	250.48186	2.66612
30	6.324	VV	0.0104	95.93051	113.69920	0.37410
31	6.366	VV	0.0287	731.38348	305.58499	2.85220
32	6.406	VV	0.0112	106.67705	117.79581	0.41601
33	6.442	VV	0.0238	263.73306	134.80022	1.02849
34	6.477	VP	4.67e-3	14.51855	43.79391	0.05662
35	6.488	VV	3.90e-3	2.94323	11.85437	0.01148
36	6.509	VV	0.0118	62.94789	65.52350	0.24548
37	6.525	VB	6.43e-3	14.28244	28.58422	0.05570
38	6.588	BP	1.67e-3	6.55637e-1	7.14646	0.00256
39	6.605	BP	6.13e-3	12.18150	25.70775	0.04750
40	6.629	VV	6.47e-3	23.85081	50.90097	0.09301
41	6.679	PV	3.05e-3	2.53093	14.40577	0.00987
42	6.696	VV	0.0141	48.08622	40.86644	0.18752
43	6.734	VV	0.0132	71.65473	66.53326	0.27943
44	6.758	VB	0.0298	231.13022	94.30674	0.90134
45	6.818	BP	0.0233	211.98463	109.91824	0.82668
46	6.855	VV	2.51e-3	2.38213	14.57520	0.00929
47	6.893	VV	0.0170	113.22604	81.76638	0.44155
48	6.910	VB	0.0261	259.90887	119.91524	1.01357
49	6.945	BV	6.45e-3	47.61444	91.84225	0.18568
50	6.995	VV	0.0338	825.05530	289.93625	3.21749
51	7.088	VP	0.0233	147.11485	76.43706	0.57371
52	7.121	VB	8.74e-3	15.93066	23.99966	0.06213
53	7.174	PV	6.28e-3	12.79307	26.26068	0.04989
54	7.211	VP	0.0262	280.42596	132.73004	1.09358
55	7.281	VB	0.0189	82.48508	52.54584	0.32167
56	7.319	BV	0.0152	40.48922	35.23048	0.15790
57	7.334	VB	4.89e-3	7.05355	21.15338	0.02751
58	7.392	PV	8.70e-3	15.82563	24.80054	0.06172
59	7.398	VB	8.02e-3	12.03331	25.01141	0.04693
60	7.471	PB	3.98e-3	4.11908	14.23151	0.01606
61	7.484	BP	2.06e-3	1.26083	10.07773	0.00492
62	7.495	VB	6.92e-3	7.97906	14.73147	0.03112
63	7.623	PV	0.0319	219.16937	81.12351	0.85470
64	7.666	VV	5.18e-3	12.97548	34.59040	0.05060
65	7.710	BV	0.0123	26.93408	27.78090	0.10504
66	7.725	VP	9.92e-3	13.22573	16.92501	0.05158
67	7.781	BBA	0.0181	39.30766	27.50088	0.15329
Totals :				2.56428e4	1.35286e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

*** End of Report ***

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Injection Date  : 2/8/2023 4:20:53 PM          Seq. Line :  16
Sample Name     : 23A0419 08                   Location : Vial 14
Acq. Operator   : TW                              Inj :   1
                                               Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\020823A.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 3/22/2022 4:13:36 AM by DM
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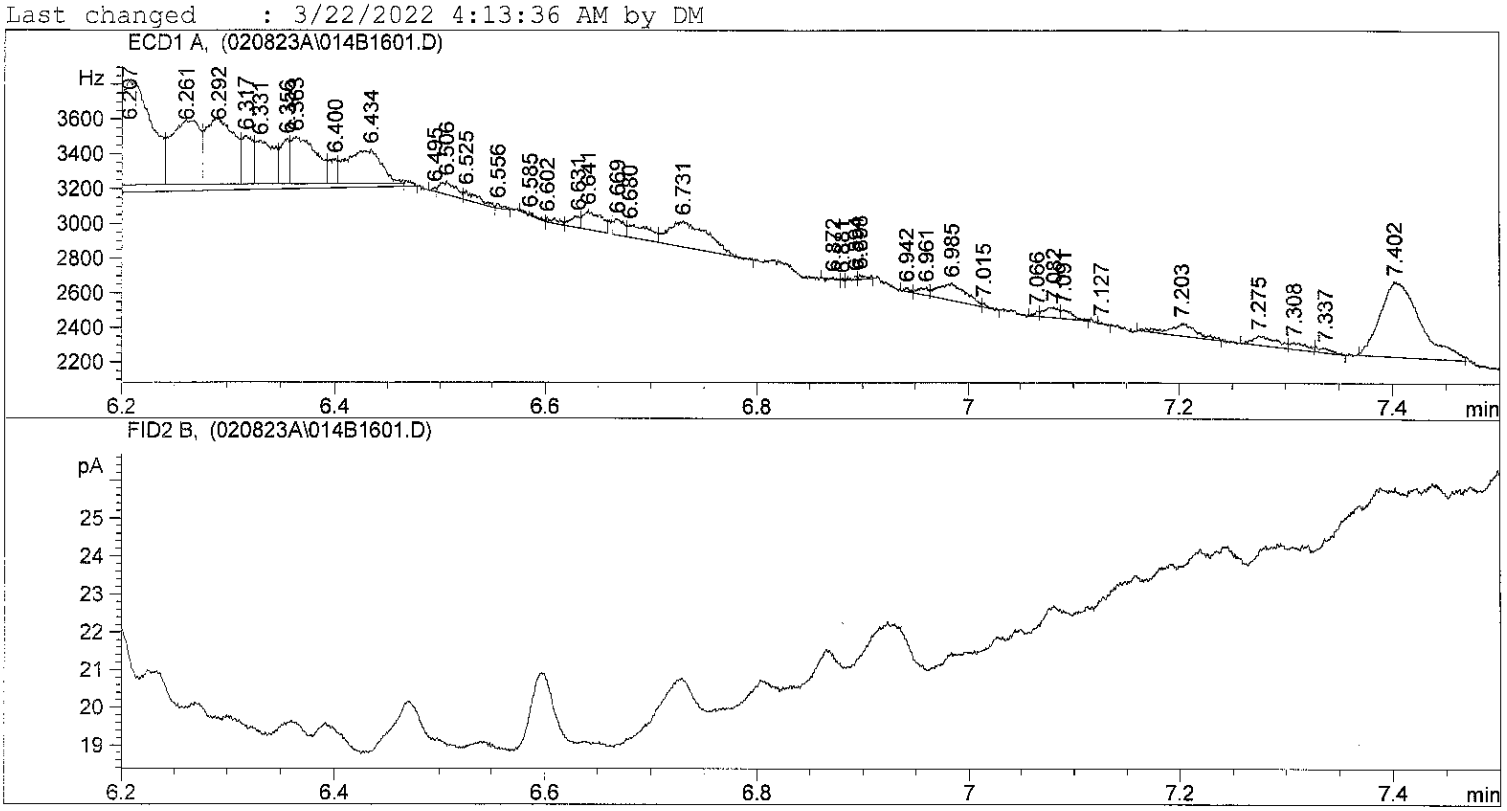

Area Percent Report

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Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
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Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.254	BV	0.0158	536.94073	435.11923	1.35902
2	5.284	VV	0.0184	793.60132	564.32904	2.00863
3	5.319	VB S	0.0471	7319.89746	1952.03308	18.52692
4	5.389	BV T	0.0214	1279.09058	738.23370	3.23742
5	5.423	VV T	9.26e-3	75.08506	103.59180	0.19004
6	5.447	VV T	6.41e-3	39.50686	76.64021	0.09999
7	5.452	VV T	3.68e-3	18.09274	81.93813	0.04579
8	5.477	VV T	0.0167	1140.69580	849.85120	2.88714
9	5.515	VV T	0.0230	553.83307	295.85269	1.40177
10	5.564	VV T	0.0125	254.12178	250.06247	0.64319
11	5.573	VV T	7.34e-3	99.46438	225.77917	0.25175
12	5.590	VV T	0.0226	559.23798	307.70581	1.41545
13	5.638	VV T	0.0206	483.82880	279.55258	1.22459
14	5.656	VV T	5.36e-3	118.94907	291.46204	0.30106
15	5.695	VV T	0.0265	1364.46094	619.52057	3.45350
16	5.725	VV T	0.0220	1088.75977	606.18018	2.75569
17	5.760	VV T	0.0211	889.12933	501.13837	2.25042

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.812	VV T	0.0431	1776.17749	490.12796	4.49557
19	5.871	VV T	0.0290	1834.94897	748.96246	4.64432
20	5.906	VV T	8.75e-3	275.36380	524.21802	0.69696
21	5.911	VV T	6.86e-3	211.32498	513.46832	0.53487
22	5.950	VV T	0.0269	3718.95044	1768.92432	9.41280
23	5.984	VV T	0.0145	562.65125	646.88464	1.42409
24	5.998	VV T	0.0306	1146.95447	624.51929	2.90298
25	6.060	VV T	0.0342	2076.33447	716.65533	5.25528
26	6.109	VV T	0.0341	2096.70654	725.02283	5.30684
27	6.158	VV T	0.0125	424.88553	440.38022	1.07540
28	6.177	VV T	0.0136	493.28720	437.07660	1.24853
29	6.207	VV T	0.0290	1428.29687	600.09839	3.61507
30	6.261	VV T	0.0218	680.73053	373.85681	1.72295
31	6.292	VV T	0.0227	727.36719	381.08499	1.84099
32	6.317	VV T	0.0108	180.22823	277.10480	0.45616
33	6.331	VV T	0.0149	306.37860	249.33714	0.77546
34	6.356	VV T	7.61e-3	140.42369	255.73315	0.35542
35	6.363	VV T	0.0197	445.86188	269.94476	1.12849
36	6.400	VV T	8.95e-3	77.82825	144.94865	0.19699
37	6.434	VB T	0.0268	444.25354	198.08102	1.12442
38	6.495	BV	3.20e-3	5.02035	22.54964	0.01271
39	6.506	VV	0.0123	78.05656	77.68035	0.19756
40	6.525	VP	0.0120	54.47338	55.68668	0.13787
41	6.556	VP	5.85e-3	11.91953	27.56260	0.03017
42	6.585	BP	8.52e-3	9.20569	13.56464	0.02330
43	6.602	VV	8.77e-3	18.41138	26.29961	0.04660
44	6.631	VV	7.47e-3	40.05598	66.08010	0.10138
45	6.641	VB	0.0152	132.82697	110.75614	0.33619
46	6.669	BV	9.24e-3	64.25235	90.96474	0.16262
47	6.680	VV	0.0187	113.98252	74.43030	0.28849
48	6.731	VP	0.0302	385.33221	150.90544	0.97529
49	6.872	PP	1.54e-3	8.69012e-1	10.84207	0.00220
50	6.881	VP	2.32e-3	1.60877	10.88754	0.00407
51	6.894	VV	4.23e-3	6.28679	20.18770	0.01591
52	6.898	VB	5.75e-3	11.73581	26.59804	0.02970
53	6.942	PV	4.98e-3	7.08040	20.74344	0.01792
54	6.961	VV	9.73e-3	27.11052	45.66724	0.06862
55	6.985	VV	0.0207	174.21275	100.11340	0.44094
56	7.015	VP	3.94e-3	6.64547	23.20151	0.01682
57	7.066	PV	4.19e-3	9.27259	31.90309	0.02347
58	7.082	VV	0.0110	55.10096	60.67918	0.13946
59	7.091	VB	0.0127	38.08129	50.05712	0.09639
60	7.127	PB	1.48e-3	8.32699e-1	11.06631	0.00211
61	7.203	PB	0.0208	127.05167	74.05933	0.32157
62	7.275	BV	0.0191	84.95429	54.07806	0.21502
63	7.308	VB	0.0140	44.09063	40.04904	0.11159
64	7.337	BP	0.0121	28.67022	30.54835	0.07257
65	7.402	BB	0.0306	1127.19678	435.70050	2.85298
66	7.565	BB	0.0322	1094.22791	408.73831	2.76953
67	7.654	BP	0.0104	26.47401	30.93799	0.06701
68	7.716	BP	9.10e-3	21.11508	30.41584	0.05344
69	7.769	PV	0.0133	26.77115	24.50163	0.06776
70	7.785	VBA	6.66e-3	12.94315	24.90383	0.03276
Totals :				3.95095e4	2.08478e4	

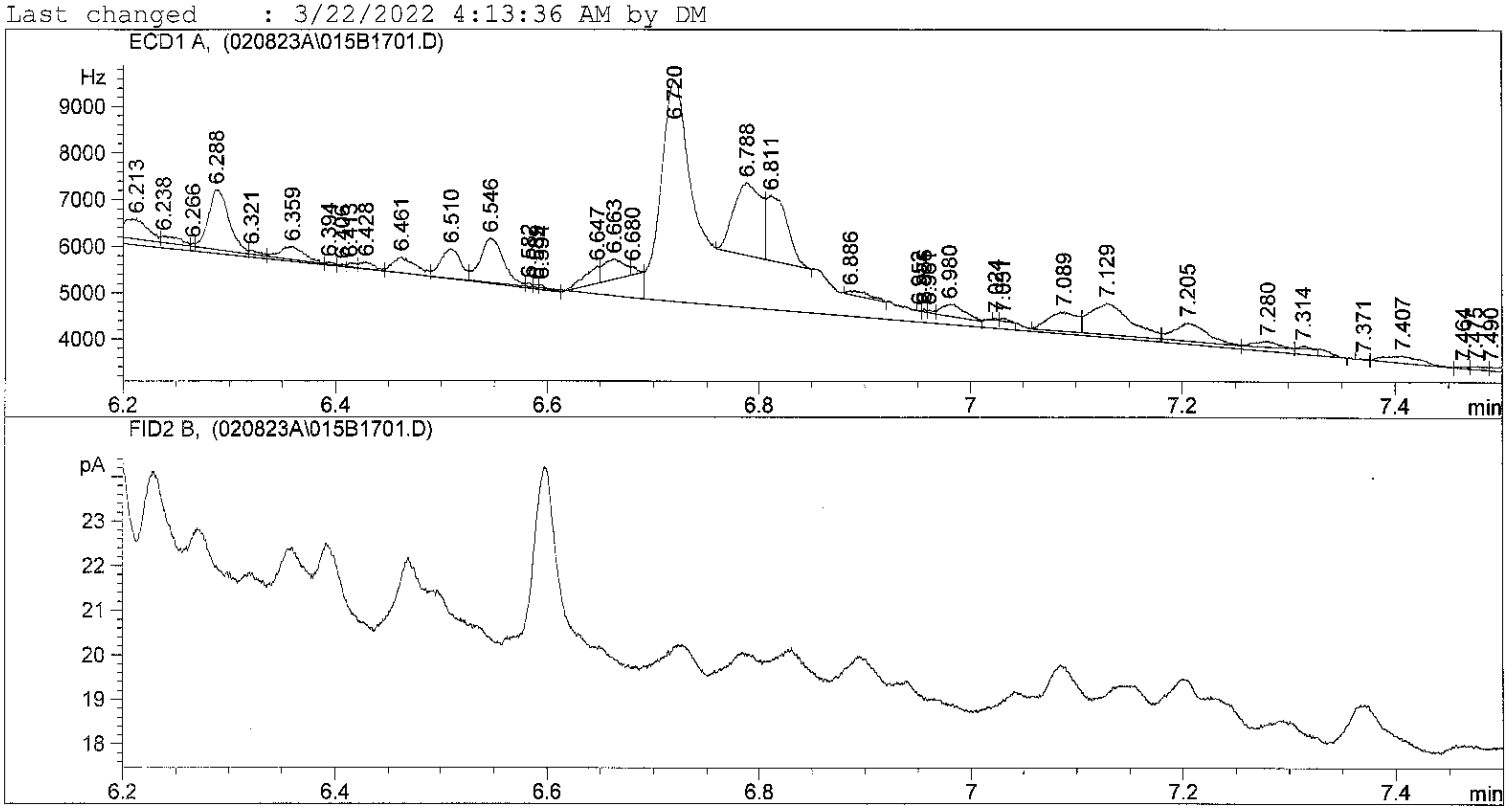
Results obtained with enhanced integrator!

Signal 2: FID2 B,

*** End of Report ***

Injection Date : 2/8/2023 4:32:02 PM Seq. Line : 17
Sample Name : 23A0419 09 Location : Vial 15
Acq. Operator : TW Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\020823A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 3/22/2022 4:13:36 AM by DM



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.224	BV S	0.0247	2.26161e4	1.30048e4	15.97021
2	5.278	BB T	0.0155	676.93103	545.43677	0.47801
3	5.378	PV T	0.0116	723.30548	765.36249	0.51076
4	5.399	PV T	0.0196	1738.93091	1068.60095	1.22794
5	5.439	PV T	0.0157	965.49048	748.29913	0.68178
6	5.480	PV S	0.0256	6504.68408	3029.78442	4.59324
7	5.485	BB T	0.0139	1115.86804	1337.89221	0.78796
8	5.565	PV S	0.0280	9259.48437	3969.03247	6.53853
9	5.625	PV S	0.0236	8108.20410	4413.39795	5.72556
10	5.677	PV S	0.0744	4.43129e4	7282.56396	31.29128
11	5.735	BV T	8.00e-3	172.89847	265.29913	0.12209
12	5.749	PB T	0.0123	473.67648	487.21869	0.33448
13	5.822	BV T	0.0146	702.87885	584.28333	0.49633
14	5.833	PV T	0.0123	317.50607	428.85645	0.22420
15	5.866	PV T	0.0203	1343.74280	804.91534	0.94888
16	5.896	PV T	7.39e-3	126.18679	284.57892	0.08911
17	5.904	PV T	0.0112	274.42953	314.00400	0.19379

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.950	PV T	0.0196	1795.60120	1163.81848	1.26795
19	5.981	PB T	0.0138	565.78790	531.68835	0.39953
20	6.037	BB T	0.0106	255.05235	317.17413	0.18010
21	6.090	BV T	7.85e-3	84.70217	136.21539	0.05981
22	6.106	PB T	0.0135	166.04892	150.01920	0.11725
23	6.153	BV T	3.15e-3	8.35498	41.46931	0.00590
24	6.177	PV T	0.0113	142.25854	158.30394	0.10045
25	6.182	PV T	6.45e-3	59.89659	154.74049	0.04230
26	6.189	PV T	4.20e-3	39.31172	156.01338	0.02776
27	6.213	PV T	0.0217	746.08325	437.61166	0.52684
28	6.238	PV T	0.0218	187.86642	143.52455	0.13266
29	6.266	PV T	3.27e-3	16.41131	71.72646	0.01159
30	6.288	PV T	0.0172	1739.89026	1286.49133	1.22861
31	6.321	PV T	0.0109	58.27133	89.10266	0.04115
32	6.359	PV T	0.0183	421.86691	278.64462	0.29790
33	6.394	PV T	5.57e-3	20.36860	47.79056	0.01438
34	6.406	PV T	4.92e-3	13.54455	34.95787	0.00956
35	6.413	PV T	6.08e-3	43.03933	91.56277	0.03039
36	6.428	PV T	0.0120	131.42455	145.15997	0.09280
37	6.461	PV T	0.0181	519.39844	351.27942	0.36677
38	6.510	PV T	0.0161	856.47162	644.28595	0.60479
39	6.546	PV T	0.0185	1500.75562	980.31299	1.05975
40	6.582	PV T	5.23e-3	40.32660	106.25060	0.02848
41	6.589	PV T	4.85e-3	26.28593	90.36040	0.01856
42	6.594	PP T	8.45e-3	54.02439	106.51172	0.03815
43	6.647	PV T	0.0127	372.72208	365.84586	0.26320
44	6.663	PV T	0.0168	597.77448	441.84576	0.42211
45	6.680	PV T	6.60e-3	69.91120	176.46817	0.04937
46	6.720	PB S	0.0554	2.10988e4	4774.85547	14.89875
47	6.788	BV T	0.0227	2874.90894	1556.70703	2.03010
48	6.811	PB T	0.0168	1888.14453	1390.25391	1.33330
49	6.886	BB T	0.0215	151.32484	85.93279	0.10686
50	6.952	BV T	2.94e-3	3.52855	20.02256	0.00249
51	6.956	PV T	2.73e-3	12.22182	66.94424	0.00863
52	6.961	PV T	6.59e-3	23.46778	59.32130	0.01657
53	6.980	PB T	0.0187	391.30499	252.26840	0.27632
54	7.024	BV T	4.19e-3	10.08147	36.86085	0.00712
55	7.031	PB T	8.75e-3	32.49810	61.87251	0.02295
56	7.089	BV T	0.0224	791.08484	418.87347	0.55862
57	7.129	PV T	0.0319	1784.25684	672.92316	1.25994
58	7.205	PV T	0.0253	817.51630	389.27277	0.57728
59	7.280	PV T	0.0199	189.36307	124.72986	0.13372
60	7.314	PB T	6.89e-3	33.71373	60.60028	0.02381
61	7.371	PV	3.96e-3	7.39604	25.67952	0.00522
62	7.407	VP	0.0283	370.30115	157.06088	0.26149
63	7.464	VV	9.12e-3	26.20150	39.60221	0.01850
64	7.475	VV	0.0162	64.89762	66.64787	0.04583
65	7.490	VB	9.02e-3	65.75121	91.07853	0.04643
66	7.510	BP	0.0296	291.79071	119.00824	0.20605
67	7.577	VV	3.53e-3	4.41951	20.39095	0.00312
68	7.621	VV	0.0340	587.26837	206.16566	0.41470
69	7.687	VV	0.0156	53.86090	41.95164	0.03803
70	7.710	VB	9.31e-3	48.64100	65.12724	0.03435
71	7.740	BP	5.56e-3	9.03246	22.14679	0.00638
72	7.754	VB	6.11e-3	11.60373	24.55514	0.00819
73	7.791	PPA	3.55e-3	4.23460	15.66138	0.00299
Totals :				1.41614e5	5.89000e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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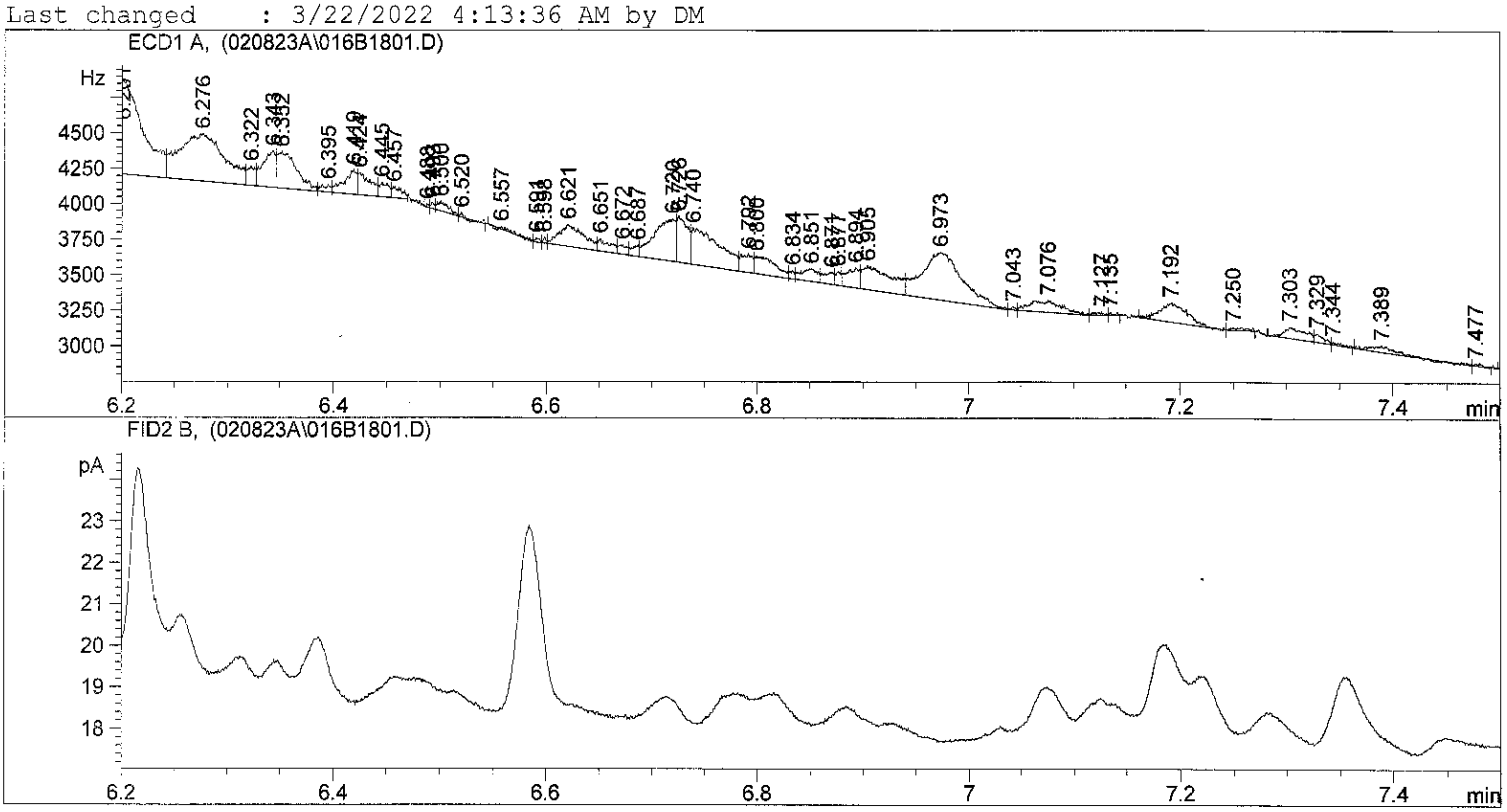
*** End of Report ***

Injection Date : 2/8/2023 4:43:11 PM Seq. Line : 18
Sample Name : 23A0420 01 Location : Vial 16
Acq. Operator : TW Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\020823A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 3/22/2022 4:13:36 AM by DM



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.235	BV	8.60e-3	187.75310	267.16290	0.48265
2	5.262	VV	0.0291	1331.45129	541.44641	3.42269
3	5.310	VV	0.0124	199.39812	196.46136	0.51258
4	5.333	VV	6.66e-3	90.00140	173.14925	0.23136
5	5.338	VV	7.66e-3	115.56195	185.58551	0.29707
6	5.372	VV	0.0193	546.97931	348.96313	1.40609
7	5.406	VV	0.0165	516.99805	373.58511	1.32902
8	5.443	VV	0.0203	1390.29871	824.88037	3.57396
9	5.471	VV	0.0192	1365.01868	858.05542	3.50898
10	5.508	VV	0.0208	1192.24927	696.07397	3.06485
11	5.545	VV	8.07e-3	158.70657	247.79767	0.40798
12	5.551	VV	7.62e-3	111.15374	242.96310	0.28574
13	5.584	VV	0.0217	880.51819	520.55096	2.26350
14	5.598	VV	6.75e-3	273.12387	501.62369	0.70210
15	5.622	VV	0.0175	777.77930	549.61816	1.99939
16	5.635	VV	0.0174	771.04657	548.22754	1.98209
17	5.661	VV	6.79e-3	275.12805	518.23169	0.70726

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.690	VV	0.0270	2662.46191	1193.08118	6.84424
19	5.719	VV	9.19e-3	496.99866	784.88751	1.27761
20	5.746	VV	0.0253	2083.43018	983.67633	5.35575
21	5.778	VV	0.0166	915.77844	661.36322	2.35414
22	5.808	VV	0.0250	1599.77124	785.00818	4.11244
23	5.861	VV	0.0327	3289.16113	1250.22046	8.45526
24	5.930	VV	0.0374	2695.90332	897.84521	6.93020
25	5.965	VV	0.0130	743.15216	685.59290	1.91038
26	5.985	VV	3.48e-3	160.14035	649.43671	0.41166
27	5.999	VV	0.0171	969.67328	737.68640	2.49268
28	6.031	VV	0.0148	1104.48450	907.03802	2.83924
29	6.035	VV	0.0234	1737.58472	898.65363	4.46671
30	6.106	VV	0.0341	1118.46985	389.06744	2.87519
31	6.146	VV	5.86e-3	145.58151	322.88300	0.37424
32	6.159	VV	6.97e-3	177.51299	335.59000	0.45632
33	6.201	VV	0.0357	1937.66907	659.40894	4.98106
34	6.276	VV	0.0359	986.68066	331.74136	2.53640
35	6.322	VV	6.79e-3	71.02360	133.91180	0.18258
36	6.343	VV	0.0105	207.04768	254.16528	0.53225
37	6.352	VV	0.0157	330.40857	252.16135	0.84936
38	6.395	VV	6.94e-3	29.09739	51.92316	0.07480
39	6.419	VV	0.0109	142.49625	171.31099	0.36631
40	6.424	VB	9.95e-3	123.65766	154.28165	0.31788
41	6.445	BV	7.75e-3	61.28566	99.95091	0.15754
42	6.457	VB	8.54e-3	49.15018	74.10615	0.12635
43	6.488	PV	2.78e-3	3.63719	19.46346	0.00935
44	6.493	VV	3.08e-3	10.04882	43.69170	0.02583
45	6.500	VV	9.03e-3	46.51439	62.89204	0.11957
46	6.520	VB	2.13e-3	3.18769	28.00496	0.00819
47	6.557	BP	5.27e-3	6.42500	17.57418	0.01652
48	6.591	VV	3.91e-3	8.06849	28.41475	0.02074
49	6.598	VV	2.95e-3	7.10101	38.50777	0.01825
50	6.621	VV	0.0197	244.27048	152.38084	0.62793
51	6.651	VB	9.83e-3	68.93793	87.16122	0.17721
52	6.672	BV	6.84e-3	35.71013	66.80986	0.09180
53	6.687	VV	6.69e-3	35.45783	78.16505	0.09115
54	6.720	VV	0.0166	411.53693	296.74841	1.05791
55	6.726	VV	9.15e-3	241.50055	322.11505	0.62081
56	6.740	VV	0.0223	478.89539	255.25871	1.23107
57	6.792	VV	8.89e-3	93.60214	128.55122	0.24062
58	6.800	VV	0.0174	173.02711	121.31945	0.44479
59	6.834	VV	4.01e-3	16.66453	57.09153	0.04284
60	6.851	VV	0.0134	94.24088	88.63335	0.24226
61	6.871	VV	9.51e-3	57.58392	80.87453	0.14803
62	6.877	VV	5.06e-3	33.42267	96.14068	0.08592
63	6.894	VV	0.0106	117.88213	140.68242	0.30303
64	6.905	VV	0.0237	324.79056	164.15370	0.83492
65	6.973	VP	0.0320	886.97614	336.44687	2.28010
66	7.043	VV	4.16e-3	5.55915	21.88180	0.01429
67	7.076	VP	0.0240	161.38470	81.18856	0.41486
68	7.127	VV	8.22e-3	12.09336	21.32755	0.03109
69	7.135	VP	4.58e-3	5.97988	17.52330	0.01537
70	7.192	BP	0.0213	231.95667	130.54224	0.59628
71	7.250	BP	0.0129	19.58883	19.89800	0.05036
72	7.303	PV	0.0172	109.04325	75.70282	0.28031
73	7.329	VV	7.37e-3	34.64939	59.68042	0.08907
74	7.344	VB	7.94e-3	12.57033	19.98596	0.03231
75	7.389	BP	0.0194	64.93280	42.95689	0.16692
76	7.477	VB	5.78e-3	6.34069	14.96474	0.01630
77	7.508	PB	0.0142	26.26700	22.15121	0.06752
78	7.602	PB	0.0589	691.03680	139.22144	1.77641
79	7.710	BB	0.0106	37.92992	44.04510	0.09750
80	7.732	BV	8.98e-3	22.84619	32.56651	0.05873
81	7.756	VB	0.0124	37.32824	36.80726	0.09596

Totals : 3.89008e4 2.47509e4

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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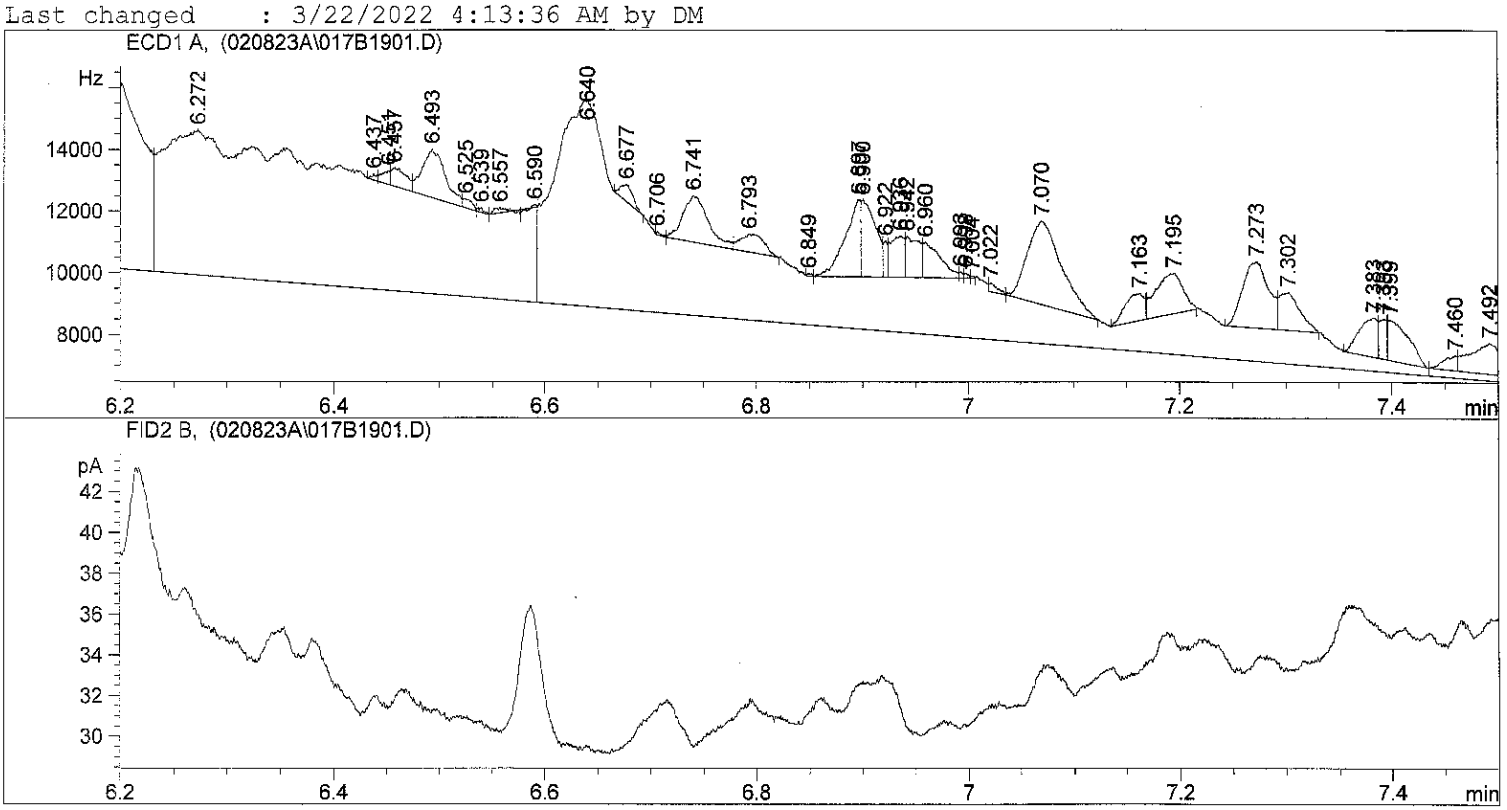
*** End of Report ***

Injection Date : 2/8/2023 4:54:21 PM Seq. Line : 19
Sample Name : 23A0420 04 Location : Vial 17
Acq. Operator : TW Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\020823A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 3/22/2022 4:13:36 AM by DM



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.237	BV	0.0165	1485.62378	1133.84265	0.32290
2	5.249	VV	0.0134	1363.00903	1242.37256	0.29625
3	5.274	VV	3.28e-3	76.55468	332.75403	0.01664
4	5.278	VV	6.79e-3	227.05806	428.14581	0.04935
5	5.312	VV S	0.0216	4105.56641	2327.10107	0.89235
6	5.622	VV S	0.1695	4.80503e4	4723.56396	10.44377
7	5.862	VV S	0.1237	6.51573e4	6512.40771	14.16199
8	5.943	VV S	0.0422	2.49698e4	9858.86328	5.42721
9	6.041	VV S	0.1000	4.15656e4	6926.90674	9.03431
10	6.194	VV S	0.0933	4.84416e4	6153.32324	10.52883
11	6.272	VV S	0.2395	7.85848e4	4696.51367	17.08047
12	6.437	BV T	5.44e-3	66.46457	203.55956	0.01445
13	6.451	VV T	7.44e-3	230.48369	445.46396	0.05010
14	6.457	VV T	0.0175	627.96436	599.42334	0.13649
15	6.493	VV T	0.0186	2419.69971	1569.04919	0.52592
16	6.525	PV T	0.0103	171.72934	277.35654	0.03733
17	6.539	PV T	5.82e-3	52.47401	150.26068	0.01141

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.557	PV T	6.88e-3	95.63217	172.12682	0.02079
19	6.590	PV T	0.0000	11.46817	92.47522	0.00249
20	6.640	VBAS	0.1673	9.47139e4	6676.62256	20.58614
21	6.677	BB T	0.0105	449.56628	553.51715	0.09771
22	6.706	BV T	5.49e-3	34.71306	105.42339	0.00754
23	6.741	PV T	0.0207	2512.52246	1503.50464	0.54610
24	6.793	PB T	0.0195	925.54846	577.54700	0.20117
25	6.849	BV T	4.84e-3	23.28367	80.22003	0.00506
26	6.897	PV T	0.0126	2517.06421	2495.14722	0.54709
27	6.900	PV T	0.0157	2339.04590	2486.24756	0.50839
28	6.922	PV T	4.49e-3	313.32199	1163.03052	0.06810
29	6.936	PV T	0.0116	1209.19910	1334.88330	0.26282
30	6.942	PV T	0.0152	1209.83240	1327.48145	0.26296
31	6.960	PV T	0.0192	1303.08789	1128.57446	0.28323
32	6.993	PV T	3.66e-3	43.17938	196.45650	0.00939
33	6.998	PV T	4.37e-3	41.50412	158.43126	0.00902
34	7.004	PB T	3.14e-3	12.36847	65.74187	0.00269
35	7.022	BV T	9.89e-3	166.96561	281.26270	0.03629
36	7.070	PB T	0.0275	6050.96875	2702.57666	1.31518
37	7.163	BV T	0.0164	1126.28735	873.53943	0.24480
38	7.195	PB T	0.0220	2361.68701	1297.83289	0.51331
39	7.273	BV T	0.0208	3653.07202	2135.90552	0.79400
40	7.302	PB T	0.0173	1644.78589	1220.99084	0.35750
41	7.383	BV T	0.0151	1525.57153	1263.30200	0.33158
42	7.393	PV T	6.67e-3	633.45203	1304.04871	0.13768
43	7.399	PV T	0.0228	1792.77466	1311.07397	0.38966
44	7.460	PV T	0.0107	412.95816	477.87720	0.08976
45	7.492	PV T	0.0270	2195.11865	993.18066	0.47711
46	7.524	PV T	4.73e-3	69.96172	246.70419	0.01521
47	7.550	PV T	0.0136	602.19305	538.36847	0.13089
48	7.560	PV T	0.0103	480.49927	577.79565	0.10444
49	7.610	PV T	0.0384	8281.35645	2558.05957	1.79996
50	7.672	PV T	6.02e-3	269.40738	579.92719	0.05856
51	7.701	PV T	0.0297	2544.86963	1020.15814	0.55313
52	7.755	PV T	0.0111	311.57181	347.77527	0.06772
53	7.768	PV T	0.0168	610.94757	439.85101	0.13279
Totals :				4.60086e5	8.78686e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

Peak #	RetTime [min]	Type	Width [min]	Area [pA*s]	Height [pA]	Area %
1	5.366	PB	0.0153	28.75806	28.66451	1.000e2
Totals :				28.75806	28.66451	

Results obtained with enhanced integrator!

*** End of Report ***

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Injection Date  : 2/8/2023 5:05:18 PM          Seq. Line :  20
Sample Name     : 23A0420 08                   Location : Vial 18
Acq. Operator   : TW                              Inj :   1
                                               Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\020823A.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 3/22/2022 4:13:36 AM by DM
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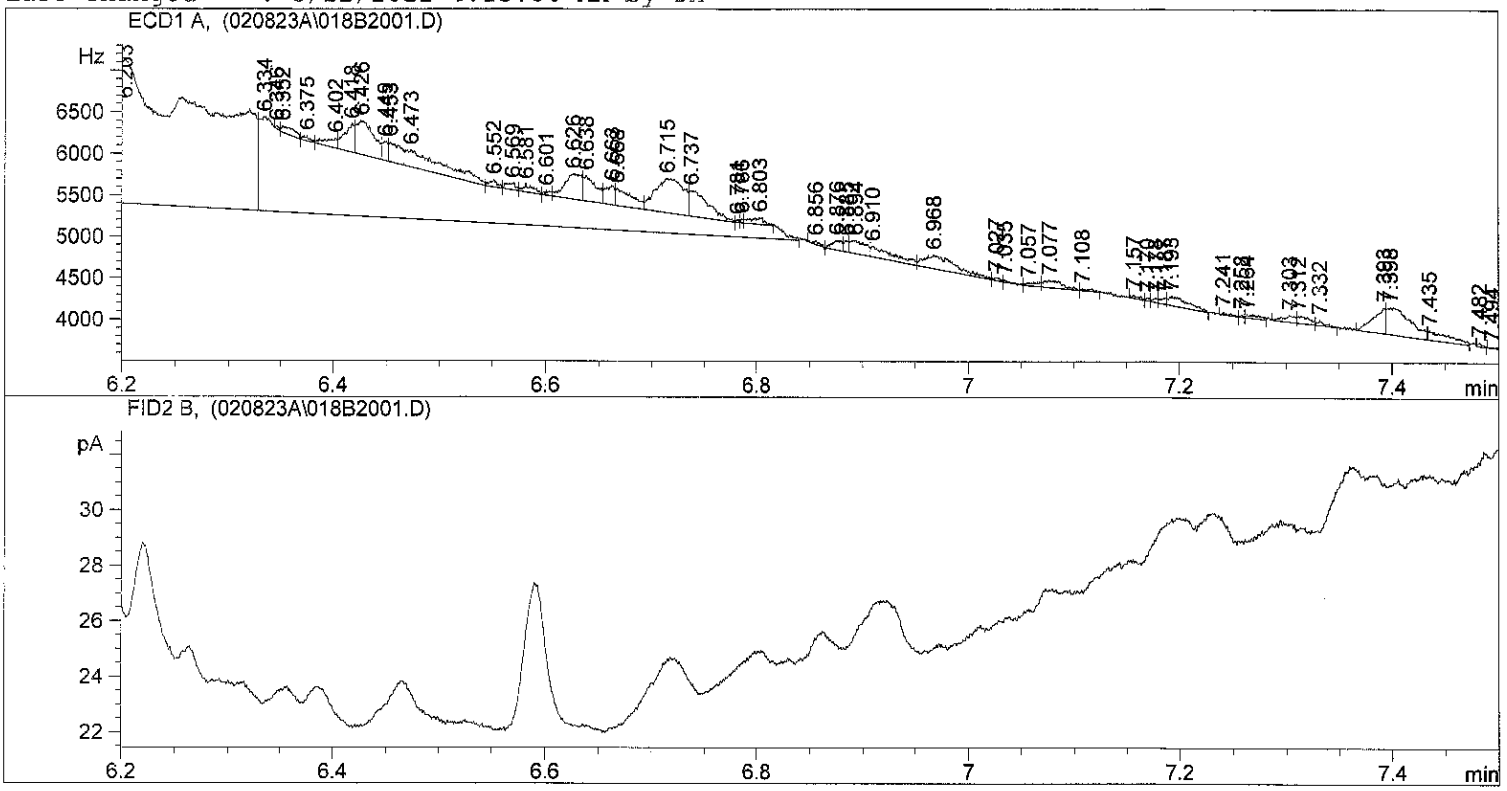

Area Percent Report

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Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
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Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.255	BV	0.0255	1320.82288	618.19287	1.38239
2	5.282	VV	0.0137	445.68790	403.73132	0.46646
3	5.318	VV	0.0173	1842.87451	1442.31848	1.92878
4	5.388	VV	0.0263	1642.68909	740.39636	1.71926
5	5.411	VV	3.94e-3	122.62097	428.52899	0.12834
6	5.443	VV	0.0235	1428.01880	726.72559	1.49459
7	5.476	VV	0.0180	2170.34570	1455.55090	2.27152
8	5.496	VV	3.25e-3	141.15285	620.51318	0.14773
9	5.511	VV	0.0212	1527.74695	865.53967	1.59896
10	5.545	VV	7.14e-3	207.94037	371.07162	0.21763
11	5.589	VV	0.0288	2169.50757	896.87305	2.27064
12	5.607	VV	4.84e-3	232.32959	670.27686	0.24316
13	5.629	VV	0.0149	1050.36047	884.33148	1.09932
14	5.636	VV	4.90e-3	311.59256	845.84772	0.32612
15	5.643	VV	0.0125	899.77026	867.84772	0.94171
16	5.691	VV	0.0285	4193.60156	1754.08618	4.38909
17	5.719	VV	0.0157	1537.45435	1169.02563	1.60912

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.750	VV	0.0261	3259.82227	1504.54309	3.41178
19	5.808	VV	0.0359	3764.29614	1281.46582	3.93977
20	5.864	VV	0.0326	4795.03613	1778.94836	5.01856
21	5.901	VV	0.0118	1096.92883	1282.44629	1.14806
22	5.946	VV S	0.0262	9072.93848	4605.59033	9.49587
23	6.051	VV S	0.1159	1.61501e4	1994.53589	16.90296
24	6.203	VV S	0.1277	1.46878e4	1731.30713	15.37249
25	6.334	VB S	0.2090	1.41692e4	1129.77307	14.82974
26	6.346	BV X	3.83e-3	7.71117	33.58122	0.00807
27	6.352	VV X	0.0126	76.13878	74.07706	0.07969
28	6.375	VV T	5.29e-3	25.35275	63.05539	0.02653
29	6.402	VV T	8.98e-3	88.18307	122.72936	0.09229
30	6.418	VV T	7.90e-3	213.81625	341.93765	0.22378
31	6.426	VV T	0.0142	467.94162	405.90936	0.48975
32	6.449	VV T	5.36e-3	82.90526	221.74309	0.08677
33	6.453	VV T	0.0129	181.42732	234.50809	0.18988
34	6.473	PV T	0.0462	552.17316	199.33292	0.57791
35	6.552	PV T	6.32e-3	43.38413	88.43945	0.04541
36	6.569	PV T	7.85e-3	47.71178	79.00363	0.04994
37	6.581	PV T	8.63e-3	62.11839	94.98878	0.06501
38	6.601	PV T	6.71e-3	20.62325	51.19820	0.02158
39	6.626	PV T	0.0143	335.50217	303.87231	0.35114
40	6.638	PV T	9.88e-3	249.99263	307.75842	0.26165
41	6.663	PV T	8.35e-3	139.09222	226.90672	0.14558
42	6.668	PV T	0.0182	226.58362	207.37369	0.23715
43	6.715	PV T	0.0226	769.18927	411.83582	0.80504
44	6.737	PV T	0.0219	404.77161	307.35080	0.42364
45	6.781	PV T	2.91e-3	5.94338	34.02598	0.00622
46	6.786	PV T	2.77e-3	8.60800	51.76199	0.00901
47	6.803	PB T	0.0106	75.71616	86.23238	0.07925
48	6.856	BP	5.77e-3	14.91284	36.49826	0.01561
49	6.876	VV	8.64e-3	77.57898	115.43221	0.08120
50	6.885	VV	4.57e-3	39.92399	130.33173	0.04179
51	6.894	VV	0.0132	161.95630	157.16597	0.16951
52	6.910	VV	0.0195	197.89909	123.64412	0.20712
53	6.968	VV	0.0246	337.58856	163.78944	0.35333
54	7.027	VP	5.80e-3	14.24515	33.23471	0.01491
55	7.035	VP	5.73e-3	9.26226	21.91399	0.00969
56	7.057	VB	0.0122	33.83327	34.50703	0.03541
57	7.077	BV	0.0159	108.36716	82.48896	0.11342
58	7.108	VB	8.31e-3	14.50893	21.94209	0.01519
59	7.157	BP	6.01e-3	17.50828	39.18328	0.01832
60	7.170	VV	3.44e-3	9.50664	36.51269	0.00995
61	7.178	VV	4.42e-3	16.07331	51.84506	0.01682
62	7.187	VV	4.51e-3	26.63697	75.54693	0.02788
63	7.193	VP	0.0172	146.60704	104.09608	0.15344
64	7.241	PP	5.06e-3	10.77847	27.00935	0.01128
65	7.258	VV	3.18e-3	4.92981	24.15514	0.00516
66	7.264	VB	0.0113	33.11380	35.94738	0.03466
67	7.303	BV	0.0104	65.11572	78.96690	0.06815
68	7.312	VV	9.92e-3	69.29253	84.91491	0.07252
69	7.332	VB	6.98e-3	25.32472	60.47476	0.02651
70	7.393	BV	0.0102	253.86046	308.89203	0.26569
71	7.398	VV	0.0196	506.86240	320.85007	0.53049
72	7.435	VB	0.0183	162.77582	106.09575	0.17036
73	7.482	BB	4.14e-3	12.88894	42.45178	0.01349
74	7.494	BB	8.78e-3	9.22772	13.84552	0.00966
75	7.512	PV	2.15e-3	3.00266	22.62210	0.00314
76	7.521	VV	6.51e-3	21.56146	42.57922	0.02257
77	7.559	VV	0.0244	576.59937	280.22690	0.60348
78	7.601	VV	9.77e-3	53.14022	70.68597	0.05562
79	7.611	VV	0.0121	92.36414	93.46524	0.09667
80	7.633	VP	5.48e-3	19.80673	45.44753	0.02073
81	7.667	PP	8.15e-3	8.80141	18.00569	0.00921
82	7.677	VV	5.38e-3	5.44201	16.86254	0.00570

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
83	7.688	VB	4.00e-3	6.41904	22.05505	0.00672
84	7.730	PB	5.65e-3	7.20649	16.64633	0.00754
85	7.770	PV	9.11e-3	23.32820	39.35926	0.02442
86	7.777	VB	8.23e-3	22.25709	34.97053	0.02329

Totals : 9.55461e4 3.70518e4

Results obtained with enhanced integrator!

Signal 2: FID2 B,

Peak #	RetTime [min]	Type	Width [min]	Area [pA*s]	Height [pA]	Area %
1	5.366	PB	0.0166	24.88807	22.96079	1.000e2

Totals : 24.88807 22.96079

Results obtained with enhanced integrator!

*** End of Report ***

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==============================================================================
Injection Date  : 2/8/2023 5:16:31 PM          Seq. Line :  21
Sample Name     : 23A0455 03                    Location : Vial 19
Acq. Operator   : TW                               Inj :  1
                                              Inj Volume : 1 µl

Sequence File   : C:\HPCHEM\2\SEQUENCE\020823A.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 3/22/2022 4:13:36 AM by DM
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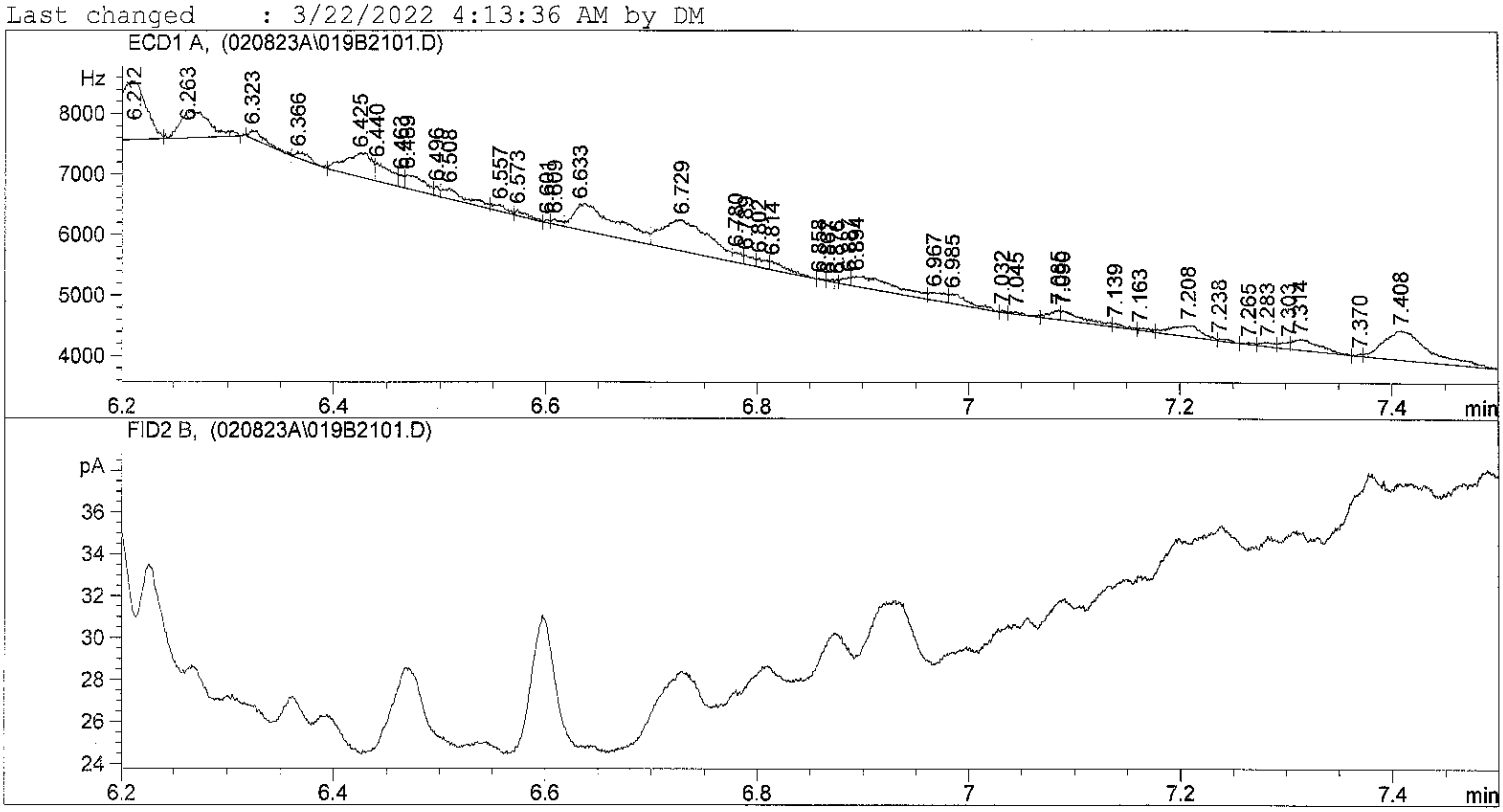


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==============================================================================
                          Area Percent Report
==============================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000

Signal 1: ECD1 A,
```

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.237	BV	0.0235	2419.62061	1264.72632	3.22916
2	5.286	VV	0.0130	562.35596	520.81628	0.75051
3	5.325	VV S	0.0250	4425.06494	2261.27002	5.90558
4	5.394	PV T	0.0206	1572.15210	924.20294	2.09815
5	5.423	VV T	3.61e-3	18.61086	85.90341	0.02484
6	5.427	VV T	3.94e-3	22.35274	94.52901	0.02983
7	5.446	VV T	0.0149	287.75580	245.34973	0.38403
8	5.483	VV T	0.0145	1187.89954	1055.14075	1.58534
9	5.514	VV T	0.0126	434.30908	416.84045	0.57962
10	5.559	VV T	0.0000	104.13596	62.59859	0.13898
11	5.591	VV S	0.0178	1.35156e4	1.14213e4	18.03754
12	5.953	VV S	0.0516	2.45973e4	7942.09131	32.82692
13	6.059	VV S	0.0581	7586.52100	2175.33960	10.12477
14	6.106	VV S	0.0288	3504.76587	2027.01819	4.67737
15	6.212	VV S	0.0611	3579.74951	975.71313	4.77744
16	6.263	VB S	0.0330	843.47784	449.58582	1.12568
17	6.323	BP	0.0118	139.45638	142.51315	0.18611

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.366	VP	0.0130	107.16020	99.60903	0.14301
19	6.425	VV	0.0206	687.61621	396.65891	0.91767
20	6.440	VV	0.0131	318.89841	302.41309	0.42559
21	6.463	VV	5.83e-3	72.02071	205.94337	0.09612
22	6.469	VV	0.0158	305.68805	234.74669	0.40796
23	6.496	VV	4.65e-3	49.97359	151.61334	0.06669
24	6.508	VB	0.0185	273.94391	178.21074	0.36560
25	6.557	BV	0.0116	98.56849	106.70483	0.13155
26	6.573	VP	9.14e-3	76.74326	104.88508	0.10242
27	6.601	VV	5.22e-3	18.67536	57.03016	0.02492
28	6.609	VV	8.37e-3	54.21465	88.20772	0.07235
29	6.633	VV	0.0371	1330.37878	423.35110	1.77549
30	6.729	VV	0.0374	1605.95142	517.11792	2.14326
31	6.780	VV	7.19e-3	92.48335	168.87825	0.12343
32	6.789	VV	8.40e-3	98.02603	150.43588	0.13082
33	6.802	VV	7.84e-3	91.57558	147.52583	0.12221
34	6.814	VP	0.0179	162.21581	151.32655	0.21649
35	6.858	VV	4.47e-3	7.92849	23.92841	0.01058
36	6.867	VV	5.43e-3	12.22854	30.81317	0.01632
37	6.876	VV	2.74e-3	10.79684	58.80437	0.01441
38	6.887	VV	6.36e-3	62.19981	125.92349	0.08301
39	6.894	VV	0.0386	563.03265	172.73343	0.75141
40	6.967	VV	0.0135	146.92349	135.26985	0.19608
41	6.985	VP	0.0157	217.69072	165.81888	0.29052
42	7.032	VV	3.38e-3	9.74179	40.91256	0.01300
43	7.045	VV	0.0113	40.68150	44.15631	0.05429
44	7.085	VV	8.48e-3	107.33881	158.84097	0.14325
45	7.090	VV	0.0173	233.33218	161.04059	0.31140
46	7.139	VV	9.47e-3	50.87004	66.89600	0.06789
47	7.163	VV	0.0118	34.14608	35.66110	0.04557
48	7.208	VV	0.0236	359.75800	184.33832	0.48012
49	7.238	VP	0.0103	30.73481	36.40301	0.04102
50	7.265	BV	7.33e-3	19.51213	32.83900	0.02604
51	7.283	VV	0.0103	66.87719	78.63998	0.08925
52	7.303	VV	8.32e-3	70.04484	108.68398	0.09348
53	7.314	VP	0.0224	322.63785	175.61378	0.43058
54	7.370	VV	5.32e-3	14.19121	42.25597	0.01894
55	7.408	VP	0.0364	1434.29749	486.71823	1.91418
56	7.518	VB	2.94e-3	6.10639	30.47848	0.00815
57	7.570	BV	0.0230	710.54547	366.72272	0.94828
58	7.621	VV	0.0100	50.18244	66.24860	0.06697
59	7.629	VB	5.82e-3	24.67569	57.40232	0.03293
60	7.706	PP	0.0114	38.90639	43.51796	0.05192
61	7.752	BP	3.35e-3	2.02414	8.00899	0.00270
62	7.768	VV	4.72e-3	8.90355	25.23209	0.01188
63	7.778	VV	5.21e-3	14.35326	34.79602	0.01916
64	7.785	VV	4.26e-3	10.25478	32.71450	0.01369
65	7.794	VPA	4.10e-3	4.11796	13.72698	0.00550
Totals :				7.49303e4	3.85947e4	

Results obtained with enhanced integrator!

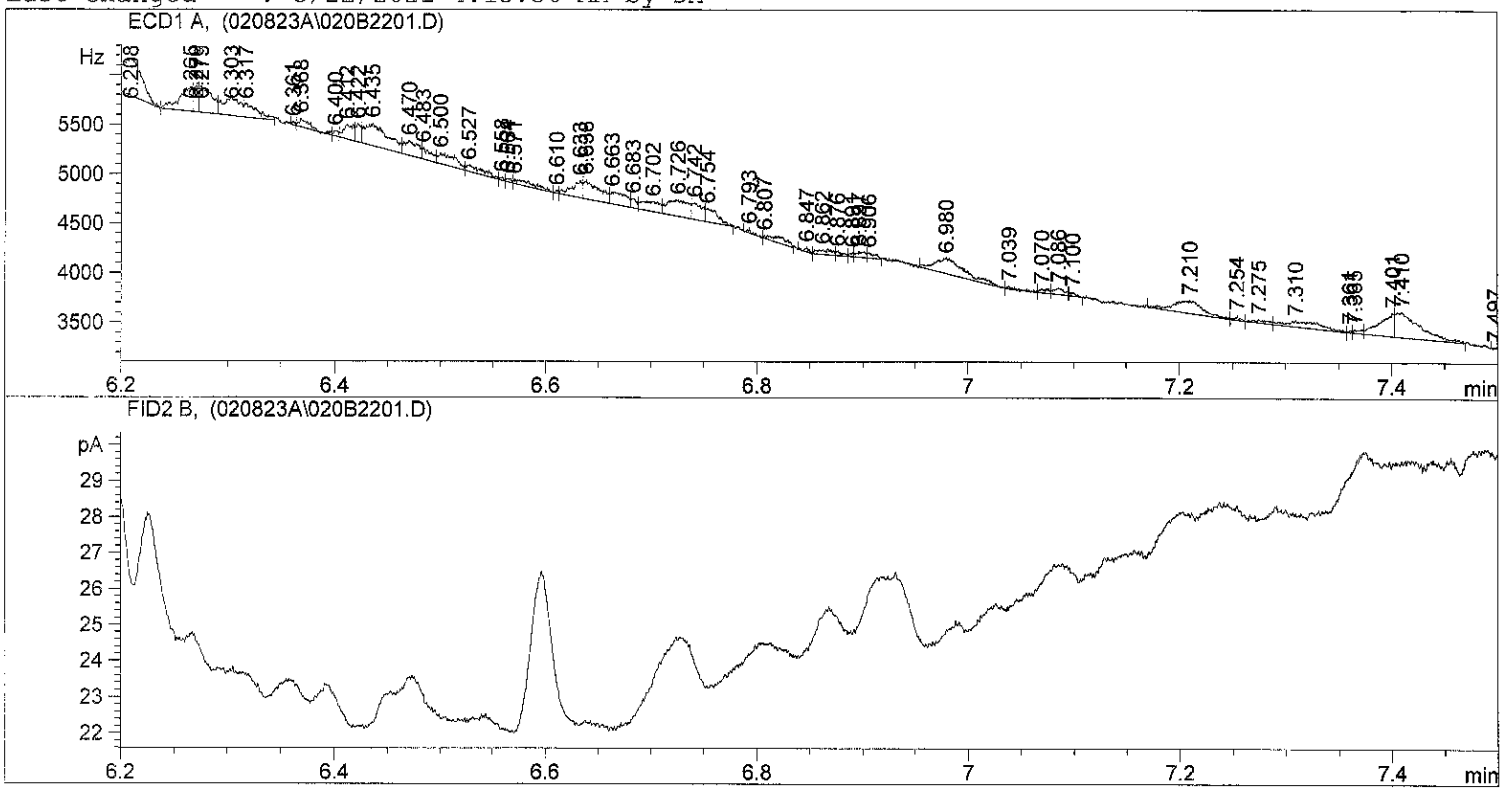
Signal 2: FID2 B,

Peak #	RetTime [min]	Type	Width [min]	Area [pA*s]	Height [pA]	Area %
1	5.373	PP	0.0189	48.28682	40.03429	58.49403
2	5.471	PV	0.0156	34.26318	27.02549	41.50597
Totals :				82.55000	67.05979	

Results obtained with enhanced integrator!

Injection Date : 2/8/2023 5:27:43 PM Seq. Line : 22
Sample Name : 23A0455 08 Location : Vial 20
Acq. Operator : TW Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\020823A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 3/22/2022 4:13:36 AM by DM



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.261	BV	0.0135	520.39014	476.58652	1.52229
2	5.266	VV	3.56e-3	121.81006	479.40112	0.35633
3	5.284	VV	0.0191	820.69189	524.61322	2.40076
4	5.322	VV	0.0178	1947.79907	1517.82703	5.69787
5	5.402	VV	0.0209	3205.76636	2045.38367	9.37779
6	5.449	VV	0.0188	523.90985	335.70975	1.53259
7	5.478	VV	0.0171	1035.84668	749.36530	3.03015
8	5.515	VP	0.0186	740.74249	509.38724	2.16688
9	5.554	VV	4.11e-3	15.15100	50.38619	0.04432
10	5.571	VV	8.86e-3	19.07338	32.42604	0.05580
11	5.591	VV	0.0176	385.25833	270.36435	1.12699
12	5.631	VV	0.0126	199.99344	200.39903	0.58504
13	5.650	VV	9.67e-3	162.04663	208.42871	0.47403
14	5.656	VV	5.57e-3	75.00025	183.25980	0.21940
15	5.693	VV	0.0279	1607.54395	696.19977	4.70253
16	5.726	VV	0.0138	465.11728	418.34750	1.36060
17	5.756	VV	0.0214	990.66083	561.19061	2.89797

Peak #	RetTime [min]	Type		Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.793	VV		0.0115	317.51035	341.00049	0.92881
19	5.800	VV		4.74e-3	112.93547	351.93875	0.33037
20	5.810	VV		0.0183	599.11212	403.86774	1.75258
21	5.839	VV		7.48e-3	139.15826	250.55188	0.40708
22	5.869	VV		0.0295	1980.86243	795.18488	5.79459
23	5.951	VV	S	0.0179	7059.39355	5460.95703	20.65076
24	6.058	VV	S	0.0546	3806.92285	1162.03137	11.13634
25	6.106	VV	S	0.0227	1295.61951	952.42236	3.79006
26	6.142	VB	S	0.0217	180.04485	138.55064	0.52668
27	6.183	BV		7.68e-3	46.07722	80.44444	0.13479
28	6.208	VP		0.0179	547.03381	367.88602	1.60023
29	6.265	VV		0.0105	200.66383	241.71364	0.58700
30	6.270	VV		4.43e-3	86.27673	262.61819	0.25238
31	6.275	VV		9.60e-3	213.89780	271.27515	0.62571
32	6.303	VV		0.0136	206.24965	185.11330	0.60334
33	6.317	VB		0.0115	122.23773	133.67453	0.35758
34	6.361	BV		2.85e-3	5.48298	31.26897	0.01604
35	6.368	VB		8.98e-3	60.22111	83.85785	0.17616
36	6.400	BV		3.96e-3	16.02166	52.52042	0.04687
37	6.412	VV		8.62e-3	95.21655	145.83568	0.27854
38	6.422	VV		4.60e-3	65.24400	181.12019	0.19086
39	6.435	VV		0.0184	344.76532	228.95265	1.00854
40	6.470	VV		0.0112	130.80334	149.37012	0.38264
41	6.483	VV		0.0104	71.76946	114.76947	0.20995
42	6.500	VV		0.0144	131.44949	109.56398	0.38453
43	6.527	VV		0.0149	78.65717	64.94153	0.23009
44	6.558	VP		3.69e-3	6.40751	28.96427	0.01874
45	6.564	VV		4.34e-3	10.83320	33.80051	0.03169
46	6.571	VP		0.0198	68.60813	41.20969	0.20070
47	6.610	VV		3.03e-3	5.19207	27.63861	0.01519
48	6.633	VV		9.87e-3	120.59748	170.09320	0.35278
49	6.638	VV		0.0131	200.09351	189.62090	0.58533
50	6.663	VV		0.0127	126.05051	119.91197	0.36873
51	6.683	VV		5.74e-3	31.75453	92.27688	0.09289
52	6.702	VV		0.0140	116.00909	101.17946	0.33936
53	6.726	VV		0.0174	231.91188	165.17680	0.67841
54	6.742	VV		8.16e-3	111.50635	167.53479	0.32619
55	6.754	VB		0.0100	106.34541	131.39085	0.31109
56	6.793	PP		3.98e-3	9.34256	39.15455	0.02733
57	6.807	VB		0.0331	69.45549	24.74660	0.20318
58	6.847	BP		3.91e-3	12.96445	45.69856	0.03792
59	6.862	VV		0.0122	47.43047	47.55722	0.13875
60	6.876	VV		6.10e-3	16.74283	38.26881	0.04898
61	6.891	VV		3.87e-3	9.14805	40.02658	0.02676
62	6.897	VV		9.06e-3	30.76611	56.61578	0.09000
63	6.906	VB		7.06e-3	27.46275	51.16493	0.08034
64	6.980	BP		0.0246	303.55576	151.55815	0.88799
65	7.039	VB		7.73e-3	11.71144	25.23767	0.03426
66	7.070	BB		8.76e-3	22.20738	34.26836	0.06496
67	7.086	BV		8.99e-3	43.53048	60.53471	0.12734
68	7.100	VP		5.60e-3	13.80494	37.39289	0.04038
69	7.210	BV		0.0228	238.71602	129.94548	0.69831
70	7.254	VP		4.59e-3	14.69641	40.94921	0.04299
71	7.275	VV		0.0114	30.25318	32.57539	0.08850
72	7.310	VP		0.0298	143.40654	58.85117	0.41951
73	7.361	VV		2.87e-3	4.70633	24.19251	0.01377
74	7.365	VV		9.44e-3	19.73490	34.85796	0.05773
75	7.401	VV		0.0120	220.10400	226.15703	0.64387
76	7.410	VB		0.0194	402.14273	249.01410	1.17638
77	7.497	BP		1.38e-3	4.95656e-1	7.42412	0.00145
78	7.509	BP		1.71e-3	1.30963	16.82720	0.00383
79	7.567	BV		0.0241	431.23602	212.27625	1.26149
80	7.612	VV		0.0139	67.65377	58.34454	0.19791
81	7.628	VB		0.0101	52.02253	64.15552	0.15218
82	7.653	BP		8.06e-3	18.17612	28.40988	0.05317

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
83	7.729	BP	4.07e-3	4.84650	16.30173	0.01418
84	7.757	PV	3.97e-3	6.20142	21.47292	0.01814
85	7.766	VV	2.48e-3	2.61195	16.17408	0.00764
86	7.783	VPA	0.0132	22.49613	24.77712	0.06581
Totals :				3.41847e4	2.50044e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

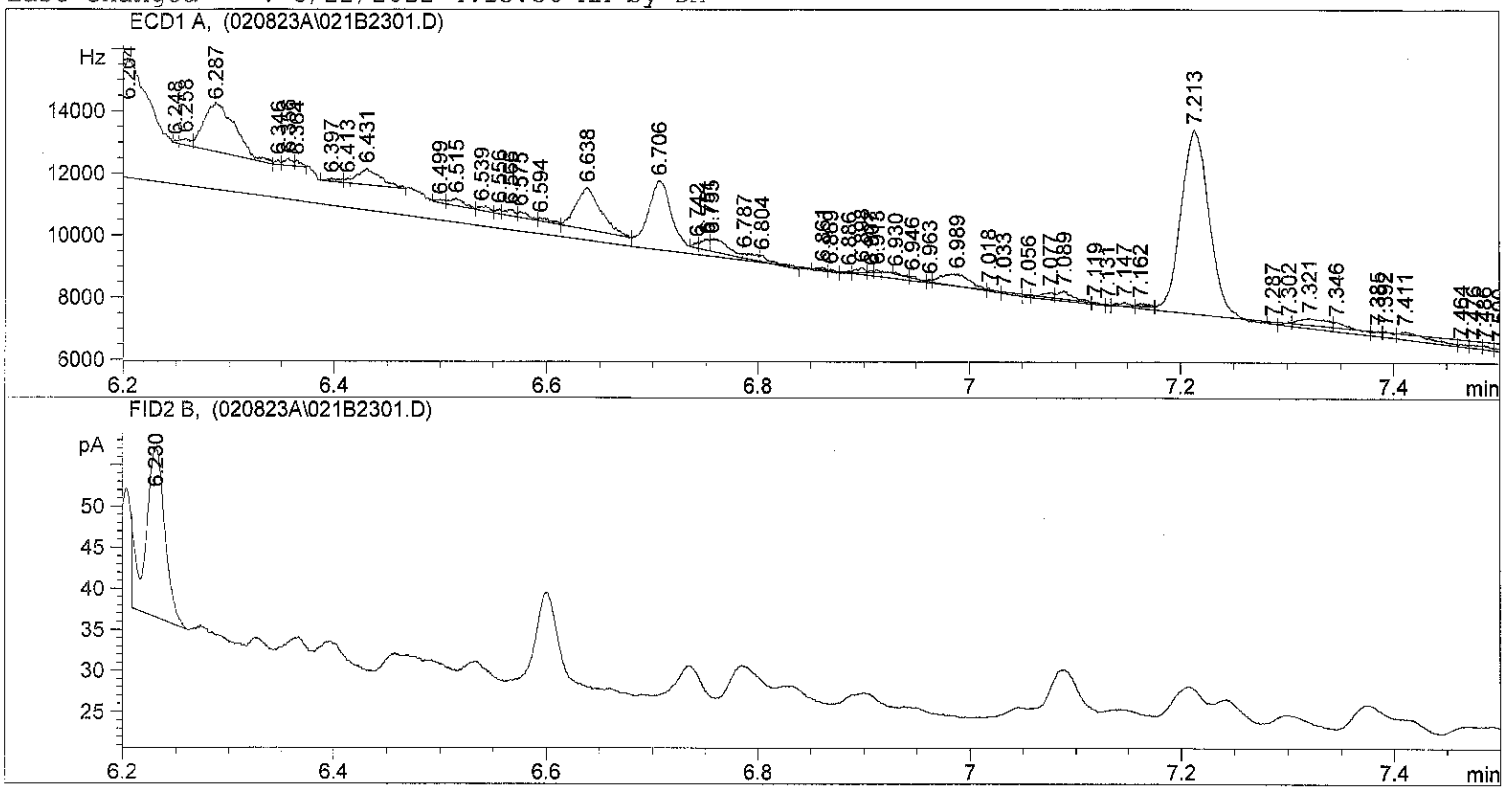
Peak #	RetTime [min]	Type	Width [min]	Area [pA*s]	Height [pA]	Area %
1	5.370	PB	0.0165	28.98697	26.20373	1.000e2
Totals :				28.98697	26.20373	

Results obtained with enhanced integrator!

*** End of Report ***

Injection Date : 2/8/2023 5:38:57 PM Seq. Line : 23
Sample Name : 23A0455 15 Location : Vial 21
Acq. Operator : TW Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\020823A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 3/22/2022 4:13:36 AM by DM



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.233	BV S	0.0198	4856.70215	3404.08691	2.20832
2	5.272	BP T	0.0105	408.46576	534.92572	0.18573
3	5.290	PV T	5.63e-3	55.87286	129.49483	0.02541
4	5.315	PV S	0.0274	2977.41187	1305.31592	1.35381
5	5.342	BV T	6.57e-3	174.91557	379.87427	0.07953
6	5.347	VV T	6.05e-3	80.32185	221.10901	0.03652
7	5.404	VV S	0.0392	1.78616e4	7602.08203	8.12160
8	5.439	VV S	0.0914	1.30431e4	2379.30005	5.93061
9	5.493	BV T	0.0175	1843.38098	1334.64270	0.83818
10	5.513	VV T	8.46e-3	648.03815	937.64905	0.29466
11	5.558	PV T	0.0000	56.32514	312.67978	0.02561
12	5.629	VV S	0.0650	2.03274e4	5212.93652	9.24279
13	5.665	BV T	4.43e-3	31.76953	96.71845	0.01445
14	5.693	VV S	0.0360	1.29494e4	4286.96484	5.88803
15	5.737	BV T	4.14e-3	40.31799	133.04031	0.01833
16	5.770	VV S	0.0510	2.02349e4	4707.09082	9.20072
17	5.821	BV T	0.0128	1168.21558	1178.70972	0.53118

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.872	VV S	0.0464	3.25531e4	8548.57910	14.80173
19	5.924	BV T	4.99e-3	28.98237	96.72601	0.01318
20	5.938	PV T	5.68e-3	121.23772	278.46185	0.05513
21	5.950	PV T	6.59e-3	101.94518	198.58162	0.04635
22	5.964	PV T	0.0115	244.83160	277.33020	0.11132
23	5.984	PV T	7.32e-3	200.95999	383.05576	0.09138
24	6.049	PV S	0.0525	3.44044e4	7854.78369	15.64350
25	6.116	BV T	8.95e-3	300.82599	420.28970	0.13678
26	6.128	PV T	8.32e-3	273.25513	413.08517	0.12425
27	6.140	PV T	5.89e-3	118.12927	281.68759	0.05371
28	6.151	PV T	0.0165	302.81171	306.48807	0.13769
29	6.204	PV S	0.0925	2.99170e4	3788.90796	13.60311
30	6.248	BV T	5.47e-3	28.70823	87.45045	0.01305
31	6.258	PV T	7.94e-3	138.25345	219.85368	0.06286
32	6.287	PV T	0.0247	3237.27173	1566.00110	1.47197
33	6.346	PV T	4.10e-3	42.93591	143.16104	0.01952
34	6.356	PV T	6.81e-3	112.17905	217.86305	0.05101
35	6.364	PB T	6.45e-3	75.44937	194.87852	0.03431
36	6.397	BV T	0.0107	84.35562	101.97580	0.03836
37	6.413	PV T	5.20e-3	48.56475	155.68433	0.02208
38	6.431	PB T	0.0172	749.49756	526.22443	0.34079
39	6.499	BV T	9.96e-3	60.33896	100.96223	0.02744
40	6.515	PV T	0.0113	211.62204	235.85110	0.09622
41	6.539	PV T	9.97e-3	105.71199	131.56233	0.04807
42	6.556	PV T	4.21e-3	44.79974	162.60229	0.02037
43	6.566	PV T	8.55e-3	131.30325	192.58376	0.05970
44	6.575	PV T	0.0105	119.52810	189.48465	0.05435
45	6.594	PV T	0.0156	96.52158	103.27521	0.04389
46	6.638	PV T	0.0194	2164.08374	1341.95166	0.98400
47	6.706	PV S	0.0313	5693.49072	2225.19629	2.58880
48	6.742	BV T	4.87e-3	54.60026	183.55896	0.02483
49	6.751	PV T	6.88e-3	170.33965	350.15515	0.07745
50	6.755	PV T	0.0218	499.41547	381.70468	0.22708
51	6.787	PV T	0.0168	156.29817	154.82703	0.07107
52	6.804	PP T	0.0150	187.65517	208.06331	0.08533
53	6.861	BV T	7.28e-3	68.62886	131.67554	0.03121
54	6.869	PV T	6.49e-3	33.62879	86.33143	0.01529
55	6.886	PV T	5.61e-3	26.47222	64.19638	0.01204
56	6.898	PV T	8.12e-3	92.51480	165.56369	0.04207
57	6.907	PV T	5.05e-3	21.37634	70.53628	0.00972
58	6.913	PB T	3.40e-3	22.81631	94.96951	0.01037
59	6.930	BV T	7.21e-3	28.36379	65.54269	0.01290
60	6.946	PV T	5.88e-3	22.09955	62.61655	0.01005
61	6.963	PV T	3.75e-3	16.23915	72.15144	0.00738
62	6.989	PV T	0.0236	704.11737	384.21954	0.32016
63	7.018	PV T	5.62e-3	44.35401	103.15992	0.02017
64	7.033	PP T	4.54e-3	20.80394	61.65813	0.00946
65	7.056	PV T	3.37e-3	20.09393	84.74535	0.00914
66	7.077	PV T	0.0116	193.23224	230.83708	0.08786
67	7.089	PV T	0.0139	365.54559	320.58365	0.16621
68	7.119	PP T	6.19e-3	30.67703	82.58183	0.01395
69	7.131	PV T	2.81e-3	7.47307	44.36612	0.00340
70	7.147	PV T	9.42e-3	83.88305	116.28816	0.03814
71	7.162	PV T	8.09e-3	62.51225	97.35238	0.02842
72	7.213	PBAS	0.0102	4447.25732	5913.45703	2.02215
73	7.287	BV T	4.25e-3	15.44283	60.49364	0.00702
74	7.302	PV T	5.66e-3	56.47417	135.55626	0.02568
75	7.321	PV T	0.0230	632.60486	326.96094	0.28764
76	7.346	PV T	0.0158	400.51315	306.51059	0.18211
77	7.385	PV T	8.91e-3	91.38355	170.88799	0.04155
78	7.392	PV T	0.0104	126.08089	201.84753	0.05733
79	7.411	PV T	0.0225	497.51508	263.16751	0.22622
80	7.464	PV T	7.11e-3	43.59375	80.56269	0.01982
81	7.476	PV T	0.0110	68.90559	104.21461	0.03133
82	7.486	PV T	8.25e-3	60.39464	122.05819	0.02746

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
83	7.500	PV T	0.0110	115.48541	126.80671	0.05251
84	7.520	PV T	3.58e-3	16.33588	76.03506	0.00743
85	7.526	PV T	9.44e-3	40.56149	71.61162	0.01844
86	7.542	PB T	4.84e-3	10.28590	35.44796	0.00468
87	7.565	BV T	8.93e-3	58.93958	110.05386	0.02680
88	7.612	PV T	0.0153	306.11896	243.40079	0.13919
89	7.616	PV T	4.25e-3	61.86706	242.53885	0.02813
90	7.622	PV T	8.04e-3	159.78502	250.44521	0.07265
91	7.651	PV T	0.0163	354.51352	270.24701	0.16120
92	7.659	PV T	0.0151	323.55405	257.48996	0.14712
93	7.691	PV T	8.50e-3	125.27299	189.68860	0.05696
94	7.702	PV T	9.48e-3	144.34427	189.61220	0.06563
95	7.733	PV T	9.61e-3	80.21490	103.90588	0.03647
96	7.749	PV T	0.0184	240.29831	162.78424	0.10926
97	7.779	PV T	5.32e-3	25.35773	65.38680	0.01153
98	7.798	PBAT	6.96e-3	21.09942	42.71843	0.00959
Totals :				2.19928e5	7.86427e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

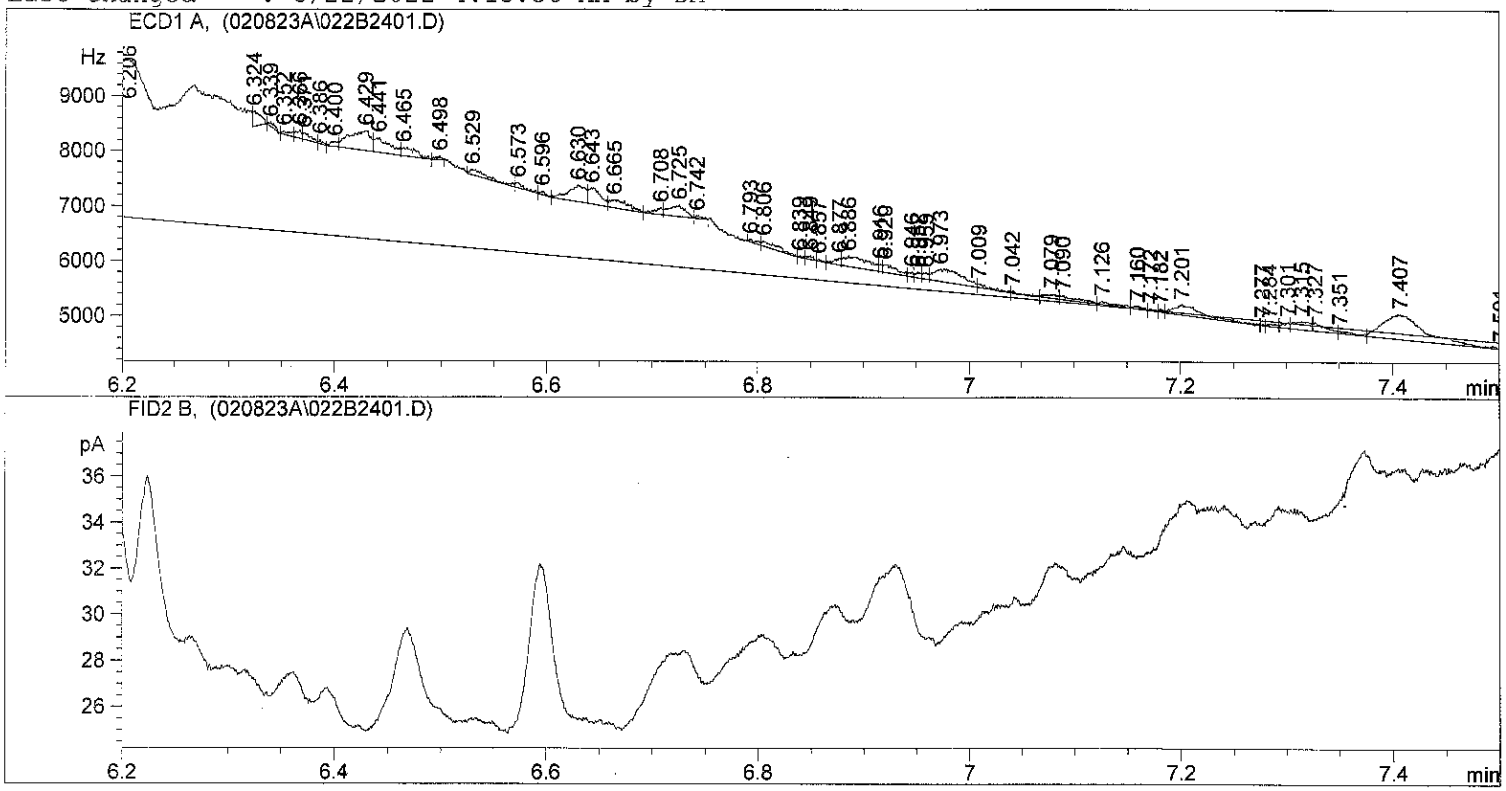
Peak #	RetTime [min]	Type	Width [min]	Area [pA*s]	Height [pA]	Area %
1	5.286	BB	0.0187	39.11521	31.98866	33.38200
2	5.748	PB	0.0200	51.83291	36.05005	44.23564
3	6.230	BP	0.0192	26.22643	20.63893	22.38236
Totals :				117.17455	88.67764	

Results obtained with enhanced integrator!

*** End of Report ***

Injection Date : 2/8/2023 5:49:55 PM Seq. Line : 24
Sample Name : 23A0455 16 Location : Vial 22
Acq. Operator : TW Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\020823A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 3/22/2022 4:13:36 AM by DM



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.235	BV	0.0122	893.41229	912.28583	0.47561
2	5.256	VV	0.0164	1379.98523	1031.16321	0.73464
3	5.277	VV	3.99e-3	137.40721	503.16037	0.07315
4	5.289	VV	0.0117	588.52557	620.02527	0.31331
5	5.323	VV S	0.0261	4826.28418	2354.75635	2.56931
6	5.394	BV T	0.0197	2338.74341	1475.27063	1.24505
7	5.444	VV S	0.0328	1.65079e4	5972.96191	8.78811
8	5.512	VV S	0.3360	3.13887e4	1556.76672	16.71000
9	5.558	BV T	5.39e-3	41.77332	101.67970	0.02224
10	5.568	VV T	7.11e-3	93.50320	191.15031	0.04978
11	5.596	VV T	0.0152	741.73969	599.28198	0.39487
12	5.609	VV T	7.81e-3	436.91898	707.38971	0.23260
13	5.635	VV T	0.0195	1749.28259	1081.40137	0.93124
14	5.646	VV T	7.65e-3	431.17822	939.94049	0.22954
15	5.655	VV T	7.68e-3	532.65570	853.89417	0.28356
16	5.685	VV T	0.0284	3508.21265	1470.28467	1.86762
17	5.721	VV T	0.0198	758.79443	638.87915	0.40395

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.743	VV T	4.92e-3	186.78749	528.53601	0.09944
19	5.761	VV T	0.0214	1301.96387	729.76099	0.69311
20	5.797	VV T	3.93e-3	67.88743	237.61143	0.03614
21	5.813	VV T	0.0128	562.52155	538.20020	0.29946
22	5.870	VV T	0.0195	1760.80920	1098.72949	0.93738
23	5.952	VV S	0.0242	1.83612e4	1.01141e4	9.77471
24	6.055	VV S	0.0767	1.91126e4	4153.57520	10.17472
25	6.106	VV S	0.0405	9144.01758	3765.67480	4.86788
26	6.206	VB S	0.2829	6.40083e4	2886.17236	34.07525
27	6.324	BV T	8.48e-3	138.89418	272.90051	0.07394
28	6.339	VV T	6.16e-3	28.30924	76.64515	0.01507
29	6.352	PV T	9.03e-3	37.00634	68.32221	0.01970
30	6.366	PV T	5.83e-3	49.73809	142.06903	0.02648
31	6.371	PV T	9.13e-3	65.48466	119.56846	0.03486
32	6.386	PV T	3.08e-3	16.92598	73.75845	0.00901
33	6.400	PV T	7.34e-3	45.59251	92.65215	0.02427
34	6.429	PV T	0.0169	492.16748	360.69763	0.26201
35	6.441	PV T	0.0134	270.55017	266.58328	0.14403
36	6.465	PV T	0.0161	143.36963	148.39058	0.07632
37	6.498	PB T	4.45e-3	19.60231	62.73933	0.01044
38	6.529	BV T	0.0165	130.10268	94.53896	0.06926
39	6.573	PV T	7.13e-3	50.15653	95.45953	0.02670
40	6.596	PV T	4.65e-3	20.83192	66.66532	0.01109
41	6.630	PV T	0.0135	336.43283	300.55051	0.17910
42	6.643	PV T	9.89e-3	235.98605	290.08762	0.12563
43	6.665	PV T	0.0157	183.84489	142.01711	0.09787
44	6.708	PV T	6.45e-3	64.58149	128.81573	0.03438
45	6.725	PV T	0.0126	212.25096	205.80107	0.11299
46	6.742	PB T	6.03e-3	21.50431	47.94198	0.01145
47	6.793	BV T	7.07e-3	28.89644	53.77929	0.01538
48	6.806	PV T	0.0197	110.89352	93.70958	0.05903
49	6.839	PV T	4.51e-3	6.69448	24.75459	0.00356
50	6.849	PV T	5.12e-3	24.49169	66.16911	0.01304
51	6.857	PV T	3.98e-3	8.87354	37.11552	0.00472
52	6.877	PV T	5.55e-3	52.03508	122.58739	0.02770
53	6.886	PV T	0.0199	314.87909	188.72211	0.16763
54	6.916	PV T	3.61e-3	28.34982	130.94287	0.01509
55	6.920	PV T	0.0154	127.13515	137.23601	0.06768
56	6.946	PV T	4.68e-3	24.57658	82.39764	0.01308
57	6.952	PV T	5.19e-3	36.57047	92.96840	0.01947
58	6.959	PV T	5.92e-3	38.99433	109.70889	0.02076
59	6.973	PV T	0.0243	428.63217	210.86583	0.22819
60	7.009	PV T	0.0107	42.45747	66.14499	0.02260
61	7.042	PV T	0.0000	1.17685	34.98692	0.00063
62	7.079	PV T	0.0110	51.76327	68.94323	0.02756
63	7.090	PV T	0.0212	82.75124	65.10227	0.04405
64	7.126	PV T	0.0129	61.29456	58.37211	0.03263
65	7.160	PV T	8.28e-3	31.44535	50.41411	0.01674
66	7.172	PV T	6.08e-3	12.51634	34.30270	0.00666
67	7.182	PV T	5.40e-3	13.96731	43.08216	0.00744
68	7.201	PV T	0.0219	324.40662	179.62102	0.17270
69	7.277	PV T	1.99e-3	3.73750	31.36351	0.00199
70	7.284	PV T	7.54e-3	27.60105	45.10843	0.01469
71	7.301	PV T	5.41e-3	43.86067	106.39226	0.02335
72	7.315	PV T	0.0137	164.59674	144.86865	0.08762
73	7.327	PV T	0.0131	120.15894	152.42871	0.06397
74	7.351	PV T	0.0162	42.35708	43.70642	0.02255
75	7.407	PV T	0.0329	1218.42712	448.24634	0.64864
76	7.501	PV T	7.14e-3	11.89273	27.76315	0.00633
77	7.516	PV T	7.78e-3	11.76193	25.20459	0.00626
78	7.526	PV T	3.08e-3	6.02610	32.62728	0.00321
79	7.569	PV T	0.0262	698.78070	318.22977	0.37200
80	7.610	PV T	9.43e-3	64.03860	84.65043	0.03409
81	7.621	PB T	0.0118	94.49103	96.94470	0.05030
82	7.680	BP	0.0125	23.24058	22.48910	0.01237

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
83	7.714	BP	4.19e-3	5.37053	17.44198	0.00286
84	7.729	VP	2.50e-3	4.97105	27.63671	0.00265
85	7.747	BB	0.0114	19.54472	23.72107	0.01040
86	7.783	PP	3.23e-3	5.78527	25.66867	0.00308
Totals :				1.87844e5	5.17453e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

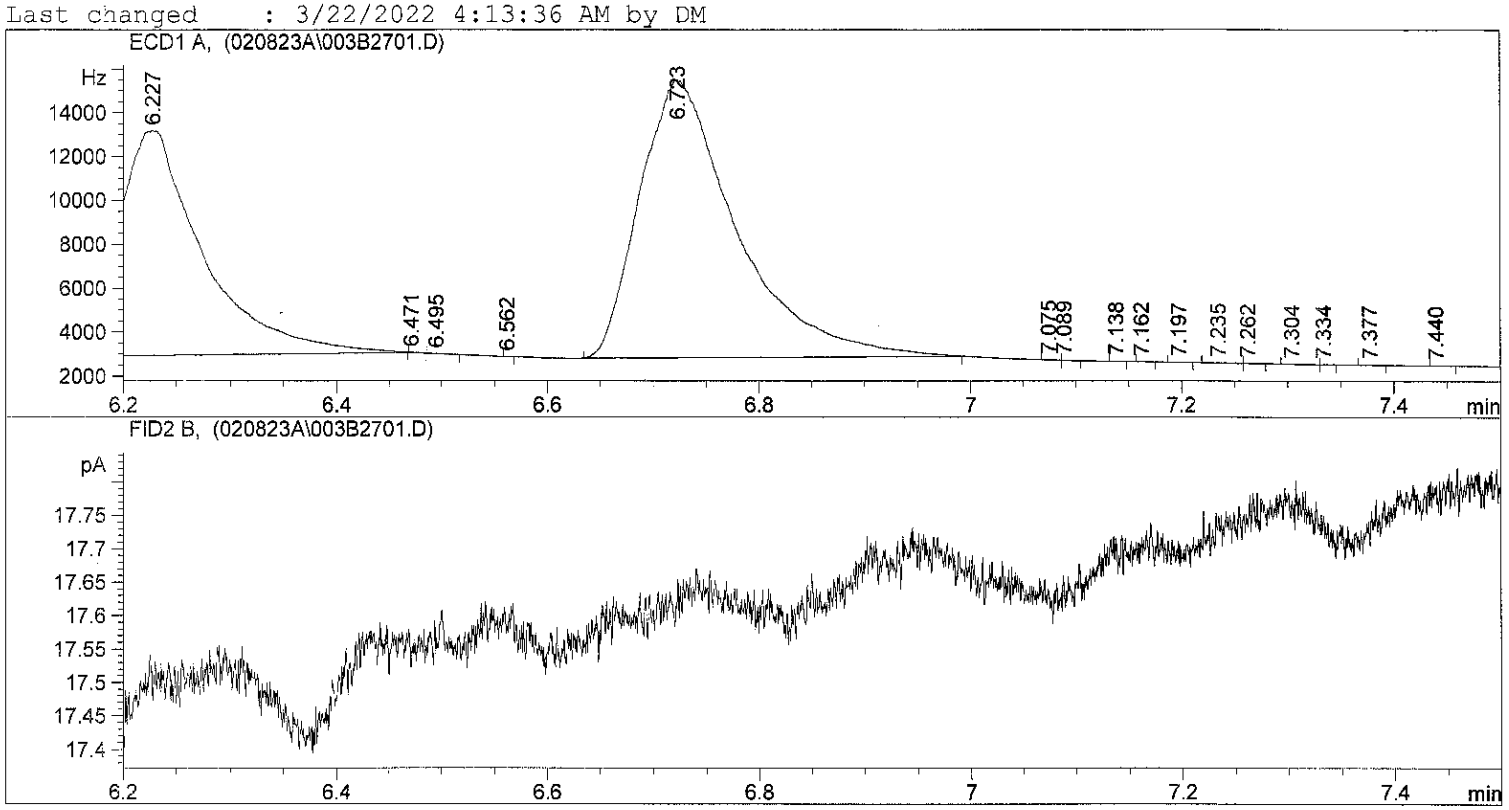
Peak #	RetTime [min]	Type	Width [min]	Area [pA*s]	Height [pA]	Area %
1	5.314	BP	0.0332	96.11147	38.90276	42.07359
2	5.372	VP	0.0210	81.92999	54.99154	35.86553
3	5.468	PP	0.0150	24.36331	26.88041	10.66524
4	5.618	PP	0.0139	26.03181	31.98744	11.39564
Totals :				228.43657	152.76215	

Results obtained with enhanced integrator!

*** End of Report ***

Injection Date : 2/8/2023 6:23:34 PM Seq. Line : 27
Sample Name : CS4 Location : Vial 3
Acq. Operator : TW Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\020823A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 3/22/2022 4:13:36 AM by DM



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.536	PV S	0.0364	1.76288e5	6.11713e4	20.08161
2	5.632	VV S	0.0563	2.55138e5	7.55096e4	29.06370
3	5.694	VV S	0.0509	9.66349e4	3.16682e4	11.00805
4	5.742	VV S	0.0763	9.62766e4	2.10333e4	10.96723
5	5.988	VV S	0.0613	7.65823e4	2.08155e4	8.72379
6	6.140	VV S	0.0586	4.24865e4	1.20878e4	4.83980
7	6.227	VB S	0.0882	5.43197e4	1.02592e4	6.18776
8	6.471	BP	5.54e-3	3.50900	10.55976	0.00040
9	6.495	BP	0.0147	12.27942	10.12678	0.00140
10	6.562	PP	0.0000	9.41642e-3	6.00961	1.073e-6
11	6.723	PB S	0.0757	7.98298e4	1.26760e4	9.09372
12	7.075	BP	8.44e-3	17.86883	27.28891	0.00204
13	7.089	VP	7.53e-3	9.45862	15.92857	0.00108
14	7.138	BP	6.07e-3	4.31910	9.21160	0.00049
15	7.162	PB	6.20e-3	8.22465	16.55478	0.00094
16	7.197	PB	7.44e-3	9.17753	15.64439	0.00105
17	7.235	PP	0.0135	25.27478	23.13362	0.00288

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	7.262	VB	0.0126	12.55908	16.65518	0.00143
19	7.304	BP	7.03e-3	4.93139	11.68748	0.00056
20	7.334	BP	4.44e-3	4.16058	13.33784	0.00047
21	7.377	PB	0.0101	11.10235	13.33636	0.00126
22	7.440	BP	9.61e-3	10.55784	13.66822	0.00120
23	7.527	PP	0.0118	18.95027	20.44774	0.00216
24	7.554	VV	0.0148	23.40461	19.84617	0.00267
25	7.642	BV	0.0250	103.73544	49.50061	0.01182
26	7.677	VB	6.97e-3	7.83572	14.36204	0.00089
27	7.753	PB	2.82e-3	2.89944	15.21125	0.00033
28	7.770	BP	4.72e-3	3.38659	11.22379	0.00039
29	7.781	VP	7.40e-3	7.86547	13.50411	0.00090
Totals :				8.77857e5	2.45568e5	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Cleanup Batch:	CLB0265	Cleanup Type:	Sulfuric Acid
Cleanup Method:	EPA 3665 Sulfuric Acid Cleanup - uL	Analysis:	EPA 1613B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-IT1135	23A0418-10	23031313	02/23/2023	
LDW23-IT1142	23A0418-02	23031312	02/23/2023	
Reference	BLB0228-SRM1	23031306	02/23/2023	
LCS	BLB0228-BS1	23031305	02/23/2023	
Blank	BLB0228-BLK1	23031304	02/23/2023	
LDW23-IT1136	23A0418-01	23031311	02/23/2023	

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CLB0265

Matrix: Solid **Cleanup using: HRGCMS - EPA 3665 Sulfuric Acid Cleanup - uL** **Printed: 2/28/2023 4:05:31PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
23A0295-04	A	LDW23-SC1023B	A 04	20	20	1613B Dioxin	2/23/2023	DxP	
23A0417-01	C	LDW23-SS1127	C 01	20	20	1613B Dioxin	2/23/2023	DxP	
23A0417-03	C	LDW23-SS1095	C 01	20	20	1613B Dioxin	2/23/2023	DxP	
23A0417-05	C	LDW23-SS1089	C 01	20	20	1613B Dioxin	2/23/2023	DxP	
23A0418-01	C	LDW23-IT1136	C 01	20	20	1613B Dioxin	2/23/2023	DxP	
23A0418-02	C	LDW23-IT1142	C 01	20	20	1613B Dioxin	2/23/2023	DxP	
23A0418-10	C	LDW23-IT1135	C 01	20	20	1613B Dioxin	2/23/2023	DxP	
23A0419-02	C	LDW23-SS1045	C 01	20	20	1613B Dioxin	2/23/2023	DxP	
23A0419-04	C	LDW23-SS1135	C 01	20	20	1613B Dioxin	2/23/2023	DxP	
23A0419-05	C	LDW23-SS1136	C 01	20	20	1613B Dioxin	2/23/2023	DxP	
23A0419-08	C	LDW23-SS1142	C 01	20	20	1613B Dioxin	2/23/2023	DxP	
23A0419-09	C	LDW23-SS1202	C 01	20	20	1613B Dioxin	2/23/2023	DxP	
23A0420-01	C	LDW23-SC1045	C 01	20	20	1613B Dioxin	2/23/2023	DxP	
23A0420-04	C	LDW23-IT1051	C 01	20	20	1613B Dioxin	2/23/2023	DxP	
23A0420-08	C	LDW23-SC1004	C 01	20	20	1613B Dioxin	2/23/2023	DxP	
23A0455-03	B	LDW23-SS1031	B 01	20	20	1613B Dioxin	2/23/2023	DxP	
23A0455-08	B	LDW23-SS1023	B 01	20	20	1613B Dioxin	2/23/2023	DxP	
23A0455-15	B	LDW23-SS1051	B 01	20	20	1613B Dioxin	2/23/2023	DxP	
23A0455-16	B	LDW23-SS1052	B 01	20	20	1613B Dioxin	2/23/2023	DxP	
BLB0228-BLK1	-	Blank	-	20	20	-	2/23/2023	DxP	
BLB0228-BS1	-	LCS	-	20	20	-	2/23/2023	DxP	
BLB0228-DUP1	-	Duplicate	-	20	20	-	2/23/2023	DxP	

CLEANUP BENCH SHEET

CLB0265

Matrix: Solid **Cleanup using: HRGCMS - EPA 3665 Sulfuric Acid Cleanup - uL** **Printed: 2/28/2023 4:05:31PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
BLB0228-SRM1	-	Reference	-	20	20	-	2/23/2023	DxP	

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Cleanup Batch:	CLB0266	Cleanup Type:	Silica Gel
Cleanup Method:	EPA 3630C Silica Gel Cleanup - uL	Analysis:	EPA 1613B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-IT1142	23A0418-02	23031312	02/27/2023	
LDW23-IT1135	23A0418-10	23031313	02/27/2023	
LDW23-IT1136	23A0418-01	23031311	02/27/2023	
Reference	BLB0228-SRM1	23031306	02/27/2023	
Blank	BLB0228-BLK1	23031304	02/27/2023	
LCS	BLB0228-BS1	23031305	02/27/2023	

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CLB0266

Matrix: Solid **Cleanup using: HRGCMS - EPA 3630C Silica Gel Cleanup - uL** **Printed: 2/28/2023 4:05:58PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
23A0295-04	A	LDW23-SC1023B	A 04	20	20	1613B Dioxin	2/27/2023	DxP	
23A0417-01	C	LDW23-SS1127	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0417-03	C	LDW23-SS1095	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0417-05	C	LDW23-SS1089	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0418-01	C	LDW23-IT1136	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0418-02	C	LDW23-IT1142	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0418-10	C	LDW23-IT1135	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0419-02	C	LDW23-SS1045	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0419-04	C	LDW23-SS1135	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0419-05	C	LDW23-SS1136	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0419-08	C	LDW23-SS1142	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0419-09	C	LDW23-SS1202	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0420-01	C	LDW23-SC1045	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0420-04	C	LDW23-IT1051	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0420-08	C	LDW23-SC1004	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0455-03	B	LDW23-SS1031	B 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0455-08	B	LDW23-SS1023	B 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0455-15	B	LDW23-SS1051	B 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0455-16	B	LDW23-SS1052	B 01	20	20	1613B Dioxin	2/27/2023	DxP	
BLB0228-BLK1	-	Blank	-	20	20	-	2/27/2023	DxP	
BLB0228-BS1	-	LCS	-	20	20	-	2/27/2023	DxP	
BLB0228-DUP1	-	Duplicate	-	20	20	-	2/27/2023	DxP	

CLEANUP BENCH SHEET

CLB0266

Matrix: Solid **Cleanup using: HRGCMS - EPA 3630C Silica Gel Cleanup - uL** **Printed: 2/28/2023 4:05:58PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
BLB0228-SRM1	-	Reference	-	20	20	-	2/27/2023	DxP	

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Cleanup Batch:	CLB0267	Cleanup Type:	Florisil
Cleanup Method:	EPA 3620B Florisil Cleanup (uL)	Analysis:	EPA 1613B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-IT1142	23A0418-02	23031312	02/27/2023	
Reference	BLB0228-SRM1	23031306	02/27/2023	
LDW23-IT1136	23A0418-01	23031311	02/27/2023	
LCS	BLB0228-BS1	23031305	02/27/2023	
LDW23-IT1135	23A0418-10	23031313	02/27/2023	
Blank	BLB0228-BLK1	23031304	02/27/2023	

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CLB0267

Matrix: Solid **Cleanup using: HRGCMS - EPA 3620B Florisil Cleanup (uL)** **Check Standard: CKK0015-FLO1** **Printed: 2/28/2023 4:06:18PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
23A0295-04	A	LDW23-SC1023B	A 04	20	20	1613B Dioxin	2/27/2023	DxP	
23A0417-01	C	LDW23-SS1127	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0417-03	C	LDW23-SS1095	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0417-05	C	LDW23-SS1089	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0418-01	C	LDW23-IT1136	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0418-02	C	LDW23-IT1142	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0418-10	C	LDW23-IT1135	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0419-02	C	LDW23-SS1045	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0419-04	C	LDW23-SS1135	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0419-05	C	LDW23-SS1136	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0419-08	C	LDW23-SS1142	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0419-09	C	LDW23-SS1202	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0420-01	C	LDW23-SC1045	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0420-04	C	LDW23-IT1051	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0420-08	C	LDW23-SC1004	C 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0455-03	B	LDW23-SS1031	B 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0455-08	B	LDW23-SS1023	B 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0455-15	B	LDW23-SS1051	B 01	20	20	1613B Dioxin	2/27/2023	DxP	
23A0455-16	B	LDW23-SS1052	B 01	20	20	1613B Dioxin	2/27/2023	DxP	
BLB0228-BLK1	-	Blank	-	20	20	-	2/27/2023	DxP	
BLB0228-BS1	-	LCS	-	20	20	-	2/27/2023	DxP	
BLB0228-DUP1	-	Duplicate	-	20	20	-	2/27/2023	DxP	

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CLB0267

Matrix: Solid **Cleanup using: HRGCMS - EPA 3620B Florisil Cleanup (uL)** **Check Standard: CKK0015-FLO1** **Printed: 2/28/2023 4:06:18PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
BLB0228-SRM1	-	Reference	-	20	20	-	2/27/2023	DxP	

Analytical Resources, LLC
Analytical Chemists and Consultants

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Form 1
METHOD BLANK DATA SHEET
EPA 1613B
Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Solid	Laboratory ID:	BLB0228-BLK1	File ID:	23031304
Sampled:	N/A	Prepared:	02/14/23 17:30	Analyzed:	03/13/23 12:41
Solids Wt%:		Preparation:	EPA 1613	Initial/Final:	10 g / 20 uL
Result Basis:	Dry	Sequence:	SLC0171	Calibration:	GC00015
Batch:	BLB0228	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

CAS NO.	COMPOUND	DF/Split	Ion Ratio	Ratio Limits	EDL	RL	Result	Units	Q
51207-31-9	2,3,7,8-TCDF	1	0.000	0.655-0.886	0.357	1.00	ND	ng/kg	U
1746-01-6	2,3,7,8-TCDD	1	0.000	0.655-0.886	0.145	1.00	ND	ng/kg	U
57117-41-6	1,2,3,7,8-PeCDF	1	0.000	1.318-1.783	0.187	1.00	ND	ng/kg	U
57117-31-4	2,3,4,7,8-PeCDF	1	0.000	1.318-1.783	0.166	1.00	ND	ng/kg	U
40321-76-4	1,2,3,7,8-PeCDD	1	0.000	1.318-1.783	0.244	1.00	ND	ng/kg	U
70648-26-9	1,2,3,4,7,8-HxCDF	1	0.000	1.054-1.426	0.120	1.00	ND	ng/kg	U
57117-44-9	1,2,3,6,7,8-HxCDF	1	0.000	1.054-1.426	0.126	1.00	ND	ng/kg	U
60851-34-5	2,3,4,6,7,8-HxCDF	1	0.000	1.054-1.426	0.131	1.00	ND	ng/kg	U
72918-21-9	1,2,3,7,8,9-HxCDF	1	0.000	1.054-1.426	0.172	1.00	ND	ng/kg	U
39227-28-6	1,2,3,4,7,8-HxCDD	1	0.000	1.054-1.426	0.162	1.00	ND	ng/kg	U
57653-85-7	1,2,3,6,7,8-HxCDD	1	0.000	1.054-1.426	0.154	1.00	ND	ng/kg	U
19408-74-3	1,2,3,7,8,9-HxCDD	1	0.000	1.054-1.426	0.174	1.00	ND	ng/kg	U
67562-39-4	1,2,3,4,6,7,8-HpCDF	1	1.300	0.893-1.208	0.167	1.00	0.361	ng/kg	EMPC, J
55673-89-7	1,2,3,4,7,8,9-HpCDF	1	0.000	0.893-1.208	0.277	1.00	ND	ng/kg	U
35822-46-9	1,2,3,4,6,7,8-HpCDD	1	1.202	0.893-1.208	0.239	2.50	0.220	ng/kg	J
39001-02-0	OCDF	1	0.000	0.757-1.024	0.752	2.50	ND	ng/kg	U
3268-87-9	OCDD	1	0.863	0.757-1.024	0.620	10.0	2.46	ng/kg	J

Homologue Groups

55722-27-5	Total TCDF	1	0.000			1.00	ND	ng/kg
41903-57-5	Total TCDD	1	0.000			1.00	ND	ng/kg
30402-15-4	Total PeCDF	1	0.000			1.00	ND	ng/kg
36088-22-9	Total PeCDD	1	0.000			1.00	ND	ng/kg
55684-94-1	Total HxCDF	1	0.000			1.00	ND	ng/kg
34465-46-8	Total HxCDD	1	0.000			1.00	ND	ng/kg
38998-75-3	Total HpCDF	1	0.000			1.00	ND	ng/kg
37871-00-4	Total HpCDD	1	0.000			1.00	0.220	ng/kg

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 0.007
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 0.300

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Blank

Form 2
METHOD BLANK DATA SHEET
EPA 1613B
Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Solid	Laboratory ID:	BLB0228-BLK1	File ID:	23031304
Sampled:	N/A	Prepared:	02/14/23 17:30	Analyzed:	03/13/23 12:41
Solids Wt%:	0.00	Preparation:	EPA 1613	Initial/Final:	10 g / 20 uL
Result Basis:	Dry	Sequence:	SLC0171	Calibration:	GC00015
Batch:	BLB0228	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

Labels	DF/Split	Ion Ratio	Ratio Limits	EDL	% REC	QC LIMITS	Q
13C12-2,3,7,8-TCDF	1	0.759	0.655-0.886	0.29	93.0	24 - 169 %	
13C12-2,3,7,8-TCDD	1	0.784	0.655-0.886	0.35	113	25 - 164 %	
13C12-1,2,3,7,8-PeCDF	1	1.450	1.318-1.783	0.36	97.1	24 - 185 %	
13C12-2,3,4,7,8-PeCDF	1	1.505	1.318-1.783	0.40	98.9	21 - 178 %	
13C12-1,2,3,7,8-PeCDD	1	1.713	1.318-1.783	0.28	106	25 - 181 %	
13C12-1,2,3,4,7,8-HxCDF	1	0.505	0.434-0.587	0.42	109	26 - 152 %	
13C12-1,2,3,6,7,8-HxCDF	1	0.514	0.434-0.587	0.36	108	26 - 123 %	
13C12-2,3,4,6,7,8-HxCDF	1	0.500	0.434-0.587	0.44	106	28 - 136 %	
13C12-1,2,3,7,8,9-HxCDF	1	0.508	0.434-0.587	0.53	104	29 - 147 %	
13C12-1,2,3,4,7,8-HxCDD	1	1.268	1.054-1.426	0.35	122	32 - 141 %	
13C12-1,2,3,6,7,8-HxCDD	1	1.270	1.054-1.426	0.30	120	28 - 130 %	
13C12-1,2,3,4,6,7,8-HpCDF	1	0.438	0.374-0.506	0.56	88.7	28 - 143 %	
13C12-1,2,3,4,7,8,9-HpCDF	1	0.449	0.374-0.506	0.65	79.3	26 - 138 %	
13C12-1,2,3,4,6,7,8-HpCDD	1	1.031	0.893-1.208	0.39	91.2	23 - 140 %	
13C12-OCDD	1	0.848	0.757-1.024	0.49	76.0	17 - 157 %	
37Cl4-2,3,7,8-TCDD	1	328.000		0.11	93.2	35 - 197 %	

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\230313D1.qld
Last Altered: Tuesday, March 14, 2023 09:54:11 Pacific Daylight Time
Printed: Tuesday, March 14, 2023 11:10:59 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin230313.mdb 13 Mar 2023 11:32:39
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 11:57:27

ID: BLB0228-BLK1, Name: 23031304, Date: 13-Mar-2023, Time: 12:41:28, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF					0.702		0.770	1664	988								
12378-PeCDF					0.679		1.550	474	553								
23478-PeCDF					0.786		1.550	474	553								
123478-HxCDF					1.166		1.240	589	500								
234678-HxCDF					1.140		1.240	589	500								
123678-HxCDF					1.091		1.240	589	500								
123789-HxCDF					1.137		1.240	589	500								
1234678-HpCDF	38.615	1.000	1.937e2	1.489e2	1.003	1.300	1.050	434	435	1.81e3	1.82e3	4.2	4.2	YES	bb	bb	0.181
1234789-HpCDF					0.953		1.050	434	435								
OCDF					0.778		0.890	788	748								
2378-TCDD					1.149		0.770	1009	547								
12378-PeCDD					1.022		1.550	765	685								
123478-HxCDD					0.996		1.240	551	647								
123678-HxCDD					1.001		1.240	551	647								
123789-HxCDD					0.907		1.240	551	647								
1234678-HpCDD	40.119	1.000	1.142e2	9.495e1	1.039	1.202	1.050	552	486	1.82e3	2.05e3	3.3	4.2	NO	bb	db	0.110
OCDD	44.828	1.000	7.285e2	8.440e2	0.920	0.863	0.890	637	862	9.55e3	1.15e4	15.0	13.3	NO	bb	MM	1.230
13C-2378-TCDF	25.605	1.007	1.841e5	2.426e5	1.620	0.759	0.770	1819	1731	2.74e6	3.61e6	1505.4	2083.5	NO	bb	bb	92.983
13C-12378-PeCDF	29.758	1.171	2.019e5	1.393e5	1.240	1.450	1.550	1681	1682	2.87e6	2.03e6	1708.0	1205.1	NO	bb	bb	97.080
13C-23478-PeCDF	31.095	1.223	1.881e5	1.250e5	1.118	1.505	1.550	1681	1682	2.84e6	1.88e6	1687.4	1120.5	NO	bb	bb	98.882
13C-123478-HxCDF	34.738	0.955	1.020e5	2.019e5	1.168	0.505	0.510	1376	1586	1.56e6	3.05e6	1134.8	1921.5	NO	bd	bd	109.145
13C-123678-HxCDF	34.872	0.959	1.216e5	2.367e5	1.386	0.514	0.510	1376	1586	1.61e6	3.16e6	1168.4	1992.5	NO	db	dd	108.415
13C-234678-HxCDF	35.741	0.983	9.469e4	1.893e5	1.129	0.500	0.510	1376	1586	1.45e6	2.85e6	1057.4	1795.7	NO	bb	bb	105.508
13C-123789-HxCDF	36.766	1.011	7.768e4	1.530e5	0.932	0.508	0.510	1376	1586	1.12e6	2.25e6	817.7	1419.3	NO	bb	bb	103.877
13C-1234678-HpCDF	38.626	1.062	5.760e4	1.316e5	0.895	0.438	0.440	1317	1690	9.48e5	2.11e6	719.9	1247.8	NO	bb	bb	88.661
13C-1234789-HpCDF	40.844	1.123	4.511e4	1.004e5	0.770	0.449	0.440	1317	1690	6.13e5	1.37e6	465.1	808.8	NO	bb	bb	79.294
13C-1234-TCDD	25.421	0.000	1.232e5	1.601e5	1.000	0.770	0.770	1442	1562	1.95e6	2.52e6	1350.6	1610.8	NO	bb	bb	100.000
13C-2378-TCDD	26.240	1.032	1.627e5	2.076e5	1.152	0.784	0.770	1442	1562	2.46e6	3.13e6	1707.8	2001.3	NO	bb	bb	113.428
13C-12378-PeCDD	31.351	1.233	1.578e5	9.212e4	0.829	1.713	1.550	873	855	2.21e6	1.32e6	2526.7	1550.4	NO	bd	bb	106.463
13C-123478-HxCDD	35.863	0.986	1.621e5	1.278e5	0.995	1.268	1.240	1003	1071	2.49e6	1.98e6	2477.7	1844.8	NO	bd	bd	122.244
13C-123678-HxCDD	35.975	0.989	1.845e5	1.454e5	1.157	1.270	1.240	1003	1071	2.61e6	2.06e6	2602.7	1925.7	NO	db	db	119.659
13C-1234678-HpCDD	40.108	1.103	9.272e4	8.995e4	0.840	1.031	1.050	865	1080	1.28e6	1.20e6	1473.5	1110.6	NO	bb	bd	91.218
13C-OCDD	44.810	1.232	1.275e5	1.504e5	0.767	0.848	0.890	1151	1114	1.45e6	1.64e6	1257.5	1473.8	NO	bb	bd	151.907
13C-123789-HxCDD	36.365	0.000	1.322e5	1.061e5	1.000	1.246	1.240	1003	1071	1.99e6	1.62e6	1983.3	1508.0	NO	bb	bb	100.000
37CL-2378-TCDD	26.254	1.033	1.360e5		1.288			1078		1.98e6		1833.0			bb		37.285

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Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF					0.802		0.770	1664	988								
1289-TCDF	27.102	1.059	2.153e2	1.473e2	0.678	1.461	0.770	1664	988	4.31e3	4.78e3	2.6	4.8	YES	bd	bb	0.125
13468-PECDF					1.246		1.550	940	1228								
12389-PECDF					0.496		1.550	474	553								
123468-HXCDF					1.169		1.240	589	500								
1368-TCDD					1.015		0.770	1009	547								
1289-TCDD					0.909		0.770	1009	547								
12479-PECDD					2.301		1.550	765	685								
12389-PECDD					1.184		1.550	765	685								
124679-HXCDD					1.115		1.240	551	647								
1234679-HPCDD	39.095	0.975	2.067e2	1.147e2	1.137	1.801	1.050	552	486	2.61e3	2.45e3	4.7	5.0	YES	bb	bb	0.155
Total-tetrafurans			0.000e0		0.727			1664		0.00e0							
Total-penta1			0.000e0					940		0.00e0							
Total-pentafurans			0.000e0		0.654			474		0.00e0							
Total-hexafurans			0.000e0		1.141			589		0.00e0							
Total-heptafurans			0.000e0		0.978			434		0.00e0							
Total-Furans			7.336e1		0.922			1664		2.22e3							0.047
Total-tetradioxins			0.000e0		1.024			1009		0.00e0							
Total-pentadioxins			0.000e0		1.502			765		0.00e0							
Total-hexadioxins			0.000e0		1.005			551		0.00e0							
Total-heptadioxins			1.142e2		1.088			552		1.82e3							0.110
Total-Dioxins			9.294e2		1.130			1009		1.28e4							1.385
Total-TEQ			1.003e3					1009		1.51e4							1.431
FUNCTION1 PFK			9.050e5					346852		1.57e7							
FUNCTION2 PFK			2.522e7					213757		1.25e7							0.000
FUNCTION3 PFK			6.356e5					295939		1.42e7							0.000
FUNCTION4 PFK			1.838e5					195017		4.75e6							
FUNCTION5 PFK			0.000e0					158007		0.00e0							
FUNCTION1 HXCD...			9.221e2					522		1.70e4							0.000
FUNCTION1 HPCD...																	
FUNCTION2 HPCD...			7.122e1					630		2.04e3							0.000
FUNCTION3 OCDPE			2.437e2					492		7.78e3							0.000
FUNCTION4 NCDPE			0.000e0					425		0.00e0							
FUNCTION5 DCDPE			1.550e2					793		6.07e3							0.000

Method: T:\Autospec\Methods\Dioxin230313.mdb 13 Mar 2023 11:32:39
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 11:57:27

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TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-Furans	21.25	7.336e1	1.105e2	0.922	0.66	0.77	1.3	NO	NO	db	db	0.047

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

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HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.12	1.142e2	9.495e1	1.039	1.20	1.05	3.3	YES	NO	bb	db	0.110

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-Dioxins	23.19	8.675e1	9.811e1	1.130	0.88	0.77	1.4	NO	NO	bb	bb	0.044
2	1234678-HpCDD	40.12	1.142e2	9.495e1	1.039	1.20	1.05	3.3	YES	NO	bb	db	0.110
3	OCDD	44.83	7.285e2	8.440e2	0.920	0.86	0.89	15.0	YES	NO	bb	MM	1.230

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-Furans	21.25	7.336e1	1.105e2	0.922	0.66	0.77	1.3	NO	NO	db	db	0.047
2	Total-Dioxins	23.19	8.675e1	9.811e1	1.130	0.88	0.77	1.4	NO	NO	bb	bb	0.044
3	1234678-HpCDD	40.12	1.142e2	9.495e1	1.039	1.20	1.05	3.3	YES	NO	bb	db	0.110
4	OCDD	44.83	7.285e2	8.440e2	0.920	0.86	0.89	15.0	YES	NO	bb	MM	1.230

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	22.44	2.034e3					0.4	NO		bb		
2	FUNCTION1 PFK	22.12	6.981e3					0.6	NO		bb		
3	FUNCTION1 PFK	22.03	1.605e4					1.8	NO		bb		
4	FUNCTION1 PFK	21.82	1.881e4					1.2	NO		bb		
5	FUNCTION1 PFK	21.68	9.963e4					2.2	NO		db		
6	FUNCTION1 PFK	21.54	5.973e4					2.9	NO		dd		
7	FUNCTION1 PFK	21.41	1.957e5					3.4	YES		dd		
8	FUNCTION1 PFK	21.28	6.428e4					3.3	YES		dd		
9	FUNCTION1 PFK	21.21	2.378e4					1.6	NO		dd		
10	FUNCTION1 PFK	21.16	4.958e4					2.1	NO		bd		
11	FUNCTION1 PFK	25.07	6.974e3					0.6	NO		bb		
12	FUNCTION1 PFK	24.97	2.901e4					1.7	NO		bb		
13	FUNCTION1 PFK	24.83	7.944e3					0.8	NO		bb		
14	FUNCTION1 PFK	24.69	1.906e3					0.4	NO		bb		
15	FUNCTION1 PFK	24.62	4.120e4					1.6	NO		db		
16	FUNCTION1 PFK	24.49	4.542e3					0.7	NO		bd		
17	FUNCTION1 PFK	24.43	2.948e3					0.6	NO		bb		
18	FUNCTION1 PFK	24.21	6.382e3					0.7	NO		bb		
19	FUNCTION1 PFK	24.08	2.669e4					1.5	NO		bb		
20	FUNCTION1 PFK	23.99	8.093e3					0.7	NO		bb		
21	FUNCTION1 PFK	23.81	1.628e4					1.1	NO		bb		
22	FUNCTION1 PFK	23.50	1.482e4					0.9	NO		bb		
23	FUNCTION1 PFK	23.23	1.454e4					1.4	NO		bb		
24	FUNCTION1 PFK	23.08	1.327e4					1.2	NO		bb		
25	FUNCTION1 PFK	22.86	2.522e4					1.2	NO		db		
26	FUNCTION1 PFK	22.79	2.303e4					1.7	NO		bd		
27	FUNCTION1 PFK	27.77	1.060e4					0.9	NO		db		
28	FUNCTION1 PFK	27.72	4.445e3					0.6	NO		bd		
29	FUNCTION1 PFK	27.36	2.510e4					1.3	NO		bb		
30	FUNCTION1 PFK	26.99	2.920e3					0.6	NO		bb		
31	FUNCTION1 PFK	26.55	7.199e3					0.8	NO		bb		
32	FUNCTION1 PFK	26.13	4.427e3					0.3	NO		bb		
33	FUNCTION1 PFK	25.76	1.986e4					1.0	NO		bb		
34	FUNCTION1 PFK	25.53	9.122e3					0.9	NO		bb		
35	FUNCTION1 PFK	25.44	2.058e3					0.4	NO		bb		
36	FUNCTION1 PFK	25.29	2.542e3					0.5	NO		bb		
37	FUNCTION1 PFK	25.24	3.723e4					1.6	NO		bb		

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	32.13	1.528e5					4.3	YES		bb		0.000
2	FUNCTION2 PFK	31.81	2.884e5					9.7	YES		db		0.000
3	FUNCTION2 PFK	31.35	1.467e6					19.5	YES		dd		0.000
4	FUNCTION2 PFK	30.81	2.331e7					25.1	YES		bd		0.000

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	35.02	2.958e4					2.0	NO		bd		0.000
2	FUNCTION3 PFK	34.54	1.614e3					0.5	NO		bb		0.000
3	FUNCTION3 PFK	34.16	3.056e3					0.7	NO		bb		0.000
4	FUNCTION3 PFK	34.08	7.999e3					1.1	NO		db		0.000
5	FUNCTION3 PFK	34.03	1.308e4					1.7	NO		dd		0.000
6	FUNCTION3 PFK	33.99	9.745e3					1.6	NO		bd		0.000
7	FUNCTION3 PFK	33.82	1.184e4					1.1	NO		db		0.000
8	FUNCTION3 PFK	33.79	2.486e3					0.6	NO		bd		0.000
9	FUNCTION3 PFK	33.62	5.024e4					2.8	NO		db		0.000
10	FUNCTION3 PFK	33.53	6.525e4					3.8	YES		dd		0.000
11	FUNCTION3 PFK	33.42	1.254e5					5.6	YES		dd		0.000
12	FUNCTION3 PFK	33.39	6.899e4					5.0	YES		bd		0.000
13	FUNCTION3 PFK	32.98	7.818e3					1.3	NO		bb		0.000
14	FUNCTION3 PFK	32.76	2.542e3					0.8	NO		bb		0.000
15	FUNCTION3 PFK	32.71	1.771e4					1.9	NO		bb		0.000
16	FUNCTION3 PFK	37.40	5.084e3					0.8	NO		bb		0.000
17	FUNCTION3 PFK	37.17	2.599e4					1.9	NO		bb		0.000
18	FUNCTION3 PFK	36.01	5.273e3					0.8	NO		bb		0.000
19	FUNCTION3 PFK	35.94	1.311e3					0.4	NO		bb		0.000
20	FUNCTION3 PFK	35.61	1.561e4					1.3	NO		bb		0.000
21	FUNCTION3 PFK	35.54	3.528e3					0.6	NO		bb		0.000
22	FUNCTION3 PFK	35.45	7.803e3					1.1	NO		bb		0.000
23	FUNCTION3 PFK	35.37	5.597e4					2.5	NO		db		0.000
24	FUNCTION3 PFK	35.25	2.292e4					1.9	NO		dd		0.000
25	FUNCTION3 PFK	35.19	2.541e4					2.1	NO		dd		0.000
26	FUNCTION3 PFK	35.15	2.190e4					2.3	NO		dd		0.000
27	FUNCTION3 PFK	35.11	2.751e4					1.8	NO		dd		0.000

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	38.85	1.064e4					2.0	NO		bd		
2	FUNCTION4 PFK	38.79	3.734e3					0.8	NO		bb		
3	FUNCTION4 PFK	37.78	1.251e4					1.6	NO		bb		
4	FUNCTION4 PFK	42.35	1.041e3					0.5	NO		bb		
5	FUNCTION4 PFK	42.19	4.827e3					1.1	NO		bb		
6	FUNCTION4 PFK	41.97	3.003e4					1.9	NO		bb		
7	FUNCTION4 PFK	41.78	5.169e3					1.2	NO		db		
8	FUNCTION4 PFK	41.72	1.294e4					1.4	NO		bd		
9	FUNCTION4 PFK	41.56	2.188e3					0.6	NO		bb		
10	FUNCTION4 PFK	40.79	1.471e4					1.3	NO		bb		
11	FUNCTION4 PFK	40.33	1.063e4					1.5	NO		bb		
12	FUNCTION4 PFK	40.16	1.497e4					1.6	NO		bb		
13	FUNCTION4 PFK	39.95	3.645e3					0.8	NO		db		
14	FUNCTION4 PFK	39.91	1.582e4					1.7	NO		bd		
15	FUNCTION4 PFK	39.15	6.063e3					1.2	NO		bb		
16	FUNCTION4 PFK	39.05	5.402e3					1.2	NO		db		
17	FUNCTION4 PFK	39.01	1.148e4					1.8	NO		dd		
18	FUNCTION4 PFK	38.89	1.805e4					2.2	NO		dd		

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	27.37	9.671e1					3.2	YES		bb		0.000
2	FUNCTION1 HXCD...	27.22	1.708e2					6.2	YES		db		0.000
3	FUNCTION1 HXCD...	27.09	2.420e2					9.9	YES		dd		0.000
4	FUNCTION1 HXCD...	27.02	8.251e1					2.3	NO		bd		0.000
5	FUNCTION1 HXCD...	26.06	7.357e1					1.5	NO		bb		0.000
6	FUNCTION1 HXCD...	25.83	9.536e1					2.1	NO		bb		0.000
7	FUNCTION1 HXCD...	23.74	7.831e1					4.5	YES		bb		0.000
8	FUNCTION1 HXCD...	21.34	8.288e1					2.9	NO		bb		0.000

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ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	32.30	7.122e1					3.2	YES		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	37.30	7.060e1					6.0	YES		bb		0.000
2	FUNCTION3 OCDPE	35.86	9.393e1					7.8	YES		bb		0.000
3	FUNCTION3 OCDPE	33.41	7.918e1					2.0	NO		bb		0.000

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 DCDPE	43.38	8.392e1					3.8	YES		bb		0.000
2	FUNCTION5 DCDPE	43.30	7.108e1					3.8	YES		bb		0.000

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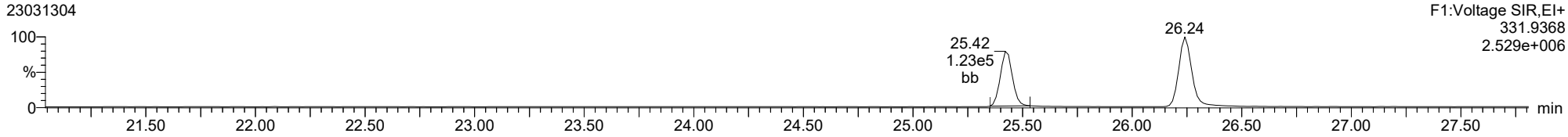
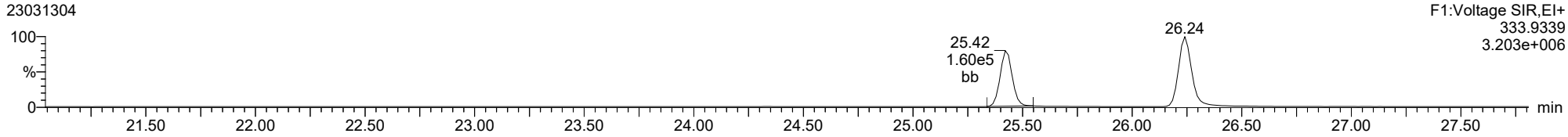
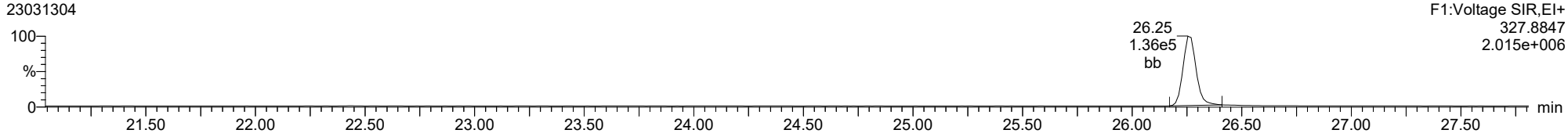
13C-1234-TCDD



13C-1234-TCDD



37CL-2378-TCDD



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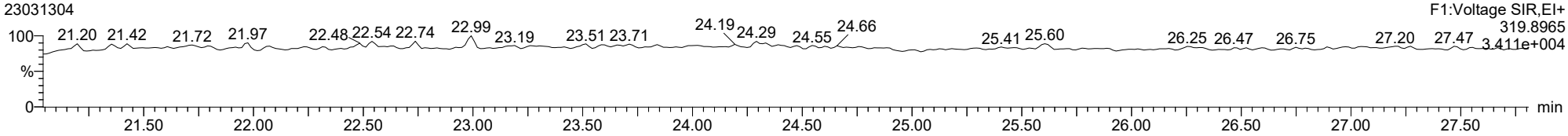
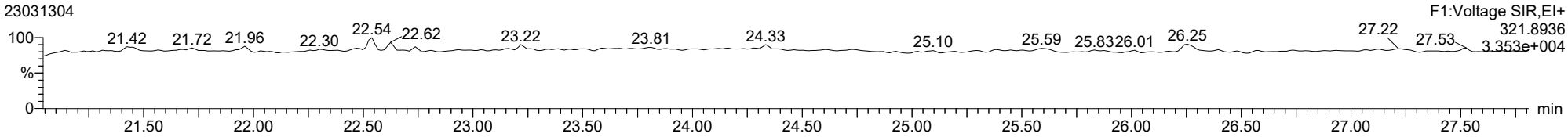
2378-TCDD



2378-TCDD



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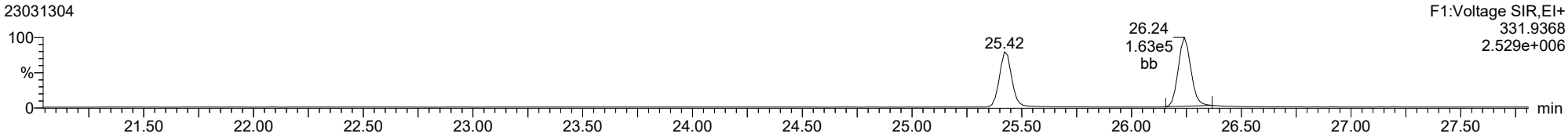
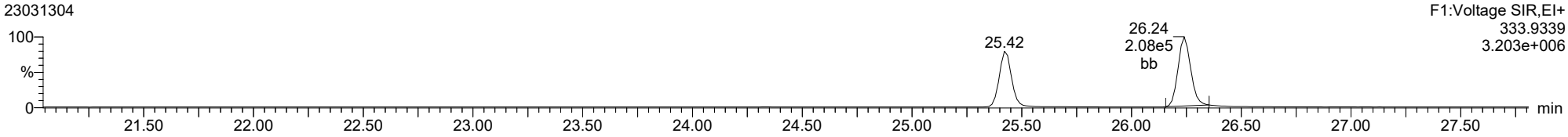
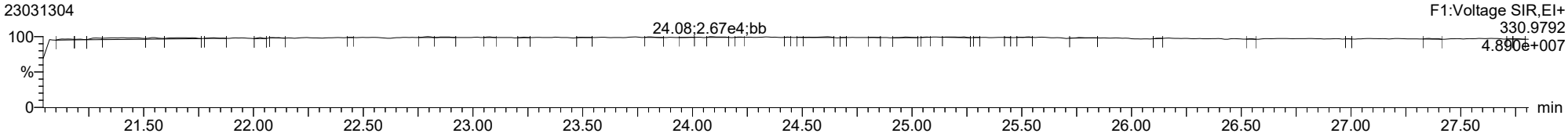


13C-2378-TCDD

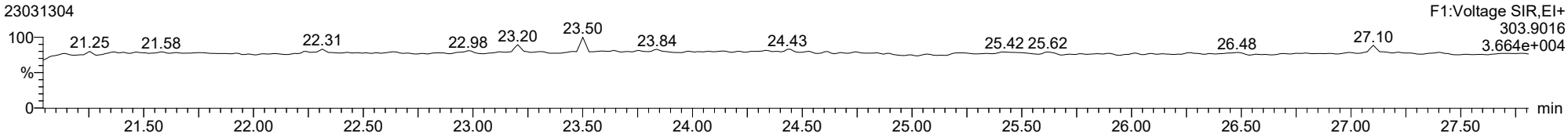


FUNCTION1 PFK

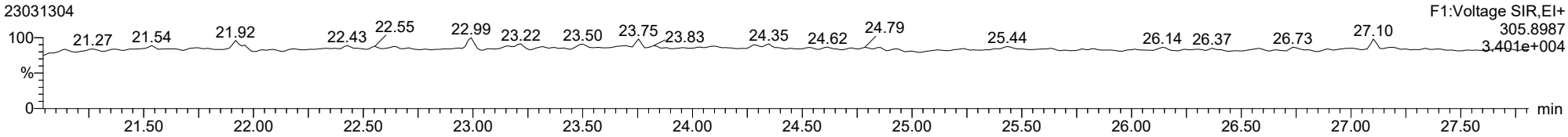


ID: BLB0228-BLK1, Name: 23031304, Date: 13-Mar-2023, Time: 12:41:28, Conditions: AUTOSPEC01, User: pk

2378-TCDF



2378-TCDF



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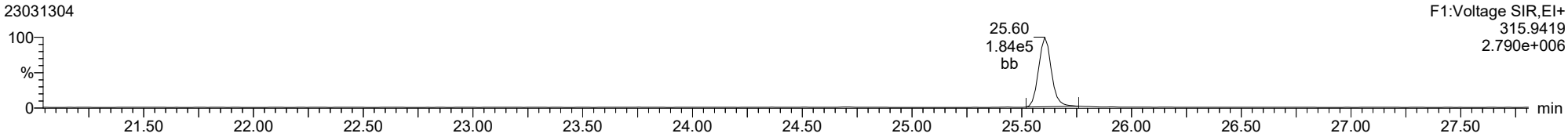
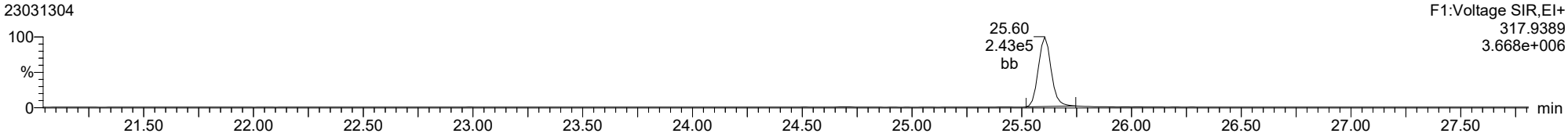
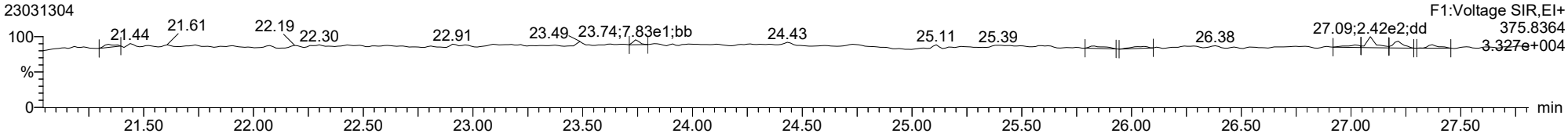


13C-2378-TCDF



FUNCTION1 HXCDPE



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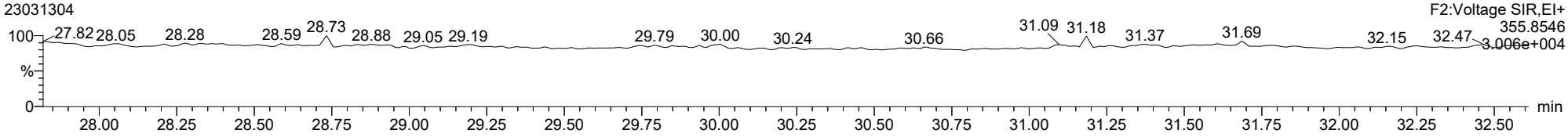
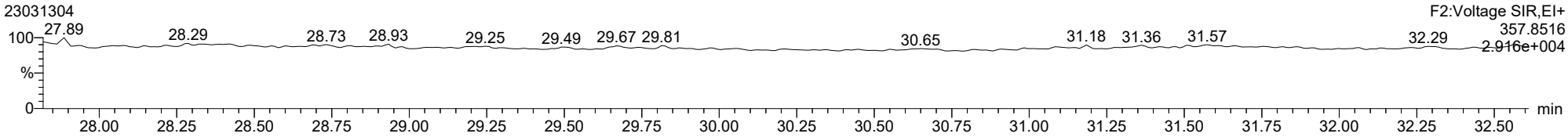
12378-PeCDD



12378-PeCDD



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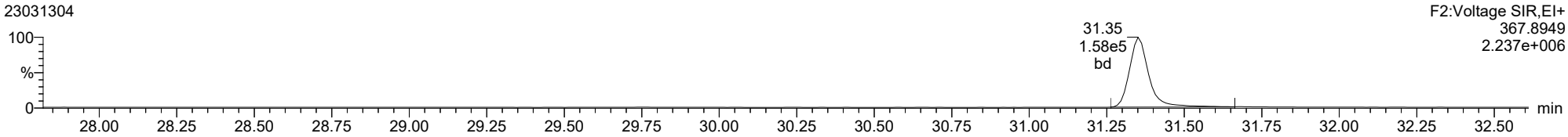
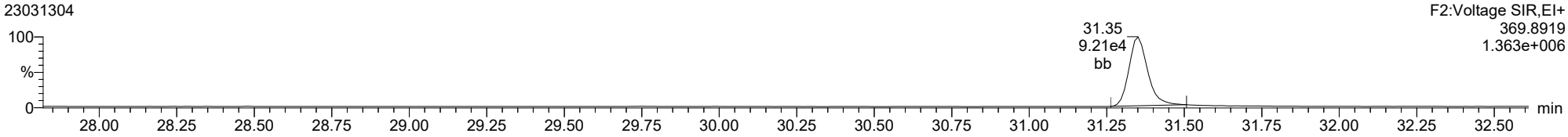
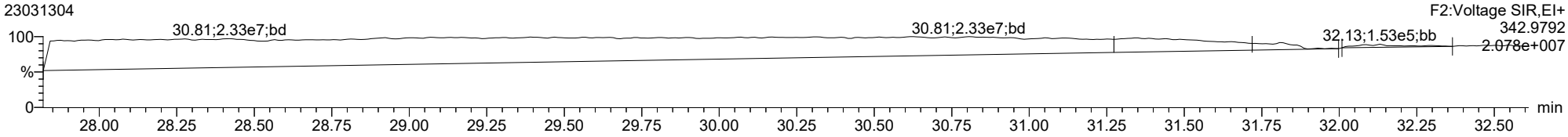


13C-12378-PeCDD



FUNCTION2 PFK



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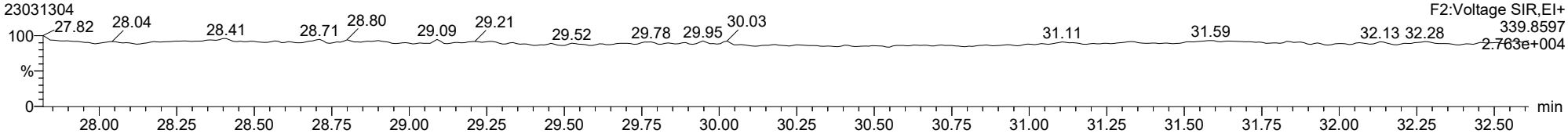
12378-PeCDF



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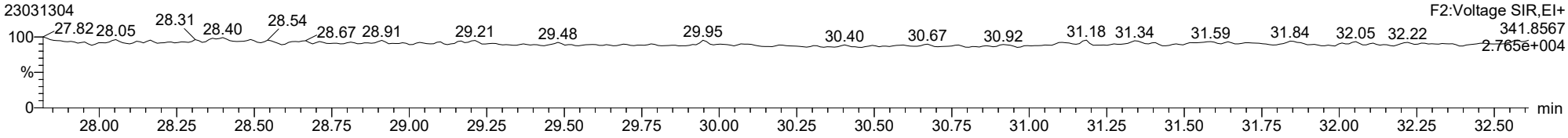

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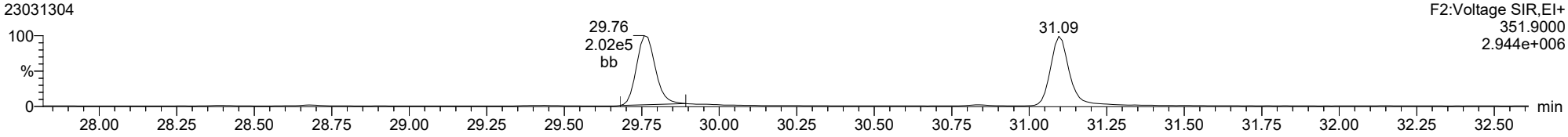

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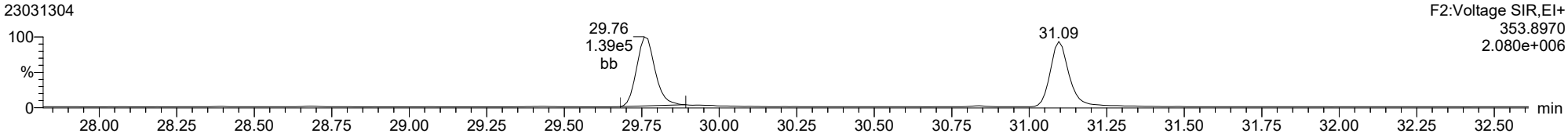
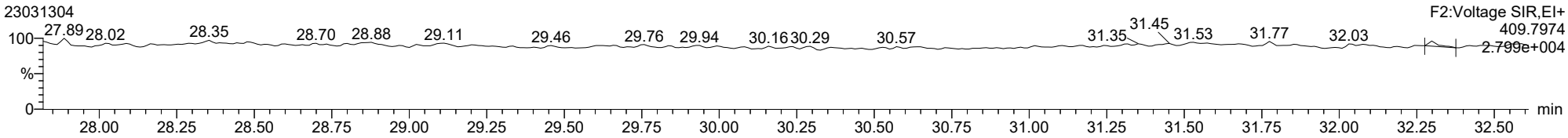
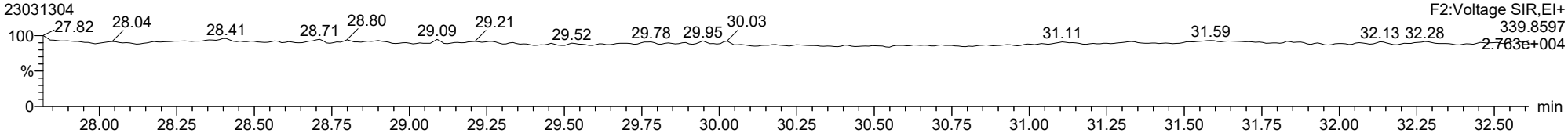


FUNCTION2 HPCDPE

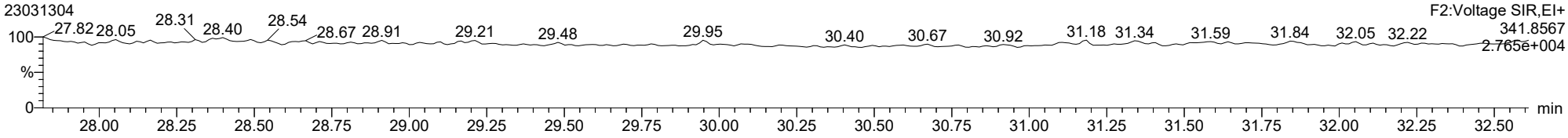


ID: BLB0228-BLK1, Name: 23031304, Date: 13-Mar-2023, Time: 12:41:28, Conditions: AUTOSPEC01, User: pk

23478-PeCDF



23478-PeCDF



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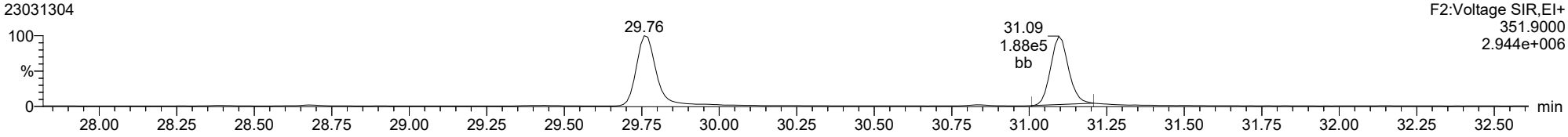

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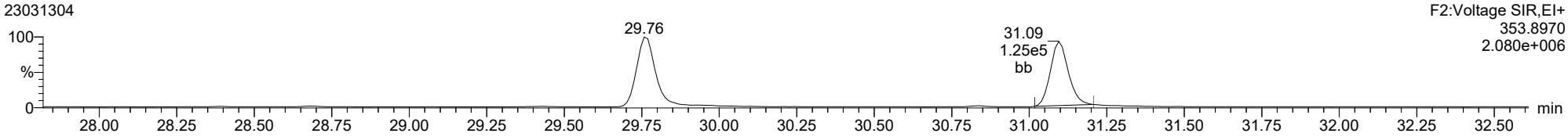
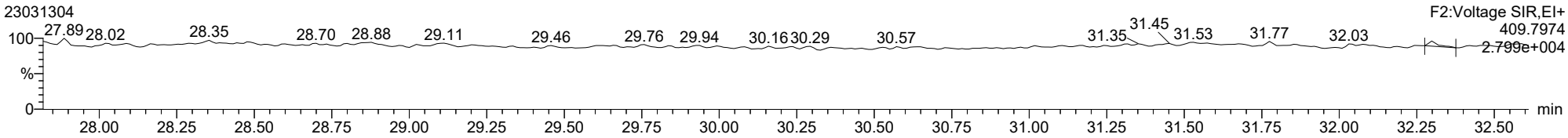


FUNCTION2 HPCDPE



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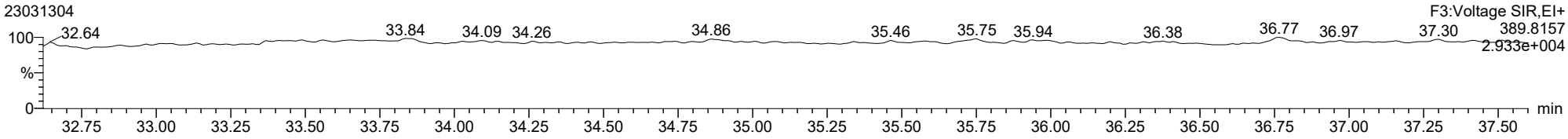
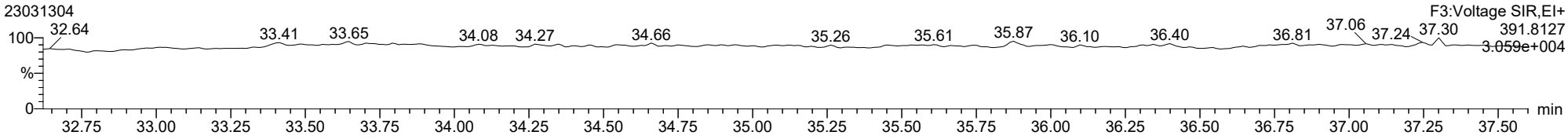
123478-HxCDD



123478-HxCDD



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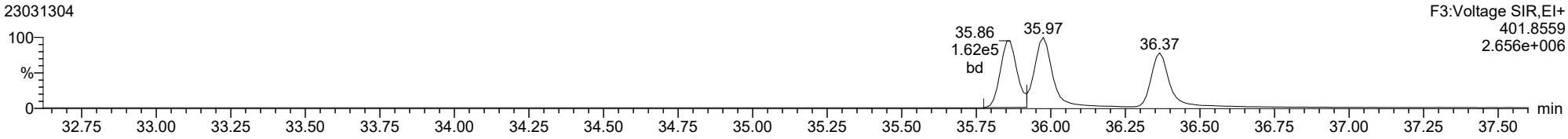

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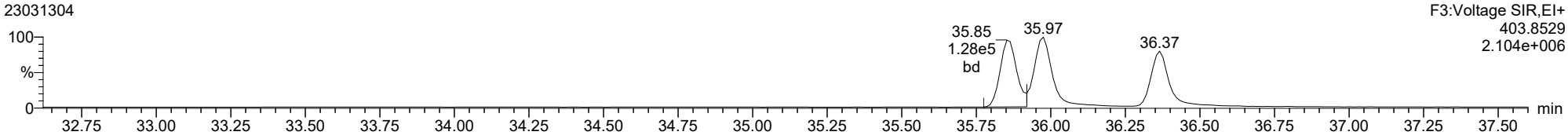
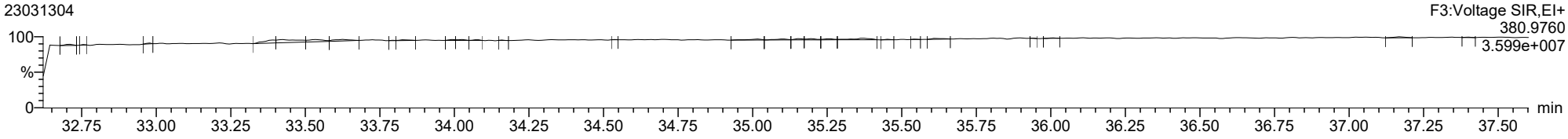


FUNCTION3 PFK



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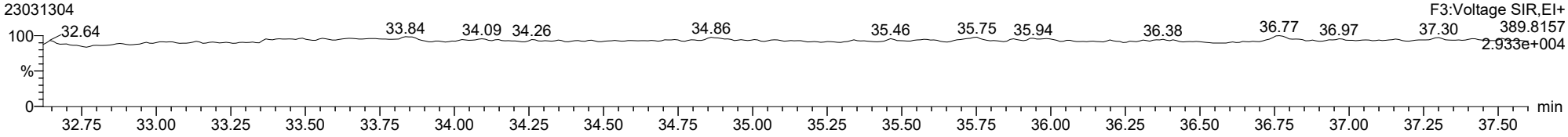
123678-HxCDD



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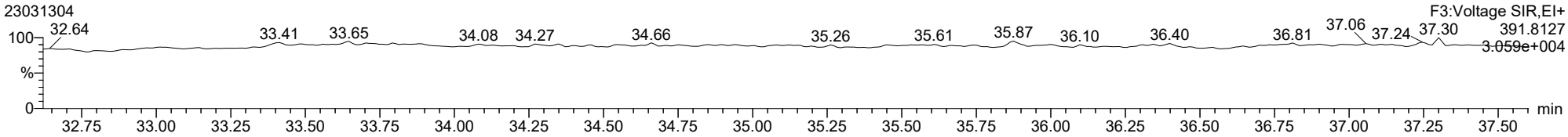

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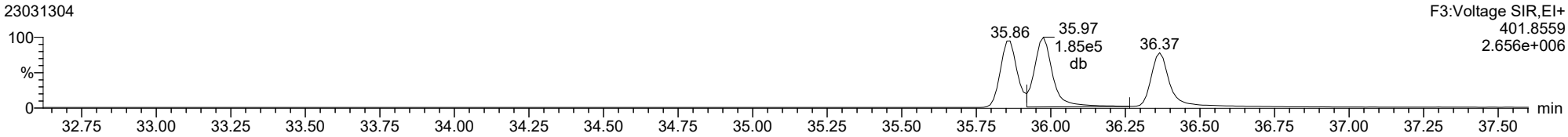

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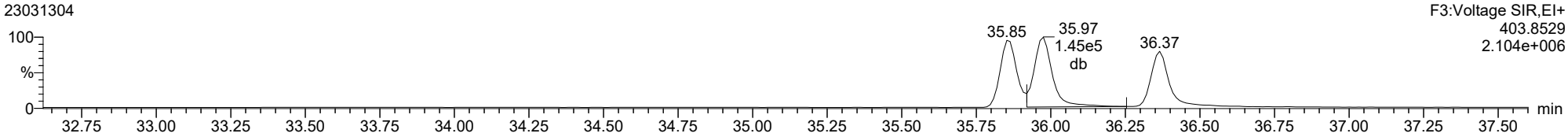

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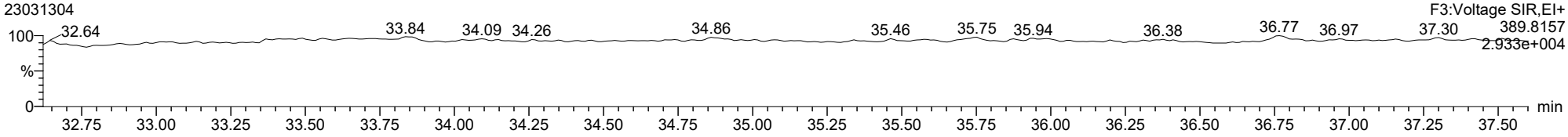
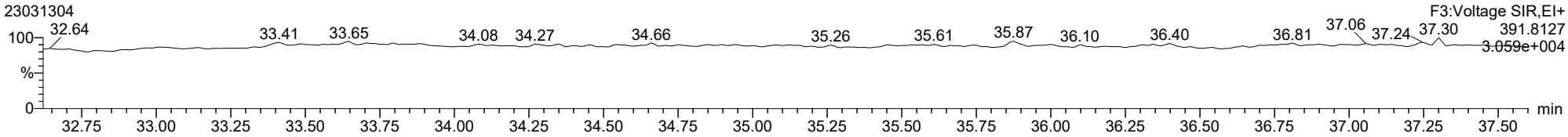
123789-HxCDD



123789-HxCDD



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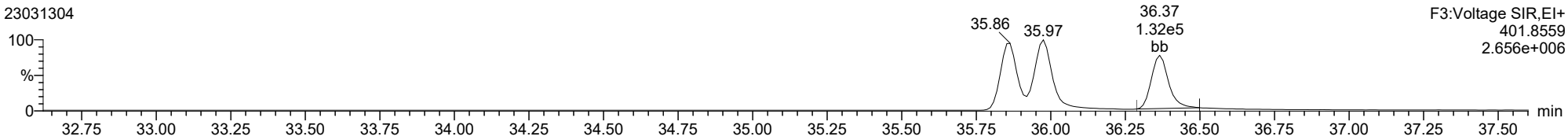

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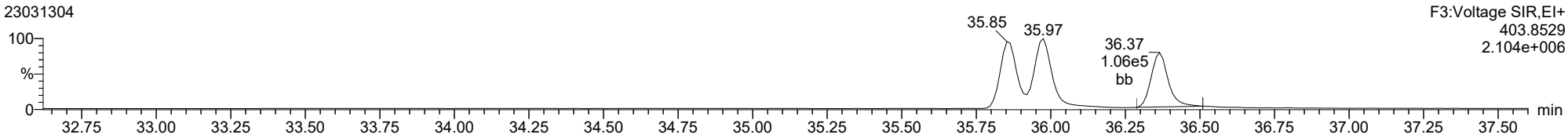

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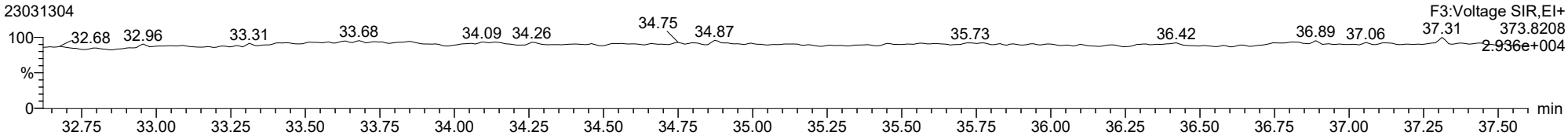
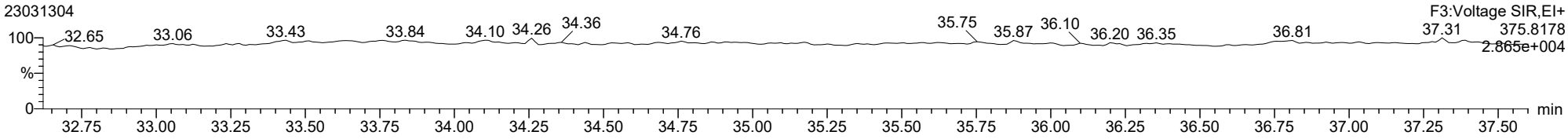
123478-HxCDF



123478-HxCDF



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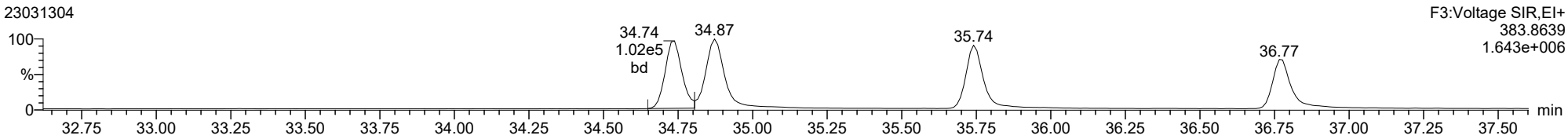

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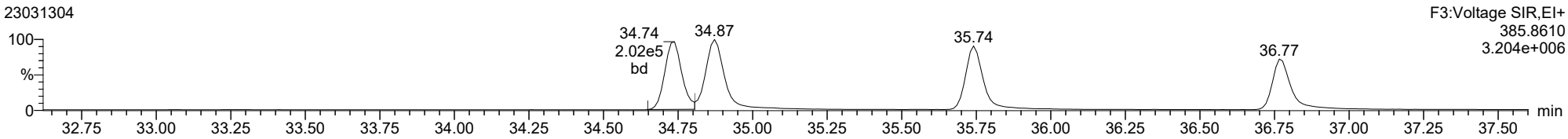
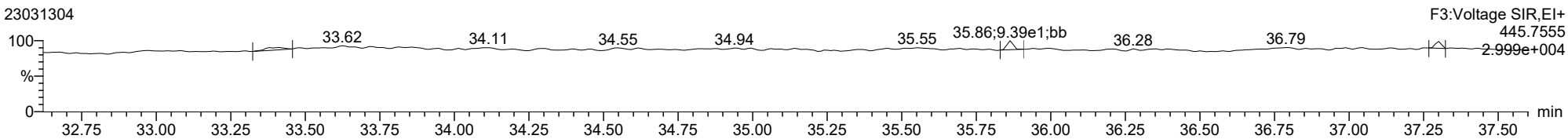


FUNCTION3 OCDPE



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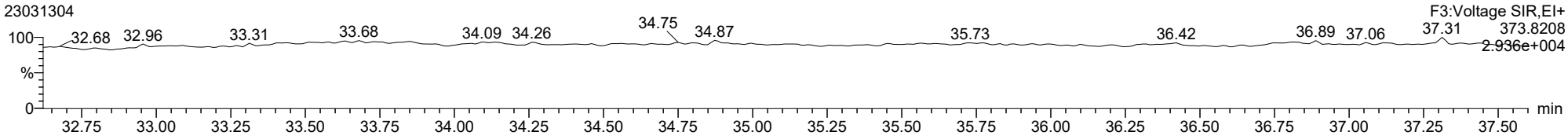
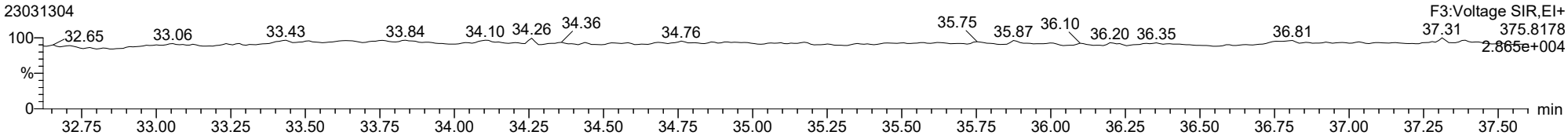
234678-HxCDF



234678-HxCDF



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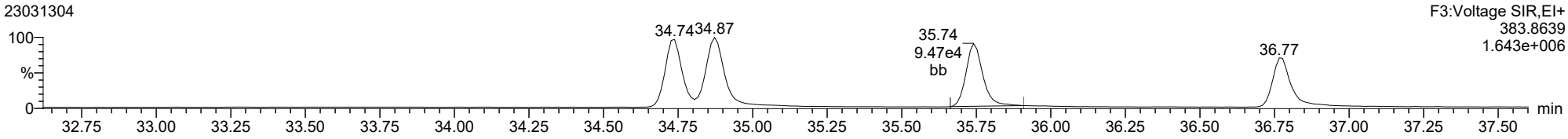

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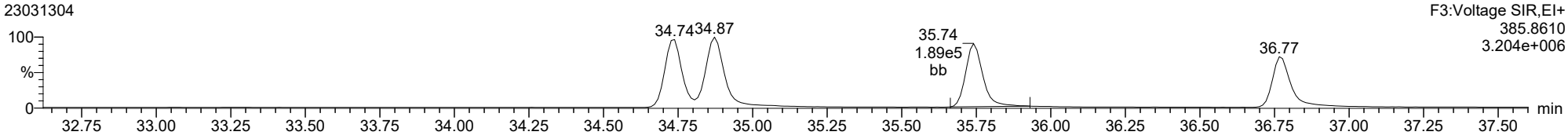
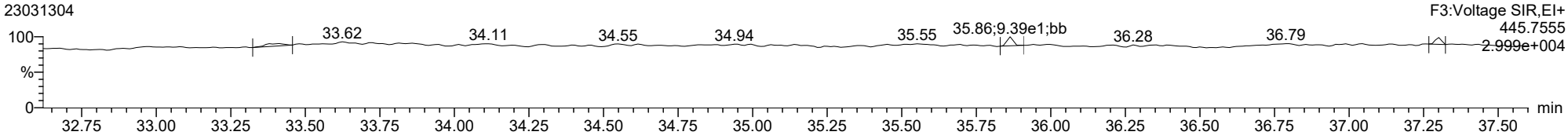


FUNCTION3 OCDPE



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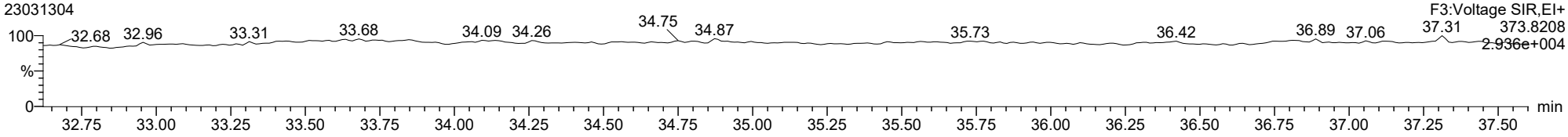
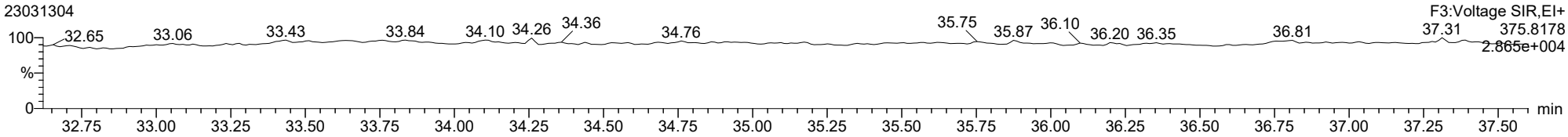
123678-HxCDF



123678-HxCDF



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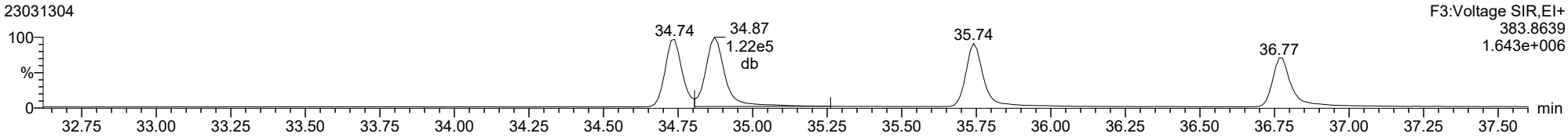
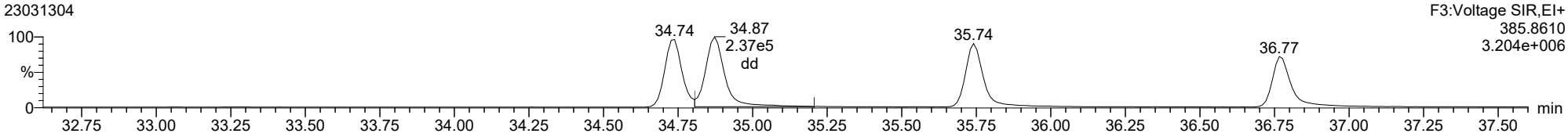
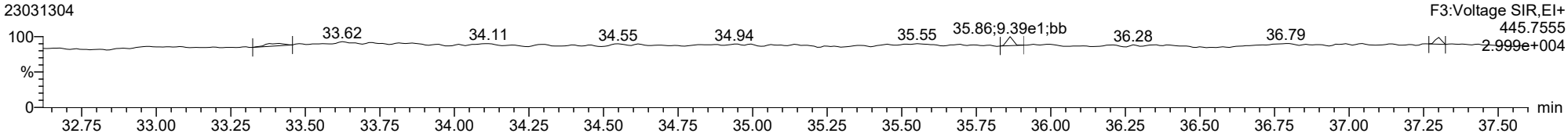


13C-123678-HxCDF



FUNCTION3 OCDPE



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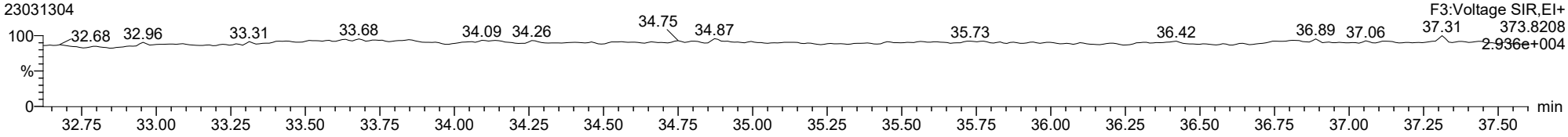
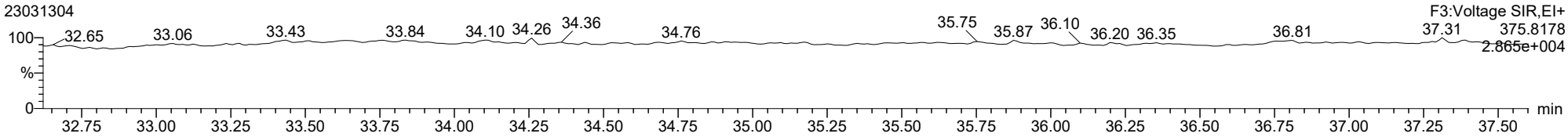
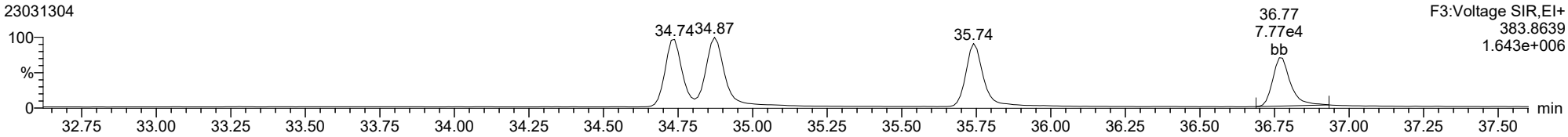
123789-HxCDF



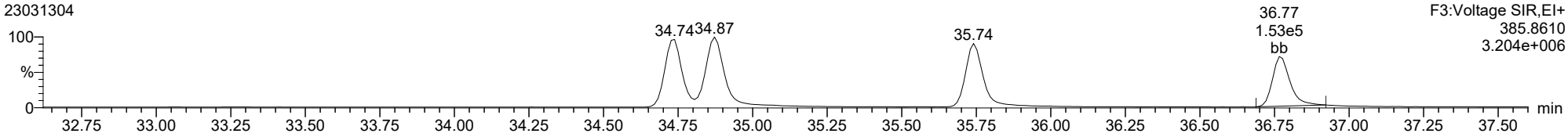
123789-HxCDF



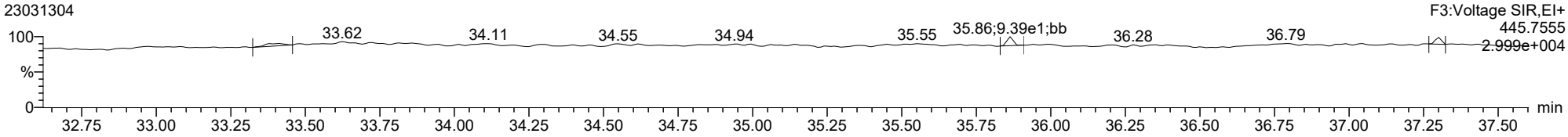
13C-123789-HxCDF



13C-123789-HxCDF

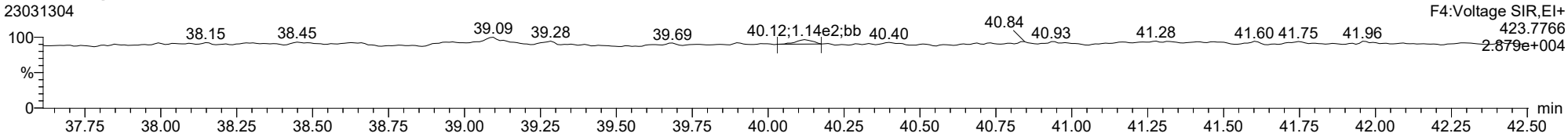


FUNCTION3 OCDPE

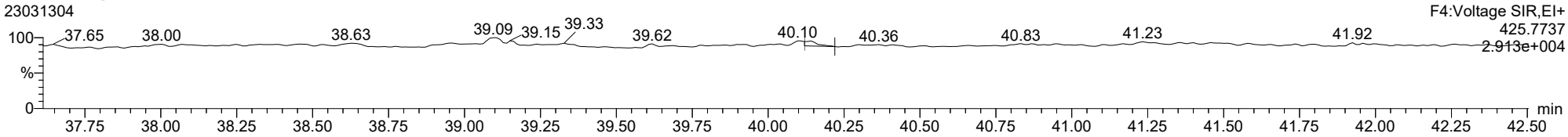


ID: BLB0228-BLK1, Name: 23031304, Date: 13-Mar-2023, Time: 12:41:28, Conditions: AUTOSPEC01, User: pk

1234678-HpCDD



1234678-HpCDD



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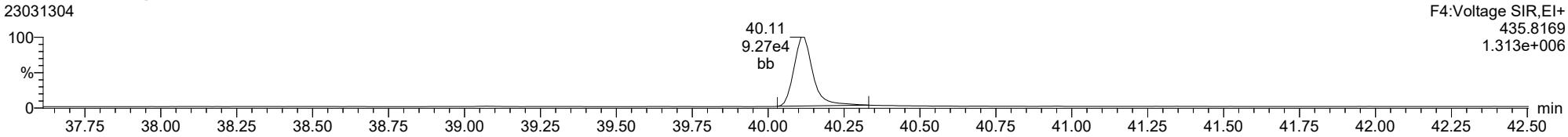
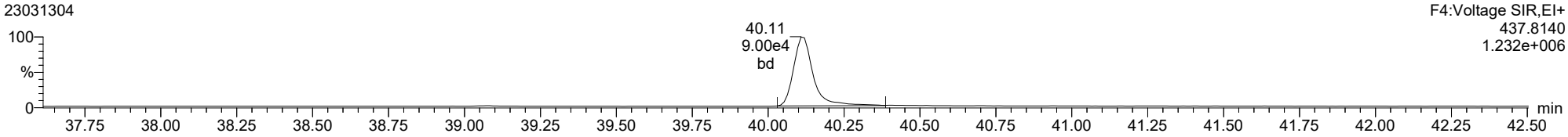
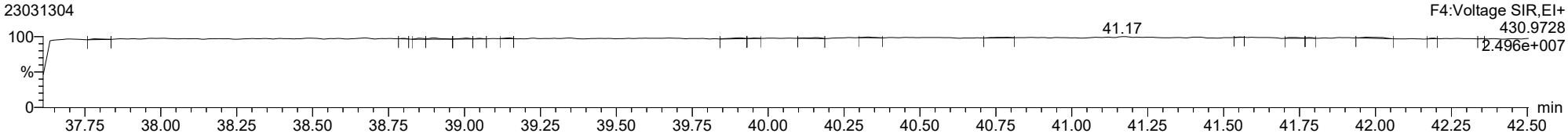


13C-1234678-HpCDD

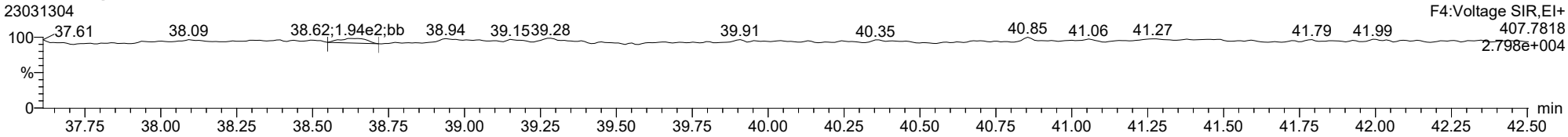


FUNCTION4 PFK

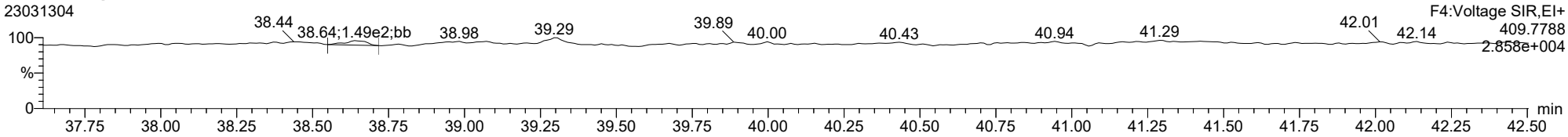


ID: BLB0228-BLK1, Name: 23031304, Date: 13-Mar-2023, Time: 12:41:28, Conditions: AUTOSPEC01, User: pk

1234678-HpCDF



1234678-HpCDF



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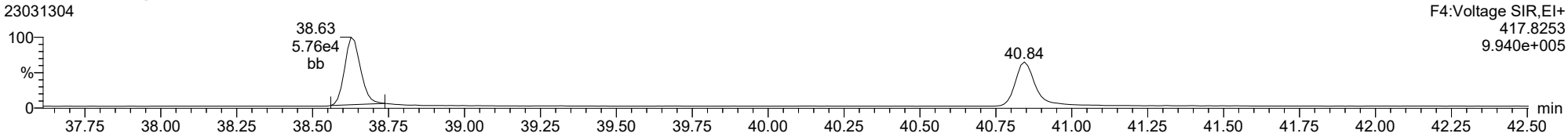

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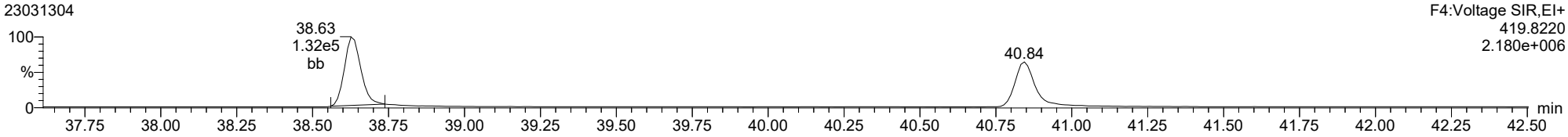
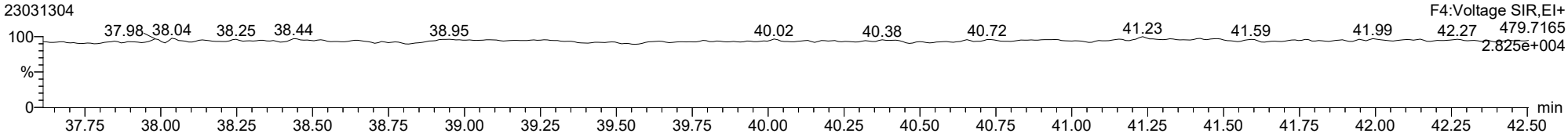
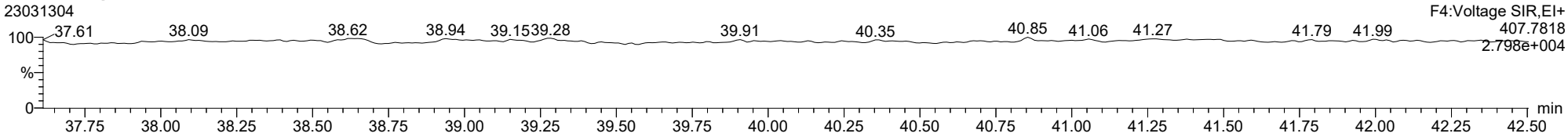


FUNCTION4 NCDPE

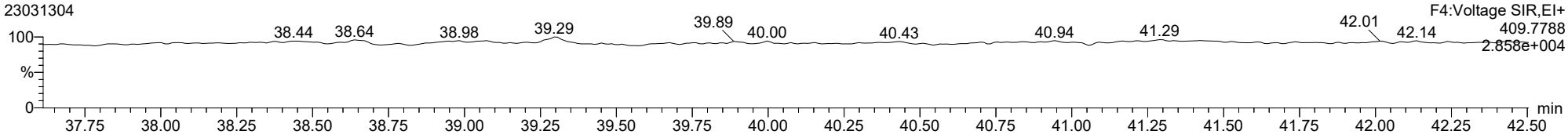


ID: BLB0228-BLK1, Name: 23031304, Date: 13-Mar-2023, Time: 12:41:28, Conditions: AUTOSPEC01, User: pk

1234789-HpCDF



1234789-HpCDF



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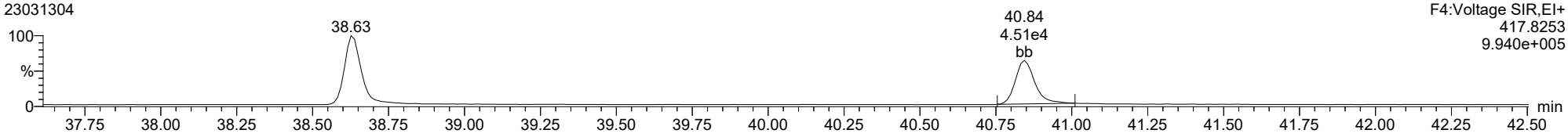

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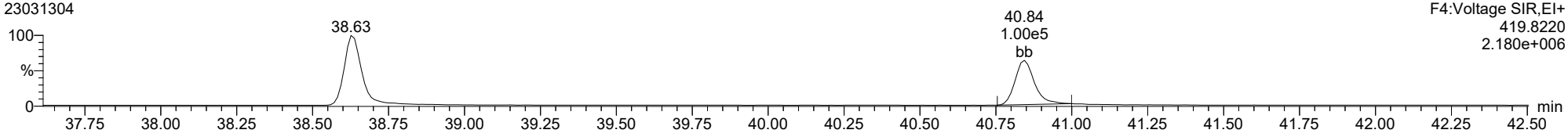
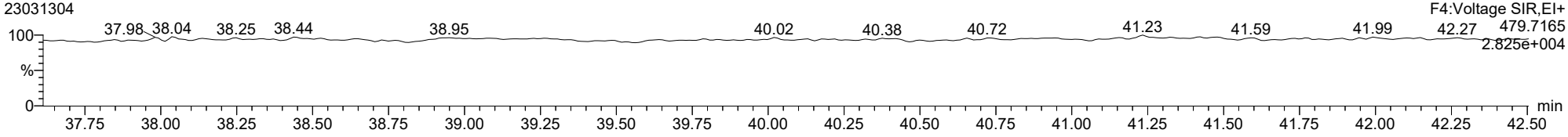
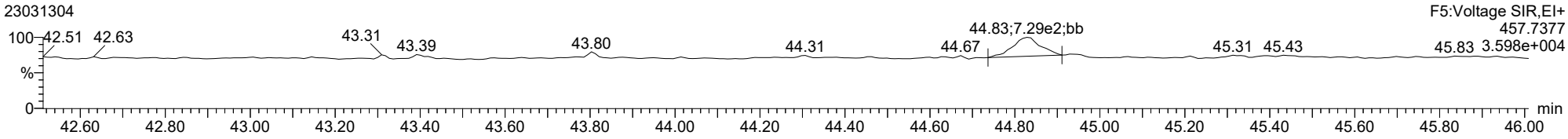


FUNCTION4 NCDPE

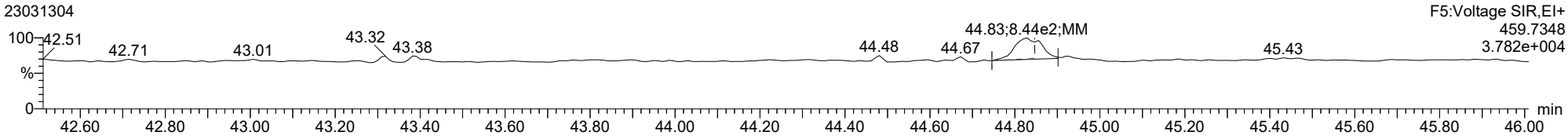


ID: BLB0228-BLK1, Name: 23031304, Date: 13-Mar-2023, Time: 12:41:28, Conditions: AUTOSPEC01, User: pk

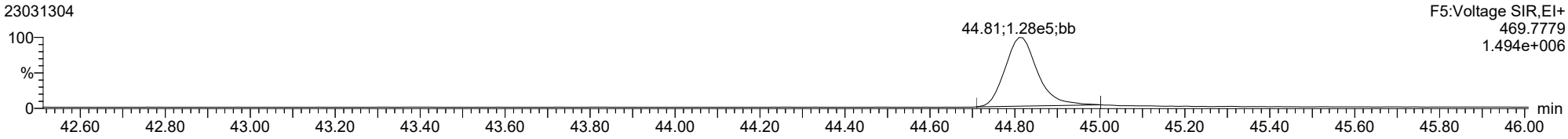
OCDD



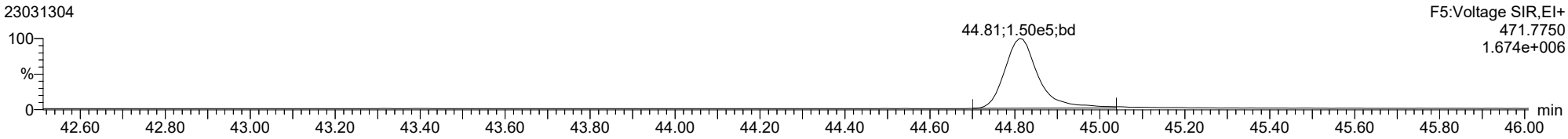
OCDD



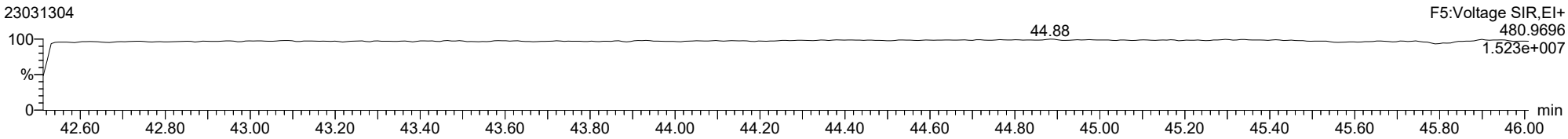
13C-OCDD



13C-OCDD

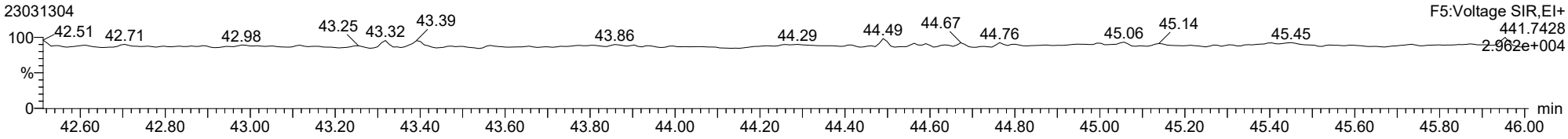


FUNCTION5 PFK

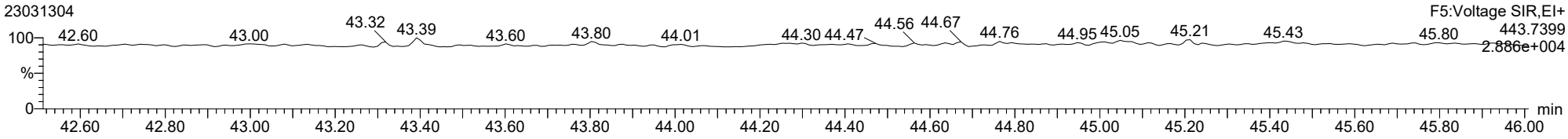


ID: BLB0228-BLK1, Name: 23031304, Date: 13-Mar-2023, Time: 12:41:28, Conditions: AUTOSPEC01, User: pk

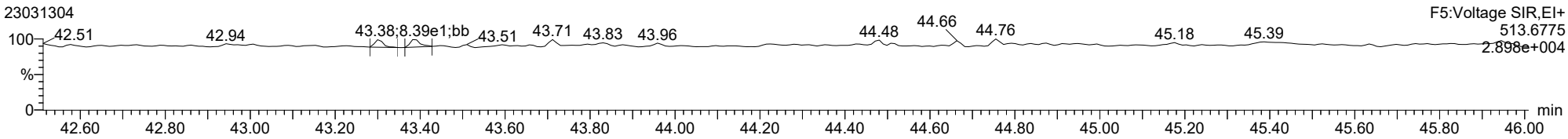
OCDF



OCDF

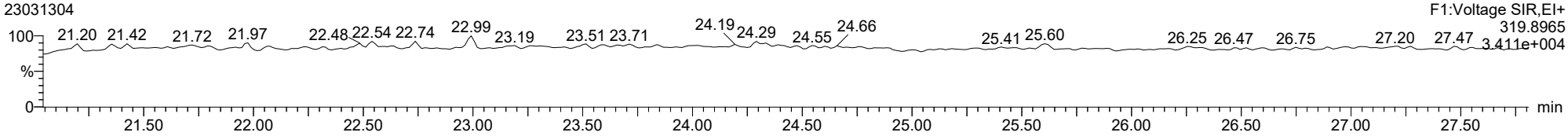


FUNCTION5 DCDPE

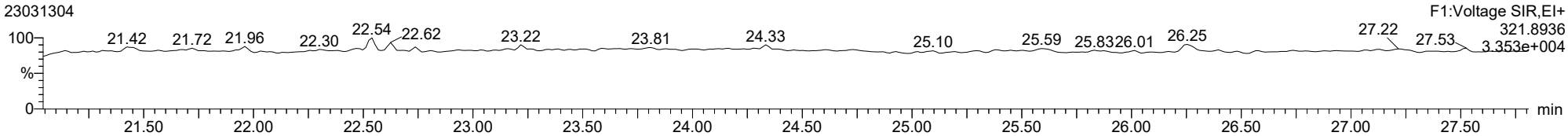


ID: BLB0228-BLK1, Name: 23031304, Date: 13-Mar-2023, Time: 12:41:28, Conditions: AUTOSPEC01, User: pk

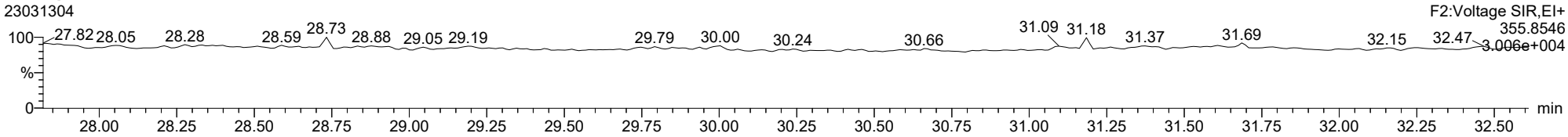
Total-tetradioxins



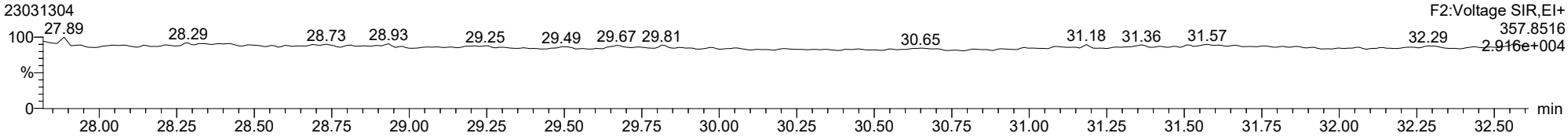
Total-tetradioxins



Total-pentadioxins

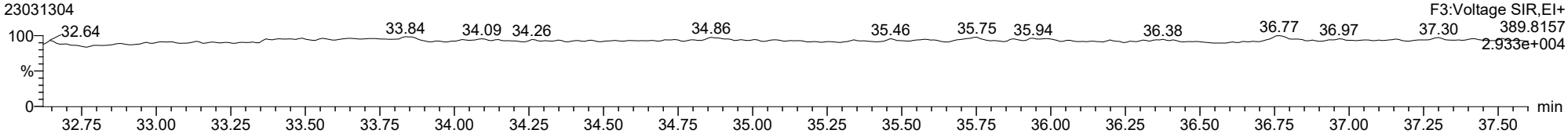


Total-pentadioxins

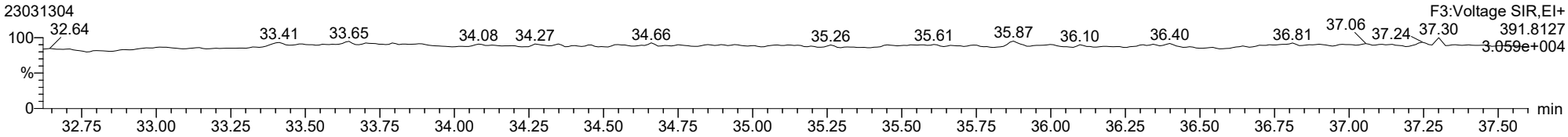


ID: BLB0228-BLK1, Name: 23031304, Date: 13-Mar-2023, Time: 12:41:28, Conditions: AUTOSPEC01, User: pk

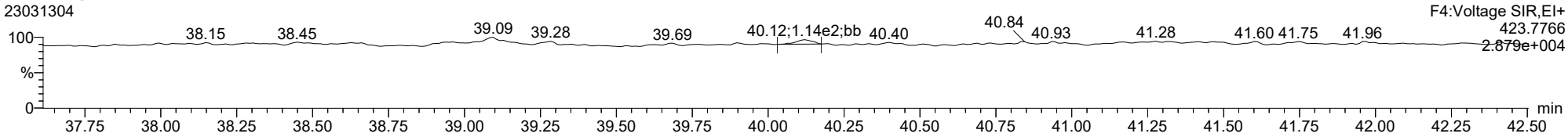
Total-hexadioxins



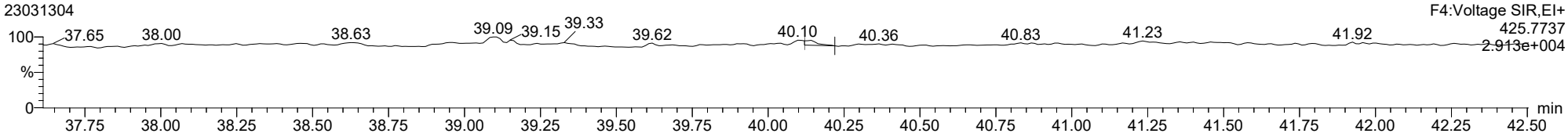
Total-hexadioxins



Total-heptadioxins

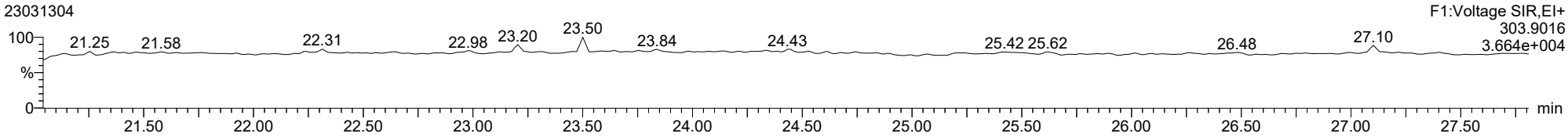


Total-heptadioxins

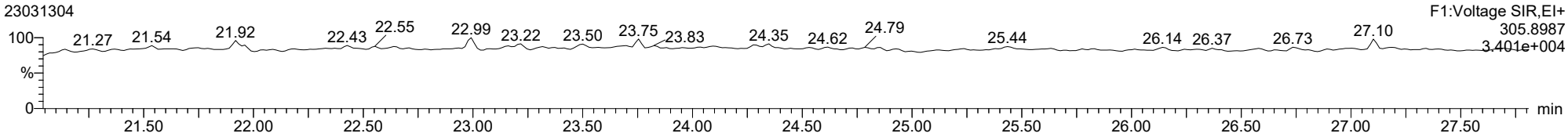


ID: BLB0228-BLK1, Name: 23031304, Date: 13-Mar-2023, Time: 12:41:28, Conditions: AUTOSPEC01, User: pk

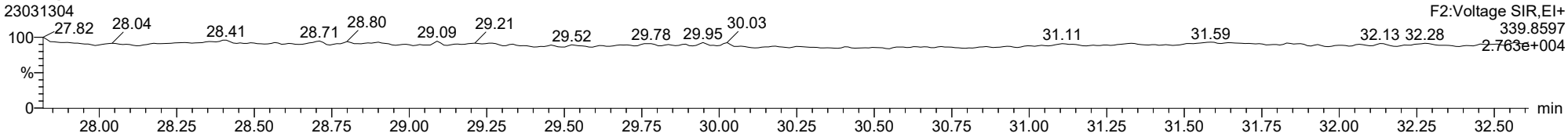
Total-tetrafurans



Total-tetrafurans



Total-pentafurans



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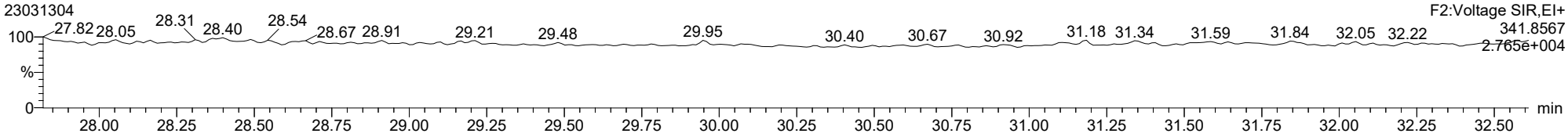

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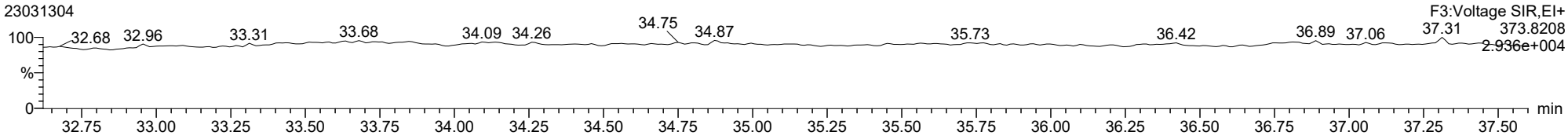
Total-hexafurans



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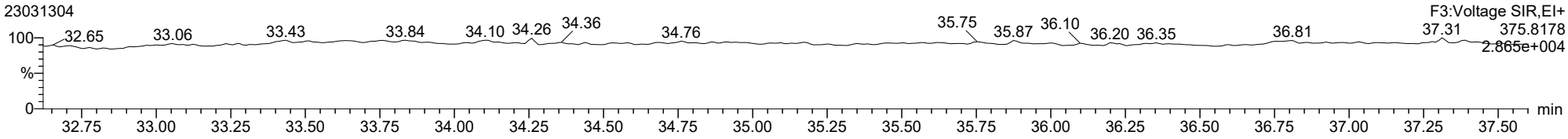

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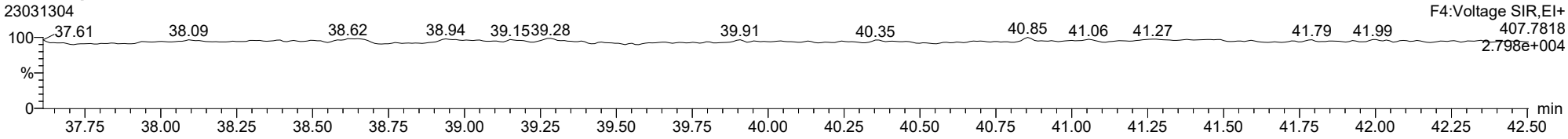
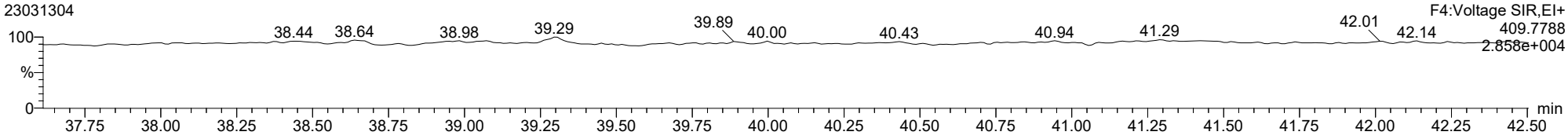


Total-heptafurans



LCS RECOVERY
EPA 1613B

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	03/13/23 13:29
Batch:	BLB0228	Laboratory ID:	BLB0228-BS1
Preparation:	EPA 1613	Sequence Name:	LCS
Initial/Final:	10 g / 20 uL		

COMPOUND	SPIKE ADDED (ng/kg wet)	LCS CONCENTRATION (ng/kg wet)	Q	LCS % REC. #	QC LIMITS REC.
2,3,7,8-TCDF	20.0	18.0		90.0	75 - 158
2,3,7,8-TCDD	20.0	16.9		84.6	67 - 158
1,2,3,7,8-PeCDF	100	98.8		98.8	80 - 134
2,3,4,7,8-PeCDF	100	102		102	68 - 160
1,2,3,7,8-PeCDD	100	106		106	70 - 142
1,2,3,4,7,8-HxCDF	100	93.6		93.6	72 - 134
1,2,3,6,7,8-HxCDF	100	95.2		95.2	84 - 130
2,3,4,6,7,8-HxCDF	100	97.4		97.4	70 - 156
1,2,3,7,8,9-HxCDF	100	93.0		93.0	78 - 130
1,2,3,4,7,8-HxCDD	100	93.1		93.1	70 - 164
1,2,3,6,7,8-HxCDD	100	97.1		97.1	76 - 134
1,2,3,7,8,9-HxCDD	100	98.3		98.3	64 - 162
1,2,3,4,6,7,8-HpCDF	100	105	B	105	82 - 122
1,2,3,4,7,8,9-HpCDF	100	104		104	78 - 138
1,2,3,4,6,7,8-HpCDD	100	93.3	B	93.3	70 - 140
OCDF	200	185		92.5	63 - 170
OCDD	200	186	B	92.9	78 - 144

* Indicates values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\230313D1.qld
Last Altered: Tuesday, March 14, 2023 09:54:11 Pacific Daylight Time
Printed: Tuesday, March 14, 2023 11:11:11 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin230313.mdb 13 Mar 2023 11:32:39
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 11:57:27

ID: BLB0228-BS1, Name: 23031305, Date: 13-Mar-2023, Time: 13:29:48, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.591	1.001	1.392e4	1.831e4	0.702	0.760	0.770	778	732	1.99e5	2.65e5	255.9	361.6	NO	bb	bb	8.997
12378-PeCDF	29.747	1.001	7.561e4	4.802e4	0.679	1.575	1.550	904	1223	1.09e6	6.69e5	1203.0	546.8	NO	bb	bb	49.402
23478-PeCDF	31.084	1.001	7.722e4	5.373e4	0.786	1.437	1.550	904	1223	1.13e6	7.37e5	1255.2	602.5	NO	bb	bb	50.941
123478-HxCDF	34.716	1.000	1.027e5	8.298e4	1.166	1.237	1.240	2181	1693	1.51e6	1.22e6	693.7	721.8	NO	bd	bd	46.810
234678-HxCDF	35.730	1.001	1.022e5	7.840e4	1.140	1.304	1.240	2181	1693	1.44e6	1.16e6	658.6	685.8	NO	bd	bb	48.702
123678-HxCDF	34.861	1.001	1.213e5	9.799e4	1.091	1.238	1.240	2181	1693	1.58e6	1.24e6	725.5	734.1	NO	dd	dd	47.609
123789-HxCDF	36.755	1.000	7.836e4	6.377e4	1.137	1.229	1.240	2181	1693	1.11e6	9.13e5	509.4	539.1	NO	bb	bb	46.520
1234678-HpCDF	38.615	1.000	5.881e4	5.852e4	1.003	1.005	1.050	1241	1240	8.76e5	8.66e5	706.3	698.0	NO	bd	bd	52.580
1234789-HpCDF	40.832	1.000	4.382e4	4.367e4	0.953	1.003	1.050	1241	1240	5.60e5	5.66e5	451.7	456.2	NO	bb	bd	52.024
OCDF	45.020	1.005	5.585e4	6.275e4	0.778	0.890	0.890	965	907	6.15e5	6.93e5	637.2	763.8	NO	bd	bb	92.516
2378-TCDD	26.226	1.001	1.761e4	2.119e4	1.149	0.831	0.770	1082	708	2.68e5	3.15e5	247.3	444.4	NO	bb	bb	8.459
12378-PeCDD	31.329	1.000	8.243e4	5.303e4	1.022	1.554	1.550	843	677	1.11e6	7.32e5	1317.8	1082.2	NO	bb	bd	53.123
123478-HxCDD	35.841	1.000	7.996e4	6.748e4	0.996	1.185	1.240	1218	927	1.29e6	1.09e6	1060.1	1176.2	NO	bd	bd	46.528
123678-HxCDD	35.952	1.000	1.000e5	8.195e4	1.001	1.221	1.240	1218	927	1.41e6	1.14e6	1157.0	1230.1	NO	db	db	48.571
123789-HxCDD	36.342	1.011	8.534e4	6.906e4	0.907	1.236	1.240	1218	927	1.18e6	9.47e5	967.5	1021.9	NO	bd	bd	49.148
1234678-HpCDD	40.097	1.000	5.590e4	5.059e4	1.039	1.105	1.050	850	702	7.52e5	7.22e5	884.7	1029.0	NO	bd	bb	46.653
OCDD	44.791	1.000	6.120e4	7.966e4	0.920	0.768	0.890	813	1480	7.42e5	8.88e5	913.3	599.9	NO	bb	bd	92.903
13C-2378-TCDF	25.562	1.007	2.181e5	2.926e5	1.620	0.745	0.770	1424	1325	3.23e6	4.32e6	2266.9	3259.8	NO	bb	bb	87.429
13C-12378-PeCDF	29.725	1.171	2.270e5	1.414e5	1.240	1.605	1.550	2109	1938	3.14e6	2.07e6	1490.4	1067.0	NO	bd	bb	82.384
13C-23478-PeCDF	31.062	1.223	1.964e5	1.306e5	1.118	1.504	1.550	2109	1938	2.91e6	1.93e6	1380.4	997.9	NO	bb	bb	81.141
13C-123478-HxCDF	34.705	0.955	1.137e5	2.264e5	1.168	0.502	0.510	1601	2077	1.66e6	3.31e6	1039.4	1594.6	NO	bd	bd	97.308
13C-123678-HxCDF	34.838	0.959	1.424e5	2.799e5	1.386	0.508	0.510	1601	2077	1.85e6	3.66e6	1156.3	1761.9	NO	dd	db	101.814
13C-234678-HxCDF	35.707	0.983	1.130e5	2.124e5	1.129	0.532	0.510	1601	2077	1.59e6	3.13e6	994.4	1508.1	NO	bd	bb	96.320
13C-123789-HxCDF	36.743	1.011	9.133e4	1.774e5	0.932	0.515	0.510	1601	2077	1.31e6	2.58e6	819.8	1240.7	NO	bb	bb	96.398
13C-1234678-HpCDF	38.604	1.063	6.693e4	1.556e5	0.895	0.430	0.440	1405	1588	1.06e6	2.47e6	756.4	1555.1	NO	bb	bb	83.079
13C-1234789-HpCDF	40.810	1.123	5.699e4	1.194e5	0.770	0.477	0.440	1405	1588	7.39e5	1.65e6	526.2	1040.3	NO	bd	bb	76.621
13C-1234-TCDD	25.393	0.000	1.587e5	2.018e5	1.000	0.786	0.770	1649	948	2.43e6	3.05e6	1472.4	3216.1	NO	bb	bb	100.000
13C-2378-TCDD	26.198	1.032	1.746e5	2.247e5	1.152	0.777	0.770	1649	948	2.60e6	3.37e6	1576.3	3551.6	NO	bb	bb	96.105
13C-12378-PeCDD	31.318	1.233	1.551e5	9.446e4	0.829	1.642	1.550	885	811	2.19e6	1.32e6	2475.7	1630.2	NO	bb	bb	83.513
13C-123478-HxCDD	35.830	0.986	1.777e5	1.406e5	0.995	1.263	1.240	1514	1621	2.75e6	2.17e6	1815.1	1340.6	NO	bd	bd	106.931
13C-123678-HxCDD	35.941	0.989	2.086e5	1.657e5	1.157	1.259	1.240	1514	1621	2.95e6	2.30e6	1945.6	1419.6	NO	db	dd	108.182
13C-1234678-HpCDD	40.086	1.103	1.130e5	1.067e5	0.840	1.059	1.050	1313	773	1.47e6	1.40e6	1116.4	1809.2	NO	bb	bb	87.408
13C-OCDD	44.782	1.233	1.613e5	1.684e5	0.767	0.958	0.890	1510	1133	1.81e6	1.95e6	1196.8	1724.5	NO	bd	bb	143.570
13C-123789-HxCDD	36.331	0.000	1.648e5	1.343e5	1.000	1.227	1.240	1514	1621	2.46e6	1.98e6	1622.5	1224.0	NO	bb	bb	100.000
37CL-2378-TCDD	26.226	1.033	1.412e5		1.288			864		2.05e6		2371.2			bb		30.423

Dataset: T:\Autospec\Processed Data Batch\230313D1.qld
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Printed: Tuesday, March 14, 2023 11:11:11 Pacific Daylight Time

ID: BLB0228-BS1, Name: 23031305, Date: 13-Mar-2023, Time: 13:29:48, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF					0.802		0.770	778	732								
1289-TCDF					0.678		0.770	778	732								
13468-PECDF					1.246		1.550	516	759								
12389-PECDF	32.109	1.080	5.481e2	1.664e2	0.496	3.294	1.550	904	1223	7.91e3	5.74e3	8.8	4.7	YES	bb	bd	0.391
123468-HXCDF					1.169		1.240	2181	1693								
1368-TCDD					1.015		0.770	1082	708								
1289-TCDD					0.909		0.770	1082	708								
12479-PECDD					2.301		1.550	843	677								
12389-PECDD					1.184		1.550	843	677								
124679-HXCDD					1.115		1.240	1218	927								
1234679-HPCDD	39.072	0.975	3.812e2	4.590e2	1.137	0.831	1.050	850	702	6.99e3	7.04e3	8.2	10.0	YES	bb	bb	0.336
Total-tetrafurans			1.392e4		0.727			778		1.99e5							8.997
Total-penta1			0.000e0					516		0.00e0							
Total-pentafurans			1.528e5		0.654			904		2.22e6							100.343
Total-hexafurans			4.045e5		1.141			2181		5.64e6							189.641
Total-heptafurans			1.026e5		0.978			1241		1.44e6							104.604
Total-Furans			7.297e5		0.922			778		1.01e7							496.102
Total-tetradioxins			1.761e4		1.024			1082		2.68e5							8.459
Total-pentadioxins			8.243e4		1.502			843		1.11e6							53.123
Total-hexadioxins			2.653e5		1.005			1218		3.88e6							144.248
Total-heptadioxins			5.590e4		1.088			850		7.52e5							46.653
Total-Dioxins			4.825e5		1.130			1082		6.75e6							345.386
Total-TEQ			1.212e6					1082		1.69e7							841.488
FUNCTION1 PFK			1.735e7					600163		1.21e8							
FUNCTION2 PFK			3.283e5					165868		9.35e6							0.000
FUNCTION3 PFK			4.378e5					264729		1.17e7							0.000
FUNCTION4 PFK			0.000e0					162481		0.00e0							
FUNCTION5 PFK			1.228e5					188625		4.25e6							
FUNCTION1 HXCD...			8.716e2					530		1.22e4							0.000
FUNCTION1 HPCD...																	
FUNCTION2 HPCD...			2.460e2					865		6.30e3							0.000
FUNCTION3 OCDPE			0.000e0					528		0.00e0							
FUNCTION4 NCDPE			7.658e1					686		2.16e3							0.000
FUNCTION5 DCDPE			1.113e2					574		2.28e3							0.000

Method: T:\Autospec\Methods\Dioxin230313.mdb 13 Mar 2023 11:32:39
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 11:57:27

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TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.59	1.392e4	1.831e4	0.702	0.76	0.77	255.9	YES	NO	bb	bb	8.997

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	23478-PeCDF	31.08	7.722e4	5.373e4	0.786	1.44	1.55	1255.2	YES	NO	bb	bb	50.941
2	12378-PeCDF	29.75	7.561e4	4.802e4	0.679	1.57	1.55	1203.0	YES	NO	bb	bb	49.402

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.75	7.836e4	6.377e4	1.137	1.23	1.24	509.4	YES	NO	bb	bb	46.520
2	234678-HxCDF	35.73	1.022e5	7.840e4	1.140	1.30	1.24	658.6	YES	NO	bd	bb	48.702
3	123678-HxCDF	34.86	1.213e5	9.799e4	1.091	1.24	1.24	725.5	YES	NO	dd	dd	47.609
4	123478-HxCDF	34.72	1.027e5	8.298e4	1.166	1.24	1.24	693.7	YES	NO	bd	bd	46.810

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDF	38.62	5.881e4	5.852e4	1.003	1.00	1.05	706.3	YES	NO	bd	bd	52.580
2	1234789-HpCDF	40.83	4.382e4	4.367e4	0.953	1.00	1.05	451.7	YES	NO	bb	bd	52.024

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Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.59	1.392e4	1.831e4	0.702	0.76	0.77	255.9	YES	NO	bb	bb	8.997
2	23478-PeCDF	31.08	7.722e4	5.373e4	0.786	1.44	1.55	1255.2	YES	NO	bb	bb	50.941
3	12378-PeCDF	29.75	7.561e4	4.802e4	0.679	1.57	1.55	1203.0	YES	NO	bb	bb	49.402
4	123789-HxCDF	36.75	7.836e4	6.377e4	1.137	1.23	1.24	509.4	YES	NO	bb	bb	46.520
5	234678-HxCDF	35.73	1.022e5	7.840e4	1.140	1.30	1.24	658.6	YES	NO	bd	bb	48.702
6	123678-HxCDF	34.86	1.213e5	9.799e4	1.091	1.24	1.24	725.5	YES	NO	dd	dd	47.609
7	123478-HxCDF	34.72	1.027e5	8.298e4	1.166	1.24	1.24	693.7	YES	NO	bd	bd	46.810
8	1234678-HpCDF	38.62	5.881e4	5.852e4	1.003	1.00	1.05	706.3	YES	NO	bd	bd	52.580
9	OCDF	45.02	5.585e4	6.275e4	0.778	0.89	0.89	637.2	YES	NO	bd	bb	92.516
10	1234789-HpCDF	40.83	4.382e4	4.367e4	0.953	1.00	1.05	451.7	YES	NO	bb	bd	52.024

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDD	26.23	1.761e4	2.119e4	1.149	0.83	0.77	247.3	YES	NO	bb	bb	8.459

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDD	31.33	8.243e4	5.303e4	1.022	1.55	1.55	1317.8	YES	NO	bb	bd	53.123

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDD	36.34	8.534e4	6.906e4	0.907	1.24	1.24	967.5	YES	NO	bd	bd	49.148
2	123678-HxCDD	35.95	1.000e5	8.195e4	1.001	1.22	1.24	1157.0	YES	NO	db	db	48.571
3	123478-HxCDD	35.84	7.996e4	6.748e4	0.996	1.18	1.24	1060.1	YES	NO	bd	bd	46.528

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.10	5.590e4	5.059e4	1.039	1.11	1.05	884.7	YES	NO	bd	bb	46.653

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Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDD	31.33	8.243e4	5.303e4	1.022	1.55	1.55	1317.8	YES	NO	bb	bd	53.123
2	2378-TCDD	26.23	1.761e4	2.119e4	1.149	0.83	0.77	247.3	YES	NO	bb	bb	8.459
3	123789-HxCDD	36.34	8.534e4	6.906e4	0.907	1.24	1.24	967.5	YES	NO	bd	bd	49.148
4	123678-HxCDD	35.95	1.000e5	8.195e4	1.001	1.22	1.24	1157.0	YES	NO	db	db	48.571
5	123478-HxCDD	35.84	7.996e4	6.748e4	0.996	1.18	1.24	1060.1	YES	NO	bd	bd	46.528
6	OCDD	44.79	6.120e4	7.966e4	0.920	0.77	0.89	913.3	YES	NO	bb	bd	92.903
7	1234678-HpCDD	40.10	5.590e4	5.059e4	1.039	1.11	1.05	884.7	YES	NO	bd	bb	46.653

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.59	1.392e4	1.831e4	0.702	0.76	0.77	255.9	YES	NO	bb	bb	8.997
2	23478-PeCDF	31.08	7.722e4	5.373e4	0.786	1.44	1.55	1255.2	YES	NO	bb	bb	50.941
3	12378-PeCDF	29.75	7.561e4	4.802e4	0.679	1.57	1.55	1203.0	YES	NO	bb	bb	49.402
4	123789-HxCDF	36.75	7.836e4	6.377e4	1.137	1.23	1.24	509.4	YES	NO	bb	bb	46.520
5	234678-HxCDF	35.73	1.022e5	7.840e4	1.140	1.30	1.24	658.6	YES	NO	bd	bb	48.702
6	123678-HxCDF	34.86	1.213e5	9.799e4	1.091	1.24	1.24	725.5	YES	NO	dd	dd	47.609
7	123478-HxCDF	34.72	1.027e5	8.298e4	1.166	1.24	1.24	693.7	YES	NO	bd	bd	46.810
8	1234678-HpCDF	38.62	5.881e4	5.852e4	1.003	1.00	1.05	706.3	YES	NO	bd	bd	52.580
9	OCDF	45.02	5.585e4	6.275e4	0.778	0.89	0.89	637.2	YES	NO	bd	bb	92.516
10	1234789-HpCDF	40.83	4.382e4	4.367e4	0.953	1.00	1.05	451.7	YES	NO	bb	bd	52.024
11	12378-PeCDD	31.33	8.243e4	5.303e4	1.022	1.55	1.55	1317.8	YES	NO	bb	bd	53.123
12	2378-TCDD	26.23	1.761e4	2.119e4	1.149	0.83	0.77	247.3	YES	NO	bb	bb	8.459
13	123789-HxCDD	36.34	8.534e4	6.906e4	0.907	1.24	1.24	967.5	YES	NO	bd	bd	49.148
14	123678-HxCDD	35.95	1.000e5	8.195e4	1.001	1.22	1.24	1157.0	YES	NO	db	db	48.571
15	123478-HxCDD	35.84	7.996e4	6.748e4	0.996	1.18	1.24	1060.1	YES	NO	bd	bd	46.528
16	OCDD	44.79	6.120e4	7.966e4	0.920	0.77	0.89	913.3	YES	NO	bb	bd	92.903
17	1234678-HpCDD	40.10	5.590e4	5.059e4	1.039	1.11	1.05	884.7	YES	NO	bd	bb	46.653

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	22.12	1.744e6					16.5	YES		db		
2	FUNCTION1 PFK	21.97	1.808e6					15.7	YES		bd		
3	FUNCTION1 PFK	21.69	8.669e5					13.4	YES		db		
4	FUNCTION1 PFK	21.54	1.837e6					11.4	YES		bd		
5	FUNCTION1 PFK	24.43	1.124e5					2.9	NO		dd		
6	FUNCTION1 PFK	24.36	1.357e5					2.9	NO		dd		
7	FUNCTION1 PFK	24.29	3.982e4					2.0	NO		dd		
8	FUNCTION1 PFK	24.23	3.873e4					1.3	NO		bd		
9	FUNCTION1 PFK	24.08	1.607e5					2.1	NO		db		
10	FUNCTION1 PFK	23.95	2.612e4					0.9	NO		bd		
11	FUNCTION1 PFK	23.74	8.008e4					2.9	NO		db		
12	FUNCTION1 PFK	23.73	4.341e5					2.8	NO		dd		
13	FUNCTION1 PFK	23.53	8.089e5					5.8	YES		dd		
14	FUNCTION1 PFK	23.34	6.122e5					7.4	YES		dd		
15	FUNCTION1 PFK	23.18	1.238e6					9.5	YES		bd		
16	FUNCTION1 PFK	22.89	8.705e5					13.7	YES		db		
17	FUNCTION1 PFK	22.79	1.101e6					14.9	YES		dd		
18	FUNCTION1 PFK	22.68	2.537e6					15.6	YES		dd		
19	FUNCTION1 PFK	22.36	7.609e5					17.2	YES		dd		
20	FUNCTION1 PFK	22.31	1.081e6					17.4	YES		bd		
21	FUNCTION1 PFK	27.60	1.527e5					2.6	NO		bd		
22	FUNCTION1 PFK	27.45	1.812e4					0.8	NO		db		
23	FUNCTION1 PFK	27.34	4.567e4					0.9	NO		bd		
24	FUNCTION1 PFK	27.23	6.466e3					0.3	NO		bb		
25	FUNCTION1 PFK	27.06	6.137e4					1.6	NO		bb		
26	FUNCTION1 PFK	26.83	7.738e4					0.9	NO		bb		
27	FUNCTION1 PFK	26.54	7.494e4					1.4	NO		db		
28	FUNCTION1 PFK	26.44	2.252e4					0.9	NO		dd		
29	FUNCTION1 PFK	26.38	1.878e4					0.9	NO		bd		
30	FUNCTION1 PFK	25.89	2.727e4					1.0	NO		bb		
31	FUNCTION1 PFK	25.24	1.070e5					2.5	NO		bb		
32	FUNCTION1 PFK	24.95	8.324e3					0.5	NO		db		
33	FUNCTION1 PFK	24.91	9.298e3					0.6	NO		bd		
34	FUNCTION1 PFK	24.79	3.785e4					0.7	NO		bb		
35	FUNCTION1 PFK	24.63	3.417e4					1.9	NO		db		
36	FUNCTION1 PFK	24.55	1.972e5					2.8	NO		dd		
37	FUNCTION1 PFK	27.68	1.577e5					3.8	YES		db		

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	29.17	7.001e3					1.3	NO		dd		0.000
2	FUNCTION2 PFK	29.12	4.018e3					1.1	NO		bd		0.000
3	FUNCTION2 PFK	29.00	5.025e3					1.0	NO		bb		0.000
4	FUNCTION2 PFK	28.92	1.080e4					1.5	NO		db		0.000
5	FUNCTION2 PFK	28.88	1.266e4					2.2	NO		dd		0.000
6	FUNCTION2 PFK	28.82	7.354e3					1.7	NO		bd		0.000
7	FUNCTION2 PFK	28.55	1.446e4					1.8	NO		db		0.000
8	FUNCTION2 PFK	28.47	1.182e4					1.7	NO		dd		0.000
9	FUNCTION2 PFK	28.40	8.416e3					1.2	NO		bd		0.000
10	FUNCTION2 PFK	28.19	2.612e3					0.8	NO		bb		0.000
11	FUNCTION2 PFK	28.14	1.311e3					0.7	NO		bb		0.000
12	FUNCTION2 PFK	28.10	7.726e3					1.9	NO		db		0.000
13	FUNCTION2 PFK	27.98	3.643e4					2.3	NO		dd		0.000
14	FUNCTION2 PFK	27.93	6.874e3					1.6	NO		bd		0.000
15	FUNCTION2 PFK	30.57	8.331e2					0.4	NO		bb		0.000
16	FUNCTION2 PFK	30.53	1.376e3					0.7	NO		bb		0.000
17	FUNCTION2 PFK	30.48	2.186e3					0.9	NO		db		0.000
18	FUNCTION2 PFK	30.45	4.545e3					1.0	NO		bd		0.000
19	FUNCTION2 PFK	30.16	9.947e3					1.2	NO		bb		0.000
20	FUNCTION2 PFK	29.93	1.032e3					0.4	NO		db		0.000
21	FUNCTION2 PFK	29.89	6.133e3					1.2	NO		bd		0.000
22	FUNCTION2 PFK	29.79	4.556e3					1.0	NO		db		0.000
23	FUNCTION2 PFK	29.75	2.804e3					0.9	NO		bd		0.000
24	FUNCTION2 PFK	29.70	5.406e3					1.3	NO		bb		0.000
25	FUNCTION2 PFK	29.65	1.517e3					0.8	NO		bb		0.000
26	FUNCTION2 PFK	29.56	5.226e3					1.3	NO		db		0.000
27	FUNCTION2 PFK	29.51	6.171e3					1.5	NO		bd		0.000
28	FUNCTION2 PFK	29.43	1.024e3					0.6	NO		bb		0.000
29	FUNCTION2 PFK	29.37	8.731e3					1.3	NO		bb		0.000
30	FUNCTION2 PFK	29.21	2.301e4					2.6	NO		db		0.000
31	FUNCTION2 PFK	32.40	5.172e3					1.1	NO		db		0.000
32	FUNCTION2 PFK	32.38	4.717e3					1.2	NO		dd		0.000
33	FUNCTION2 PFK	32.33	1.310e3					0.5	NO		bd		0.000
34	FUNCTION2 PFK	32.29	3.832e3					1.0	NO		bb		0.000
35	FUNCTION2 PFK	32.14	6.792e3					1.0	NO		db		0.000
36	FUNCTION2 PFK	32.09	5.253e3					1.2	NO		bd		0.000
37	FUNCTION2 PFK	31.99	7.529e3					1.4	NO		bb		0.000

ID: BLB0228-BS1, Name: 23031305, Date: 13-Mar-2023, Time: 13:29:48, Conditions: AUTOSPEC01, User: pk

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION2 PFK	31.38	7.840e3					1.6	NO		bb		0.000
39	FUNCTION2 PFK	31.28	1.229e4					1.6	NO		db		0.000
40	FUNCTION2 PFK	31.23	4.300e3					1.0	NO		bd		0.000
41	FUNCTION2 PFK	31.15	1.223e4					1.6	NO		db		0.000
42	FUNCTION2 PFK	31.11	3.914e3					0.9	NO		dd		0.000
43	FUNCTION2 PFK	31.04	4.301e3					1.0	NO		bd		0.000
44	FUNCTION2 PFK	30.84	1.331e4					1.8	NO		bb		0.000
45	FUNCTION2 PFK	30.73	1.447e4					1.8	NO		bb		0.000

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Last Altered: Tuesday, March 14, 2023 09:54:11 Pacific Daylight Time
Printed: Tuesday, March 14, 2023 11:11:11 Pacific Daylight Time

ID: BLB0228-BS1, Name: 23031305, Date: 13-Mar-2023, Time: 13:29:48, Conditions: AUTOSPEC01, User: pk

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	35.07	1.024e4					1.3	NO		dd		0.000
2	FUNCTION3 PFK	35.03	2.123e4					1.8	NO		bd		0.000
3	FUNCTION3 PFK	34.96	1.763e4					1.5	NO		bb		0.000
4	FUNCTION3 PFK	34.86	7.016e3					1.0	NO		bb		0.000
5	FUNCTION3 PFK	34.46	7.878e3					1.3	NO		bb		0.000
6	FUNCTION3 PFK	34.37	1.632e3					0.6	NO		bb		0.000
7	FUNCTION3 PFK	34.31	1.373e4					0.9	NO		bb		0.000
8	FUNCTION3 PFK	34.18	7.981e3					1.0	NO		db		0.000
9	FUNCTION3 PFK	34.15	8.830e3					1.2	NO		bd		0.000
10	FUNCTION3 PFK	33.39	2.178e4					1.8	NO		bb		0.000
11	FUNCTION3 PFK	33.25	1.615e4					2.0	NO		bb		0.000
12	FUNCTION3 PFK	33.03	4.787e3					0.8	NO		bb		0.000
13	FUNCTION3 PFK	32.83	1.338e4					1.5	NO		db		0.000
14	FUNCTION3 PFK	32.78	5.787e3					1.2	NO		bd		0.000
15	FUNCTION3 PFK	32.72	7.601e3					1.0	NO		db		0.000
16	FUNCTION3 PFK	32.70	8.826e3					1.2	NO		bd		0.000
17	FUNCTION3 PFK	36.70	2.454e4					1.9	NO		bb		0.000
18	FUNCTION3 PFK	36.57	2.547e4					1.8	NO		bb		0.000
19	FUNCTION3 PFK	36.42	1.523e3					0.5	NO		bb		0.000
20	FUNCTION3 PFK	36.28	1.162e3					0.4	NO		bb		0.000
21	FUNCTION3 PFK	36.14	2.752e4					1.8	NO		bb		0.000
22	FUNCTION3 PFK	36.04	1.932e4					1.5	NO		db		0.000
23	FUNCTION3 PFK	35.94	2.732e4					2.2	NO		bd		0.000
24	FUNCTION3 PFK	35.75	1.358e3					0.5	NO		bb		0.000
25	FUNCTION3 PFK	35.72	3.386e3					0.7	NO		bb		0.000
26	FUNCTION3 PFK	35.64	6.572e3					1.0	NO		bb		0.000
27	FUNCTION3 PFK	35.55	1.232e3					0.4	NO		bb		0.000
28	FUNCTION3 PFK	35.51	7.944e3					1.1	NO		bb		0.000
29	FUNCTION3 PFK	35.43	4.003e3					0.9	NO		bb		0.000
30	FUNCTION3 PFK	35.32	2.796e4					1.7	NO		bb		0.000
31	FUNCTION3 PFK	35.17	1.076e3					0.4	NO		bb		0.000
32	FUNCTION3 PFK	35.12	6.532e3					1.0	NO		db		0.000
33	FUNCTION3 PFK	37.52	4.410e4					2.3	NO		bb		0.000
34	FUNCTION3 PFK	37.20	1.766e4					1.5	NO		bb		0.000
35	FUNCTION3 PFK	36.97	2.900e3					0.6	NO		bb		0.000
36	FUNCTION3 PFK	36.90	6.582e3					1.2	NO		bb		0.000
37	FUNCTION3 PFK	36.83	5.140e3					0.9	NO		bb		0.000

ID: BLB0228-BS1, Name: 23031305, Date: 13-Mar-2023, Time: 13:29:48, Conditions: AUTOSPEC01, User: pk

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	43.52	3.010e3					0.9	NO		bb		
2	FUNCTION5 PFK	43.27	8.001e2					0.5	NO		bb		
3	FUNCTION5 PFK	43.15	7.677e3					1.3	NO		bb		
4	FUNCTION5 PFK	43.01	1.600e4					1.1	NO		bb		
5	FUNCTION5 PFK	42.92	9.882e3					1.9	NO		db		
6	FUNCTION5 PFK	42.86	6.082e3					1.0	NO		bd		
7	FUNCTION5 PFK	42.69	5.496e3					1.0	NO		bb		
8	FUNCTION5 PFK	42.61	2.153e3					0.6	NO		bb		
9	FUNCTION5 PFK	42.57	7.375e2					0.4	NO		bb		
10	FUNCTION5 PFK	45.84	5.440e2					0.3	NO		bb		
11	FUNCTION5 PFK	45.78	9.032e2					0.5	NO		bb		
12	FUNCTION5 PFK	45.72	2.248e3					0.7	NO		bb		
13	FUNCTION5 PFK	45.48	4.377e3					0.9	NO		bb		
14	FUNCTION5 PFK	45.18	6.101e3					1.2	NO		bb		
15	FUNCTION5 PFK	44.64	7.416e3					1.2	NO		db		
16	FUNCTION5 PFK	44.58	9.522e3					1.5	NO		bd		
17	FUNCTION5 PFK	44.37	4.044e3					0.7	NO		bb		
18	FUNCTION5 PFK	44.33	3.260e3					0.8	NO		bb		
19	FUNCTION5 PFK	44.29	5.227e3					1.1	NO		bb		
20	FUNCTION5 PFK	44.11	9.388e3					1.3	NO		db		
21	FUNCTION5 PFK	44.06	7.642e3					1.7	NO		dd		
22	FUNCTION5 PFK	44.03	5.518e3					1.2	NO		bd		
23	FUNCTION5 PFK	43.82	4.807e3					0.7	NO		bb		

ID: BLB0228-BS1, Name: 23031305, Date: 13-Mar-2023, Time: 13:29:48, Conditions: AUTOSPEC01, User: pk

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	21.69	1.173e2					4.5	YES		bb		0.000
2	FUNCTION1 HXCD...	25.38	9.431e1					2.3	NO		bb		0.000
3	FUNCTION1 HXCD...	25.20	1.449e2					3.3	YES		bb		0.000
4	FUNCTION1 HXCD...	24.02	7.998e1					3.0	YES		bb		0.000
5	FUNCTION1 HXCD...	23.25	9.403e1					1.8	NO		db		0.000
6	FUNCTION1 HXCD...	23.12	9.975e1					2.3	NO		dd		0.000
7	FUNCTION1 HXCD...	22.89	1.339e2					3.1	YES		bd		0.000
8	FUNCTION1 HXCD...	21.96	1.075e2					2.8	NO		bb		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	31.51	7.524e1					3.4	YES		bb		0.000
2	FUNCTION2 HPCD...	31.01	9.072e1					2.2	NO		bb		0.000
3	FUNCTION2 HPCD...	29.35	8.002e1					1.7	NO		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	40.52	7.658e1					3.2	YES		bb		0.000

ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 DCDPE	43.09	1.113e2					4.0	YES		bb		0.000

Dataset: T:\Autospec\Processed Data Batch\230313D1.qld
Last Altered: Tuesday, March 14, 2023 09:54:11 Pacific Daylight Time
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ID: BLB0228-BS1, Name: 23031305, Date: 13-Mar-2023, Time: 13:29:48, Conditions: AUTOSPEC01, User: pk

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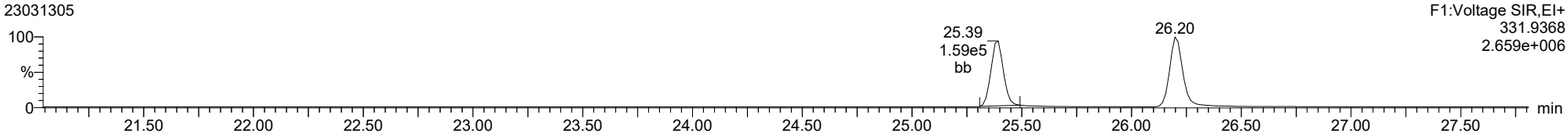

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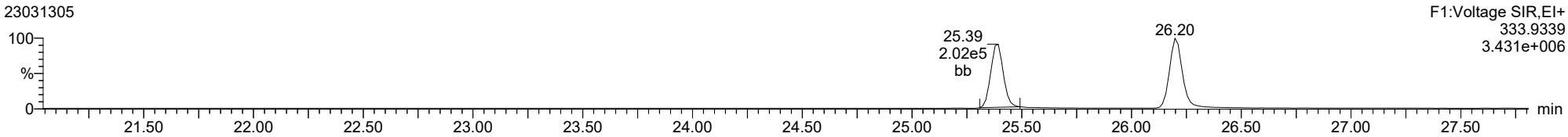

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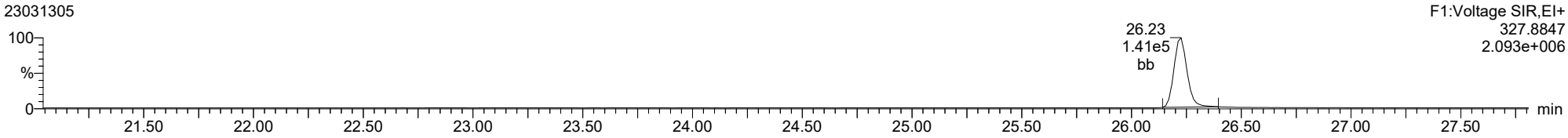

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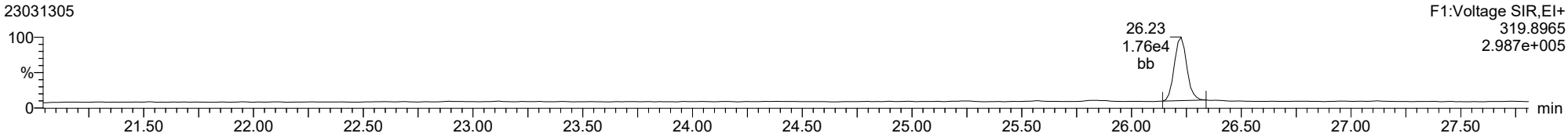

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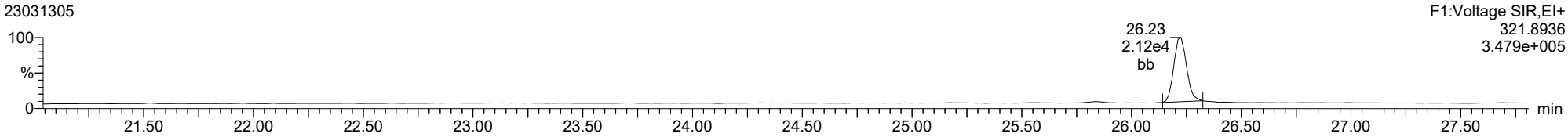

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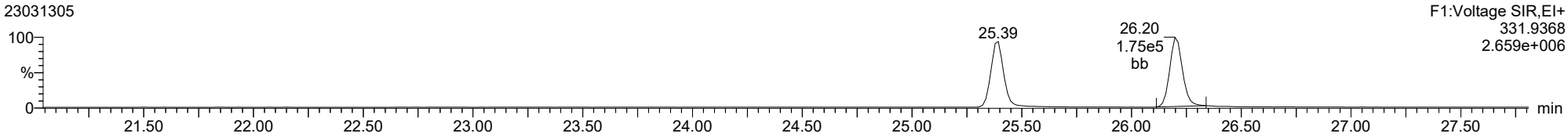

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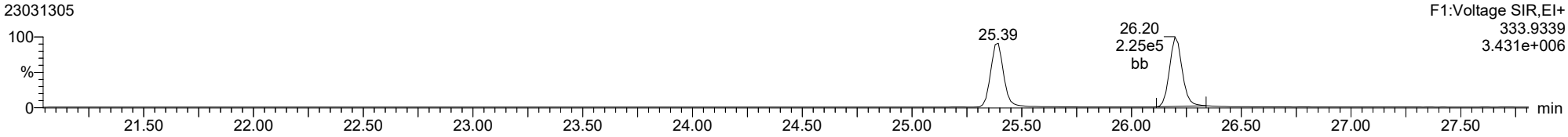

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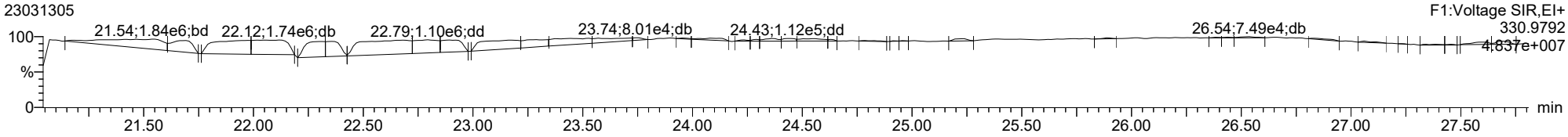

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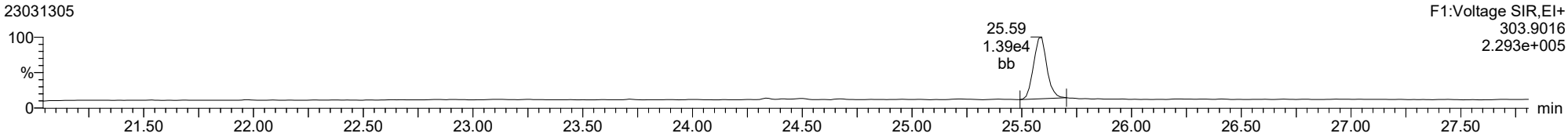

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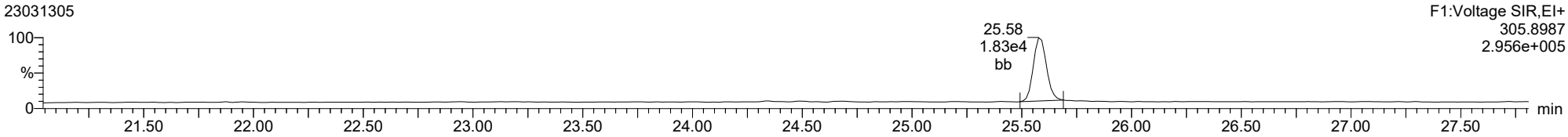

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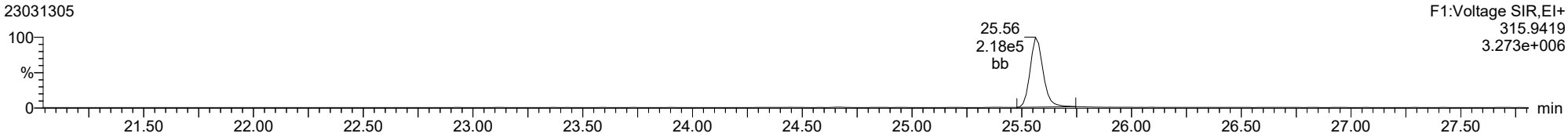

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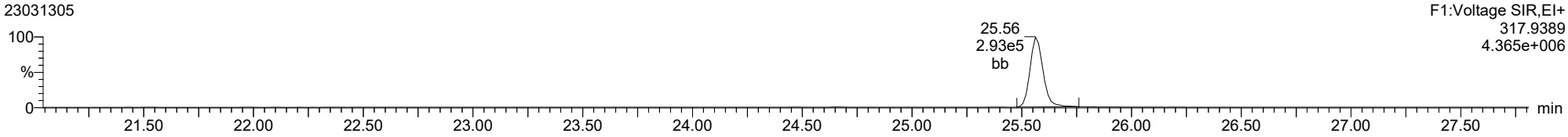
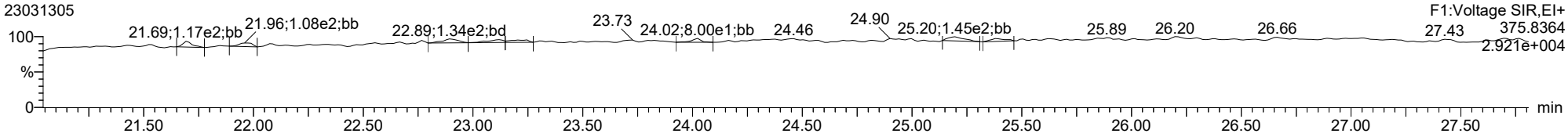


FUNCTION1 HXCDPE



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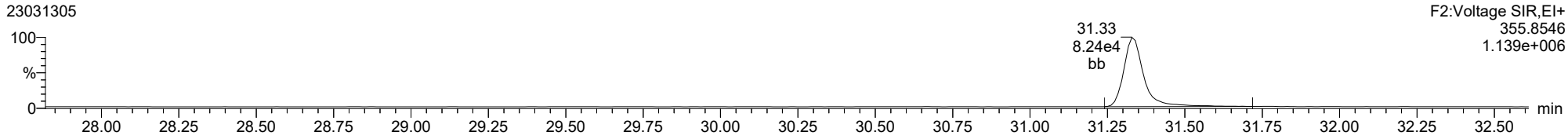
12378-PeCDD



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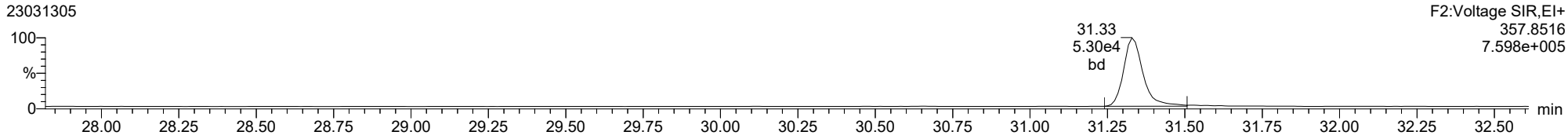

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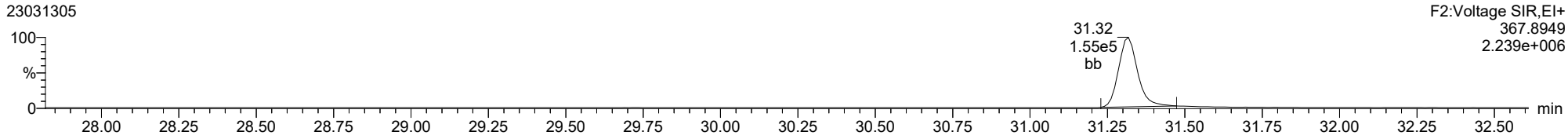

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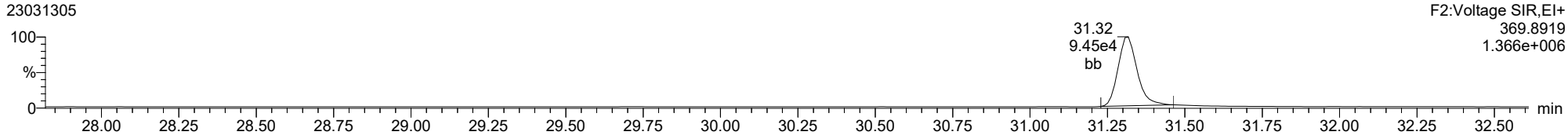
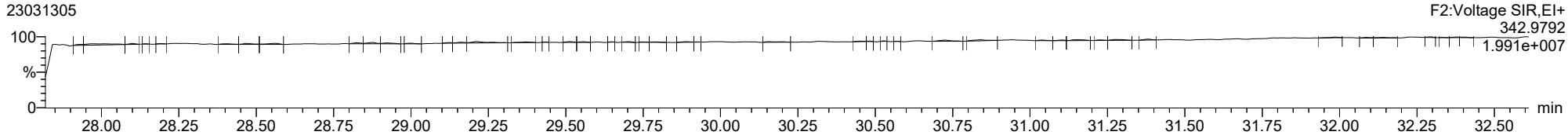


FUNCTION2 PFK



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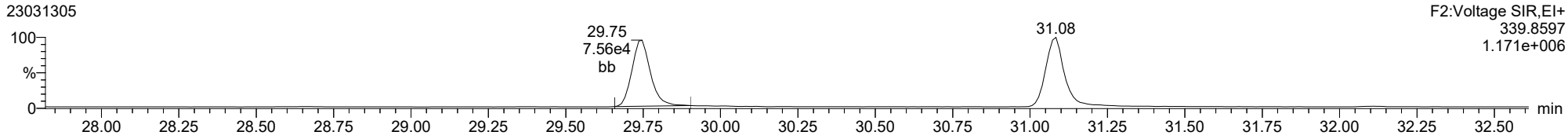

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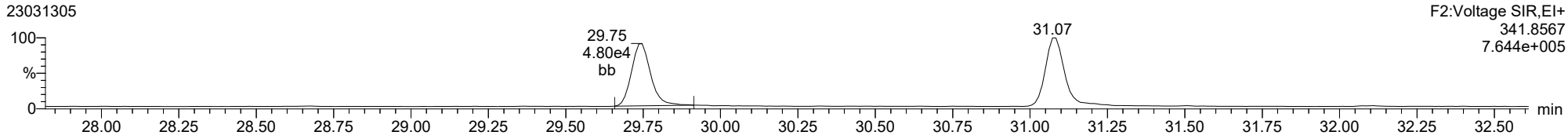

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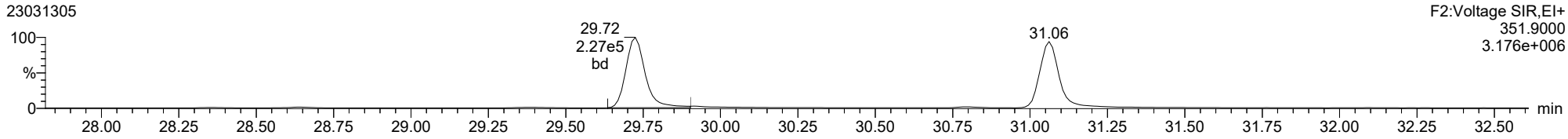

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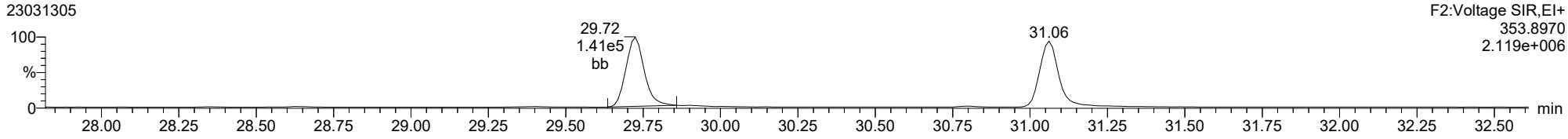
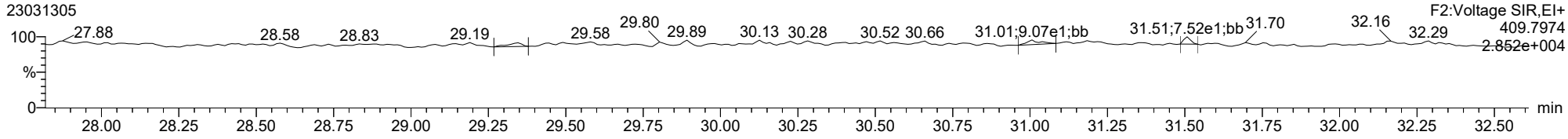
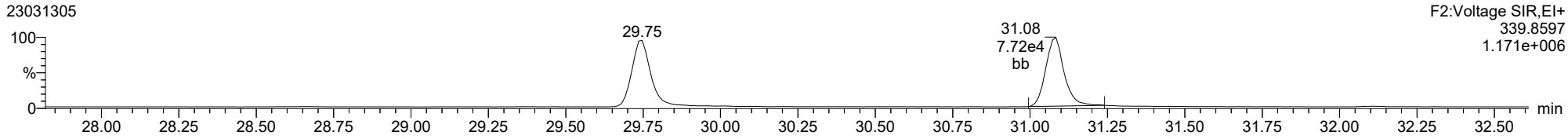


FUNCTION2 HPCDPE

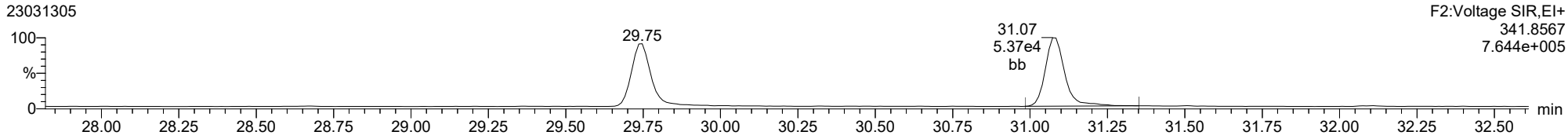


ID: BLB0228-BS1, Name: 23031305, Date: 13-Mar-2023, Time: 13:29:48, Conditions: AUTOSPEC01, User: pk

23478-PeCDF



23478-PeCDF



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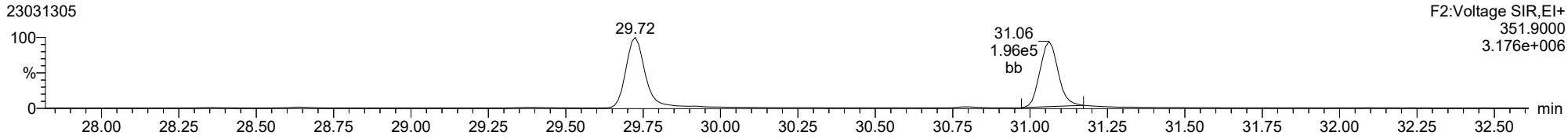

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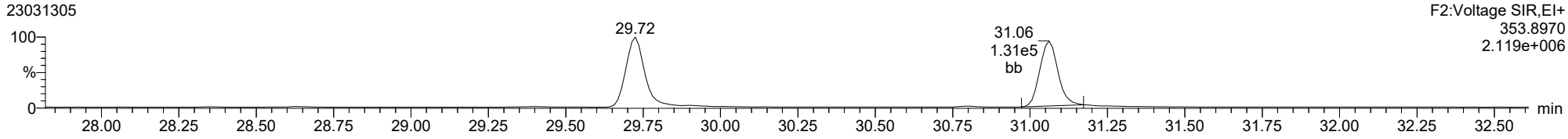
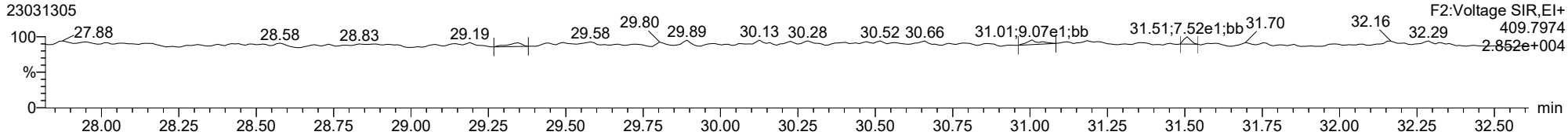
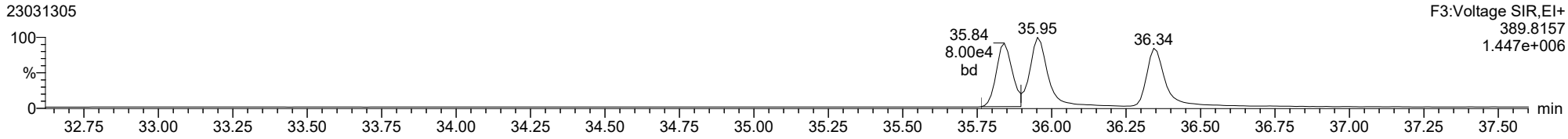


FUNCTION2 HPCDPE



ID: BLB0228-BS1, Name: 23031305, Date: 13-Mar-2023, Time: 13:29:48, Conditions: AUTOSPEC01, User: pk

123478-HxCDD



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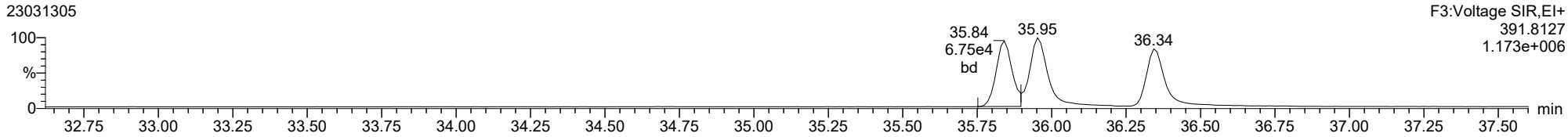

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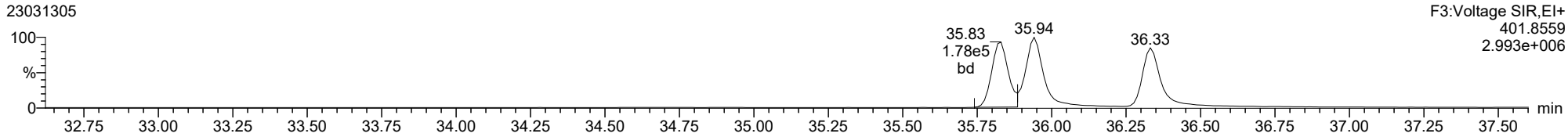

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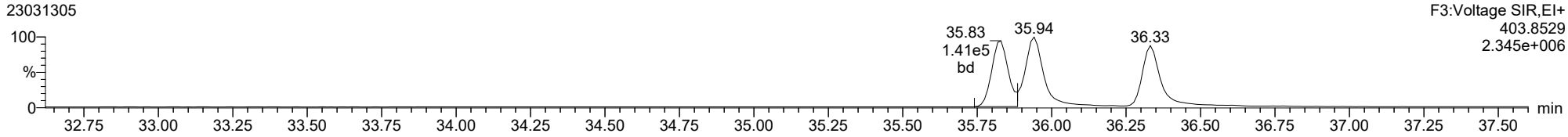
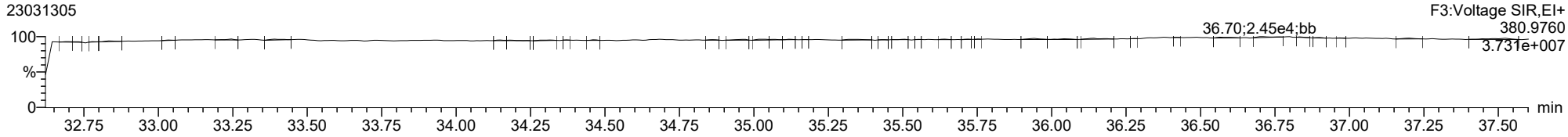


FUNCTION3 PFK



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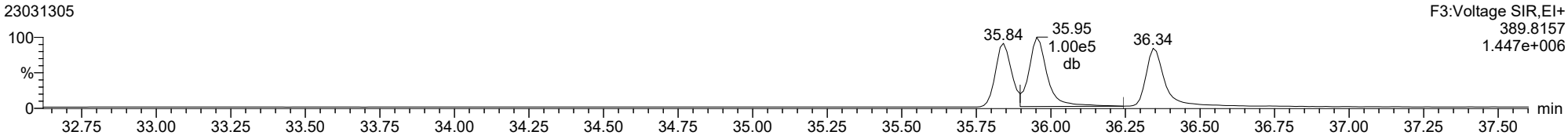
123678-HxCDD



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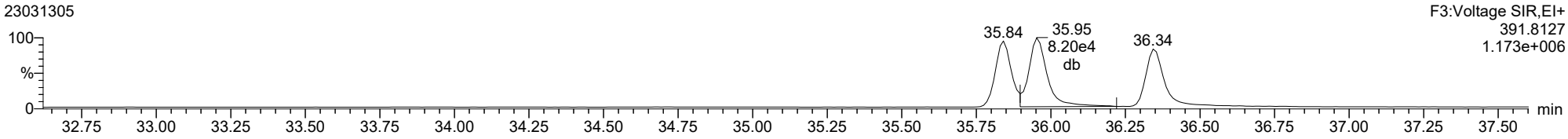

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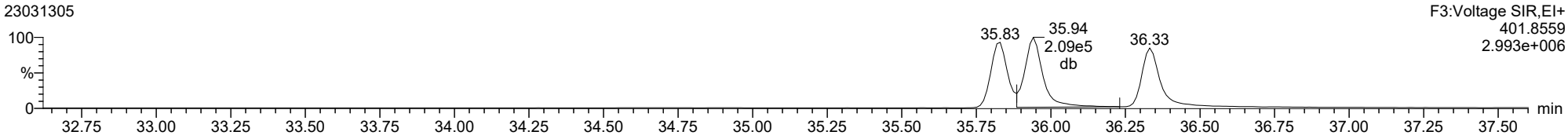

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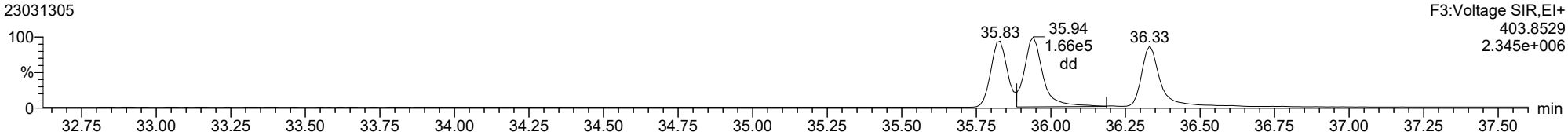

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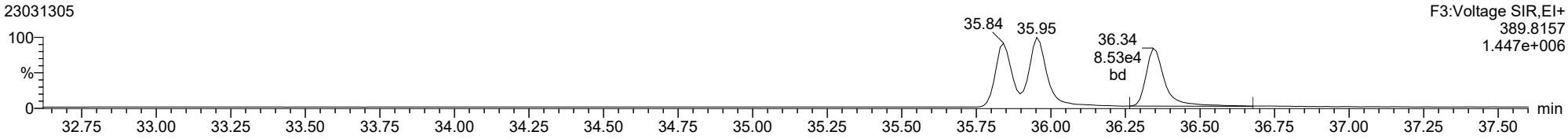

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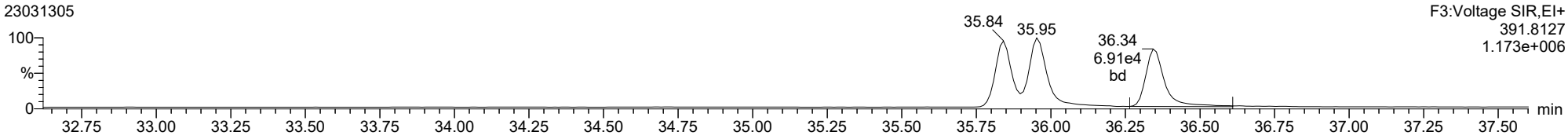

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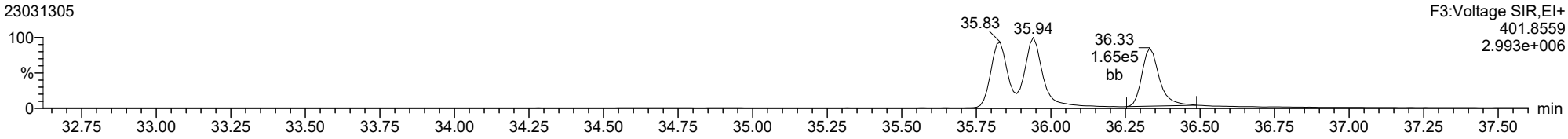

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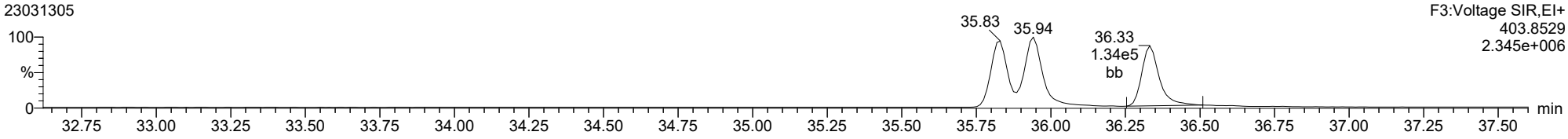

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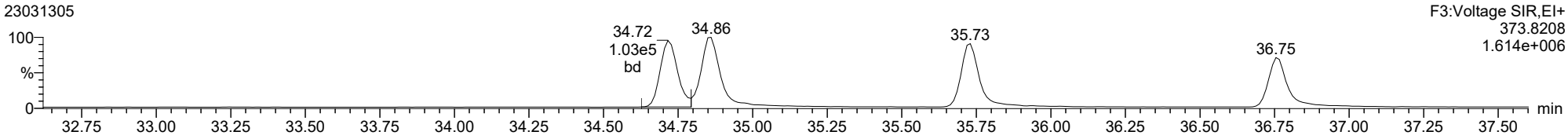

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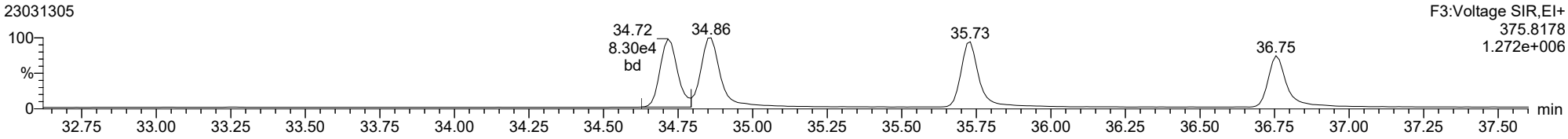

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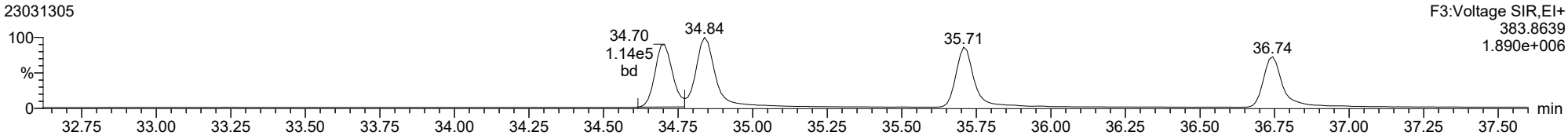

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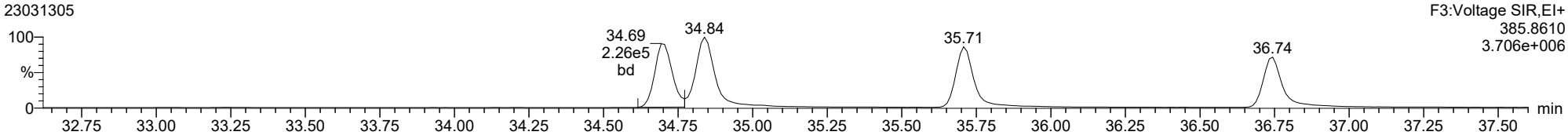
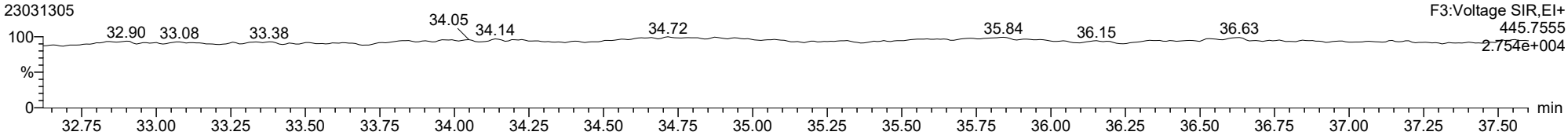


FUNCTION3 OCDPE



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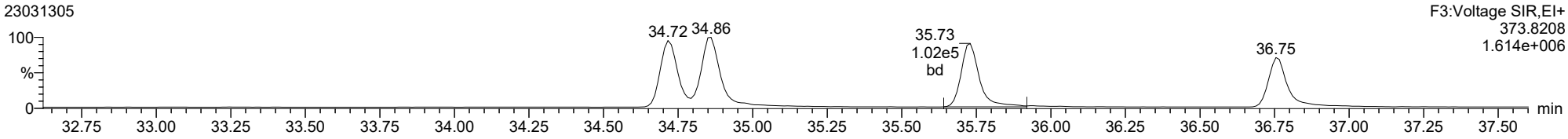
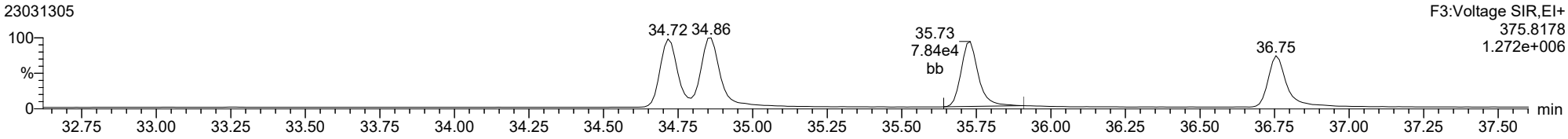
234678-HxCDF



234678-HxCDF



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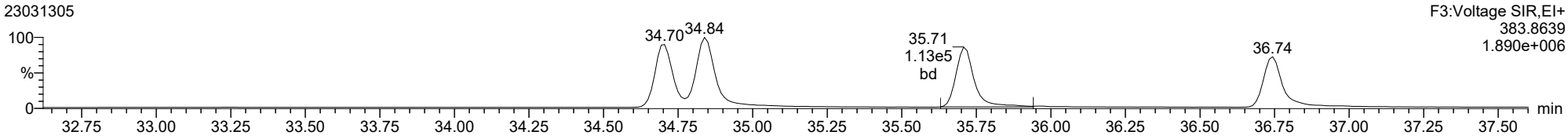

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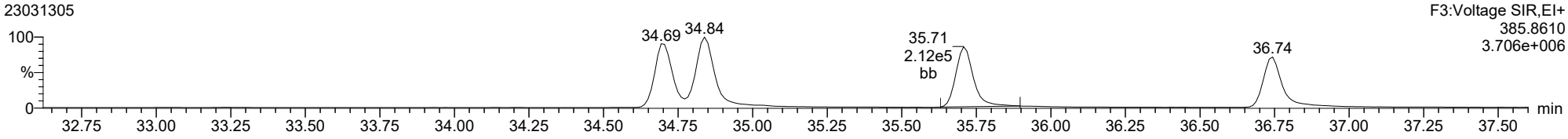
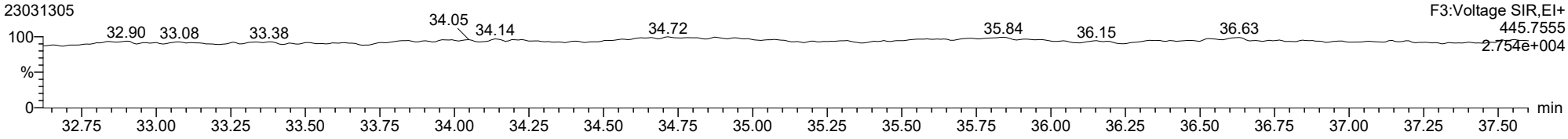


FUNCTION3 OCDPE



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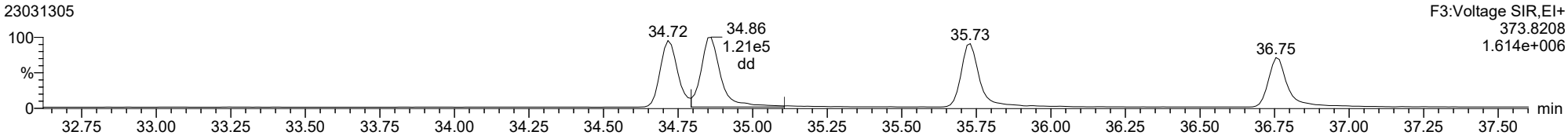
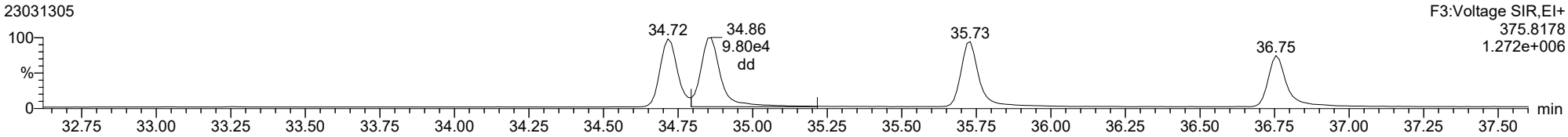
123678-HxCDF



123678-HxCDF



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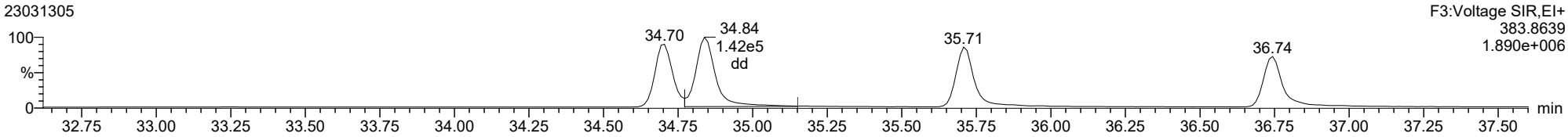

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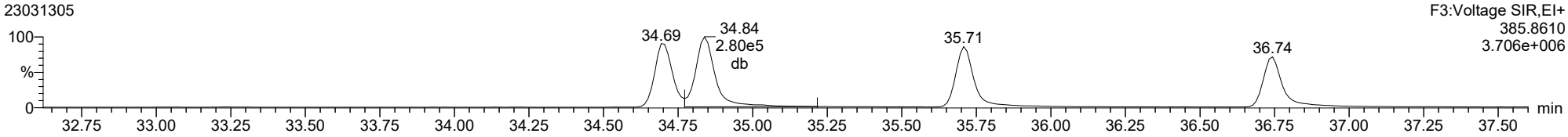
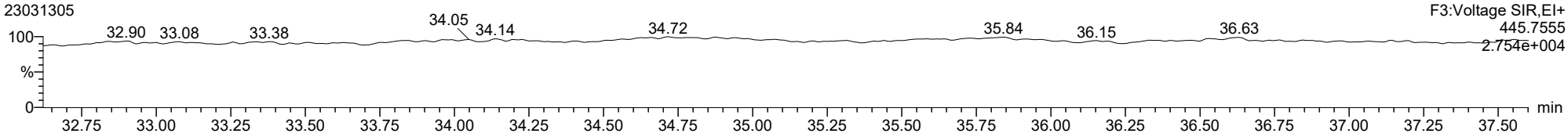


FUNCTION3 OCDPE



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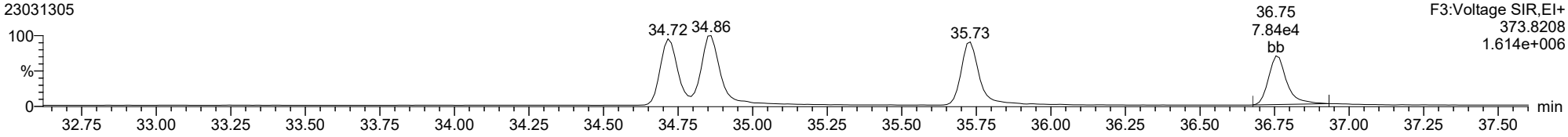
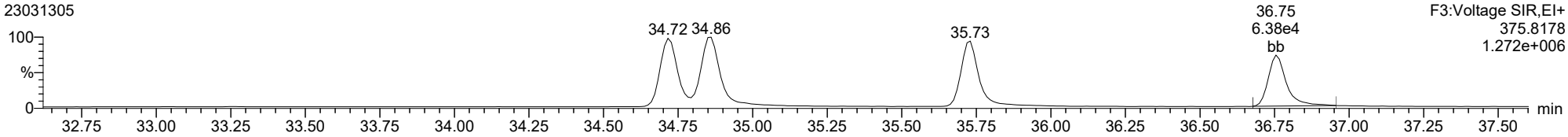
123789-HxCDF



123789-HxCDF



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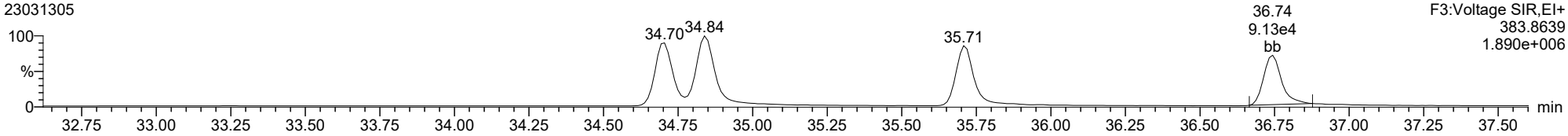

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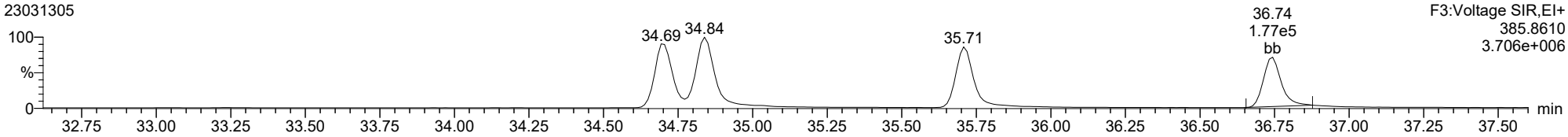
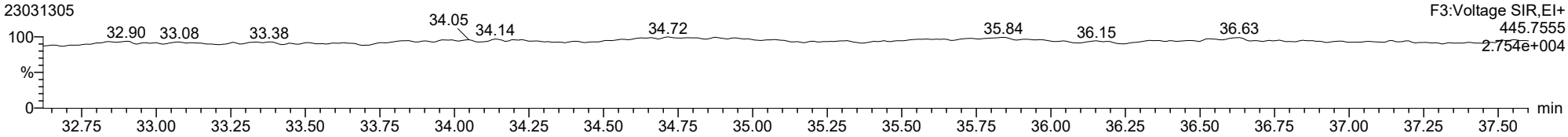


FUNCTION3 OCDPE



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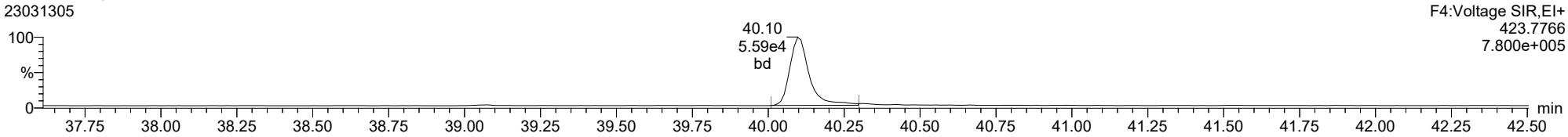
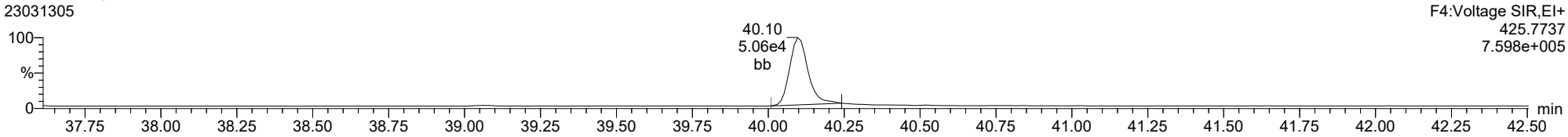
1234678-HpCDD



1234678-HpCDD



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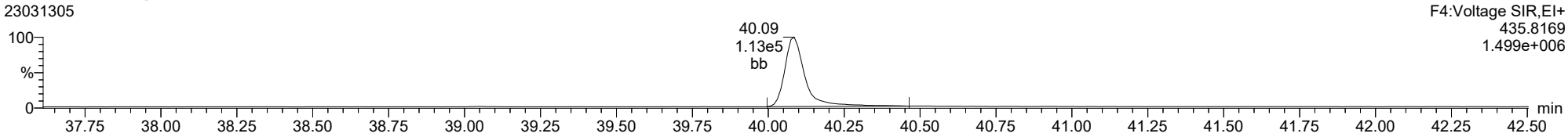

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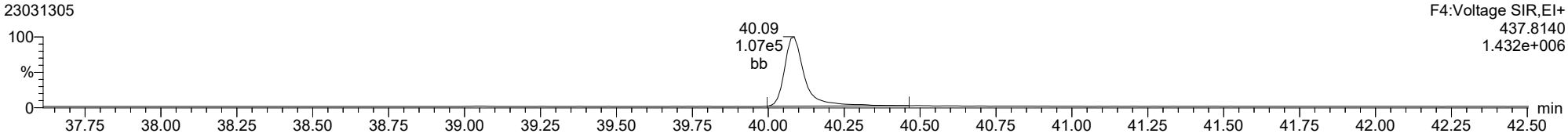
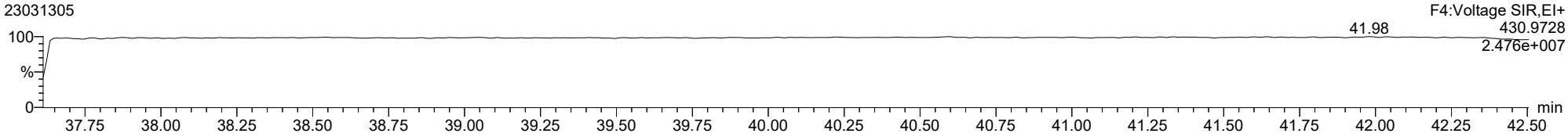


FUNCTION4 PFK



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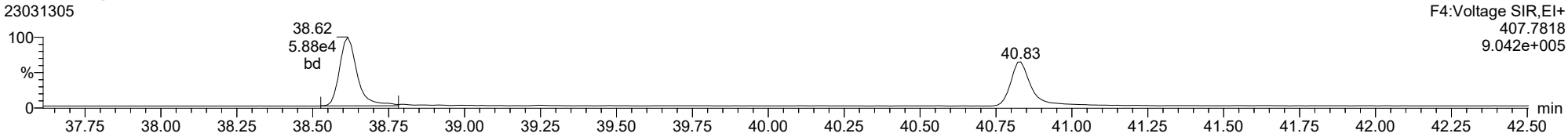
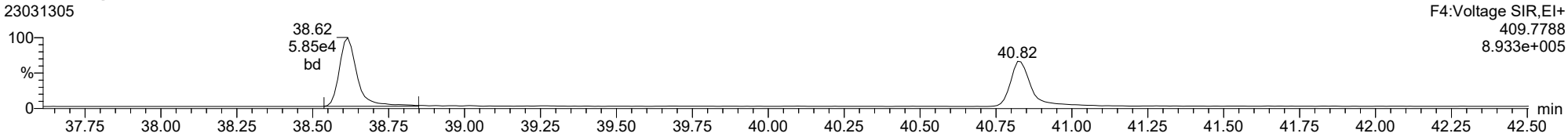
1234678-HpCDF



1234678-HpCDF



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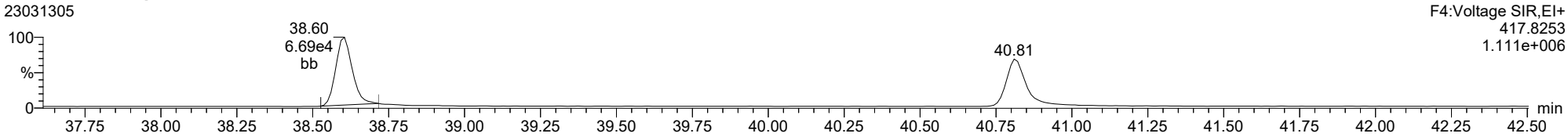

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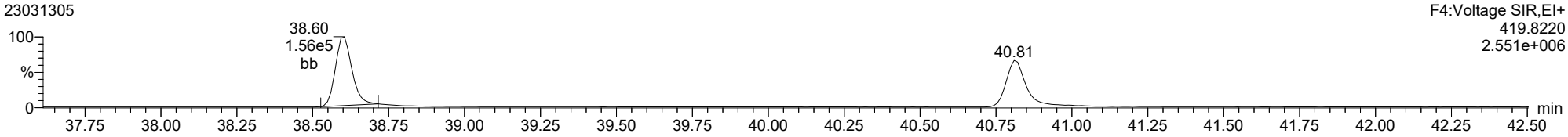
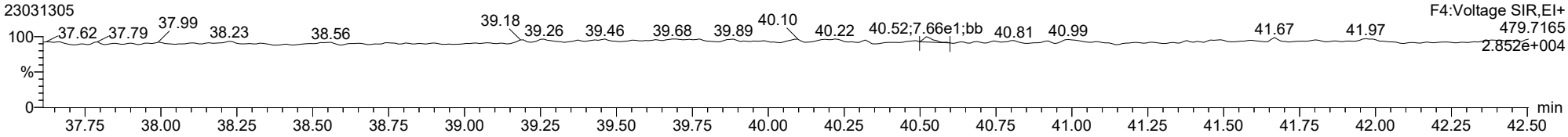


FUNCTION4 NCDPE



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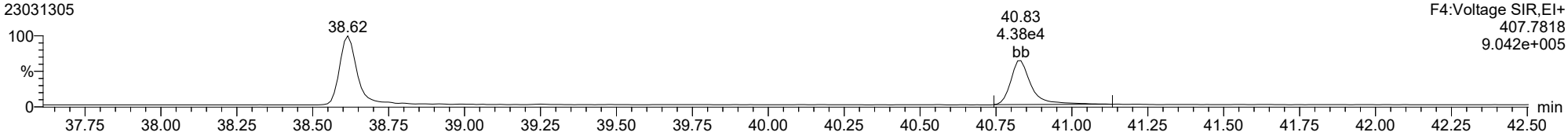
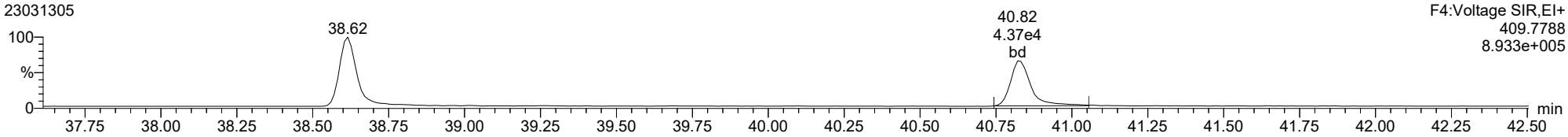
1234789-HpCDF



1234789-HpCDF



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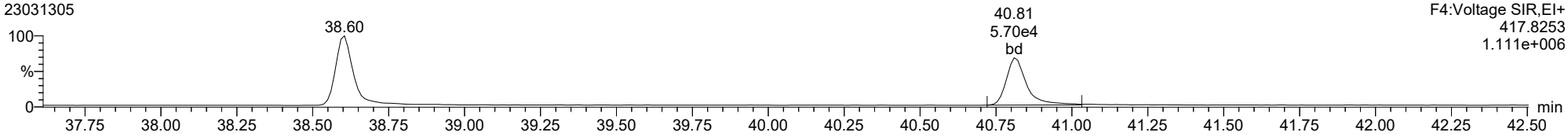

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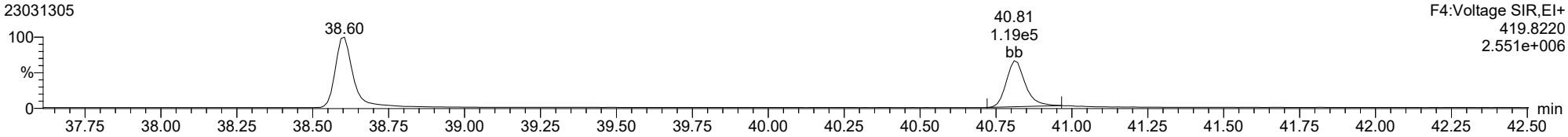
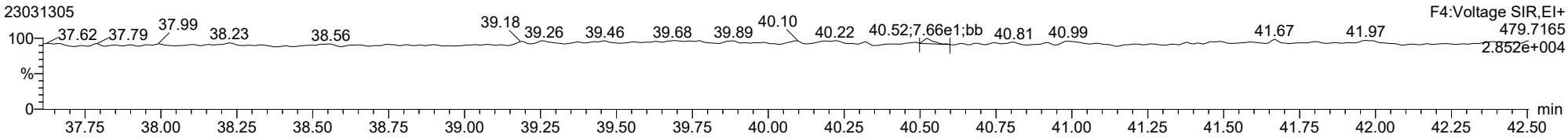
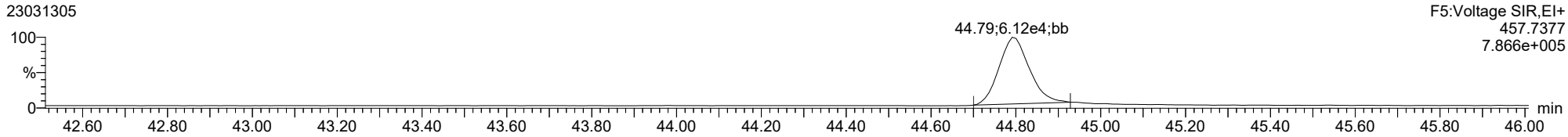


FUNCTION4 NCDPE

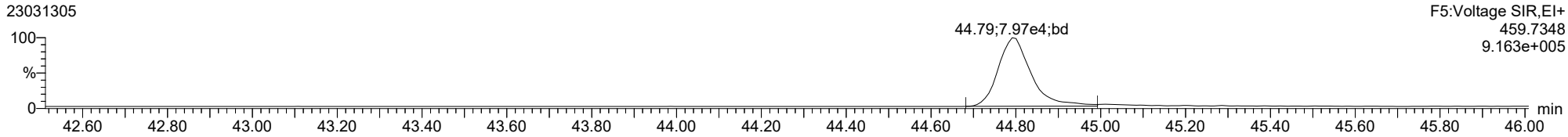


ID: BLB0228-BS1, Name: 23031305, Date: 13-Mar-2023, Time: 13:29:48, Conditions: AUTOSPEC01, User: pk

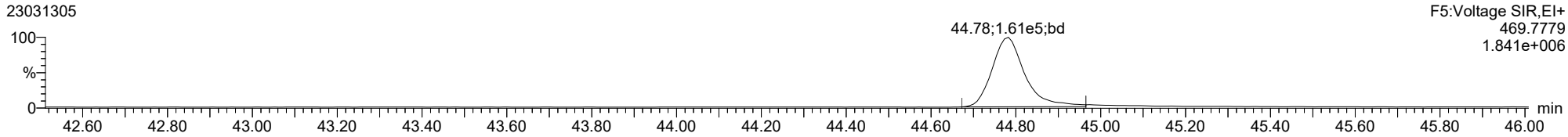
OCDD



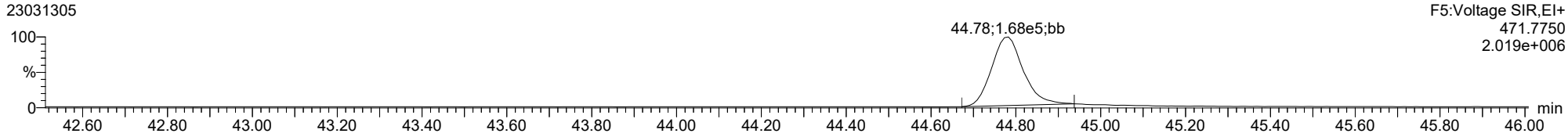
OCDD



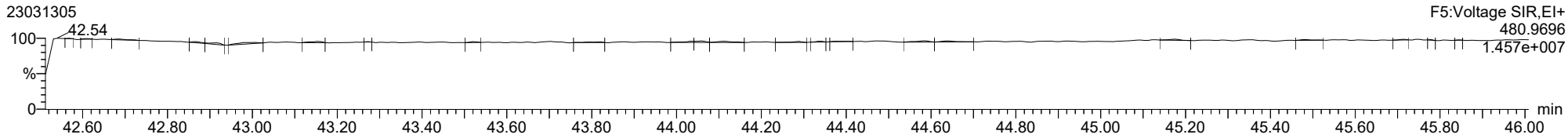
13C-OCDD



13C-OCDD

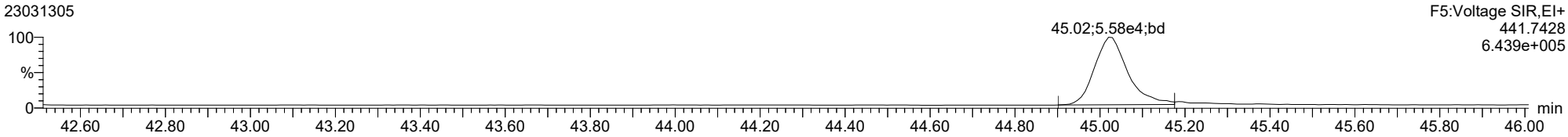


FUNCTION5 PFK

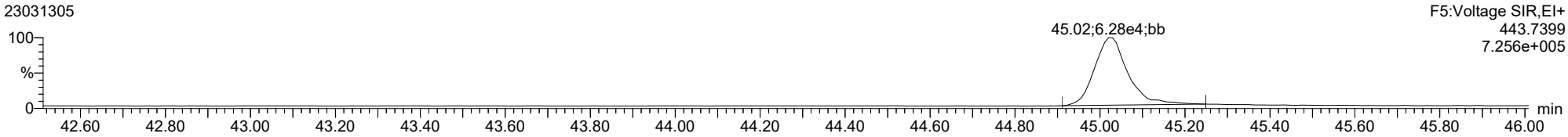


ID: BLB0228-BS1, Name: 23031305, Date: 13-Mar-2023, Time: 13:29:48, Conditions: AUTOSPEC01, User: pk

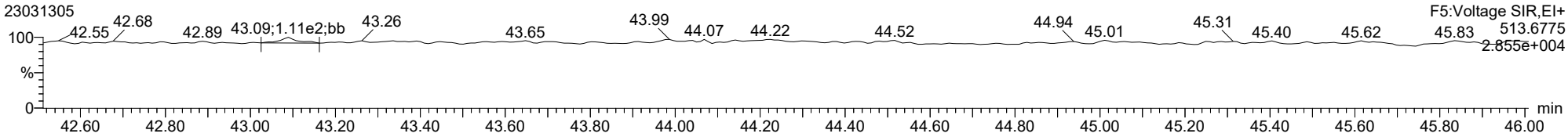
OCDF



OCDF

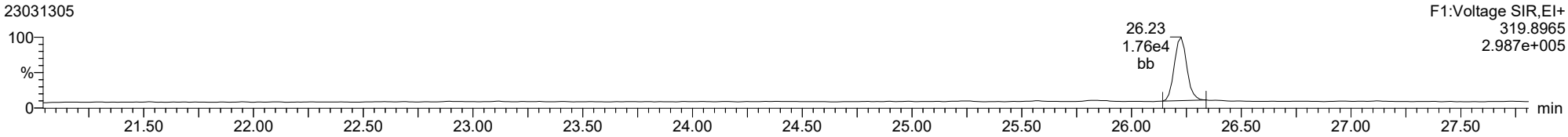


FUNCTION5 DCDPE

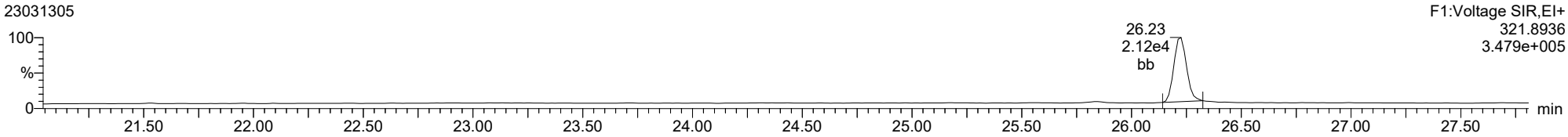


ID: BLB0228-BS1, Name: 23031305, Date: 13-Mar-2023, Time: 13:29:48, Conditions: AUTOSPEC01, User: pk

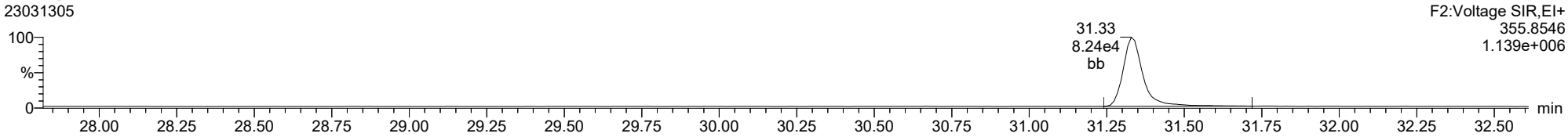
Total-tetradioxins



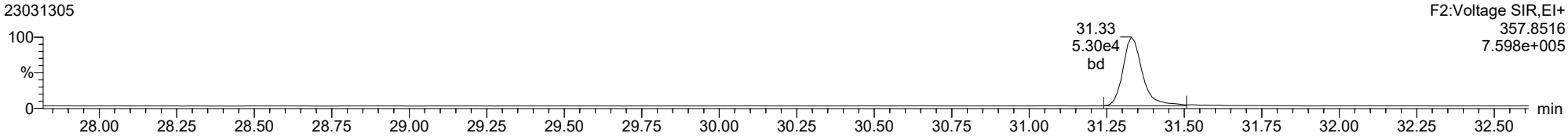
Total-tetradioxins



Total-pentadioxins

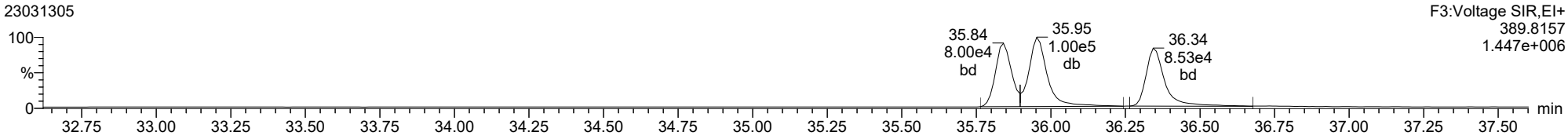


Total-pentadioxins

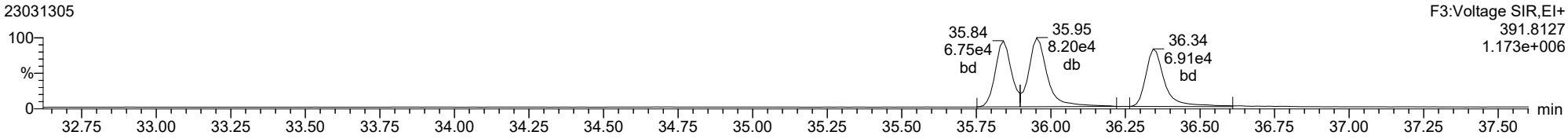


ID: BLB0228-BS1, Name: 23031305, Date: 13-Mar-2023, Time: 13:29:48, Conditions: AUTOSPEC01, User: pk

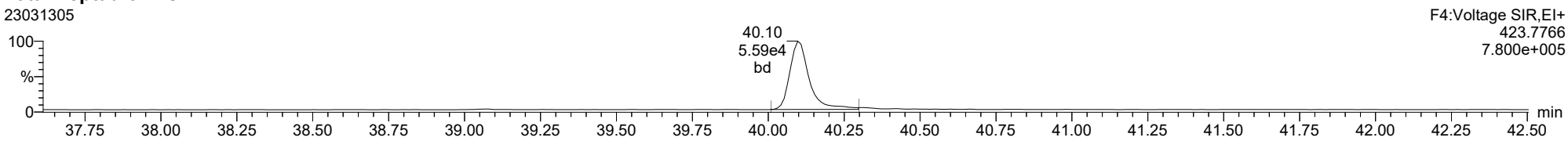
Total-hexadioxins



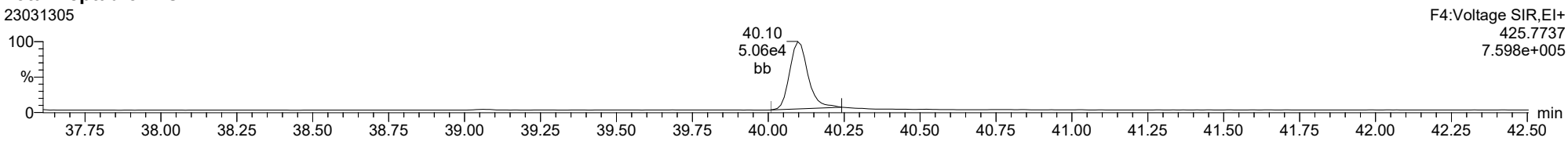
Total-hexadioxins



Total-heptadioxins

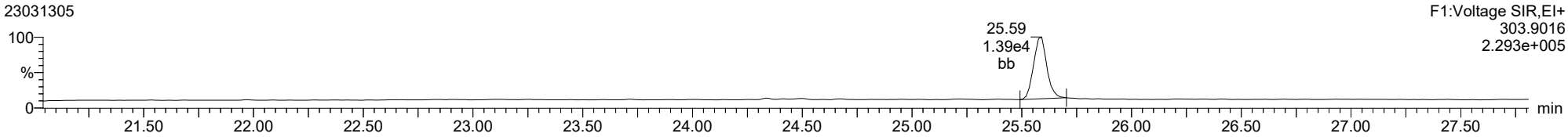


Total-heptadioxins

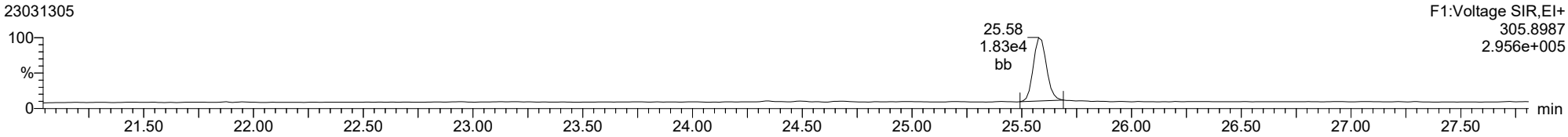


ID: BLB0228-BS1, Name: 23031305, Date: 13-Mar-2023, Time: 13:29:48, Conditions: AUTOSPEC01, User: pk

Total-tetrafurans



Total-tetrafurans



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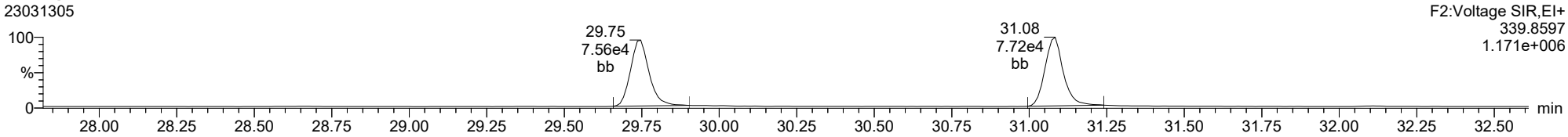

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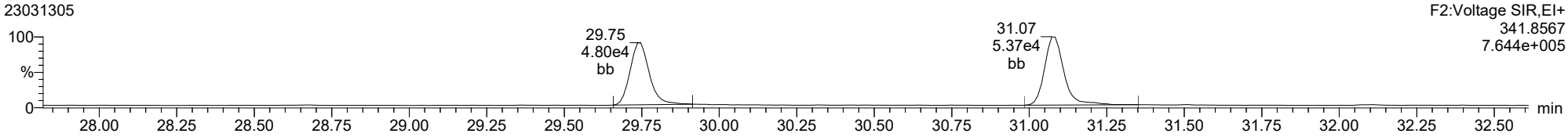
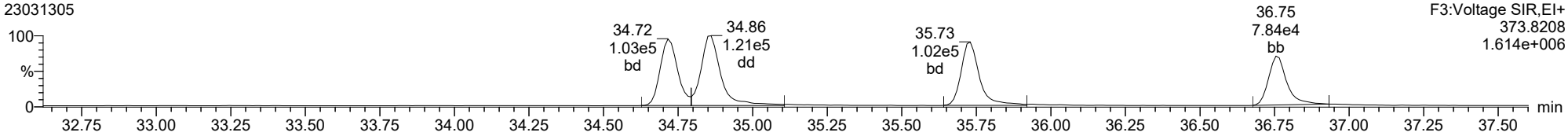
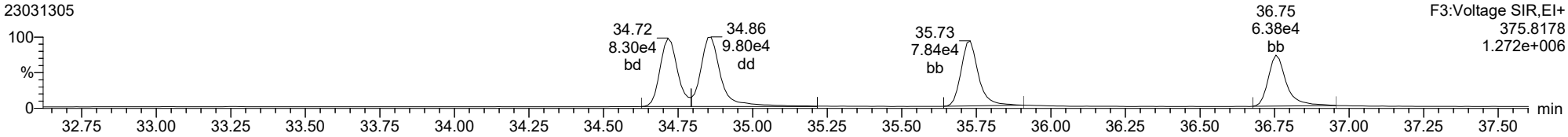


ID: BLB0228-BS1, Name: 23031305, Date: 13-Mar-2023, Time: 13:29:48, Conditions: AUTOSPEC01, User: pk

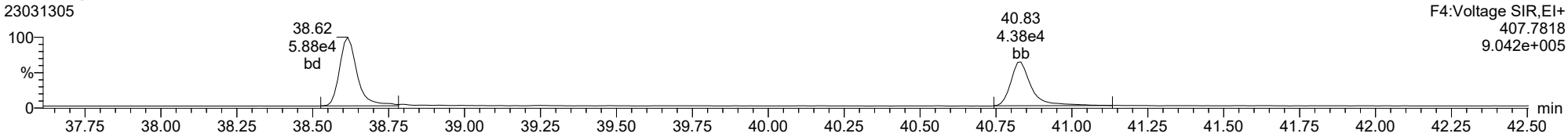
Total-hexafurans



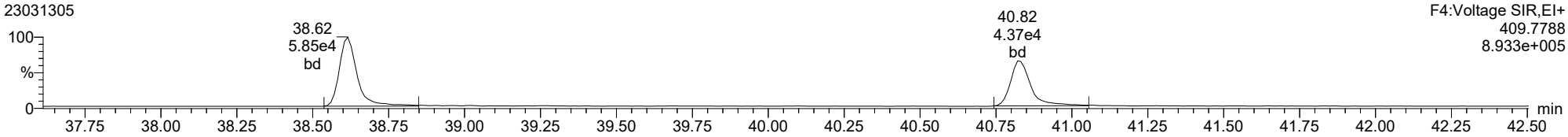
Total-hexafurans



Total-heptafurans



Total-heptafurans



STANDARD REFERENCE MATERIAL RECOVERY

EPA 1613B

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Laboratory ID: BLB0228-SRM1
Batch: BLB0228
Initial/Final: 10 g / 20 uL
Preparation: EPA 1613
Analyzed: 03/13/2023 14:30
Standard ID: L001273
Expires: 08/05/2023
Standard Lot#: PSRM0172
Description: Puget Sound reference-SRM

ANALYTE	TRUE (ng/kg wet)	FOUND (ng/kg wet)	MDL	MRL	Q	SRM % REC.	QC LIMITS REC.
2,3,7,8-TCDF	1.1100	0.829	0.252	1.00	J	74.7	50 - 150
2,3,7,8-TCDD	1.0500	0.717	0.150	1.00	EMPC, J	68.3	50 - 150
1,2,3,7,8-PeCDF	1.2300	0.794	0.281	1.00	EMPC, J	64.6	50 - 150
2,3,4,7,8-PeCDF	1.0700	0.719	0.233	1.00	EMPC, J	67.2	50 - 150
1,2,3,7,8-PeCDD	1.0800	1.02	0.171	1.00	EMPC	94.7	50 - 150
1,2,3,4,7,8-HxCDF	3.0200	2.33	0.280	1.00		77.1	50 - 150
1,2,3,6,7,8-HxCDF	1.0900	0.892	0.200	1.00	EMPC, J	81.8	50 - 150
2,3,4,6,7,8-HxCDF	1.8300	1.84	0.170	1.00		100	50 - 150
1,2,3,7,8,9-HxCDF	0.51100	0.416	0.190	1.00	J	81.4	50 - 150
1,2,3,4,7,8-HxCDD	1.5900	1.32	0.170	1.00		83.3	50 - 150
1,2,3,6,7,8-HxCDD	3.8800	2.97	0.180	1.00		76.6	50 - 150
1,2,3,7,8,9-HxCDD	3.0400	2.40	0.220	1.00		79.0	50 - 150
1,2,3,4,6,7,8-HpCDF	18.700	16.1	0.225	1.00	B	85.8	50 - 150
1,2,3,4,7,8,9-HpCDF	1.6300	1.27	0.240	1.00		77.8	50 - 150
1,2,3,4,6,7,8-HpCDD	90.600	83.0	0.560	2.50	B	91.6	50 - 150
OCDF	58.400	43.9	1.10	2.50		75.2	50 - 150
OCDD	811.00	672	4.60	10.0	B	82.8	50 - 150

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\230313D1.qld
Last Altered: Tuesday, March 14, 2023 09:54:11 Pacific Daylight Time
Printed: Tuesday, March 14, 2023 11:11:26 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin230313.mdb 13 Mar 2023 11:32:39
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 11:57:27

ID: BLB0228-SRM1, Name: 23031306, Date: 13-Mar-2023, Time: 14:30:11, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.619	1.001	6.627e2	9.040e2	0.702	0.733	0.770	1292	1041	9.83e3	1.45e4	7.6	13.9	NO	bd	bd	0.415
12378-PeCDF	29.780	1.001	8.723e2	4.642e2	0.679	1.879	1.550	1263	1049	1.36e4	7.81e3	10.8	7.4	YES	MM	bb	0.397
23478-PeCDF	31.117	1.001	9.221e2	4.957e2	0.786	1.860	1.550	1263	1049	1.11e4	7.10e3	8.8	6.8	YES	db	MM	0.359
123478-HxCDF	34.760	1.001	4.190e3	3.287e3	1.166	1.275	1.240	880	638	5.90e4	4.62e4	67.1	72.3	NO	bd	dd	1.165
234678-HxCDF	35.785	1.000	3.103e3	2.559e3	1.140	1.212	1.240	880	638	3.35e4	2.46e4	38.1	38.5	NO	bb	bb	0.918
123678-HxCDF	34.905	1.001	1.780e3	1.228e3	1.091	1.450	1.240	880	638	2.47e4	1.76e4	28.1	27.6	YES	db	db	0.446
123789-HxCDF	36.766	1.000	5.431e2	4.914e2	1.137	1.105	1.240	880	638	8.67e3	7.54e3	9.8	11.8	NO	bb	bd	0.208
1234678-HpCDF	38.648	1.000	1.072e4	1.105e4	1.003	0.970	1.050	751	901	1.76e5	2.01e5	234.2	223.1	NO	bb	bd	8.025
1234789-HpCDF	40.854	1.000	9.857e2	1.017e3	0.953	0.969	1.050	751	901	1.43e4	1.38e4	19.1	15.3	NO	bb	bb	0.634
OCDF	45.066	1.005	2.857e4	3.222e4	0.778	0.887	0.890	667	831	3.28e5	3.59e5	491.3	432.4	NO	bb	bb	21.970
2378-TCDD	26.254	1.001	7.542e2	1.243e3	1.149	0.607	0.770	1128	721	1.23e4	1.81e4	10.9	25.1	YES	bb	bd	0.359
12378-PeCDD	31.374	1.001	1.259e3	7.019e2	1.022	1.794	1.550	791	777	1.67e4	9.71e3	21.1	12.5	YES	bb	bb	0.511
123478-HxCDD	35.908	1.001	1.753e3	1.566e3	0.996	1.120	1.240	1358	856	2.71e4	2.47e4	19.9	28.8	NO	dd	bd	0.662
123678-HxCDD	36.019	1.000	4.732e3	3.841e3	1.001	1.232	1.240	1358	856	7.84e4	6.25e4	57.7	73.0	NO	dd	dd	1.485
123789-HxCDD	36.398	1.011	3.266e3	2.614e3	0.907	1.250	1.240	1358	856	4.98e4	3.80e4	36.7	44.4	NO	bb	bb	1.200
1234678-HpCDD	40.130	1.001	9.159e4	8.517e4	1.039	1.075	1.050	1024	1177	1.32e6	1.28e6	1285.2	1089.6	NO	bd	bb	41.483
OCDD	44.846	1.000	5.044e5	5.946e5	0.920	0.848	0.890	2121	1354	6.09e6	7.19e6	2869.6	5310.6	NO	bb	bb	335.817
13C-2378-TCDF	25.591	1.007	2.328e5	3.060e5	1.620	0.761	0.770	1724	1355	3.42e6	4.59e6	1981.1	3387.8	NO	bb	bb	72.916
13C-12378-PeCDF	29.758	1.171	2.958e5	1.996e5	1.240	1.482	1.550	1509	1630	4.34e6	2.95e6	2872.9	1810.9	NO	bb	bb	87.564
13C-23478-PeCDF	31.095	1.223	3.003e5	2.015e5	1.118	1.490	1.550	1509	1630	4.54e6	3.03e6	3008.2	1857.4	NO	bb	bb	98.425
13C-123478-HxCDF	34.738	0.955	1.854e5	3.652e5	1.168	0.508	0.510	1254	1393	2.72e6	5.43e6	2171.5	3899.0	NO	bd	bd	91.500
13C-123678-HxCDF	34.883	0.959	2.083e5	4.101e5	1.386	0.508	0.510	1254	1393	2.96e6	5.74e6	2359.5	4121.2	NO	dd	dd	86.591
13C-234678-HxCDF	35.774	0.983	1.842e5	3.568e5	1.129	0.516	0.510	1254	1393	2.76e6	5.33e6	2197.7	3827.4	NO	bb	bb	93.002
13C-123789-HxCDF	36.766	1.010	1.503e5	2.869e5	0.932	0.524	0.510	1254	1393	2.62e6	4.93e6	2088.9	3536.7	NO	bb	bb	91.109
13C-1234678-HpCDF	38.648	1.062	7.642e4	1.939e5	0.895	0.394	0.440	41942	1538	1.24e6	2.59e6	29.6	1686.3	NO	bb	bb	58.633
13C-1234789-HpCDF	40.843	1.122	1.010e5	2.306e5	0.770	0.438	0.440	41942	1538	1.40e6	3.22e6	33.4	2091.4	NO	bb	bb	83.650
13C-1234-TCDD	25.421	0.000	2.011e5	2.550e5	1.000	0.789	0.770	1861	1159	3.11e6	3.90e6	1672.6	3364.8	NO	bb	bb	100.000
13C-2378-TCDD	26.226	1.032	2.129e5	2.718e5	1.152	0.783	0.770	1861	1159	3.10e6	3.95e6	1665.5	3407.8	NO	bb	bb	92.229
13C-12378-PeCDD	31.351	1.233	2.312e5	1.441e5	0.829	1.605	1.550	1038	845	3.31e6	2.05e6	3189.4	2426.2	NO	bb	bb	99.282
13C-123478-HxCDD	35.886	0.986	2.797e5	2.239e5	0.995	1.249	1.240	950	1028	4.43e6	3.54e6	4663.8	3447.3	NO	bd	bd	98.263
13C-123678-HxCDD	36.008	0.990	3.199e5	2.567e5	1.157	1.246	1.240	950	1028	4.54e6	3.62e6	4779.2	3522.4	NO	db	db	96.777
13C-1234678-HpCDD	40.108	1.102	2.125e5	1.976e5	0.840	1.076	1.050	952	1140	3.18e6	2.97e6	3341.6	2606.5	NO	bb	bb	94.772
13C-OCDD	44.828	1.232	3.348e5	3.767e5	0.767	0.889	0.890	1326	845	4.02e6	4.51e6	3027.5	5332.9	NO	bb	bb	179.976
13C-123789-HxCDD	36.387	0.000	2.862e5	2.288e5	1.000	1.251	1.240	950	1028	4.54e6	3.63e6	4771.5	3528.3	NO	bb	bb	100.000
37CL-2378-TCDD	26.254	1.033	1.792e5		1.288			954		2.66e6		2790.6			bb		30.514

Dataset: T:\Autospec\Processed Data Batch\230313D1.qld
Last Altered: Tuesday, March 14, 2023 09:54:11 Pacific Daylight Time
Printed: Tuesday, March 14, 2023 11:11:26 Pacific Daylight Time

ID: BLB0228-SRM1, Name: 23031306, Date: 13-Mar-2023, Time: 14:30:11, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF	22.102	0.864	2.539e2	1.757e2	0.802	1.445	0.770	1292	1041	2.70e3	2.60e3	2.1	2.5	YES	bd	bd	0.099
1289-TCDF					0.678		0.770	1292	1041								
13468-PECDF	26.918	0.905	7.431e2	5.787e2	1.246	1.284	1.550	629	883	1.00e4	7.87e3	15.9	8.9	YES	bd	bd	0.214
12389-PECDF					0.496		1.550	1263	1049								
123468-HXCDF	33.078	0.952	3.855e3	2.841e3	1.169	1.357	1.240	880	638	5.95e4	4.52e4	67.6	70.8	NO	bd	bb	1.040
1368-TCDD	23.387	0.892	7.082e2	7.415e2	1.015	0.955	0.770	1128	721	1.01e4	1.08e4	9.0	14.9	YES	bd	bb	0.295
1289-TCDD					0.909		0.770	1128	721								
12479-PECDD	28.688	0.915	1.128e3	7.394e2	2.301	1.525	1.550	791	777	1.64e4	1.19e4	20.7	15.3	NO	db	db	0.216
12389-PECDD	31.774	1.013	2.903e2	1.769e2	1.184	1.641	1.550	791	777	4.94e3	3.40e3	6.2	4.4	NO	bb	bb	0.105
124679-HXCDD	33.858	0.943	1.165e4	9.893e3	1.115	1.177	1.240	1358	856	1.81e5	1.40e5	133.1	163.5	NO	bb	bb	3.834
1234679-HPCDD	39.094	0.975	1.243e5	1.263e5	1.137	0.984	1.050	1024	1177	2.03e6	2.04e6	1986.8	1730.6	NO	bb	bb	53.743
Total-tetrafurans			6.549e3		0.727			1292		8.84e4							3.940
Total-penta1			8.319e3					629		1.15e5							3.053
Total-pentafurans			2.870e3		0.654			1263		4.50e4							1.491
Total-hexafurans			4.018e4		1.141			880		5.89e5							11.756
Total-heptafurans			4.238e4		0.978			751		6.77e5							29.896
Total-Furans			1.289e5		0.922			1292		1.84e6							72.106
Total-tetradioxins			1.413e3		1.024			1128		1.91e4							0.611
Total-pentadioxins			3.425e3		1.502			791		5.41e4							0.911
Total-hexadioxins			2.440e4		1.005			1358		3.85e5							8.224
Total-heptadioxins			2.158e5		1.088			1024		3.35e6							95.226
Total-Dioxins			7.495e5		1.130			1128		9.90e6							440.790
Total-TEQ			8.783e5					1128		1.17e7							512.896
FUNCTION1 PFK			2.137e7					482895		1.69e7							
FUNCTION2 PFK			2.310e6					192997		1.29e7							0.000
FUNCTION3 PFK			1.905e7					1513220		1.08e8							0.000
FUNCTION4 PFK			3.741e7					234072		8.44e7							
FUNCTION5 PFK			0.000e0					147892		0.00e0							
FUNCTION1 HXCD...			1.524e3					696		2.47e4							0.000
FUNCTION1 HPCD...																	
FUNCTION2 HPCD...			1.522e2					643		2.97e3							0.000
FUNCTION3 OCDPE			1.030e3					685		1.53e4							0.000
FUNCTION4 NCDPE			5.842e3					464		9.80e4							0.000
FUNCTION5 DCDPE			0.000e0					471		0.00e0							

Method: T:\Autospec\Methods\Dioxin230313.mdb 13 Mar 2023 11:32:39
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TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	23.39	3.517e2	4.885e2	0.727	0.72	0.77	3.6	YES	NO	db	dd	0.215
2	Total-tetrafurans	23.26	4.638e2	5.455e2	0.727	0.85	0.77	4.5	YES	NO	dd	dd	0.258
3	Total-tetrafurans	22.95	7.639e2	1.115e3	0.727	0.69	0.77	10.1	YES	NO	bd	bd	0.480
4	Total-tetrafurans	25.83	5.230e2	6.192e2	0.727	0.84	0.77	5.0	YES	NO	dd	db	0.292
5	2378-TCDF	25.62	6.627e2	9.040e2	0.702	0.73	0.77	7.6	YES	NO	bd	bd	0.415
6	Total-tetrafurans	24.71	8.428e2	1.254e3	0.727	0.67	0.77	9.4	YES	NO	bb	bb	0.535
7	Total-tetrafurans	24.52	5.530e2	6.406e2	0.727	0.86	0.77	6.3	YES	NO	db	db	0.305
8	Total-tetrafurans	24.36	1.549e3	2.187e3	0.727	0.71	0.77	10.7	YES	NO	bd	bd	0.954
9	Total-tetrafurans	24.01	3.369e2	4.293e2	0.727	0.78	0.77	4.6	YES	NO	db	db	0.196
10	Total-tetrafurans	23.73	5.017e2	6.439e2	0.727	0.78	0.77	6.4	YES	NO	dd	dd	0.292

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-penta1	27.05	8.319e3	5.550e3		1.50	1.55	182.2	YES	NO	db	db	3.053

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentafurans	28.03	3.950e2	2.620e2	0.654	1.51	1.55	4.1	YES	NO	bb	bb	0.202
2	Total-pentafurans	29.99	6.877e2	4.685e2	0.654	1.47	1.55	11.7	YES	NO	dd	bb	0.355
3	Total-pentafurans	28.72	1.787e3	1.261e3	0.654	1.42	1.55	19.8	YES	NO	db	db	0.935

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.77	5.431e2	4.914e2	1.137	1.11	1.24	9.8	YES	NO	bb	bd	0.208
2	234678-HxCDF	35.79	3.103e3	2.559e3	1.140	1.21	1.24	38.1	YES	NO	bb	bb	0.918
3	123478-HxCDF	34.76	4.190e3	3.287e3	1.166	1.27	1.24	67.1	YES	NO	bd	dd	1.165
4	Total-hexafurans	34.60	5.456e2	3.981e2	1.141	1.37	1.24	9.4	YES	NO	bb	bd	0.154
5	Total-hexafurans	34.13	1.502e4	1.252e4	1.141	1.20	1.24	265.8	YES	NO	bb	bb	4.498
6	Total-hexafurans	33.81	3.661e2	3.068e2	1.141	1.19	1.24	6.7	YES	NO	bb	bb	0.110
7	Total-hexafurans	33.29	1.255e4	9.869e3	1.141	1.27	1.24	205.0	YES	NO	db	bb	3.662
8	123468-HXCDF	33.08	3.855e3	2.841e3	1.169	1.36	1.24	67.6	YES	NO	bd	bb	1.040

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HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	40.85	9.857e2	1.017e3	0.953	0.97	1.05	19.1	YES	NO	bb	bb	0.634
2	Total-heptafurans	39.29	3.068e4	3.184e4	0.978	0.96	1.05	648.8	YES	NO	bd	bd	21.237
3	1234678-HpCDF	38.65	1.072e4	1.105e4	1.003	0.97	1.05	234.2	YES	NO	bb	bd	8.025

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	23.39	3.517e2	4.885e2	0.727	0.72	0.77	3.6	YES	NO	db	dd	0.215
2	Total-tetrafurans	23.26	4.638e2	5.455e2	0.727	0.85	0.77	4.5	YES	NO	dd	dd	0.258
3	Total-tetrafurans	22.95	7.639e2	1.115e3	0.727	0.69	0.77	10.1	YES	NO	bd	bd	0.480
4	Total-tetrafurans	25.83	5.230e2	6.192e2	0.727	0.84	0.77	5.0	YES	NO	dd	db	0.292
5	2378-TCDF	25.62	6.627e2	9.040e2	0.702	0.73	0.77	7.6	YES	NO	bd	bd	0.415
6	Total-tetrafurans	24.71	8.428e2	1.254e3	0.727	0.67	0.77	9.4	YES	NO	bb	bb	0.535
7	Total-tetrafurans	24.52	5.530e2	6.406e2	0.727	0.86	0.77	6.3	YES	NO	db	db	0.305
8	Total-tetrafurans	24.36	1.549e3	2.187e3	0.727	0.71	0.77	10.7	YES	NO	bd	bd	0.954
9	Total-tetrafurans	24.01	3.369e2	4.293e2	0.727	0.78	0.77	4.6	YES	NO	db	db	0.196
10	Total-tetrafurans	23.73	5.017e2	6.439e2	0.727	0.78	0.77	6.4	YES	NO	dd	dd	0.292
11	Total-pentafurans	28.03	3.950e2	2.620e2	0.654	1.51	1.55	4.1	YES	NO	bb	bb	0.202
12	Total-pentafurans	29.99	6.877e2	4.685e2	0.654	1.47	1.55	11.7	YES	NO	dd	bb	0.355
13	Total-pentafurans	28.72	1.787e3	1.261e3	0.654	1.42	1.55	19.8	YES	NO	db	db	0.935
14	123789-HxCDF	36.77	5.431e2	4.914e2	1.137	1.11	1.24	9.8	YES	NO	bb	bd	0.208
15	234678-HxCDF	35.79	3.103e3	2.559e3	1.140	1.21	1.24	38.1	YES	NO	bb	bb	0.918
16	123478-HxCDF	34.76	4.190e3	3.287e3	1.166	1.27	1.24	67.1	YES	NO	bd	dd	1.165
17	Total-hexafurans	34.60	5.456e2	3.981e2	1.141	1.37	1.24	9.4	YES	NO	bb	bd	0.154
18	Total-hexafurans	34.13	1.502e4	1.252e4	1.141	1.20	1.24	265.8	YES	NO	bb	bb	4.498
19	Total-hexafurans	33.81	3.661e2	3.068e2	1.141	1.19	1.24	6.7	YES	NO	bb	bb	0.110
20	Total-hexafurans	33.29	1.255e4	9.869e3	1.141	1.27	1.24	205.0	YES	NO	db	bb	3.662
21	123468-HXCDF	33.08	3.855e3	2.841e3	1.169	1.36	1.24	67.6	YES	NO	bd	bb	1.040
22	1234789-HpCDF	40.85	9.857e2	1.017e3	0.953	0.97	1.05	19.1	YES	NO	bb	bb	0.634
23	Total-heptafurans	39.29	3.068e4	3.184e4	0.978	0.96	1.05	648.8	YES	NO	bd	bd	21.237
24	1234678-HpCDF	38.65	1.072e4	1.105e4	1.003	0.97	1.05	234.2	YES	NO	bb	bd	8.025
25	OCDF	45.07	2.857e4	3.222e4	0.778	0.89	0.89	491.3	YES	NO	bb	bb	21.970
26	Total-penta1	27.05	8.319e3	5.550e3		1.50	1.55	182.2	YES	NO	db	db	3.053

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TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	25.44	8.236e2	9.473e2	1.024	0.87	0.77	8.6	YES	NO	bd	bd	0.357
2	Total-tetradioxins	23.66	5.895e2	6.749e2	1.024	0.87	0.77	8.3	YES	NO	bb	bd	0.255

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDD	31.77	2.903e2	1.769e2	1.184	1.64	1.55	6.2	YES	NO	bb	bb	0.105
2	Total-pentadioxins	29.98	9.829e2	5.932e2	1.502	1.66	1.55	17.5	YES	NO	dd	bd	0.280
3	Total-pentadioxins	29.76	6.602e2	4.596e2	1.502	1.44	1.55	13.6	YES	NO	bd	bb	0.199
4	Total-pentadioxins	29.15	3.641e2	2.647e2	1.502	1.38	1.55	10.3	YES	NO	bd	bb	0.112
5	12479-PECDD	28.69	1.128e3	7.394e2	2.301	1.53	1.55	20.7	YES	NO	db	db	0.216

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexadioxins	34.64	2.258e3	1.955e3	1.005	1.15	1.24	27.4	YES	NO	bd	bb	0.776
2	124679-HXCDD	33.86	1.165e4	9.893e3	1.115	1.18	1.24	133.1	YES	NO	bb	bb	3.834
3	123789-HxCDD	36.40	3.266e3	2.614e3	0.907	1.25	1.24	36.7	YES	NO	bb	bb	1.200
4	Total-hexadioxins	36.17	7.488e2	6.937e2	1.005	1.08	1.24	9.0	YES	NO	db	db	0.266
5	123678-HxCDD	36.02	4.732e3	3.841e3	1.001	1.23	1.24	57.7	YES	NO	dd	dd	1.485
6	123478-HxCDD	35.91	1.753e3	1.566e3	0.996	1.12	1.24	19.9	YES	NO	dd	bd	0.662

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234679-HPCDD	39.09	1.243e5	1.263e5	1.137	0.98	1.05	1986.8	YES	NO	bb	bb	53.743
2	1234678-HpCDD	40.13	9.159e4	8.517e4	1.039	1.08	1.05	1285.2	YES	NO	bd	bb	41.483

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Last Altered: Tuesday, March 14, 2023 09:54:11 Pacific Daylight Time
Printed: Tuesday, March 14, 2023 11:11:26 Pacific Daylight Time

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Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	25.44	8.236e2	9.473e2	1.024	0.87	0.77	8.6	YES	NO	bd	bd	0.357
2	Total-tetradioxins	23.66	5.895e2	6.749e2	1.024	0.87	0.77	8.3	YES	NO	bb	bd	0.255
3	12389-PECDD	31.77	2.903e2	1.769e2	1.184	1.64	1.55	6.2	YES	NO	bb	bb	0.105
4	Total-pentadioxins	29.98	9.829e2	5.932e2	1.502	1.66	1.55	17.5	YES	NO	dd	bd	0.280
5	Total-pentadioxins	29.76	6.602e2	4.596e2	1.502	1.44	1.55	13.6	YES	NO	bd	bb	0.199
6	Total-pentadioxins	29.15	3.641e2	2.647e2	1.502	1.38	1.55	10.3	YES	NO	bd	bb	0.112
7	12479-PECDD	28.69	1.128e3	7.394e2	2.301	1.53	1.55	20.7	YES	NO	db	db	0.216
8	Total-hexadioxins	34.64	2.258e3	1.955e3	1.005	1.15	1.24	27.4	YES	NO	bd	bb	0.776
9	124679-HXCDD	33.86	1.165e4	9.893e3	1.115	1.18	1.24	133.1	YES	NO	bb	bb	3.834
10	123789-HxCDD	36.40	3.266e3	2.614e3	0.907	1.25	1.24	36.7	YES	NO	bb	bb	1.200
11	Total-hexadioxins	36.17	7.488e2	6.937e2	1.005	1.08	1.24	9.0	YES	NO	db	db	0.266
12	123678-HxCDD	36.02	4.732e3	3.841e3	1.001	1.23	1.24	57.7	YES	NO	dd	dd	1.485
13	123478-HxCDD	35.91	1.753e3	1.566e3	0.996	1.12	1.24	19.9	YES	NO	dd	bd	0.662
14	1234679-HPCDD	39.09	1.243e5	1.263e5	1.137	0.98	1.05	1986.8	YES	NO	bb	bb	53.743
15	1234678-HpCDD	40.13	9.159e4	8.517e4	1.039	1.08	1.05	1285.2	YES	NO	bd	bb	41.483
16	OCDD	44.85	5.044e5	5.946e5	0.920	0.85	0.89	2869.6	YES	NO	bb	bb	335.817

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	23.39	3.517e2	4.885e2	0.727	0.72	0.77	3.6	YES	NO	db	dd	0.215
2	Total-tetrafurans	23.26	4.638e2	5.455e2	0.727	0.85	0.77	4.5	YES	NO	dd	dd	0.258
3	Total-tetrafurans	22.95	7.639e2	1.115e3	0.727	0.69	0.77	10.1	YES	NO	bd	bd	0.480
4	Total-tetrafurans	25.83	5.230e2	6.192e2	0.727	0.84	0.77	5.0	YES	NO	dd	db	0.292
5	2378-TCDF	25.62	6.627e2	9.040e2	0.702	0.73	0.77	7.6	YES	NO	bd	bd	0.415
6	Total-tetrafurans	24.71	8.428e2	1.254e3	0.727	0.67	0.77	9.4	YES	NO	bb	bb	0.535
7	Total-tetrafurans	24.52	5.530e2	6.406e2	0.727	0.86	0.77	6.3	YES	NO	db	db	0.305
8	Total-tetrafurans	24.36	1.549e3	2.187e3	0.727	0.71	0.77	10.7	YES	NO	bd	bd	0.954
9	Total-tetrafurans	24.01	3.369e2	4.293e2	0.727	0.78	0.77	4.6	YES	NO	db	db	0.196
10	Total-tetrafurans	23.73	5.017e2	6.439e2	0.727	0.78	0.77	6.4	YES	NO	dd	dd	0.292
11	Total-pentafurans	28.03	3.950e2	2.620e2	0.654	1.51	1.55	4.1	YES	NO	bb	bb	0.202
12	Total-pentafurans	29.99	6.877e2	4.685e2	0.654	1.47	1.55	11.7	YES	NO	dd	bb	0.355
13	Total-pentafurans	28.72	1.787e3	1.261e3	0.654	1.42	1.55	19.8	YES	NO	db	db	0.935
14	123789-HxCDF	36.77	5.431e2	4.914e2	1.137	1.11	1.24	9.8	YES	NO	bb	bd	0.208
15	234678-HxCDF	35.79	3.103e3	2.559e3	1.140	1.21	1.24	38.1	YES	NO	bb	bb	0.918
16	123478-HxCDF	34.76	4.190e3	3.287e3	1.166	1.27	1.24	67.1	YES	NO	bd	dd	1.165
17	Total-hexafurans	34.60	5.456e2	3.981e2	1.141	1.37	1.24	9.4	YES	NO	bb	bd	0.154
18	Total-hexafurans	34.13	1.502e4	1.252e4	1.141	1.20	1.24	265.8	YES	NO	bb	bb	4.498
19	Total-hexafurans	33.81	3.661e2	3.068e2	1.141	1.19	1.24	6.7	YES	NO	bb	bb	0.110
20	Total-hexafurans	33.29	1.255e4	9.869e3	1.141	1.27	1.24	205.0	YES	NO	db	bb	3.662
21	123468-HXCDF	33.08	3.855e3	2.841e3	1.169	1.36	1.24	67.6	YES	NO	bd	bb	1.040
22	1234789-HpCDF	40.85	9.857e2	1.017e3	0.953	0.97	1.05	19.1	YES	NO	bb	bb	0.634
23	Total-heptafurans	39.29	3.068e4	3.184e4	0.978	0.96	1.05	648.8	YES	NO	bd	bd	21.237
24	1234678-HpCDF	38.65	1.072e4	1.105e4	1.003	0.97	1.05	234.2	YES	NO	bb	bd	8.025
25	OCDF	45.07	2.857e4	3.222e4	0.778	0.89	0.89	491.3	YES	NO	bb	bb	21.970
26	Total-penta1	27.05	8.319e3	5.550e3		1.50	1.55	182.2	YES	NO	db	db	3.053
27	Total-tetradioxins	25.44	8.236e2	9.473e2	1.024	0.87	0.77	8.6	YES	NO	bd	bd	0.357
28	Total-tetradioxins	23.66	5.895e2	6.749e2	1.024	0.87	0.77	8.3	YES	NO	bb	bd	0.255
29	12389-PECDD	31.77	2.903e2	1.769e2	1.184	1.64	1.55	6.2	YES	NO	bb	bb	0.105
30	Total-pentadioxins	29.98	9.829e2	5.932e2	1.502	1.66	1.55	17.5	YES	NO	dd	bd	0.280
31	Total-pentadioxins	29.76	6.602e2	4.596e2	1.502	1.44	1.55	13.6	YES	NO	bd	bb	0.199
32	Total-pentadioxins	29.15	3.641e2	2.647e2	1.502	1.38	1.55	10.3	YES	NO	bd	bb	0.112
33	12479-PECDD	28.69	1.128e3	7.394e2	2.301	1.53	1.55	20.7	YES	NO	db	db	0.216
34	Total-hexadioxins	34.64	2.258e3	1.955e3	1.005	1.15	1.24	27.4	YES	NO	bd	bb	0.776
35	124679-HXCDD	33.86	1.165e4	9.893e3	1.115	1.18	1.24	133.1	YES	NO	bb	bb	3.834
36	123789-HxCDD	36.40	3.266e3	2.614e3	0.907	1.25	1.24	36.7	YES	NO	bb	bb	1.200
37	Total-hexadioxins	36.17	7.488e2	6.937e2	1.005	1.08	1.24	9.0	YES	NO	db	db	0.266

ID: BLB0228-SRM1, Name: 23031306, Date: 13-Mar-2023, Time: 14:30:11, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	123678-HxCDD	36.02	4.732e3	3.841e3	1.001	1.23	1.24	57.7	YES	NO	dd	dd	1.485
39	123478-HxCDD	35.91	1.753e3	1.566e3	0.996	1.12	1.24	19.9	YES	NO	dd	bd	0.662
40	1234679-HPCDD	39.09	1.243e5	1.263e5	1.137	0.98	1.05	1986.8	YES	NO	bb	bb	53.743
41	1234678-HpCDD	40.13	9.159e4	8.517e4	1.039	1.08	1.05	1285.2	YES	NO	bd	bb	41.483
42	OCDD	44.85	5.044e5	5.946e5	0.920	0.85	0.89	2869.6	YES	NO	bb	bb	335.817

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	25.86	1.362e7					12.7	YES		bb		
2	FUNCTION1 PFK	21.47	7.749e6					22.3	YES		bb		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	30.93	4.790e4					4.2	YES		bb		0.000
2	FUNCTION2 PFK	29.62	5.932e5					1.7	NO		bb		0.000
3	FUNCTION2 PFK	29.19	1.290e5					10.7	YES		db		0.000
4	FUNCTION2 PFK	29.02	5.262e5					13.8	YES		dd		0.000
5	FUNCTION2 PFK	28.90	1.392e5					8.0	YES		bd		0.000
6	FUNCTION2 PFK	32.25	2.187e5					7.1	YES		bb		0.000
7	FUNCTION2 PFK	32.05	3.439e5					12.5	YES		db		0.000
8	FUNCTION2 PFK	31.84	3.118e5					8.9	YES		bd		0.000

ID: BLB0228-SRM1, Name: 23031306, Date: 13-Mar-2023, Time: 14:30:11, Conditions: AUTOSPEC01, User: pk

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	37.18	6.825e5					7.2	YES		dd		0.000
2	FUNCTION3 PFK	37.11	1.943e5					3.6	YES		dd		0.000
3	FUNCTION3 PFK	37.07	6.151e5					7.7	YES		dd		0.000
4	FUNCTION3 PFK	36.98	9.574e5					7.9	YES		dd		0.000
5	FUNCTION3 PFK	36.92	4.395e5					8.0	YES		dd		0.000
6	FUNCTION3 PFK	36.88	1.926e6					9.3	YES		bd		0.000
7	FUNCTION3 PFK	36.46	9.934e6					10.9	YES		db		0.000
8	FUNCTION3 PFK	35.96	2.086e6					6.2	YES		dd		0.000
9	FUNCTION3 PFK	35.55	1.295e5					1.8	NO		bd		0.000
10	FUNCTION3 PFK	35.43	3.638e5					1.9	NO		bb		0.000
11	FUNCTION3 PFK	34.41	4.375e5					1.1	NO		bb		0.000
12	FUNCTION3 PFK	33.62	3.941e4					0.6	NO		bb		0.000
13	FUNCTION3 PFK	37.27	1.244e6					5.0	YES		db		0.000

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	40.15	1.379e7					9.1	YES		db		
2	FUNCTION4 PFK	38.80	8.132e5					81.0	YES		dd		
3	FUNCTION4 PFK	38.77	2.786e6					83.0	YES		bd		
4	FUNCTION4 PFK	38.50	4.872e6					99.4	YES		db		
5	FUNCTION4 PFK	38.04	1.515e7					88.1	YES		bd		

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

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ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	24.71	1.050e2					2.2	NO		bb		0.000
2	FUNCTION1 HXCD...	23.60	1.132e2					2.0	NO		bb		0.000
3	FUNCTION1 HXCD...	22.61	8.189e1					1.5	NO		bb		0.000
4	FUNCTION1 HXCD...	21.75	1.196e2					1.8	NO		bb		0.000
5	FUNCTION1 HXCD...	21.68	9.112e1					2.1	NO		bb		0.000
6	FUNCTION1 HXCD...	21.30	7.313e1					2.6	NO		bb		0.000
7	FUNCTION1 HXCD...	21.11	1.058e2					2.3	NO		bb		0.000
8	FUNCTION1 HXCD...	26.24	9.643e1					1.8	NO		bb		0.000
9	FUNCTION1 HXCD...	25.96	1.173e2					2.4	NO		bb		0.000
10	FUNCTION1 HXCD...	25.76	6.204e2					16.9	YES		bb		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	30.42	7.875e1					2.5	NO		bb		0.000
2	FUNCTION2 HPCD...	28.79	7.348e1					2.1	NO		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	37.01	1.315e2					2.3	NO		db		0.000
2	FUNCTION3 OCDPE	36.84	1.742e2					2.7	NO		bd		0.000
3	FUNCTION3 OCDPE	36.39	2.427e2					3.5	YES		bb		0.000
4	FUNCTION3 OCDPE	36.01	1.093e2					3.2	YES		bb		0.000
5	FUNCTION3 OCDPE	35.58	7.623e1					2.9	NO		db		0.000
6	FUNCTION3 OCDPE	35.56	9.361e1					3.1	YES		bd		0.000
7	FUNCTION3 OCDPE	34.73	1.123e2					2.2	NO		bb		0.000
8	FUNCTION3 OCDPE	34.53	9.056e1					2.3	NO		bb		0.000

ID: BLB0228-SRM1, Name: 23031306, Date: 13-Mar-2023, Time: 14:30:11, Conditions: AUTOSPEC01, User: pk

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	38.26	5.842e3					211.2	YES		bb		0.000

ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

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Last Altered: Tuesday, March 14, 2023 09:54:11 Pacific Daylight Time
Printed: Tuesday, March 14, 2023 11:11:26 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin230313.mdb 13 Mar 2023 11:32:39
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ID: BLB0228-SRM1, Name: 23031306, Date: 13-Mar-2023, Time: 14:30:11, Conditions: AUTOSPEC01, User: pk

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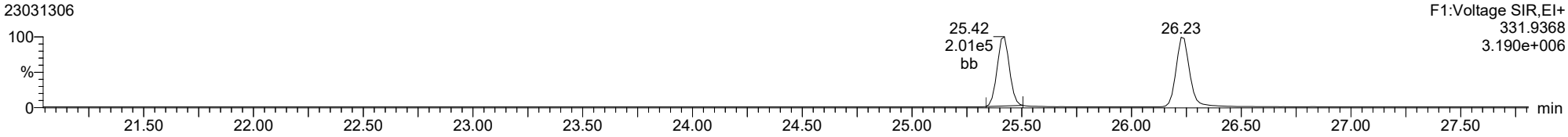

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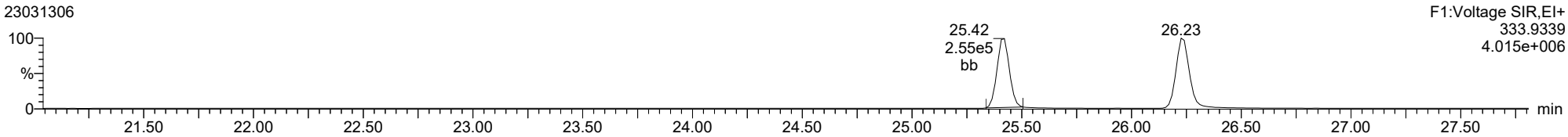

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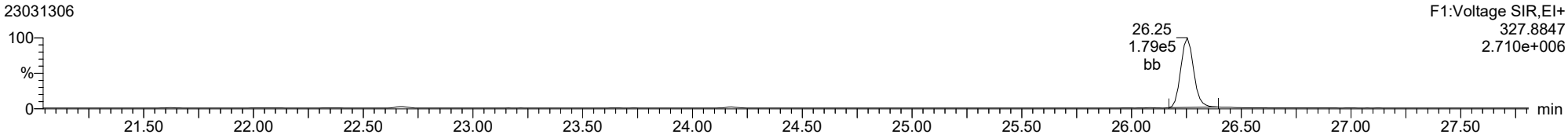

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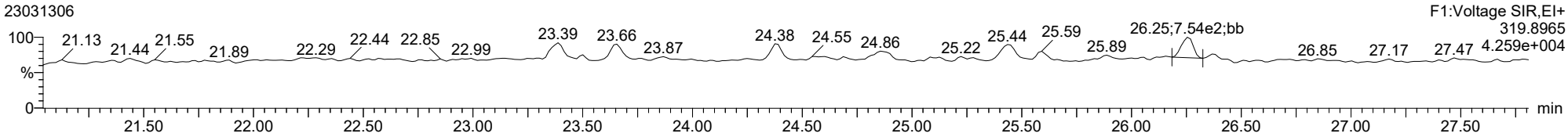

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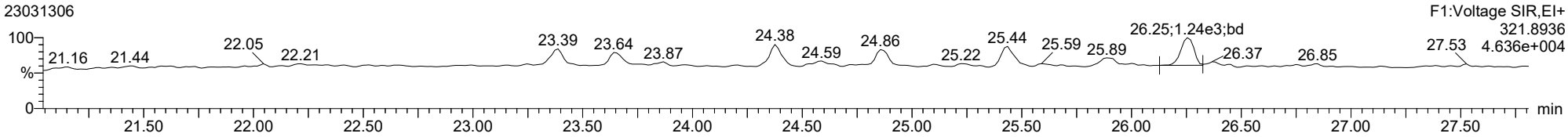

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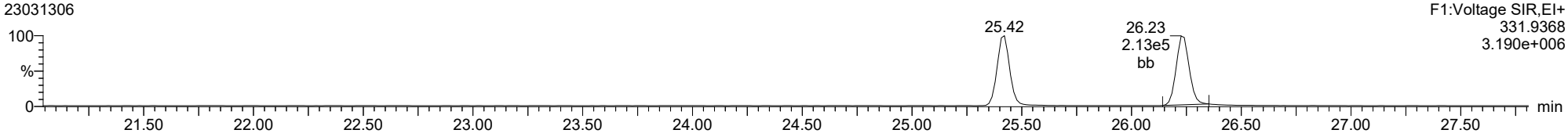

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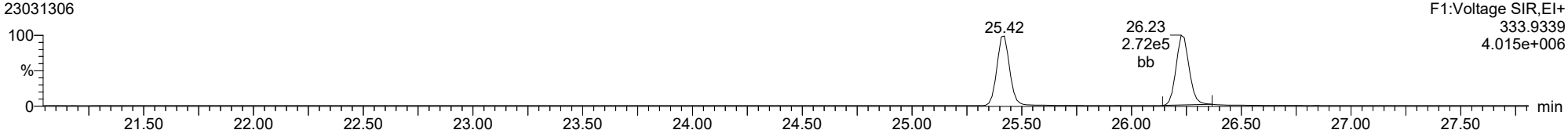
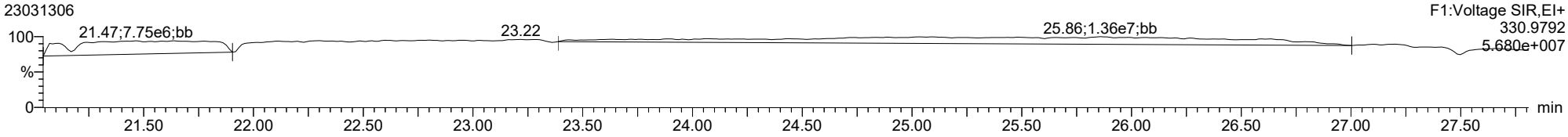


FUNCTION1 PFK



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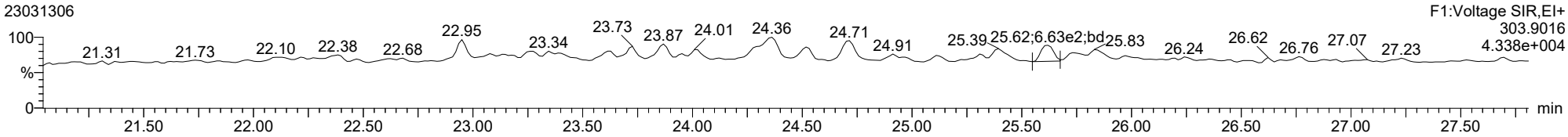

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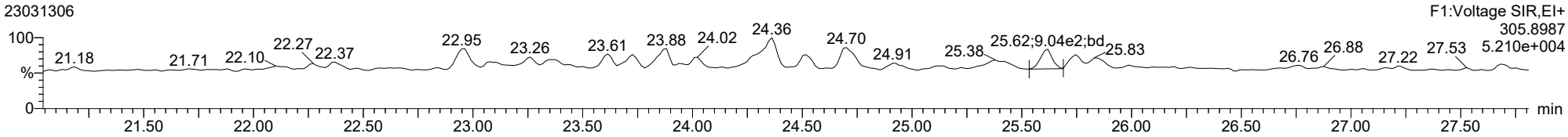

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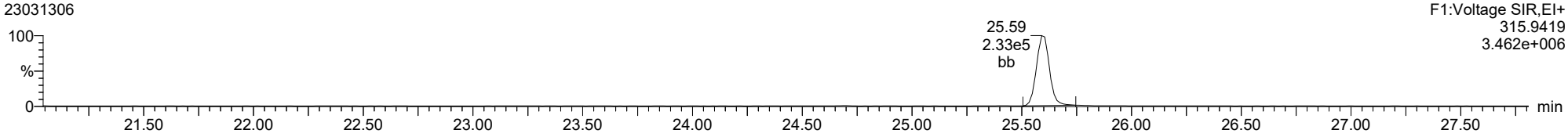

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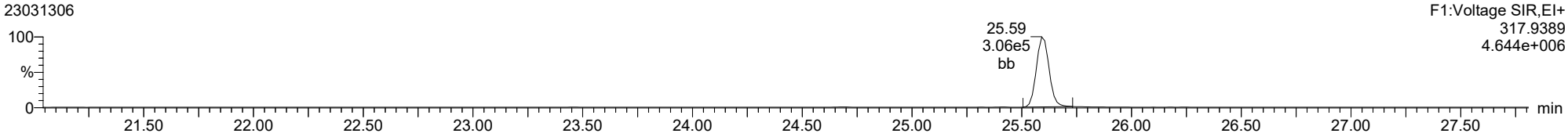
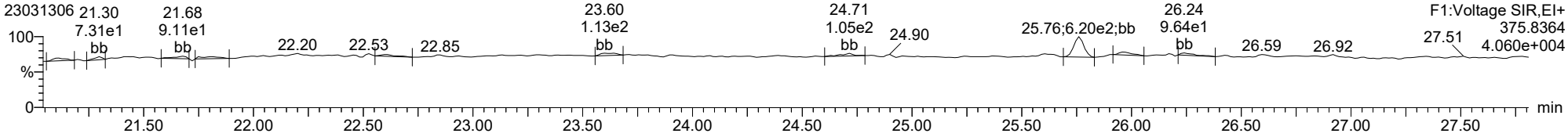


FUNCTION1 HXCDPE



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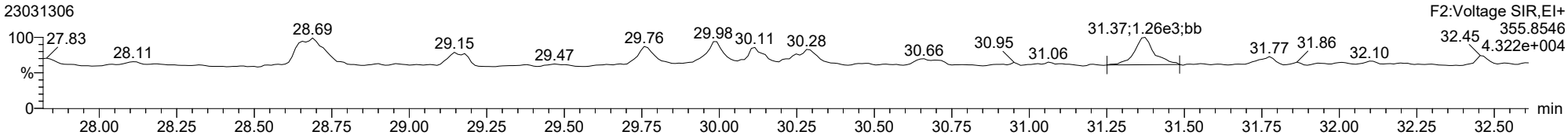
12378-PeCDD



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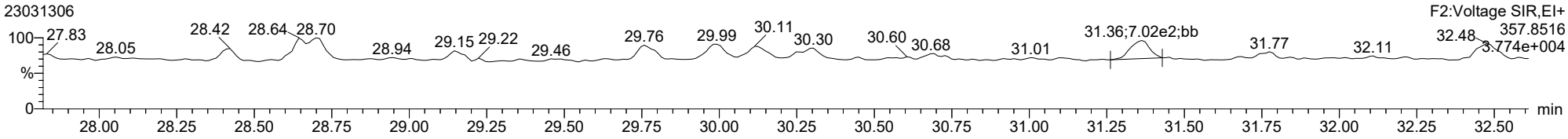

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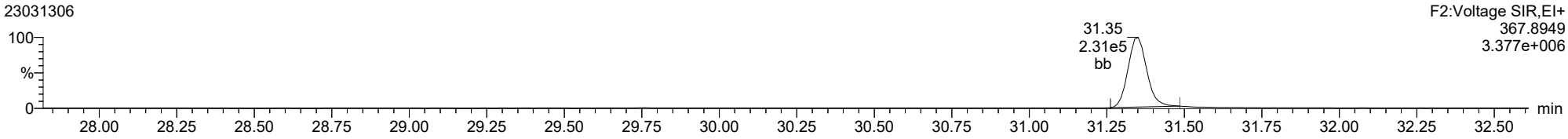

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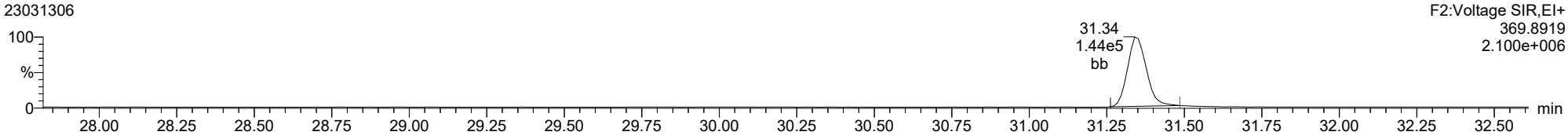
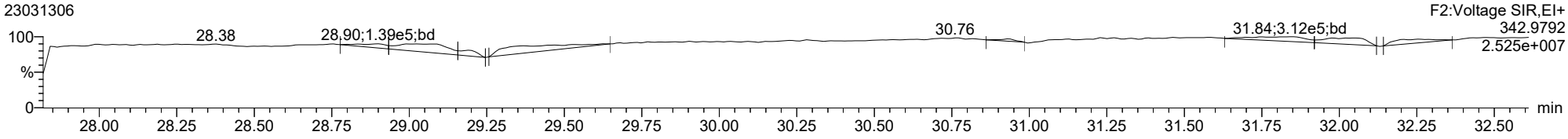


FUNCTION2 PFK



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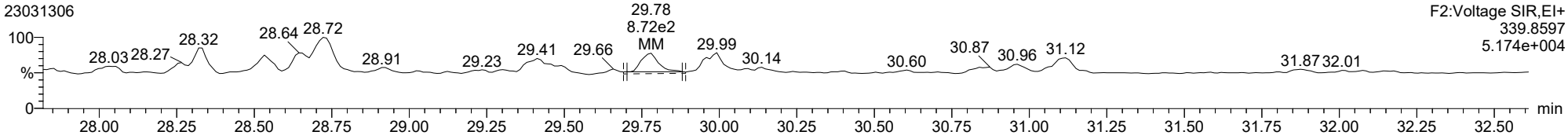
12378-PeCDF



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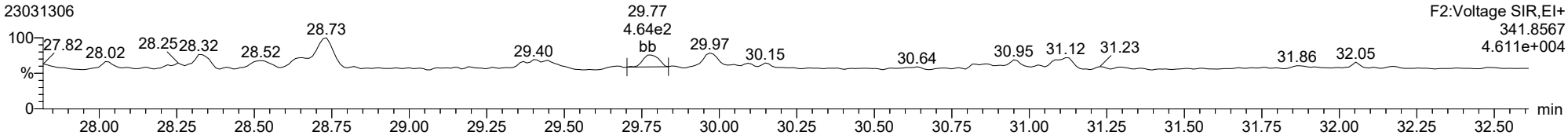

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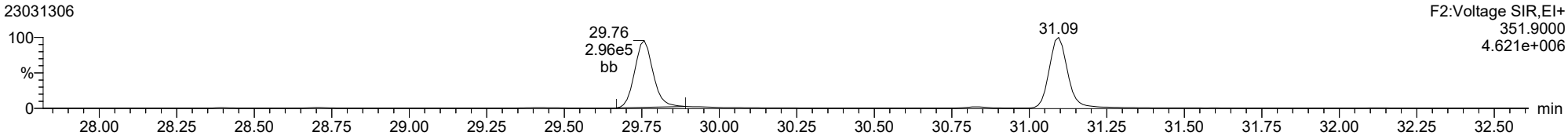

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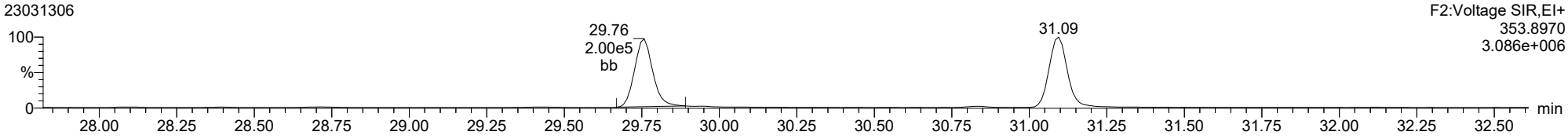
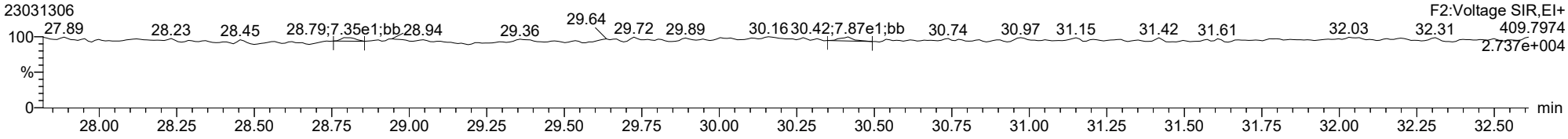


FUNCTION2 HPCDPE



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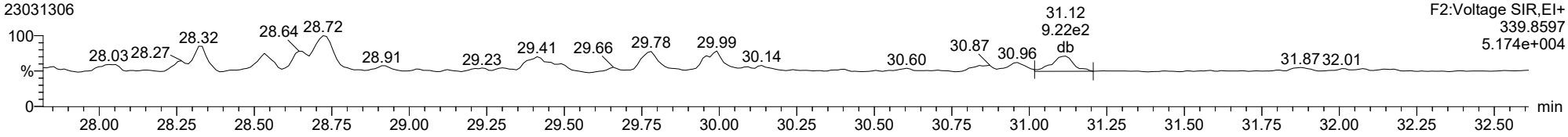
23478-PeCDF



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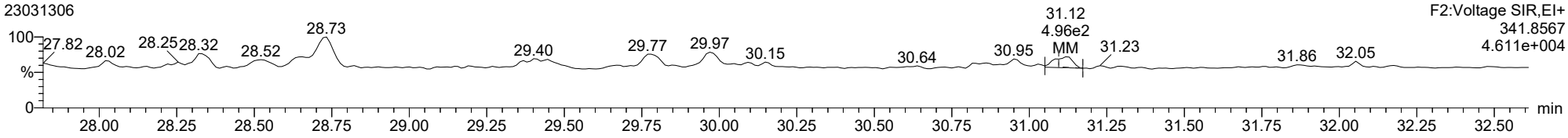

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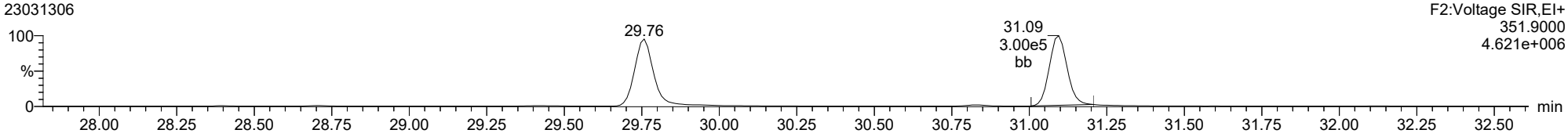

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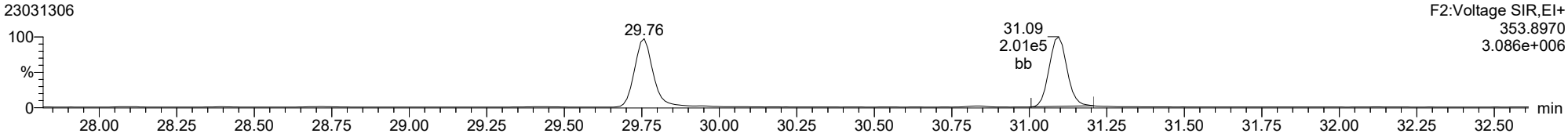
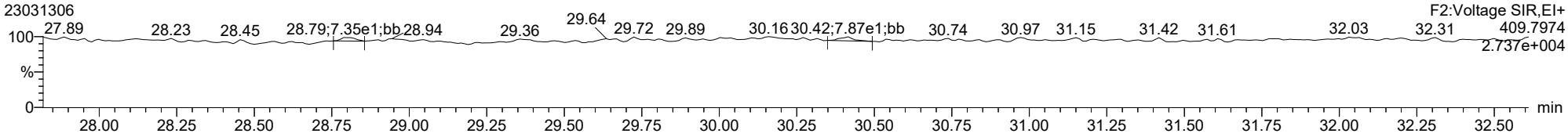


FUNCTION2 HPCDPE



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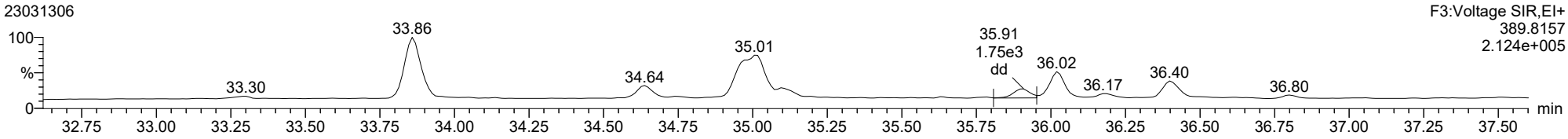
123478-HxCDD



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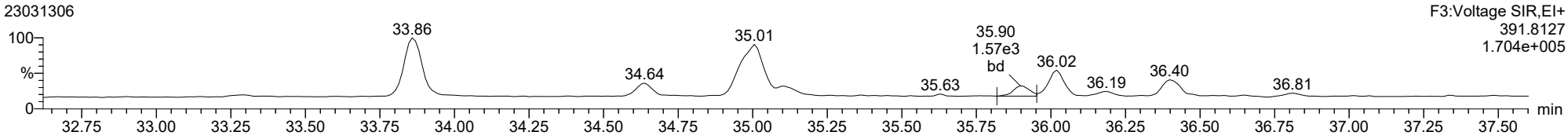
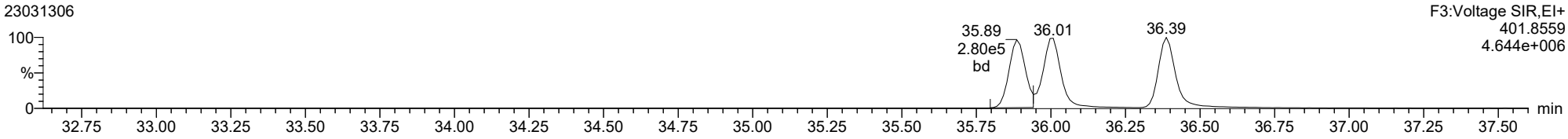


13C-123478-HxCDD



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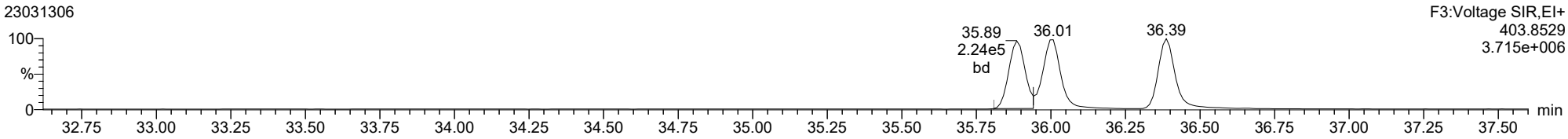
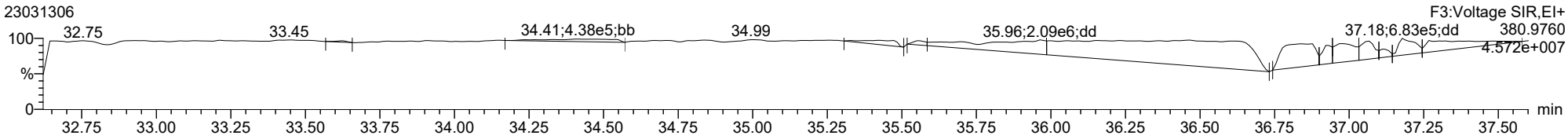


FUNCTION3 PFK



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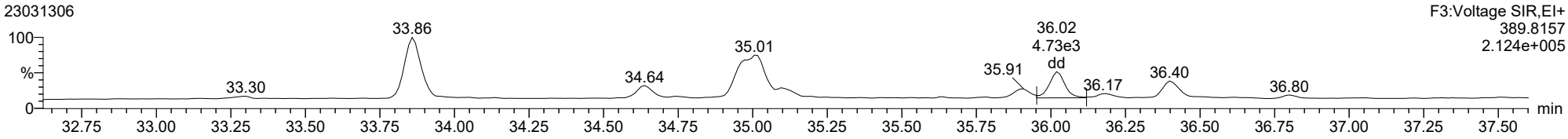
123678-HxCDD



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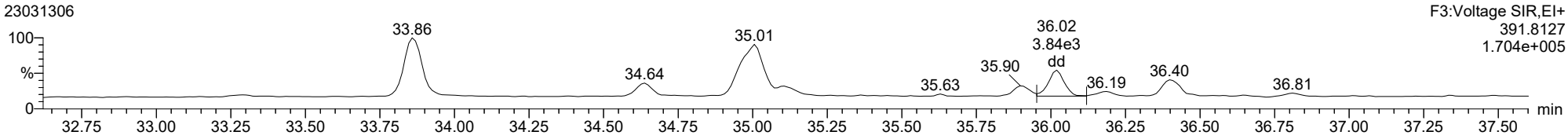

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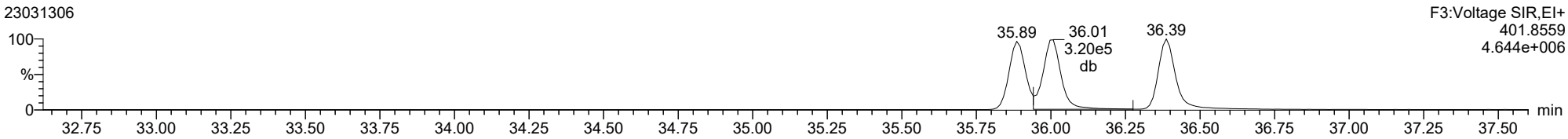

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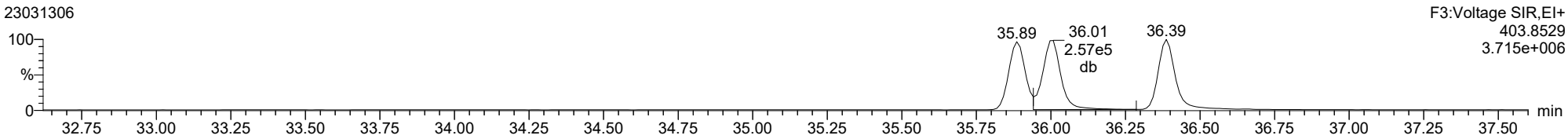

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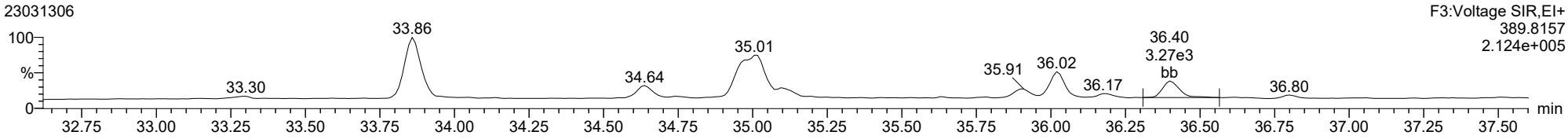

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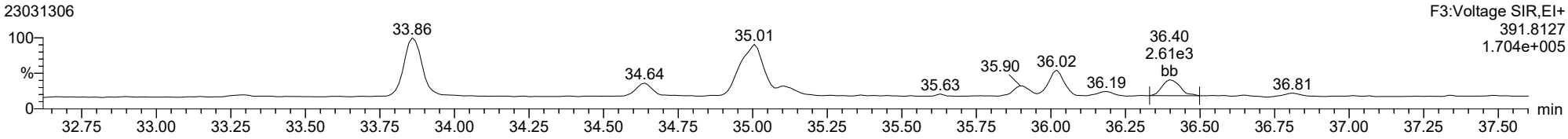

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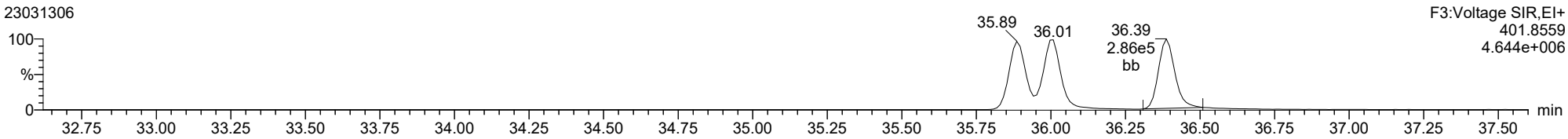

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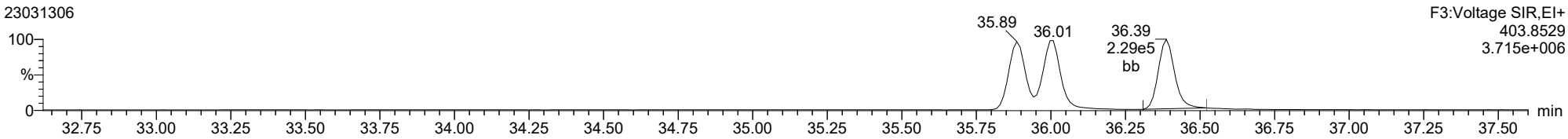

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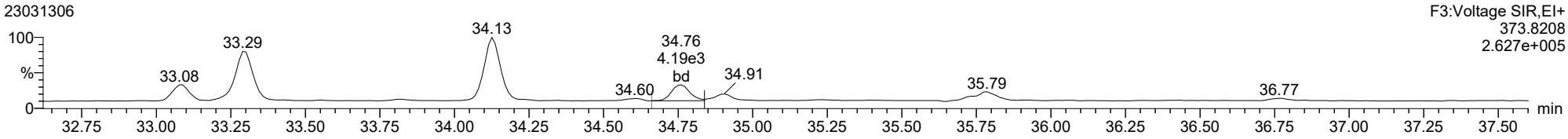

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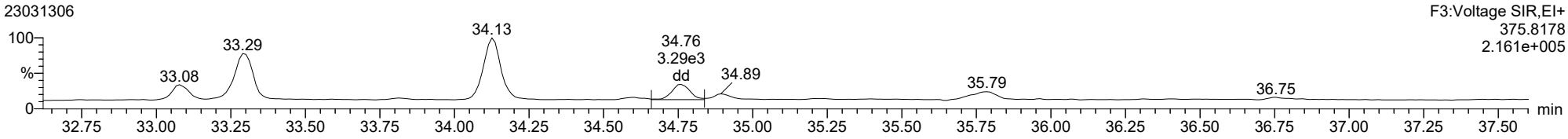

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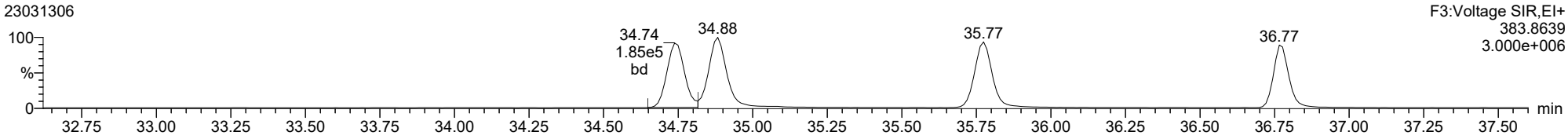

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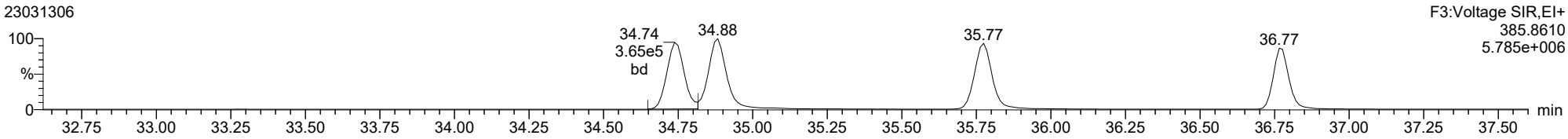
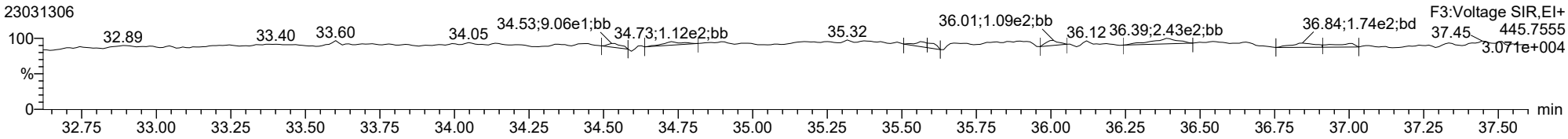


FUNCTION3 OCDPE



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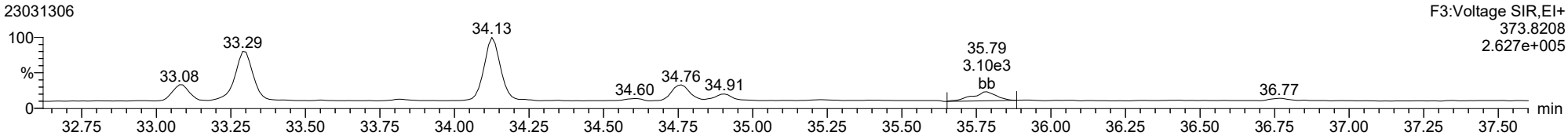
234678-HxCDF



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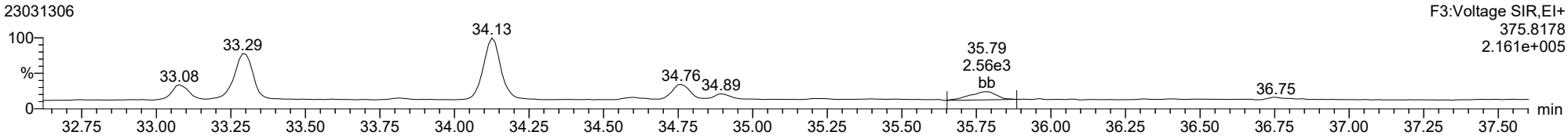

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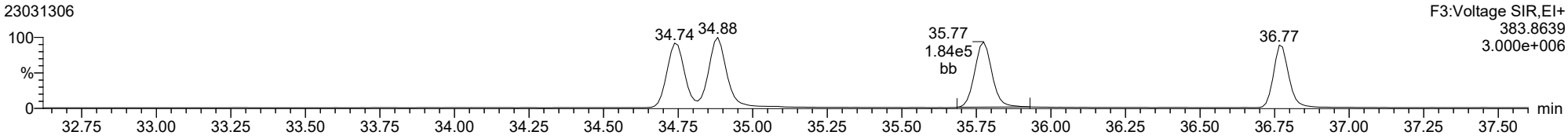

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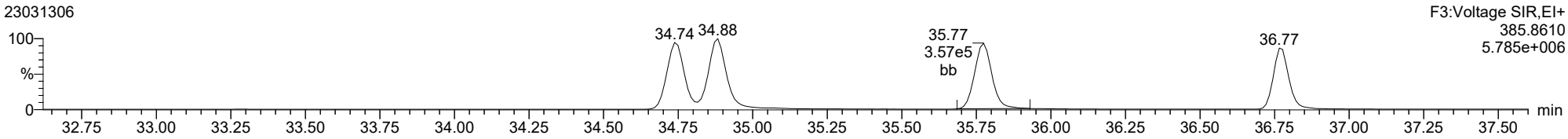
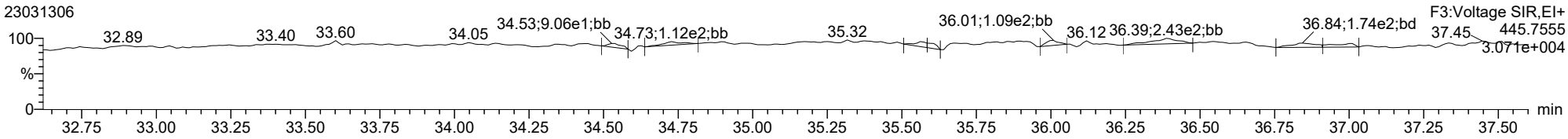


FUNCTION3 OCDPE



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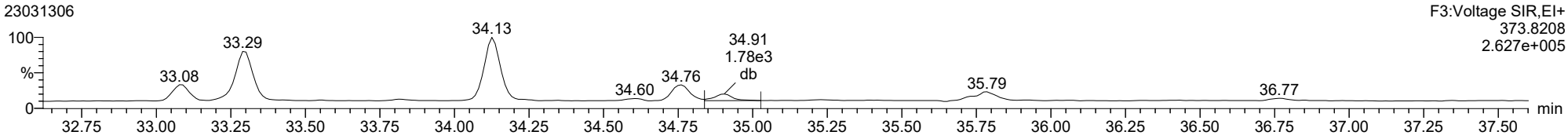

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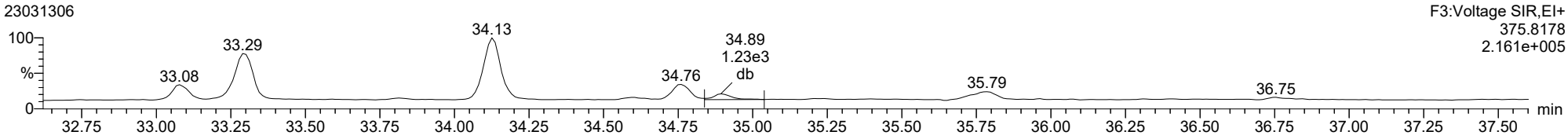

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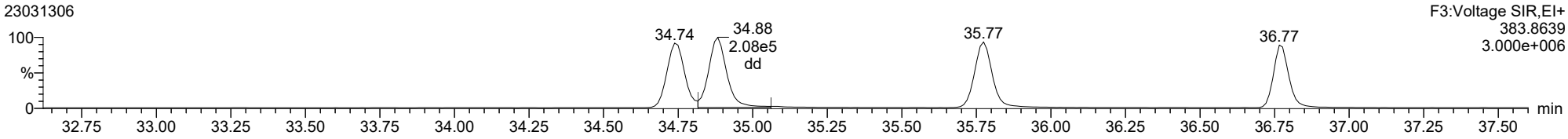

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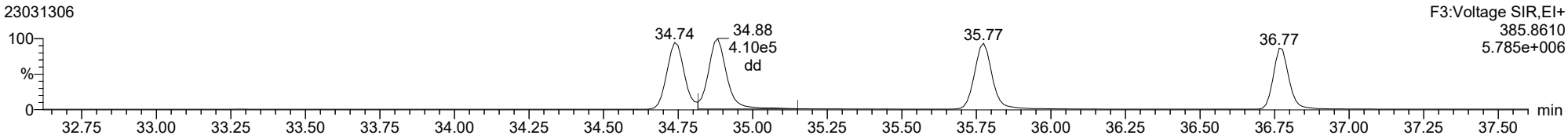
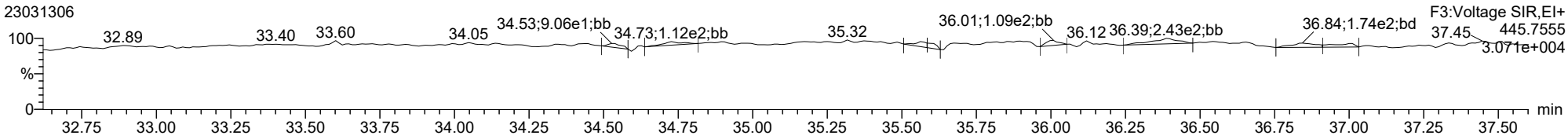


FUNCTION3 OCDPE



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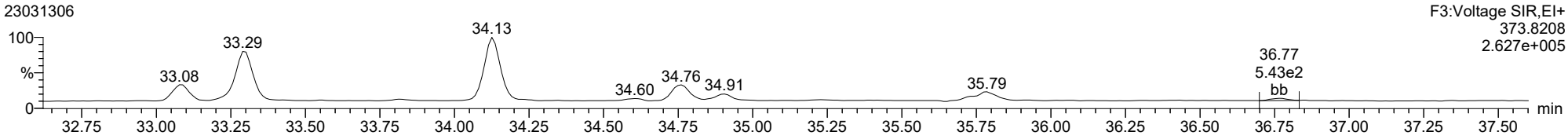

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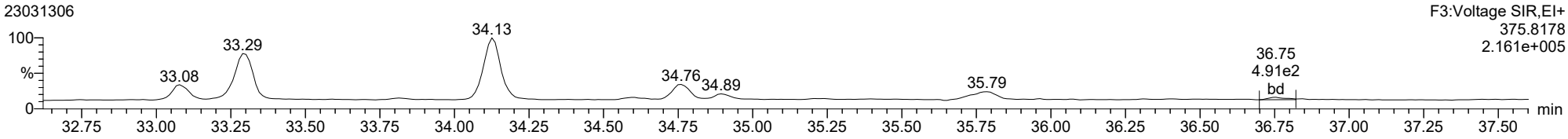

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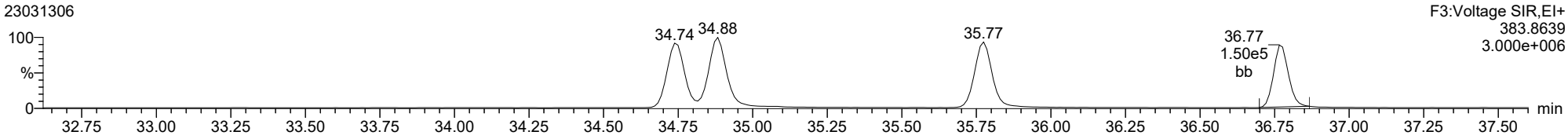

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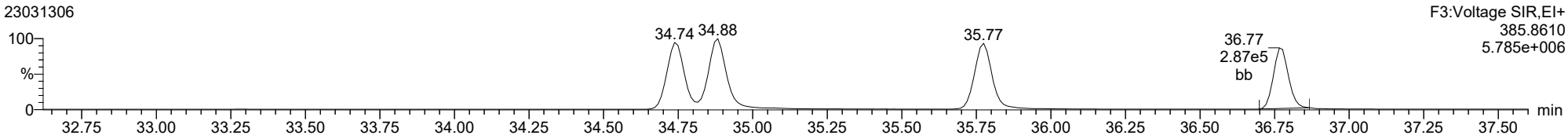
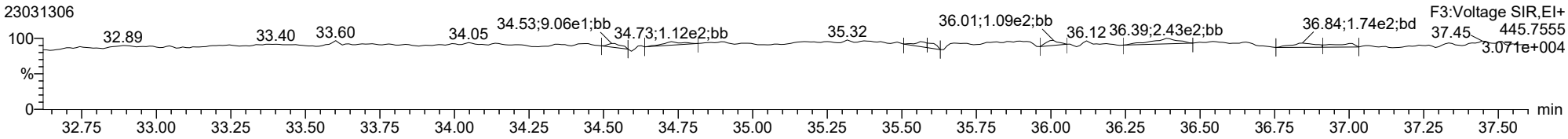


FUNCTION3 OCDPE



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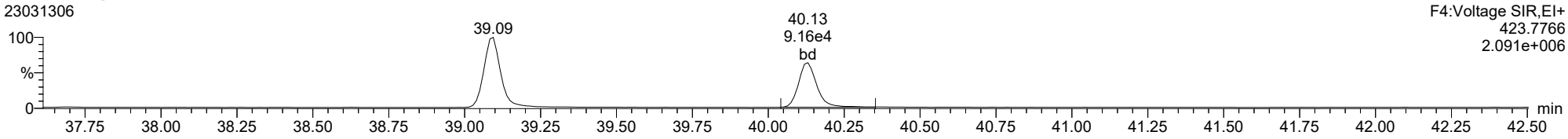
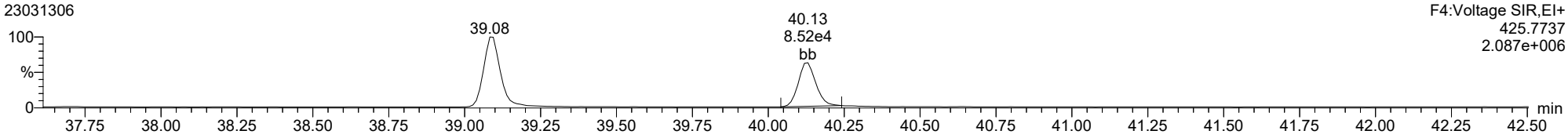


1234678-HpCDD



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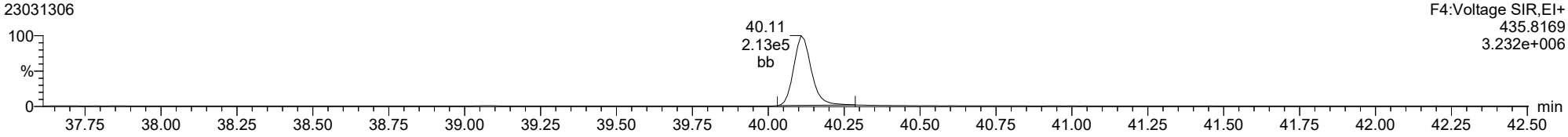

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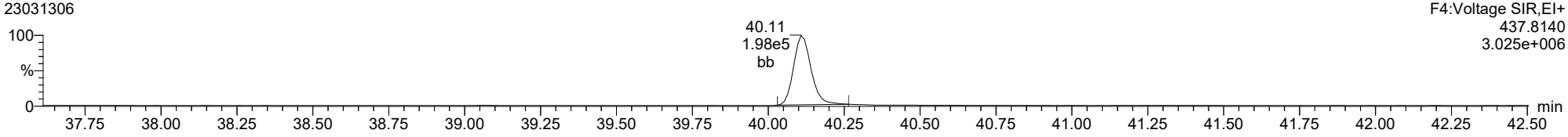
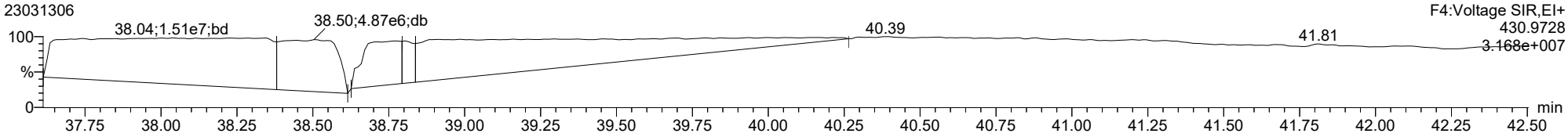


FUNCTION4 PFK



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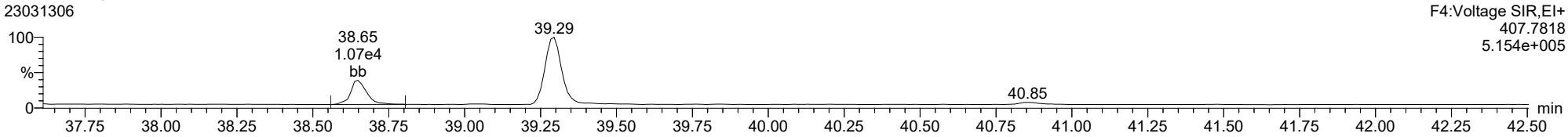
1234678-HpCDF



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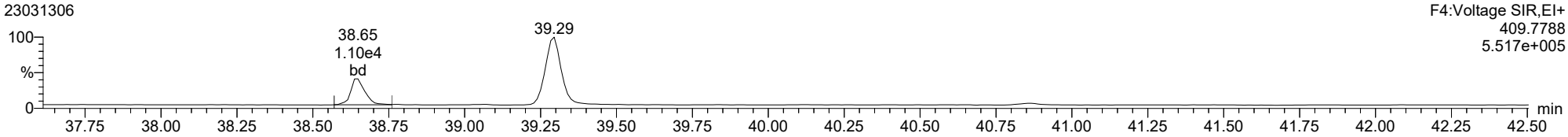

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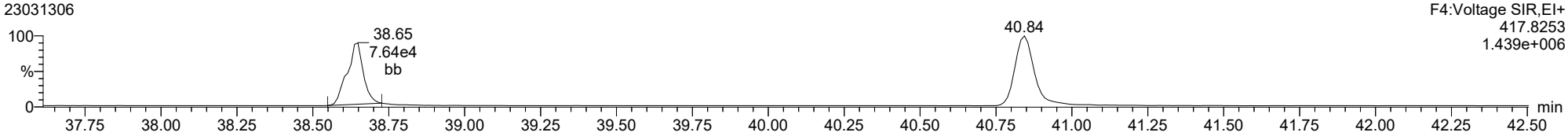

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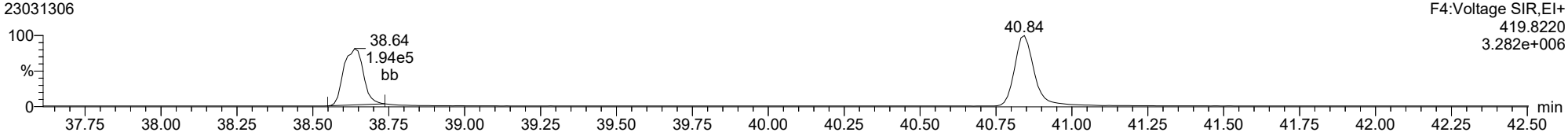
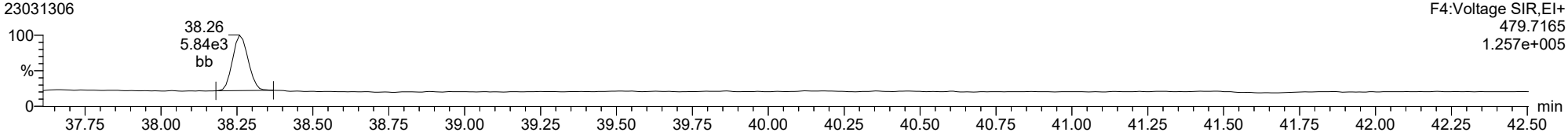


FUNCTION4 NCDPE



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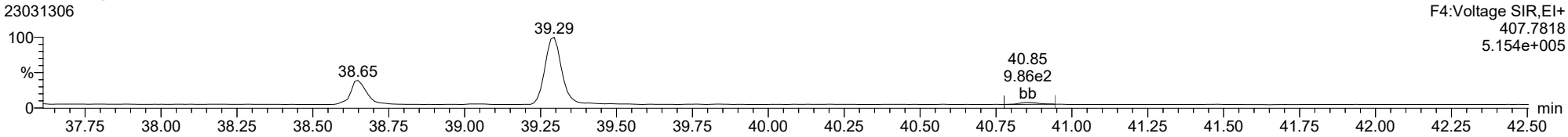
1234789-HpCDF



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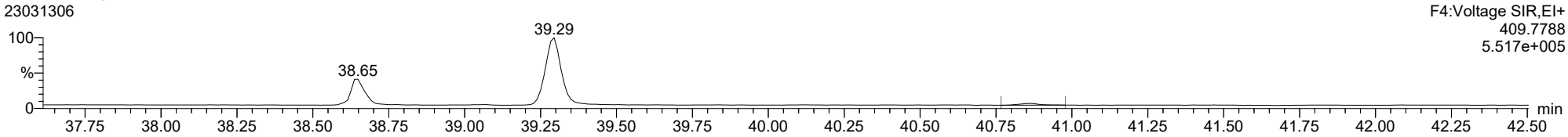

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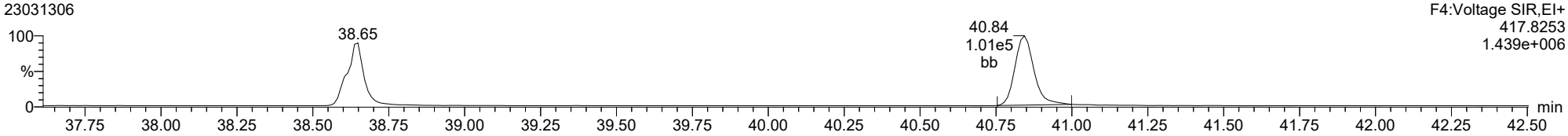

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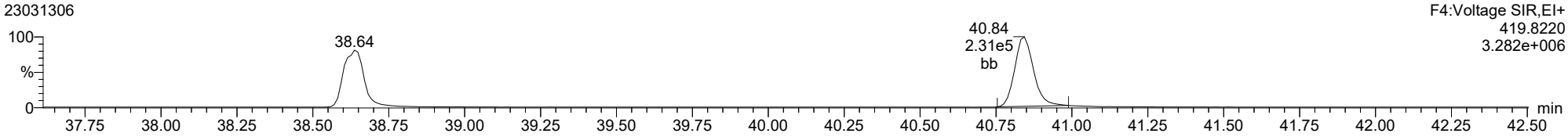
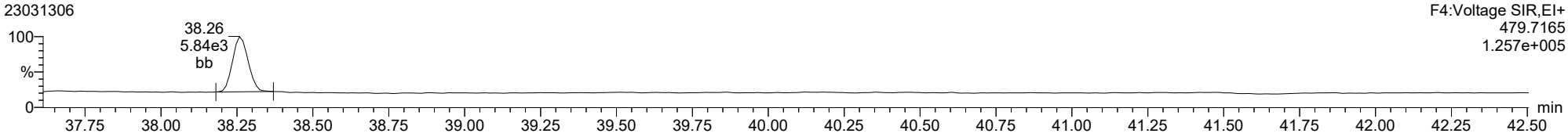


FUNCTION4 NCDPE



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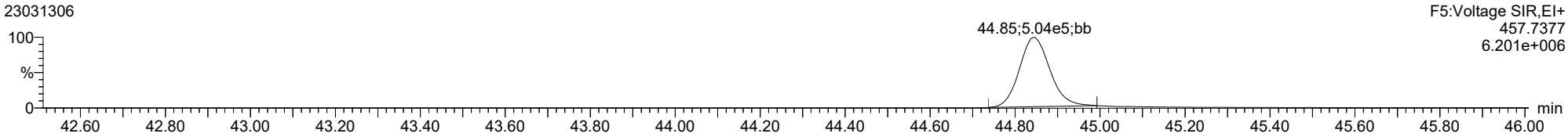
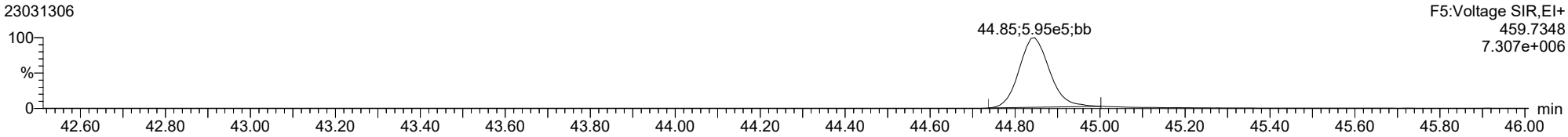
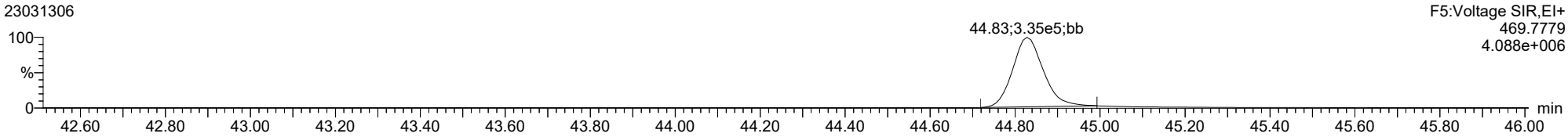
OCDD



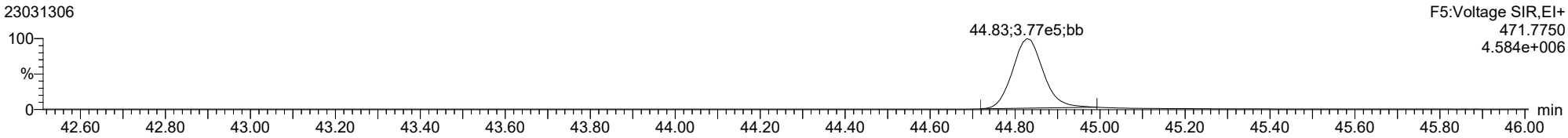
OCDD



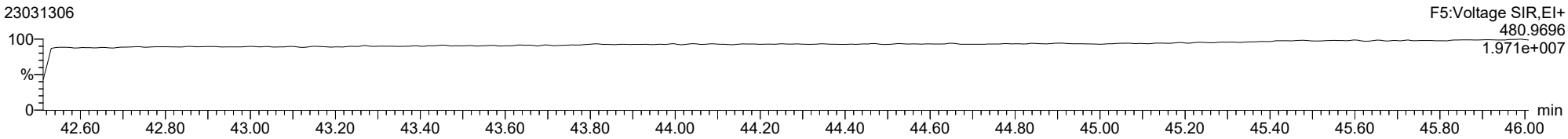
13C-OCDD



13C-OCDD



FUNCTION5 PFK



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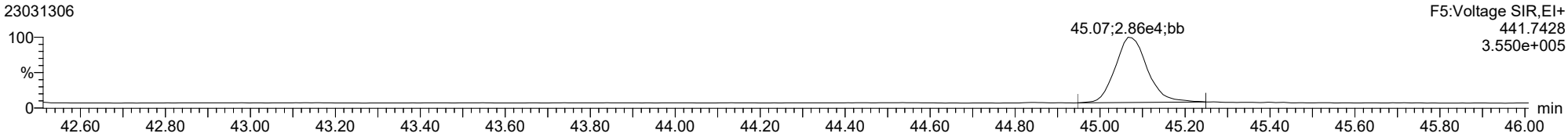
OCDF



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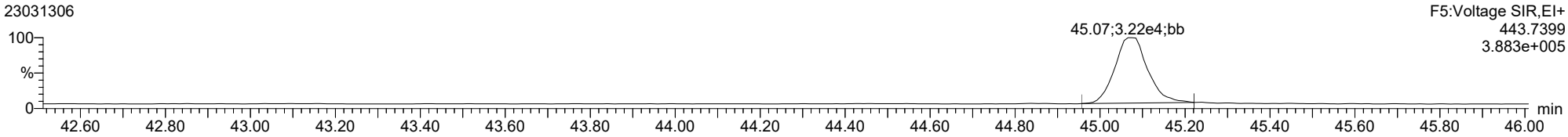
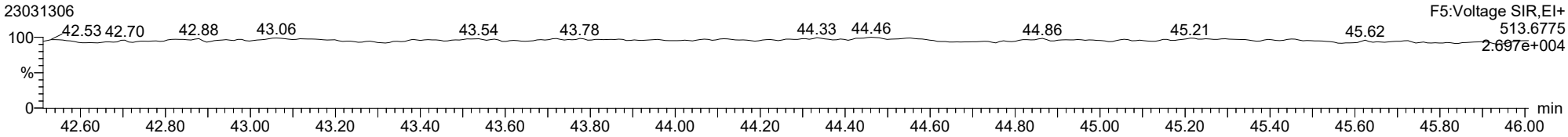
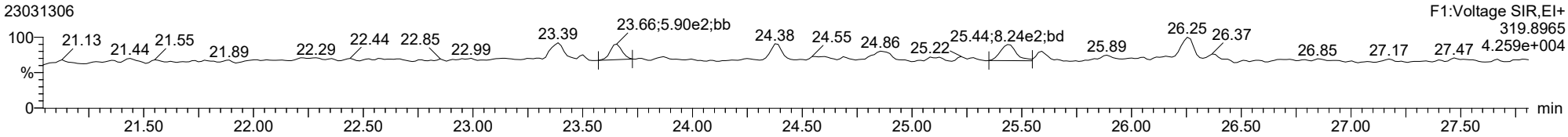


FUNCTION5 DCDPE

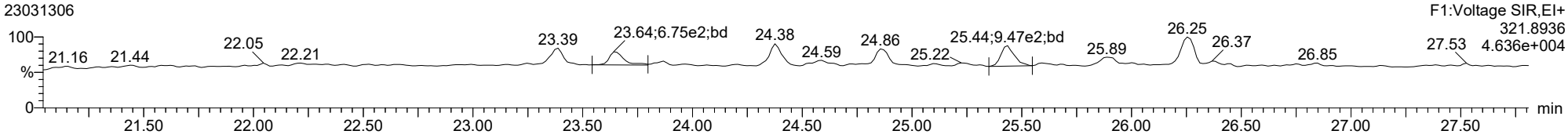


ID: BLB0228-SRM1, Name: 23031306, Date: 13-Mar-2023, Time: 14:30:11, Conditions: AUTOSPEC01, User: pk

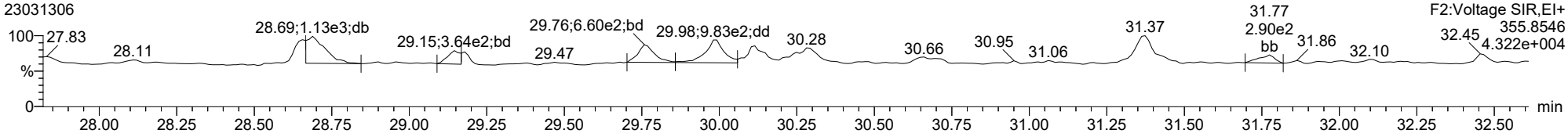
Total-tetradioxins



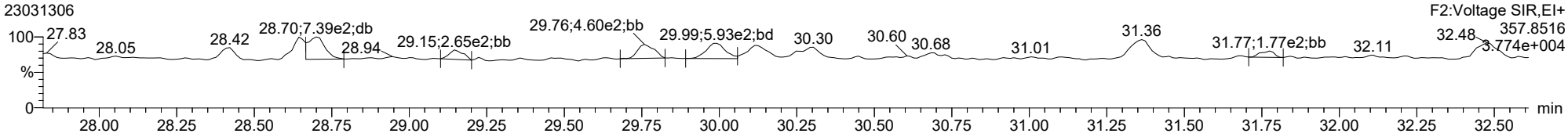
Total-tetradioxins



Total-pentadioxins

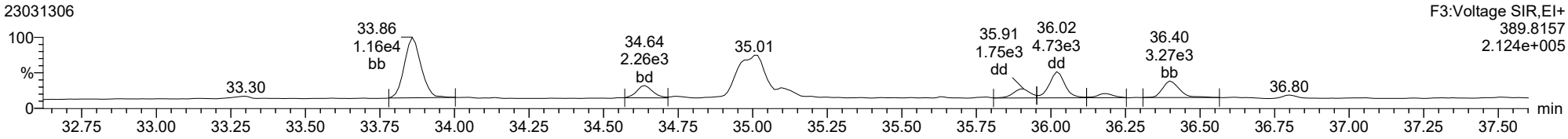


Total-pentadioxins

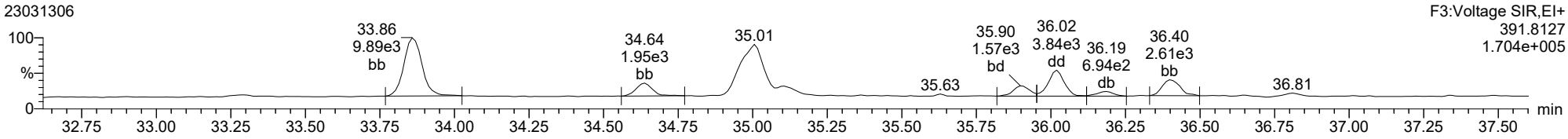


ID: BLB0228-SRM1, Name: 23031306, Date: 13-Mar-2023, Time: 14:30:11, Conditions: AUTOSPEC01, User: pk

Total-hexadioxins



Total-hexadioxins



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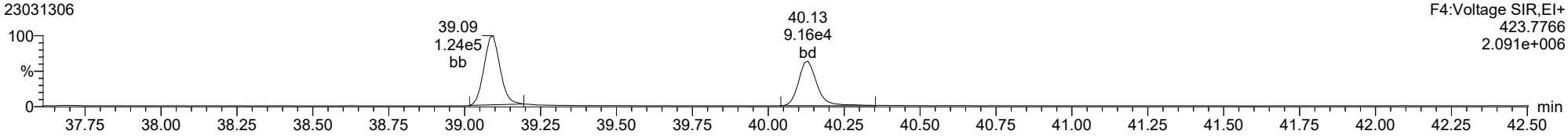
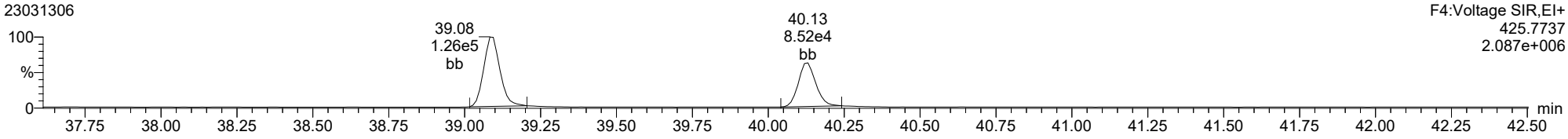
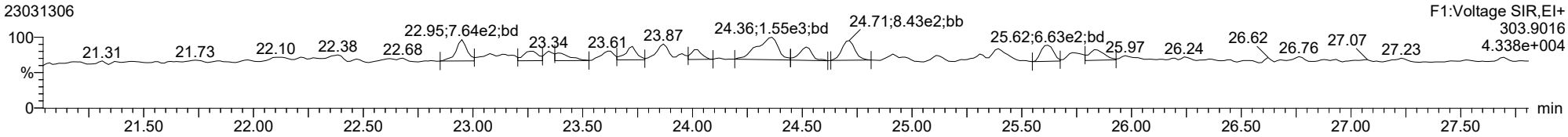


Total-heptadioxins



ID: BLB0228-SRM1, Name: 23031306, Date: 13-Mar-2023, Time: 14:30:11, Conditions: AUTOSPEC01, User: pk

Total-tetrafurans



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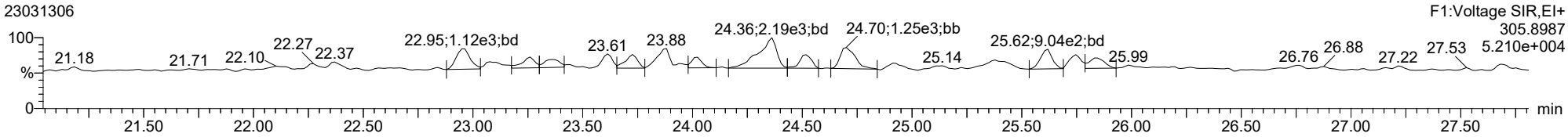
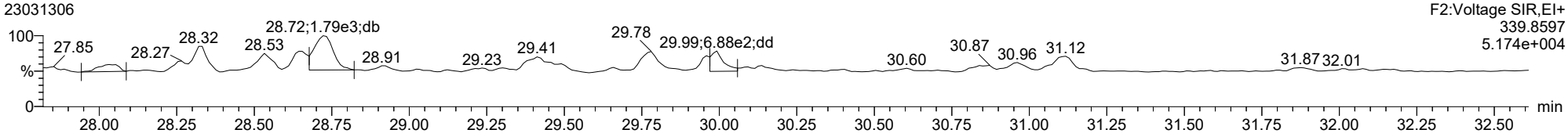
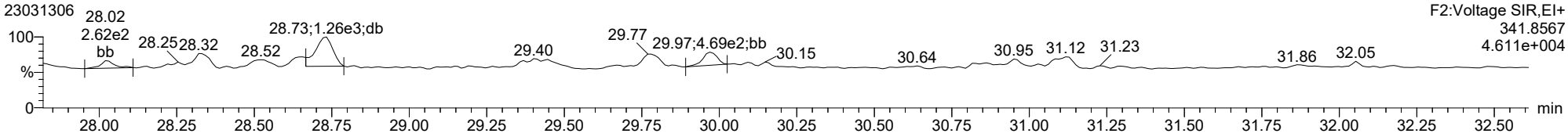


Total-pentafurans

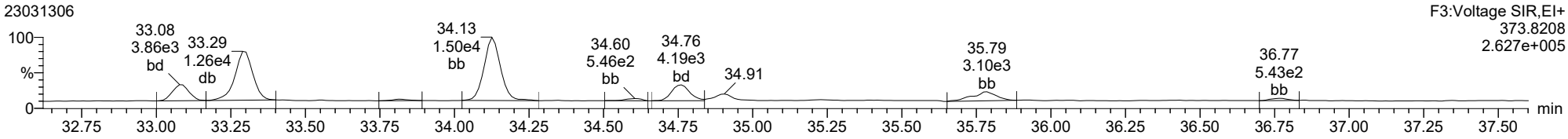


Total-pentafurans



ID: BLB0228-SRM1, Name: 23031306, Date: 13-Mar-2023, Time: 14:30:11, Conditions: AUTOSPEC01, User: pk

Total-hexafurans



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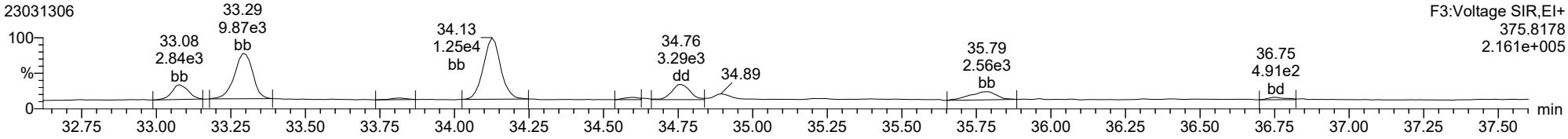
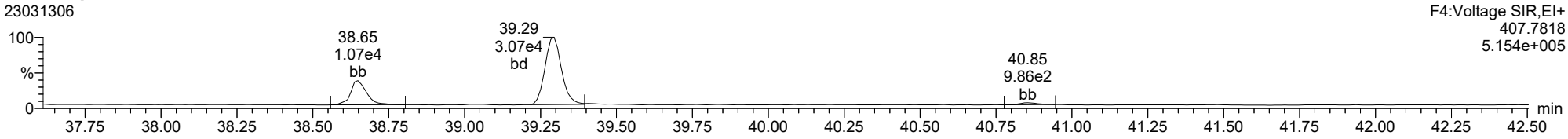
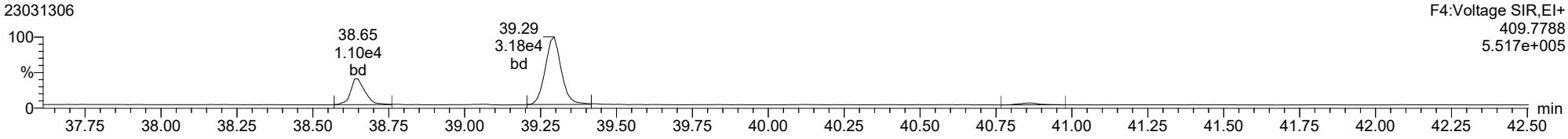


Total-heptafurans



Total-heptafurans



INITIAL CALIBRATION DATA

EPA 1613B

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GC00015	Instrument:	AUTOSPEC01
Calibration Date:	03/03/2023	Column (1):	RTX-Dioxin2

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF
2,3,7,8-TCDF			0.5	0.6926363	2	0.6813224	10	0.7107923	40	0.719723	200	0.7031621
2,3,7,8-TCDD			0.5	1.116738	2	1.187915	10	1.134128	40	1.147736	200	1.156792
1,2,3,7,8-PeCDF	0.5	0.7064839	2.5	0.5889757	10	0.710829	50	0.6668491	200	0.6891968	1000	0.7130453
2,3,4,7,8-PeCDF	0.5	0.7979673	2.5	0.750268	10	0.8092124	50	0.7777683	200	0.7907891	1000	0.7910175
1,2,3,7,8-PeCDD	0.5	1.103364	2.5	0.959607	10	1.01992	50	1.019473	200	1.01999	1000	1.008719
1,2,3,4,7,8-HxCDF	0.5	1.217557	2.5	1.181192	10	1.149885	50	1.142227	200	1.15269	1000	1.152678
1,2,3,6,7,8-HxCDF	0.5	1.080855	2.5	1.053928	10	1.175308	50	1.102076	200	1.035098	1000	1.097184
2,3,4,6,7,8-HxCDF	0.5	1.045907	2.5	1.140857	10	1.199347	50	1.11691	200	1.197861	1000	1.13731
1,2,3,7,8,9-HxCDF	0.5	1.190403	2.5	1.119796	10	1.130872	50	1.147742	200	1.139146	1000	1.094601
1,2,3,4,7,8-HxCDD	0.5	1.079554	2.5	0.961704	10	0.973768	50	0.967789	200	0.9862736	1000	1.004325
1,2,3,6,7,8-HxCDD	0.5	0.9586431	2.5	0.9983677	10	0.9838912	50	1.030566	200	1.022077	1000	1.012084
1,2,3,7,8,9-HxCDD	0.5	0.930997	2.5	0.8854269	10	0.8092562	50	0.9267543	200	0.9251392	1000	0.9651099
1,2,3,4,6,7,8-HpCDF	0.5	0.934103	2.5	1.075239	10	1.011687	50	0.9661089	200	1.026311	1000	1.004508
1,2,3,4,7,8,9-HpCDF	0.5	0.8861422	2.5	0.8930411	10	1.006144	50	0.9387033	200	0.9934576	1000	1.001203
1,2,3,4,6,7,8-HpCDD	0.5	1.103772	2.5	0.971421	10	1.040117	50	1.038088	200	1.030577	1000	1.050103
OCDF	1	0.8118871	5	0.7091624	20	0.7657645	100	0.7266152	400	0.8162858	2000	0.8371317
OCDD			5	1.012935	20	0.8906655	100	0.878436	400	0.9061913	2000	0.9115405
13C12-2,3,7,8-TCDF	100	1.631571	100	1.588495	100	1.670669	100	1.492829	100	1.645068	100	1.692541
13C12-2,3,7,8-TCDD	100	1.103543	100	1.165686	100	1.103763	100	1.147762	100	1.181831	100	1.211872
13C12-1,2,3,7,8-PeCDF	100	1.373516	100	0.8861478	100	1.254697	100	1.157546	100	1.425701	100	1.345107
13C12-2,3,4,7,8-PeCDF	100	1.219579	100	0.8983995	100	1.113808	100	0.8611233	100	1.32733	100	1.286474
13C12-1,2,3,7,8-PeCDD	100	0.9177021	100	0.7002528	100	0.8365419	100	0.5962156	100	0.9821822	100	0.939983
13C12-1,2,3,4,7,8-HxCDF	100	1.152029	100	1.095885	100	1.513935	100	1.121285	100	1.094572	100	1.032122
13C12-1,2,3,6,7,8-HxCDF	100	1.353853	100	1.348693	100	1.689158	100	1.367383	100	1.37092	100	1.188788
13C12-2,3,4,6,7,8-HxCDF	100	1.092029	100	1.127896	100	1.240354	100	1.126074	100	1.087409	100	1.101774
13C12-1,2,3,7,8,9-HxCDF	100	0.8958406	100	0.9493947	100	0.9152119	100	0.9630403	100	0.8996667	100	0.9673701
13C12-1,2,3,4,7,8-HxCDD	100	0.9718531	100	0.9656819	100	1.113686	100	0.9864835	100	0.9766715	100	0.95586
13C12-1,2,3,6,7,8-HxCDD	100	1.184228	100	1.157253	100	1.278683	100	1.163318	100	1.111106	100	1.045546

INITIAL CALIBRATION DATA

EPA 1613B

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GC00015	Instrument:	AUTOSPEC01
Calibration Date:	03/03/2023	Column (1):	RTX-Dioxin2

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF
13C12-1,2,3,4,6,7,8-HpCDF	100	0.7396157	100	0.9023055	100	1.063192	100	0.9589237	100	0.7622694	100	0.9449039
13C12-1,2,3,4,7,8,9-HpCDF	100	0.6488087	100	0.8119515	100	0.8176949	100	0.8667001	100	0.665459	100	0.8078955
13C12-1,2,3,4,6,7,8-HpCDD	100	0.724191	100	0.8737196	100	0.9555336	100	0.9094052	100	0.7229358	100	0.8549505
13C12-OCDD	200	0.701507	200	0.6312376	200	0.823691	200	0.8980531	200	0.7066522	200	0.8436876
37Cl4-2,3,7,8-TCDD	0.1	1.576039	0.5	1.320077	2	1.177166	10	1.132717	40	1.2366	200	1.284223
13C12-1,2,3,4-TCDD	100	1	100	1	100	1	100	1	100	1	100	1
13C12-1,2,3,7,8,9-HxCDD	100	1	100	1	100	1	100	1	100	1	100	1

INITIAL CALIBRATION DATA

EPA 1613B

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GC00015	Instrument:	AUTOSPEC01
Calibration Date:	03/03/2023	Column (1):	RTX-Dioxin2

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
2,3,7,8-TCDF	0.7015272	2.1			RSD ()	
2,3,7,8-TCDD	1.148662	2.3			RSD ()	
1,2,3,7,8-PeCDF	0.67923	7.0			RSD ()	
2,3,4,7,8-PeCDF	0.7861704	2.6			RSD ()	
1,2,3,7,8-PeCDD	1.021845	4.5			RSD ()	
1,2,3,4,7,8-HxCDF	1.166038	2.4			RSD ()	
1,2,3,6,7,8-HxCDF	1.090741	4.5			RSD ()	
2,3,4,6,7,8-HxCDF	1.139699	5.0			RSD ()	
1,2,3,7,8,9-HxCDF	1.137093	2.8			RSD ()	
1,2,3,4,7,8-HxCDD	0.9955689	4.4			RSD ()	
1,2,3,6,7,8-HxCDD	1.000938	2.7			RSD ()	
1,2,3,7,8,9-HxCDD	0.9071139	6.0			RSD ()	
1,2,3,4,6,7,8-HpCDF	1.002993	4.9			RSD ()	
1,2,3,4,7,8,9-HpCDF	0.9531152	5.8			RSD ()	
1,2,3,4,6,7,8-HpCDD	1.039013	4.1			RSD ()	
OCDF	0.7778078	6.7			RSD ()	
OCDD	0.9199537	5.8			RSD ()	
13C12-2,3,7,8-TCDF	1.620196	4.4			RSD ()	
13C12-2,3,7,8-TCDD	1.152409	3.8			RSD ()	
13C12-1,2,3,7,8-PeCDF	1.240452	15.9			RSD ()	
13C12-2,3,4,7,8-PeCDF	1.117786	17.7			RSD ()	
13C12-1,2,3,7,8-PeCDD	0.8288129	18.3			RSD ()	
13C12-1,2,3,4,7,8-HxCDF	1.168305	14.9			RSD ()	
13C12-1,2,3,6,7,8-HxCDF	1.386466	11.8			RSD ()	
13C12-2,3,4,6,7,8-HxCDF	1.129256	5.0			RSD ()	
13C12-1,2,3,7,8,9-HxCDF	0.9317541	3.4			RSD ()	
13C12-1,2,3,4,7,8-HxCDD	0.9950393	5.9			RSD ()	
13C12-1,2,3,6,7,8-HxCDD	1.156689	6.7			RSD ()	
13C12-1,2,3,4,6,7,8-HpCDF	0.8952017	13.8			RSD ()	
13C12-1,2,3,4,7,8,9-HpCDF	0.7697516	11.7			RSD ()	
13C12-1,2,3,4,6,7,8-HpCDD	0.8401226	11.5			RSD ()	

INITIAL CALIBRATION DATA

EPA 1613B

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GC00015	Instrument:	AUTOSPEC01
Calibration Date:	03/03/2023	Column (1):	RTX-Dioxin2

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
13C12-OCDD	0.7674714	13.4			RSD ()	
37Cl4-2,3,7,8-TCDD	1.287804	12.2			RSD ()	
13C12-1,2,3,4-TCDD	1	0.0			RSD ()	
13C12-1,2,3,7,8,9-HxCDD	1	0.0			RSD ()	

ANALYSIS SEQUENCE

SLC0045

Instrument: AUTOSPEC01 HRGCMS Column ID: K2310
Calibration ID: GC00015 Tune File: FEB0923_1-5
EM Voltage: 350 Resolution check times : 9:51, 18:18

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Analyzed	File ID	Analyst	Comments
SLC0045-ICV1	CS3W1	QC		1	K009821		03/03/2023 09:51	23030302	PK	
SLC0045-RES1	ISCW1	QC		2	L002084		03/03/2023 10:39	23030303	PK	
SLC0045-CAL1	CSLCW	QC		3	I005460		03/03/2023 11:28	23030304	PK	
SLC0045-CAL2	CS1CW	QC		4	I005456		03/03/2023 12:23	23030305	PK	
SLC0045-CAL3	CS2CW	QC		5	I005457		03/03/2023 13:16	23030306	PK	
SLC0045-CAL4	CS3CW	QC		6	K009821		03/03/2023 14:06	23030307	PK	
SLC0045-CAL5	CS4CW	QC		7	I005458		03/03/2023 14:59	23030308	PK	
SLC0045-CAL6	CS5CW	QC		8	I005459		03/03/2023 15:47	23030309	PK	
SLC0045-SCV1	ICVCW	QC		9	H008219		03/03/2023 16:36	23030310	PK	
SLC0045-CCV1	CS3V4	QC		10	K009821		03/03/2023 17:25	23030311	PK	
SLC0045-RES2	ISCV4	QC		11	L002084		03/03/2023 18:18	23030312	PK	

Dataset: T:\Autospec\Processed Data Batch\230303ICIH.qld
Last Altered: Monday, March 06, 2023 10:57:27 Pacific Standard Time
Printed: Monday, March 06, 2023 10:58:44 Pacific Standard Time

3/6/23 PK

Event	Details	Sample ID
Process Extract		
Process Integrate		
Process Calibrate		
Process Quantify		
Dataset Created		
Peak deleted	Sample:23030304, Compound:TD, RT:26.410	1
Peak deleted	Sample:23030304, Compound:OD, RT:44.990	1
Peak deleted	Sample:23030304, Compound:TF, RT:25.774	1
Pre modification peak	Sample:23030305, Compound:TF, RT:25.774	2
Peak modified	Sample:23030305, Compound:TF, RT:25.774	2
Pre modification peak	Sample:23030304, Compound:HPD, RT:40.261	1
Peak modified	Sample:23030304, Compound:HPD, RT:40.261	1
Peak deleted	Sample:23030308, Compound:PF, RT:32.328	5
Peak deleted	Sample:23030309, Compound:PF, RT:32.307	6
Peak deleted	Sample:23030309, Compound:HF, RT:33.220	6
Peak deleted	Sample:23030309, Compound:TD, RT:27.017	6
Peak deleted	Sample:23030309, Compound:PD, RT:31.995	6
Peak deleted	Sample:23030309, Compound:PD, RT:31.917	6
Peak deleted	Sample:23030308, Compound:HD, RT:34.000	5
Peak deleted	Sample:23030308, Compound:HPD, RT:39.225	5
Peak deleted	Sample:23030309, Compound:HPD, RT:39.214	6
Pre modification peak	Sample:23030305, Compound:OF, RT:45.237	2
Peak modified	Sample:23030305, Compound:OF, RT:45.237	2
Dataset Saved	Saved to 'T:\Autospec\Processed Data Batch\230303ICIH.qld'	

Dataset: T:\Autospec\Processed Data Batch\230303IHOP.qld
Last Altered: Monday, March 06, 2023 11:36:30 Pacific Standard Time
Printed: Monday, March 06, 2023 11:37:17 Pacific Standard Time

Method: T:\Autospec\Methods\Dioxin230303.mdb 03 Mar 2023 14:58:50
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 10:57:27

ID: CS3W1, Name: 23030302, Date: 03-Mar-2023, Time: 09:51:40, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.788	1.001	4.469e4	5.839e4	0.702	0.765	0.770	894	1638	6.87e5	9.09e5	769.3	554.8	NO	bb	bb	9.550
12378-PeCDF	29.956	1.001	2.355e5	1.540e5	0.679	1.529	1.550	2187	1572	3.61e6	2.40e6	1652.4	1526.9	NO	bb	bb	49.641
23478-PeCDF	31.293	1.001	2.214e5	1.482e5	0.786	1.494	1.550	2187	1572	3.41e6	2.30e6	1560.8	1464.8	NO	bb	bb	47.528
123478-HxCDF	34.914	1.001	2.600e5	2.102e5	1.166	1.237	1.240	1592	1910	4.13e6	3.31e6	2594.2	1730.9	NO	bd	bd	47.118
234678-HxCDF	35.917	1.001	2.733e5	2.175e5	1.140	1.257	1.240	1592	1910	4.33e6	3.47e6	2719.2	1818.9	NO	bb	bb	49.341
123678-HxCDF	35.048	1.000	2.727e5	2.151e5	1.091	1.268	1.240	1592	1910	4.23e6	3.33e6	2659.9	1743.3	NO	db	db	49.569
123789-HxCDF	36.941	1.000	2.420e5	1.912e5	1.137	1.266	1.240	1592	1910	3.95e6	3.13e6	2482.2	1637.3	NO	bb	bb	46.959
1234678-HpCDF	38.780	1.000	1.767e5	1.776e5	1.003	0.995	1.050	1849	2300	2.99e6	3.02e6	1618.0	1311.0	NO	bb	bb	47.490
1234789-HpCDF	41.019	1.000	1.595e5	1.575e5	0.953	1.013	1.050	1849	2300	2.36e6	2.33e6	1274.2	1012.6	NO	bb	bb	50.221
OCDF	45.246	1.005	2.326e5	2.612e5	0.778	0.891	0.890	910	1225	2.82e6	3.14e6	3100.2	2559.9	NO	bb	bb	88.591
2378-TCDD	26.438	1.001	5.709e4	7.150e4	1.149	0.798	0.770	1506	757	9.09e5	1.12e6	603.1	1485.0	NO	bb	bb	9.450
12378-PeCDD	31.549	1.001	2.156e5	1.424e5	1.022	1.514	1.550	2044	1419	3.32e6	2.17e6	1626.0	1530.4	NO	bb	bb	49.654
123478-HxCDD	36.028	1.000	2.225e5	1.815e5	0.996	1.226	1.240	1845	1377	3.65e6	2.93e6	1979.4	2130.4	NO	bd	bd	50.053
123678-HxCDD	36.150	1.000	2.361e5	1.995e5	1.001	1.184	1.240	1845	1377	3.83e6	3.15e6	2076.5	2285.7	NO	db	db	49.648
123789-HxCDD	36.529	1.011	2.267e5	1.883e5	0.907	1.204	1.240	1845	1377	3.65e6	3.02e6	1979.8	2191.3	NO	bb	bb	54.229
1234678-HpCDD	40.284	1.001	1.918e5	1.891e5	1.039	1.015	1.050	2026	1655	2.99e6	2.92e6	1477.4	1764.9	NO	bb	bb	47.619
OCDD	45.008	1.000	3.015e5	3.475e5	0.920	0.868	0.890	1418	1100	3.70e6	4.29e6	2606.9	3904.9	NO	bb	bb	98.432
13C-2378-TCDF	25.774	1.007	6.611e5	8.775e5	1.620	0.753	0.770	2458	1918	1.00e7	1.34e7	4080.0	6997.2	NO	bb	bb	94.015
13C-12378-PeCDF	29.934	1.169	6.937e5	4.618e5	1.240	1.502	1.550	2176	1857	1.07e7	7.10e6	4925.2	3826.5	NO	bb	bb	92.213
13C-23478-PeCDF	31.271	1.221	5.928e5	3.963e5	1.118	1.496	1.550	2176	1857	9.20e6	6.25e6	4229.1	3368.5	NO	bb	bb	87.601
13C-123478-HxCDF	34.891	0.955	2.871e5	5.687e5	1.168	0.505	0.510	1657	1593	4.56e6	9.04e6	2750.7	5674.1	NO	bd	bd	84.013
13C-123678-HxCDF	35.036	0.959	3.069e5	5.954e5	1.386	0.515	0.510	1657	1593	4.75e6	9.14e6	2868.0	5738.5	NO	db	db	74.642
13C-234678-HxCDF	35.894	0.983	2.954e5	5.775e5	1.129	0.512	0.510	1657	1593	4.85e6	9.48e6	2926.1	5951.0	NO	bb	bb	88.651
13C-123789-HxCDF	36.930	1.011	2.724e5	5.390e5	0.932	0.505	0.510	1657	1593	4.39e6	8.57e6	2648.2	5379.8	NO	bb	bb	99.871
13C-1234678-HpCDF	38.769	1.062	2.262e5	5.177e5	0.895	0.437	0.440	2036	2545	3.83e6	8.70e6	1881.8	3416.5	NO	bb	bb	95.295
13C-1234789-HpCDF	41.008	1.123	1.995e5	4.627e5	0.770	0.431	0.440	2036	2545	2.95e6	6.70e6	1450.8	2632.3	NO	bb	bb	98.667
13C-1234-TCDD	25.605	0.000	4.500e5	5.601e5	1.000	0.803	0.770	1910	1117	7.08e6	8.81e6	3705.2	7891.1	NO	bb	bb	100.000
13C-2378-TCDD	26.424	1.032	5.241e5	6.605e5	1.152	0.794	0.770	1910	1117	7.92e6	9.96e6	4144.8	8917.7	NO	bb	bb	101.762
13C-12378-PeCDD	31.527	1.231	4.348e5	2.708e5	0.829	1.606	1.550	951	872	6.72e6	4.16e6	7062.4	4771.1	NO	bb	bb	84.283
13C-123478-HxCDD	36.017	0.986	4.575e5	3.533e5	0.995	1.295	1.240	1714	1036	7.67e6	5.90e6	4475.1	5696.2	NO	bd	bd	93.458
13C-123678-HxCDD	36.139	0.990	4.929e5	3.835e5	1.157	1.285	1.240	1714	1036	7.72e6	6.07e6	4504.9	5859.4	NO	db	db	86.905
13C-1234678-HpCDD	40.262	1.103	3.870e5	3.828e5	0.840	1.011	1.050	1736	1260	5.92e6	5.62e6	3411.3	4462.2	NO	bb	bb	105.085
13C-OCDD	44.999	1.232	6.781e5	7.554e5	0.767	0.898	0.890	1440	1232	8.22e6	9.13e6	5710.3	7413.0	NO	bb	bb	214.218
13C-123789-HxCDD	36.518	0.000	4.889e5	3.830e5	1.000	1.277	1.240	1714	1036	7.91e6	6.13e6	4618.2	5918.8	NO	bb	bb	100.000
37CL-2378-TCDD	26.438	1.033	1.177e5		1.288			2053		1.80e6		877.6			bb		9.046

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Last Altered: Monday, March 06, 2023 11:36:30 Pacific Standard Time
Printed: Monday, March 06, 2023 11:37:17 Pacific Standard Time

ID: CS3W1, Name: 23030302, Date: 03-Mar-2023, Time: 09:51:40, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF	22.285	0.865	4.825e4	6.619e4	0.802	0.729	0.770	894	1638	7.69e5	1.08e6	860.8	657.5	NO	bb	bb	9.280
1289-TCDF	27.286	1.059	4.233e4	5.922e4	0.678	0.715	0.770	894	1638	6.48e5	8.96e5	725.0	547.0	NO	db	db	9.735
13468-PECDF	27.145	0.907	4.529e5	2.964e5	1.246	1.528	1.550	639	866	7.07e6	4.64e6	11052.6	5356.5	NO	bb	bb	52.031
12389-PECDF	32.329	1.080	1.727e5	1.137e5	0.496	1.519	1.550	2187	1572	2.66e6	1.70e6	1217.2	1080.5	NO	bb	bb	49.938
123468-HXCDF	33.243	0.953	2.450e5	1.964e5	1.169	1.248	1.240	1592	1910	3.71e6	2.99e6	2333.1	1567.3	NO	bb	bb	44.113
1368-TCDD	23.571	0.892	5.082e4	6.674e4	1.015	0.761	0.770	1506	757	8.30e5	1.09e6	551.2	1438.0	NO	bb	bb	9.774
1289-TCDD	27.031	1.023	4.817e4	6.482e4	0.909	0.743	0.770	1506	757	7.39e5	9.76e5	490.7	1289.2	NO	bb	bb	10.496
12479-PECDD	28.831	0.914	4.117e5	2.743e5	2.301	1.501	1.550	2044	1419	3.99e6	2.64e6	1950.7	1862.6	NO	bb	bb	42.238
12389-PECDD	31.939	1.013	2.280e5	1.502e5	1.184	1.518	1.550	2044	1419	3.50e6	2.32e6	1711.4	1633.6	NO	bb	bb	45.288
124679-HXCDD	34.022	0.945	2.111e5	1.738e5	1.115	1.214	1.240	1845	1377	3.36e6	2.72e6	1819.4	1971.8	NO	bb	bb	42.563
1234679-HPCDD	39.236	0.975	2.063e5	2.043e5	1.137	1.010	1.050	2026	1655	3.38e6	3.38e6	1668.0	2041.4	NO	bb	bb	46.924
Total-tetrafurans			1.368e5		0.727			894		2.13e6							28.888
Total-penta1			4.529e5					639		7.07e6							52.031
Total-pentafurans			6.685e5		0.654			2187		1.03e7							156.333
Total-hexafurans			1.293e6		1.141			1592		2.04e7							237.100
Total-heptafurans			3.381e5		0.978			1849		5.38e6							98.217
Total-Furans			3.122e6		0.922			894		4.80e7							661.160
Total-tetradioxins			2.626e5		1.024			1506		3.74e6							49.711
Total-pentadioxins			8.563e5		1.502			2044		1.08e7							137.339
Total-hexadioxins			8.975e5		1.005			1845		1.45e7							196.701
Total-heptadioxins			3.982e5		1.088			2026		6.38e6							94.566
Total-Dioxins			2.716e6		1.130			1506		3.92e7							576.750
Total-TEQ			5.838e6					1506		8.72e7							1237.909
FUNCTION1 PFK			0.000e0					705807		0.00e0							
FUNCTION2 PFK			1.098e6					272509		2.65e6							0.000
FUNCTION3 PFK			8.030e5					419872		3.44e6							0.000
FUNCTION4 PFK			2.346e5					346452		6.90e6							
FUNCTION5 PFK			5.429e4					176842		2.44e6							
FUNCTION1 HXCD...			8.708e2					511		1.38e4							0.000
FUNCTION1 HPCD...																	
FUNCTION2 HPCD...			1.374e3					1181		2.70e4							0.000
FUNCTION3 OCDPE			4.232e2					570		6.10e3							0.000
FUNCTION4 NCDPE			7.938e2					683		4.57e3							0.000
FUNCTION5 DCDPE			0.000e0					526		0.00e0							

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Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 10:57:27

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TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.29	4.233e4	5.922e4	0.678	0.71	0.77	725.0	YES	NO	db	db	9.735
2	Total-tetrafurans	27.16	6.976e2	1.059e3	0.727	0.66	0.77	14.1	YES	NO	bd	bd	0.157
3	2378-TCDF	25.79	4.469e4	5.839e4	0.702	0.77	0.77	769.3	YES	NO	bb	bb	9.550
4	Total-tetrafurans	24.88	4.805e2	5.664e2	0.727	0.85	0.77	7.5	YES	NO	bb	bb	0.094
5	Total-tetrafurans	24.57	3.491e2	4.664e2	0.727	0.75	0.77	6.2	YES	NO	bd	bd	0.073
6	1368-TCDF	22.29	4.825e4	6.619e4	0.802	0.73	0.77	860.8	YES	NO	bb	bb	9.280

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	27.14	4.529e5	2.964e5	1.246	1.53	1.55	11052.6	YES	NO	bb	bb	52.031

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDF	29.96	2.355e5	1.540e5	0.679	1.53	1.55	1652.4	YES	NO	bb	bb	49.641
2	Total-pentafurans	28.81	3.891e4	2.579e4	0.654	1.51	1.55	273.1	YES	NO	bb	bb	9.226
3	12389-PECDF	32.33	1.727e5	1.137e5	0.496	1.52	1.55	1217.2	YES	NO	bb	bb	49.938
4	23478-PeCDF	31.29	2.214e5	1.482e5	0.786	1.49	1.55	1560.8	YES	NO	bb	bb	47.528

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.94	2.420e5	1.912e5	1.137	1.27	1.24	2482.2	YES	NO	bb	bb	46.959
2	234678-HxCDF	35.92	2.733e5	2.175e5	1.140	1.26	1.24	2719.2	YES	NO	bb	bb	49.341
3	123678-HxCDF	35.05	2.727e5	2.151e5	1.091	1.27	1.24	2659.9	YES	NO	db	db	49.569
4	123478-HxCDF	34.91	2.600e5	2.102e5	1.166	1.24	1.24	2594.2	YES	NO	bd	bd	47.118
5	123468-HXCDF	33.24	2.450e5	1.964e5	1.169	1.25	1.24	2333.1	YES	NO	bb	bb	44.113

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HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-heptafurans	41.38	1.097e2	1.037e2	0.978	1.06	1.05	1.8	NO	NO	bb	bb	0.031
2	1234789-HpCDF	41.02	1.595e5	1.575e5	0.953	1.01	1.05	1274.2	YES	NO	bb	bb	50.221
3	Total-heptafurans	39.45	1.654e3	1.420e3	0.978	1.17	1.05	14.3	YES	NO	bb	bb	0.447
4	Total-heptafurans	39.28	9.725e1	9.433e1	0.978	1.03	1.05	1.5	NO	NO	bb	bb	0.028
5	1234678-HpCDF	38.78	1.767e5	1.776e5	1.003	1.00	1.05	1618.0	YES	NO	bb	bb	47.490

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.29	4.233e4	5.922e4	0.678	0.71	0.77	725.0	YES	NO	db	db	9.735
2	Total-tetrafurans	27.16	6.976e2	1.059e3	0.727	0.66	0.77	14.1	YES	NO	bd	bd	0.157
3	2378-TCDF	25.79	4.469e4	5.839e4	0.702	0.77	0.77	769.3	YES	NO	bb	bb	9.550
4	Total-tetrafurans	24.88	4.805e2	5.664e2	0.727	0.85	0.77	7.5	YES	NO	bb	bb	0.094
5	Total-tetrafurans	24.57	3.491e2	4.664e2	0.727	0.75	0.77	6.2	YES	NO	bd	bd	0.073
6	1368-TCDF	22.29	4.825e4	6.619e4	0.802	0.73	0.77	860.8	YES	NO	bb	bb	9.280
7	12378-PeCDF	29.96	2.355e5	1.540e5	0.679	1.53	1.55	1652.4	YES	NO	bb	bb	49.641
8	Total-pentafurans	28.81	3.891e4	2.579e4	0.654	1.51	1.55	273.1	YES	NO	bb	bb	9.226
9	12389-PECDF	32.33	1.727e5	1.137e5	0.496	1.52	1.55	1217.2	YES	NO	bb	bb	49.938
10	23478-PeCDF	31.29	2.214e5	1.482e5	0.786	1.49	1.55	1560.8	YES	NO	bb	bb	47.528
11	123789-HxCDF	36.94	2.420e5	1.912e5	1.137	1.27	1.24	2482.2	YES	NO	bb	bb	46.959
12	234678-HxCDF	35.92	2.733e5	2.175e5	1.140	1.26	1.24	2719.2	YES	NO	bb	bb	49.341
13	123678-HxCDF	35.05	2.727e5	2.151e5	1.091	1.27	1.24	2659.9	YES	NO	db	db	49.569
14	123478-HxCDF	34.91	2.600e5	2.102e5	1.166	1.24	1.24	2594.2	YES	NO	bd	bd	47.118
15	123468-HXCDF	33.24	2.450e5	1.964e5	1.169	1.25	1.24	2333.1	YES	NO	bb	bb	44.113
16	Total-heptafurans	41.38	1.097e2	1.037e2	0.978	1.06	1.05	1.8	NO	NO	bb	bb	0.031
17	1234789-HpCDF	41.02	1.595e5	1.575e5	0.953	1.01	1.05	1274.2	YES	NO	bb	bb	50.221
18	Total-heptafurans	39.45	1.654e3	1.420e3	0.978	1.17	1.05	14.3	YES	NO	bb	bb	0.447
19	Total-heptafurans	39.28	9.725e1	9.433e1	0.978	1.03	1.05	1.5	NO	NO	bb	bb	0.028
20	1234678-HpCDF	38.78	1.767e5	1.776e5	1.003	1.00	1.05	1618.0	YES	NO	bb	bb	47.490
21	OCDF	45.25	2.326e5	2.612e5	0.778	0.89	0.89	3100.2	YES	NO	bb	bb	88.591
22	13468-PECDF	27.14	4.529e5	2.964e5	1.246	1.53	1.55	11052.6	YES	NO	bb	bb	52.031

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TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1368-TCDD	23.57	5.082e4	6.674e4	1.015	0.76	0.77	551.2	YES	NO	bb	bb	9.774
2	1289-TCDD	27.03	4.817e4	6.482e4	0.909	0.74	0.77	490.7	YES	NO	bb	bb	10.496
3	2378-TCDD	26.44	5.709e4	7.150e4	1.149	0.80	0.77	603.1	YES	NO	bb	bb	9.450
4	Total-tetradioxins	26.11	8.149e4	1.045e5	1.024	0.78	0.77	583.1	YES	NO	bb	bb	15.330
5	Total-tetradioxins	25.62	2.499e4	3.156e4	1.024	0.79	0.77	257.1	YES	NO	bb	bb	4.660

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDD	31.94	2.280e5	1.502e5	1.184	1.52	1.55	1711.4	YES	NO	bb	bb	45.288
2	12378-PeCDD	31.55	2.156e5	1.424e5	1.022	1.51	1.55	1626.0	YES	NO	bb	bb	49.654
3	Total-pentadioxins	30.87	1.016e3	6.817e2	1.502	1.49	1.55	7.9	YES	NO	bb	bb	0.160
4	12479-PECDD	28.83	4.117e5	2.743e5	2.301	1.50	1.55	1950.7	YES	NO	bb	bb	42.238

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDD	36.53	2.267e5	1.883e5	0.907	1.20	1.24	1979.8	YES	NO	bb	bb	54.229
2	123678-HxCDD	36.15	2.361e5	1.995e5	1.001	1.18	1.24	2076.5	YES	NO	db	db	49.648
3	123478-HxCDD	36.03	2.225e5	1.815e5	0.996	1.23	1.24	1979.4	YES	NO	bd	bd	50.053
4	Total-hexadioxins	35.14	9.946e2	7.755e2	1.005	1.28	1.24	9.3	YES	NO	db	bd	0.209
5	124679-HXCDD	34.02	2.111e5	1.738e5	1.115	1.21	1.24	1819.4	YES	NO	bb	bb	42.563

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234679-HPCDD	39.24	2.063e5	2.043e5	1.137	1.01	1.05	1668.0	YES	NO	bb	bb	46.924
2	Total-heptadioxins	40.58	1.040e2	8.729e1	1.088	1.19	1.05	2.1	NO	NO	bb	bb	0.023
3	1234678-HpCDD	40.28	1.918e5	1.891e5	1.039	1.01	1.05	1477.4	YES	NO	bb	bb	47.619

Dataset: T:\Autospec\Processed Data Batch\230303IHOP.qld
Last Altered: Monday, March 06, 2023 11:36:30 Pacific Standard Time
Printed: Monday, March 06, 2023 11:37:17 Pacific Standard Time

ID: CS3W1, Name: 23030302, Date: 03-Mar-2023, Time: 09:51:40, Conditions: AUTOSPEC01, User: pk

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1368-TCDD	23.57	5.082e4	6.674e4	1.015	0.76	0.77	551.2	YES	NO	bb	bb	9.774
2	1289-TCDD	27.03	4.817e4	6.482e4	0.909	0.74	0.77	490.7	YES	NO	bb	bb	10.496
3	2378-TCDD	26.44	5.709e4	7.150e4	1.149	0.80	0.77	603.1	YES	NO	bb	bb	9.450
4	Total-tetradioxins	26.11	8.149e4	1.045e5	1.024	0.78	0.77	583.1	YES	NO	bb	bb	15.330
5	Total-tetradioxins	25.62	2.499e4	3.156e4	1.024	0.79	0.77	257.1	YES	NO	bb	bb	4.660
6	12389-PECDD	31.94	2.280e5	1.502e5	1.184	1.52	1.55	1711.4	YES	NO	bb	bb	45.288
7	12378-PeCDD	31.55	2.156e5	1.424e5	1.022	1.51	1.55	1626.0	YES	NO	bb	bb	49.654
8	Total-pentadioxins	30.87	1.016e3	6.817e2	1.502	1.49	1.55	7.9	YES	NO	bb	bb	0.160
9	12479-PECDD	28.83	4.117e5	2.743e5	2.301	1.50	1.55	1950.7	YES	NO	bb	bb	42.238
10	123789-HxCDD	36.53	2.267e5	1.883e5	0.907	1.20	1.24	1979.8	YES	NO	bb	bb	54.229
11	123678-HxCDD	36.15	2.361e5	1.995e5	1.001	1.18	1.24	2076.5	YES	NO	db	db	49.648
12	123478-HxCDD	36.03	2.225e5	1.815e5	0.996	1.23	1.24	1979.4	YES	NO	bd	bd	50.053
13	Total-hexadioxins	35.14	9.946e2	7.755e2	1.005	1.28	1.24	9.3	YES	NO	db	bd	0.209
14	124679-HXCDD	34.02	2.111e5	1.738e5	1.115	1.21	1.24	1819.4	YES	NO	bb	bb	42.563
15	1234679-HPCDD	39.24	2.063e5	2.043e5	1.137	1.01	1.05	1668.0	YES	NO	bb	bb	46.924
16	Total-heptadioxins	40.58	1.040e2	8.729e1	1.088	1.19	1.05	2.1	NO	NO	bb	bb	0.023
17	1234678-HpCDD	40.28	1.918e5	1.891e5	1.039	1.01	1.05	1477.4	YES	NO	bb	bb	47.619
18	OCDD	45.01	3.015e5	3.475e5	0.920	0.87	0.89	2606.9	YES	NO	bb	bb	98.432

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.29	4.233e4	5.922e4	0.678	0.71	0.77	725.0	YES	NO	db	db	9.735
2	Total-tetrafurans	27.16	6.976e2	1.059e3	0.727	0.66	0.77	14.1	YES	NO	bd	bd	0.157
3	2378-TCDF	25.79	4.469e4	5.839e4	0.702	0.77	0.77	769.3	YES	NO	bb	bb	9.550
4	Total-tetrafurans	24.88	4.805e2	5.664e2	0.727	0.85	0.77	7.5	YES	NO	bb	bb	0.094
5	Total-tetrafurans	24.57	3.491e2	4.664e2	0.727	0.75	0.77	6.2	YES	NO	bd	bd	0.073
6	1368-TCDF	22.29	4.825e4	6.619e4	0.802	0.73	0.77	860.8	YES	NO	bb	bb	9.280
7	12378-PeCDF	29.96	2.355e5	1.540e5	0.679	1.53	1.55	1652.4	YES	NO	bb	bb	49.641
8	Total-pentafurans	28.81	3.891e4	2.579e4	0.654	1.51	1.55	273.1	YES	NO	bb	bb	9.226
9	12389-PECDF	32.33	1.727e5	1.137e5	0.496	1.52	1.55	1217.2	YES	NO	bb	bb	49.938
10	23478-PeCDF	31.29	2.214e5	1.482e5	0.786	1.49	1.55	1560.8	YES	NO	bb	bb	47.528
11	123789-HxCDF	36.94	2.420e5	1.912e5	1.137	1.27	1.24	2482.2	YES	NO	bb	bb	46.959
12	234678-HxCDF	35.92	2.733e5	2.175e5	1.140	1.26	1.24	2719.2	YES	NO	bb	bb	49.341
13	123678-HxCDF	35.05	2.727e5	2.151e5	1.091	1.27	1.24	2659.9	YES	NO	db	db	49.569
14	123478-HxCDF	34.91	2.600e5	2.102e5	1.166	1.24	1.24	2594.2	YES	NO	bd	bd	47.118
15	123468-HXCDF	33.24	2.450e5	1.964e5	1.169	1.25	1.24	2333.1	YES	NO	bb	bb	44.113
16	Total-heptafurans	41.38	1.097e2	1.037e2	0.978	1.06	1.05	1.8	NO	NO	bb	bb	0.031
17	1234789-HpCDF	41.02	1.595e5	1.575e5	0.953	1.01	1.05	1274.2	YES	NO	bb	bb	50.221
18	Total-heptafurans	39.45	1.654e3	1.420e3	0.978	1.17	1.05	14.3	YES	NO	bb	bb	0.447
19	Total-heptafurans	39.28	9.725e1	9.433e1	0.978	1.03	1.05	1.5	NO	NO	bb	bb	0.028
20	1234678-HpCDF	38.78	1.767e5	1.776e5	1.003	1.00	1.05	1618.0	YES	NO	bb	bb	47.490
21	OCDF	45.25	2.326e5	2.612e5	0.778	0.89	0.89	3100.2	YES	NO	bb	bb	88.591
22	13468-PECDF	27.14	4.529e5	2.964e5	1.246	1.53	1.55	11052.6	YES	NO	bb	bb	52.031
23	1368-TCDD	23.57	5.082e4	6.674e4	1.015	0.76	0.77	551.2	YES	NO	bb	bb	9.774
24	1289-TCDD	27.03	4.817e4	6.482e4	0.909	0.74	0.77	490.7	YES	NO	bb	bb	10.496
25	2378-TCDD	26.44	5.709e4	7.150e4	1.149	0.80	0.77	603.1	YES	NO	bb	bb	9.450
26	Total-tetradioxins	26.11	8.149e4	1.045e5	1.024	0.78	0.77	583.1	YES	NO	bb	bb	15.330
27	Total-tetradioxins	25.62	2.499e4	3.156e4	1.024	0.79	0.77	257.1	YES	NO	bb	bb	4.660
28	12389-PECDD	31.94	2.280e5	1.502e5	1.184	1.52	1.55	1711.4	YES	NO	bb	bb	45.288
29	12378-PeCDD	31.55	2.156e5	1.424e5	1.022	1.51	1.55	1626.0	YES	NO	bb	bb	49.654
30	Total-pentadioxins	30.87	1.016e3	6.817e2	1.502	1.49	1.55	7.9	YES	NO	bb	bb	0.160
31	12479-PECDD	28.83	4.117e5	2.743e5	2.301	1.50	1.55	1950.7	YES	NO	bb	bb	42.238
32	123789-HxCDD	36.53	2.267e5	1.883e5	0.907	1.20	1.24	1979.8	YES	NO	bb	bb	54.229
33	123678-HxCDD	36.15	2.361e5	1.995e5	1.001	1.18	1.24	2076.5	YES	NO	db	db	49.648
34	123478-HxCDD	36.03	2.225e5	1.815e5	0.996	1.23	1.24	1979.4	YES	NO	bd	bd	50.053
35	Total-hexadioxins	35.14	9.946e2	7.755e2	1.005	1.28	1.24	9.3	YES	NO	db	bd	0.209
36	124679-HXCDD	34.02	2.111e5	1.738e5	1.115	1.21	1.24	1819.4	YES	NO	bb	bb	42.563
37	1234679-HPCDD	39.24	2.063e5	2.043e5	1.137	1.01	1.05	1668.0	YES	NO	bb	bb	46.924

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	Total-heptadioxins	40.58	1.040e2	8.729e1	1.088	1.19	1.05	2.1	NO	NO	bb	bb	0.023
39	1234678-HpCDD	40.28	1.918e5	1.891e5	1.039	1.01	1.05	1477.4	YES	NO	bb	bb	47.619
40	OCDD	45.01	3.015e5	3.475e5	0.920	0.87	0.89	2606.9	YES	NO	bb	bb	98.432

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	30.96	1.058e5					1.1	NO		bb		0.000
2	FUNCTION2 PFK	30.15	5.471e5					3.7	YES		bb		0.000
3	FUNCTION2 PFK	28.28	4.455e5					4.9	YES		bb		0.000

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	35.89	2.667e5					4.7	YES		bb		0.000
2	FUNCTION3 PFK	33.03	5.362e5					3.5	YES		bb		0.000

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	38.07	4.905e4					2.0	NO		db		
2	FUNCTION4 PFK	37.96	1.071e4					1.3	NO		bd		
3	FUNCTION4 PFK	37.89	4.848e3					0.7	NO		bb		
4	FUNCTION4 PFK	42.18	1.359e4					1.2	NO		bb		
5	FUNCTION4 PFK	41.91	8.056e3					0.9	NO		db		
6	FUNCTION4 PFK	41.83	2.292e4					1.6	NO		bd		
7	FUNCTION4 PFK	41.77	1.673e4					1.5	NO		bb		
8	FUNCTION4 PFK	41.48	1.418e4					1.4	NO		bb		
9	FUNCTION4 PFK	41.32	2.104e3					0.5	NO		bb		
10	FUNCTION4 PFK	41.13	8.695e3					1.0	NO		bb		
11	FUNCTION4 PFK	40.63	8.163e3					0.8	NO		bb		
12	FUNCTION4 PFK	40.08	1.008e4					1.1	NO		db		
13	FUNCTION4 PFK	40.04	1.572e4					1.4	NO		bd		
14	FUNCTION4 PFK	39.51	7.181e3					1.0	NO		bb		
15	FUNCTION4 PFK	39.44	5.021e3					0.7	NO		bb		
16	FUNCTION4 PFK	38.96	9.511e3					1.3	NO		db		
17	FUNCTION4 PFK	38.92	2.806e4					1.5	NO		bd		

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	42.57	1.411e3					0.9	NO		bb		
2	FUNCTION5 PFK	45.95	2.307e4					3.9	YES		bb		
3	FUNCTION5 PFK	45.69	1.018e3					0.6	NO		bb		
4	FUNCTION5 PFK	45.54	1.146e3					0.7	NO		bb		
5	FUNCTION5 PFK	45.12	9.805e3					2.3	NO		bb		
6	FUNCTION5 PFK	44.83	5.276e3					1.3	NO		bb		
7	FUNCTION5 PFK	44.58	5.554e3					1.4	NO		bb		
8	FUNCTION5 PFK	44.38	2.760e3					0.9	NO		db		
9	FUNCTION5 PFK	44.35	3.252e3					1.1	NO		bd		
10	FUNCTION5 PFK	42.99	9.959e2					0.6	NO		bb		

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ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	25.01	7.970e1					3.2	YES		bb		0.000
2	FUNCTION1 HXCD...	23.47	8.919e1					3.0	YES		db		0.000
3	FUNCTION1 HXCD...	23.40	8.065e1					2.9	NO		dd		0.000
4	FUNCTION1 HXCD...	23.32	1.305e2					3.4	YES		dd		0.000
5	FUNCTION1 HXCD...	23.22	1.146e2					2.8	NO		bd		0.000
6	FUNCTION1 HXCD...	22.41	7.936e1					4.3	YES		bb		0.000
7	FUNCTION1 HXCD...	27.40	7.698e1					2.2	NO		bb		0.000
8	FUNCTION1 HXCD...	27.14	1.376e2					3.3	YES		bb		0.000
9	FUNCTION1 HXCD...	25.79	8.222e1					1.9	NO		bb		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	31.53	2.999e2					2.9	NO		bb		0.000
2	FUNCTION2 HPCD...	31.17	3.219e2					4.5	YES		bb		0.000
3	FUNCTION2 HPCD...	29.58	8.369e1					1.2	NO		db		0.000
4	FUNCTION2 HPCD...	29.50	8.185e1					1.4	NO		bd		0.000
5	FUNCTION2 HPCD...	29.43	9.066e1					2.2	NO		bb		0.000
6	FUNCTION2 HPCD...	28.26	1.049e2					2.5	NO		db		0.000
7	FUNCTION2 HPCD...	28.22	1.658e2					2.8	NO		bd		0.000
8	FUNCTION2 HPCD...	28.15	1.360e2					3.3	YES		db		0.000
9	FUNCTION2 HPCD...	28.11	8.921e1					2.1	NO		bd		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	36.53	2.562e2					6.2	YES		bb		0.000
2	FUNCTION3 OCDPE	36.14	1.671e2					4.5	YES		bb		0.000

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ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	42.04	8.282e1					2.4	NO		bb		0.000
2	FUNCTION4 NCDPE	38.07	5.777e2					4.3	YES		bb		0.000
3	FUNCTION4 NCDPE	37.82	1.333e2					0.0	NO		bb		0.000

ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

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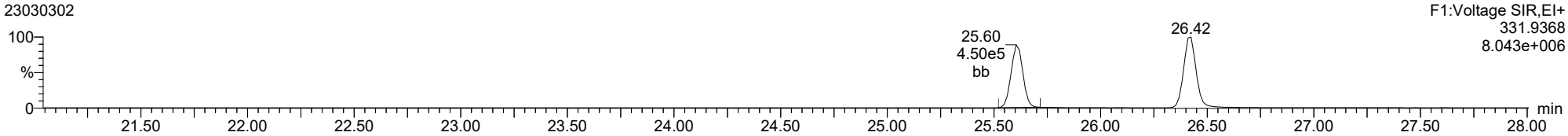
ID: CS3W1, Name: 23030302, Date: 03-Mar-2023, Time: 09:51:40, Conditions: AUTOSPEC01, User: pk

13C-1234-TCDD



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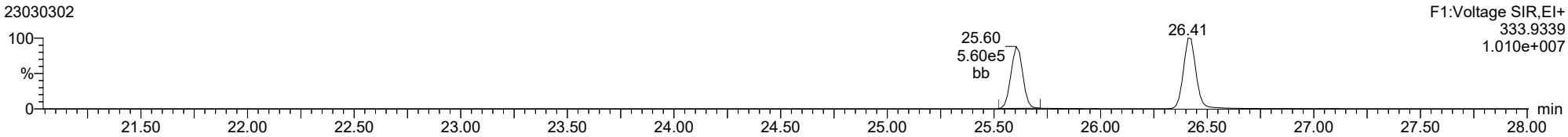

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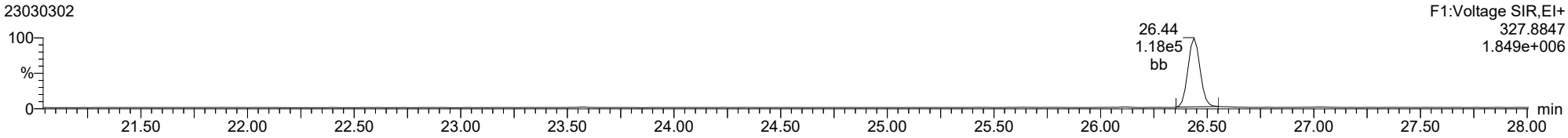

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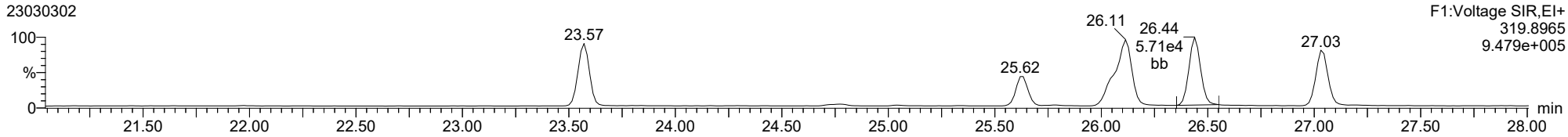

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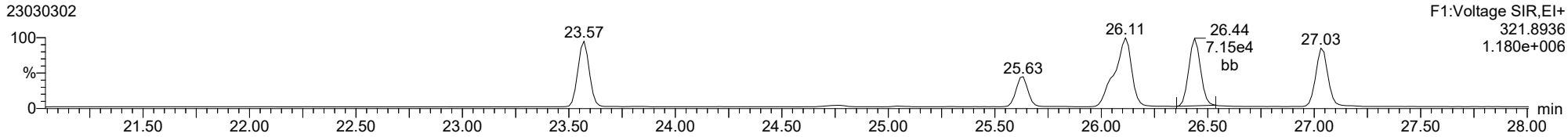

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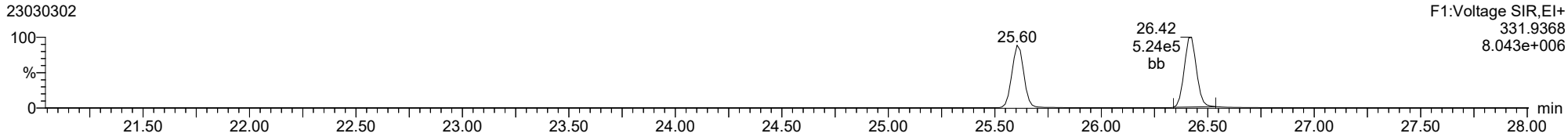

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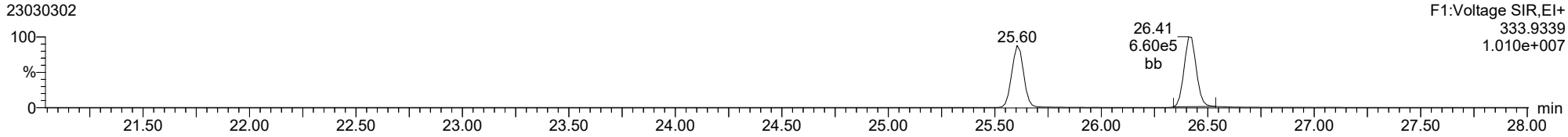

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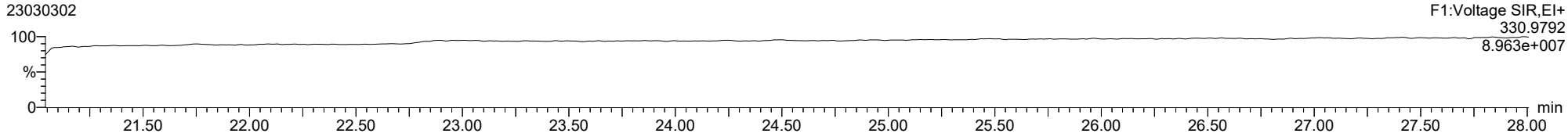

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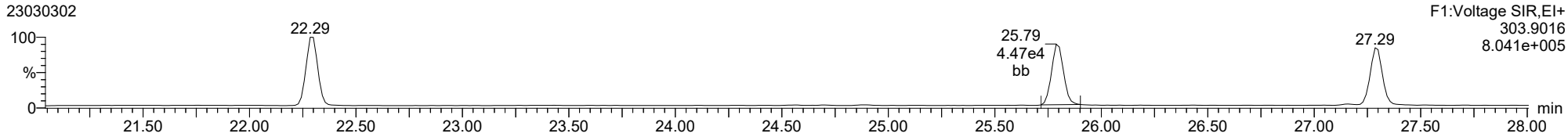
2378-TCDF



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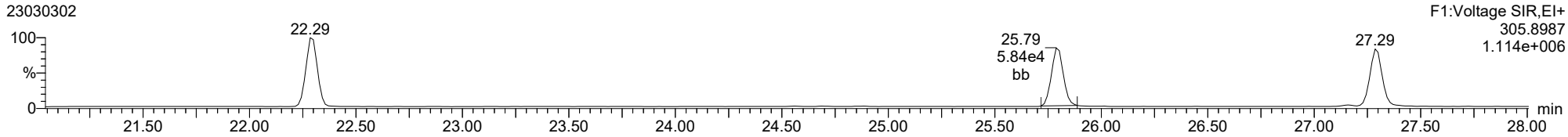

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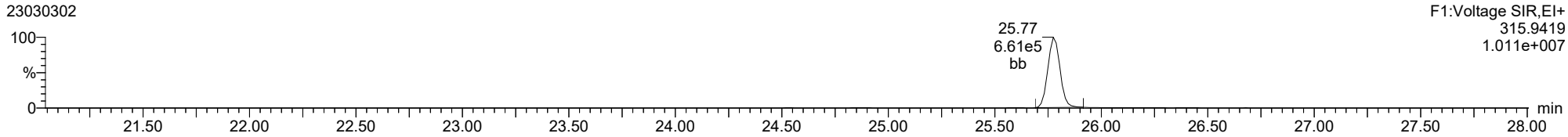
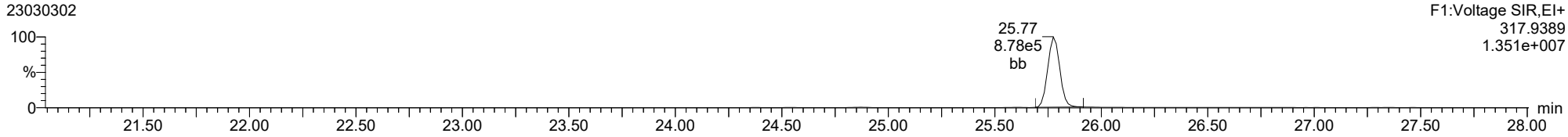


13C-2378-TCDF



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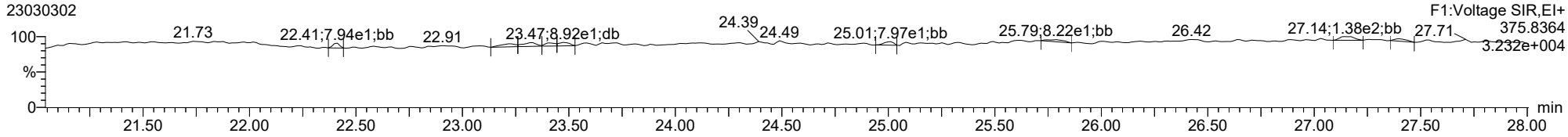

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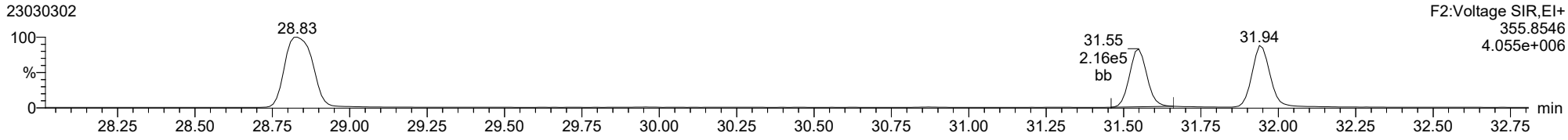
12378-PeCDD



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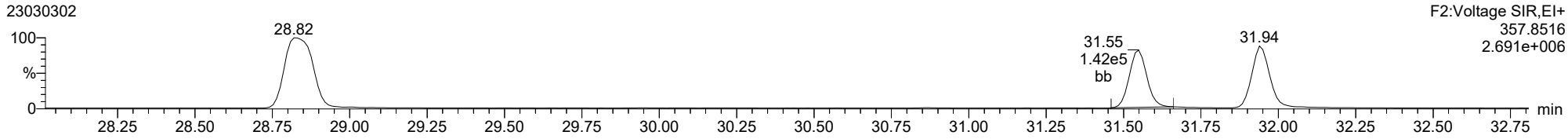

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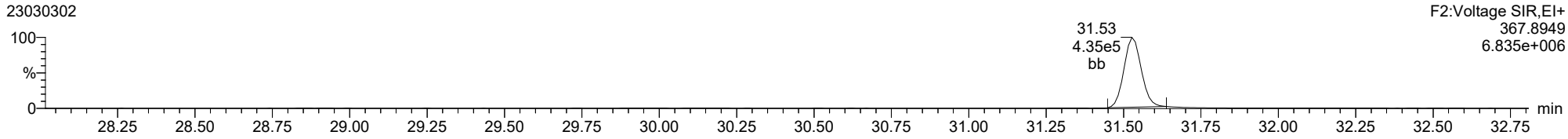

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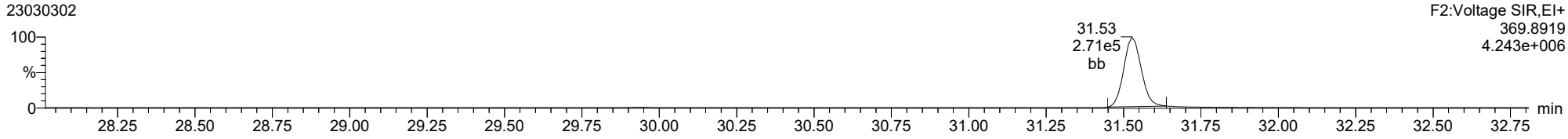
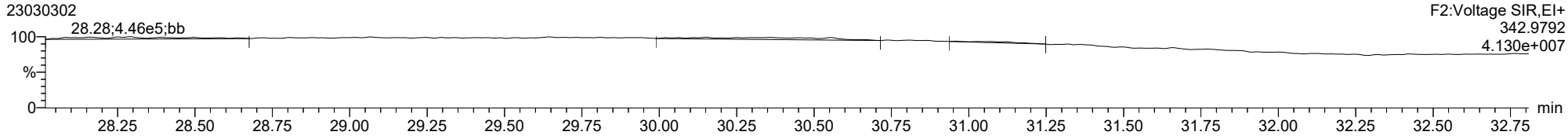


FUNCTION2 PFK



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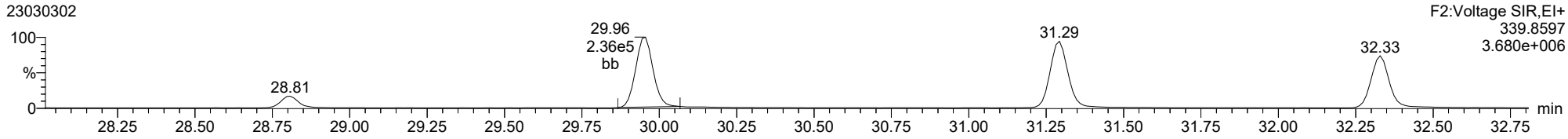
12378-PeCDF



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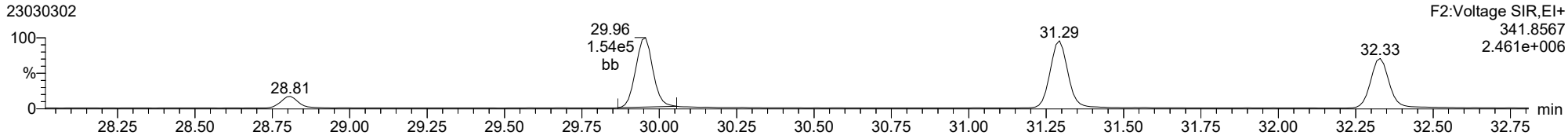

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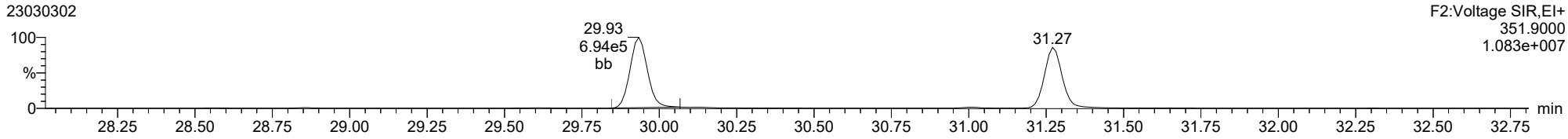

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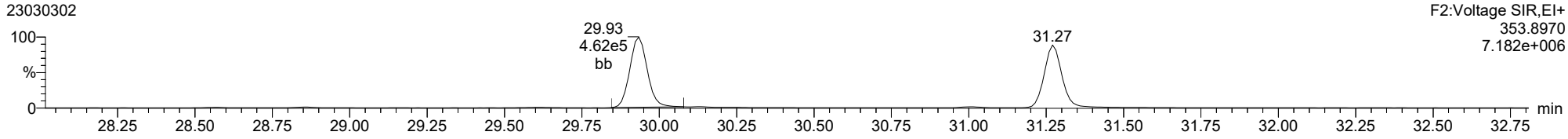
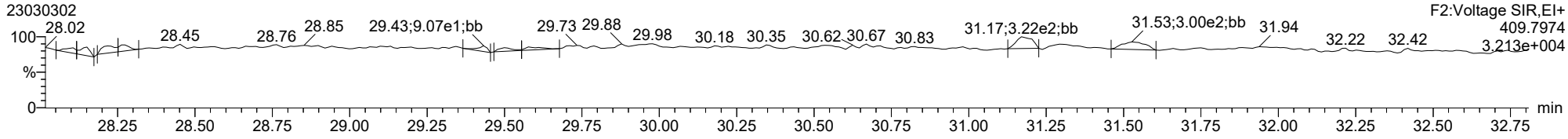


FUNCTION2 HPCDPE



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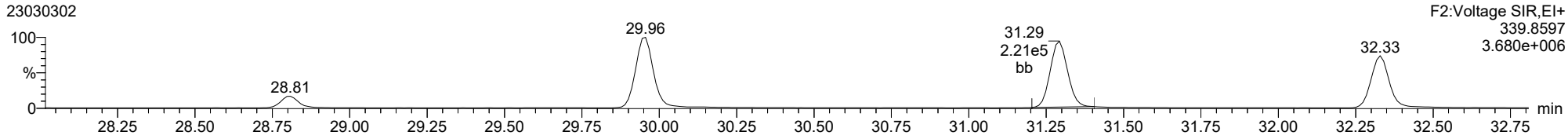
23478-PeCDF



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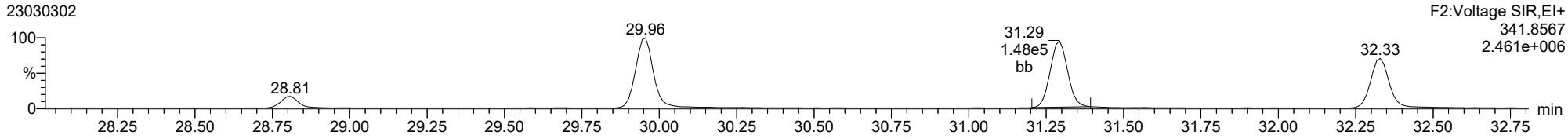

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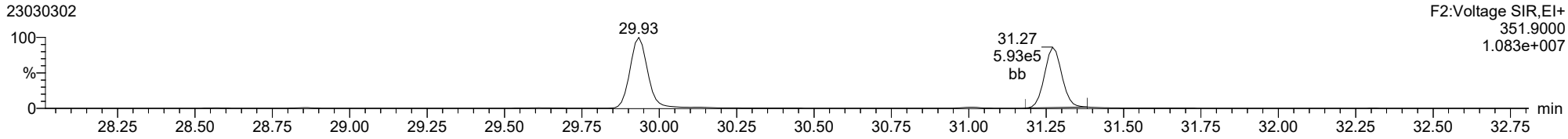

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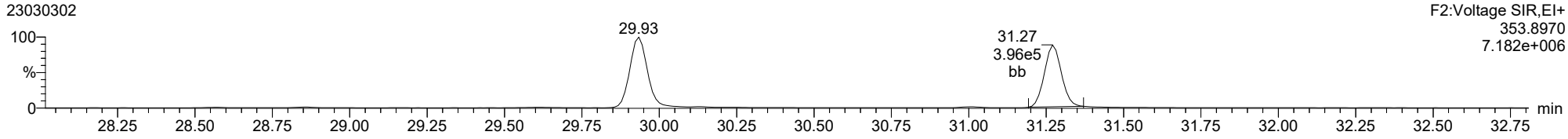
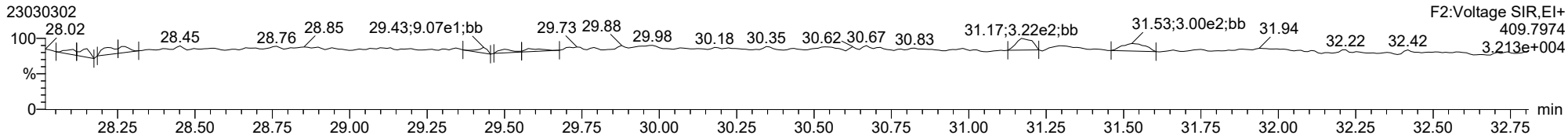


FUNCTION2 HPCDPE



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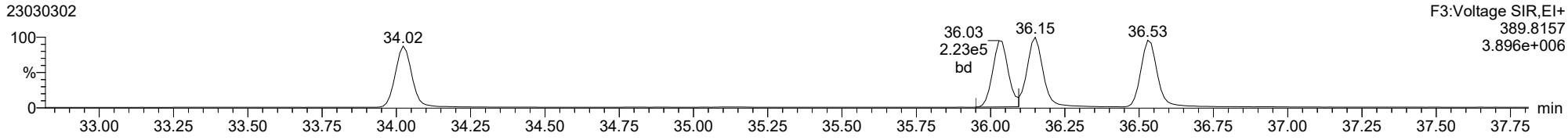
123478-HxCDD



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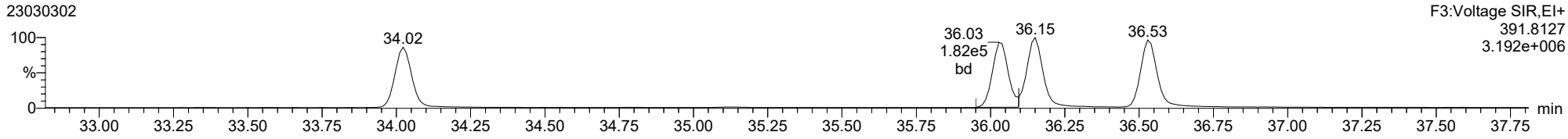

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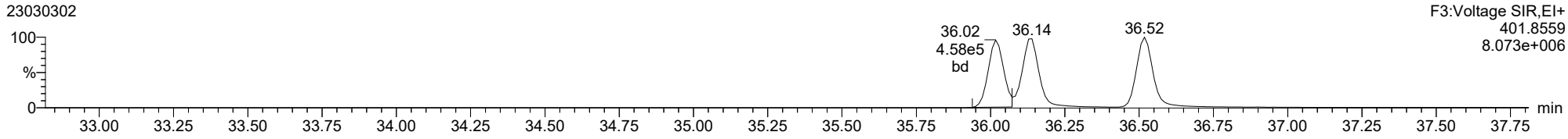

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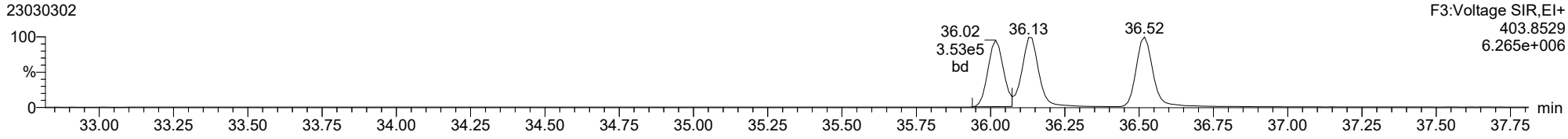
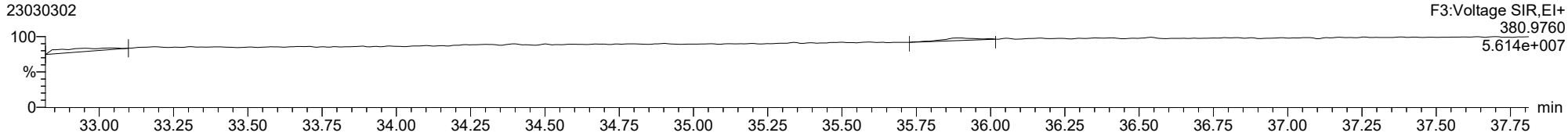


FUNCTION3 PFK



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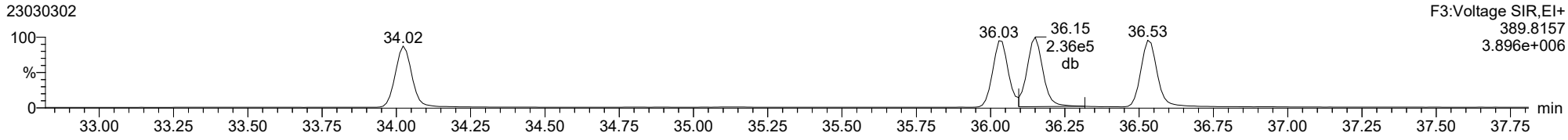

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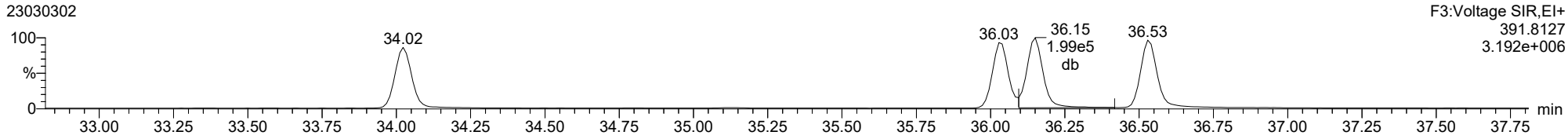

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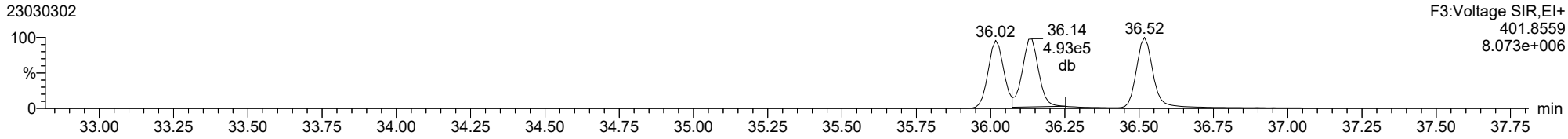

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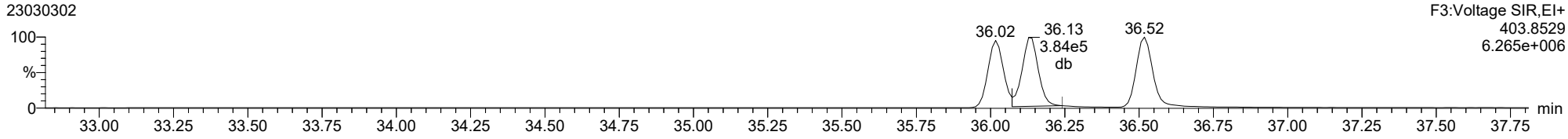

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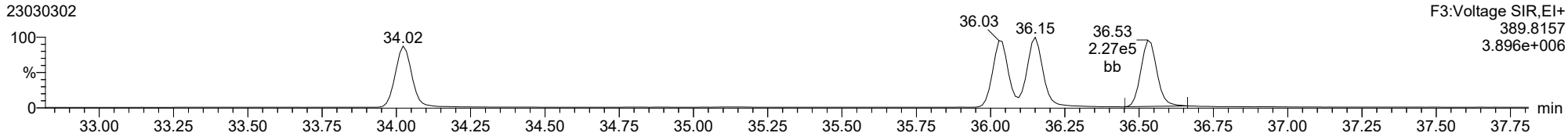

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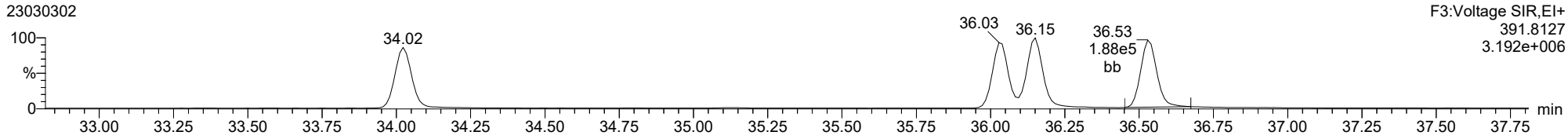

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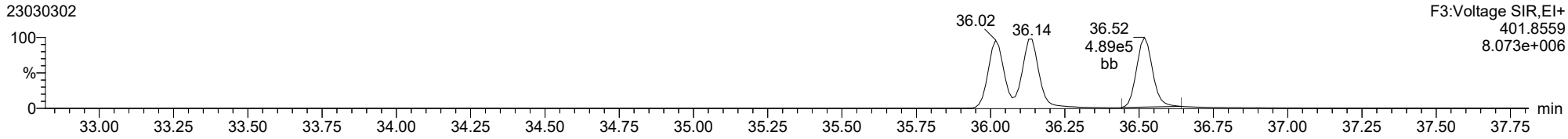

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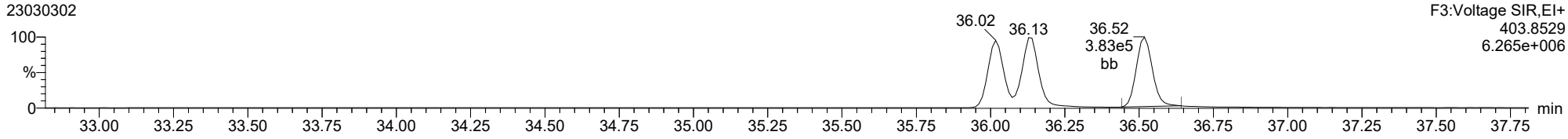

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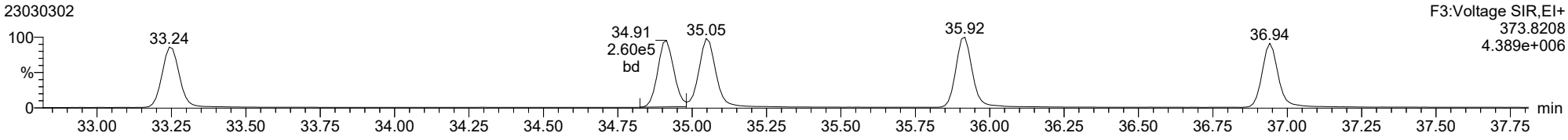

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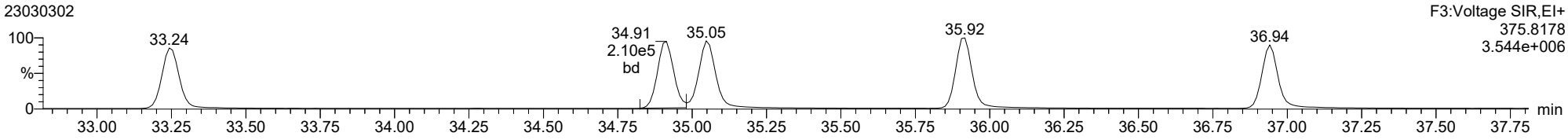

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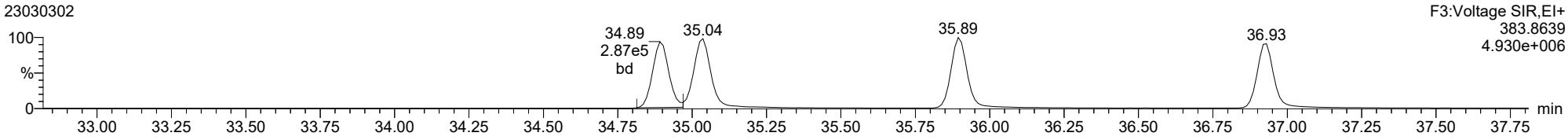

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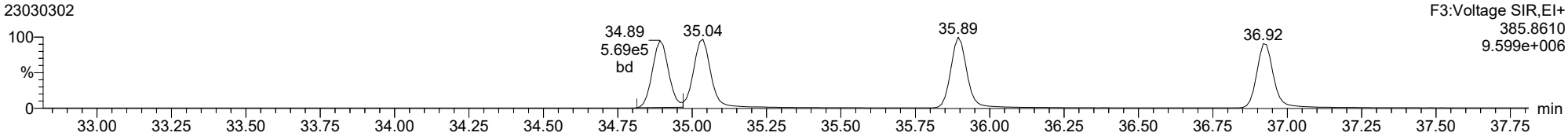
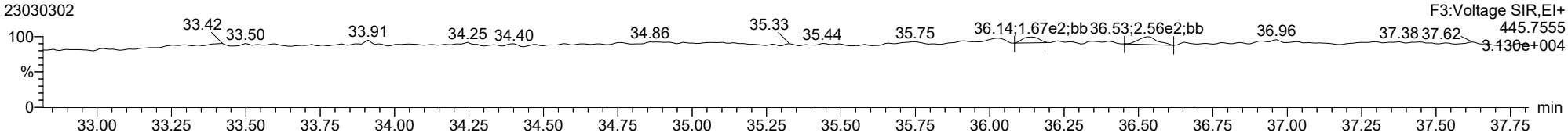


FUNCTION3 OCDPE



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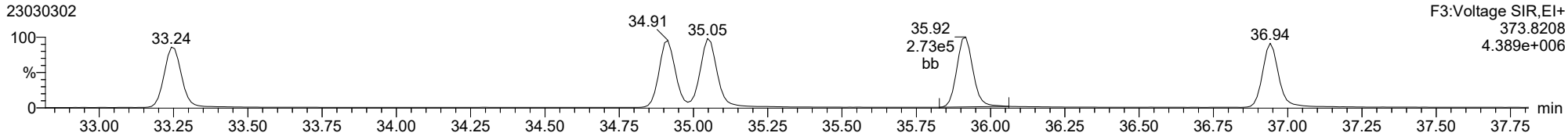
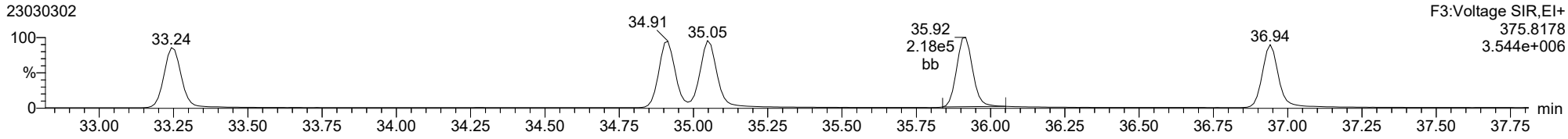
234678-HxCDF



234678-HxCDF



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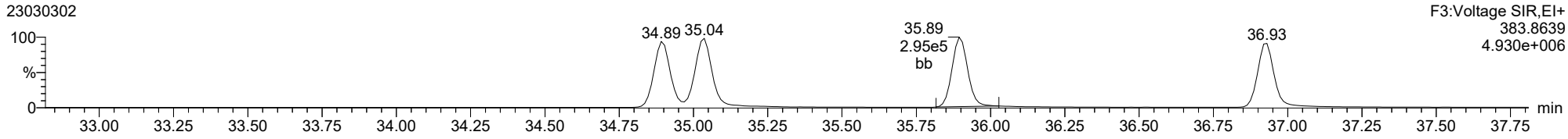

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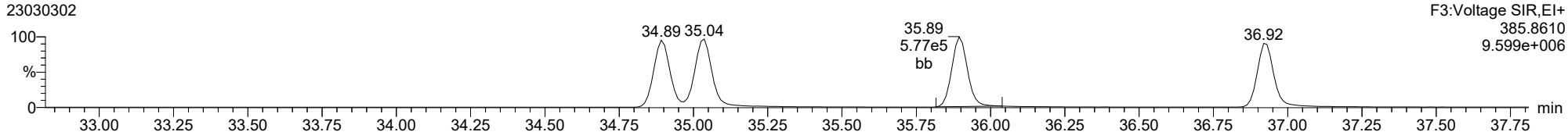
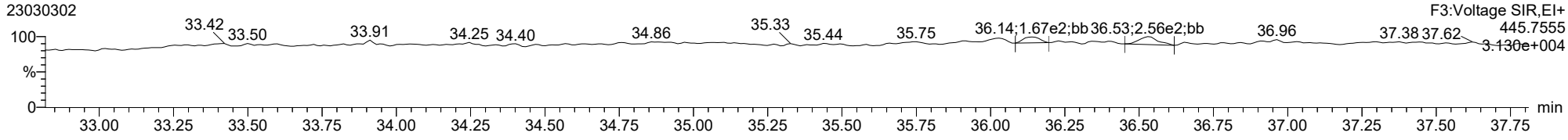


FUNCTION3 OCDPE



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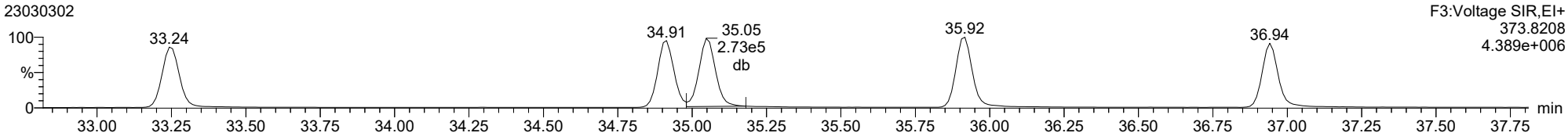
123678-HxCDF



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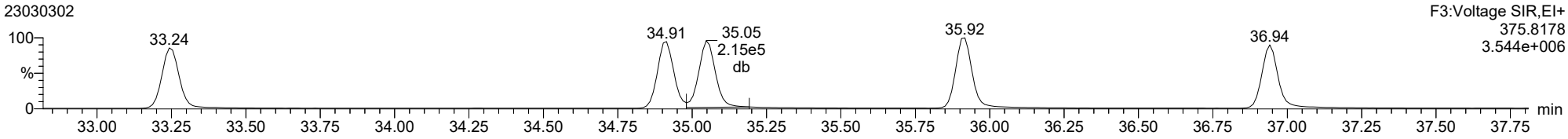

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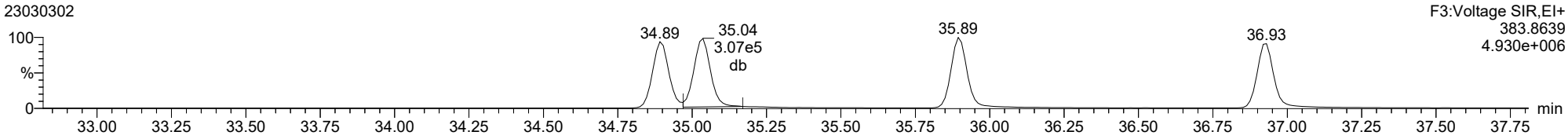

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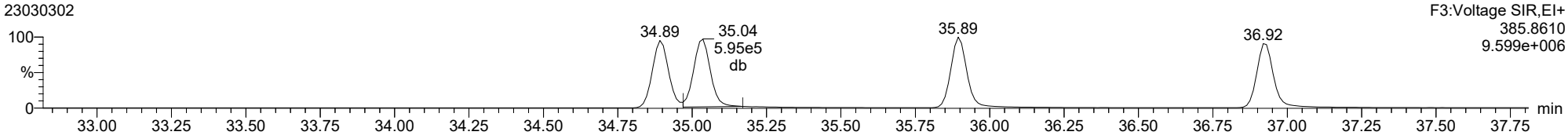
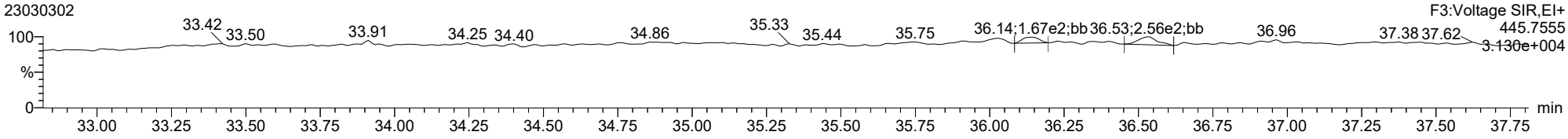


FUNCTION3 OCDPE



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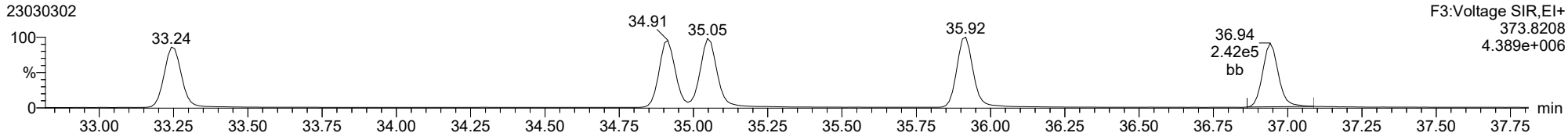
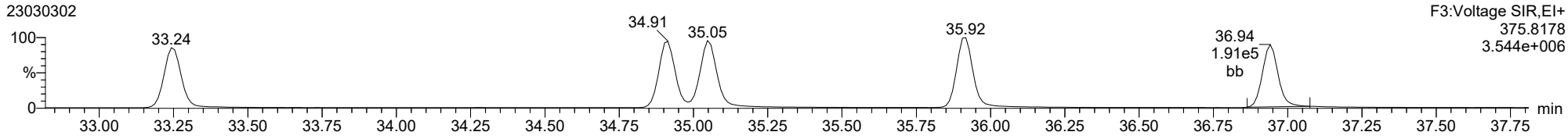


123789-HxCDF



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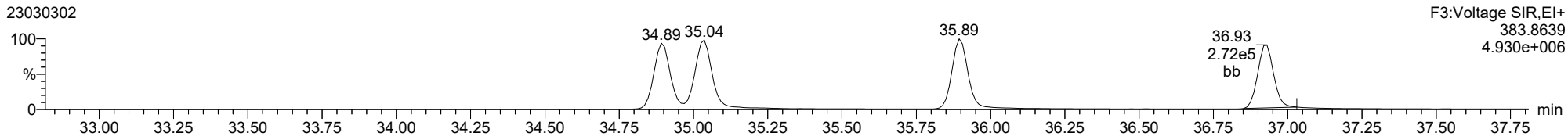

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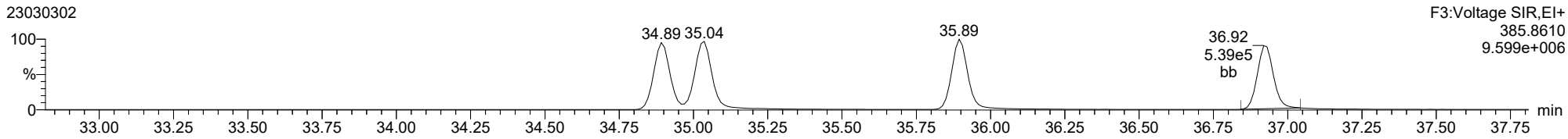
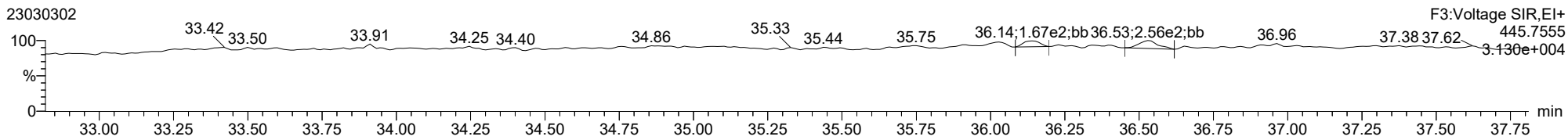


FUNCTION3 OCDPE



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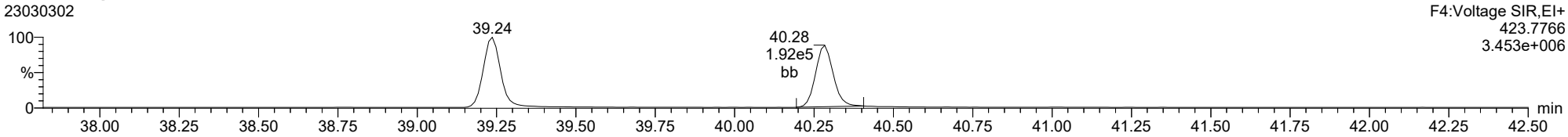
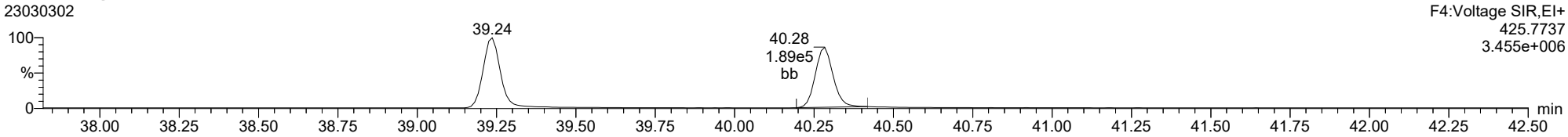
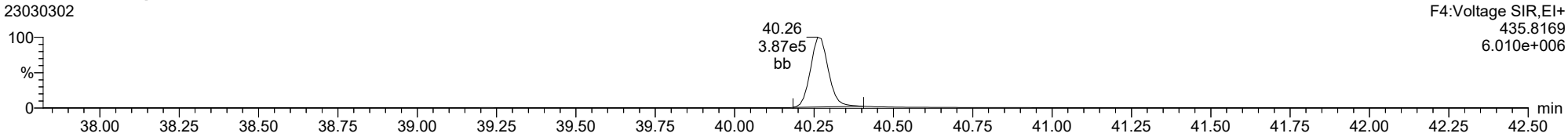
1234678-HpCDD



1234678-HpCDD



13C-1234678-HpCDD



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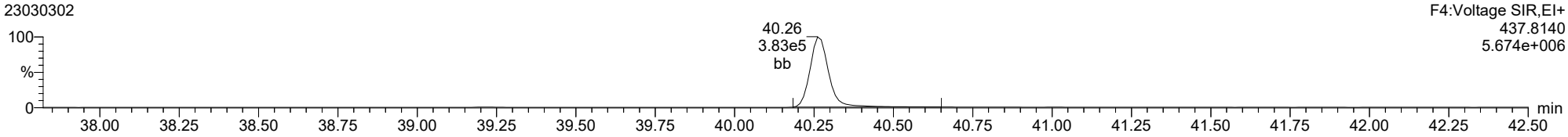
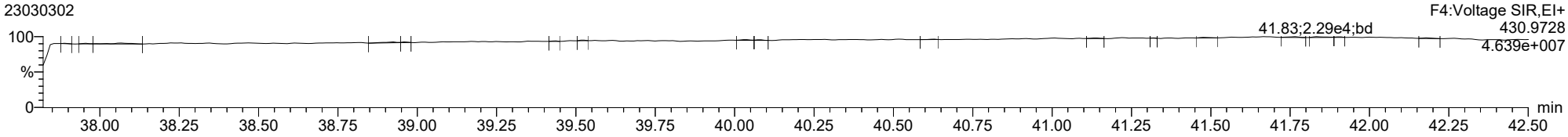


FUNCTION4 PFK



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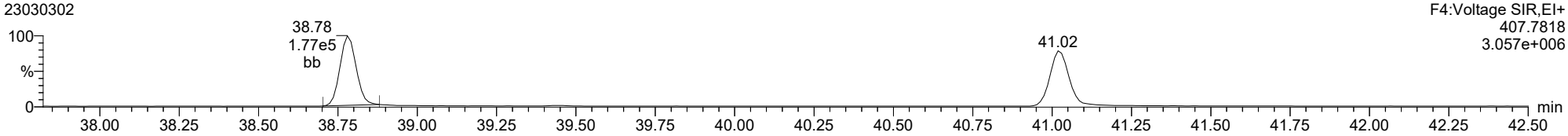
1234678-HpCDF



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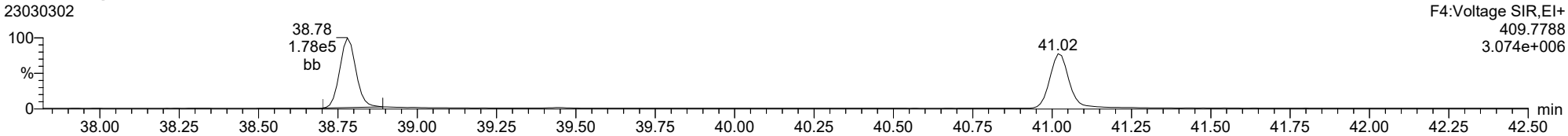

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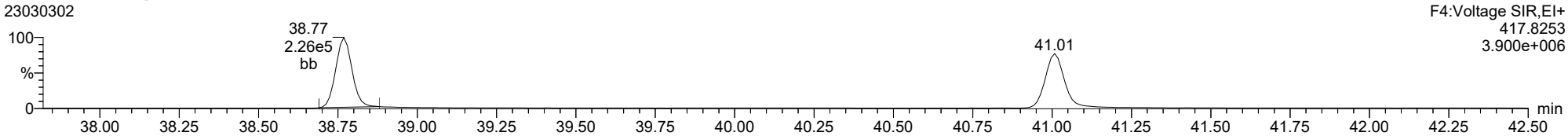

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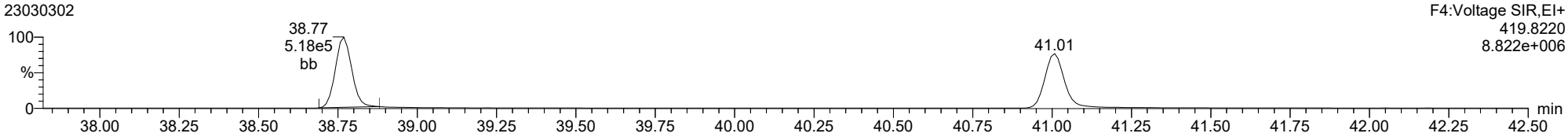

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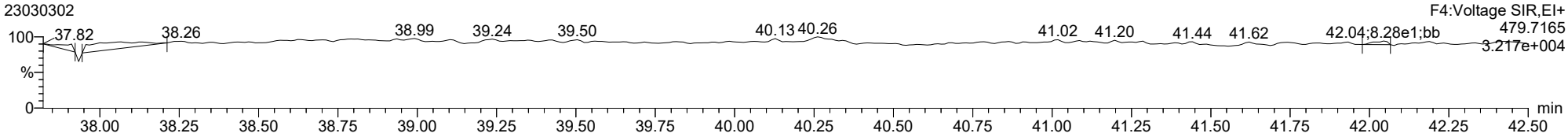

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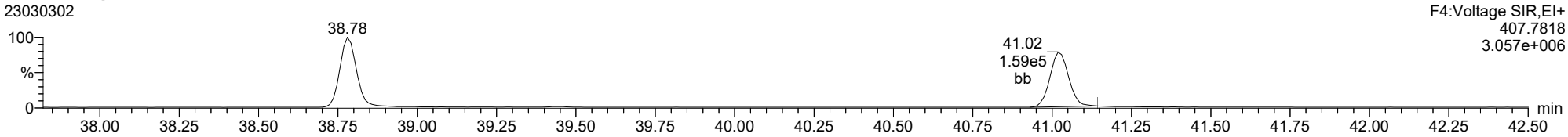
1234789-HpCDF



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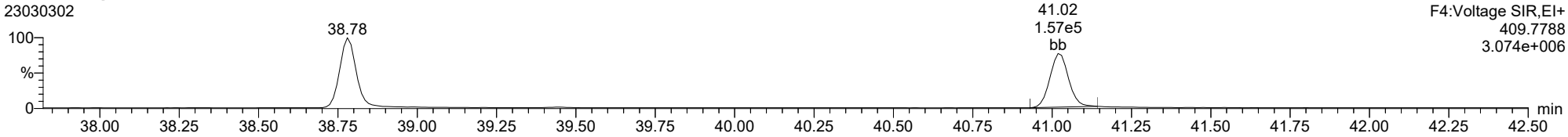

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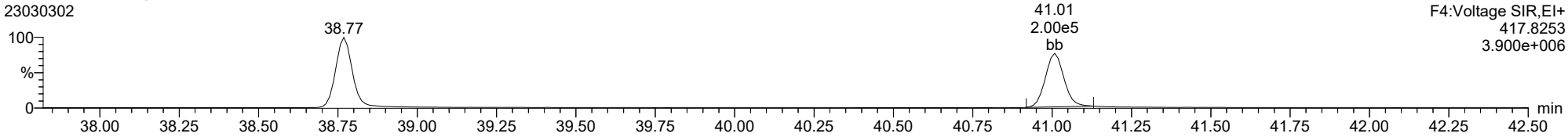

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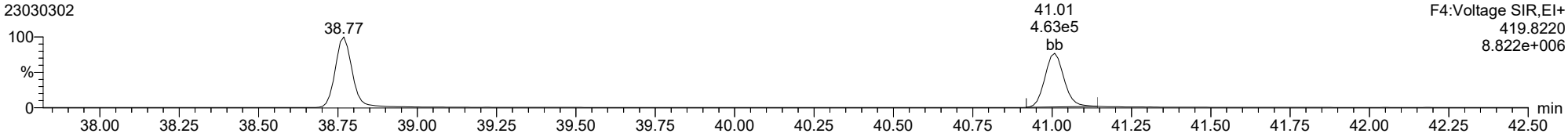
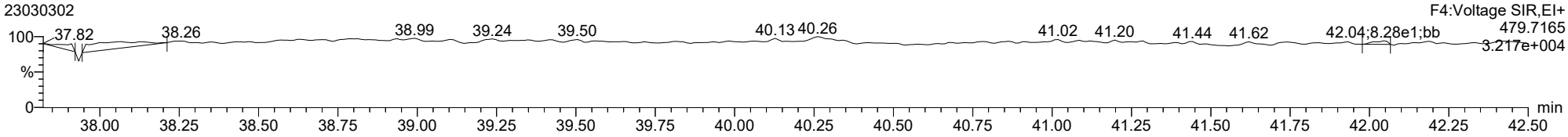


FUNCTION4 NCDPE



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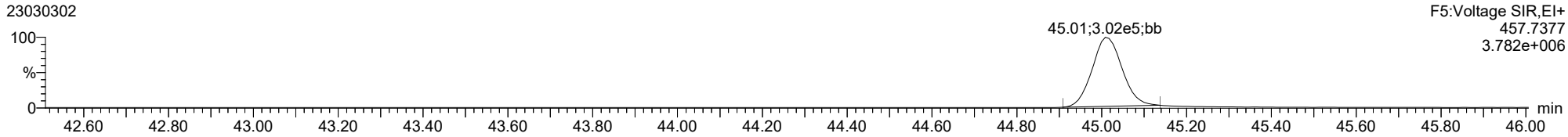
OCDD



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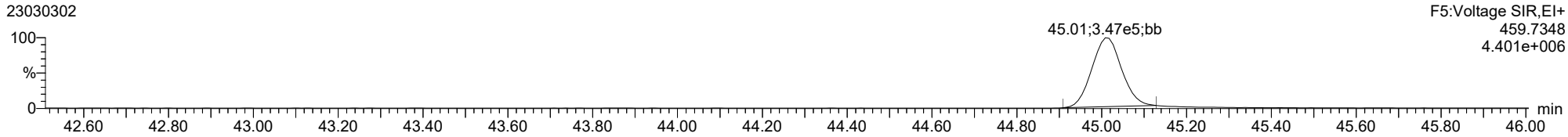

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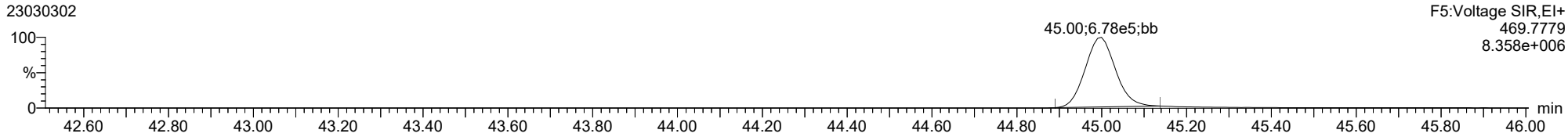

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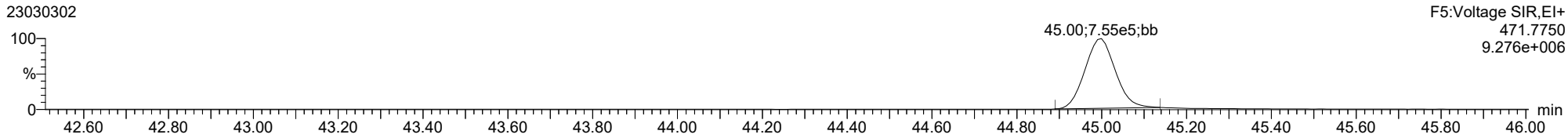
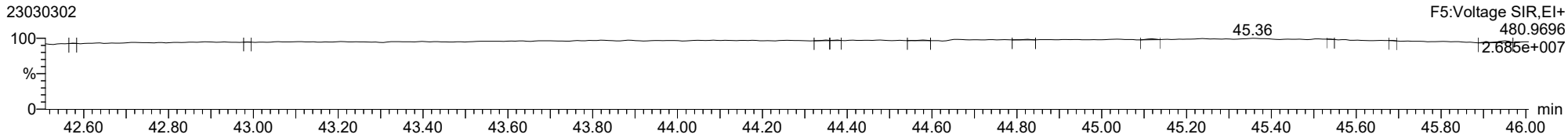


FUNCTION5 PFK



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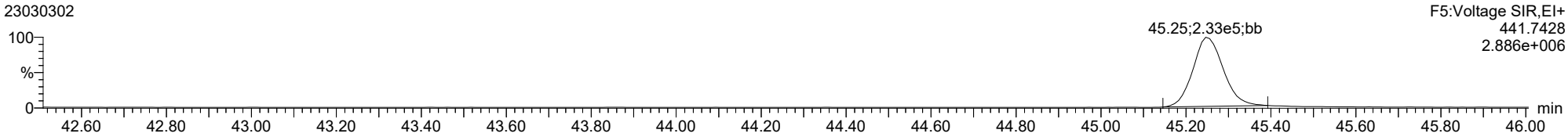
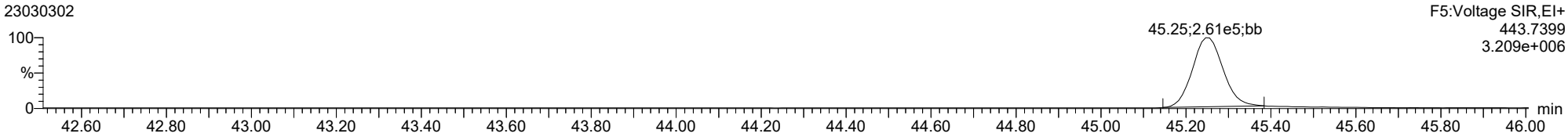
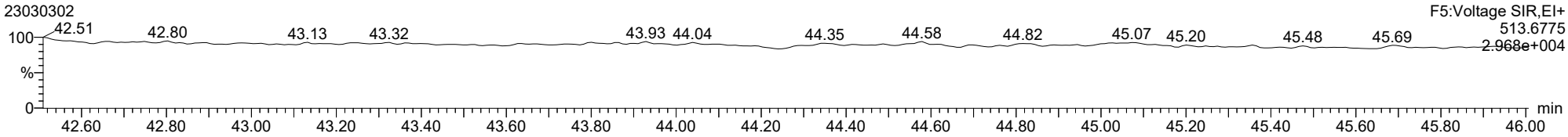
OCDF



OCDF



FUNCTION5 DCDPE



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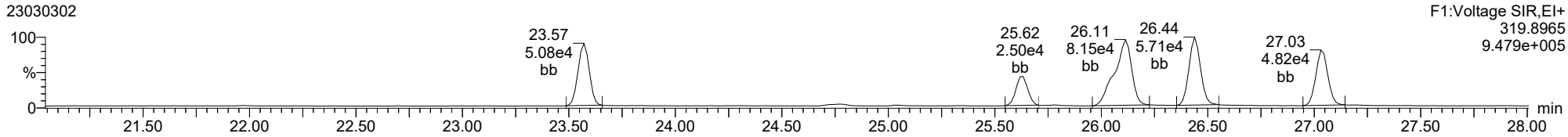
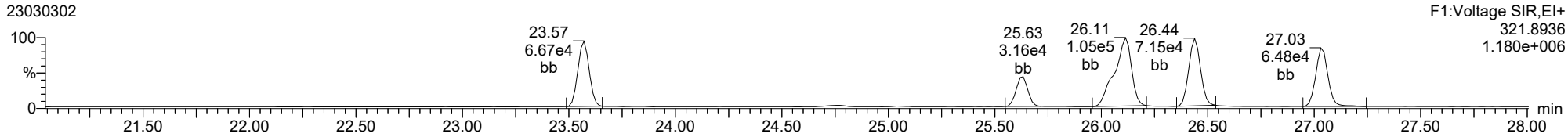
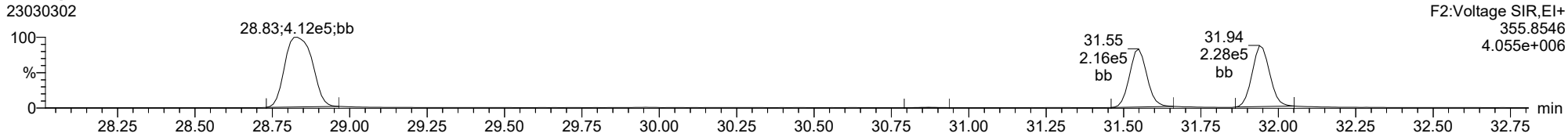
Total-tetradioxins



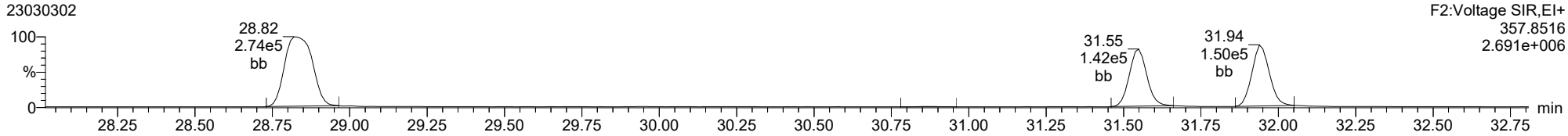
Total-tetradioxins



Total-pentadioxins



Total-pentadioxins



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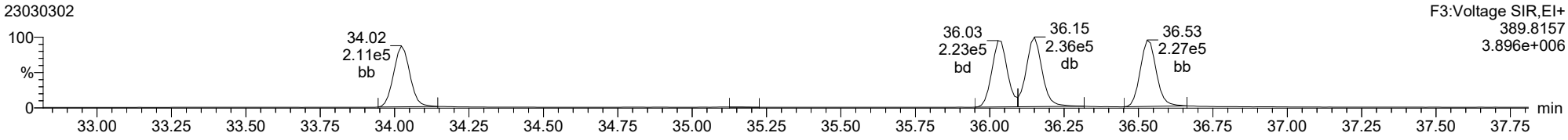
Total-hexadioxins



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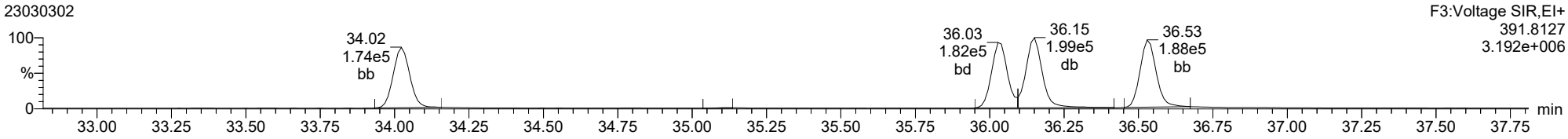

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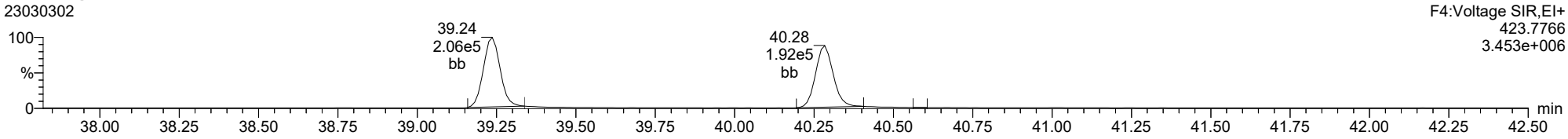

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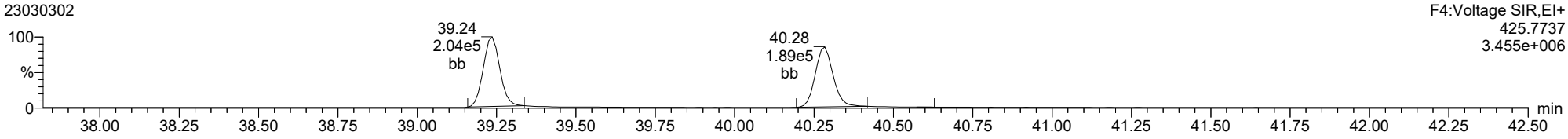

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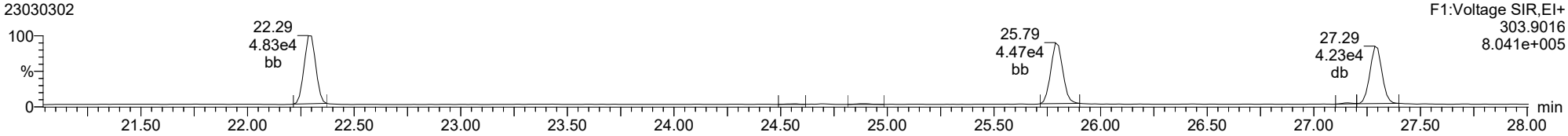
Total-tetrafurans



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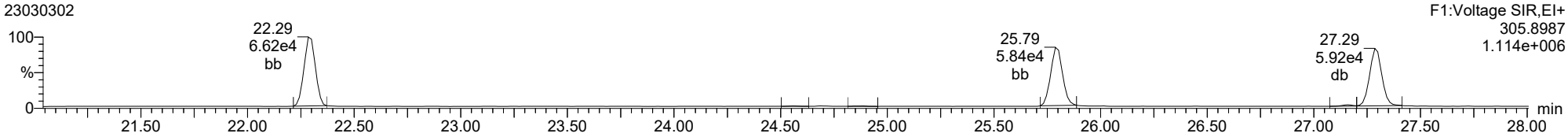

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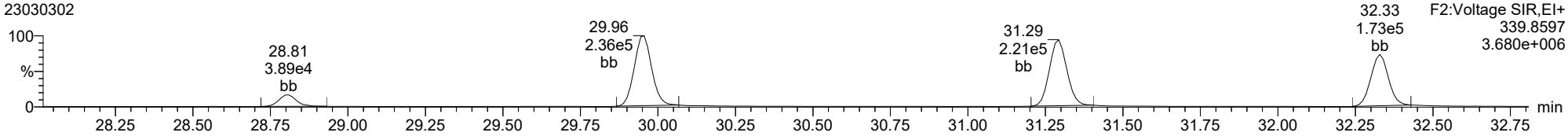

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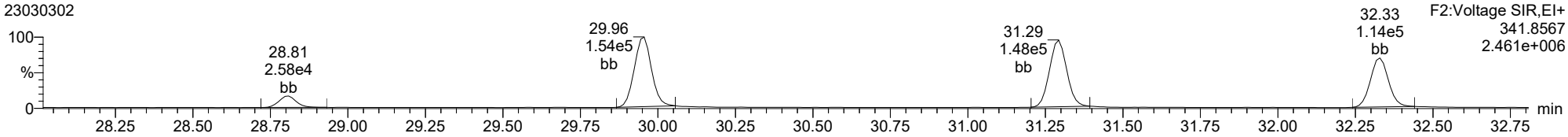

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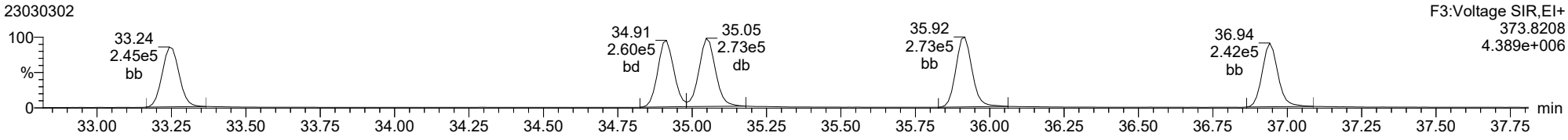
Total-hexafurans



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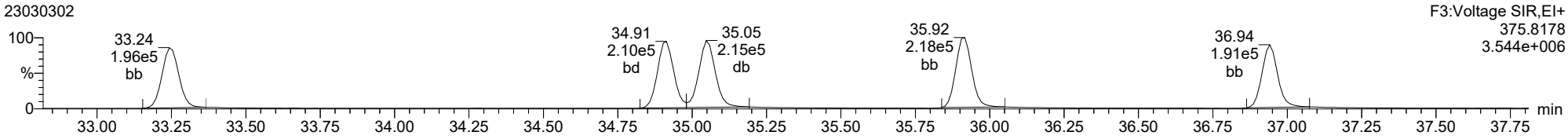

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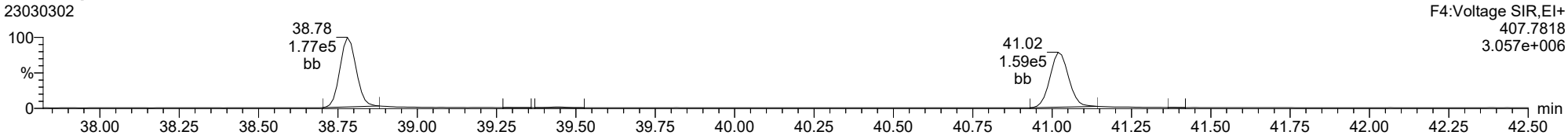

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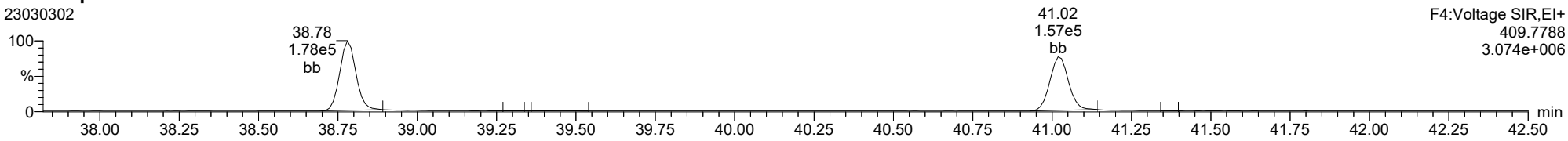

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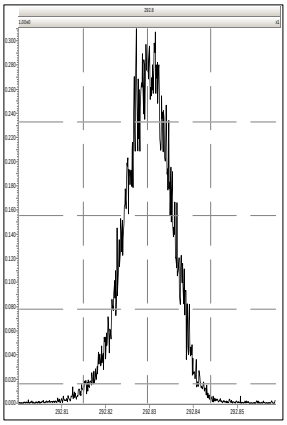
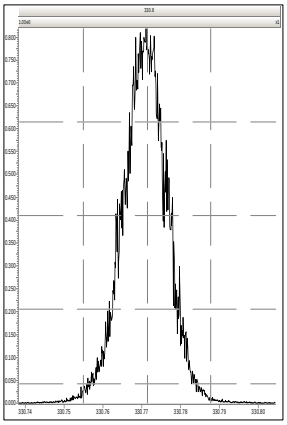
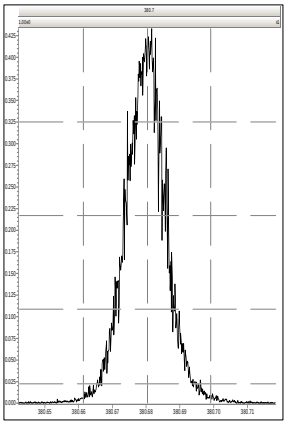
M 292.9824 R 11554



M 330.9792 R 12378



M 380.9760 R 13750



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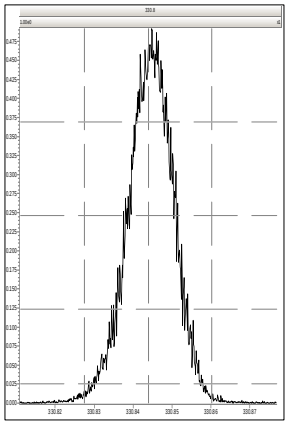
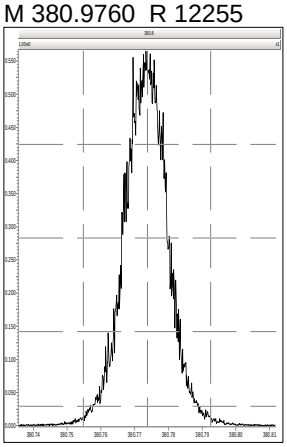
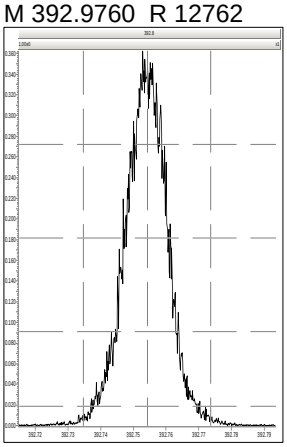


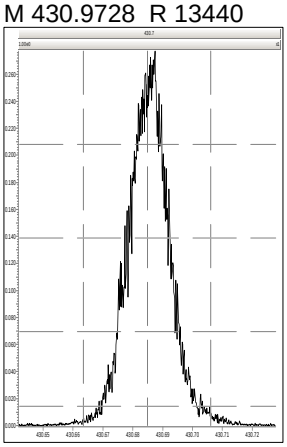
M 380.9760 R 12255



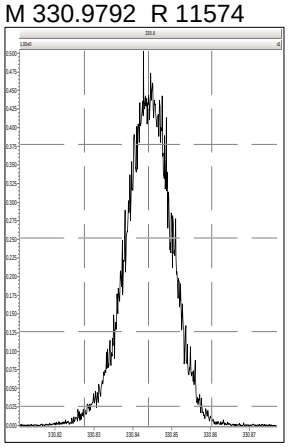
M 392.9760 R 12762



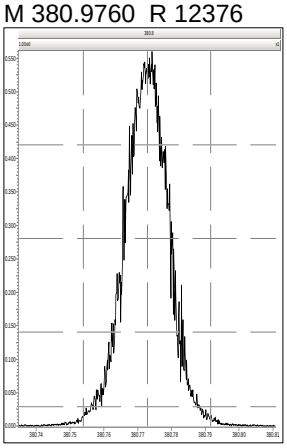
M 430.9728 R 13440



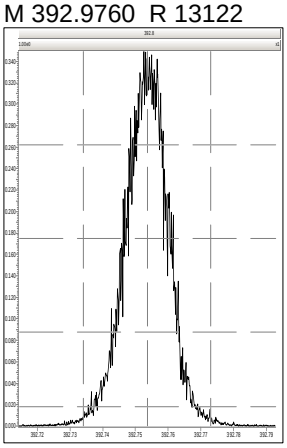
M 330.9792 R 11574



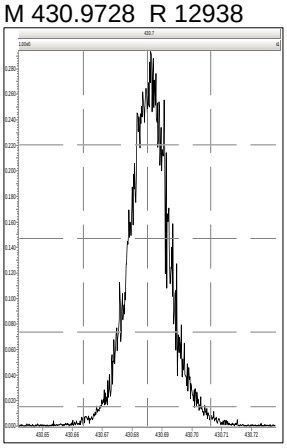
M 380.9760 R 12376



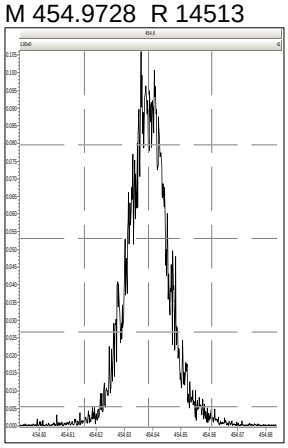
M 392.9760 R 13122



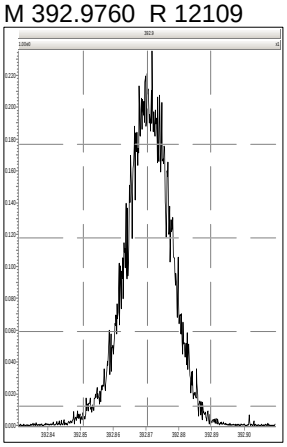
M 430.9728 R 12938



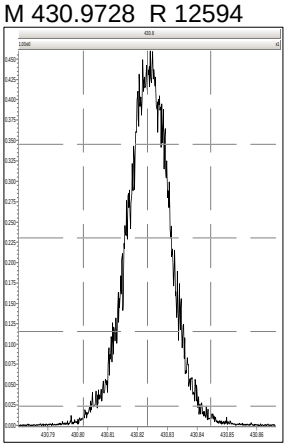
M 454.9728 R 14513



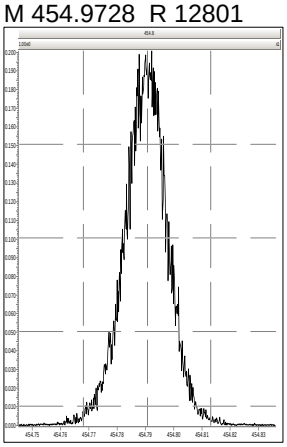
M 392.9760 R 12109



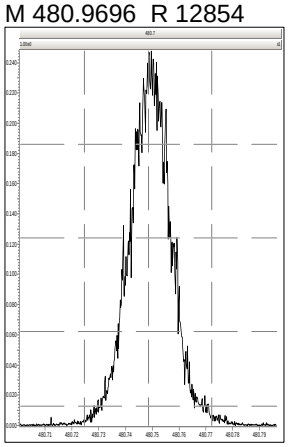
M 430.9728 R 12594



M 454.9728 R 12801



M 480.9696 R 12854



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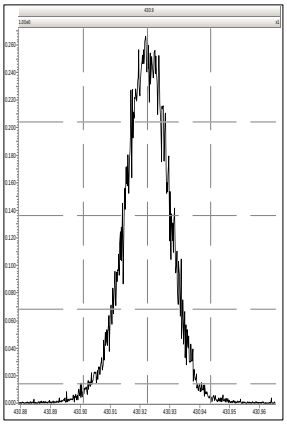
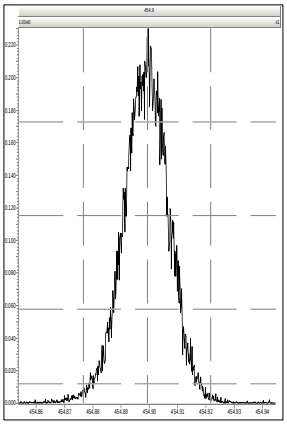
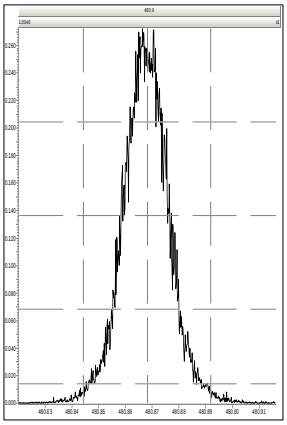
M 430.9728 R 12109



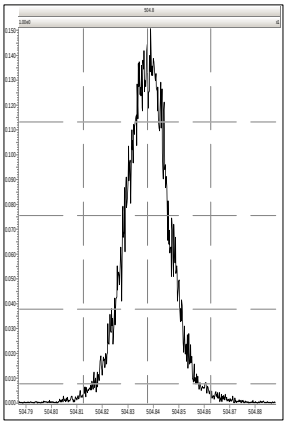
M 454.9728 R 12077



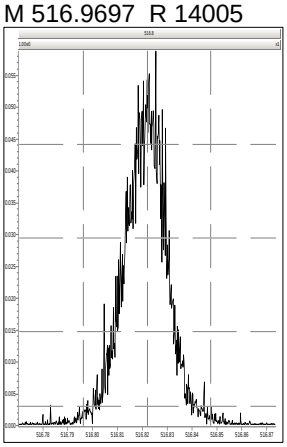
M 480.9696 R 11443

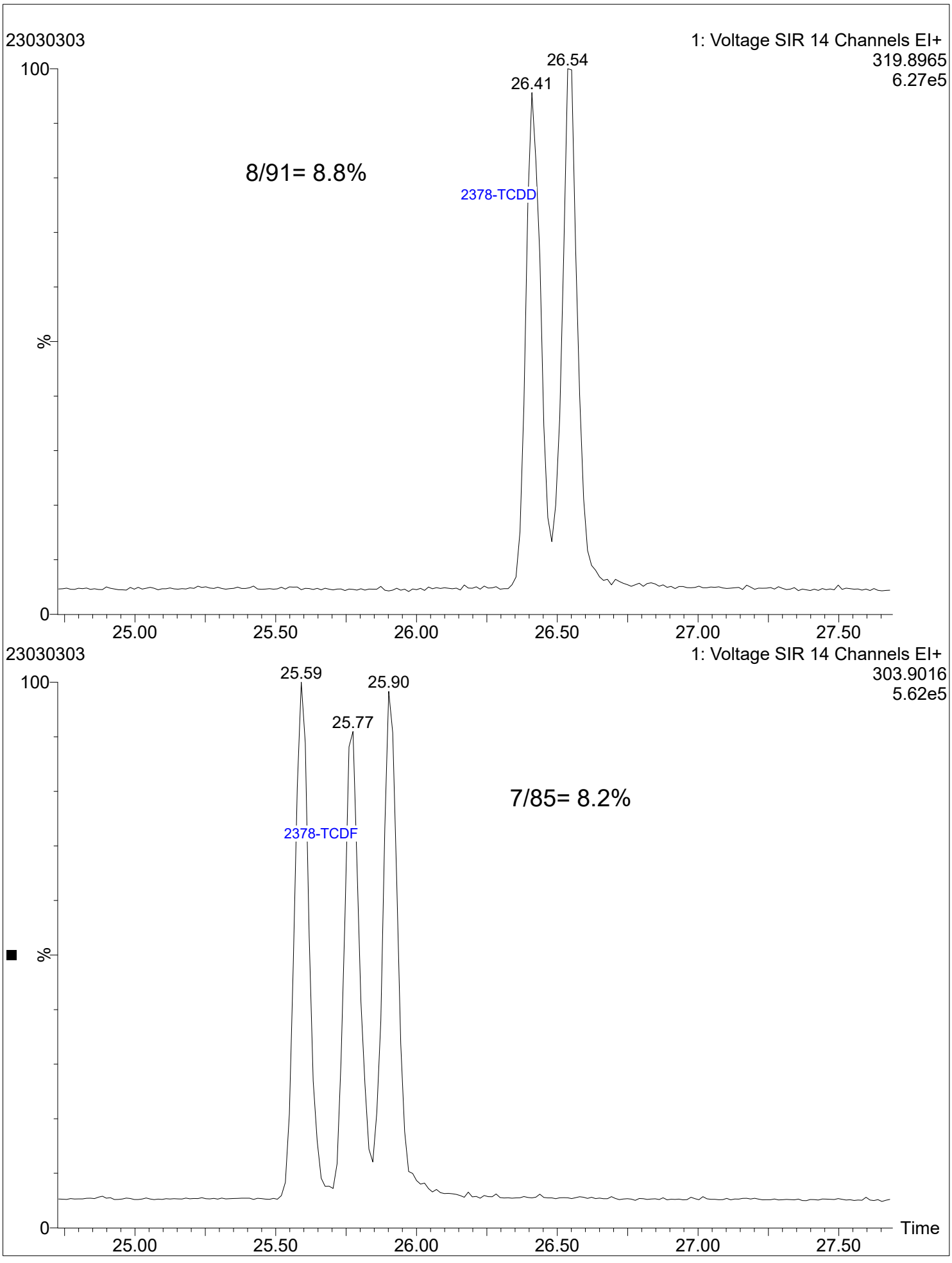


M 504.9696 R 12722



M 516.9697 R 14005




23030303
1: Voltage SIR 14 Channels EI+
319.8965
6.27e5
100
26.54
26.41
8/91= 8.8%
2378-TCDD
%
0
25.00
25.50
26.00
26.50
27.00
27.50
23030303
1: Voltage SIR 14 Channels EI+
303.9016
5.62e5
100
25.59
25.90
25.77
7/85= 8.2%
2378-TCDF
%
0
Time
25.00
25.50
26.00
26.50
27.00
27.50

Dataset: T:\Autospec\Processed Data Batch\230303ICIH.qld
Last Altered: Monday, March 06, 2023 10:57:27 Pacific Standard Time
Printed: Monday, March 06, 2023 11:33:58 Pacific Standard Time

Method: T:\Autospec\Methods\Dioxin230303.mdb 03 Mar 2023 14:58:50
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 10:57:27

ID: CSLCW, Name: 23030304, Date: 03-Mar-2023, Time: 11:28:13, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF					0.702		0.770	1141	1568								
12378-PeCDF	29.922	1.000	2.331e3	1.631e3	0.679	1.429	1.550	717	1165	3.89e4	2.49e4	54.3	21.4	NO	bb	bd	0.520
23478-PeCDF	31.270	1.001	2.446e3	1.527e3	0.786	1.602	1.550	717	1165	3.60e4	2.25e4	50.1	19.4	NO	bb	bb	0.508
123478-HxCDF	34.891	1.001	2.740e3	2.578e3	1.166	1.063	1.240	675	706	4.36e4	3.63e4	64.6	51.5	NO	bd	bd	0.522
234678-HxCDF	35.894	1.001	2.363e3	1.967e3	1.140	1.201	1.240	675	706	3.52e4	3.17e4	52.2	44.9	NO	bb	bb	0.459
123678-HxCDF	35.025	1.000	2.955e3	2.593e3	1.091	1.140	1.240	675	706	3.97e4	3.71e4	58.8	52.6	NO	db	dd	0.495
123789-HxCDF	36.919	1.000	2.292e3	1.751e3	1.137	1.309	1.240	675	706	3.51e4	2.45e4	52.0	34.7	NO	bd	bb	0.523
1234678-HpCDF	38.769	1.001	1.264e3	1.356e3	1.003	0.932	1.050	1176	1150	2.17e4	2.11e4	18.4	18.3	NO	bd	bb	0.466
1234789-HpCDF	40.997	1.000	1.144e3	1.036e3	0.953	1.105	1.050	1176	1150	1.78e4	1.51e4	15.1	13.1	NO	bb	bd	0.465
OCDF	45.228	1.006	2.105e3	2.214e3	0.778	0.951	0.890	762	984	2.31e4	2.16e4	30.2	22.0	NO	bb	bb	1.044
2378-TCDD					1.149		0.770	1186	741								
12378-PeCDD	31.527	1.001	2.628e3	1.506e3	1.022	1.745	1.550	935	615	3.66e4	1.58e4	39.1	25.7	NO	bb	bb	0.540
123478-HxCDD	36.016	1.001	2.113e3	1.865e3	0.996	1.133	1.240	725	812	3.30e4	2.93e4	45.6	36.1	NO	dd	bd	0.542
123678-HxCDD	36.128	1.001	2.428e3	1.876e3	1.001	1.294	1.240	725	812	3.70e4	2.39e4	51.1	29.5	NO	db	db	0.479
123789-HxCDD	36.507	1.011	2.154e3	1.651e3	0.907	1.304	1.240	725	812	3.30e4	2.34e4	45.5	28.9	NO	bd	bb	0.513
1234678-HpCDD	40.261	1.000	1.634e3	1.397e3	1.039	1.170	1.050	985	1205	2.31e4	2.24e4	23.5	18.6	NO	MM	bb	0.531
OCDD					0.920		0.890	1090	941								
13C-2378-TCDF	25.746	1.007	5.730e5	7.592e5	1.620	0.755	0.770	2498	2006	8.42e6	1.11e7	3371.3	5556.4	NO	bb	bb	100.702
13C-12378-PeCDF	29.911	1.169	6.805e5	4.409e5	1.240	1.543	1.550	2678	2220	9.20e6	6.10e6	3433.8	2749.3	NO	bb	bd	110.727
13C-23478-PeCDF	31.248	1.222	6.001e5	3.956e5	1.118	1.517	1.550	2678	2220	8.66e6	5.74e6	3235.2	2585.6	NO	bb	bb	109.107
13C-123478-HxCDF	34.869	0.955	2.965e5	5.770e5	1.168	0.514	0.510	1558	3112	4.38e6	8.54e6	2813.2	2745.5	NO	bd	bd	98.607
13C-123678-HxCDF	35.014	0.959	3.446e5	6.820e5	1.386	0.505	0.510	1558	3112	4.56e6	9.02e6	2927.1	2898.6	NO	db	dd	97.648
13C-234678-HxCDF	35.872	0.983	2.821e5	5.460e5	1.129	0.517	0.510	1558	3112	4.13e6	8.00e6	2652.6	2572.0	NO	bb	bb	96.703
13C-123789-HxCDF	36.908	1.011	2.282e5	4.511e5	0.932	0.506	0.510	1558	3112	3.31e6	6.47e6	2122.2	2079.8	NO	bb	bb	96.146
13C-1234678-HpCDF	38.746	1.062	1.794e5	3.814e5	0.895	0.470	0.440	2435	3572	2.60e6	5.93e6	1069.0	1659.1	NO	bd	bb	82.620
13C-1234789-HpCDF	40.986	1.123	1.404e5	3.516e5	0.770	0.399	0.440	2435	3572	1.98e6	4.51e6	813.8	1262.1	NO	bb	bb	84.288
13C-1234-TCDD	25.576	0.000	3.640e5	4.524e5	1.000	0.805	0.770	1931	1352	5.55e6	6.91e6	2875.2	5114.0	NO	bb	bb	100.000
13C-2378-TCDD	26.396	1.032	4.012e5	4.998e5	1.152	0.803	0.770	1931	1352	5.75e6	7.10e6	2979.4	5249.9	NO	bb	bb	95.760
13C-12378-PeCDD	31.504	1.232	4.613e5	2.880e5	0.829	1.602	1.550	1401	1533	6.70e6	4.14e6	4781.1	2700.1	NO	bb	bb	110.725
13C-123478-HxCDD	35.994	0.986	4.133e5	3.236e5	0.995	1.277	1.240	1744	1461	6.55e6	5.10e6	3756.0	3493.2	NO	bd	bd	97.670
13C-123678-HxCDD	36.106	0.989	5.195e5	3.785e5	1.157	1.372	1.240	1744	1461	6.84e6	5.29e6	3920.0	3622.3	NO	db	db	102.381
13C-1234678-HpCDD	40.250	1.103	2.785e5	2.707e5	0.840	1.029	1.050	1497	2275	3.82e6	3.65e6	2553.8	1605.5	NO	bb	bd	86.201
13C-OCDD	44.972	1.232	5.210e5	5.429e5	0.767	0.960	0.890	2989	1436	5.87e6	6.48e6	1964.2	4513.5	NO	bd	bb	182.810
13C-123789-HxCDD	36.496	0.000	4.181e5	3.402e5	1.000	1.229	1.240	1744	1461	6.11e6	4.85e6	3503.9	3317.8	NO	bb	bb	100.000
37CL-2378-TCDD	26.410	1.033	1.287e3		1.288			1959		1.53e4		7.8			db		0.122

Dataset: T:\Autospec\Processed Data Batch\230303ICIH.qld
Last Altered: Monday, March 06, 2023 10:57:27 Pacific Standard Time
Printed: Monday, March 06, 2023 11:33:58 Pacific Standard Time

ID: CSLCW, Name: 23030304, Date: 03-Mar-2023, Time: 11:28:13, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRF	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF					0.802		0.770	1141	1568								
1289-TCDF					0.678		0.770	1141	1568								
13468-PECDF					1.246		1.550	669	893								
12389-PECDF					0.496		1.550	717	1165								
123468-HXCDF					1.169		1.240	675	706								
1368-TCDD					1.015		0.770	1186	741								
1289-TCDD					0.909		0.770	1186	741								
12479-PECDD					2.301		1.550	935	615								
12389-PECDD					1.184		1.550	935	615								
124679-HXCDD					1.115		1.240	725	812								
1234679-HPCDD					1.137		1.050	985	1205								
Total-tetrafurans			0.000e0		0.727			1141		0.00e0							
Total-penta1			0.000e0					669		0.00e0							
Total-pentafurans			4.777e3		0.654			717		7.49e4							1.028
Total-hexafurans			1.035e4		1.141			675		1.54e5							2.000
Total-heptafurans			2.408e3		0.978			1176		3.94e4							0.931
Total-Furans			1.971e4		0.922			1141		2.93e5							5.016
Total-tetradioxins			0.000e0		1.024			1186		0.00e0							
Total-pentadioxins			2.628e3		1.502			935		3.66e4							0.540
Total-hexadioxins			6.694e3		1.005			725		1.03e5							1.534
Total-heptadioxins			1.634e3		1.088			985		2.31e4							0.531
Total-Dioxins			1.096e4		1.130			1186		1.63e5							2.605
Total-TEQ			3.067e4					1186		4.55e5							7.621
FUNCTION1 PFK			3.116e6					620464		1.62e6							
FUNCTION2 PFK			1.698e6					301200		2.24e6							0.000
FUNCTION3 PFK			5.380e7					450736		2.93e7							0.000
FUNCTION4 PFK			1.391e7					291095		1.60e7							
FUNCTION5 PFK			7.208e4					238350		2.59e6							
FUNCTION1 HXCD...			4.809e2					559		5.84e3							0.000
FUNCTION1 HPCD...																	
FUNCTION2 HPCD...			8.084e2					933		1.50e4							0.000
FUNCTION3 OCDPE			0.000e0					494		0.00e0							
FUNCTION4 NCDPE			6.931e2					845		1.26e4							0.000
FUNCTION5 DCDPE			7.511e2					821		1.86e4							0.000

Method: T:\Autospec\Methods\Dioxin230303.mdb 03 Mar 2023 14:58:50
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 10:57:27

ID: CSLCW, Name: 23030304, Date: 03-Mar-2023, Time: 11:28:13, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	23478-PeCDF	31.27	2.446e3	1.527e3	0.786	1.60	1.55	50.1	YES	NO	bb	bb	0.508
2	12378-PeCDF	29.92	2.331e3	1.631e3	0.679	1.43	1.55	54.3	YES	NO	bb	bd	0.520

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.92	2.292e3	1.751e3	1.137	1.31	1.24	52.0	YES	NO	bd	bb	0.523
2	234678-HxCDF	35.89	2.363e3	1.967e3	1.140	1.20	1.24	52.2	YES	NO	bb	bb	0.459
3	123678-HxCDF	35.03	2.955e3	2.593e3	1.091	1.14	1.24	58.8	YES	NO	db	dd	0.495
4	123478-HxCDF	34.89	2.740e3	2.578e3	1.166	1.06	1.24	64.6	YES	NO	bd	bd	0.522

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDF	38.77	1.264e3	1.356e3	1.003	0.93	1.05	18.4	YES	NO	bd	bb	0.466
2	1234789-HpCDF	41.00	1.144e3	1.036e3	0.953	1.10	1.05	15.1	YES	NO	bb	bd	0.465

ID: CSLCW, Name: 23030304, Date: 03-Mar-2023, Time: 11:28:13, Conditions: AUTOSPEC01, User: pk

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-Furans	21.68	7.033e1	1.021e2	0.922	0.69	0.77	1.5	NO	NO	bb	bb	0.014
2	123789-HxCDF	36.92	2.292e3	1.751e3	1.137	1.31	1.24	52.0	YES	NO	bd	bb	0.523
3	234678-HxCDF	35.89	2.363e3	1.967e3	1.140	1.20	1.24	52.2	YES	NO	bb	bb	0.459
4	123678-HxCDF	35.03	2.955e3	2.593e3	1.091	1.14	1.24	58.8	YES	NO	db	dd	0.495
5	123478-HxCDF	34.89	2.740e3	2.578e3	1.166	1.06	1.24	64.6	YES	NO	bd	bd	0.522
6	23478-PeCDF	31.27	2.446e3	1.527e3	0.786	1.60	1.55	50.1	YES	NO	bb	bb	0.508
7	12378-PeCDF	29.92	2.331e3	1.631e3	0.679	1.43	1.55	54.3	YES	NO	bb	bd	0.520
8	1234678-HpCDF	38.77	1.264e3	1.356e3	1.003	0.93	1.05	18.4	YES	NO	bd	bb	0.466
9	1234789-HpCDF	41.00	1.144e3	1.036e3	0.953	1.10	1.05	15.1	YES	NO	bb	bd	0.465
10	OCDF	45.23	2.105e3	2.214e3	0.778	0.95	0.89	30.2	YES	NO	bb	bb	1.044

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDD	31.53	2.628e3	1.506e3	1.022	1.75	1.55	39.1	YES	NO	bb	bb	0.540

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDD	36.51	2.154e3	1.651e3	0.907	1.30	1.24	45.5	YES	NO	bd	bb	0.513
2	123678-HxCDD	36.13	2.428e3	1.876e3	1.001	1.29	1.24	51.1	YES	NO	db	db	0.479
3	123478-HxCDD	36.02	2.113e3	1.865e3	0.996	1.13	1.24	45.6	YES	NO	dd	bd	0.542

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.26	1.634e3	1.397e3	1.039	1.17	1.05	23.5	YES	NO	MM	bb	0.531

ID: CSLCW, Name: 23030304, Date: 03-Mar-2023, Time: 11:28:13, Conditions: AUTOSPEC01, User: pk

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDD	31.53	2.628e3	1.506e3	1.022	1.75	1.55	39.1	YES	NO	bb	bb	0.540
2	123789-HxCDD	36.51	2.154e3	1.651e3	0.907	1.30	1.24	45.5	YES	NO	bd	bb	0.513
3	123678-HxCDD	36.13	2.428e3	1.876e3	1.001	1.29	1.24	51.1	YES	NO	db	db	0.479
4	123478-HxCDD	36.02	2.113e3	1.865e3	0.996	1.13	1.24	45.6	YES	NO	dd	bd	0.542
5	1234678-HpCDD	40.26	1.634e3	1.397e3	1.039	1.17	1.05	23.5	YES	NO	MM	bb	0.531

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-Furans	21.68	7.033e1	1.021e2	0.922	0.69	0.77	1.5	NO	NO	bb	bb	0.014
2	123789-HxCDF	36.92	2.292e3	1.751e3	1.137	1.31	1.24	52.0	YES	NO	bd	bb	0.523
3	234678-HxCDF	35.89	2.363e3	1.967e3	1.140	1.20	1.24	52.2	YES	NO	bb	bb	0.459
4	123678-HxCDF	35.03	2.955e3	2.593e3	1.091	1.14	1.24	58.8	YES	NO	db	dd	0.495
5	123478-HxCDF	34.89	2.740e3	2.578e3	1.166	1.06	1.24	64.6	YES	NO	bd	bd	0.522
6	23478-PeCDF	31.27	2.446e3	1.527e3	0.786	1.60	1.55	50.1	YES	NO	bb	bb	0.508
7	12378-PeCDF	29.92	2.331e3	1.631e3	0.679	1.43	1.55	54.3	YES	NO	bb	bd	0.520
8	1234678-HpCDF	38.77	1.264e3	1.356e3	1.003	0.93	1.05	18.4	YES	NO	bd	bb	0.466
9	1234789-HpCDF	41.00	1.144e3	1.036e3	0.953	1.10	1.05	15.1	YES	NO	bb	bd	0.465
10	OCDF	45.23	2.105e3	2.214e3	0.778	0.95	0.89	30.2	YES	NO	bb	bb	1.044
11	12378-PeCDD	31.53	2.628e3	1.506e3	1.022	1.75	1.55	39.1	YES	NO	bb	bb	0.540
12	123789-HxCDD	36.51	2.154e3	1.651e3	0.907	1.30	1.24	45.5	YES	NO	bd	bb	0.513
13	123678-HxCDD	36.13	2.428e3	1.876e3	1.001	1.29	1.24	51.1	YES	NO	db	db	0.479
14	123478-HxCDD	36.02	2.113e3	1.865e3	0.996	1.13	1.24	45.6	YES	NO	dd	bd	0.542
15	1234678-HpCDD	40.26	1.634e3	1.397e3	1.039	1.17	1.05	23.5	YES	NO	MM	bb	0.531

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	24.18	3.116e6					2.6	NO		bb		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	30.19	1.560e6					3.1	YES		bb		0.000
2	FUNCTION2 PFK	28.13	1.376e5					4.3	YES		bb		0.000

ID: CSLCW, Name: 23030304, Date: 03-Mar-2023, Time: 11:28:13, Conditions: AUTOSPEC01, User: pk

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	37.12	2.560e6					15.7	YES		db		0.000
2	FUNCTION3 PFK	36.37	7.058e6					24.4	YES		dd		0.000
3	FUNCTION3 PFK	36.11	4.418e7					24.8	YES		bd		0.000

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	42.43	1.404e5					1.6	NO		bb		
2	FUNCTION4 PFK	37.89	1.377e7					53.2	YES		bb		

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	45.15	7.152e3					1.1	NO		bb		
2	FUNCTION5 PFK	45.07	1.178e3					0.5	NO		bb		
3	FUNCTION5 PFK	44.98	1.177e3					0.5	NO		bb		
4	FUNCTION5 PFK	44.19	7.772e3					0.8	NO		bb		
5	FUNCTION5 PFK	43.72	7.921e3					1.3	NO		bb		
6	FUNCTION5 PFK	43.60	4.474e3					0.7	NO		bb		
7	FUNCTION5 PFK	43.17	6.636e3					1.2	NO		bb		
8	FUNCTION5 PFK	43.01	5.001e3					0.7	NO		bb		
9	FUNCTION5 PFK	42.76	1.253e4					1.4	NO		bb		
10	FUNCTION5 PFK	45.91	8.220e3					0.4	NO		bb		
11	FUNCTION5 PFK	45.75	6.523e3					1.4	NO		bb		
12	FUNCTION5 PFK	45.25	3.501e3					0.7	NO		bb		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	27.60	9.542e1					2.4	NO		bb		0.000
2	FUNCTION1 HXCD...	26.42	7.837e1					1.9	NO		bb		0.000
3	FUNCTION1 HXCD...	25.58	1.709e2					3.5	YES		bb		0.000
4	FUNCTION1 HXCD...	23.40	1.362e2					2.7	NO		bb		0.000

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ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	32.36	1.308e2					1.8	NO		bb		0.000
2	FUNCTION2 HPCD...	31.75	8.377e1					1.7	NO		bb		0.000
3	FUNCTION2 HPCD...	31.30	1.170e2					2.2	NO		db		0.000
4	FUNCTION2 HPCD...	31.24	1.138e2					2.6	NO		bd		0.000
5	FUNCTION2 HPCD...	30.92	1.786e2					3.2	YES		bb		0.000
6	FUNCTION2 HPCD...	30.04	8.034e1					1.7	NO		bb		0.000
7	FUNCTION2 HPCD...	29.47	1.041e2					2.9	NO		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	42.04	9.826e1					2.2	NO		bb		0.000
2	FUNCTION4 NCDPE	41.83	1.085e2					2.1	NO		bb		0.000
3	FUNCTION4 NCDPE	41.67	8.318e1					2.8	NO		db		0.000
4	FUNCTION4 NCDPE	41.58	1.047e2					2.5	NO		bd		0.000
5	FUNCTION4 NCDPE	41.32	1.741e2					2.4	NO		bb		0.000
6	FUNCTION4 NCDPE	41.15	1.244e2					2.8	NO		bb		0.000

ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 DCDPE	43.53	7.557e1					1.5	NO		bb		0.000
2	FUNCTION5 DCDPE	43.39	1.767e2					2.9	NO		bb		0.000
3	FUNCTION5 DCDPE	43.31	8.303e1					2.9	NO		db		0.000
4	FUNCTION5 DCDPE	43.27	1.217e2					4.5	YES		bd		0.000
5	FUNCTION5 DCDPE	43.04	1.550e2					3.9	YES		bb		0.000
6	FUNCTION5 DCDPE	42.73	1.390e2					7.0	YES		bb		0.000

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ID: CSLCW, Name: 23030304, Date: 03-Mar-2023, Time: 11:28:13, Conditions: AUTOSPEC01, User: pk

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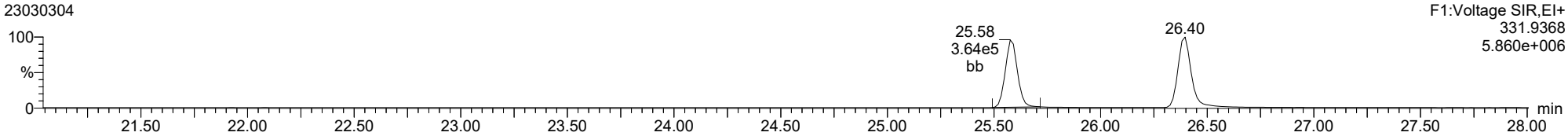

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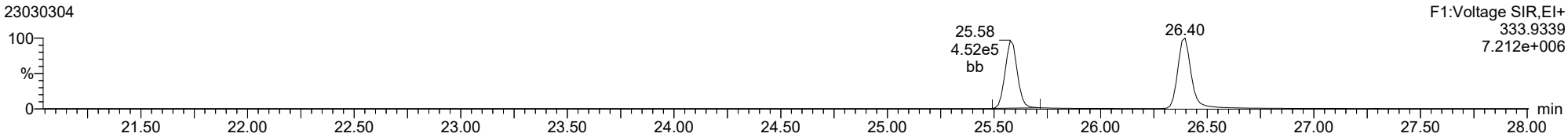
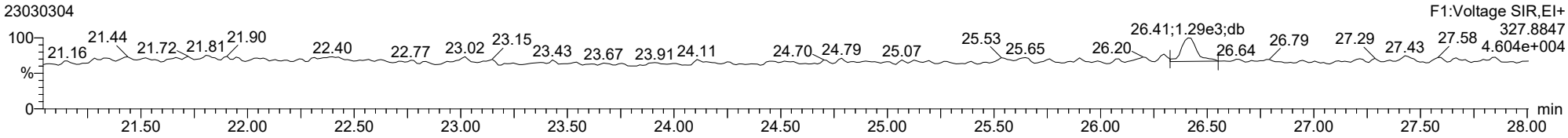


37CL-2378-TCDD



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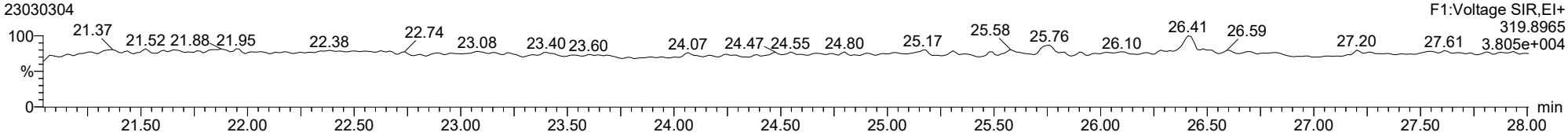

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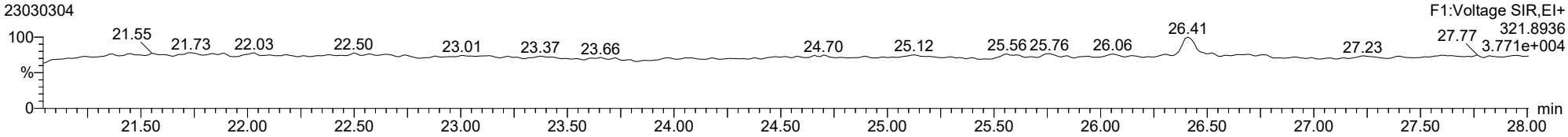

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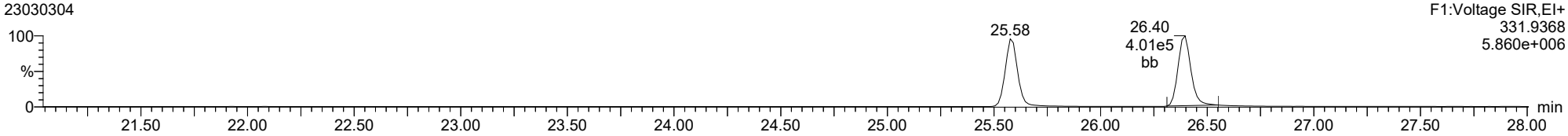

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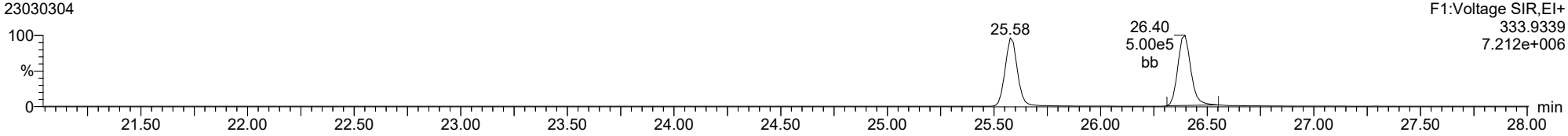

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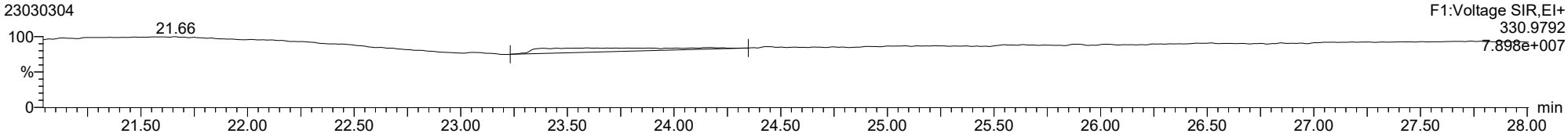

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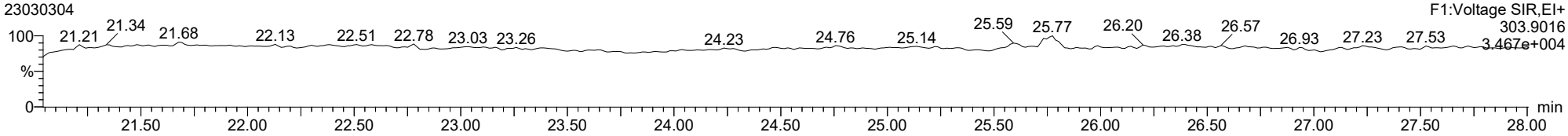

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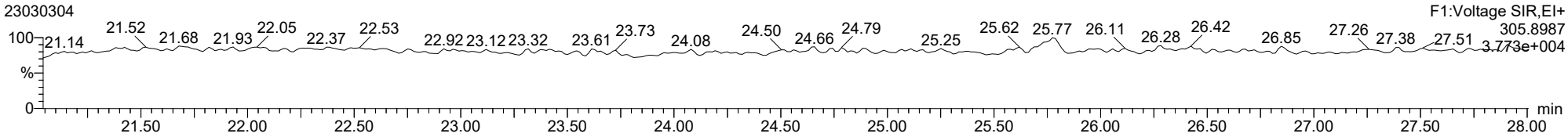

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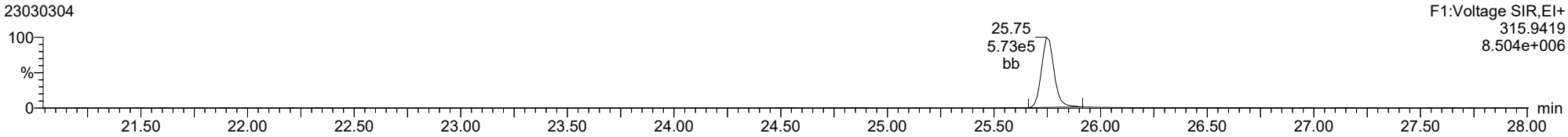

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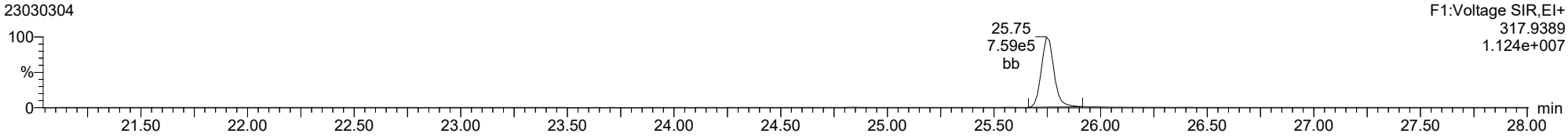
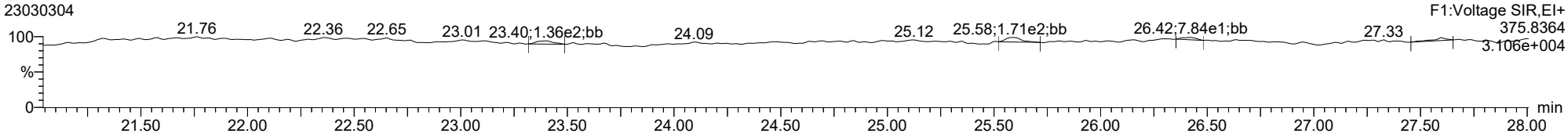


FUNCTION1 HXCDPE



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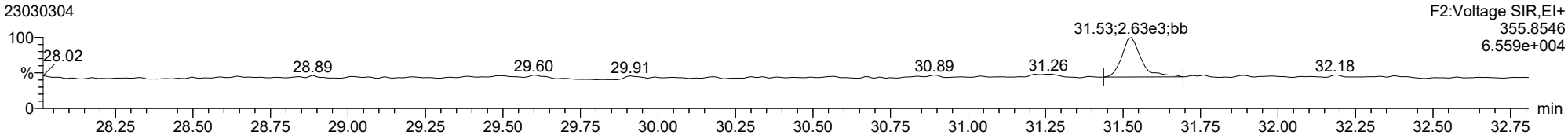

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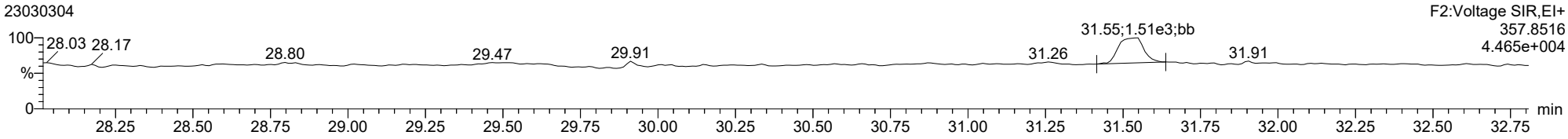

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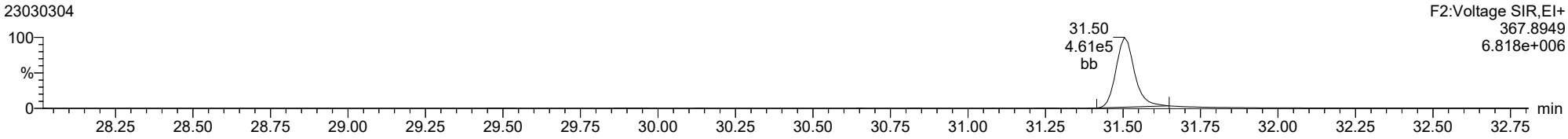

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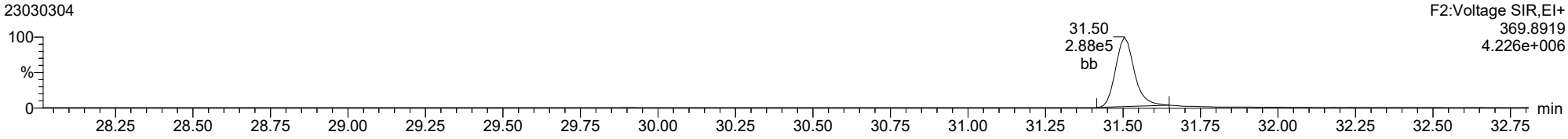
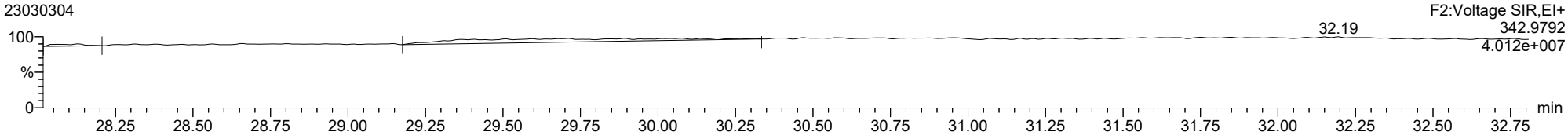


FUNCTION2 PFK



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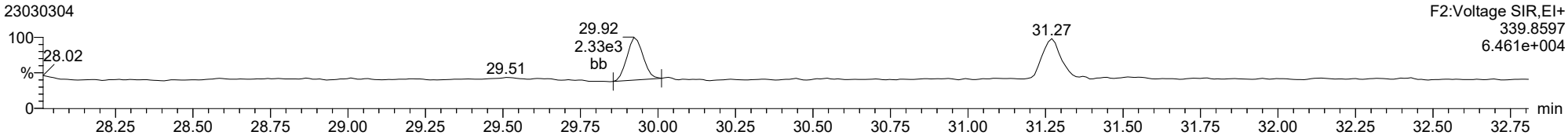

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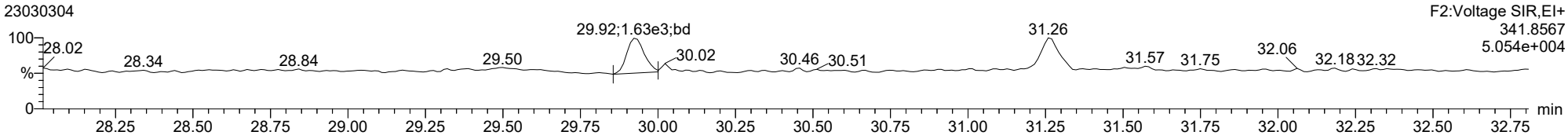

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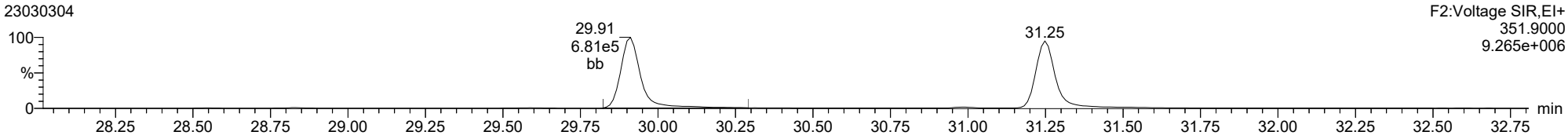

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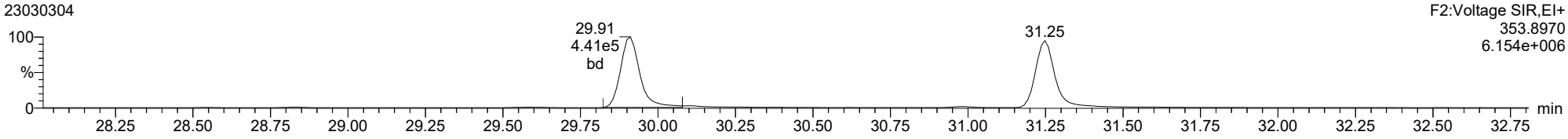
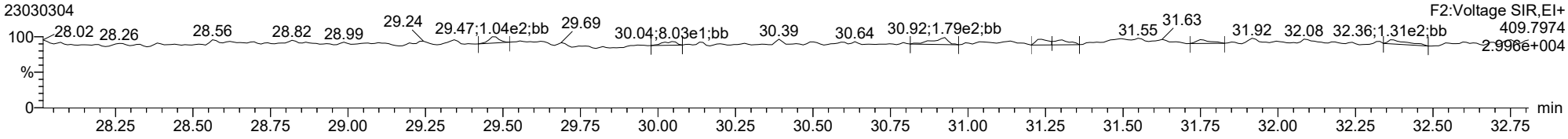


FUNCTION2 HPCDPE



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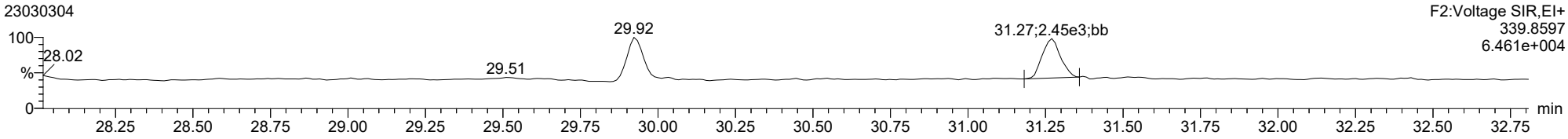
23478-PeCDF



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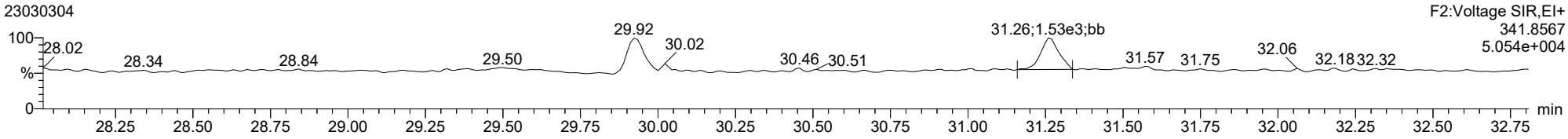

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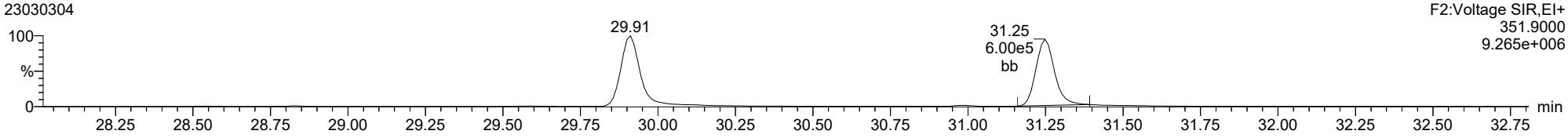

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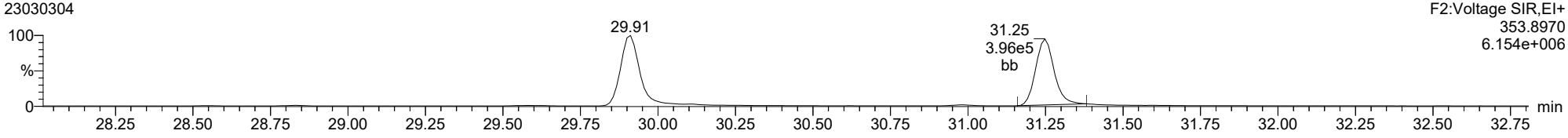
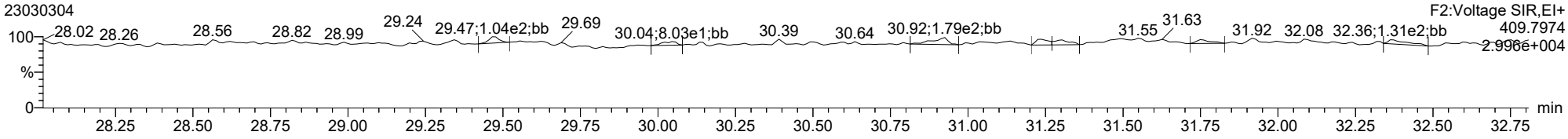


FUNCTION2 HPCDPE



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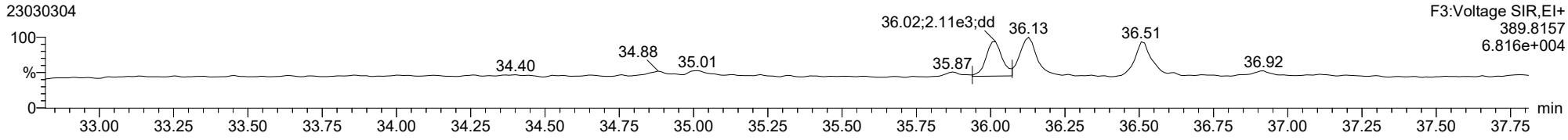
123478-HxCDD



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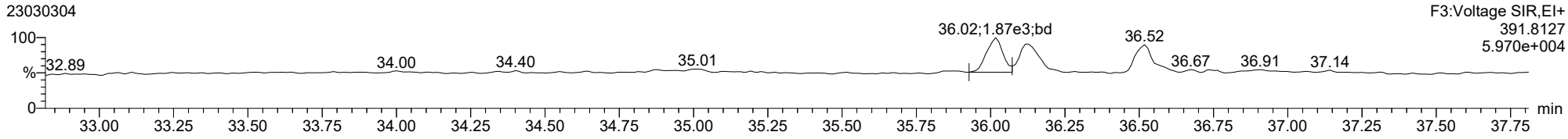

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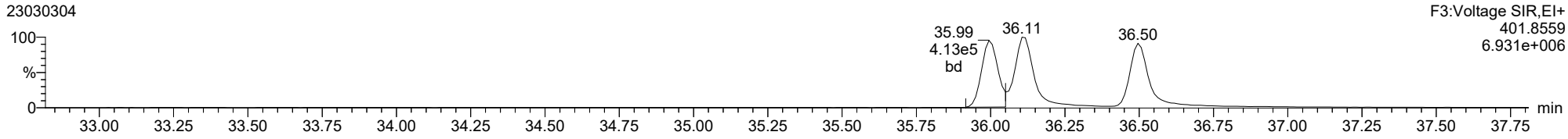

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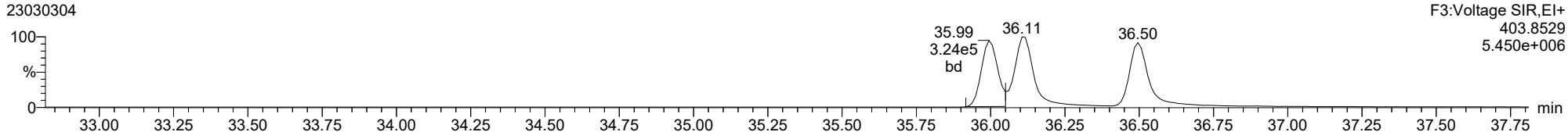

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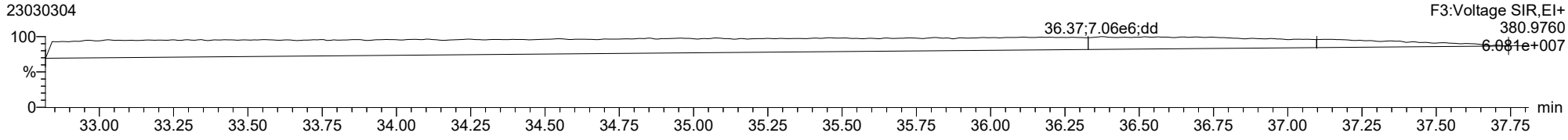

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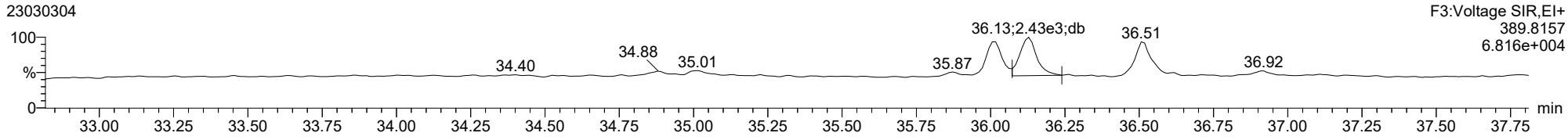
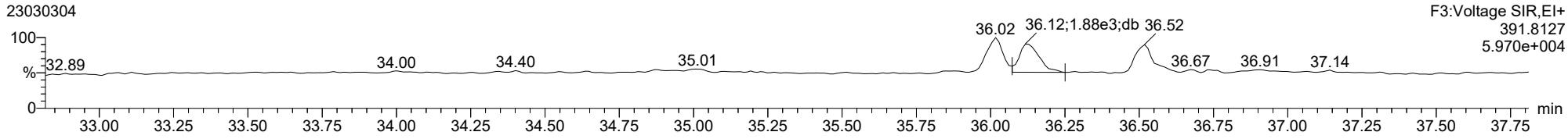
Printed: Monday, March 06, 2023 11:33:58 Pacific Standard Time

ID: CSLCW, Name: 23030304, Date: 03-Mar-2023, Time: 11:28:13, Conditions: AUTOSPEC01, User: pk

123678-HxCDD



123678-HxCDD



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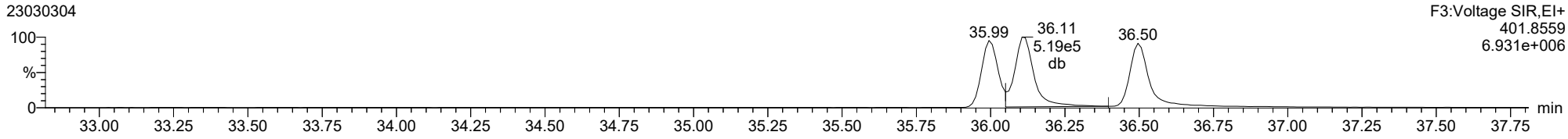

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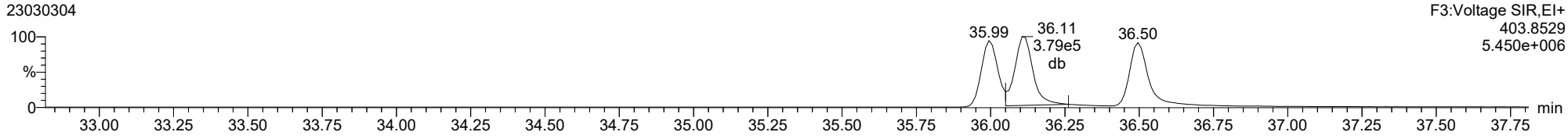

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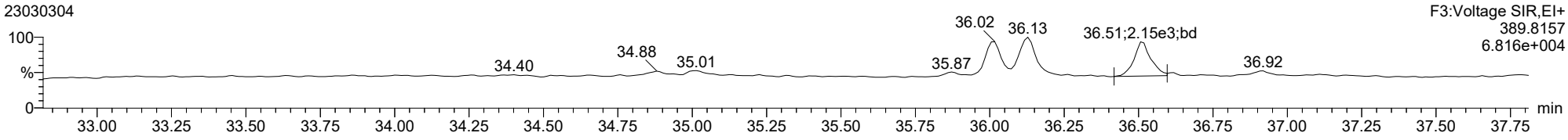
ID: CSLCW, Name: 23030304, Date: 03-Mar-2023, Time: 11:28:13, Conditions: AUTOSPEC01, User: pk

123789-HxCDD



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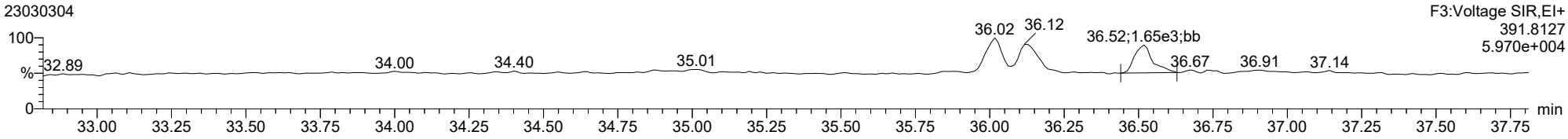

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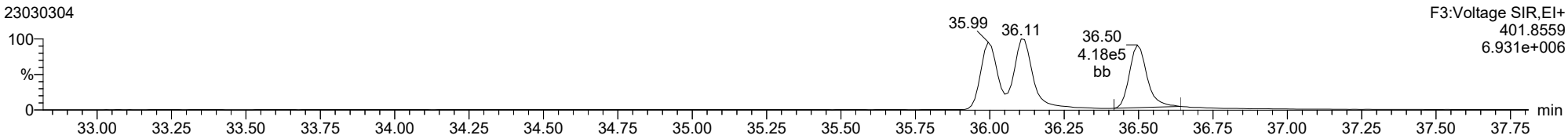

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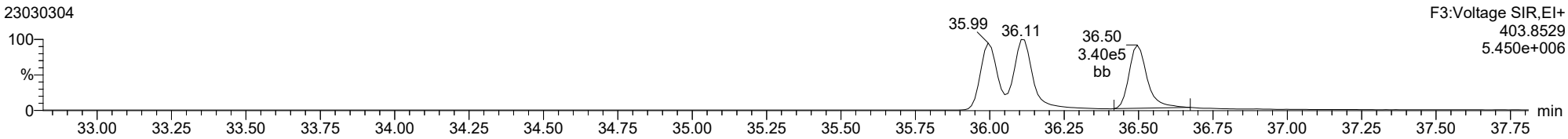

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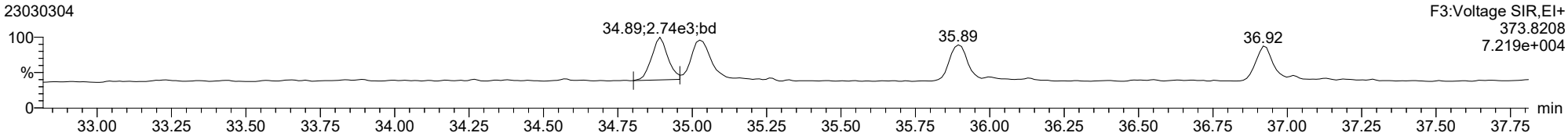

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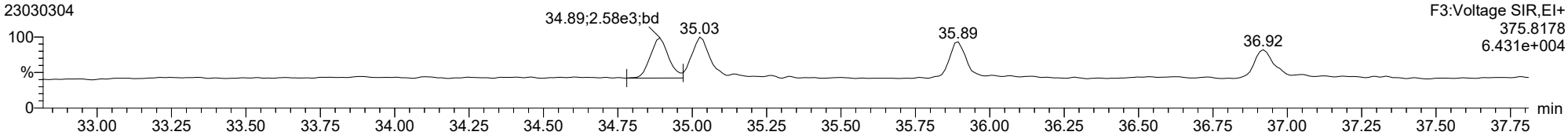

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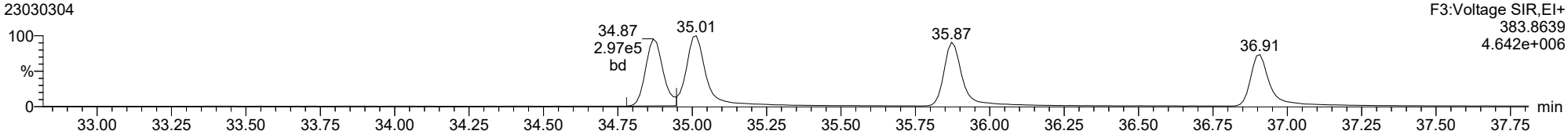

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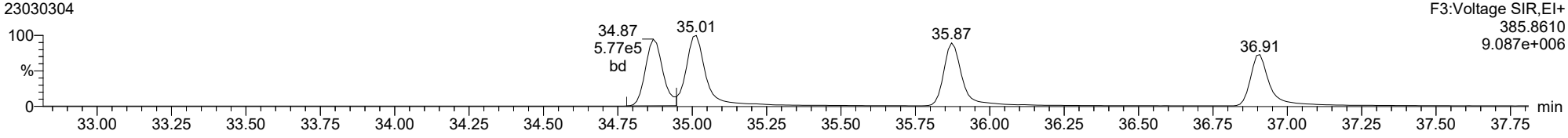

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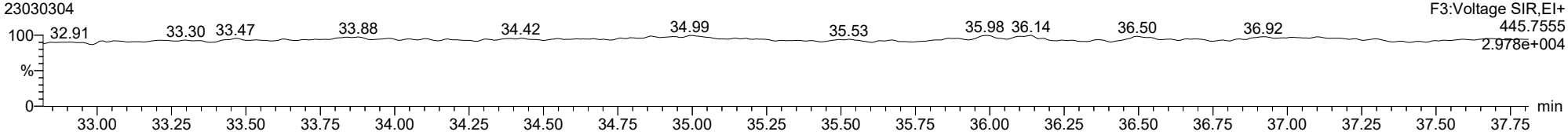

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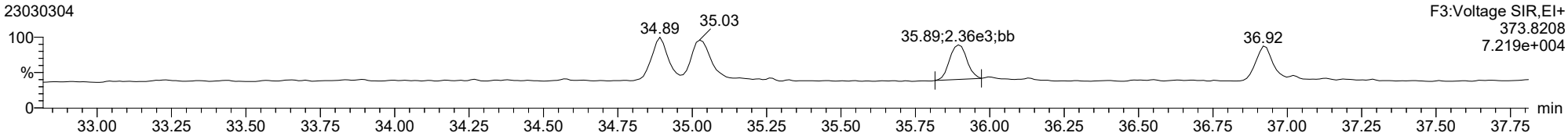

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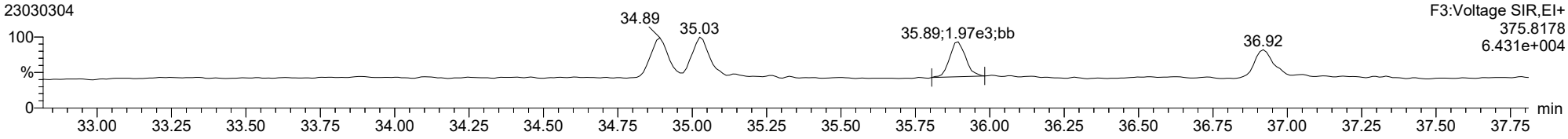

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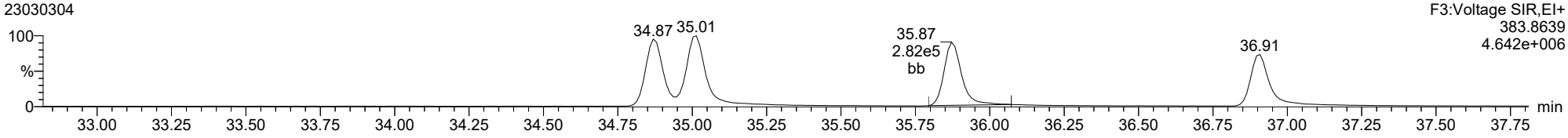

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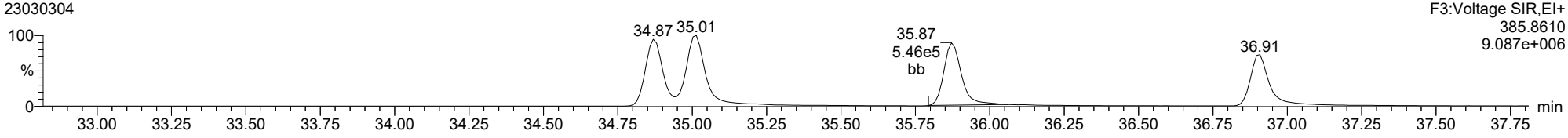

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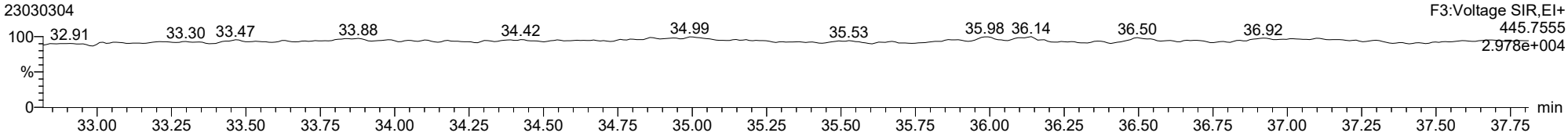

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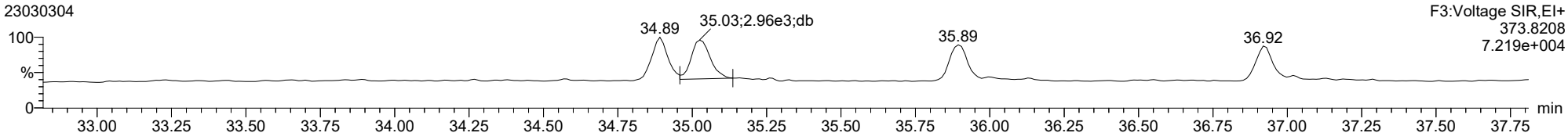

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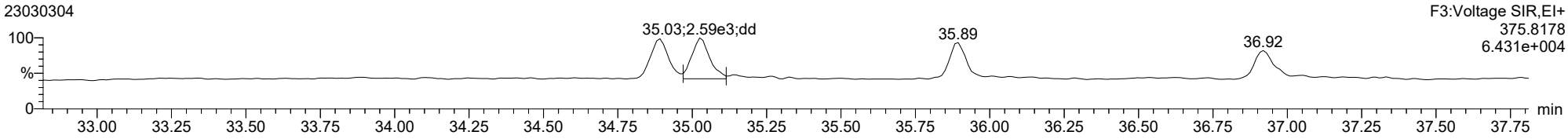

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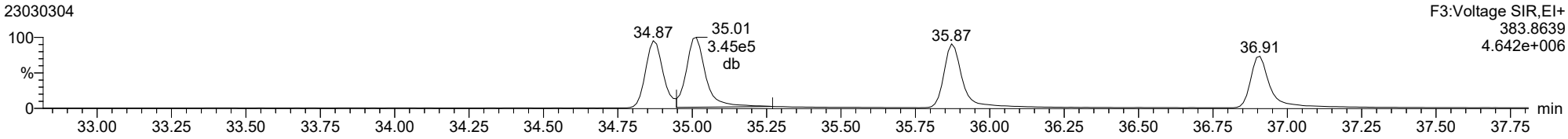

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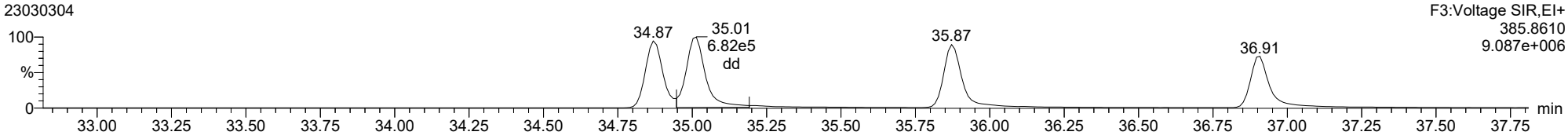

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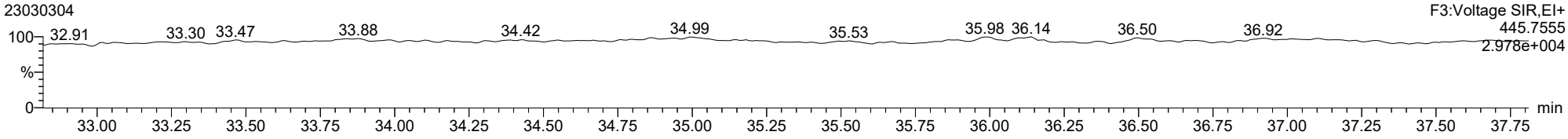

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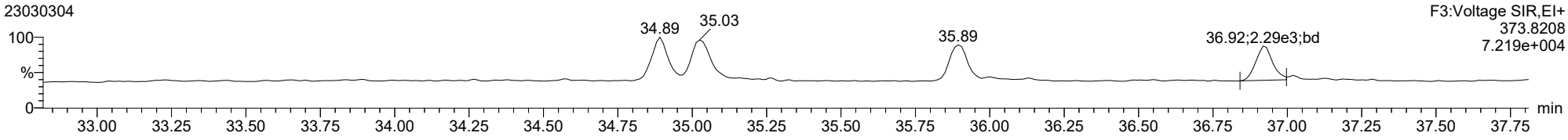

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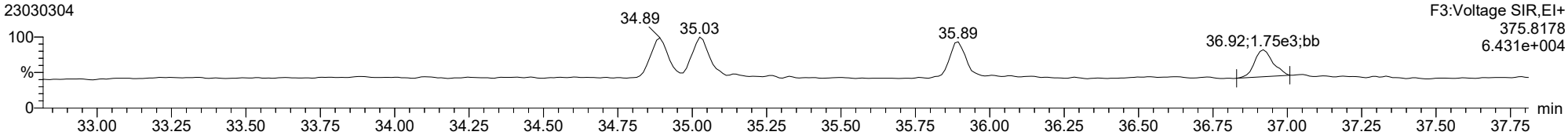

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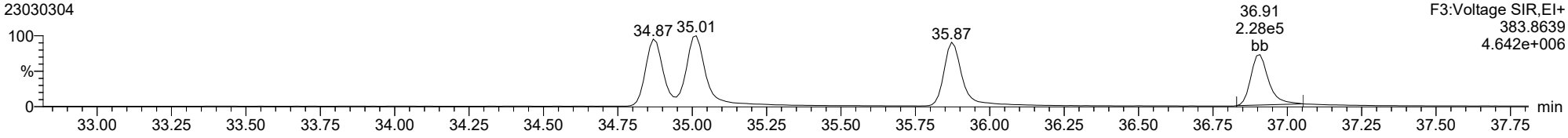

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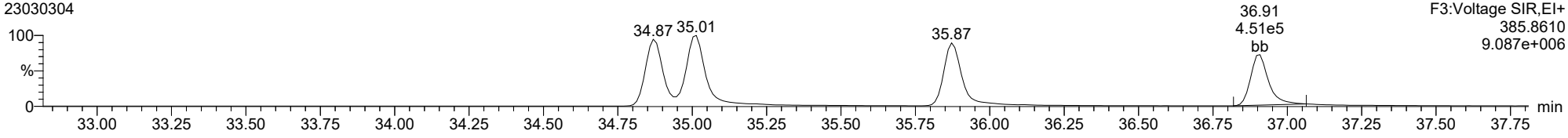

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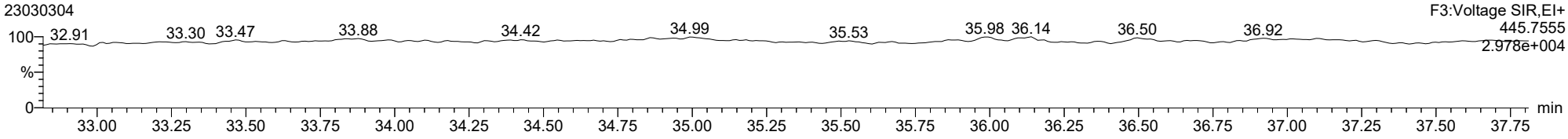

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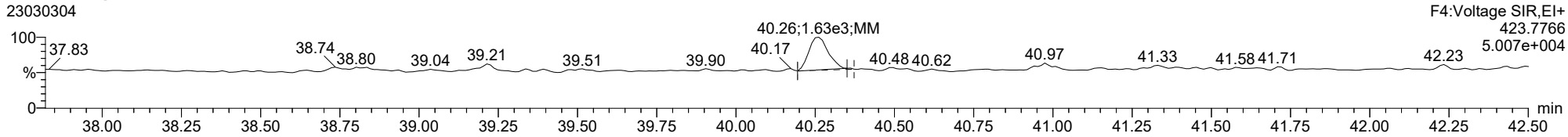

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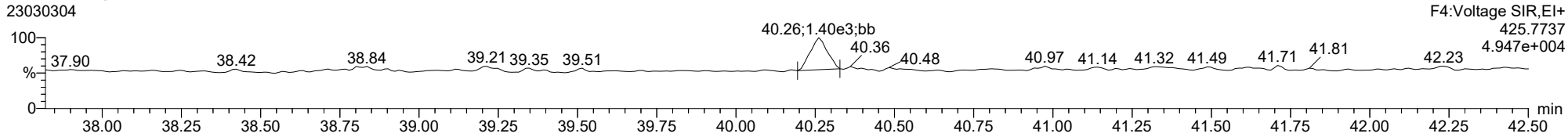

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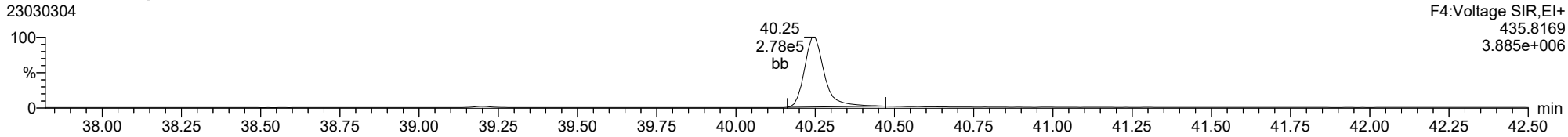

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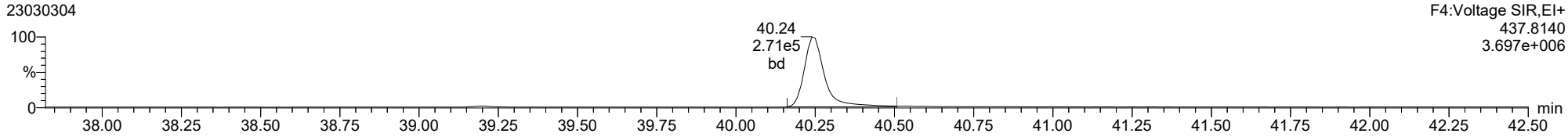
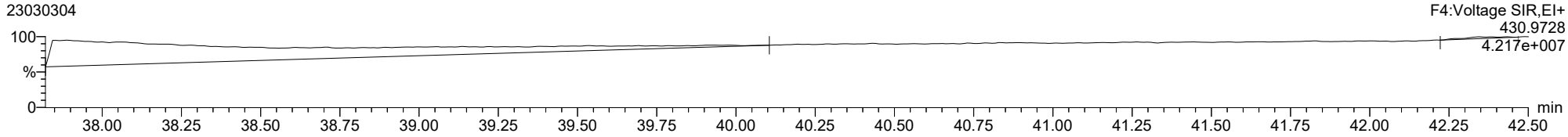


FUNCTION4 PFK



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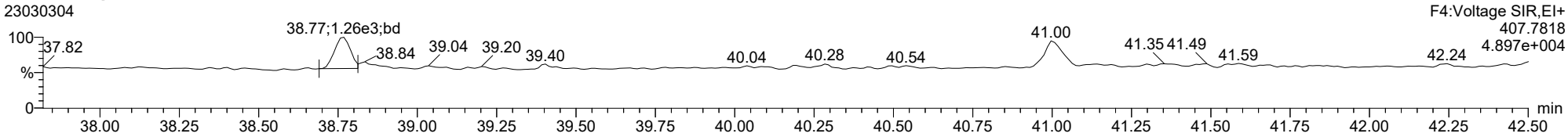

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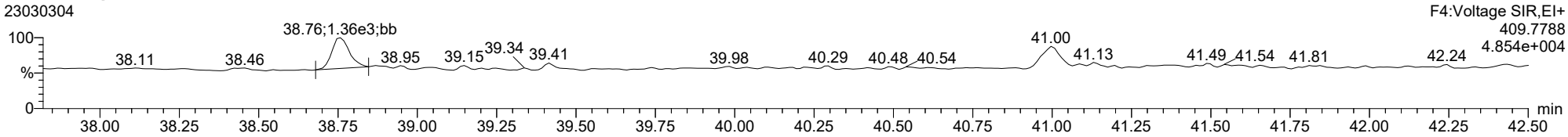

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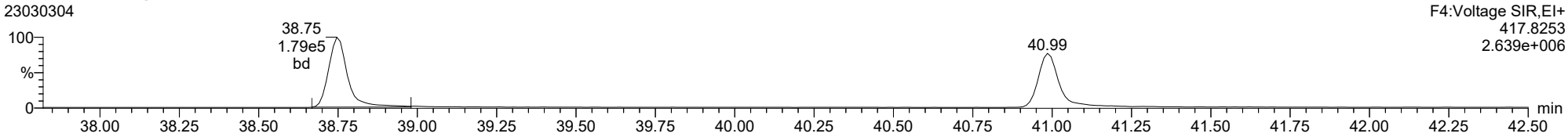

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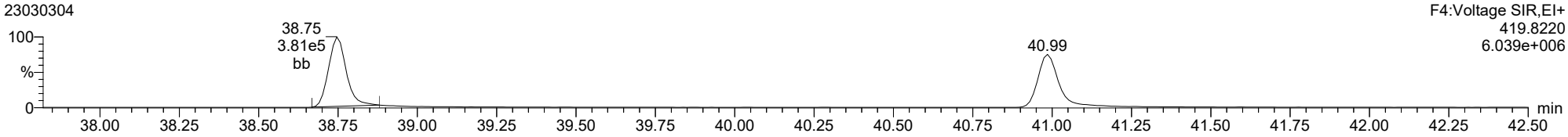

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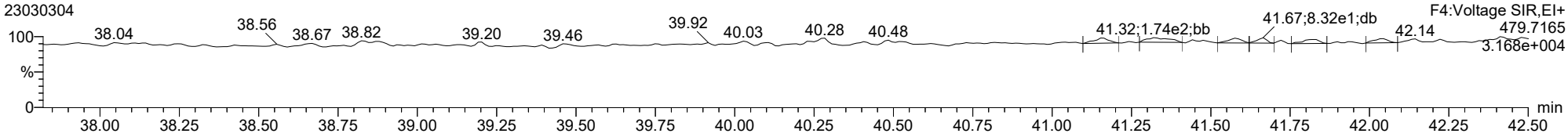

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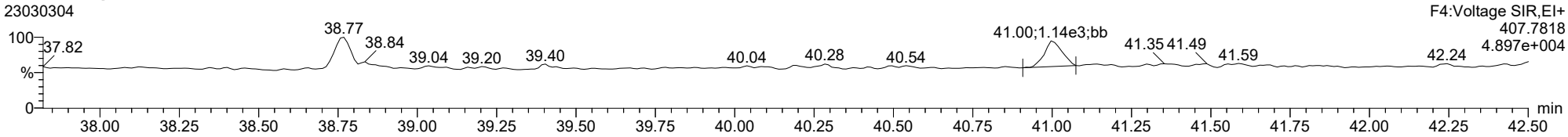

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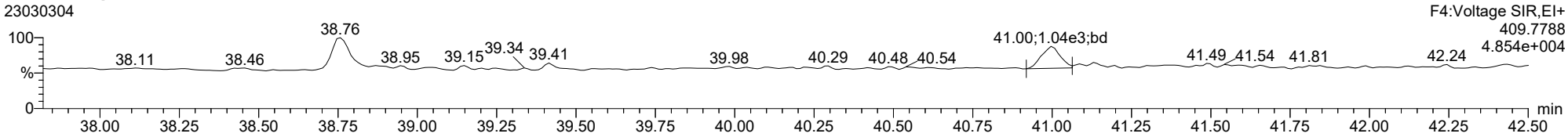

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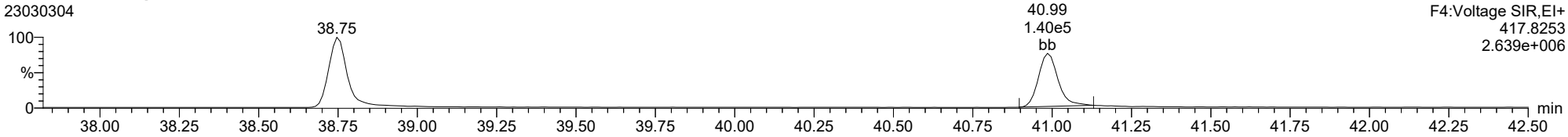

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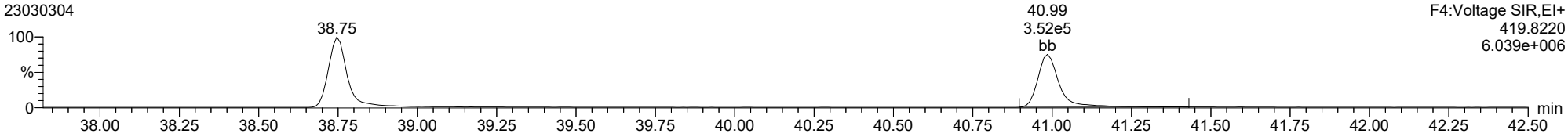

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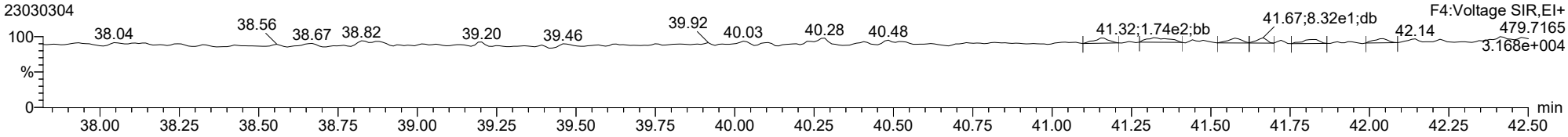

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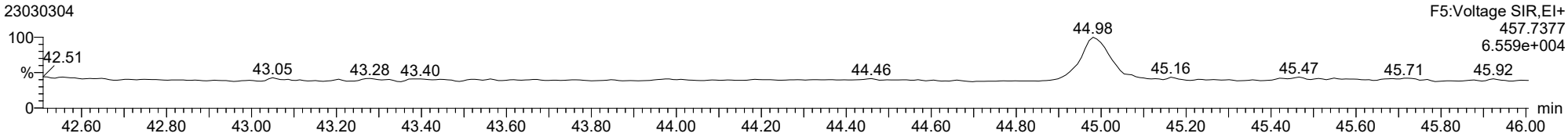
OCDD



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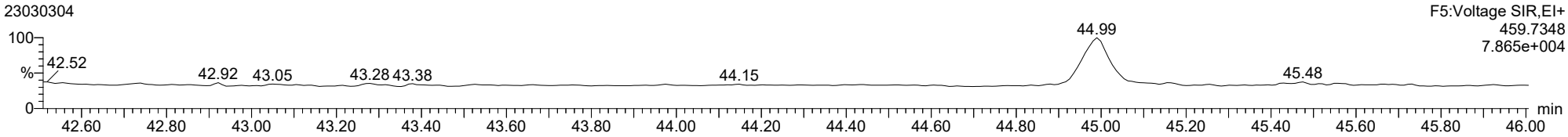

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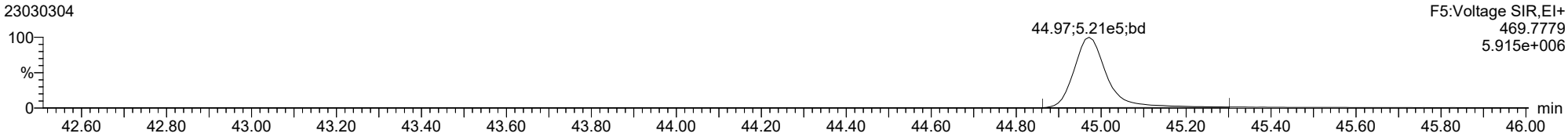

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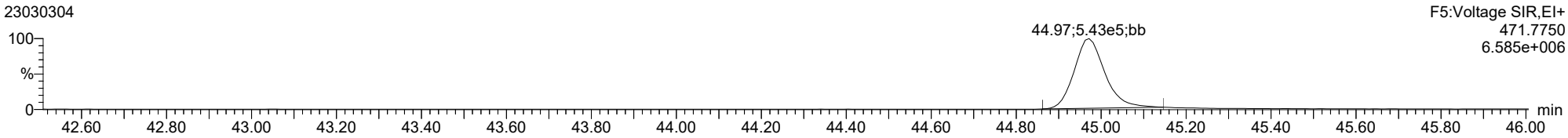

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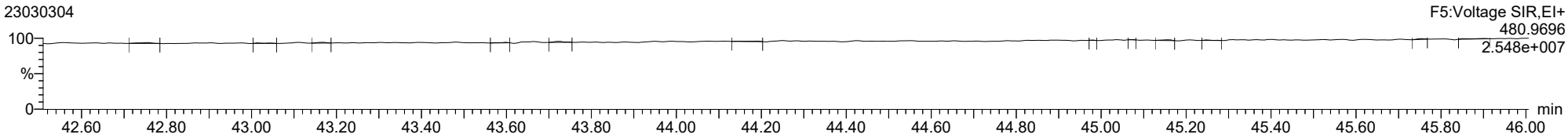

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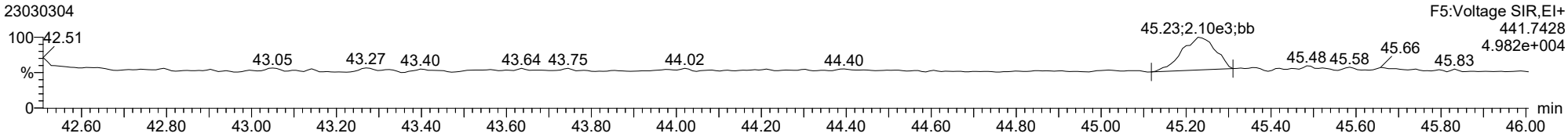

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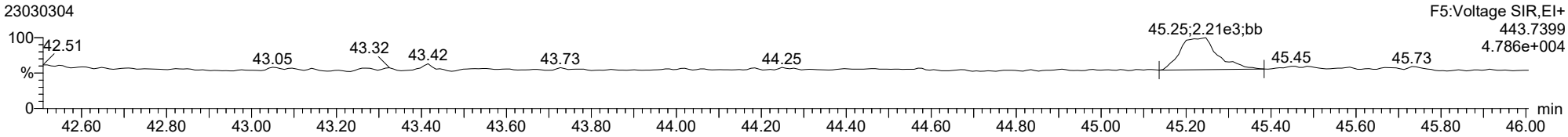

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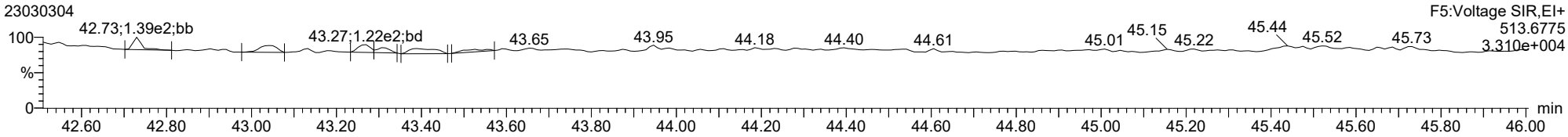

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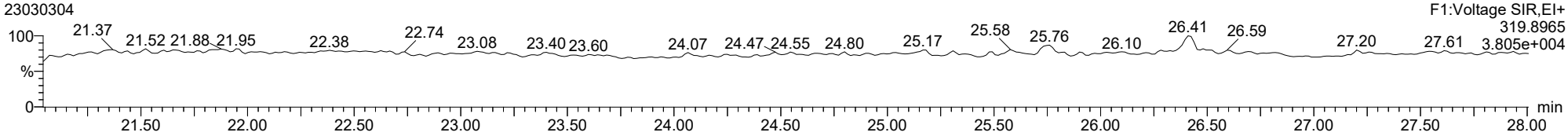
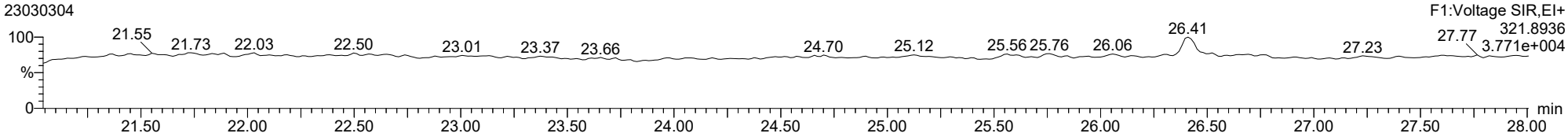
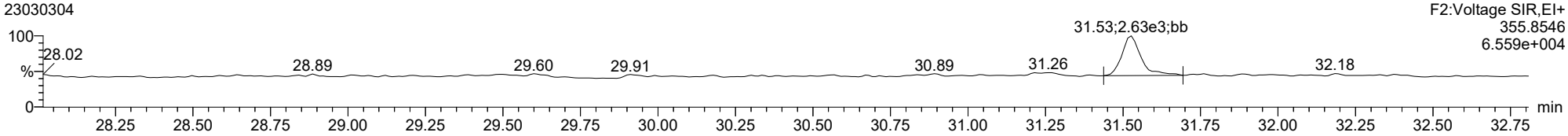
Total-tetradioxins



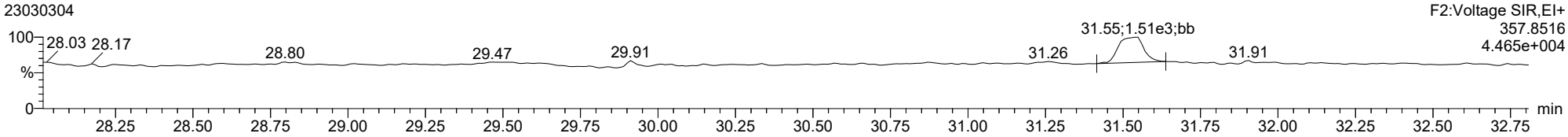
Total-tetradioxins



Total-pentadioxins



Total-pentadioxins



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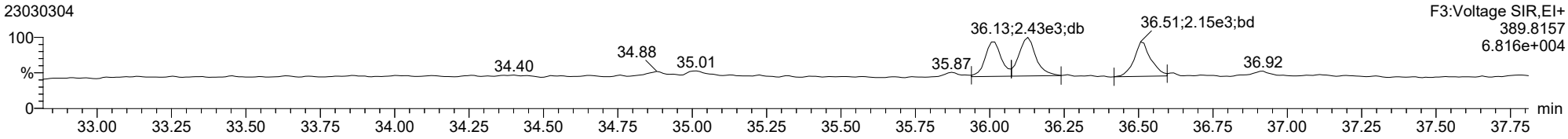

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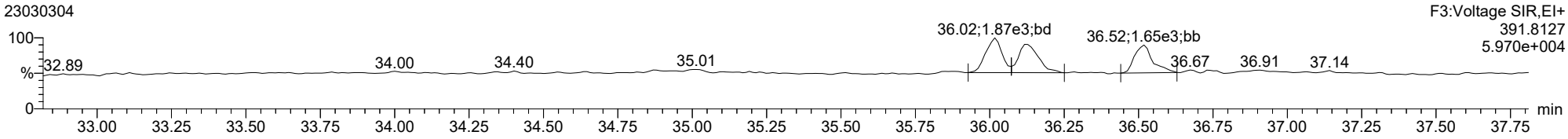
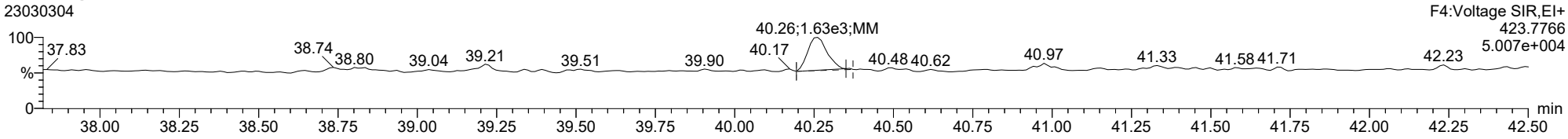


Total-heptadioxins



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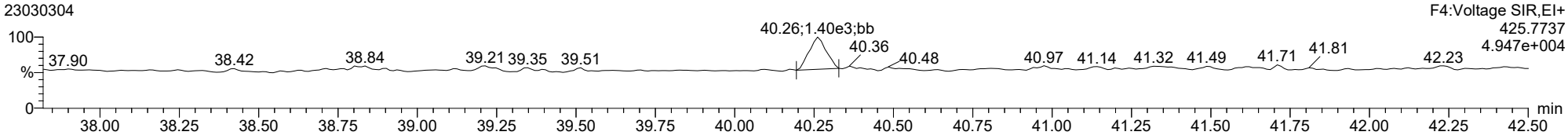
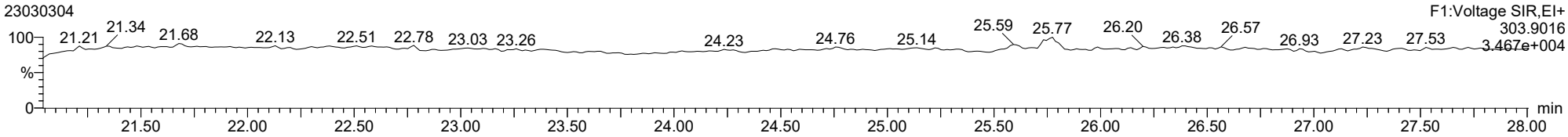
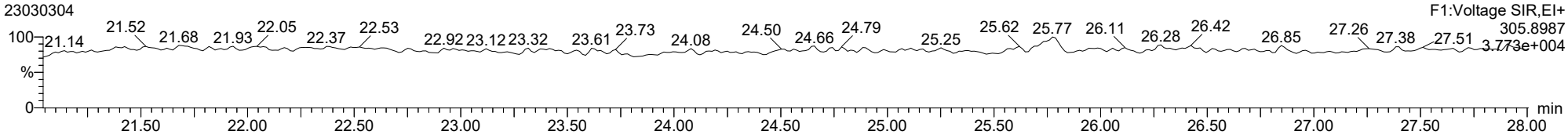


ID: CSLCW, Name: 23030304, Date: 03-Mar-2023, Time: 11:28:13, Conditions: AUTOSPEC01, User: pk

Total-tetrafurans



Total-tetrafurans



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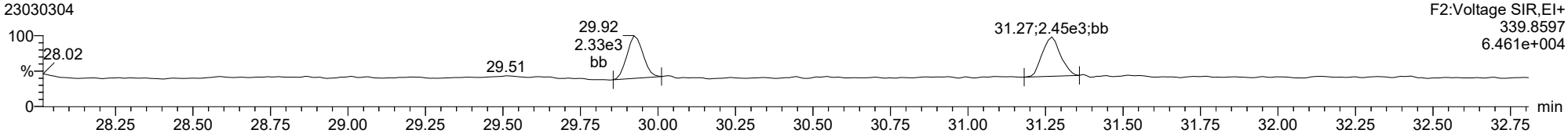

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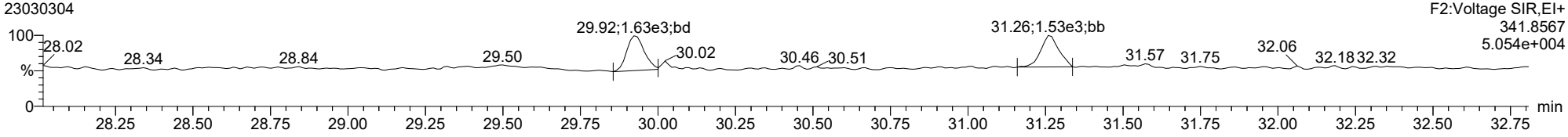

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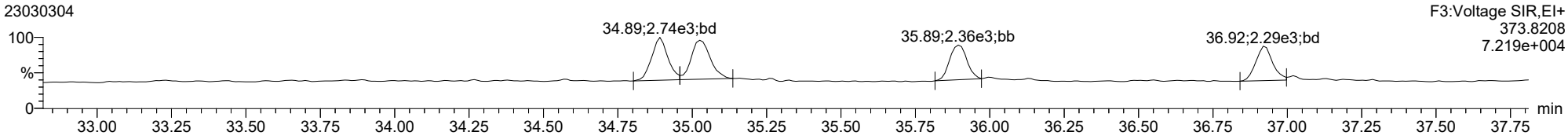
Total-hexafurans



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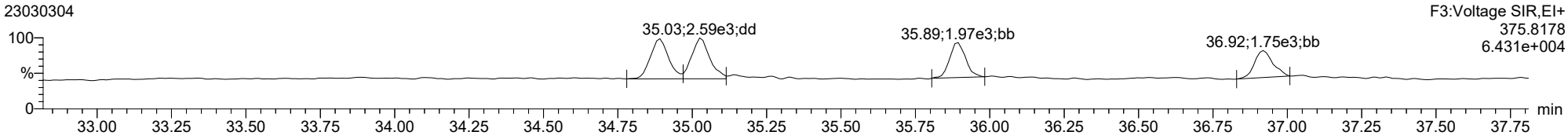

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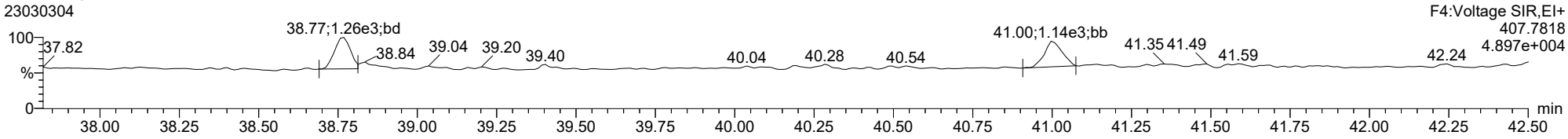

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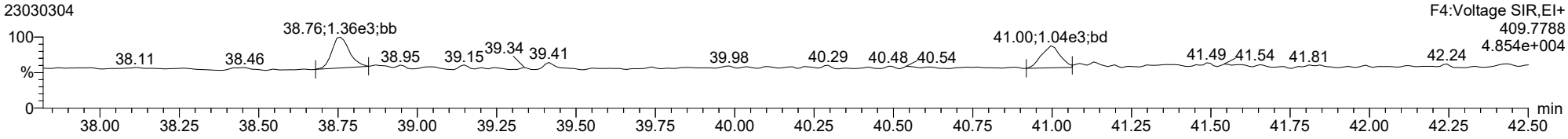

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Last Altered: Monday, March 06, 2023 10:57:27 Pacific Standard Time
Printed: Monday, March 06, 2023 11:34:10 Pacific Standard Time

Method: T:\Autospec\Methods\Dioxin230303.mdb 03 Mar 2023 14:58:50
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 10:57:27

ID: CS1CW, Name: 23030305, Date: 03-Mar-2023, Time: 12:23:58, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.788	1.001	1.705e3	2.516e3	0.702	0.678	0.770	886	1799	2.34e4	3.87e4	26.4	21.5	NO	bb	MM	0.494
12378-PeCDF	29.933	1.000	5.914e3	4.099e3	0.679	1.442	1.550	1151	1276	9.10e4	6.48e4	79.1	50.8	NO	bb	bb	2.168
23478-PeCDF	31.270	1.000	7.974e3	4.958e3	0.786	1.608	1.550	1151	1276	1.22e5	6.97e4	106.1	54.6	NO	bb	bb	2.386
123478-HxCDF	34.891	1.000	1.063e4	7.851e3	1.166	1.354	1.240	1046	1170	1.58e5	1.17e5	151.4	100.1	NO	bd	bd	2.532
234678-HxCDF	35.894	1.000	1.057e4	7.802e3	1.140	1.354	1.240	1046	1170	1.51e5	1.18e5	143.9	100.6	NO	bb	bb	2.503
123678-HxCDF	35.036	1.001	1.161e4	8.676e3	1.091	1.339	1.240	1046	1170	1.53e5	1.27e5	146.1	108.8	NO	dd	dd	2.416
123789-HxCDF	36.930	1.001	8.482e3	6.693e3	1.137	1.267	1.240	1046	1170	1.18e5	8.92e4	112.7	76.2	NO	bd	bb	2.462
1234678-HpCDF	38.768	1.000	7.253e3	6.596e3	1.003	1.100	1.050	811	627	1.05e5	9.73e4	128.9	155.1	NO	bb	bb	2.680
1234789-HpCDF	41.008	1.000	5.116e3	5.234e3	0.953	0.978	1.050	811	627	7.22e4	7.17e4	89.0	114.3	NO	bb	bb	2.342
OCDF	45.237	1.006	5.981e3	6.798e3	0.778	0.880	0.890	709	890	6.92e4	8.13e4	97.6	91.3	NO	MM	bd	4.559
2378-TCDD	26.424	1.001	2.272e3	2.723e3	1.149	0.834	0.770	1286	820	3.35e4	3.73e4	26.0	45.5	NO	bb	bb	0.486
12378-PeCDD	31.538	1.001	7.831e3	5.061e3	1.022	1.548	1.550	902	618	1.00e5	7.05e4	111.4	114.0	NO	bb	bd	2.348
123478-HxCDD	36.016	1.000	7.381e3	5.875e3	0.996	1.256	1.240	655	843	1.17e5	9.68e4	178.2	114.9	NO	bd	bd	2.415
123678-HxCDD	36.139	1.001	9.152e3	7.340e3	1.001	1.247	1.240	655	843	1.26e5	9.90e4	192.8	117.4	NO	db	dd	2.494
123789-HxCDD	36.518	1.011	7.480e3	5.936e3	0.907	1.260	1.240	655	843	1.06e5	8.62e4	162.4	102.3	NO	bd	bd	2.440
1234678-HpCDD	40.272	1.001	6.283e3	5.832e3	1.039	1.077	1.050	694	917	8.98e4	8.16e4	129.4	89.0	NO	bb	bd	2.337
OCDD	44.999	1.000	8.578e3	9.676e3	0.920	0.887	0.890	635	634	9.84e4	1.12e5	154.9	175.9	NO	bd	bb	5.505
13C-2378-TCDF	25.760	1.007	5.230e5	6.960e5	1.620	0.752	0.770	2566	1723	7.68e6	1.02e7	2994.2	5911.4	NO	bb	bb	98.043
13C-12378-PeCDF	29.922	1.169	4.082e5	2.718e5	1.240	1.502	1.550	3092	2294	5.44e6	3.64e6	1758.1	1584.9	NO	bd	bb	71.437
13C-23478-PeCDF	31.259	1.222	4.106e5	2.788e5	1.118	1.473	1.550	3092	2294	5.91e6	4.02e6	1912.5	1751.3	NO	bb	bb	80.373
13C-123478-HxCDF	34.880	0.955	2.117e5	4.140e5	1.168	0.511	0.510	1778	2186	3.18e6	6.21e6	1786.5	2841.3	NO	bd	bd	93.801
13C-123678-HxCDF	35.014	0.959	2.754e5	4.947e5	1.386	0.557	0.510	1778	2186	3.40e6	6.43e6	1911.3	2941.0	NO	db	db	97.276
13C-234678-HxCDF	35.882	0.983	2.122e5	4.318e5	1.129	0.491	0.510	1778	2186	3.04e6	5.98e6	1709.4	2734.1	NO	bb	bd	99.880
13C-123789-HxCDF	36.908	1.011	1.853e5	3.568e5	0.932	0.519	0.510	1778	2186	2.62e6	5.01e6	1471.0	2293.6	NO	bb	bb	101.893
13C-1234678-HpCDF	38.757	1.062	1.579e5	3.573e5	0.895	0.442	0.440	2049	3174	2.36e6	5.45e6	1151.3	1718.3	NO	bb	bb	100.794
13C-1234789-HpCDF	40.997	1.123	1.372e5	3.264e5	0.770	0.420	0.440	2049	3174	1.74e6	3.92e6	851.0	1236.7	NO	bd	bd	105.482
13C-1234-TCDD	25.591	0.000	3.429e5	4.245e5	1.000	0.808	0.770	2519	1748	5.22e6	6.49e6	2072.6	3712.2	NO	bb	bb	100.000
13C-2378-TCDD	26.396	1.031	3.982e5	4.964e5	1.152	0.802	0.770	2519	1748	5.51e6	6.93e6	2188.2	3962.8	NO	bb	bb	101.152
13C-12378-PeCDD	31.515	1.232	3.242e5	2.131e5	0.829	1.521	1.550	1586	877	4.46e6	2.78e6	2809.5	3168.1	NO	bb	bd	84.489
13C-123478-HxCDD	36.005	0.986	3.100e5	2.413e5	0.995	1.285	1.240	2517	1649	4.83e6	3.77e6	1920.9	2283.3	NO	bd	bd	97.050
13C-123678-HxCDD	36.117	0.989	3.700e5	2.908e5	1.157	1.273	1.240	2517	1649	5.06e6	4.03e6	2012.2	2442.3	NO	db	db	100.049
13C-1234678-HpCDD	40.250	1.102	2.556e5	2.433e5	0.840	1.051	1.050	2183	1602	3.48e6	3.29e6	1594.9	2052.3	NO	bb	bb	103.999
13C-OCDD	44.980	1.232	3.386e5	3.823e5	0.767	0.886	0.890	3187	1733	3.80e6	4.27e6	1193.7	2462.5	NO	bb	bb	164.498
13C-123789-HxCDD	36.507	0.000	3.194e5	2.515e5	1.000	1.270	1.240	2517	1649	4.46e6	3.59e6	1770.5	2177.4	NO	bb	bb	100.000
37CL-2378-TCDD	26.424	1.033	5.065e3		1.288			2040		7.28e4		35.7			bb		0.513

Dataset: T:\Autospec\Processed Data Batch\230303ICIH.qld
Last Altered: Monday, March 06, 2023 10:57:27 Pacific Standard Time
Printed: Monday, March 06, 2023 11:34:10 Pacific Standard Time

ID: CS1CW, Name: 23030305, Date: 03-Mar-2023, Time: 12:23:58, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF					0.802		0.770	886	1799								
1289-TCDF					0.678		0.770	886	1799								
13468-PECDF					1.246		1.550	811	1221								
12389-PECDF					0.496		1.550	1151	1276								
123468-HXCDF					1.169		1.240	1046	1170								
1368-TCDD					1.015		0.770	1286	820								
1289-TCDD					0.909		0.770	1286	820								
12479-PECDD					2.301		1.550	902	618								
12389-PECDD					1.184		1.550	902	618								
124679-HXCDD					1.115		1.240	655	843								
1234679-HPCDD					1.137		1.050	694	917								
Total-tetrafurans			1.705e3		0.727			886		2.34e4							0.494
Total-penta1			0.000e0					811		0.00e0							
Total-pentafurans			1.389e4		0.654			1151		2.13e5							4.554
Total-hexafurans			4.139e4		1.141			1046		5.82e5							9.938
Total-heptafurans			1.237e4		0.978			811		1.77e5							5.023
Total-Furans			7.533e4		0.922			886		1.06e6							24.566
Total-tetradioxins			2.272e3		1.024			1286		3.35e4							0.486
Total-pentadioxins			7.831e3		1.502			902		1.00e5							2.348
Total-hexadioxins			2.401e4		1.005			655		3.49e5							7.349
Total-heptadioxins			6.283e3		1.088			694		8.98e4							2.337
Total-Dioxins			4.898e4		1.130			1286		6.72e5							18.025
Total-TEQ			1.243e5					1286		1.74e6							42.592
FUNCTION1 PFK			0.000e0					501375		0.00e0							
FUNCTION2 PFK			7.687e6					300953		7.99e6							0.000
FUNCTION3 PFK			1.081e7					473463		1.95e7							0.000
FUNCTION4 PFK			1.035e7					332160		2.87e6							
FUNCTION5 PFK			6.101e5					195111		8.38e5							
FUNCTION1 HXCD...			6.739e2					611		6.36e3							0.000
FUNCTION1 HPCD...																	
FUNCTION2 HPCD...			7.361e2					923		1.83e4							0.000
FUNCTION3 OCDPE			2.008e2					596		2.61e3							0.000
FUNCTION4 NCDPE			9.397e1					539		1.40e3							0.000
FUNCTION5 DCDPE			1.677e2					561		3.39e3							0.000

Method: T:\Autospec\Methods\Dioxin230303.mdb 03 Mar 2023 14:58:50
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 10:57:27

ID: CS1CW, Name: 23030305, Date: 03-Mar-2023, Time: 12:23:58, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.79	1.705e3	2.516e3	0.702	0.68	0.77	26.4	YES	NO	bb	MM	0.494

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	23478-PeCDF	31.27	7.974e3	4.958e3	0.786	1.61	1.55	106.1	YES	NO	bb	bb	2.386
2	12378-PeCDF	29.93	5.914e3	4.099e3	0.679	1.44	1.55	79.1	YES	NO	bb	bb	2.168

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.93	8.482e3	6.693e3	1.137	1.27	1.24	112.7	YES	NO	bd	bb	2.462
2	234678-HxCDF	35.89	1.057e4	7.802e3	1.140	1.35	1.24	143.9	YES	NO	bb	bb	2.503
3	Total-hexafurans	35.23	1.011e2	8.523e1	1.141	1.19	1.24	2.2	NO	NO	db	db	0.025
4	123678-HxCDF	35.04	1.161e4	8.676e3	1.091	1.34	1.24	146.1	YES	NO	dd	dd	2.416
5	123478-HxCDF	34.89	1.063e4	7.851e3	1.166	1.35	1.24	151.4	YES	NO	bd	bd	2.532

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDF	38.77	7.253e3	6.596e3	1.003	1.10	1.05	128.9	YES	NO	bb	bb	2.680
2	1234789-HpCDF	41.01	5.116e3	5.234e3	0.953	0.98	1.05	89.0	YES	NO	bb	bb	2.342

ID: CS1CW, Name: 23030305, Date: 03-Mar-2023, Time: 12:23:58, Conditions: AUTOSPEC01, User: pk

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	23478-PeCDF	31.27	7.974e3	4.958e3	0.786	1.61	1.55	106.1	YES	NO	bb	bb	2.386
2	12378-PeCDF	29.93	5.914e3	4.099e3	0.679	1.44	1.55	79.1	YES	NO	bb	bb	2.168
3	2378-TCDF	25.79	1.705e3	2.516e3	0.702	0.68	0.77	26.4	YES	NO	bb	MM	0.494
4	123789-HxCDF	36.93	8.482e3	6.693e3	1.137	1.27	1.24	112.7	YES	NO	bd	bb	2.462
5	234678-HxCDF	35.89	1.057e4	7.802e3	1.140	1.35	1.24	143.9	YES	NO	bb	bb	2.503
6	Total-hexafurans	35.23	1.011e2	8.523e1	1.141	1.19	1.24	2.2	NO	NO	db	db	0.025
7	123678-HxCDF	35.04	1.161e4	8.676e3	1.091	1.34	1.24	146.1	YES	NO	dd	dd	2.416
8	123478-HxCDF	34.89	1.063e4	7.851e3	1.166	1.35	1.24	151.4	YES	NO	bd	bd	2.532
9	1234678-HpCDF	38.77	7.253e3	6.596e3	1.003	1.10	1.05	128.9	YES	NO	bb	bb	2.680
10	OCDF	45.24	5.981e3	6.798e3	0.778	0.88	0.89	97.6	YES	NO	MM	bd	4.559
11	1234789-HpCDF	41.01	5.116e3	5.234e3	0.953	0.98	1.05	89.0	YES	NO	bb	bb	2.342

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDD	26.42	2.272e3	2.723e3	1.149	0.83	0.77	26.0	YES	NO	bb	bb	0.486

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDD	31.54	7.831e3	5.061e3	1.022	1.55	1.55	111.4	YES	NO	bb	bd	2.348

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDD	36.52	7.480e3	5.936e3	0.907	1.26	1.24	162.4	YES	NO	bd	bd	2.440
2	123678-HxCDD	36.14	9.152e3	7.340e3	1.001	1.25	1.24	192.8	YES	NO	db	dd	2.494
3	123478-HxCDD	36.02	7.381e3	5.875e3	0.996	1.26	1.24	178.2	YES	NO	bd	bd	2.415

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.27	6.283e3	5.832e3	1.039	1.08	1.05	129.4	YES	NO	bb	bd	2.337

ID: CS1CW, Name: 23030305, Date: 03-Mar-2023, Time: 12:23:58, Conditions: AUTOSPEC01, User: pk

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDD	26.42	2.272e3	2.723e3	1.149	0.83	0.77	26.0	YES	NO	bb	bb	0.486
2	123789-HxCDD	36.52	7.480e3	5.936e3	0.907	1.26	1.24	162.4	YES	NO	bd	bd	2.440
3	123678-HxCDD	36.14	9.152e3	7.340e3	1.001	1.25	1.24	192.8	YES	NO	db	dd	2.494
4	123478-HxCDD	36.02	7.381e3	5.875e3	0.996	1.26	1.24	178.2	YES	NO	bd	bd	2.415
5	12378-PeCDD	31.54	7.831e3	5.061e3	1.022	1.55	1.55	111.4	YES	NO	bb	bd	2.348
6	1234678-HpCDD	40.27	6.283e3	5.832e3	1.039	1.08	1.05	129.4	YES	NO	bb	bd	2.337
7	OCDD	45.00	8.578e3	9.676e3	0.920	0.89	0.89	154.9	YES	NO	bd	bb	5.505

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	23478-PeCDF	31.27	7.974e3	4.958e3	0.786	1.61	1.55	106.1	YES	NO	bb	bb	2.386
2	12378-PeCDF	29.93	5.914e3	4.099e3	0.679	1.44	1.55	79.1	YES	NO	bb	bb	2.168
3	2378-TCDF	25.79	1.705e3	2.516e3	0.702	0.68	0.77	26.4	YES	NO	bb	MM	0.494
4	123789-HxCDF	36.93	8.482e3	6.693e3	1.137	1.27	1.24	112.7	YES	NO	bd	bb	2.462
5	234678-HxCDF	35.89	1.057e4	7.802e3	1.140	1.35	1.24	143.9	YES	NO	bb	bb	2.503
6	Total-hexafurans	35.23	1.011e2	8.523e1	1.141	1.19	1.24	2.2	NO	NO	db	db	0.025
7	123678-HxCDF	35.04	1.161e4	8.676e3	1.091	1.34	1.24	146.1	YES	NO	dd	dd	2.416
8	123478-HxCDF	34.89	1.063e4	7.851e3	1.166	1.35	1.24	151.4	YES	NO	bd	bd	2.532
9	1234678-HpCDF	38.77	7.253e3	6.596e3	1.003	1.10	1.05	128.9	YES	NO	bb	bb	2.680
10	OCDF	45.24	5.981e3	6.798e3	0.778	0.88	0.89	97.6	YES	NO	MM	bd	4.559
11	1234789-HpCDF	41.01	5.116e3	5.234e3	0.953	0.98	1.05	89.0	YES	NO	bb	bb	2.342
12	2378-TCDD	26.42	2.272e3	2.723e3	1.149	0.83	0.77	26.0	YES	NO	bb	bb	0.486
13	123789-HxCDD	36.52	7.480e3	5.936e3	0.907	1.26	1.24	162.4	YES	NO	bd	bd	2.440
14	123678-HxCDD	36.14	9.152e3	7.340e3	1.001	1.25	1.24	192.8	YES	NO	db	dd	2.494
15	123478-HxCDD	36.02	7.381e3	5.875e3	0.996	1.26	1.24	178.2	YES	NO	bd	bd	2.415
16	12378-PeCDD	31.54	7.831e3	5.061e3	1.022	1.55	1.55	111.4	YES	NO	bb	bd	2.348
17	1234678-HpCDD	40.27	6.283e3	5.832e3	1.039	1.08	1.05	129.4	YES	NO	bb	bd	2.337
18	OCDD	45.00	8.578e3	9.676e3	0.920	0.89	0.89	154.9	YES	NO	bd	bb	5.505

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	30.41	6.929e5					4.3	YES		bb		0.000
2	FUNCTION2 PFK	28.05	6.994e6					22.3	YES		bb		0.000

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	37.60	1.788e4					1.3	NO		bb		0.000
2	FUNCTION3 PFK	36.61	1.585e4					1.4	NO		bb		0.000
3	FUNCTION3 PFK	36.53	6.942e3					0.8	NO		bb		0.000
4	FUNCTION3 PFK	33.99	9.502e3					0.9	NO		bb		0.000
5	FUNCTION3 PFK	33.78	4.298e6					7.0	YES		db		0.000
6	FUNCTION3 PFK	33.15	6.467e6					29.8	YES		bd		0.000

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	38.85	1.035e7					8.6	YES		bb		

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	42.97	6.101e5					4.3	YES		bb		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	27.27	8.033e1					1.9	NO		bb		0.000
2	FUNCTION1 HXCD...	24.98	2.706e2					3.4	YES		bb		0.000
3	FUNCTION1 HXCD...	22.17	1.286e2					2.0	NO		bb		0.000
4	FUNCTION1 HXCD...	21.47	8.089e1					1.9	NO		bb		0.000
5	FUNCTION1 HXCD...	21.17	1.135e2					1.3	NO		bb		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

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ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	32.66	1.045e2					4.3	YES		db		0.000
2	FUNCTION2 HPCD...	32.58	1.134e2					3.0	NO		bd		0.000
3	FUNCTION2 HPCD...	31.88	7.272e1					1.9	NO		bb		0.000
4	FUNCTION2 HPCD...	30.71	7.070e1					1.8	NO		bb		0.000
5	FUNCTION2 HPCD...	30.13	1.134e2					2.5	NO		bb		0.000
6	FUNCTION2 HPCD...	28.92	7.142e1					2.0	NO		bb		0.000
7	FUNCTION2 HPCD...	28.66	9.983e1					2.2	NO		bb		0.000
8	FUNCTION2 HPCD...	28.24	9.016e1					2.1	NO		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	36.50	2.008e2					4.4	YES		bb		0.000

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	41.59	9.397e1					2.6	NO		bb		0.000

ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 DCDPE	44.72	7.355e1					2.5	NO		bb		0.000
2	FUNCTION5 DCDPE	44.30	9.416e1					3.6	YES		bb		0.000

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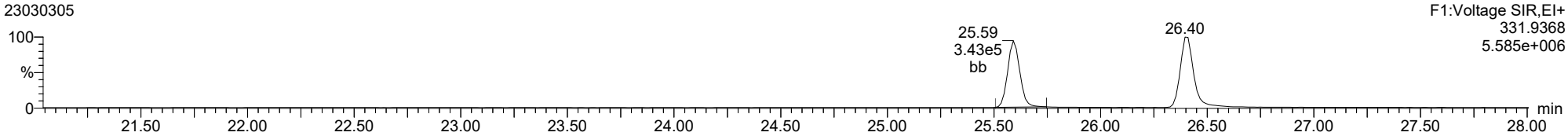

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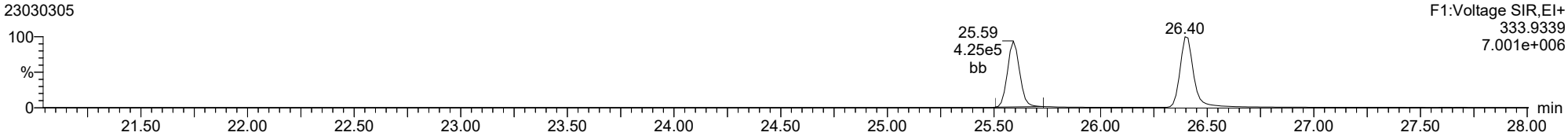

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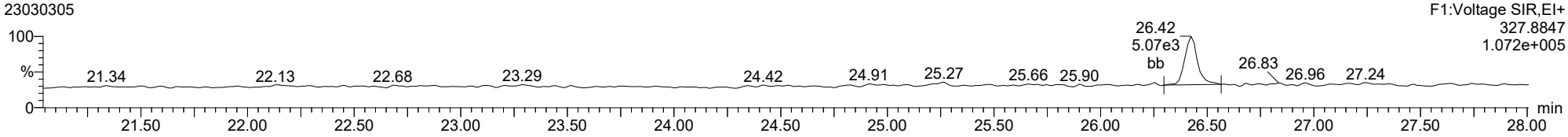

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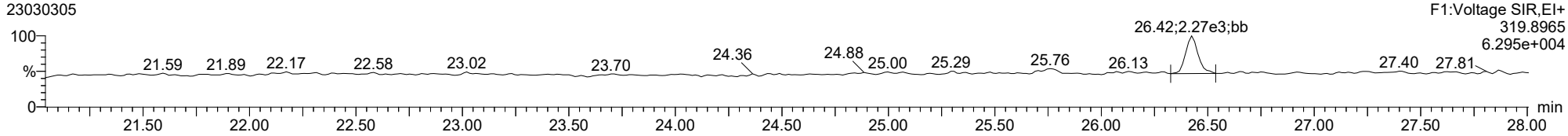

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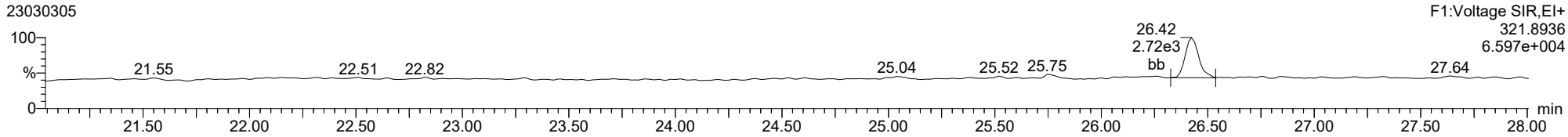

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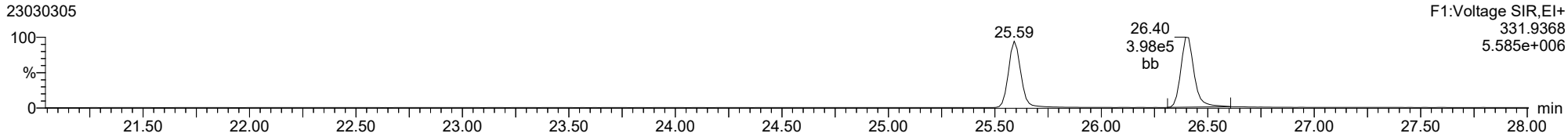

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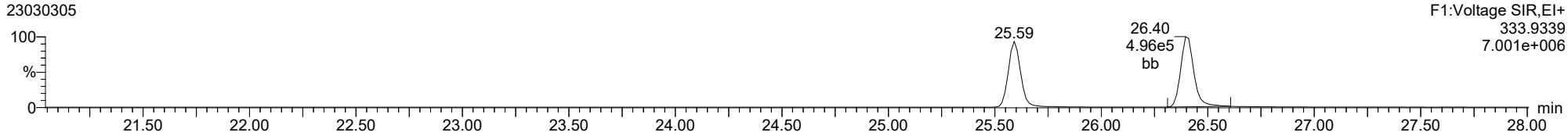

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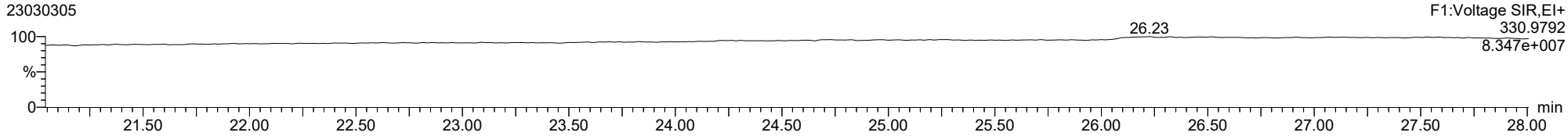

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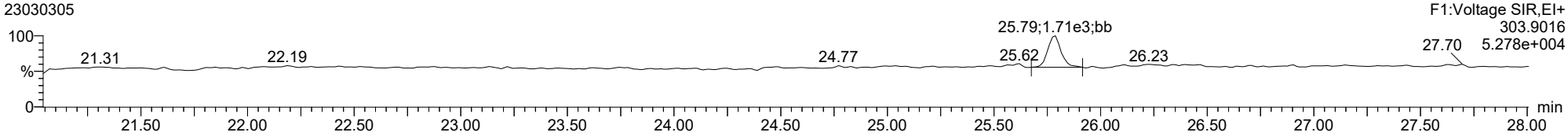

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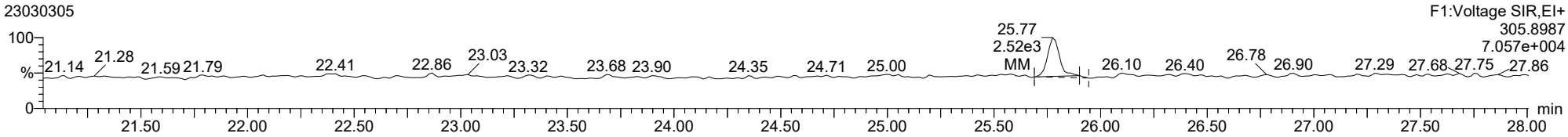

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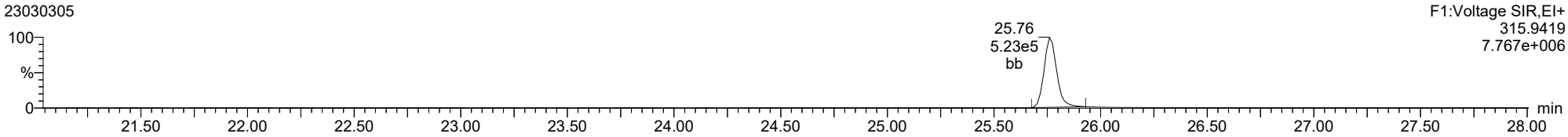

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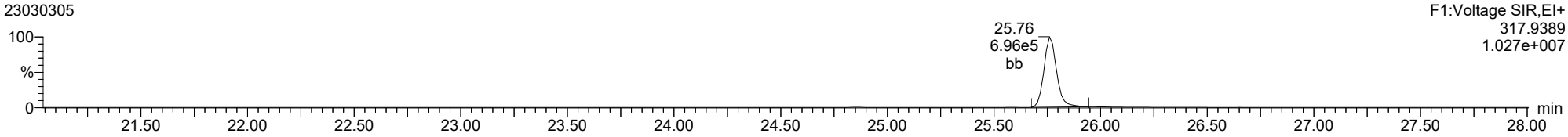
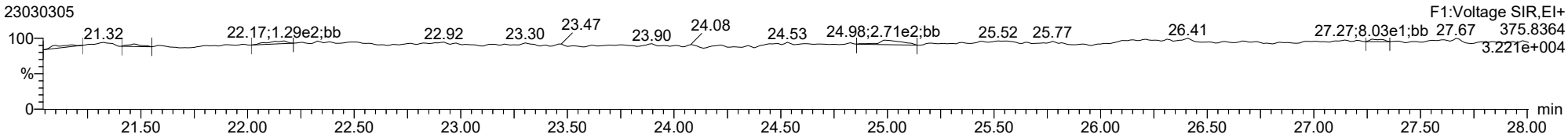


FUNCTION1 HXCDPE



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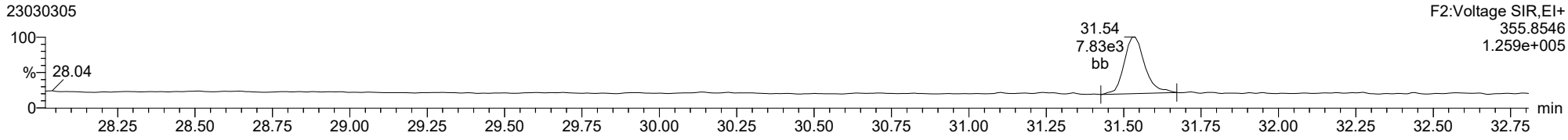
12378-PeCDD



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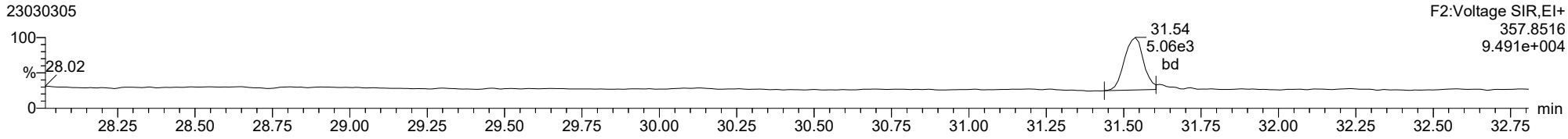

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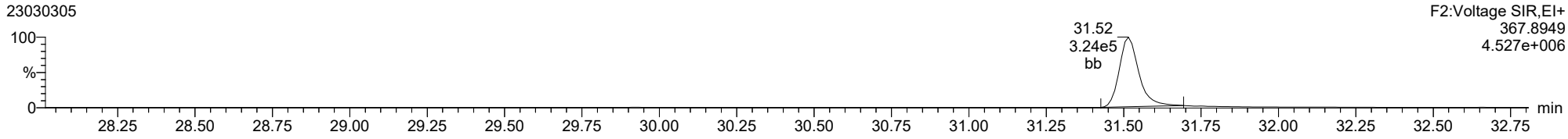

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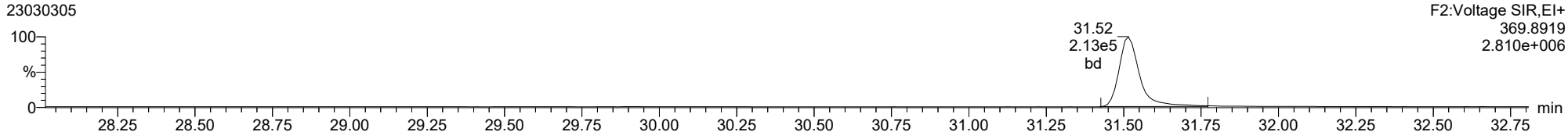
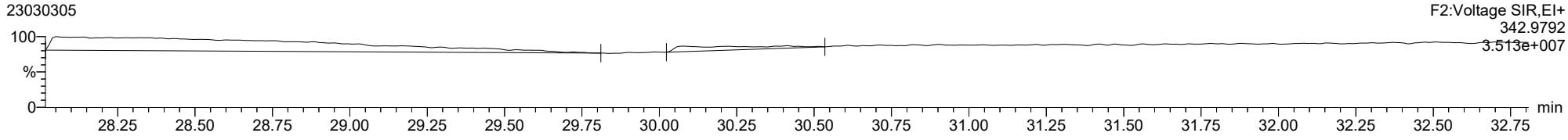


FUNCTION2 PFK



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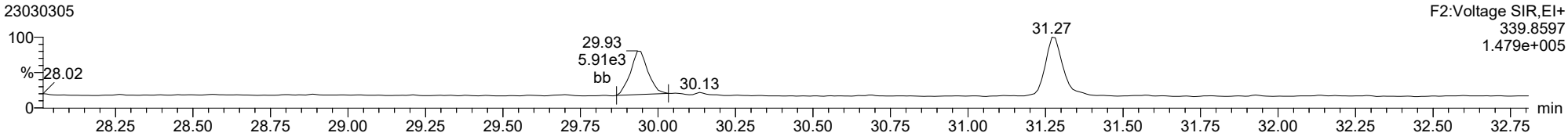

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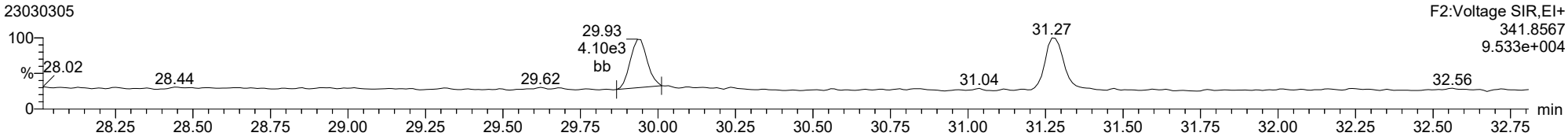

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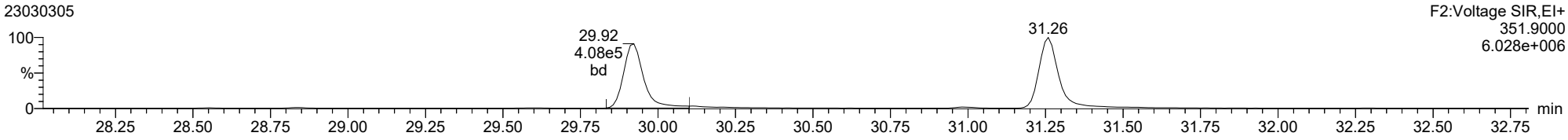

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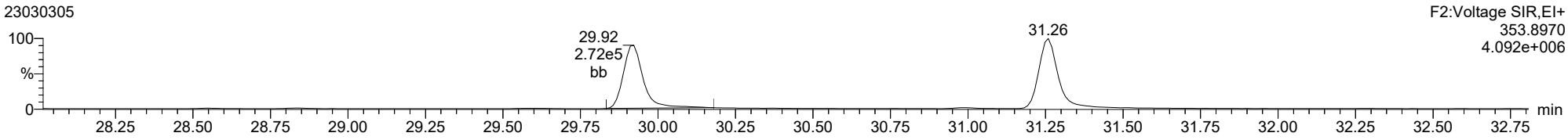

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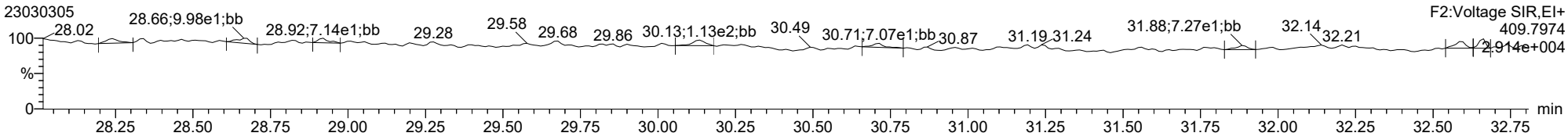

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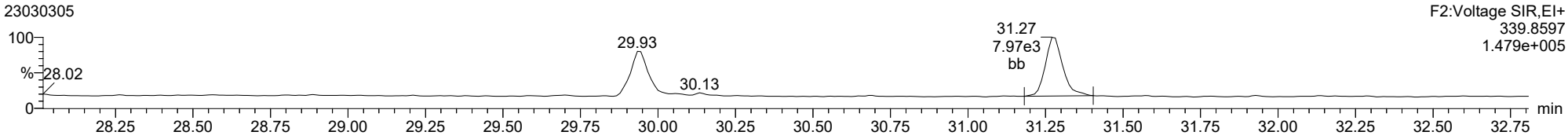
23478-PeCDF



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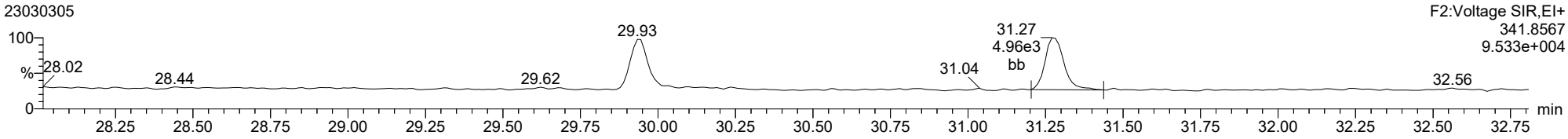

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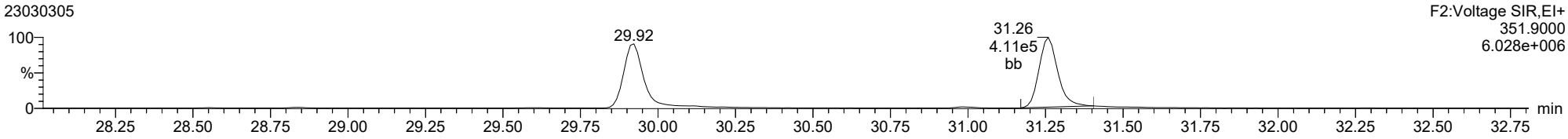

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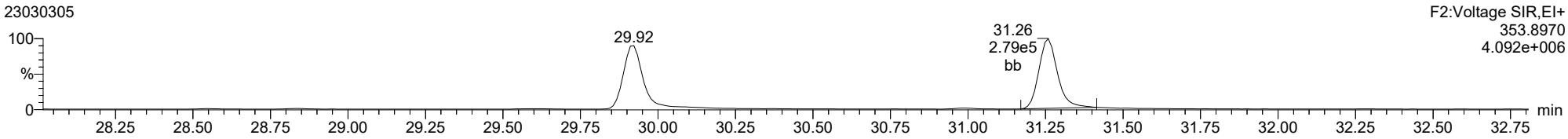

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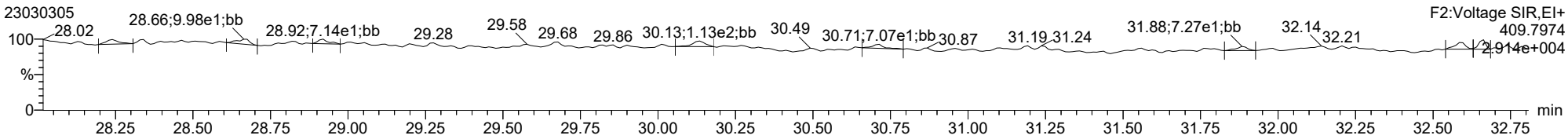

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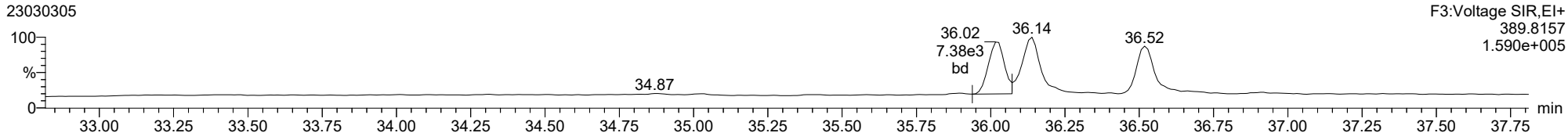
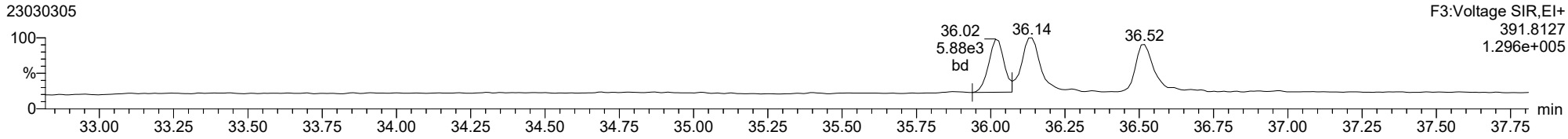
123478-HxCDD



123478-HxCDD



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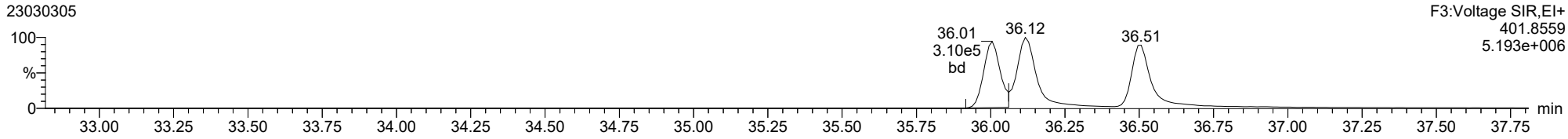

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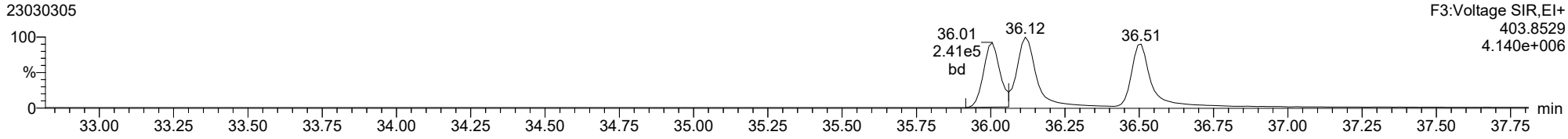
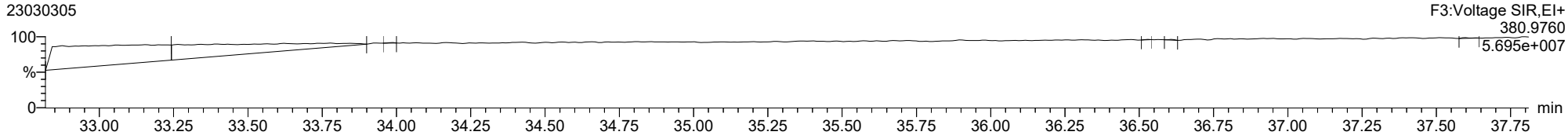


FUNCTION3 PFK



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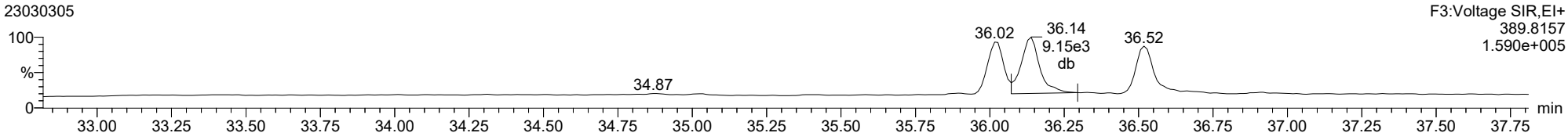
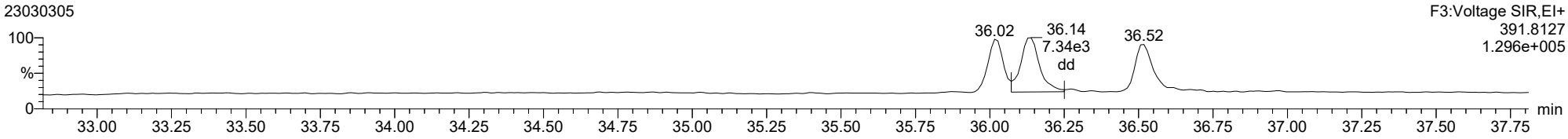
123678-HxCDD



123678-HxCDD



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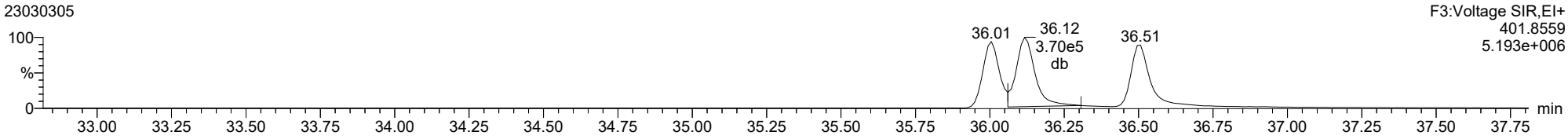

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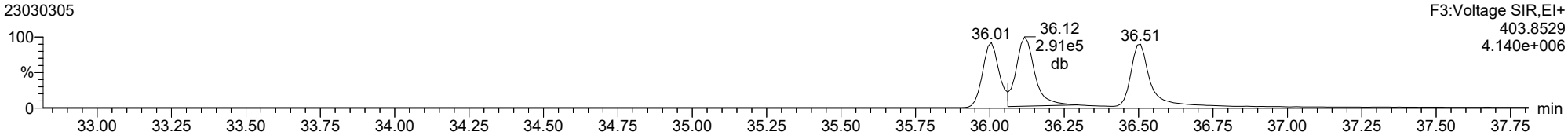

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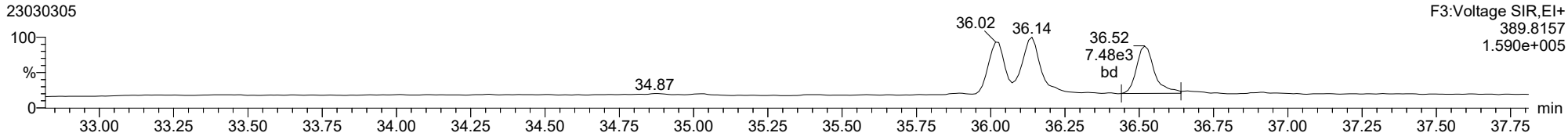

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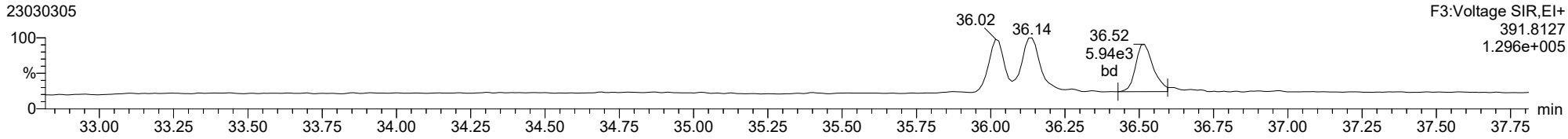

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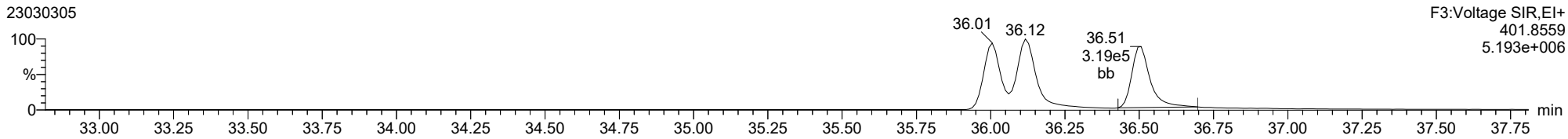

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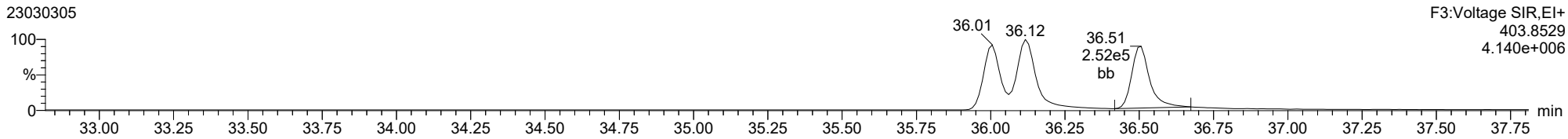

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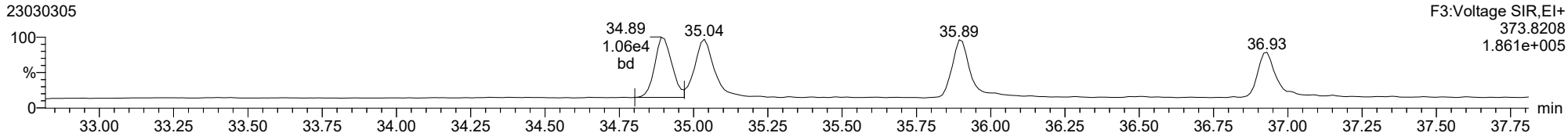

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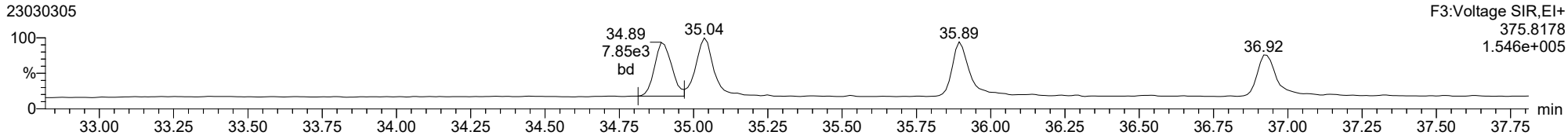

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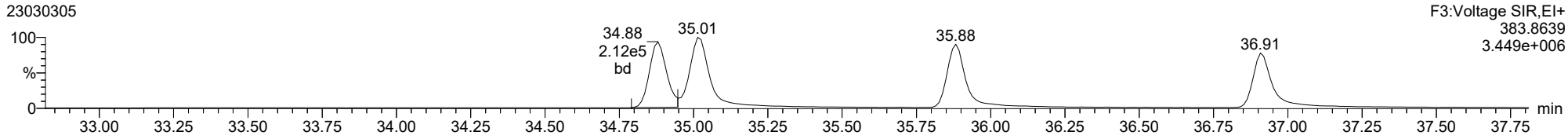

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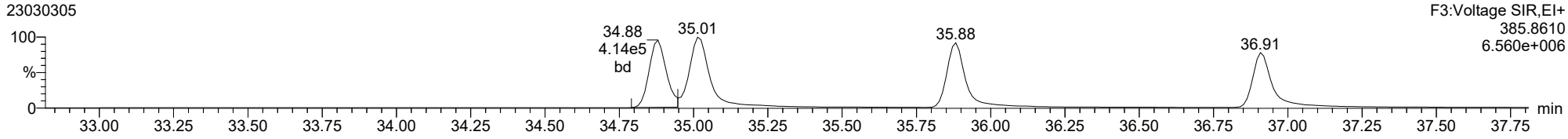

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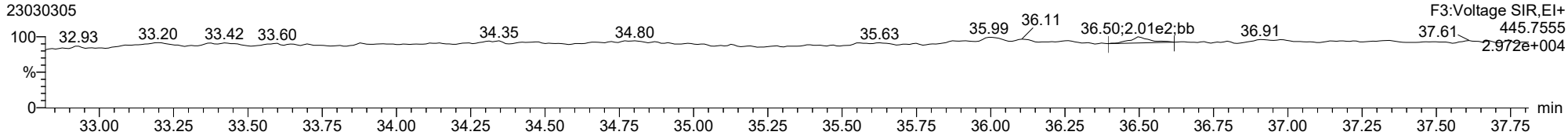

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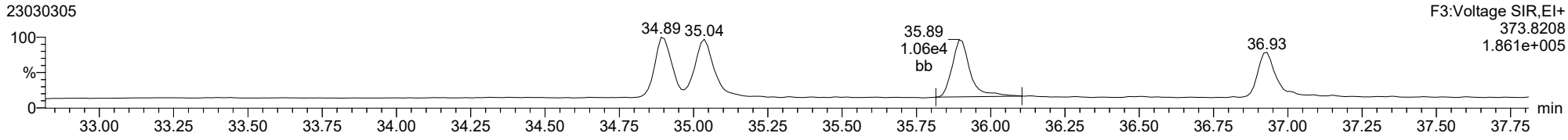

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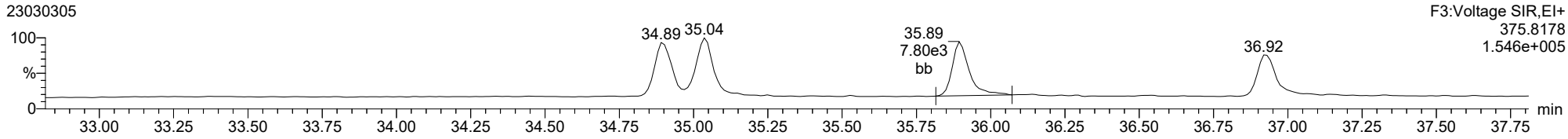

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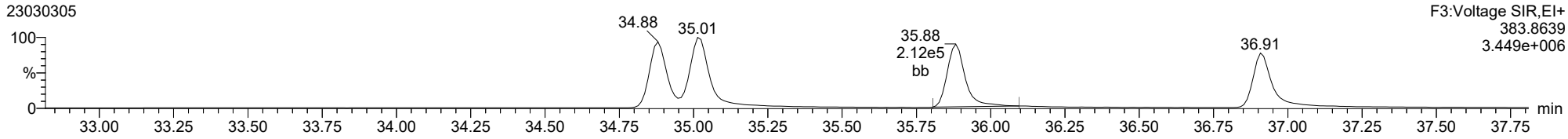

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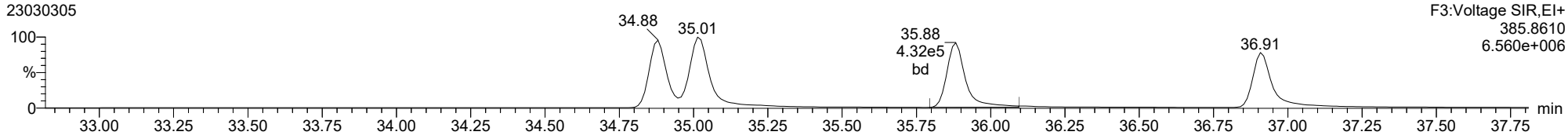

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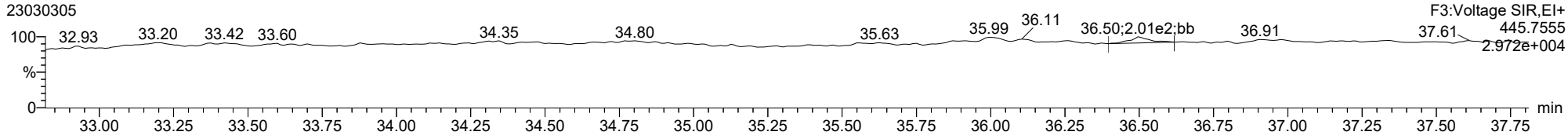

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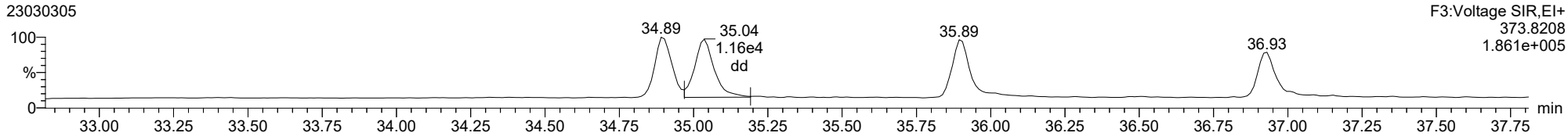

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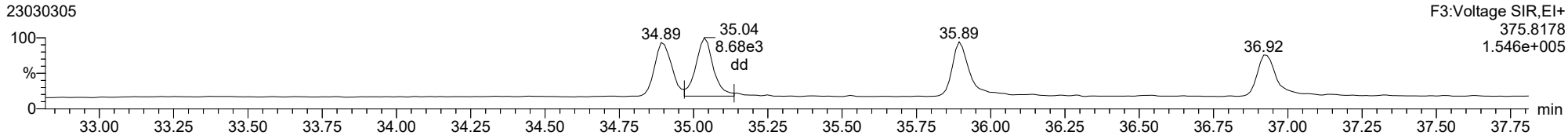

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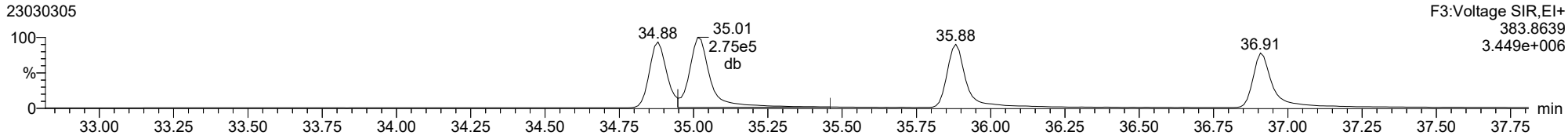

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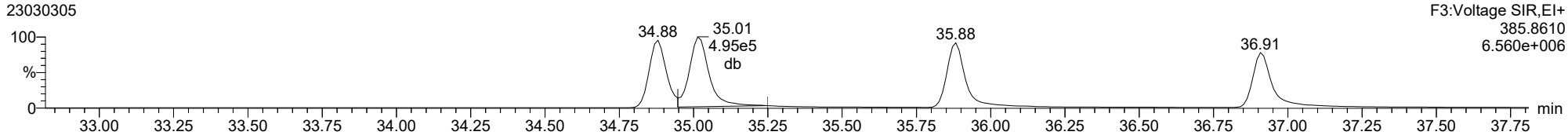

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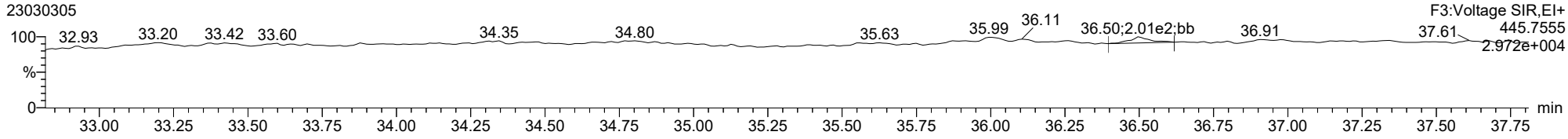

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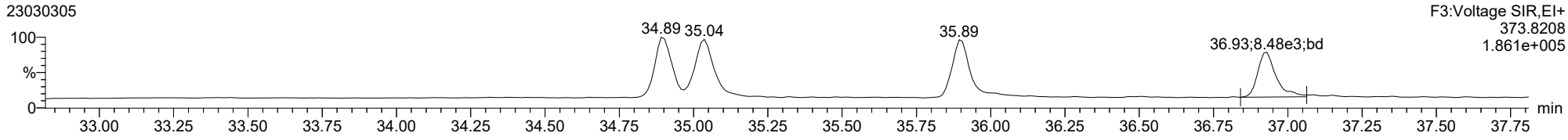

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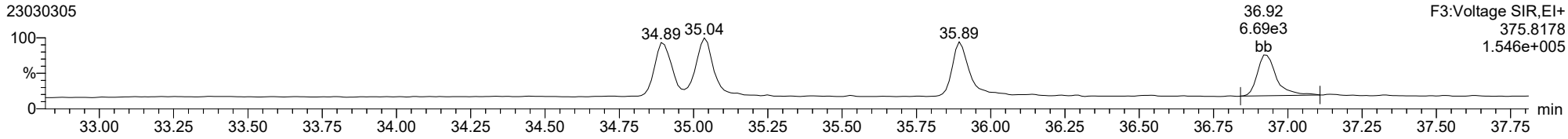

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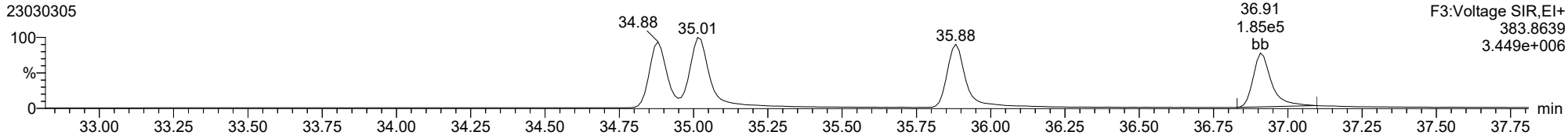

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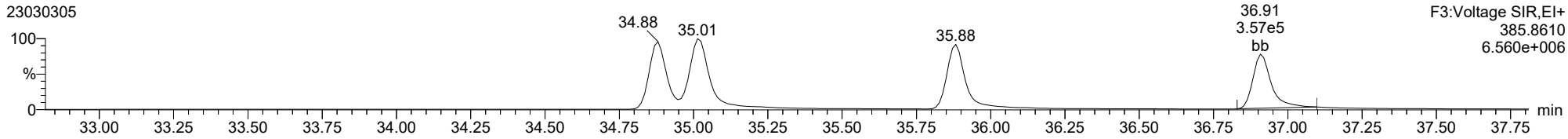

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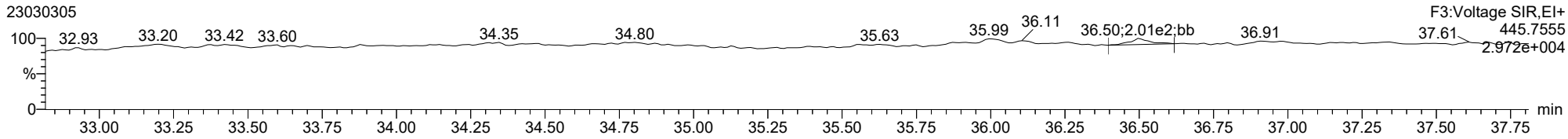

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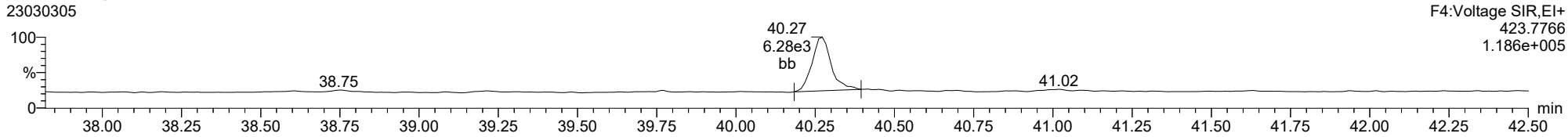

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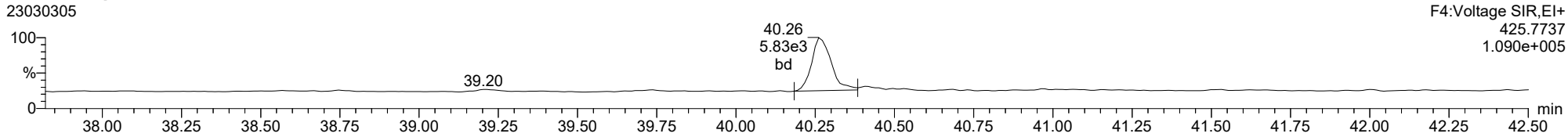

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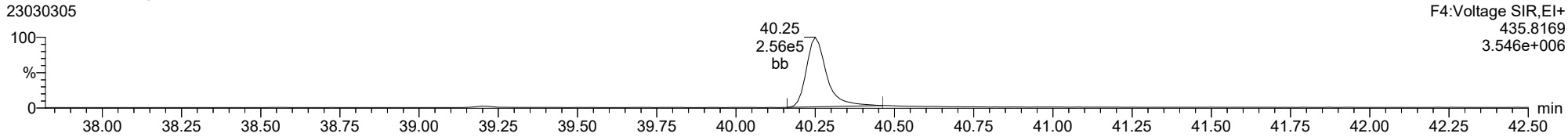

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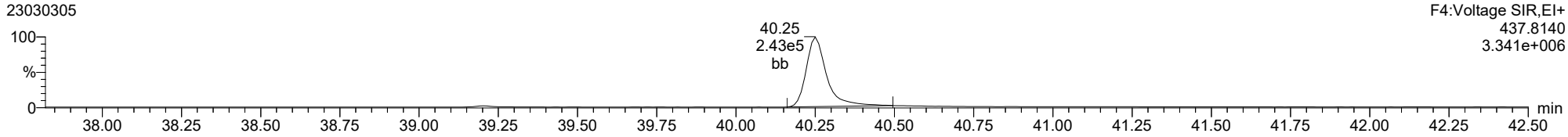

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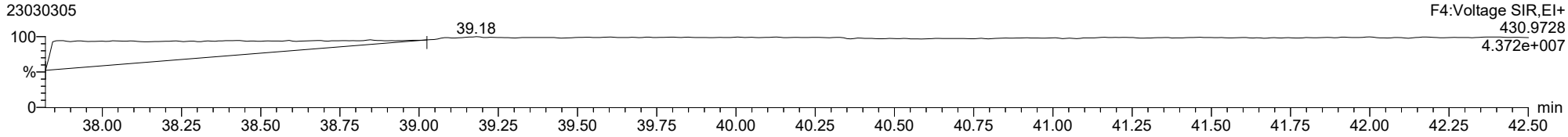

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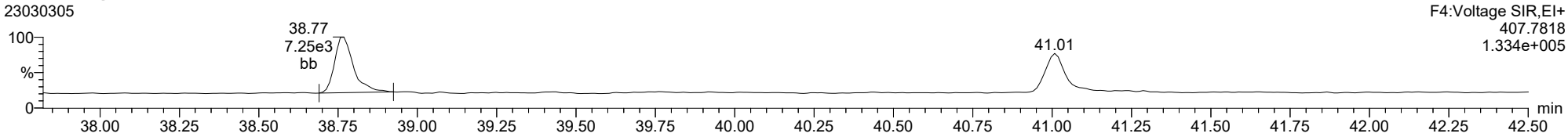

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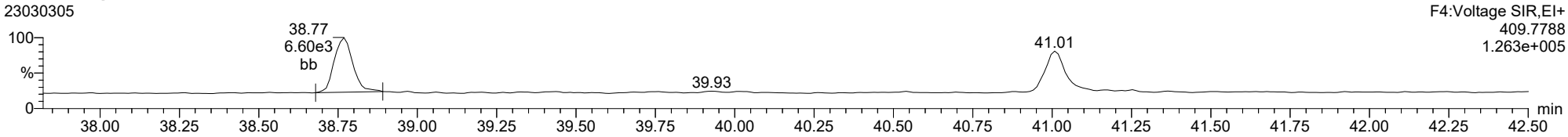

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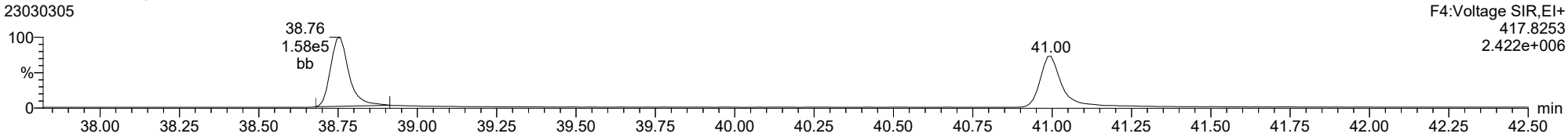

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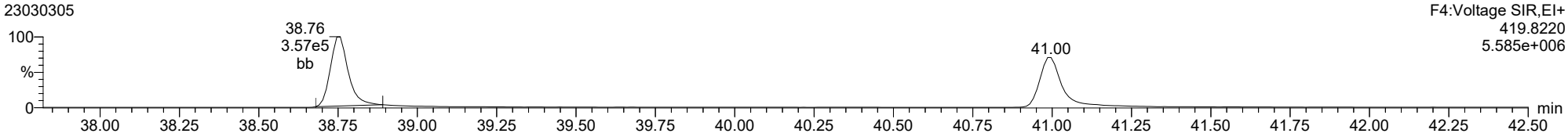

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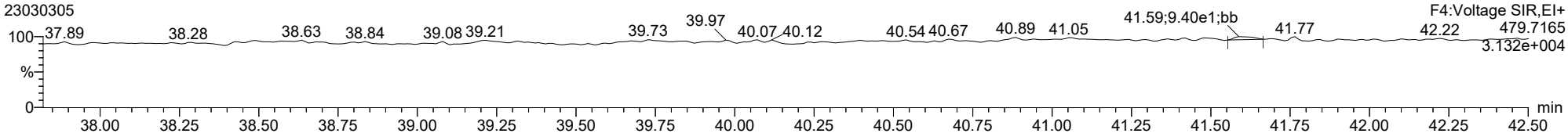

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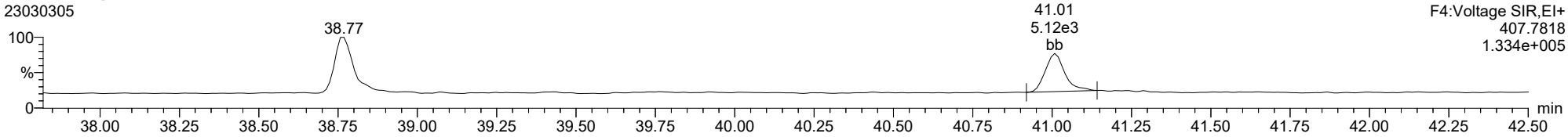

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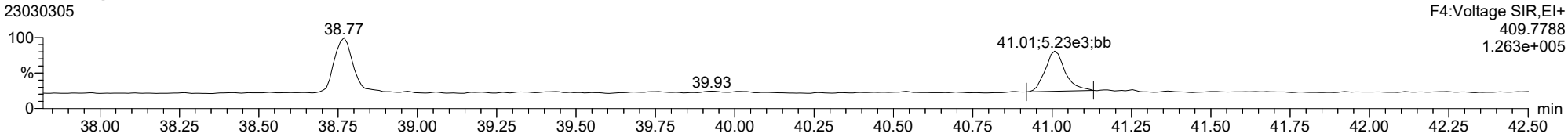

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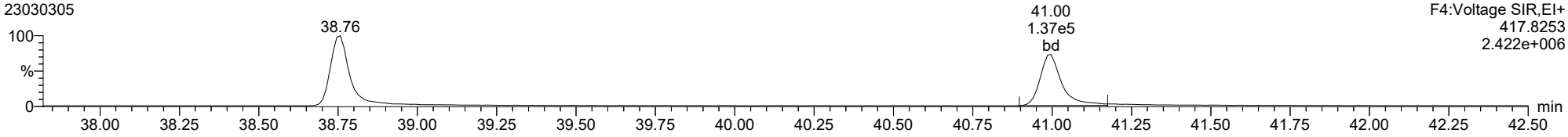

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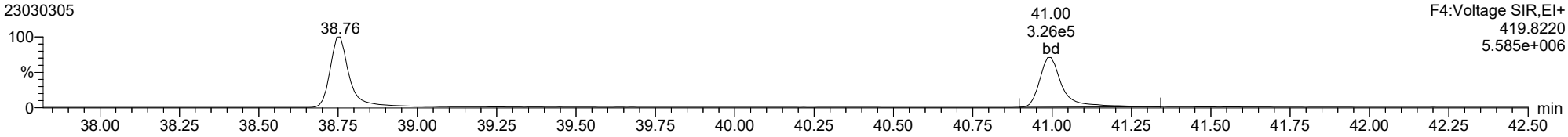

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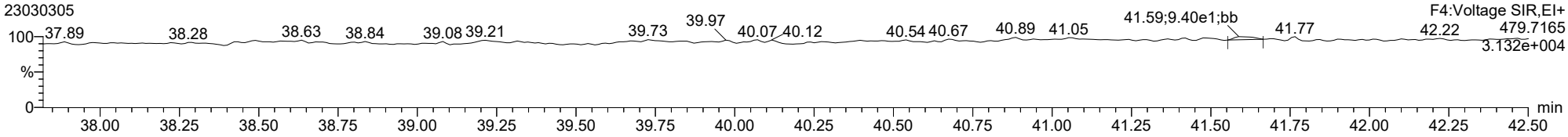

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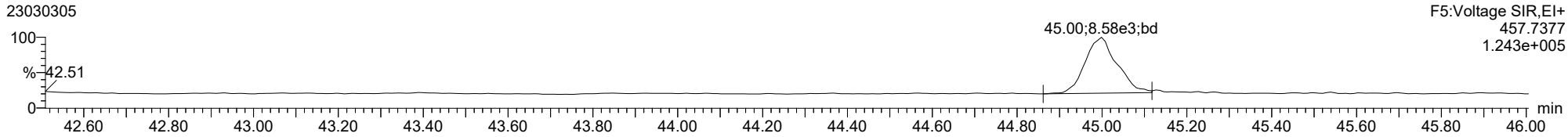
OCDD



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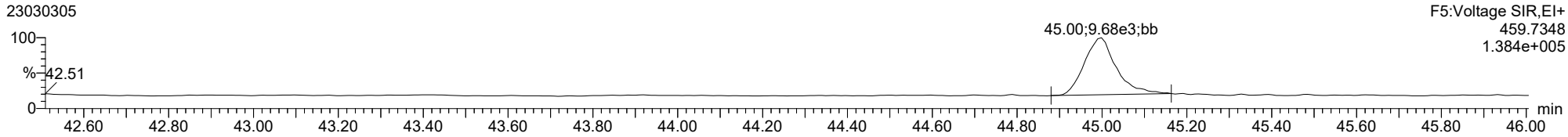

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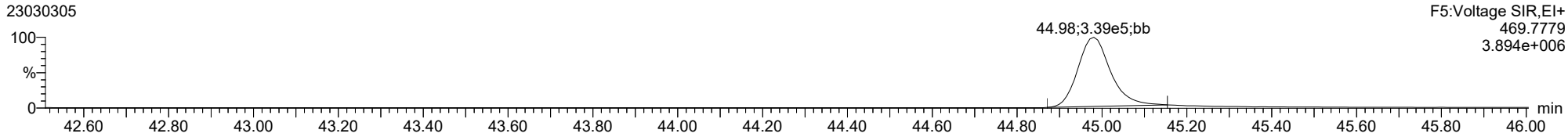

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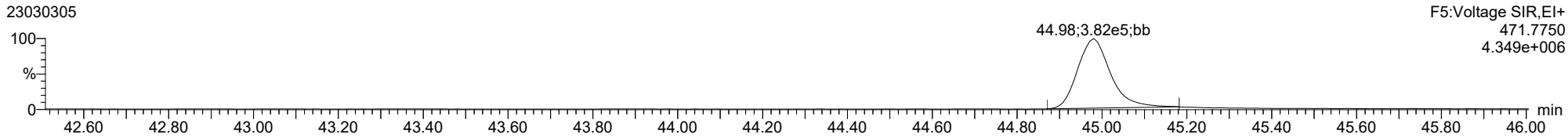

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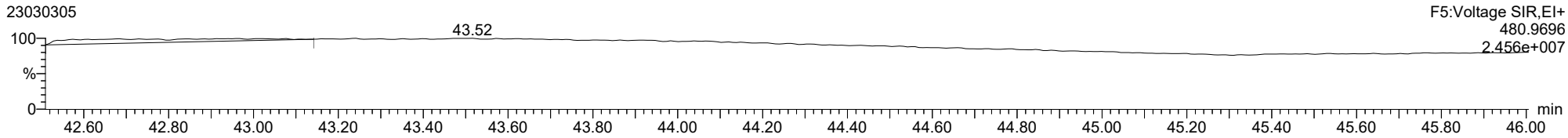

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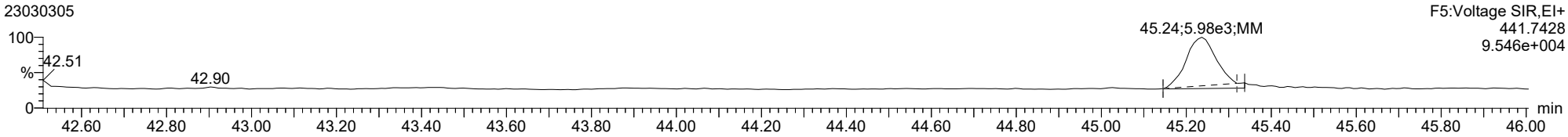
OCDF



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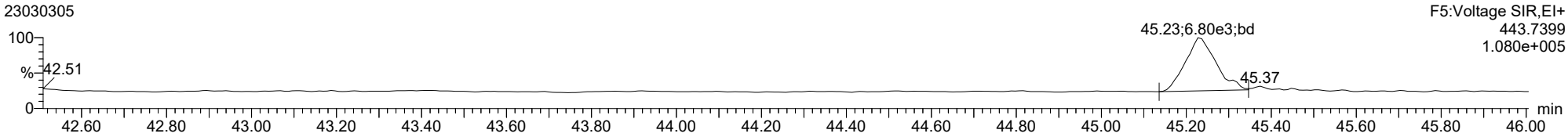

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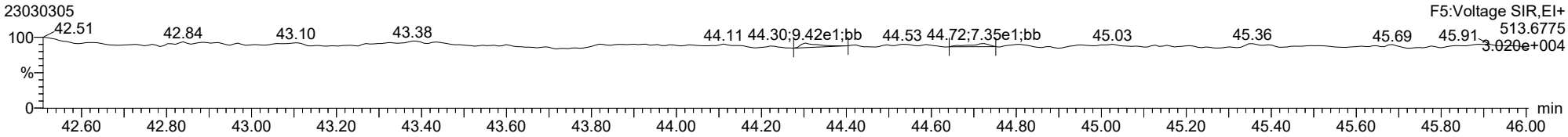

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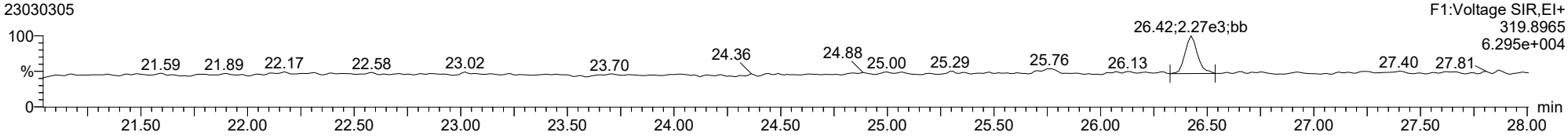

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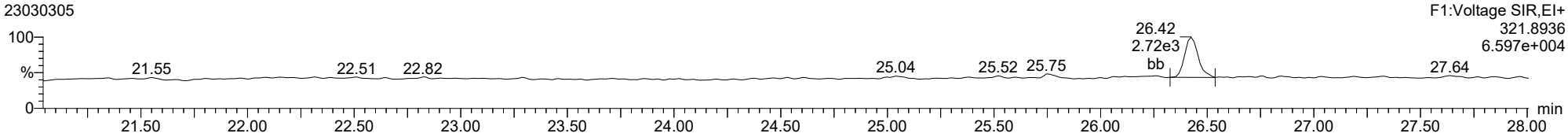

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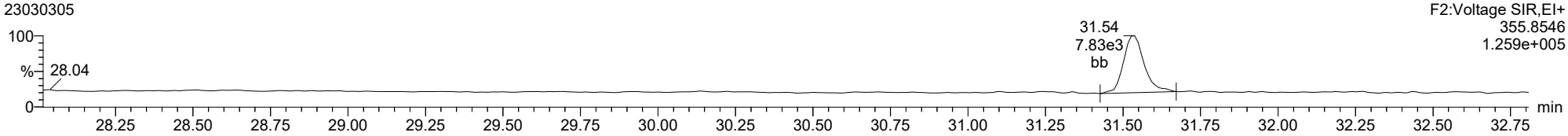
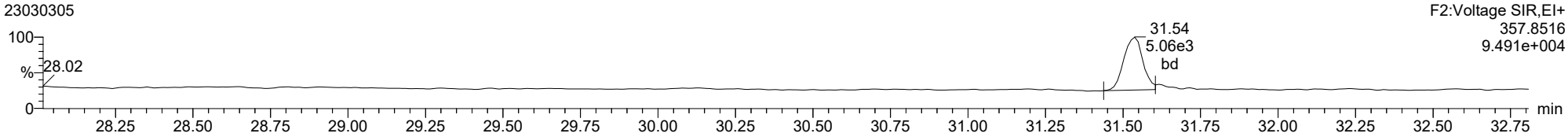


Total-pentadioxins



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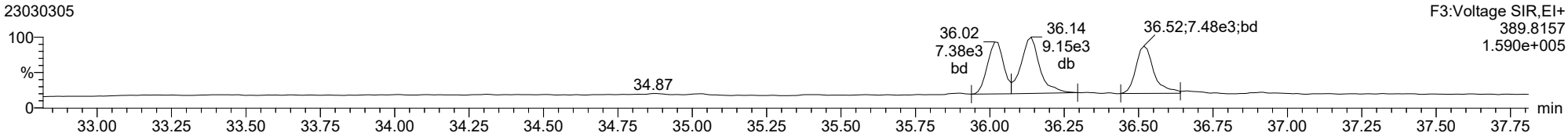
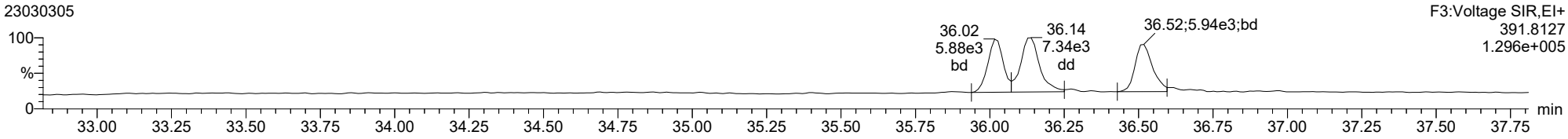


Total-hexadioxins



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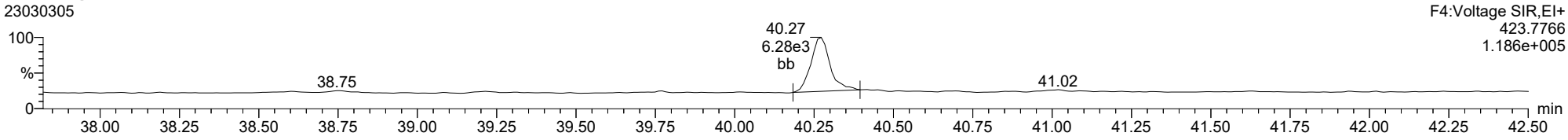

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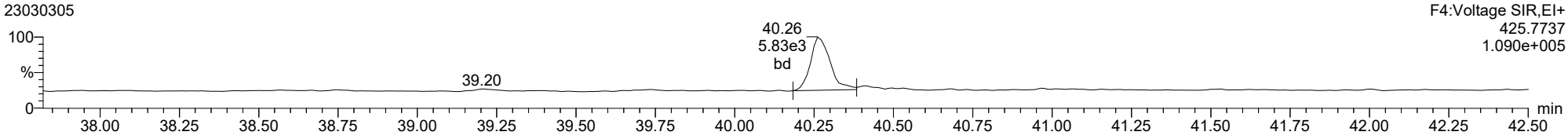
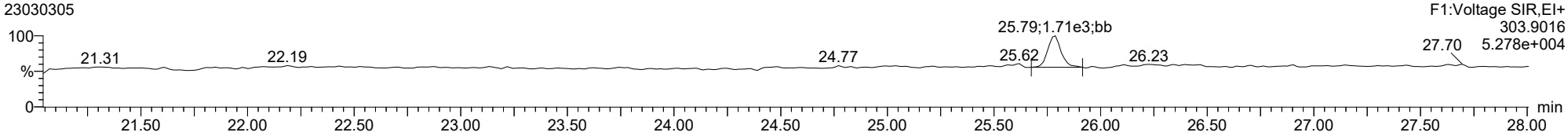
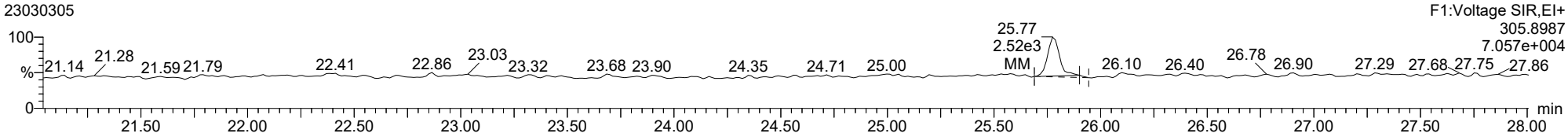


ID: CS1CW, Name: 23030305, Date: 03-Mar-2023, Time: 12:23:58, Conditions: AUTOSPEC01, User: pk

Total-tetrafurans



Total-tetrafurans



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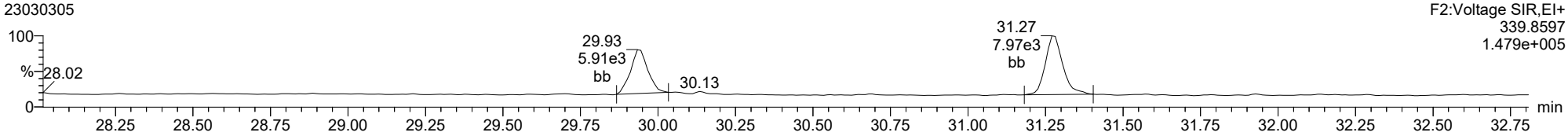

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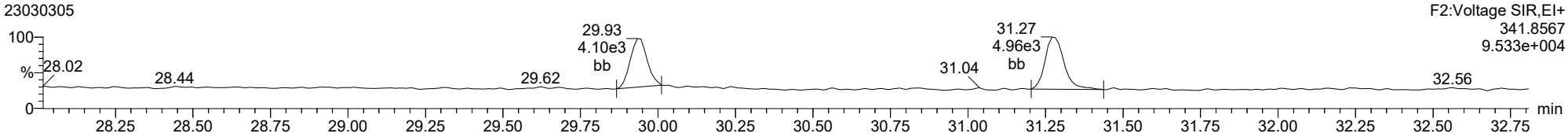

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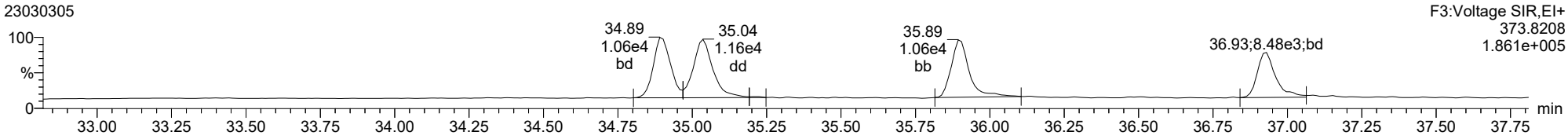
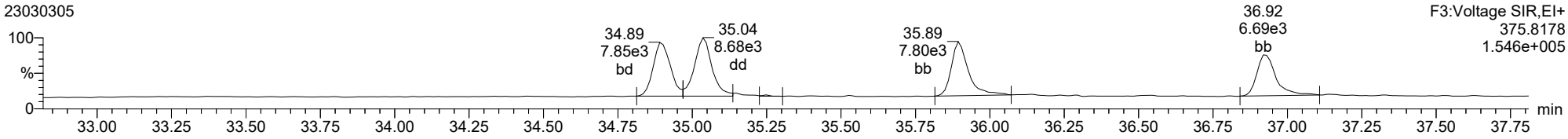
Total-hexafurans



Total-hexafurans



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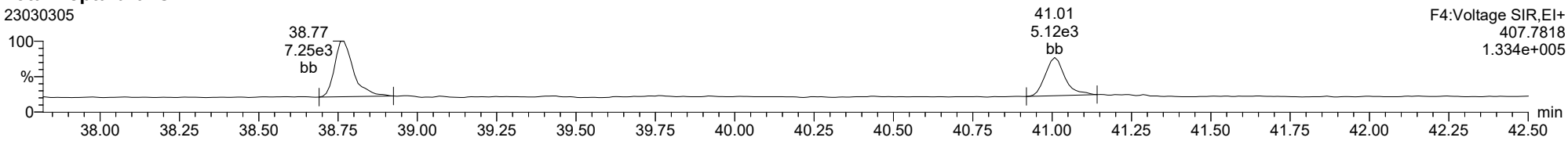

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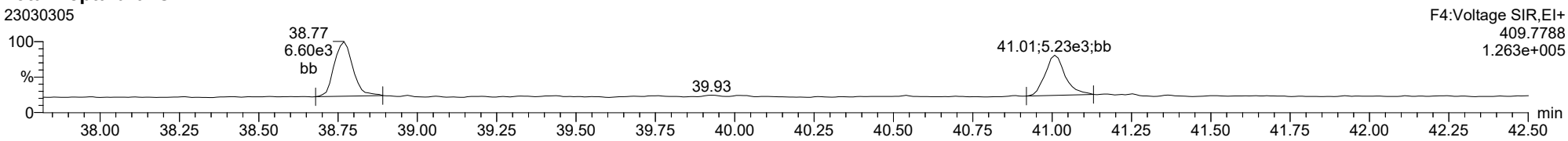

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Last Altered: Monday, March 06, 2023 10:57:27 Pacific Standard Time
Printed: Monday, March 06, 2023 11:34:24 Pacific Standard Time

Method: T:\Autospec\Methods\Dioxin230303.mdb 03 Mar 2023 14:58:50
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 10:57:27

ID: CS2CW, Name: 23030306, Date: 03-Mar-2023, Time: 13:16:24, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.789	1.001	8.311e3	1.080e4	0.702	0.769	0.770	1017	2375	1.17e5	1.59e5	114.9	67.2	NO	bd	bb	1.942
12378-PeCDF	29.945	1.001	4.669e4	2.820e4	0.679	1.656	1.550	1114	1452	6.51e5	4.26e5	583.9	293.2	NO	bd	bb	10.465
23478-PeCDF	31.282	1.000	4.676e4	2.892e4	0.786	1.617	1.550	1114	1452	6.63e5	4.21e5	595.0	289.8	NO	bb	bb	10.293
123478-HxCDF	34.903	1.000	5.097e4	3.855e4	1.166	1.322	1.240	1081	974	7.67e5	5.88e5	709.2	604.2	NO	bd	bd	9.861
234678-HxCDF	35.906	1.000	4.287e4	3.364e4	1.140	1.274	1.240	1081	974	6.16e5	4.95e5	570.0	508.0	NO	bd	bb	10.523
123678-HxCDF	35.048	1.001	5.830e4	4.380e4	1.091	1.331	1.240	1081	974	7.78e5	6.16e5	719.4	632.0	NO	dd	db	10.775
123789-HxCDF	36.942	1.001	3.050e4	2.273e4	1.137	1.342	1.240	1081	974	4.14e5	3.24e5	383.3	332.2	NO	bb	bb	9.945
1234678-HpCDF	38.780	1.001	2.871e4	2.660e4	1.003	1.079	1.050	1234	1299	4.33e5	4.29e5	350.5	330.3	NO	bd	bb	10.087
1234789-HpCDF	41.020	1.000	2.198e4	2.032e4	0.953	1.082	1.050	1234	1299	3.09e5	2.76e5	250.5	212.3	NO	bb	bb	10.556
OCDF	45.247	1.006	3.160e4	3.327e4	0.778	0.950	0.890	832	1108	3.53e5	3.88e5	424.8	350.5	NO	bd	bb	19.690
2378-TCDD	26.438	1.001	9.033e3	1.299e4	1.149	0.696	0.770	1078	937	1.34e5	1.84e5	124.1	196.6	NO	bb	bb	2.068
12378-PeCDD	31.538	1.000	4.287e4	2.877e4	1.022	1.490	1.550	1012	882	6.26e5	3.88e5	618.4	440.6	NO	bb	bb	9.981
123478-HxCDD	36.028	1.001	3.011e4	2.566e4	0.996	1.173	1.240	1087	1355	4.81e5	4.17e5	442.1	307.5	NO	bd	bd	9.781
123678-HxCDD	36.140	1.000	3.660e4	2.810e4	1.001	1.303	1.240	1087	1355	5.13e5	3.98e5	471.9	293.4	NO	dd	db	9.830
123789-HxCDD	36.530	1.011	2.694e4	2.285e4	0.907	1.179	1.240	1087	1355	3.87e5	3.22e5	355.7	237.4	NO	bb	bb	8.921
1234678-HpCDD	40.273	1.000	2.448e4	2.664e4	1.039	0.919	1.050	853	881	3.43e5	3.58e5	402.1	405.9	NO	bb	bd	10.011
OCDD	45.009	1.000	3.531e4	4.015e4	0.920	0.879	0.890	1050	1012	4.08e5	4.99e5	388.3	492.6	NO	bb	bb	19.363
13C-2378-TCDF	25.774	1.007	6.035e5	7.993e5	1.620	0.755	0.770	2457	1835	8.64e6	1.14e7	3516.1	6186.3	NO	bb	bb	103.115
13C-12378-PeCDF	29.923	1.169	6.526e5	4.010e5	1.240	1.628	1.550	3002	2090	8.73e6	5.82e6	2907.1	2783.7	NO	bb	bb	101.148
13C-23478-PeCDF	31.271	1.221	5.554e5	3.799e5	1.118	1.462	1.550	3002	2090	8.01e6	5.41e6	2667.8	2586.4	NO	bb	bb	99.644
13C-123478-HxCDF	34.892	0.956	2.641e5	5.144e5	1.168	0.513	0.510	1857	2488	3.90e6	7.62e6	2100.8	3063.0	NO	bd	bd	129.584
13C-123678-HxCDF	35.026	0.959	2.932e5	5.755e5	1.386	0.510	0.510	1857	2488	4.18e6	8.13e6	2249.4	3269.5	NO	db	db	121.832
13C-234678-HxCDF	35.895	0.983	2.180e5	4.199e5	1.129	0.519	0.510	1857	2488	3.14e6	6.08e6	1689.2	2442.9	NO	bb	bb	109.838
13C-123789-HxCDF	36.920	1.011	1.570e5	3.137e5	0.932	0.501	0.510	1857	2488	2.29e6	4.45e6	1232.1	1790.1	NO	bb	bb	98.225
13C-1234678-HpCDF	38.758	1.062	1.644e5	3.823e5	0.895	0.430	0.440	2012	3375	2.57e6	5.95e6	1277.0	1763.6	NO	bb	bb	118.766
13C-1234789-HpCDF	40.998	1.123	1.271e5	2.934e5	0.770	0.433	0.440	2012	3375	1.71e6	4.02e6	850.7	1191.4	NO	bb	bb	106.228
13C-1234-TCDD	25.605	0.000	3.763e5	4.634e5	1.000	0.812	0.770	2552	2183	5.75e6	7.05e6	2254.8	3231.1	NO	bb	bb	100.000
13C-2378-TCDD	26.410	1.031	4.085e5	5.183e5	1.152	0.788	0.770	2552	2183	5.98e6	7.56e6	2342.4	3461.2	NO	bb	bb	95.779
13C-12378-PeCDD	31.527	1.231	4.337e5	2.688e5	0.829	1.614	1.550	1077	1542	6.15e6	3.74e6	5715.6	2425.2	NO	bb	bb	100.933
13C-123478-HxCDD	36.006	0.986	3.223e5	2.505e5	0.995	1.287	1.240	2237	1883	4.87e6	3.76e6	2175.2	1999.6	NO	bd	bd	111.924
13C-123678-HxCDD	36.129	0.990	3.608e5	2.967e5	1.157	1.216	1.240	2237	1883	5.10e6	4.02e6	2277.5	2137.4	NO	db	db	110.547
13C-1234678-HpCDD	40.262	1.103	2.573e5	2.341e5	0.840	1.099	1.050	2349	1481	3.41e6	3.22e6	1450.8	2172.3	NO	bd	bb	113.737
13C-OCDD	44.991	1.232	4.017e5	4.455e5	0.767	0.902	0.890	2278	1800	4.53e6	5.05e6	1990.6	2807.7	NO	bb	bb	214.651
13C-123789-HxCDD	36.507	0.000	2.902e5	2.240e5	1.000	1.296	1.240	2237	1883	4.20e6	3.27e6	1878.6	1737.5	NO	bb	bb	100.000
37CL-2378-TCDD	26.424	1.032	1.977e4		1.288			2484		2.93e5		117.9			bb		1.828

Dataset: T:\Autospec\Processed Data Batch\230303ICIH.qld
Last Altered: Monday, March 06, 2023 10:57:27 Pacific Standard Time
Printed: Monday, March 06, 2023 11:34:24 Pacific Standard Time

ID: CS2CW, Name: 23030306, Date: 03-Mar-2023, Time: 13:16:24, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF					0.802		0.770	1017	2375								
1289-TCDF					0.678		0.770	1017	2375								
13468-PECDF					1.246		1.550	633	1159								
12389-PECDF					0.496		1.550	1114	1452								
123468-HXCDF					1.169		1.240	1081	974								
1368-TCDD					1.015		0.770	1078	937								
1289-TCDD					0.909		0.770	1078	937								
12479-PECDD					2.301		1.550	1012	882								
12389-PECDD					1.184		1.550	1012	882								
124679-HXCDD					1.115		1.240	1087	1355								
1234679-HPCDD					1.137		1.050	853	881								
Total-tetrafurans			8.311e3		0.727			1017		1.17e5							1.942
Total-penta1			0.000e0					633		0.00e0							
Total-pentafurans			9.345e4		0.654			1114		1.31e6							20.758
Total-hexafurans			1.826e5		1.141			1081		2.58e6							41.105
Total-heptafurans			5.070e4		0.978			1234		7.42e5							20.643
Total-Furans			3.667e5		0.922			1017		5.10e6							104.140
Total-tetradioxins			9.033e3		1.024			1078		1.34e5							2.068
Total-pentadioxins			4.287e4		1.502			1012		6.26e5							9.981
Total-hexadioxins			9.364e4		1.005			1087		1.38e6							28.532
Total-heptadioxins			2.448e4		1.088			853		3.43e5							10.011
Total-Dioxins			2.053e5		1.130			1078		2.89e6							69.955
Total-TEQ			5.720e5					1078		7.99e6							174.095
FUNCTION1 PFK			1.995e6					567717		7.69e6							
FUNCTION2 PFK			1.258e5					282093		4.74e6							0.000
FUNCTION3 PFK			4.711e7					382868		3.34e7							0.000
FUNCTION4 PFK			2.092e7					278389		1.32e7							
FUNCTION5 PFK			6.777e4					239180		2.68e6							
FUNCTION1 HXCD...			0.000e0					613		0.00e0							
FUNCTION1 HPCD...																	
FUNCTION2 HPCD...			1.408e2					965		2.85e3							0.000
FUNCTION3 OCDPE			0.000e0					571		0.00e0							
FUNCTION4 NCDPE			3.810e2					638		4.39e3							0.000
FUNCTION5 DCDPE			0.000e0					603		0.00e0							

Method: T:\Autospec\Methods\Dioxin230303.mdb 03 Mar 2023 14:58:50
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 10:57:27

ID: CS2CW, Name: 23030306, Date: 03-Mar-2023, Time: 13:16:24, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.79	8.311e3	1.080e4	0.702	0.77	0.77	114.9	YES	NO	bd	bb	1.942

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	23478-PeCDF	31.28	4.676e4	2.892e4	0.786	1.62	1.55	595.0	YES	NO	bb	bb	10.293
2	12378-PeCDF	29.94	4.669e4	2.820e4	0.679	1.66	1.55	583.9	YES	NO	bd	bb	10.465

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.94	3.050e4	2.273e4	1.137	1.34	1.24	383.3	YES	NO	bb	bb	9.945
2	234678-HxCDF	35.91	4.287e4	3.364e4	1.140	1.27	1.24	570.0	YES	NO	bd	bb	10.523
3	123678-HxCDF	35.05	5.830e4	4.380e4	1.091	1.33	1.24	719.4	YES	NO	dd	db	10.775
4	123478-HxCDF	34.90	5.097e4	3.855e4	1.166	1.32	1.24	709.2	YES	NO	bd	bd	9.861

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	41.02	2.198e4	2.032e4	0.953	1.08	1.05	250.5	YES	NO	bb	bb	10.556
2	1234678-HpCDF	38.78	2.871e4	2.660e4	1.003	1.08	1.05	350.5	YES	NO	bd	bb	10.087

ID: CS2CW, Name: 23030306, Date: 03-Mar-2023, Time: 13:16:24, Conditions: AUTOSPEC01, User: pk

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	23478-PeCDF	31.28	4.676e4	2.892e4	0.786	1.62	1.55	595.0	YES	NO	bb	bb	10.293
2	12378-PeCDF	29.94	4.669e4	2.820e4	0.679	1.66	1.55	583.9	YES	NO	bd	bb	10.465
3	2378-TCDF	25.79	8.311e3	1.080e4	0.702	0.77	0.77	114.9	YES	NO	bd	bb	1.942
4	123789-HxCDF	36.94	3.050e4	2.273e4	1.137	1.34	1.24	383.3	YES	NO	bb	bb	9.945
5	234678-HxCDF	35.91	4.287e4	3.364e4	1.140	1.27	1.24	570.0	YES	NO	bd	bb	10.523
6	123678-HxCDF	35.05	5.830e4	4.380e4	1.091	1.33	1.24	719.4	YES	NO	dd	db	10.775
7	123478-HxCDF	34.90	5.097e4	3.855e4	1.166	1.32	1.24	709.2	YES	NO	bd	bd	9.861
8	1234789-HpCDF	41.02	2.198e4	2.032e4	0.953	1.08	1.05	250.5	YES	NO	bb	bb	10.556
9	1234678-HpCDF	38.78	2.871e4	2.660e4	1.003	1.08	1.05	350.5	YES	NO	bd	bb	10.087
10	OCDF	45.25	3.160e4	3.327e4	0.778	0.95	0.89	424.8	YES	NO	bd	bb	19.690

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDD	26.44	9.033e3	1.299e4	1.149	0.70	0.77	124.1	YES	NO	bb	bb	2.068

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDD	31.54	4.287e4	2.877e4	1.022	1.49	1.55	618.4	YES	NO	bb	bb	9.981

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDD	36.53	2.694e4	2.285e4	0.907	1.18	1.24	355.7	YES	NO	bb	bb	8.921
2	123678-HxCDD	36.14	3.660e4	2.810e4	1.001	1.30	1.24	471.9	YES	NO	dd	db	9.830
3	123478-HxCDD	36.03	3.011e4	2.566e4	0.996	1.17	1.24	442.1	YES	NO	bd	bd	9.781

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.27	2.448e4	2.664e4	1.039	0.92	1.05	402.1	YES	NO	bb	bd	10.011

ID: CS2CW, Name: 23030306, Date: 03-Mar-2023, Time: 13:16:24, Conditions: AUTOSPEC01, User: pk

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDD	31.54	4.287e4	2.877e4	1.022	1.49	1.55	618.4	YES	NO	bb	bb	9.981
2	2378-TCDD	26.44	9.033e3	1.299e4	1.149	0.70	0.77	124.1	YES	NO	bb	bb	2.068
3	123789-HxCDD	36.53	2.694e4	2.285e4	0.907	1.18	1.24	355.7	YES	NO	bb	bb	8.921
4	123678-HxCDD	36.14	3.660e4	2.810e4	1.001	1.30	1.24	471.9	YES	NO	dd	db	9.830
5	123478-HxCDD	36.03	3.011e4	2.566e4	0.996	1.17	1.24	442.1	YES	NO	bd	bd	9.781
6	1234678-HpCDD	40.27	2.448e4	2.664e4	1.039	0.92	1.05	402.1	YES	NO	bb	bd	10.011
7	OCDD	45.01	3.531e4	4.015e4	0.920	0.88	0.89	388.3	YES	NO	bb	bb	19.363

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	23478-PeCDF	31.28	4.676e4	2.892e4	0.786	1.62	1.55	595.0	YES	NO	bb	bb	10.293
2	12378-PeCDF	29.94	4.669e4	2.820e4	0.679	1.66	1.55	583.9	YES	NO	bd	bb	10.465
3	2378-TCDF	25.79	8.311e3	1.080e4	0.702	0.77	0.77	114.9	YES	NO	bd	bb	1.942
4	123789-HxCDF	36.94	3.050e4	2.273e4	1.137	1.34	1.24	383.3	YES	NO	bb	bb	9.945
5	234678-HxCDF	35.91	4.287e4	3.364e4	1.140	1.27	1.24	570.0	YES	NO	bd	bb	10.523
6	123678-HxCDF	35.05	5.830e4	4.380e4	1.091	1.33	1.24	719.4	YES	NO	dd	db	10.775
7	123478-HxCDF	34.90	5.097e4	3.855e4	1.166	1.32	1.24	709.2	YES	NO	bd	bd	9.861
8	1234789-HpCDF	41.02	2.198e4	2.032e4	0.953	1.08	1.05	250.5	YES	NO	bb	bb	10.556
9	1234678-HpCDF	38.78	2.871e4	2.660e4	1.003	1.08	1.05	350.5	YES	NO	bd	bb	10.087
10	OCDF	45.25	3.160e4	3.327e4	0.778	0.95	0.89	424.8	YES	NO	bd	bb	19.690
11	12378-PeCDD	31.54	4.287e4	2.877e4	1.022	1.49	1.55	618.4	YES	NO	bb	bb	9.981
12	2378-TCDD	26.44	9.033e3	1.299e4	1.149	0.70	0.77	124.1	YES	NO	bb	bb	2.068
13	123789-HxCDD	36.53	2.694e4	2.285e4	0.907	1.18	1.24	355.7	YES	NO	bb	bb	8.921
14	123678-HxCDD	36.14	3.660e4	2.810e4	1.001	1.30	1.24	471.9	YES	NO	dd	db	9.830
15	123478-HxCDD	36.03	3.011e4	2.566e4	0.996	1.17	1.24	442.1	YES	NO	bd	bd	9.781
16	1234678-HpCDD	40.27	2.448e4	2.664e4	1.039	0.92	1.05	402.1	YES	NO	bb	bd	10.011
17	OCDD	45.01	3.531e4	4.015e4	0.920	0.88	0.89	388.3	YES	NO	bb	bb	19.363

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	25.73	8.333e5					6.7	YES		bb		
2	FUNCTION1 PFK	21.10	1.162e6					6.9	YES		bb		

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	28.61	1.110e4					1.3	NO		bb		0.000
2	FUNCTION2 PFK	28.31	1.183e4					1.5	NO		bb		0.000
3	FUNCTION2 PFK	31.85	7.066e3					1.3	NO		bb		0.000
4	FUNCTION2 PFK	31.75	1.168e4					1.4	NO		bb		0.000
5	FUNCTION2 PFK	30.95	1.613e4					2.1	NO		bb		0.000
6	FUNCTION2 PFK	30.06	7.806e3					1.3	NO		bb		0.000
7	FUNCTION2 PFK	29.77	1.198e4					1.4	NO		bb		0.000
8	FUNCTION2 PFK	29.47	1.476e4					2.1	NO		bb		0.000
9	FUNCTION2 PFK	29.28	1.360e4					2.0	NO		db		0.000
10	FUNCTION2 PFK	29.22	1.980e4					2.4	NO		bd		0.000

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	34.30	3.856e7					44.6	YES		db		0.000
2	FUNCTION3 PFK	33.18	8.558e6					42.7	YES		bd		0.000

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	40.24	1.285e7					8.2	YES		db		
2	FUNCTION4 PFK	38.41	8.070e6					39.3	YES		bd		

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	42.68	1.647e4					1.8	NO		bb		
2	FUNCTION5 PFK	45.75	3.282e3					1.0	NO		bb		
3	FUNCTION5 PFK	45.28	6.957e3					1.1	NO		bb		
4	FUNCTION5 PFK	44.90	6.364e3					1.0	NO		bb		
5	FUNCTION5 PFK	44.84	1.531e3					0.5	NO		bb		
6	FUNCTION5 PFK	44.40	6.282e3					1.0	NO		bb		
7	FUNCTION5 PFK	44.21	4.626e3					1.1	NO		bb		
8	FUNCTION5 PFK	44.03	7.842e3					1.2	NO		bb		
9	FUNCTION5 PFK	43.96	6.415e3					1.4	NO		bb		
10	FUNCTION5 PFK	43.84	7.992e3					1.2	NO		bb		

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ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	31.54	1.408e2					3.0	NO		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	40.65	1.069e2					1.9	NO		bb		0.000
2	FUNCTION4 NCDPE	40.25	1.358e2					2.2	NO		bb		0.000
3	FUNCTION4 NCDPE	41.02	1.383e2					2.8	NO		bb		0.000

ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

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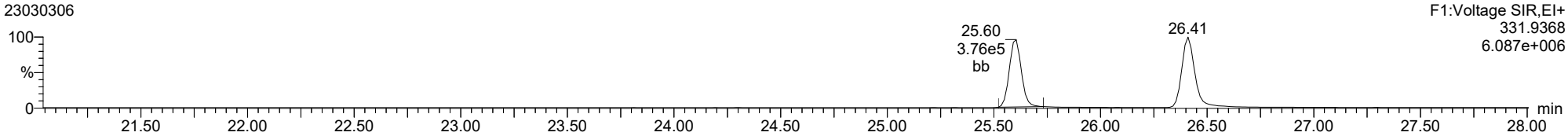
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 10:57:27

ID: CS2CW, Name: 23030306, Date: 03-Mar-2023, Time: 13:16:24, Conditions: AUTOSPEC01, User: pk

13C-1234-TCDD



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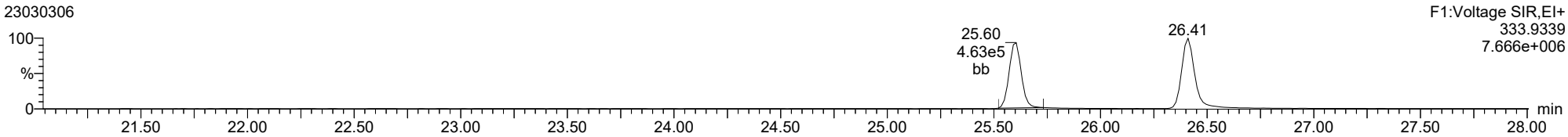
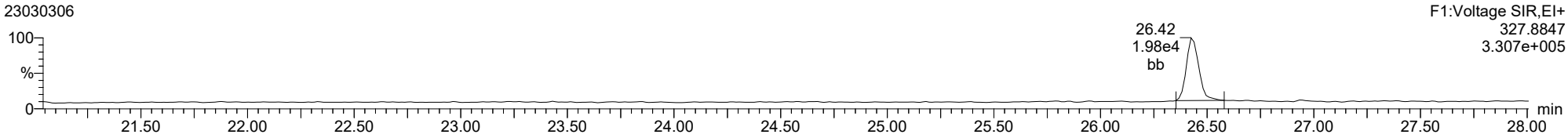


37CL-2378-TCDD



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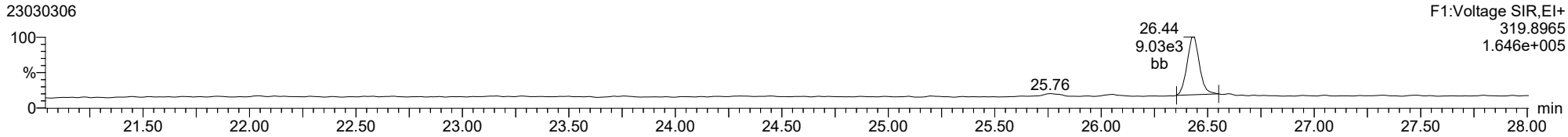

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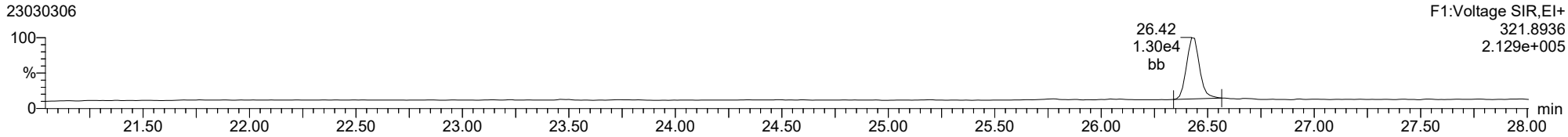

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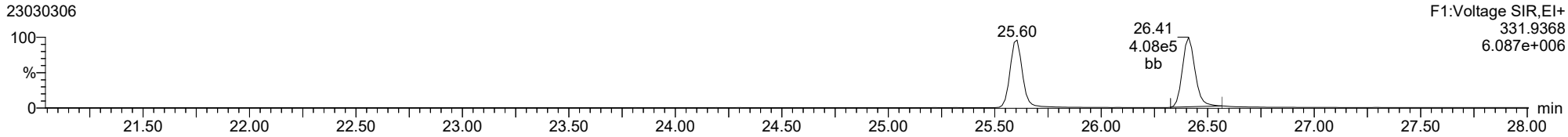

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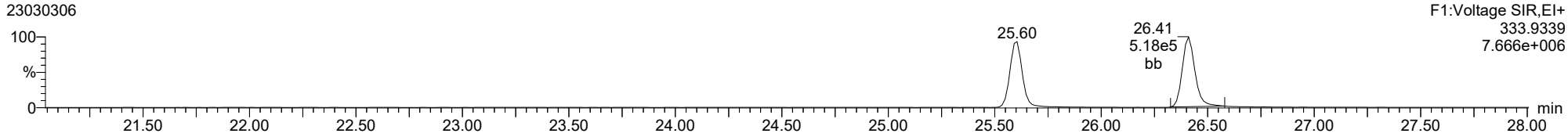
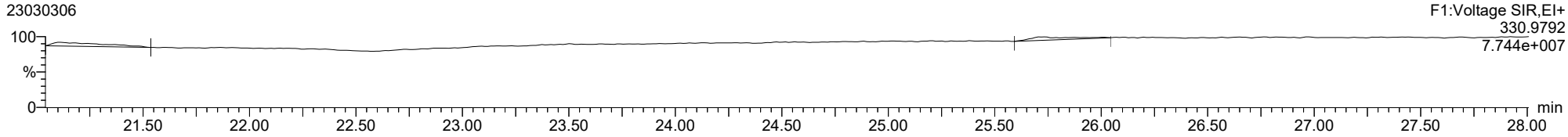


FUNCTION1 PFK



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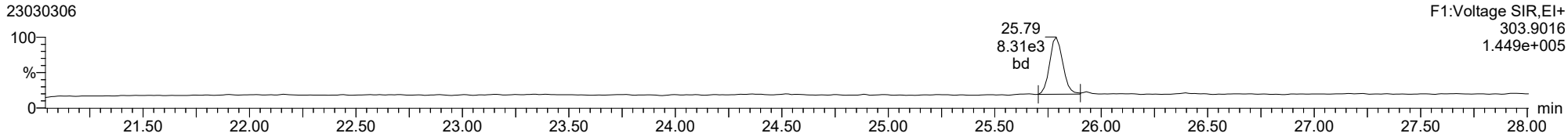
2378-TCDF



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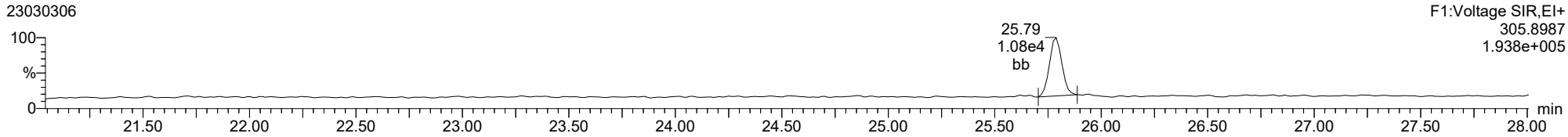

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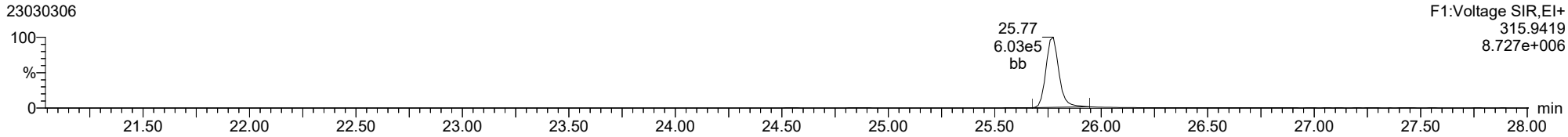

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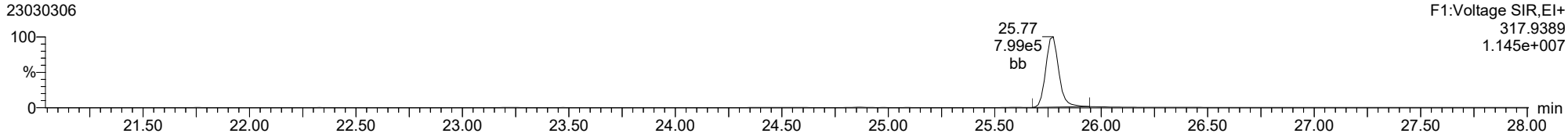
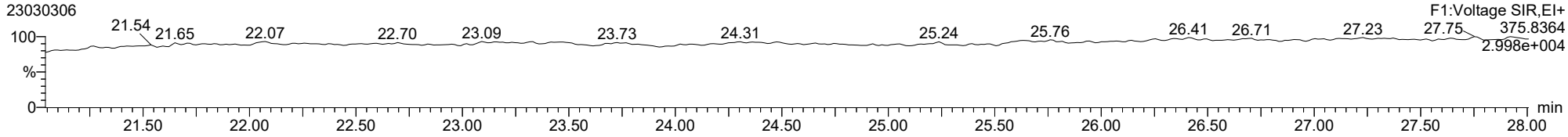


FUNCTION1 HXCDPE



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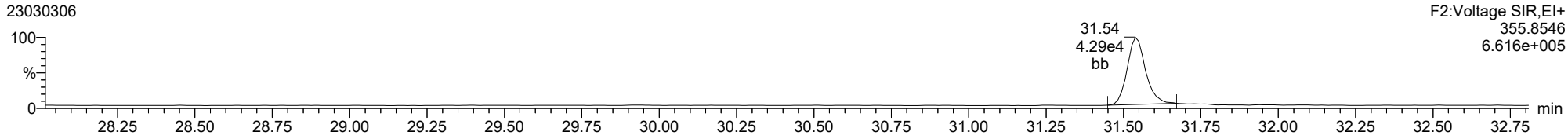
12378-PeCDD



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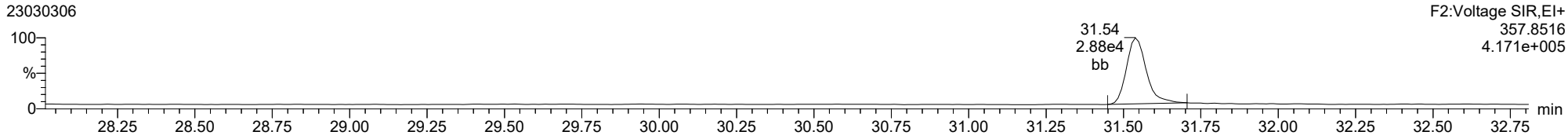

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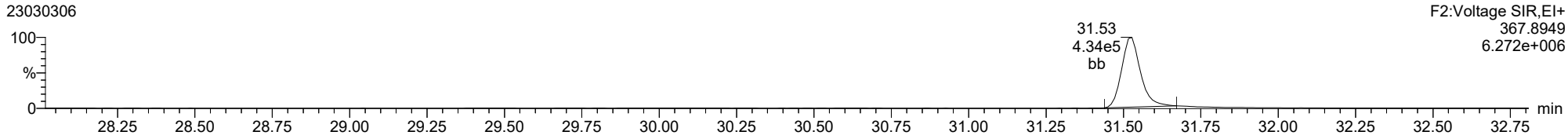

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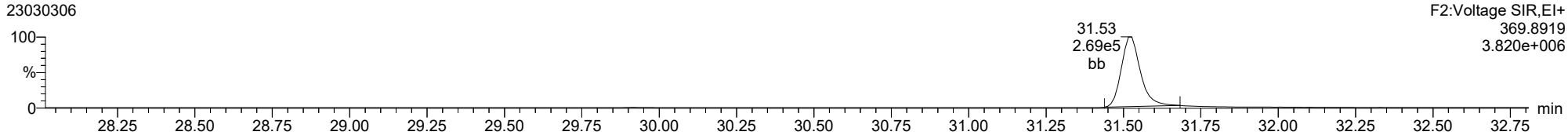
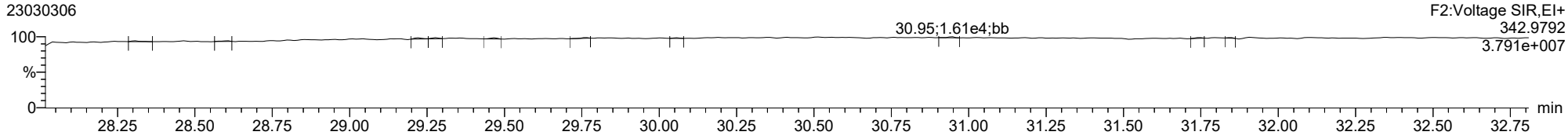


FUNCTION2 PFK



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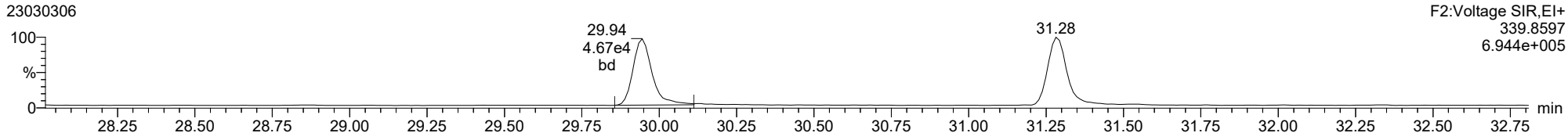
12378-PeCDF



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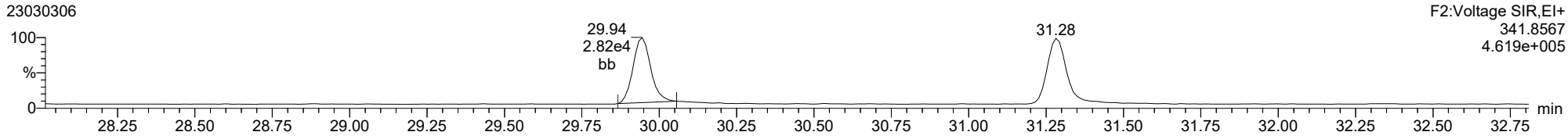

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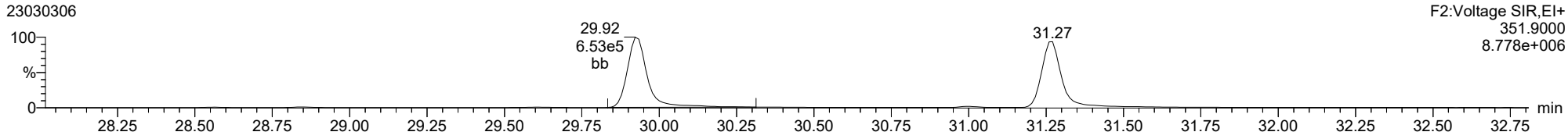

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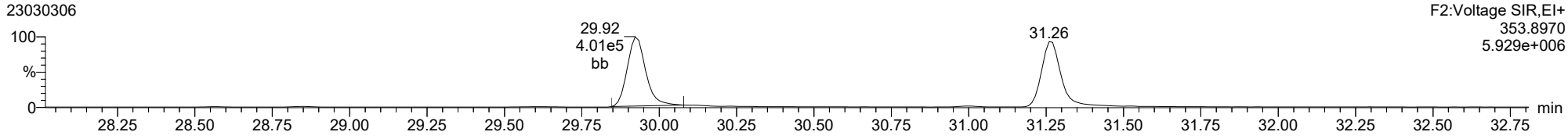
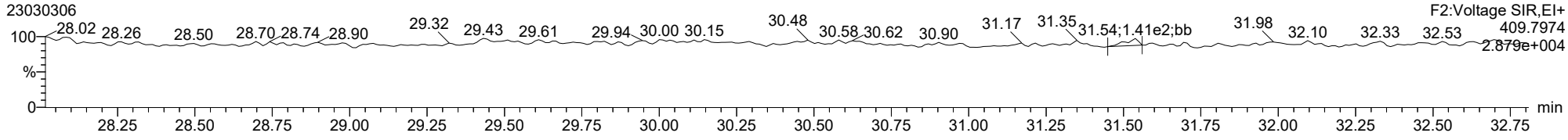


FUNCTION2 HPCDPE



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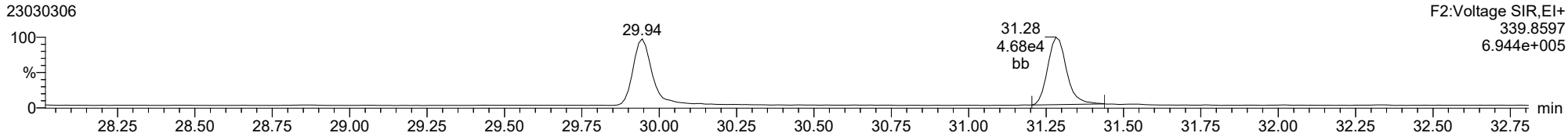
23478-PeCDF



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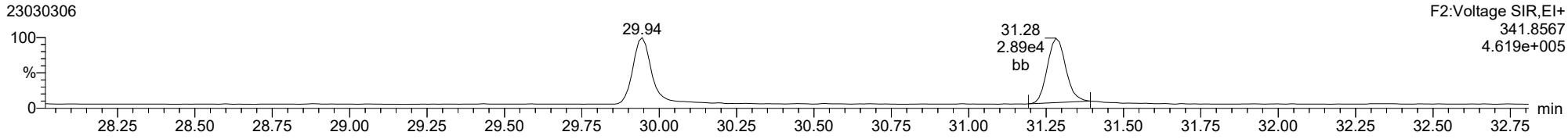

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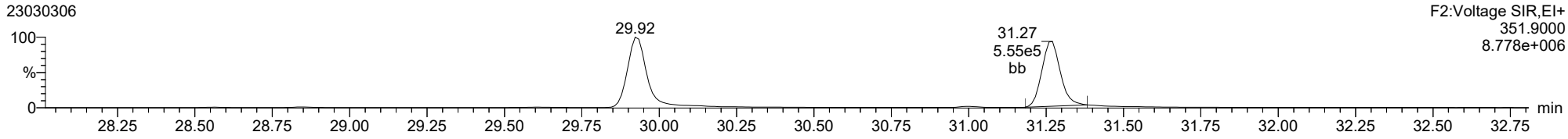

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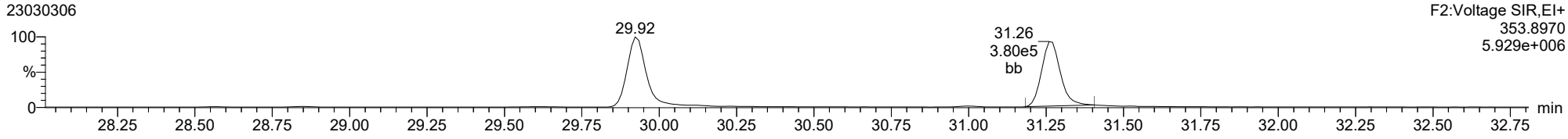
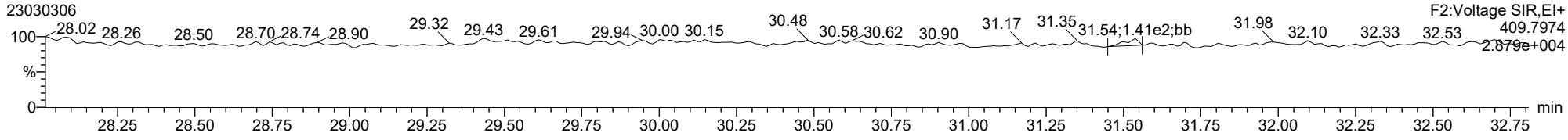


FUNCTION2 HPCDPE



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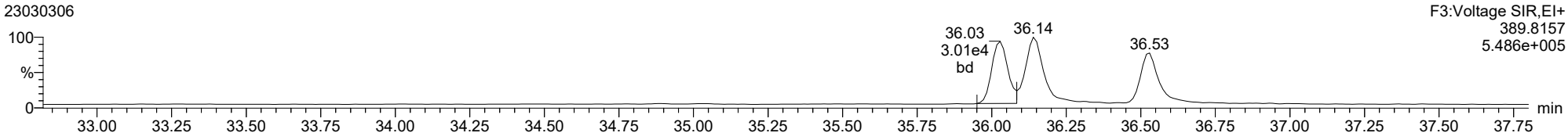
123478-HxCDD



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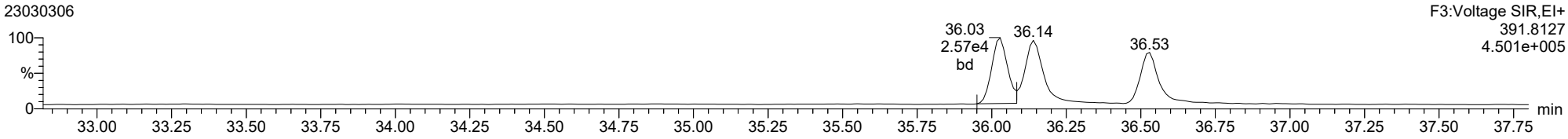

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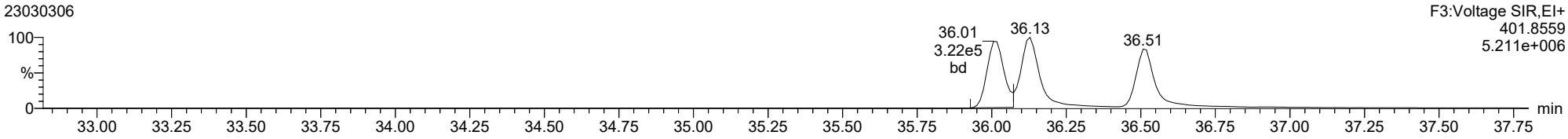

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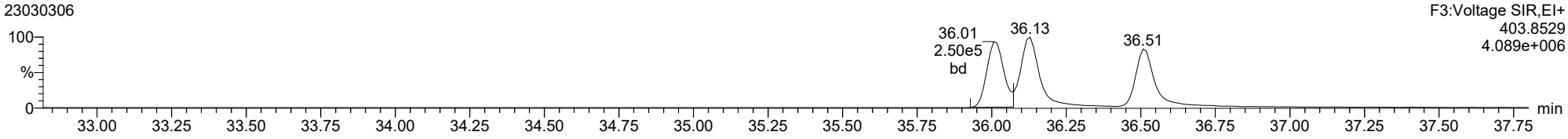

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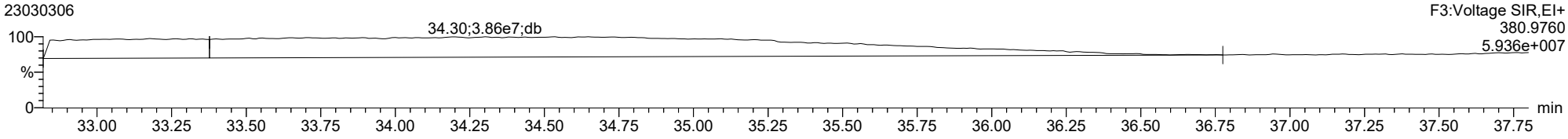

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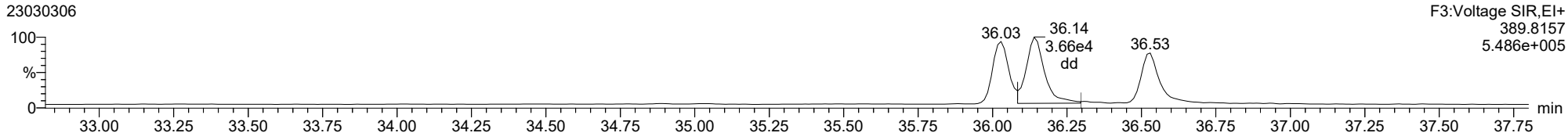
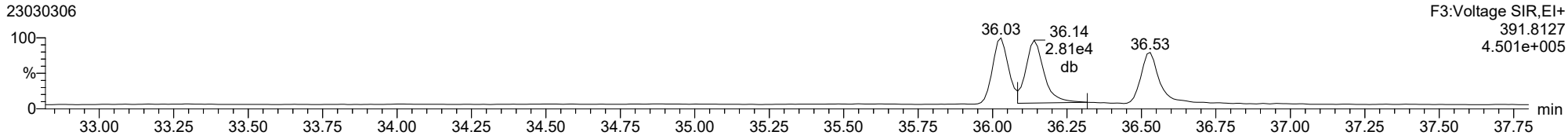
123678-HxCDD



123678-HxCDD



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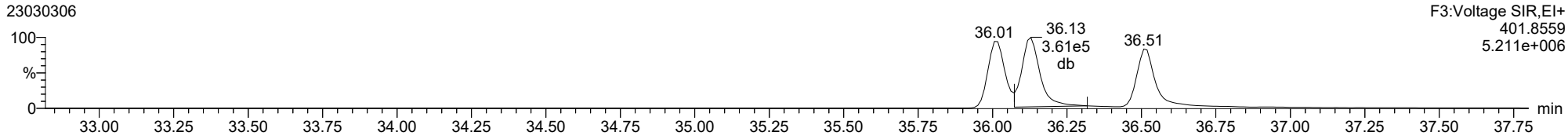

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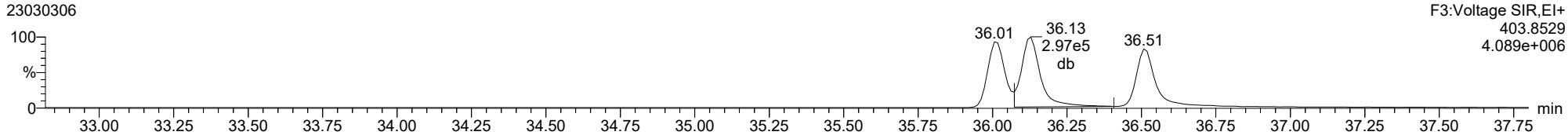

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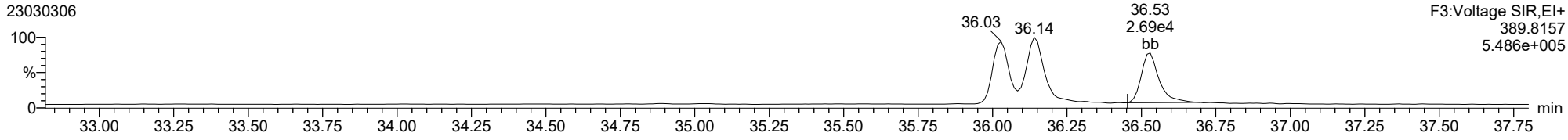

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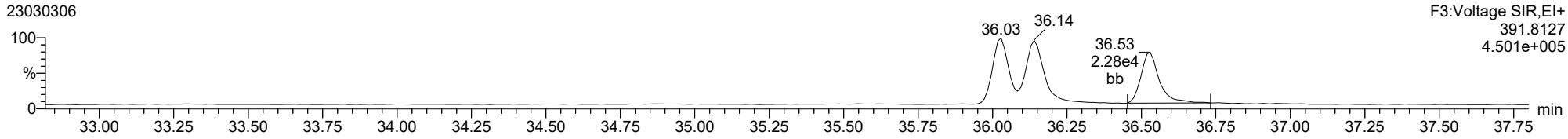

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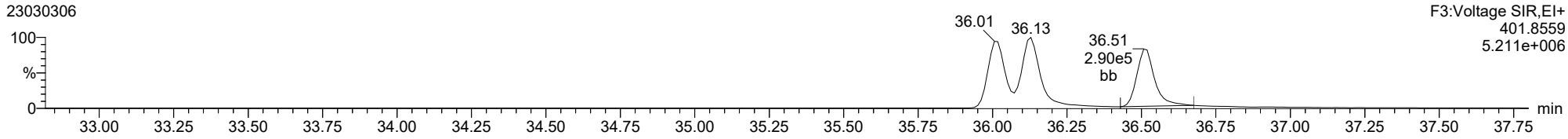

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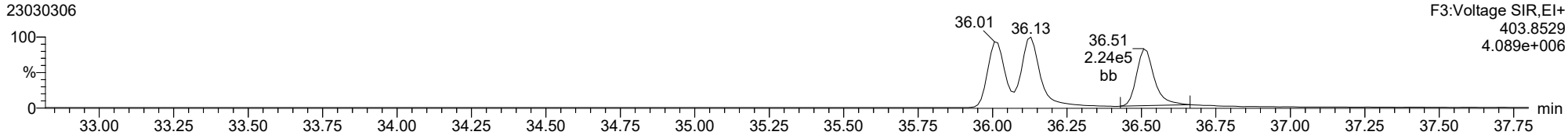

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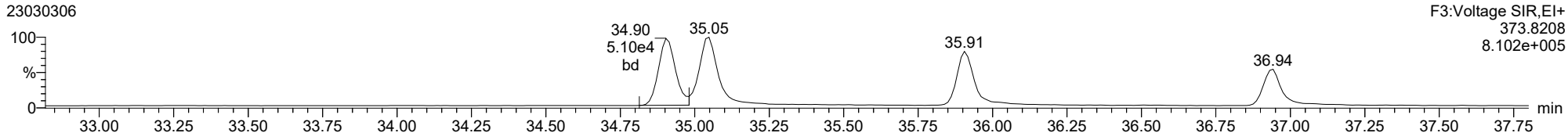

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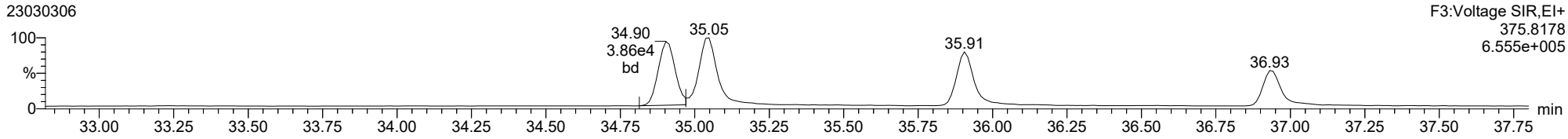

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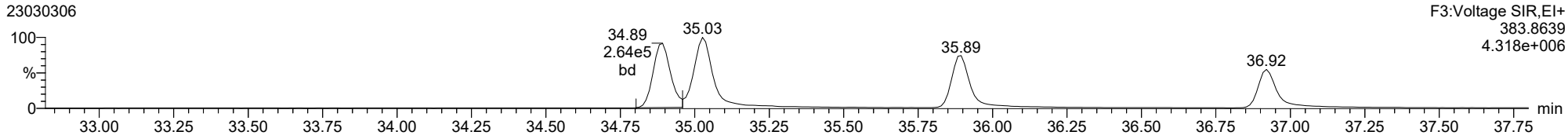

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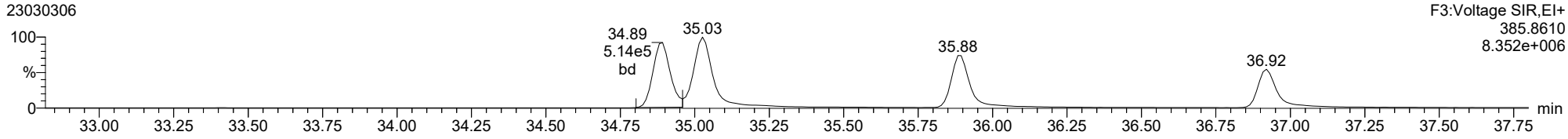

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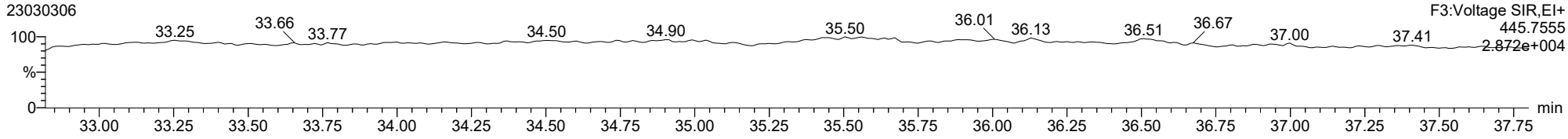

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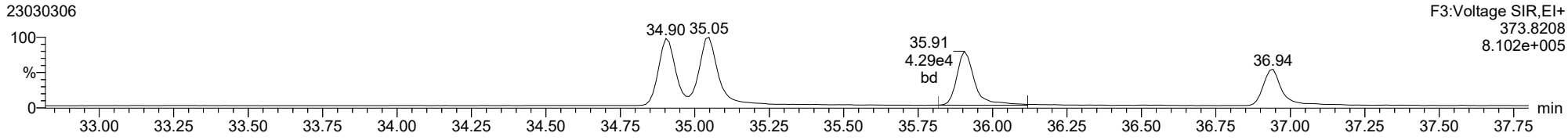

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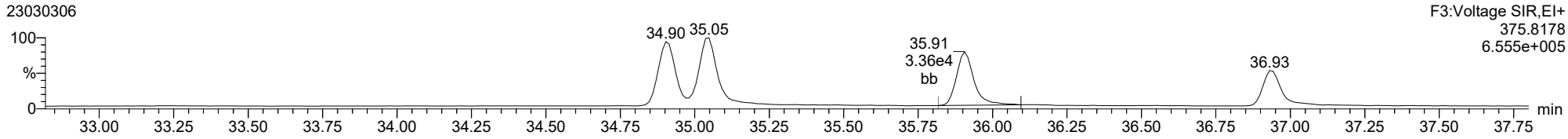

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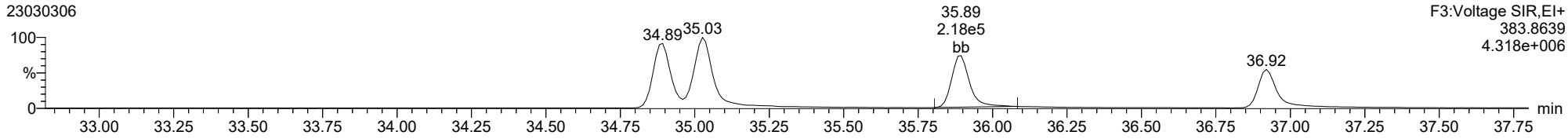

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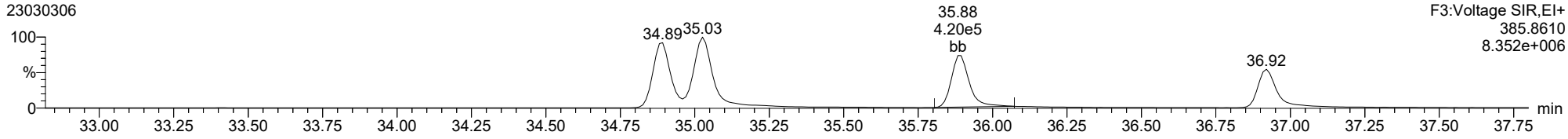

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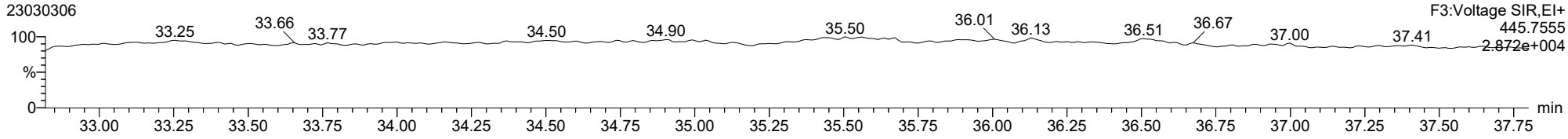

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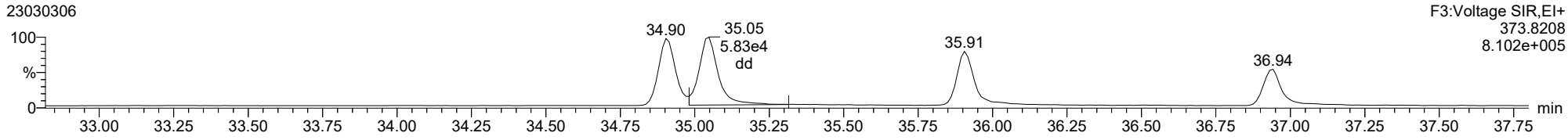

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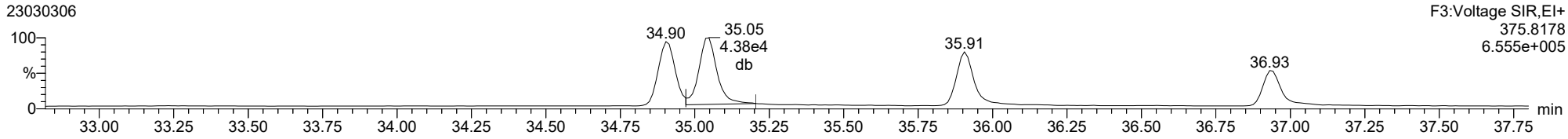

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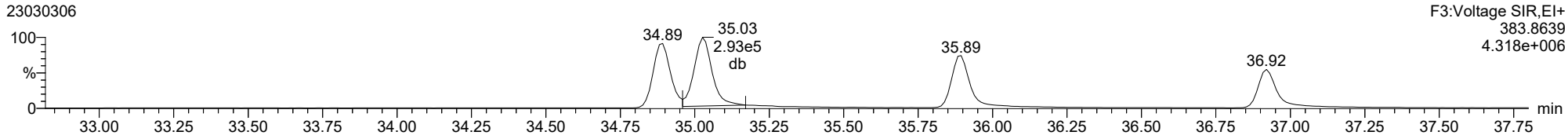

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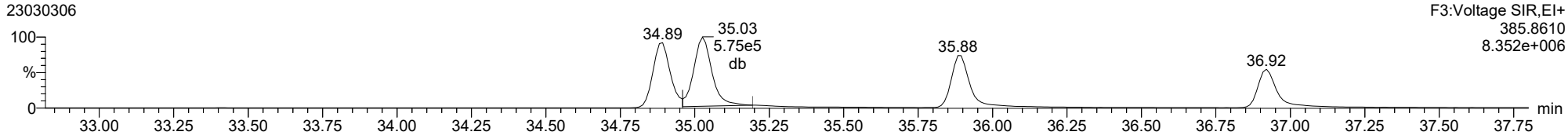

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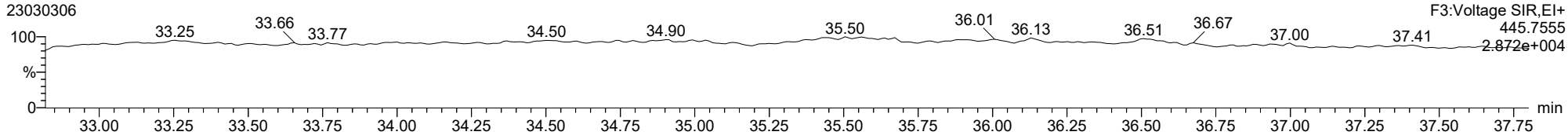

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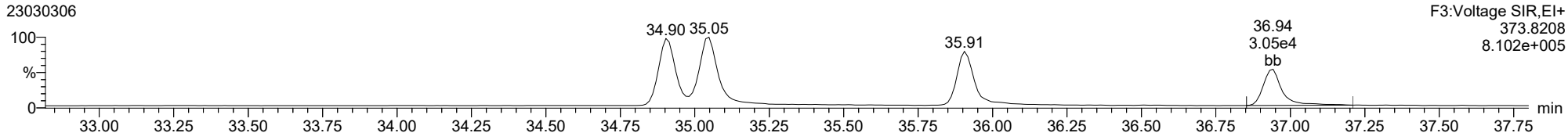

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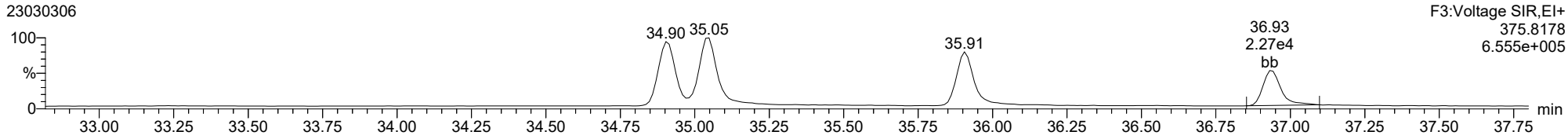

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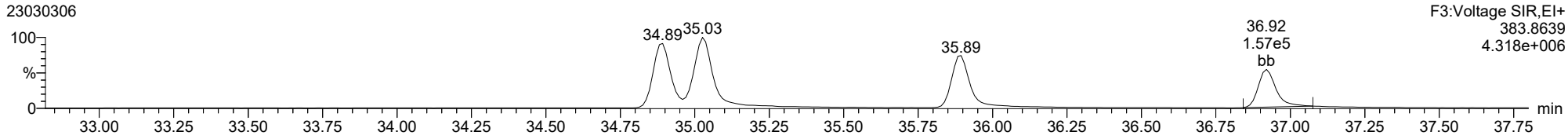

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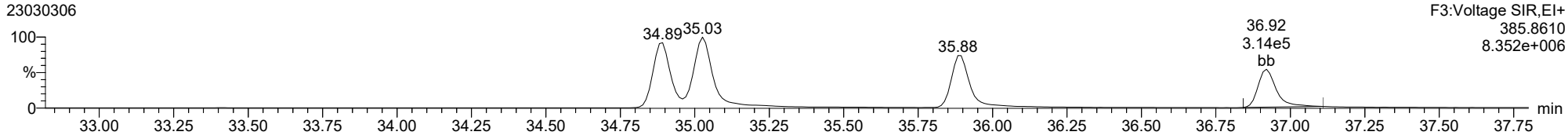

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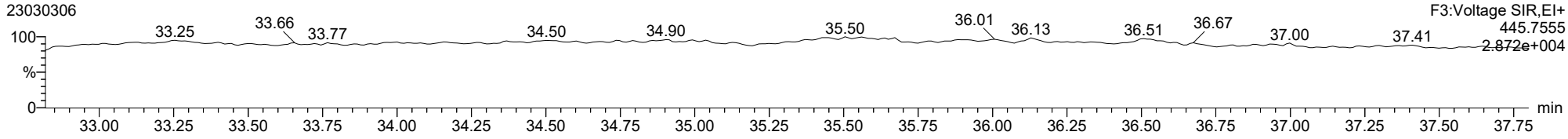

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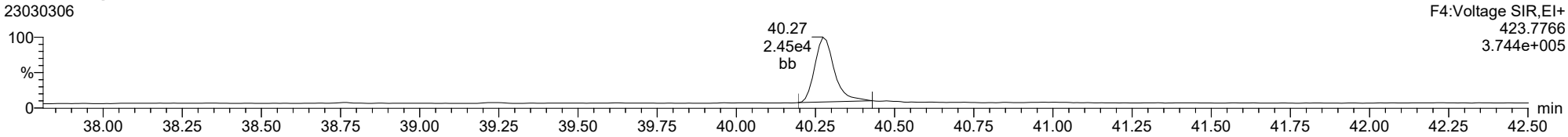

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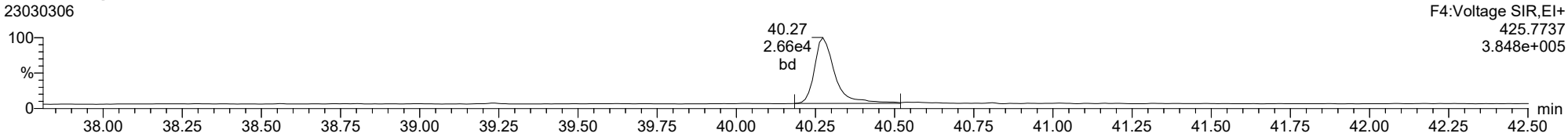

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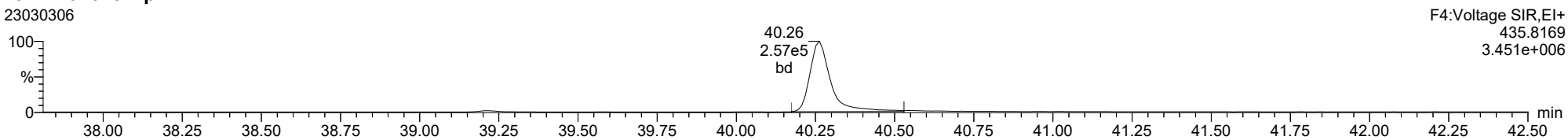

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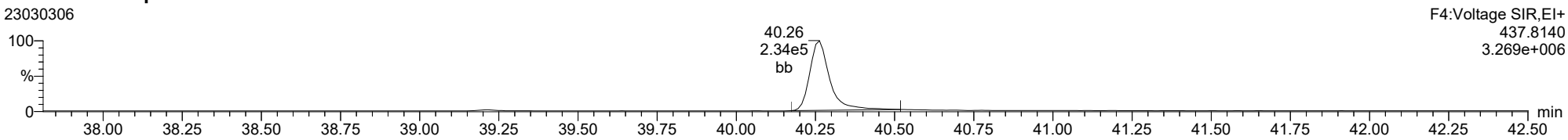

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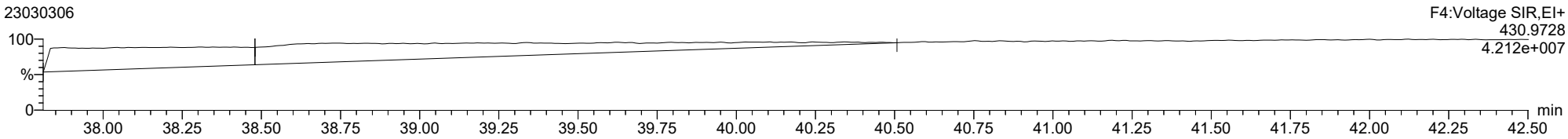

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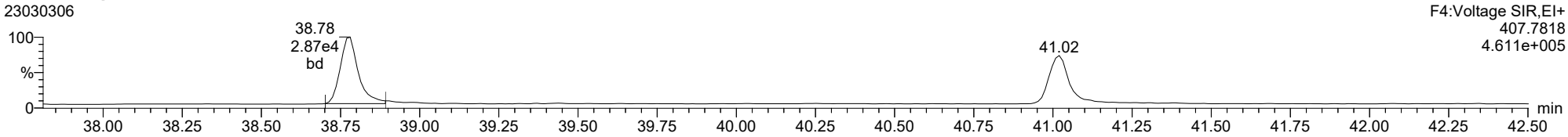

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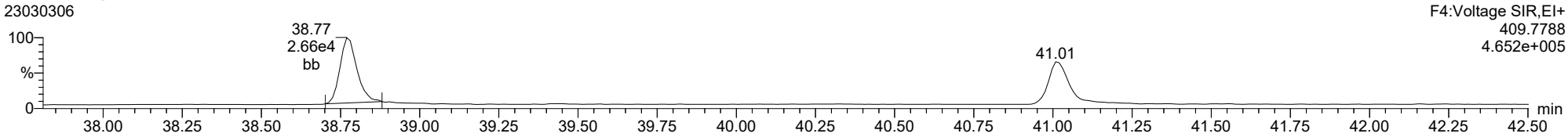

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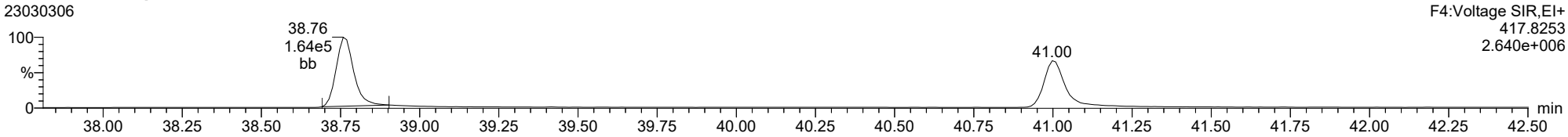

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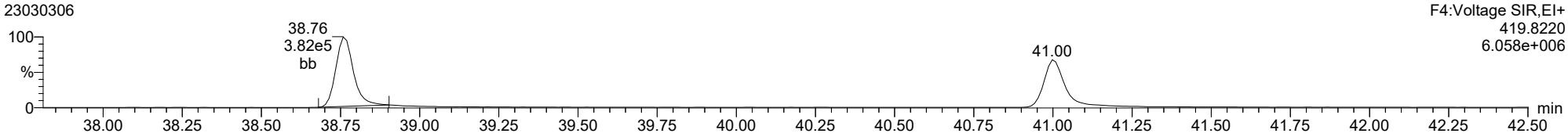

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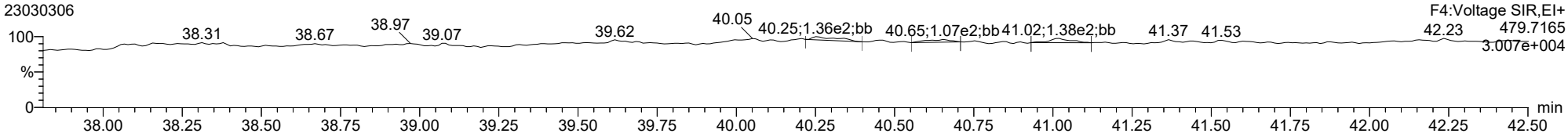

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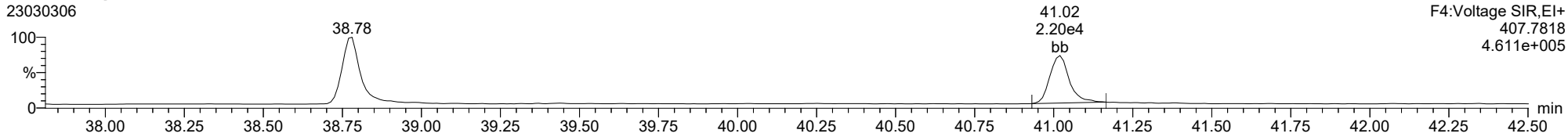

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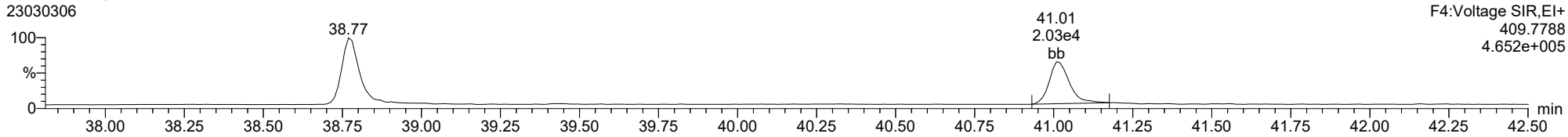

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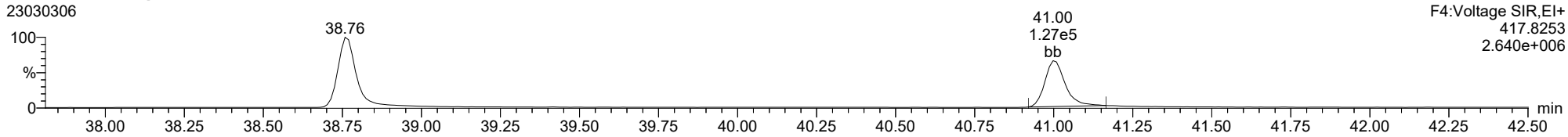

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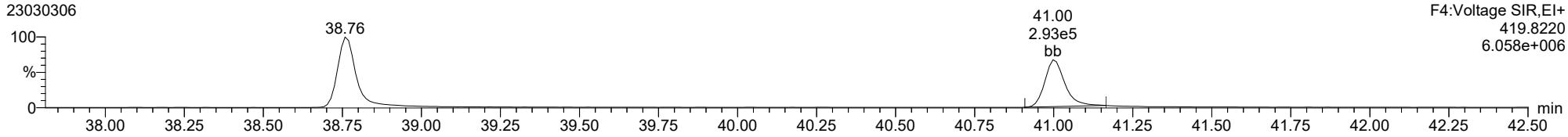

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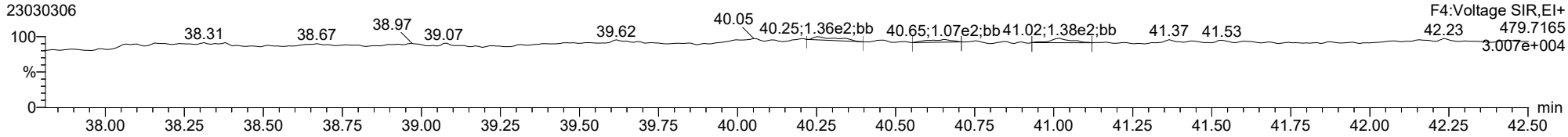

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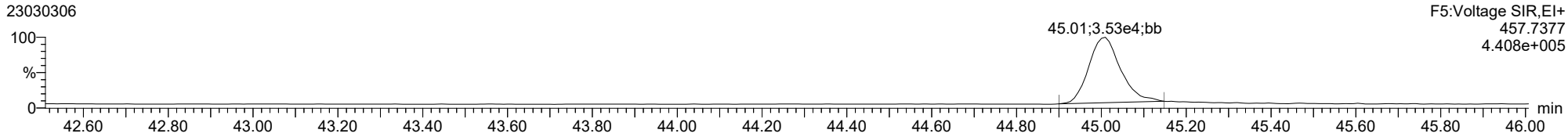
OCDD



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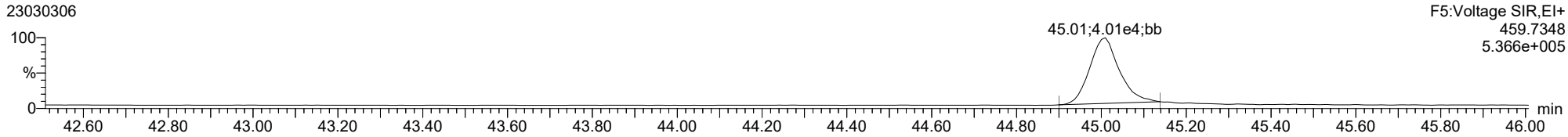

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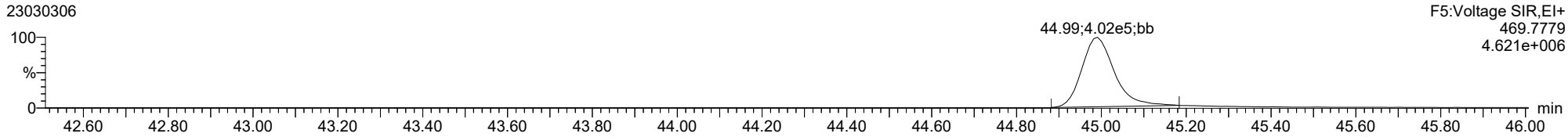

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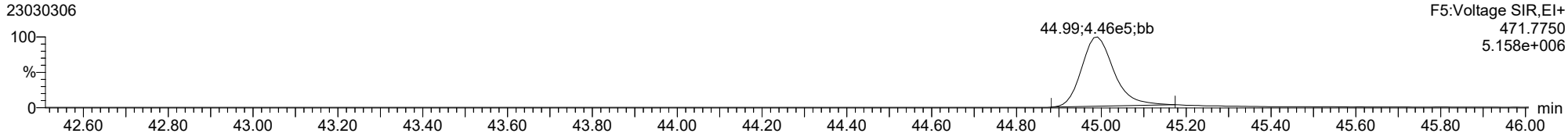

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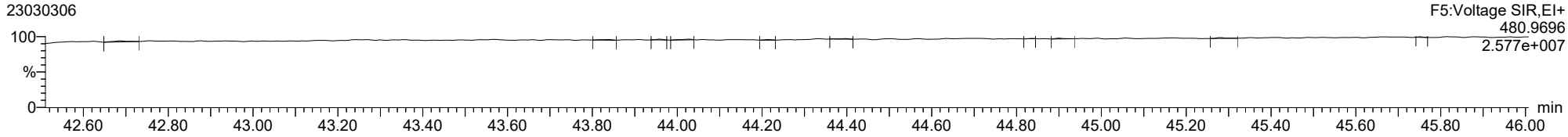

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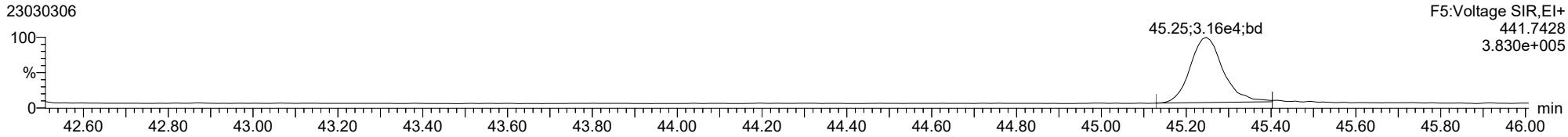
OCDF



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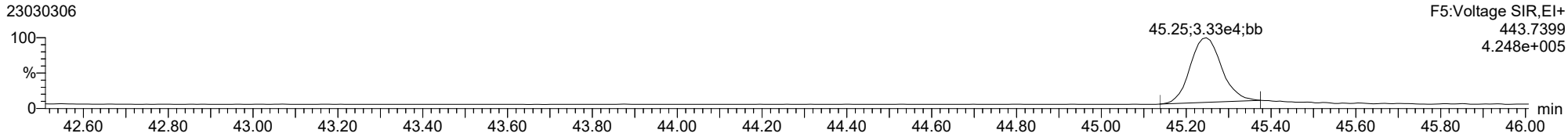

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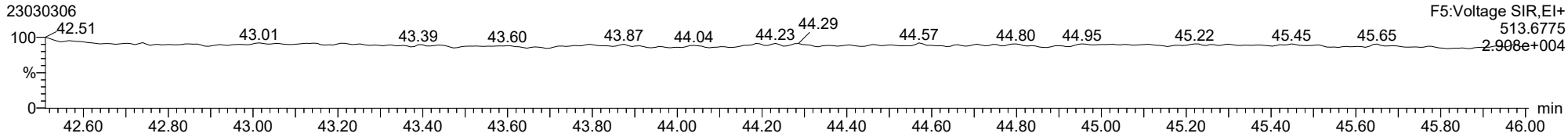

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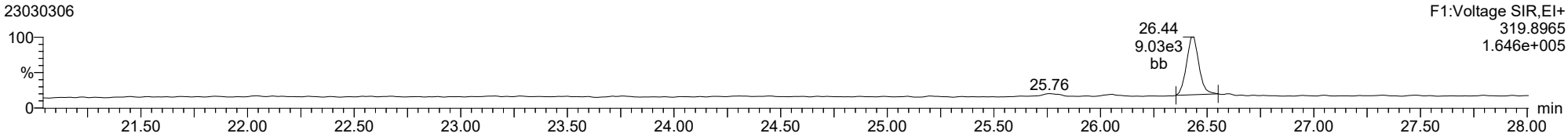
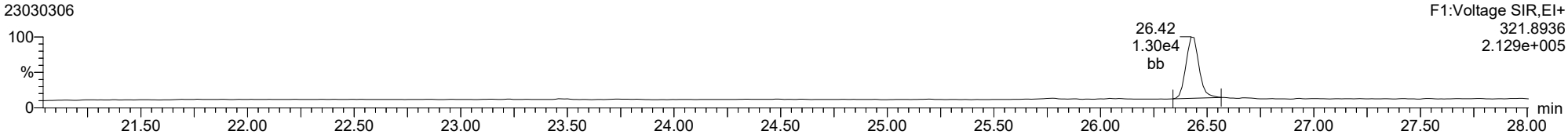
Total-tetradioxins



Total-tetradioxins



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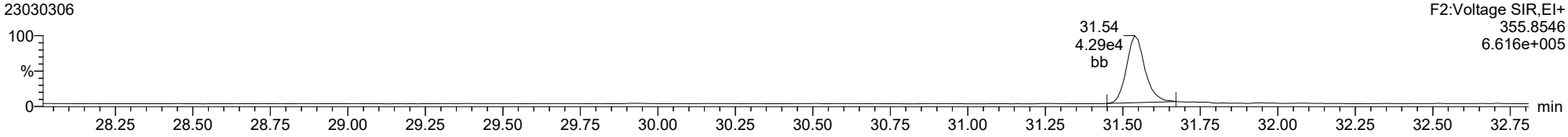
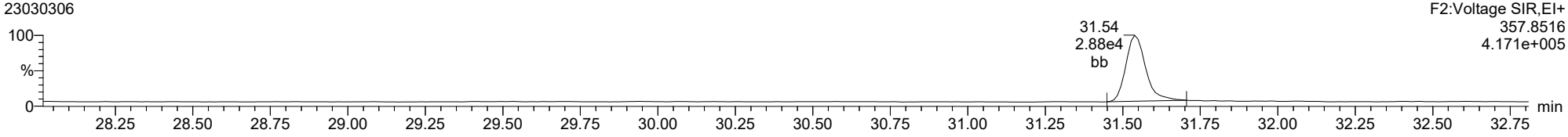


Total-pentadioxins



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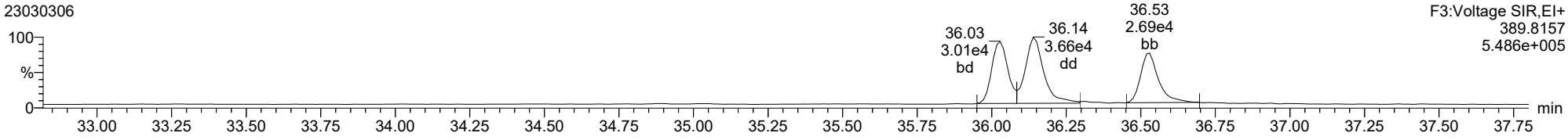
Total-hexadioxins



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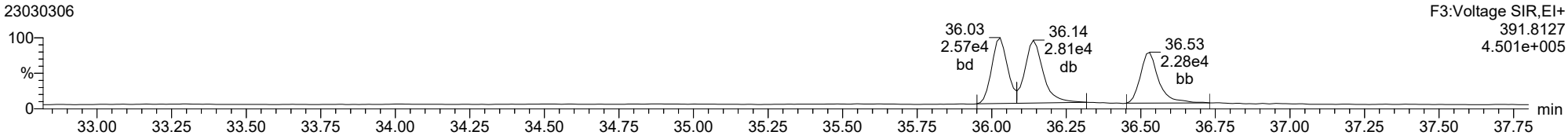

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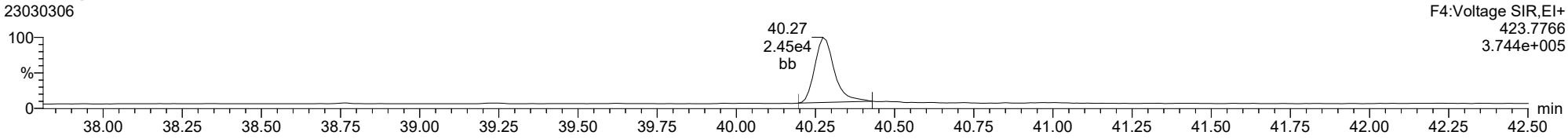

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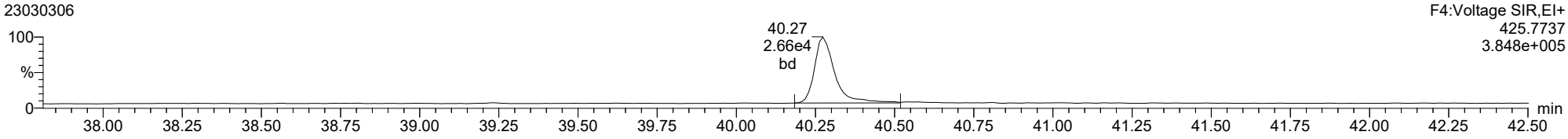

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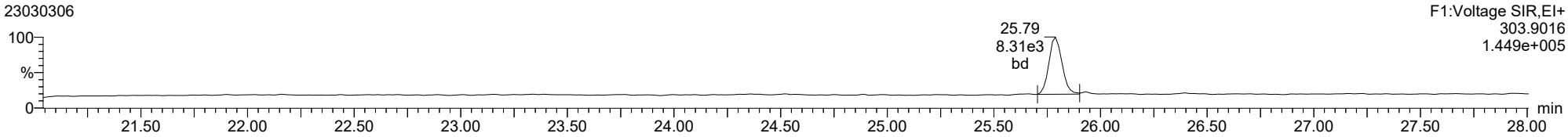
Total-tetrafurans



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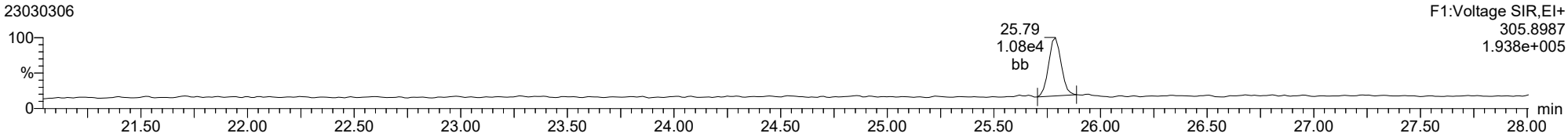

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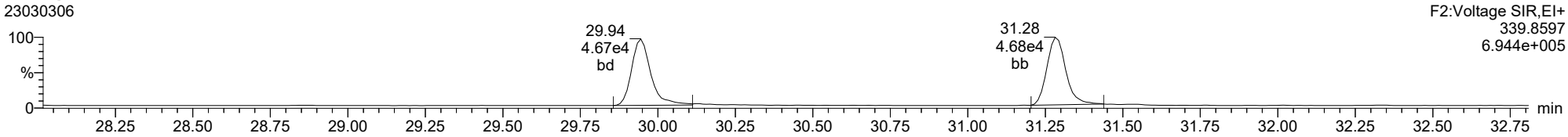

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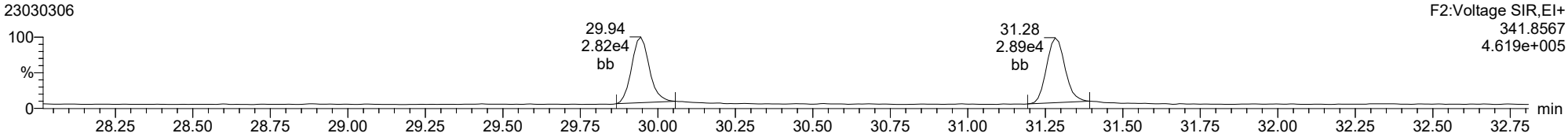

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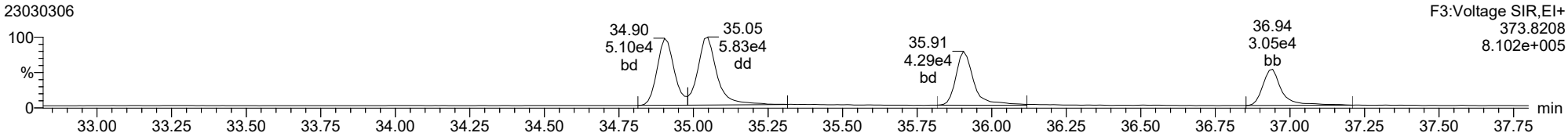

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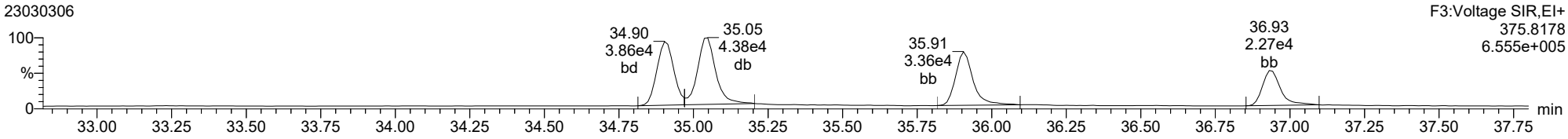

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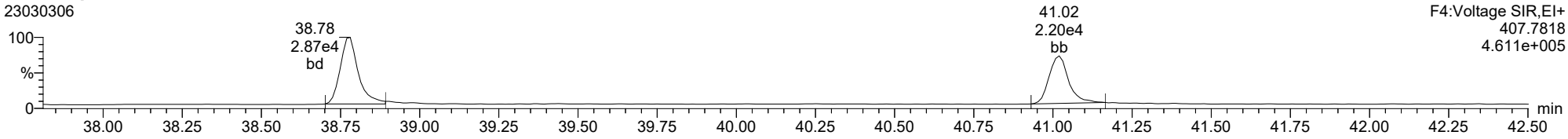

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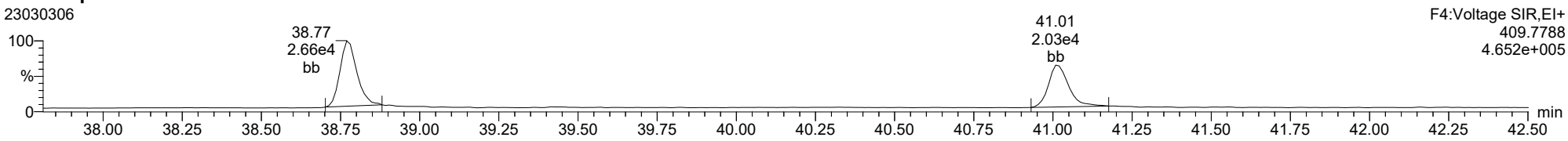

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Last Altered: Monday, March 06, 2023 10:57:27 Pacific Standard Time
Printed: Monday, March 06, 2023 11:34:37 Pacific Standard Time

Method: T:\Autospec\Methods\Dioxin230303.mdb 03 Mar 2023 14:58:50
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 10:57:27

ID: CS3CW, Name: 23030307, Date: 03-Mar-2023, Time: 14:06:39, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.788	1.001	4.563e4	6.298e4	0.702	0.724	0.770	1455	2151	7.03e5	9.46e5	483.4	440.0	NO	bb	bb	10.132
12378-PeCDF	29.945	1.001	2.374e5	1.577e5	0.679	1.505	1.550	2714	2519	3.51e6	2.28e6	1294.3	903.8	NO	bb	bb	49.089
23478-PeCDF	31.282	1.001	2.063e5	1.364e5	0.786	1.512	1.550	2714	2519	3.03e6	1.99e6	1118.0	788.5	NO	bb	bb	49.466
123478-HxCDF	34.903	1.000	2.473e5	1.941e5	1.166	1.275	1.240	3008	2708	3.76e6	2.98e6	1248.4	1099.9	NO	bd	bd	48.979
234678-HxCDF	35.905	1.000	2.404e5	1.930e5	1.140	1.246	1.240	3008	2708	3.53e6	2.85e6	1172.2	1053.8	NO	bb	bb	49.000
123678-HxCDF	35.048	1.001	2.970e5	2.223e5	1.091	1.336	1.240	3008	2708	3.95e6	3.09e6	1312.5	1142.3	NO	db	db	50.520
123789-HxCDF	36.942	1.001	2.103e5	1.706e5	1.137	1.233	1.240	3008	2708	2.89e6	2.30e6	959.2	849.3	NO	bd	bd	50.468
1234678-HpCDF	38.780	1.000	1.592e5	1.601e5	1.003	0.994	1.050	2672	2189	2.51e6	2.53e6	939.2	1157.5	NO	bb	bb	48.161
1234789-HpCDF	41.019	1.000	1.361e5	1.443e5	0.953	0.943	1.050	2672	2189	1.84e6	1.86e6	689.1	851.7	NO	bb	bd	49.244
OCDF	45.247	1.006	2.019e5	2.478e5	0.778	0.815	0.890	1393	1380	2.32e6	2.62e6	1663.0	1900.3	NO	bb	bd	93.418
2378-TCDD	26.424	1.000	5.877e4	7.446e4	1.149	0.789	0.770	1483	1021	8.00e5	1.03e6	539.5	1013.7	NO	bd	bb	9.873
12378-PeCDD	31.538	1.000	1.890e5	1.221e5	1.022	1.548	1.550	1651	2172	2.74e6	1.77e6	1662.3	815.6	NO	bb	bb	49.884
123478-HxCDD	36.028	1.000	1.812e5	1.479e5	0.996	1.225	1.240	1690	2600	2.90e6	2.38e6	1717.5	913.7	NO	bd	bd	48.605
123678-HxCDD	36.139	1.000	2.270e5	1.862e5	1.001	1.219	1.240	1690	2600	3.05e6	2.54e6	1803.3	977.3	NO	db	db	51.480
123789-HxCDD	36.529	1.011	1.887e5	1.546e5	0.907	1.221	1.240	1690	2600	2.71e6	2.20e6	1606.4	846.3	NO	bb	bb	51.083
1234678-HpCDD	40.273	1.000	1.573e5	1.681e5	1.039	0.936	1.050	2523	2313	2.21e6	2.22e6	874.4	957.9	NO	bb	bd	49.956
OCDD	45.009	1.000	2.508e5	2.930e5	0.920	0.856	0.890	1279	1652	2.91e6	3.41e6	2272.5	2065.6	NO	bb	bb	95.487
13C-2378-TCDF	25.774	1.007	6.575e5	8.705e5	1.620	0.755	0.770	2127	1667	9.70e6	1.27e7	4562.2	7600.8	NO	bb	bb	92.139
13C-12378-PeCDF	29.922	1.169	7.106e5	4.742e5	1.240	1.498	1.550	3150	3257	9.76e6	6.54e6	3098.5	2009.5	NO	bd	bd	93.316
13C-23478-PeCDF	31.259	1.221	5.241e5	3.573e5	1.118	1.467	1.550	3150	3257	7.68e6	5.27e6	2437.6	1617.5	NO	bb	bb	77.038
13C-123478-HxCDF	34.891	0.956	2.605e5	5.124e5	1.168	0.508	0.510	2130	2302	3.94e6	7.71e6	1851.1	3349.5	NO	bd	bd	95.975
13C-123678-HxCDF	35.025	0.959	3.029e5	6.396e5	1.386	0.474	0.510	2130	2302	4.25e6	8.39e6	1994.1	3646.7	NO	db	db	98.624
13C-234678-HxCDF	35.894	0.983	2.705e5	5.057e5	1.129	0.535	0.510	2130	2302	3.77e6	7.17e6	1772.4	3115.7	NO	bd	bb	99.718
13C-123789-HxCDF	36.919	1.011	2.253e5	4.385e5	0.932	0.514	0.510	2130	2302	3.30e6	6.48e6	1548.0	2814.2	NO	bb	bb	103.358
13C-1234678-HpCDF	38.769	1.062	2.032e5	4.578e5	0.895	0.444	0.440	2209	3025	3.15e6	7.13e6	1428.1	2357.0	NO	bb	bb	107.118
13C-1234789-HpCDF	41.008	1.123	1.757e5	4.217e5	0.770	0.417	0.440	2209	3025	2.29e6	5.20e6	1036.4	1717.4	NO	bb	bb	112.595
13C-1234-TCDD	25.605	0.000	4.555e5	5.681e5	1.000	0.802	0.770	2485	1606	6.85e6	8.57e6	2757.9	5335.2	NO	bb	bb	100.000
13C-2378-TCDD	26.410	1.031	5.228e5	6.520e5	1.152	0.802	0.770	2485	1606	7.70e6	9.63e6	3097.5	5999.3	NO	bb	bb	99.597
13C-12378-PeCDD	31.527	1.231	3.747e5	2.356e5	0.829	1.590	1.550	1413	1348	5.28e6	3.29e6	3736.6	2437.5	NO	bb	bb	71.936
13C-123478-HxCDD	36.017	0.986	3.837e5	2.963e5	0.995	1.295	1.240	1796	1719	5.91e6	4.54e6	3293.9	2638.3	NO	bd	bd	99.140
13C-123678-HxCDD	36.128	0.989	4.675e5	3.344e5	1.157	1.398	1.240	1796	1719	6.38e6	4.87e6	3554.2	2831.4	NO	db	db	100.573
13C-1234678-HpCDD	40.262	1.102	3.210e5	3.059e5	0.840	1.049	1.050	2165	1959	4.38e6	4.15e6	2024.2	2117.7	NO	bb	bb	108.247
13C-OCDD	44.990	1.232	6.075e5	6.305e5	0.767	0.963	0.890	2629	1930	6.50e6	7.26e6	2473.3	3761.0	NO	bd	bb	234.029
13C-123789-HxCDD	36.518	0.000	3.849e5	3.043e5	1.000	1.265	1.240	1796	1719	5.52e6	4.36e6	3076.5	2537.0	NO	bb	bb	100.000
37CL-2378-TCDD	26.424	1.032	1.159e5		1.288			2383		1.68e6		703.2			bb		8.796

Dataset: T:\Autospec\Processed Data Batch\230303ICIH.qld
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ID: CS3CW, Name: 23030307, Date: 03-Mar-2023, Time: 14:06:39, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF	22.285	0.865	5.143e4	7.104e4	0.802	0.724	0.770	1455	2151	8.64e5	1.17e6	593.7	544.2	NO	bb	bb	10.000
1289-TCDF	27.286	1.059	4.449e4	5.910e4	0.678	0.753	0.770	1455	2151	6.41e5	8.65e5	440.8	402.3	NO	bb	db	10.000
13468-PECDF	27.144	0.907	4.471e5	2.913e5	1.246	1.535	1.550	765	1431	6.85e6	4.42e6	8952.4	3092.4	NO	bb	bb	50.000
12389-PECDF	32.318	1.080	1.756e5	1.185e5	0.496	1.482	1.550	2714	2519	2.46e6	1.67e6	905.1	663.5	NO	bb	bb	50.000
123468-HXCDF	33.243	0.953	2.474e5	2.044e5	1.169	1.210	1.240	3008	2708	3.57e6	2.89e6	1187.3	1066.9	NO	bb	bd	50.000
1368-TCDD	23.557	0.892	5.333e4	6.596e4	1.015	0.808	0.770	1483	1021	8.25e5	1.09e6	556.5	1064.4	NO	bb	bb	10.000
1289-TCDD	27.031	1.023	4.649e4	6.027e4	0.909	0.771	0.770	1483	1021	6.71e5	8.87e5	452.4	868.9	NO	bb	bb	10.000
12479-PECDD	28.830	0.914	4.152e5	2.870e5	2.301	1.447	1.550	1651	2172	3.89e6	2.64e6	2354.1	1214.5	NO	bb	bd	50.000
12389-PECDD	31.939	1.013	2.202e5	1.409e5	1.184	1.563	1.550	1651	2172	2.97e6	1.93e6	1798.8	887.7	NO	bd	bd	50.000
124679-HXCDD	34.011	0.944	2.133e5	1.659e5	1.115	1.286	1.240	1690	2600	2.98e6	2.42e6	1762.3	930.8	NO	bd	bb	50.000
1234679-HPCDD	39.225	0.974	1.868e5	1.696e5	1.137	1.101	1.050	2523	2313	2.68e6	2.60e6	1062.7	1125.2	NO	bd	bb	50.000
Total-tetrafurans			1.415e5		0.727			1455		2.21e6							30.132
Total-penta1			4.471e5					765		6.85e6							50.000
Total-pentafurans			6.595e5		0.654			2714		9.58e6							158.378
Total-hexafurans			1.243e6		1.141			3008		1.77e7							249.074
Total-heptafurans			2.965e5		0.978			2672		4.37e6							97.824
Total-Furans			2.990e6		0.922			1455		4.30e7							678.826
Total-tetradioxins			2.666e5		1.024			1483		3.52e6							50.252
Total-pentadioxins			8.253e5		1.502			1651		9.61e6							150.025
Total-hexadioxins			8.102e5		1.005			1690		1.16e7							201.167
Total-heptadioxins			3.440e5		1.088			2523		4.89e6							99.956
Total-Dioxins			2.497e6		1.130			1483		3.26e7							596.887
Total-TEQ			5.487e6					1483		7.56e7							1275.713
FUNCTION1 PFK			2.078e5					640846		4.44e6							
FUNCTION2 PFK			1.544e7					302960		1.17e7							0.000
FUNCTION3 PFK			6.335e6					441696		3.43e7							0.000
FUNCTION4 PFK			1.606e7					302692		2.36e6							
FUNCTION5 PFK			3.357e4					240421		1.60e6							
FUNCTION1 HXCD...			1.444e3					587		1.68e4							0.000
FUNCTION1 HPCD...																	
FUNCTION2 HPCD...			9.034e2					1003		1.66e4							0.000
FUNCTION3 OCDPE			5.560e2					494		8.57e3							0.000
FUNCTION4 NCDPE			9.205e2					776		1.78e4							0.000
FUNCTION5 DCDPE			9.291e1					548		1.29e3							0.000

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ID: CS3CW, Name: 23030307, Date: 03-Mar-2023, Time: 14:06:39, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.29	4.449e4	5.910e4	0.678	0.75	0.77	440.8	YES	NO	bb	db	10.000
2	2378-TCDF	25.79	4.563e4	6.298e4	0.702	0.72	0.77	483.4	YES	NO	bb	bb	10.132
3	1368-TCDF	22.29	5.143e4	7.104e4	0.802	0.72	0.77	593.7	YES	NO	bb	bb	10.000

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	27.14	4.471e5	2.913e5	1.246	1.53	1.55	8952.4	YES	NO	bb	bb	50.000

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDF	32.32	1.756e5	1.185e5	0.496	1.48	1.55	905.1	YES	NO	bb	bb	50.000
2	23478-PeCDF	31.28	2.063e5	1.364e5	0.786	1.51	1.55	1118.0	YES	NO	bb	bb	49.466
3	Total-pentafurans	30.13	4.319e2	3.264e2	0.654	1.32	1.55	1.8	NO	NO	bb	bb	0.112
4	12378-PeCDF	29.94	2.374e5	1.577e5	0.679	1.51	1.55	1294.3	YES	NO	bb	bb	49.089
5	Total-pentafurans	28.80	3.978e4	2.583e4	0.654	1.54	1.55	212.5	YES	NO	bb	bb	9.712

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexafurans	37.33	5.073e2	4.522e2	1.141	1.12	1.24	4.2	YES	NO	db	dd	0.107
2	123789-HxCDF	36.94	2.103e5	1.706e5	1.137	1.23	1.24	959.2	YES	NO	bd	bd	50.468
3	234678-HxCDF	35.91	2.404e5	1.930e5	1.140	1.25	1.24	1172.2	YES	NO	bb	bb	49.000
4	123678-HxCDF	35.05	2.970e5	2.223e5	1.091	1.34	1.24	1312.5	YES	NO	db	db	50.520
5	123478-HxCDF	34.90	2.473e5	1.941e5	1.166	1.27	1.24	1248.4	YES	NO	bd	bd	48.979
6	123468-HXCDF	33.24	2.474e5	2.044e5	1.169	1.21	1.24	1187.3	YES	NO	bb	bd	50.000

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	41.02	1.361e5	1.443e5	0.953	0.94	1.05	689.1	YES	NO	bb	bd	49.244
2	Total-heptafurans	39.44	1.302e3	1.273e3	0.978	1.02	1.05	8.5	YES	NO	bb	bb	0.418
3	1234678-HpCDF	38.78	1.592e5	1.601e5	1.003	0.99	1.05	939.2	YES	NO	bb	bb	48.161

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Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.29	4.449e4	5.910e4	0.678	0.75	0.77	440.8	YES	NO	bb	db	10.000
2	2378-TCDF	25.79	4.563e4	6.298e4	0.702	0.72	0.77	483.4	YES	NO	bb	bb	10.132
3	1368-TCDF	22.29	5.143e4	7.104e4	0.802	0.72	0.77	593.7	YES	NO	bb	bb	10.000
4	12389-PECDF	32.32	1.756e5	1.185e5	0.496	1.48	1.55	905.1	YES	NO	bb	bb	50.000
5	23478-PeCDF	31.28	2.063e5	1.364e5	0.786	1.51	1.55	1118.0	YES	NO	bb	bb	49.466
6	Total-pentafurans	30.13	4.319e2	3.264e2	0.654	1.32	1.55	1.8	NO	NO	bb	bb	0.112
7	12378-PeCDF	29.94	2.374e5	1.577e5	0.679	1.51	1.55	1294.3	YES	NO	bb	bb	49.089
8	Total-pentafurans	28.80	3.978e4	2.583e4	0.654	1.54	1.55	212.5	YES	NO	bb	bb	9.712
9	Total-hexafurans	37.33	5.073e2	4.522e2	1.141	1.12	1.24	4.2	YES	NO	db	dd	0.107
10	123789-HxCDF	36.94	2.103e5	1.706e5	1.137	1.23	1.24	959.2	YES	NO	bd	bd	50.468
11	234678-HxCDF	35.91	2.404e5	1.930e5	1.140	1.25	1.24	1172.2	YES	NO	bb	bb	49.000
12	123678-HxCDF	35.05	2.970e5	2.223e5	1.091	1.34	1.24	1312.5	YES	NO	db	db	50.520
13	123478-HxCDF	34.90	2.473e5	1.941e5	1.166	1.27	1.24	1248.4	YES	NO	bd	bd	48.979
14	123468-HXCDF	33.24	2.474e5	2.044e5	1.169	1.21	1.24	1187.3	YES	NO	bb	bd	50.000
15	1234789-HpCDF	41.02	1.361e5	1.443e5	0.953	0.94	1.05	689.1	YES	NO	bb	bd	49.244
16	Total-heptafurans	39.44	1.302e3	1.273e3	0.978	1.02	1.05	8.5	YES	NO	bb	bb	0.418
17	1234678-HpCDF	38.78	1.592e5	1.601e5	1.003	0.99	1.05	939.2	YES	NO	bb	bb	48.161
18	OCDF	45.25	2.019e5	2.478e5	0.778	0.81	0.89	1663.0	YES	NO	bb	bd	93.418
19	13468-PECDF	27.14	4.471e5	2.913e5	1.246	1.53	1.55	8952.4	YES	NO	bb	bb	50.000

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1368-TCDD	23.56	5.333e4	6.596e4	1.015	0.81	0.77	556.5	YES	NO	bb	bb	10.000
2	1289-TCDD	27.03	4.649e4	6.027e4	0.909	0.77	0.77	452.4	YES	NO	bb	bb	10.000
3	2378-TCDD	26.42	5.877e4	7.446e4	1.149	0.79	0.77	539.5	YES	NO	bd	bb	9.873
4	Total-tetradioxins	26.10	8.105e4	1.035e5	1.024	0.78	0.77	553.1	YES	NO	bb	bb	15.333
5	Total-tetradioxins	25.62	2.642e4	3.299e4	1.024	0.80	0.77	267.0	YES	NO	bd	bb	4.937
6	Total-tetradioxins	25.04	5.856e2	7.161e2	1.024	0.82	0.77	7.0	YES	NO	bb	bb	0.108

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDD	31.94	2.202e5	1.409e5	1.184	1.56	1.55	1798.8	YES	NO	bd	bd	50.000
2	12378-PeCDD	31.54	1.890e5	1.221e5	1.022	1.55	1.55	1662.3	YES	NO	bb	bb	49.884
3	Total-pentadioxins	30.88	8.263e2	4.657e2	1.502	1.77	1.55	8.6	YES	NO	bb	bb	0.141
4	12479-PECDD	28.83	4.152e5	2.870e5	2.301	1.45	1.55	2354.1	YES	NO	bb	bd	50.000

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HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDD	36.53	1.887e5	1.546e5	0.907	1.22	1.24	1606.4	YES	NO	bb	bb	51.083
2	123678-HxCDD	36.14	2.270e5	1.862e5	1.001	1.22	1.24	1803.3	YES	NO	db	db	51.480
3	123478-HxCDD	36.03	1.812e5	1.479e5	0.996	1.23	1.24	1717.5	YES	NO	bd	bd	48.605
4	124679-HXCDD	34.01	2.133e5	1.659e5	1.115	1.29	1.24	1762.3	YES	NO	bd	bb	50.000

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.27	1.573e5	1.681e5	1.039	0.94	1.05	874.4	YES	NO	bb	bd	49.956
2	1234679-HPCDD	39.23	1.868e5	1.696e5	1.137	1.10	1.05	1062.7	YES	NO	bd	bb	50.000

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1368-TCDD	23.56	5.333e4	6.596e4	1.015	0.81	0.77	556.5	YES	NO	bb	bb	10.000
2	1289-TCDD	27.03	4.649e4	6.027e4	0.909	0.77	0.77	452.4	YES	NO	bb	bb	10.000
3	2378-TCDD	26.42	5.877e4	7.446e4	1.149	0.79	0.77	539.5	YES	NO	bd	bb	9.873
4	Total-tetradioxins	26.10	8.105e4	1.035e5	1.024	0.78	0.77	553.1	YES	NO	bb	bb	15.333
5	Total-tetradioxins	25.62	2.642e4	3.299e4	1.024	0.80	0.77	267.0	YES	NO	bd	bb	4.937
6	Total-tetradioxins	25.04	5.856e2	7.161e2	1.024	0.82	0.77	7.0	YES	NO	bb	bb	0.108
7	12389-PECDD	31.94	2.202e5	1.409e5	1.184	1.56	1.55	1798.8	YES	NO	bd	bd	50.000
8	12378-PeCDD	31.54	1.890e5	1.221e5	1.022	1.55	1.55	1662.3	YES	NO	bb	bb	49.884
9	Total-pentadioxins	30.88	8.263e2	4.657e2	1.502	1.77	1.55	8.6	YES	NO	bb	bb	0.141
10	12479-PECDD	28.83	4.152e5	2.870e5	2.301	1.45	1.55	2354.1	YES	NO	bb	bd	50.000
11	123789-HxCDD	36.53	1.887e5	1.546e5	0.907	1.22	1.24	1606.4	YES	NO	bb	bb	51.083
12	123678-HxCDD	36.14	2.270e5	1.862e5	1.001	1.22	1.24	1803.3	YES	NO	db	db	51.480
13	123478-HxCDD	36.03	1.812e5	1.479e5	0.996	1.23	1.24	1717.5	YES	NO	bd	bd	48.605
14	124679-HXCDD	34.01	2.133e5	1.659e5	1.115	1.29	1.24	1762.3	YES	NO	bd	bb	50.000
15	1234678-HpCDD	40.27	1.573e5	1.681e5	1.039	0.94	1.05	874.4	YES	NO	bb	bd	49.956
16	1234679-HPCDD	39.23	1.868e5	1.696e5	1.137	1.10	1.05	1062.7	YES	NO	bd	bb	50.000
17	OCDD	45.01	2.508e5	2.930e5	0.920	0.86	0.89	2272.5	YES	NO	bb	bb	95.487

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.29	4.449e4	5.910e4	0.678	0.75	0.77	440.8	YES	NO	bb	db	10.000
2	2378-TCDF	25.79	4.563e4	6.298e4	0.702	0.72	0.77	483.4	YES	NO	bb	bb	10.132
3	1368-TCDF	22.29	5.143e4	7.104e4	0.802	0.72	0.77	593.7	YES	NO	bb	bb	10.000
4	12389-PECDF	32.32	1.756e5	1.185e5	0.496	1.48	1.55	905.1	YES	NO	bb	bb	50.000
5	23478-PeCDF	31.28	2.063e5	1.364e5	0.786	1.51	1.55	1118.0	YES	NO	bb	bb	49.466
6	Total-pentafurans	30.13	4.319e2	3.264e2	0.654	1.32	1.55	1.8	NO	NO	bb	bb	0.112
7	12378-PeCDF	29.94	2.374e5	1.577e5	0.679	1.51	1.55	1294.3	YES	NO	bb	bb	49.089
8	Total-pentafurans	28.80	3.978e4	2.583e4	0.654	1.54	1.55	212.5	YES	NO	bb	bb	9.712
9	Total-hexafurans	37.33	5.073e2	4.522e2	1.141	1.12	1.24	4.2	YES	NO	db	dd	0.107
10	123789-HxCDF	36.94	2.103e5	1.706e5	1.137	1.23	1.24	959.2	YES	NO	bd	bd	50.468
11	234678-HxCDF	35.91	2.404e5	1.930e5	1.140	1.25	1.24	1172.2	YES	NO	bb	bb	49.000
12	123678-HxCDF	35.05	2.970e5	2.223e5	1.091	1.34	1.24	1312.5	YES	NO	db	db	50.520
13	123478-HxCDF	34.90	2.473e5	1.941e5	1.166	1.27	1.24	1248.4	YES	NO	bd	bd	48.979
14	123468-HXCDF	33.24	2.474e5	2.044e5	1.169	1.21	1.24	1187.3	YES	NO	bb	bd	50.000
15	1234789-HpCDF	41.02	1.361e5	1.443e5	0.953	0.94	1.05	689.1	YES	NO	bb	bd	49.244
16	Total-heptafurans	39.44	1.302e3	1.273e3	0.978	1.02	1.05	8.5	YES	NO	bb	bb	0.418
17	1234678-HpCDF	38.78	1.592e5	1.601e5	1.003	0.99	1.05	939.2	YES	NO	bb	bb	48.161
18	OCDF	45.25	2.019e5	2.478e5	0.778	0.81	0.89	1663.0	YES	NO	bb	bd	93.418
19	13468-PECDF	27.14	4.471e5	2.913e5	1.246	1.53	1.55	8952.4	YES	NO	bb	bb	50.000
20	1368-TCDD	23.56	5.333e4	6.596e4	1.015	0.81	0.77	556.5	YES	NO	bb	bb	10.000
21	1289-TCDD	27.03	4.649e4	6.027e4	0.909	0.77	0.77	452.4	YES	NO	bb	bb	10.000
22	2378-TCDD	26.42	5.877e4	7.446e4	1.149	0.79	0.77	539.5	YES	NO	bd	bb	9.873
23	Total-tetradioxins	26.10	8.105e4	1.035e5	1.024	0.78	0.77	553.1	YES	NO	bb	bb	15.333
24	Total-tetradioxins	25.62	2.642e4	3.299e4	1.024	0.80	0.77	267.0	YES	NO	bd	bb	4.937
25	Total-tetradioxins	25.04	5.856e2	7.161e2	1.024	0.82	0.77	7.0	YES	NO	bb	bb	0.108
26	12389-PECDD	31.94	2.202e5	1.409e5	1.184	1.56	1.55	1798.8	YES	NO	bd	bd	50.000
27	12378-PeCDD	31.54	1.890e5	1.221e5	1.022	1.55	1.55	1662.3	YES	NO	bb	bb	49.884
28	Total-pentadioxins	30.88	8.263e2	4.657e2	1.502	1.77	1.55	8.6	YES	NO	bb	bb	0.141
29	12479-PECDD	28.83	4.152e5	2.870e5	2.301	1.45	1.55	2354.1	YES	NO	bb	bd	50.000
30	123789-HxCDD	36.53	1.887e5	1.546e5	0.907	1.22	1.24	1606.4	YES	NO	bb	bb	51.083
31	123678-HxCDD	36.14	2.270e5	1.862e5	1.001	1.22	1.24	1803.3	YES	NO	db	db	51.480
32	123478-HxCDD	36.03	1.812e5	1.479e5	0.996	1.23	1.24	1717.5	YES	NO	bd	bd	48.605
33	124679-HXCDD	34.01	2.133e5	1.659e5	1.115	1.29	1.24	1762.3	YES	NO	bd	bb	50.000
34	1234678-HpCDD	40.27	1.573e5	1.681e5	1.039	0.94	1.05	874.4	YES	NO	bb	bd	49.956
35	1234679-HPCDD	39.23	1.868e5	1.696e5	1.137	1.10	1.05	1062.7	YES	NO	bd	bb	50.000
36	OCDD	45.01	2.508e5	2.930e5	0.920	0.86	0.89	2272.5	YES	NO	bb	bb	95.487

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	27.24	1.621e5					3.0	YES		bb		
2	FUNCTION1 PFK	26.04	7.004e3					0.8	NO		bb		
3	FUNCTION1 PFK	25.20	1.505e4					1.0	NO		bb		
4	FUNCTION1 PFK	24.33	1.235e4					0.8	NO		bb		
5	FUNCTION1 PFK	23.94	5.589e3					0.6	NO		bb		
6	FUNCTION1 PFK	23.61	5.711e3					0.6	NO		bb		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	32.40	1.216e5					2.2	NO		bb		0.000
2	FUNCTION2 PFK	29.43	1.324e7					19.8	YES		db		0.000
3	FUNCTION2 PFK	28.41	2.080e6					16.6	YES		bd		0.000

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PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	33.64	4.177e4					1.9	NO		bb		0.000
2	FUNCTION3 PFK	33.49	1.199e5					5.0	YES		db		0.000
3	FUNCTION3 PFK	33.44	2.654e6					7.0	YES		dd		0.000
4	FUNCTION3 PFK	33.06	2.958e6					23.7	YES		bd		0.000
5	FUNCTION3 PFK	35.38	2.169e4					1.0	NO		bb		0.000
6	FUNCTION3 PFK	35.25	5.928e3					0.6	NO		bb		0.000
7	FUNCTION3 PFK	35.11	7.037e3					0.7	NO		bb		0.000
8	FUNCTION3 PFK	34.99	1.627e4					1.0	NO		bb		0.000
9	FUNCTION3 PFK	34.92	1.103e4					1.1	NO		db		0.000
10	FUNCTION3 PFK	34.86	1.305e4					1.0	NO		bd		0.000
11	FUNCTION3 PFK	34.80	9.642e3					0.9	NO		bb		0.000
12	FUNCTION3 PFK	34.66	1.233e4					0.9	NO		db		0.000
13	FUNCTION3 PFK	34.64	7.688e3					0.8	NO		bd		0.000
14	FUNCTION3 PFK	34.57	9.132e3					0.8	NO		bb		0.000
15	FUNCTION3 PFK	34.47	7.208e3					0.8	NO		bb		0.000
16	FUNCTION3 PFK	34.31	1.503e4					1.0	NO		bb		0.000
17	FUNCTION3 PFK	34.22	2.675e4					1.4	NO		bb		0.000
18	FUNCTION3 PFK	34.01	3.007e4					2.1	NO		db		0.000
19	FUNCTION3 PFK	33.97	1.328e4					1.1	NO		bd		0.000
20	FUNCTION3 PFK	33.91	6.249e3					0.6	NO		bb		0.000
21	FUNCTION3 PFK	36.99	2.219e4					1.1	NO		bd		0.000
22	FUNCTION3 PFK	36.87	2.133e3					0.4	NO		bb		0.000
23	FUNCTION3 PFK	36.83	5.225e3					0.6	NO		bb		0.000
24	FUNCTION3 PFK	36.70	4.929e4					1.7	NO		bb		0.000
25	FUNCTION3 PFK	36.43	1.980e4					1.2	NO		bb		0.000
26	FUNCTION3 PFK	36.38	7.184e3					0.9	NO		bb		0.000
27	FUNCTION3 PFK	36.27	4.220e3					0.5	NO		bb		0.000
28	FUNCTION3 PFK	36.24	2.102e3					0.4	NO		bb		0.000
29	FUNCTION3 PFK	36.19	3.748e3					0.5	NO		bb		0.000
30	FUNCTION3 PFK	35.87	3.133e4					1.6	NO		db		0.000
31	FUNCTION3 PFK	35.83	1.912e4					1.5	NO		bd		0.000
32	FUNCTION3 PFK	35.78	2.675e3					0.4	NO		db		0.000
33	FUNCTION3 PFK	35.74	3.023e4					1.5	NO		dd		0.000
34	FUNCTION3 PFK	35.67	1.673e4					1.4	NO		bd		0.000
35	FUNCTION3 PFK	35.58	2.145e4					1.4	NO		db		0.000
36	FUNCTION3 PFK	35.53	1.268e4					1.1	NO		bd		0.000
37	FUNCTION3 PFK	37.67	2.243e4					1.6	NO		bb		0.000

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PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION3 PFK	37.45	8.583e3					0.7	NO		db		0.000
39	FUNCTION3 PFK	37.43	4.891e3					0.7	NO		bd		0.000
40	FUNCTION3 PFK	37.30	6.956e3					0.6	NO		bb		0.000
41	FUNCTION3 PFK	37.23	5.682e3					0.7	NO		db		0.000
42	FUNCTION3 PFK	37.20	9.815e3					0.9	NO		dd		0.000
43	FUNCTION3 PFK	37.15	5.475e3					0.6	NO		dd		0.000
44	FUNCTION3 PFK	37.11	7.631e3					0.8	NO		bd		0.000
45	FUNCTION3 PFK	37.06	2.709e4					1.4	NO		db		0.000

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	40.40	1.889e5					2.4	NO		bb		
2	FUNCTION4 PFK	39.68	1.587e7					5.4	YES		bb		

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	43.63	9.422e3					1.5	NO		bb		
2	FUNCTION5 PFK	43.24	1.576e3					0.7	NO		bb		
3	FUNCTION5 PFK	43.00	1.263e4					1.7	NO		bb		
4	FUNCTION5 PFK	45.90	6.371e3					1.4	NO		bb		
5	FUNCTION5 PFK	45.34	1.310e3					0.6	NO		bb		
6	FUNCTION5 PFK	43.79	2.270e3					0.7	NO		bb		

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ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	27.16	2.360e2					3.4	YES		bb		0.000
2	FUNCTION1 HXCD...	26.52	1.410e2					3.2	YES		db		0.000
3	FUNCTION1 HXCD...	26.41	1.480e2					3.3	YES		bd		0.000
4	FUNCTION1 HXCD...	26.16	8.707e1					1.9	NO		db		0.000
5	FUNCTION1 HXCD...	26.10	7.515e1					2.1	NO		bd		0.000
6	FUNCTION1 HXCD...	25.79	8.971e1					2.2	NO		bb		0.000
7	FUNCTION1 HXCD...	25.63	1.156e2					2.5	NO		bb		0.000
8	FUNCTION1 HXCD...	24.52	1.119e2					2.7	NO		db		0.000
9	FUNCTION1 HXCD...	24.43	1.844e2					3.5	YES		bd		0.000
10	FUNCTION1 HXCD...	23.75	1.728e2					2.1	NO		bb		0.000
11	FUNCTION1 HXCD...	21.31	8.251e1					1.7	NO		bb		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	31.95	1.010e2					1.7	NO		bb		0.000
2	FUNCTION2 HPCD...	31.18	4.333e2					5.6	YES		bb		0.000
3	FUNCTION2 HPCD...	30.70	7.244e1					2.1	NO		bb		0.000
4	FUNCTION2 HPCD...	30.31	7.131e1					1.6	NO		bb		0.000
5	FUNCTION2 HPCD...	29.76	7.422e1					1.6	NO		bb		0.000
6	FUNCTION2 HPCD...	29.04	7.307e1					1.9	NO		bb		0.000
7	FUNCTION2 HPCD...	28.55	7.813e1					2.1	NO		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	36.51	1.400e2					5.4	YES		bb		0.000
2	FUNCTION3 OCDPE	35.04	1.909e2					5.6	YES		db		0.000
3	FUNCTION3 OCDPE	34.94	2.251e2					6.4	YES		bd		0.000

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ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	40.60	9.374e1					3.5	YES		bb		0.000
2	FUNCTION4 NCDPE	40.25	1.903e2					3.2	YES		bb		0.000
3	FUNCTION4 NCDPE	39.09	7.390e1					1.9	NO		bb		0.000
4	FUNCTION4 NCDPE	38.97	7.768e1					2.4	NO		bb		0.000
5	FUNCTION4 NCDPE	41.21	8.604e1					3.3	YES		bb		0.000
6	FUNCTION4 NCDPE	41.01	1.089e2					3.1	YES		bb		0.000
7	FUNCTION4 NCDPE	40.86	1.930e2					2.9	NO		db		0.000
8	FUNCTION4 NCDPE	40.74	9.692e1					2.6	NO		bd		0.000

ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 DCDPE	44.90	9.291e1					2.4	NO		bb		0.000

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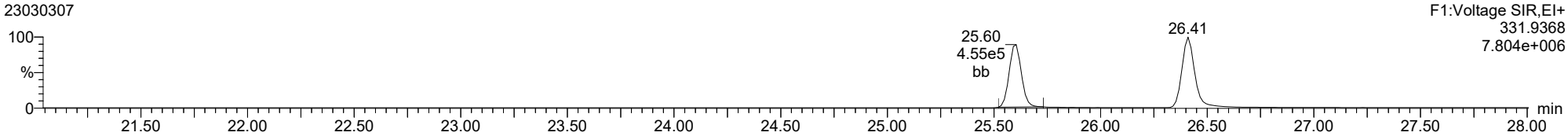
13C-1234-TCDD



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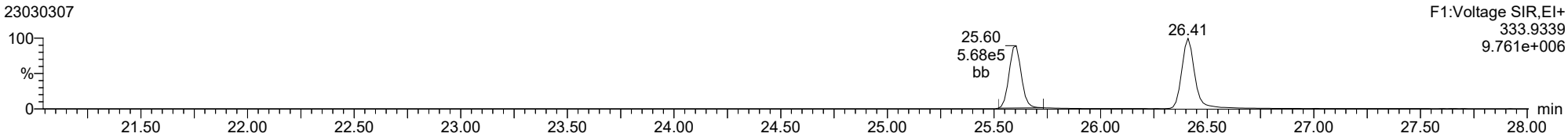
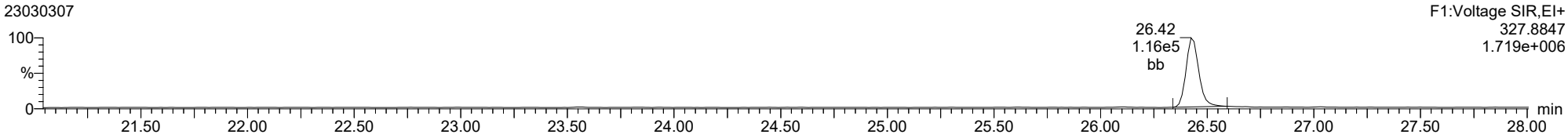


37CL-2378-TCDD



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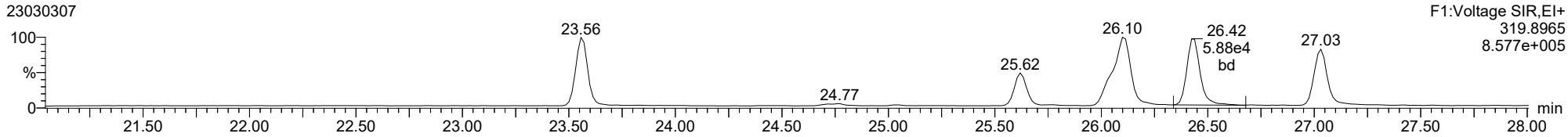

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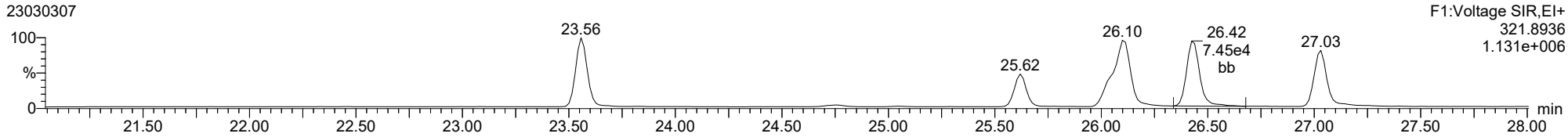

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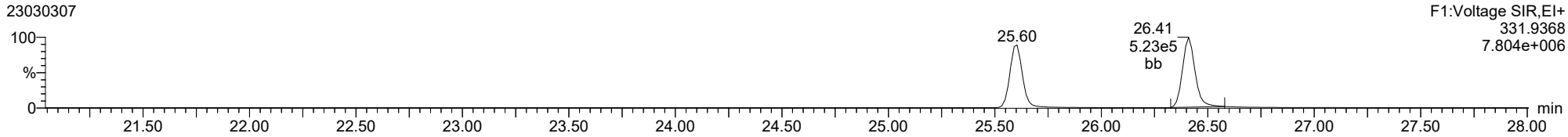

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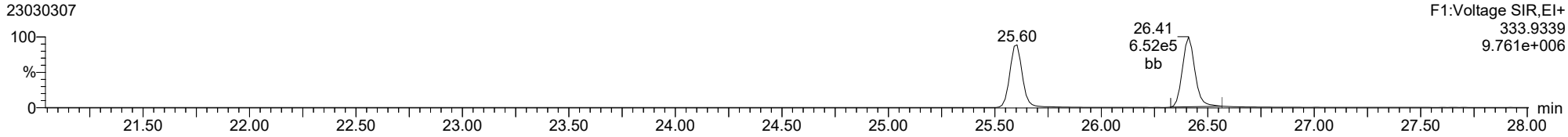

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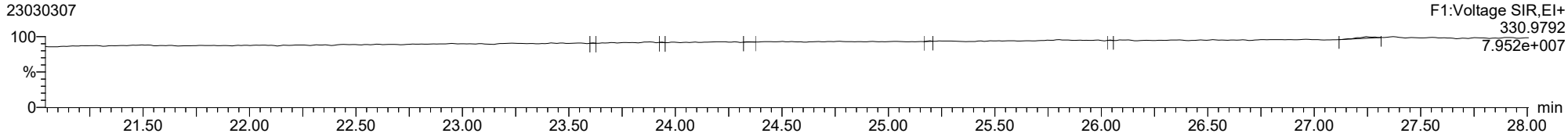

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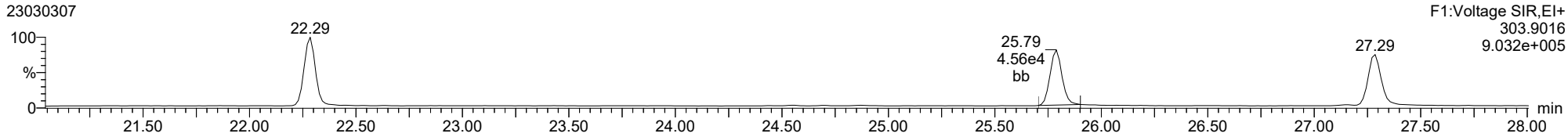
2378-TCDF



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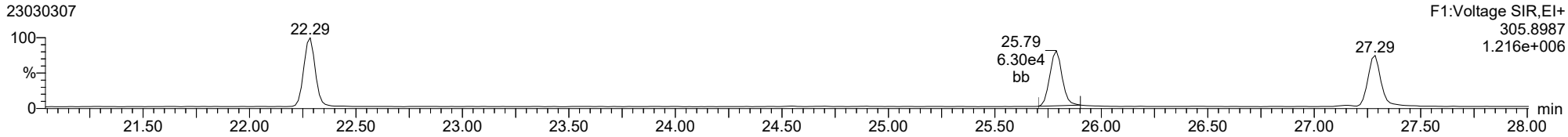

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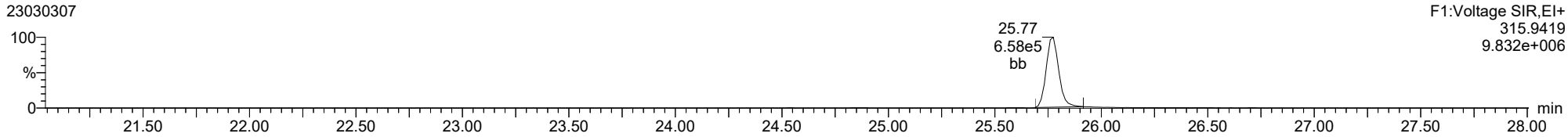

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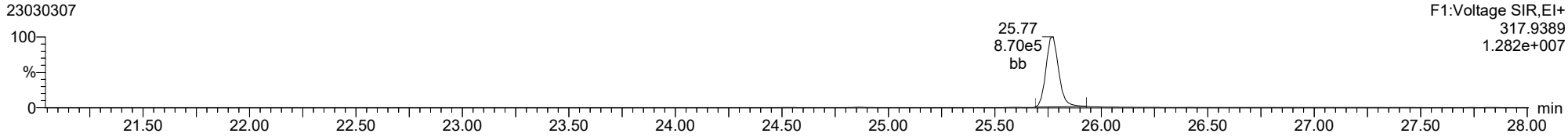

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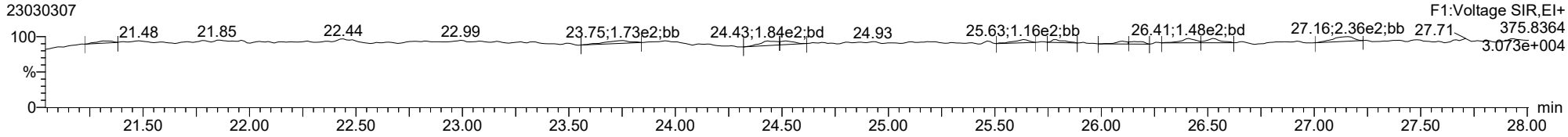

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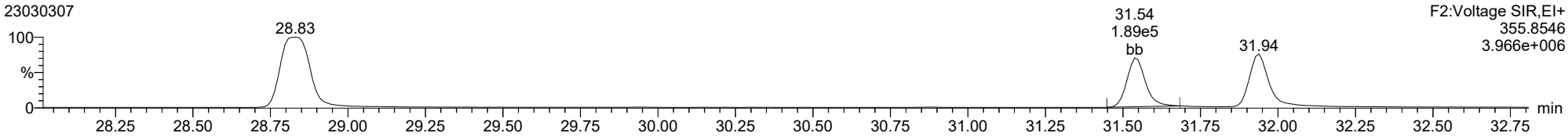
12378-PeCDD



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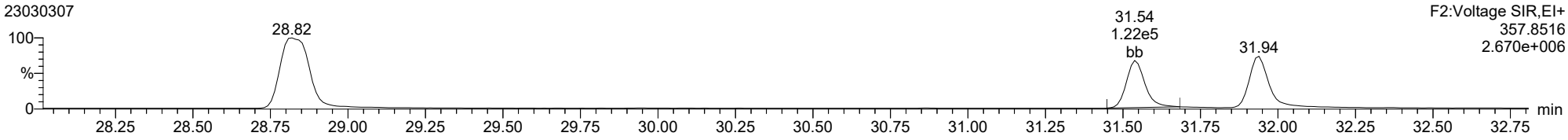

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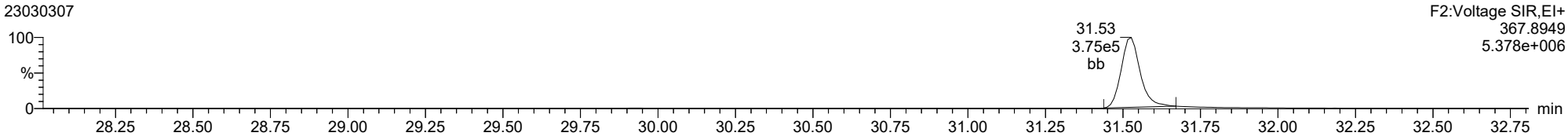

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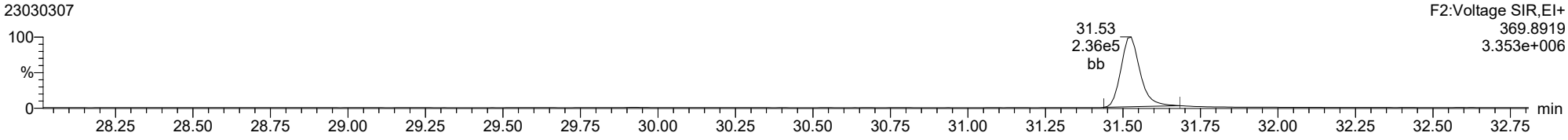
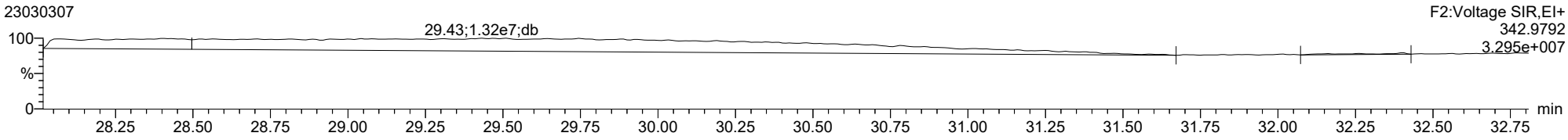


FUNCTION2 PFK



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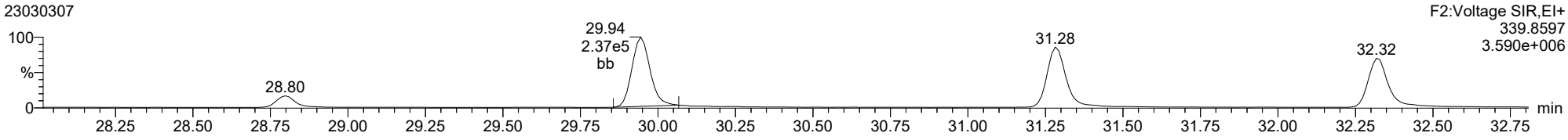

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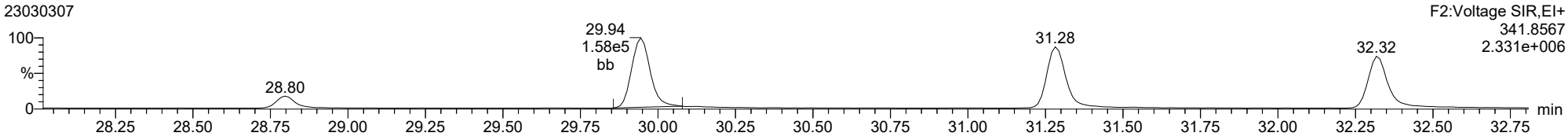

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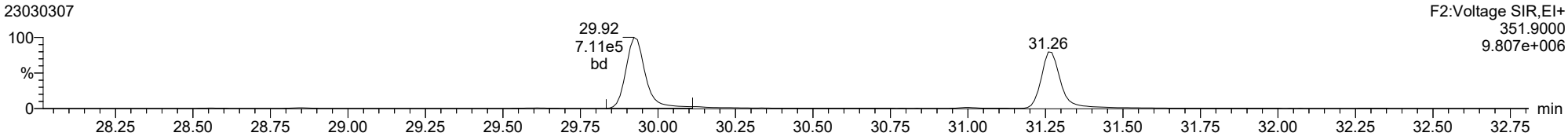

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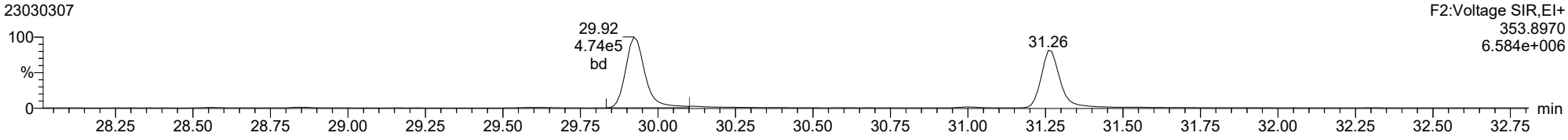

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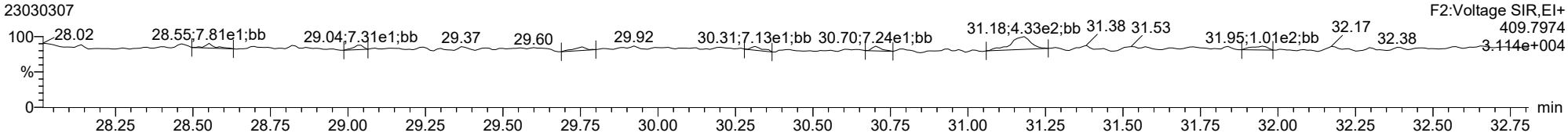

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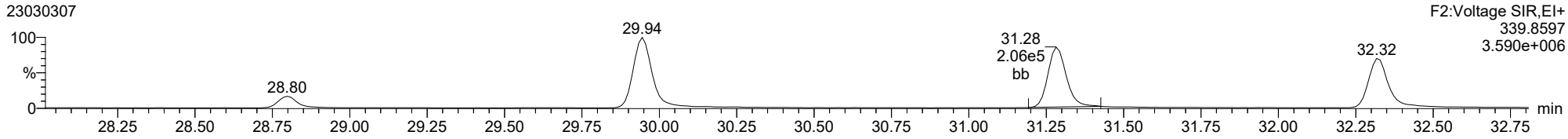

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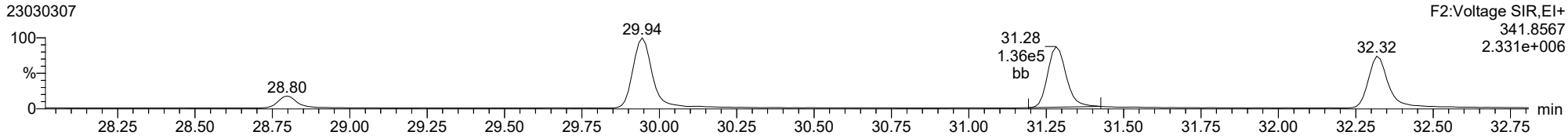

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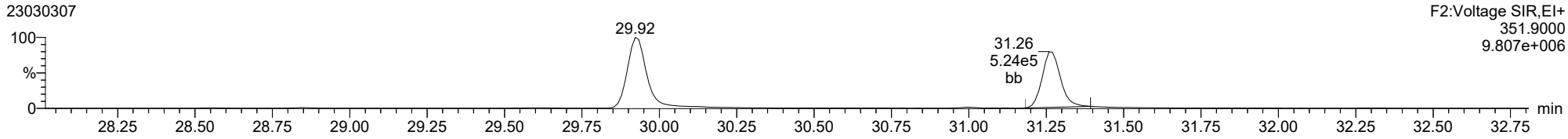

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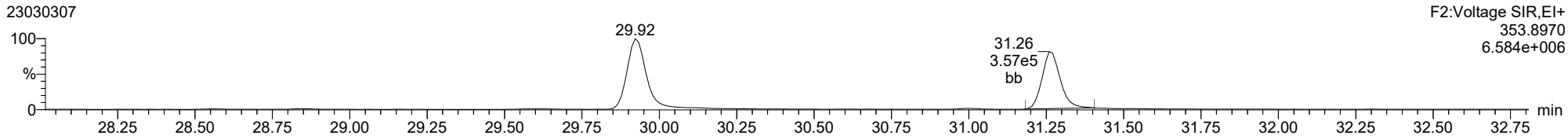

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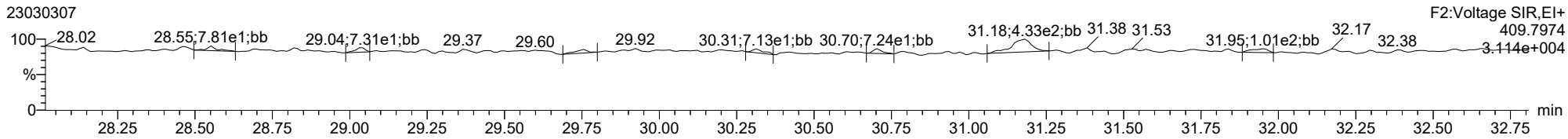

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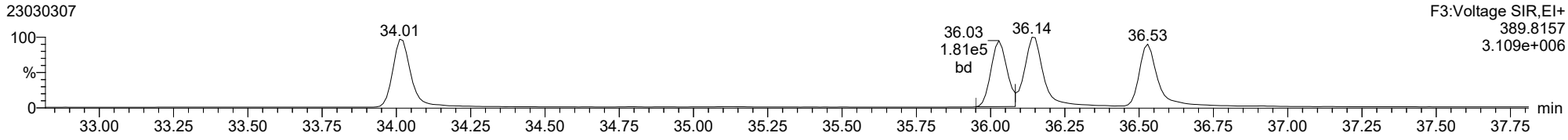
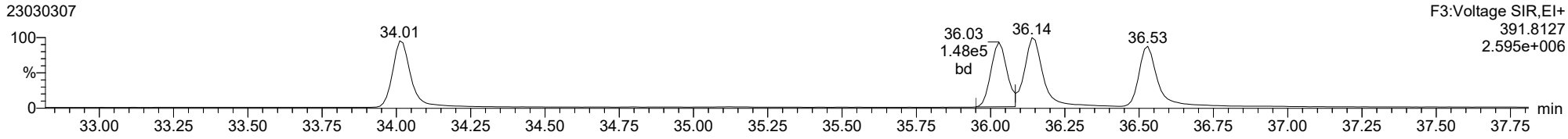
123478-HxCDD



123478-HxCDD



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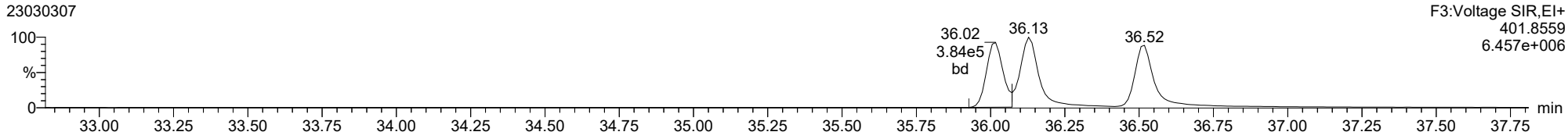

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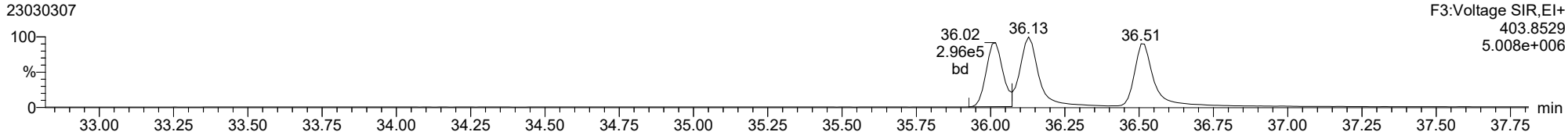

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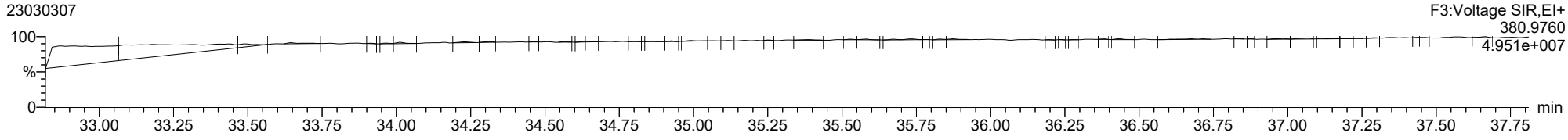

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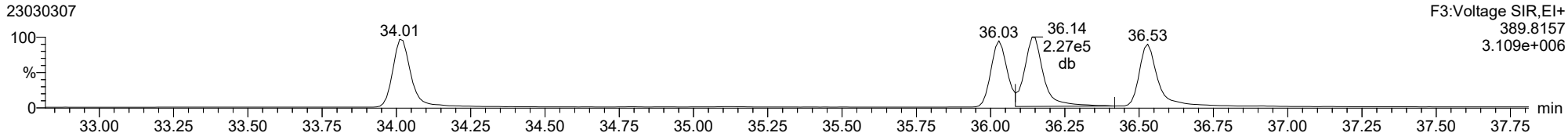

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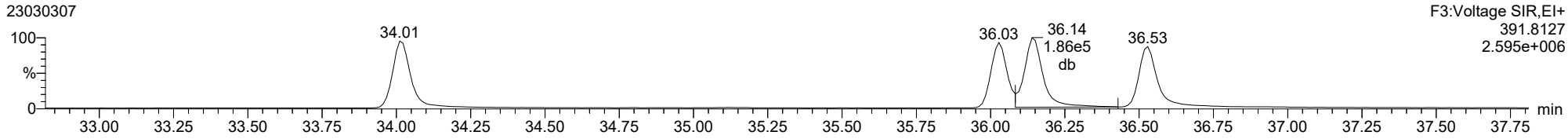

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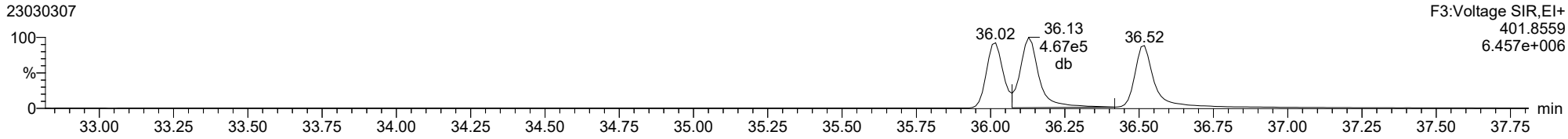

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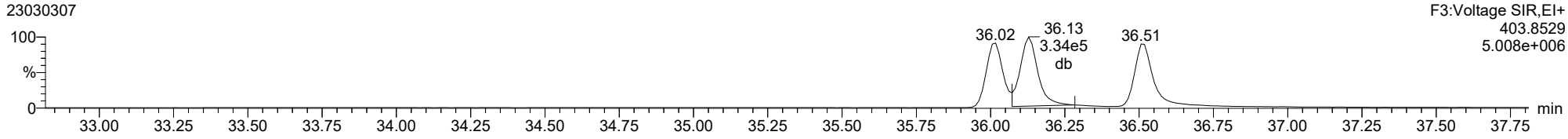

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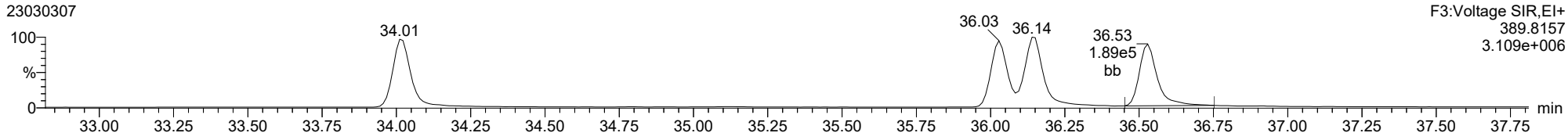

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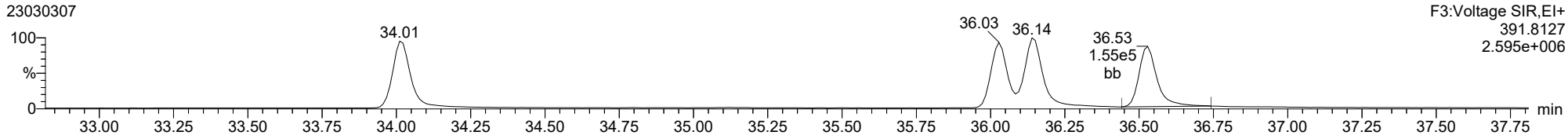

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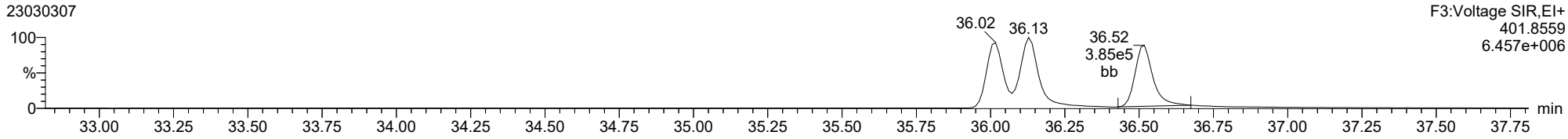

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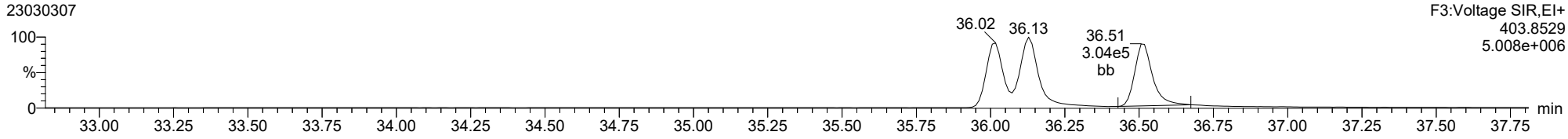

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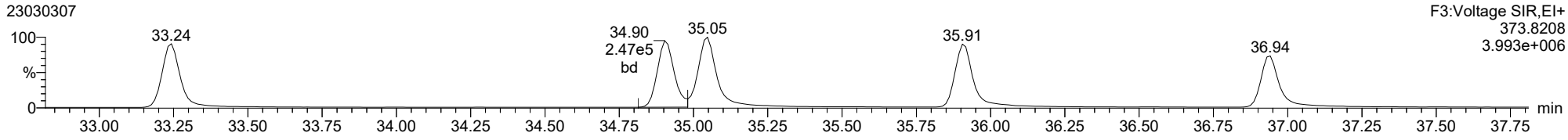

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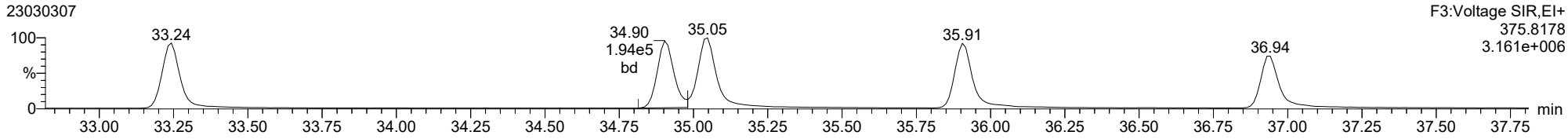

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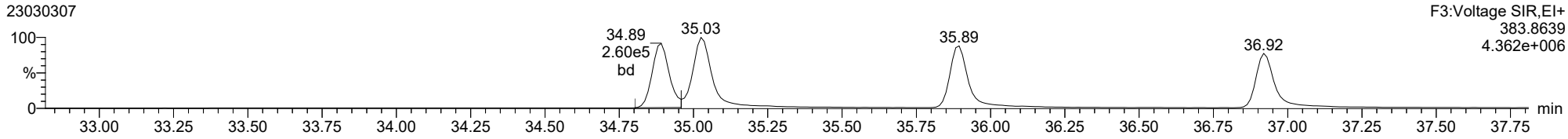

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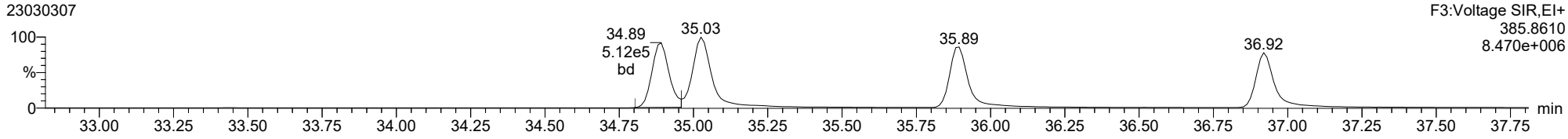
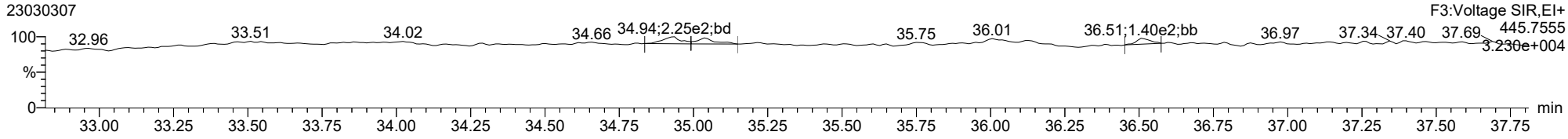


FUNCTION3 OCDPE



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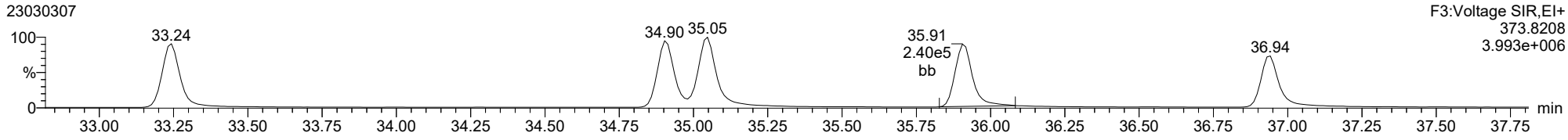
234678-HxCDF



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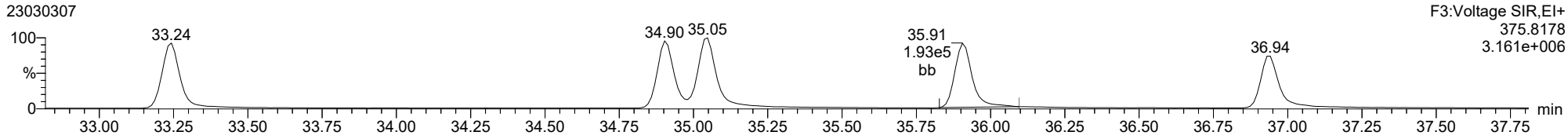

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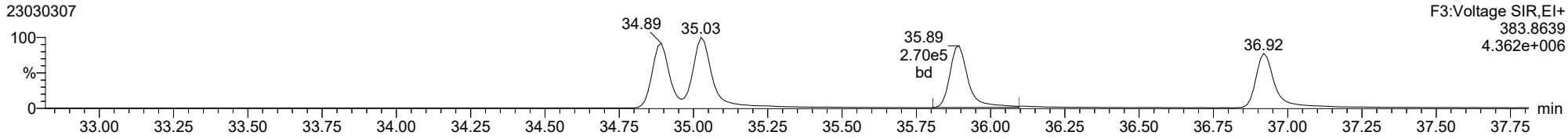

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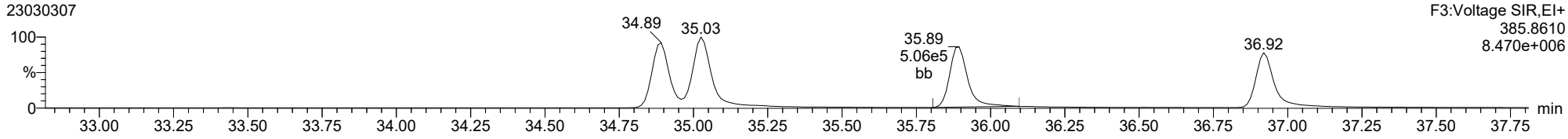
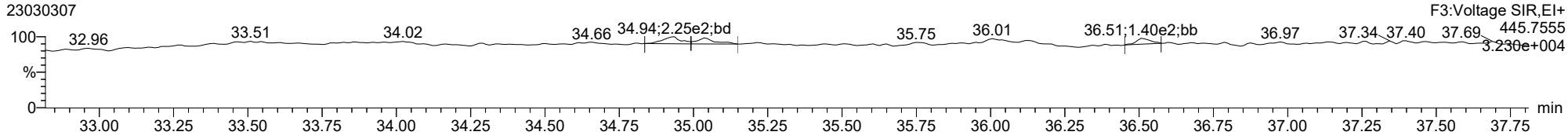


FUNCTION3 OCDPE



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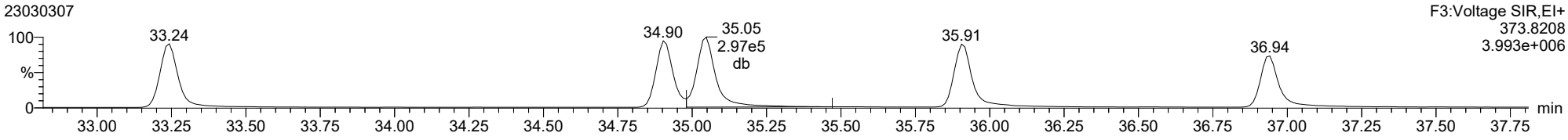
123678-HxCDF



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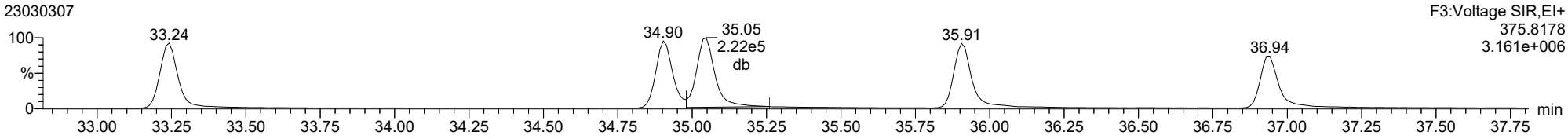

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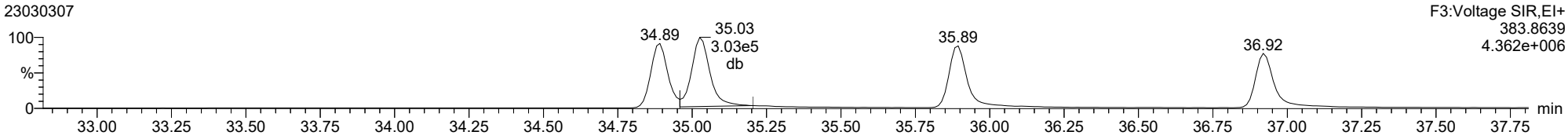

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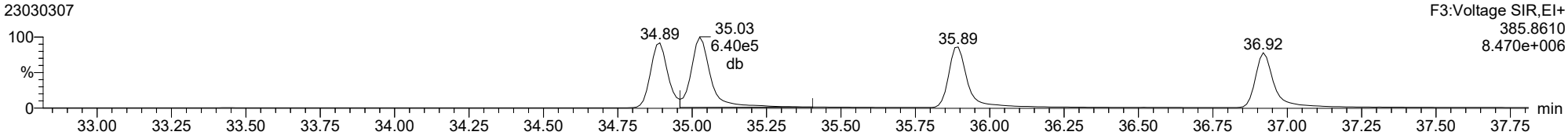
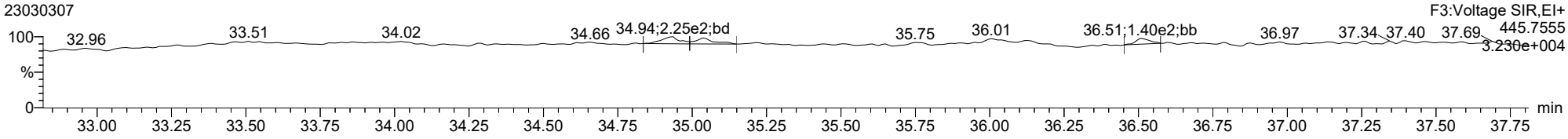


FUNCTION3 OCDPE



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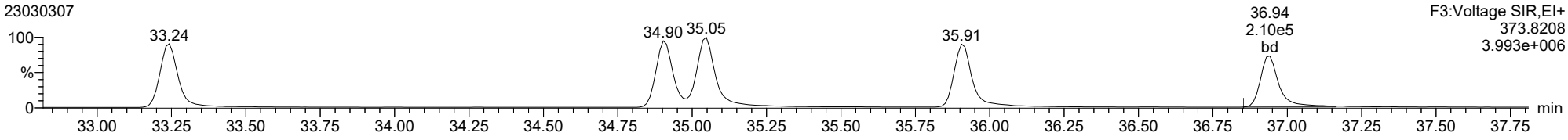

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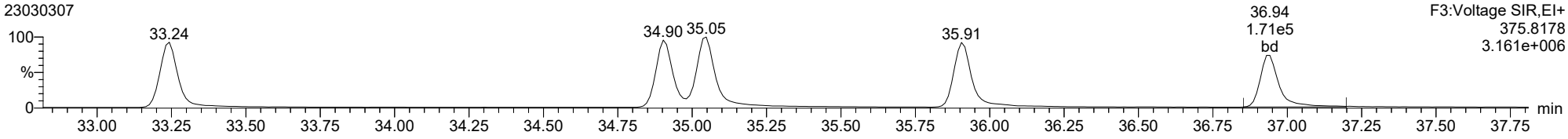

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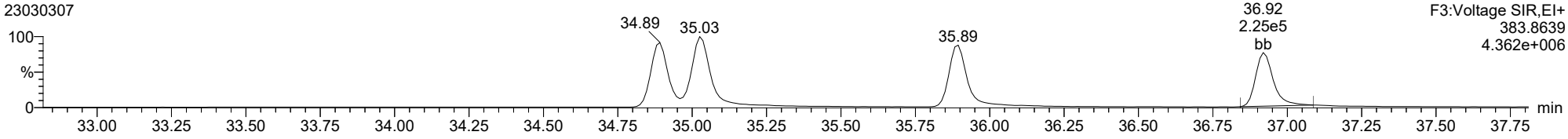

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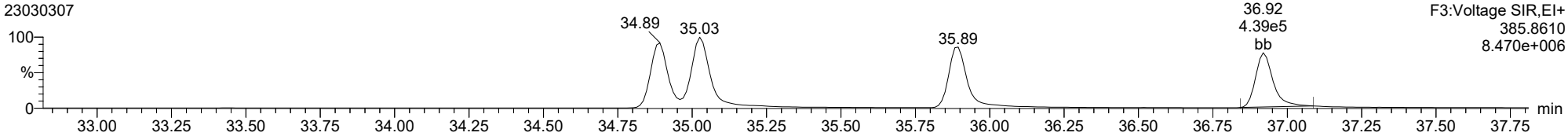

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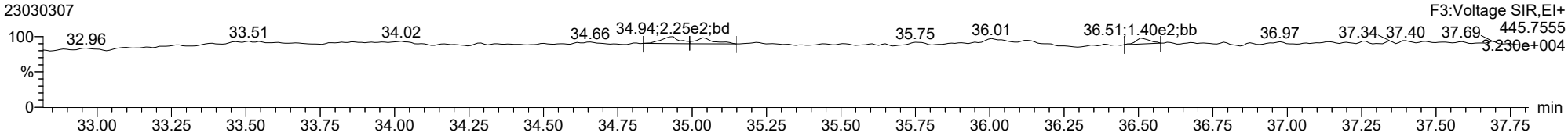

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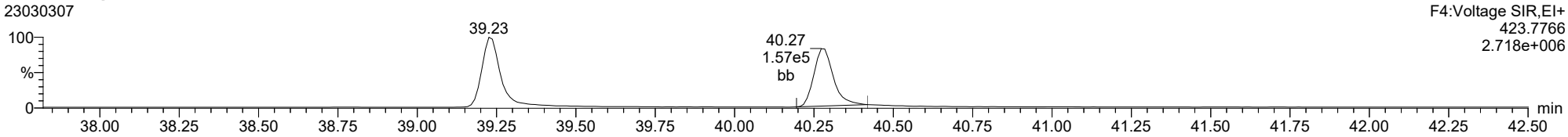

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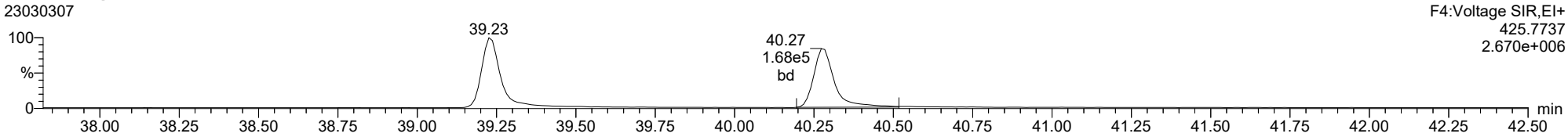

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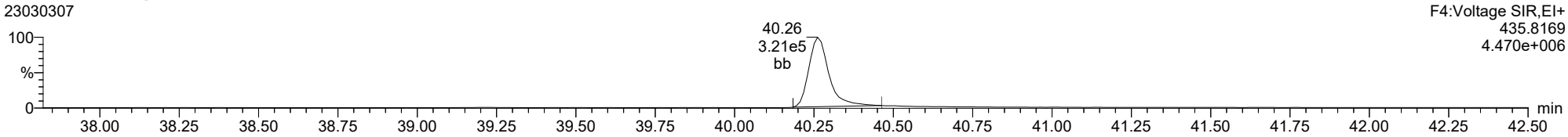

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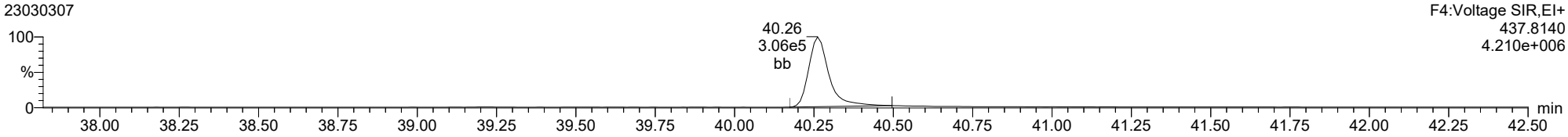
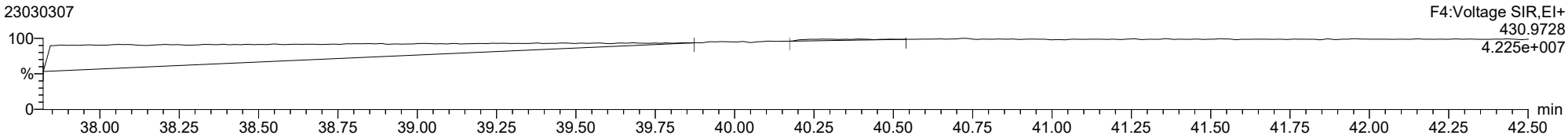


FUNCTION4 PFK



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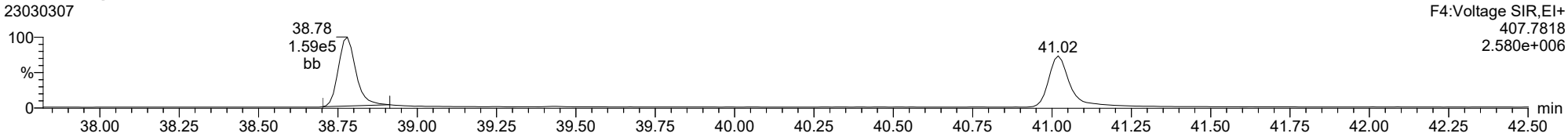

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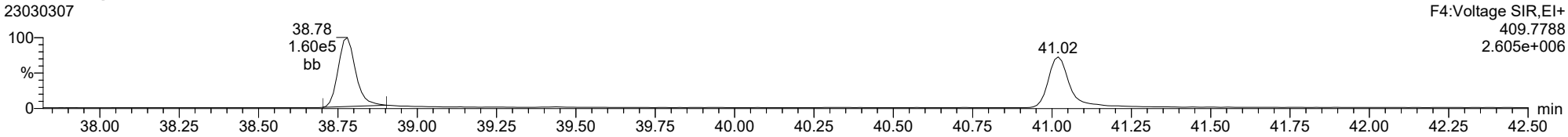

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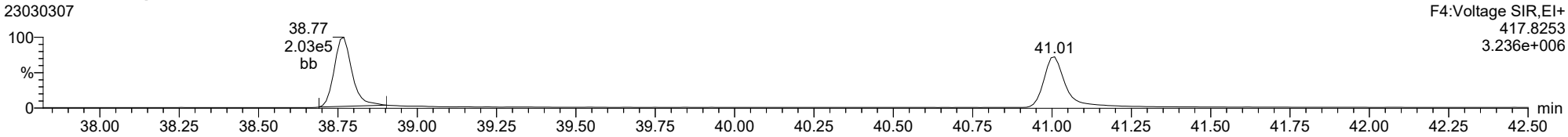

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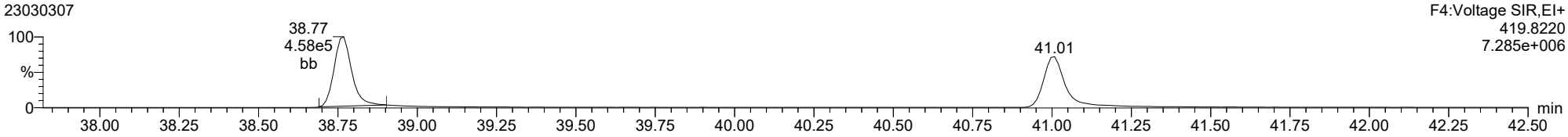
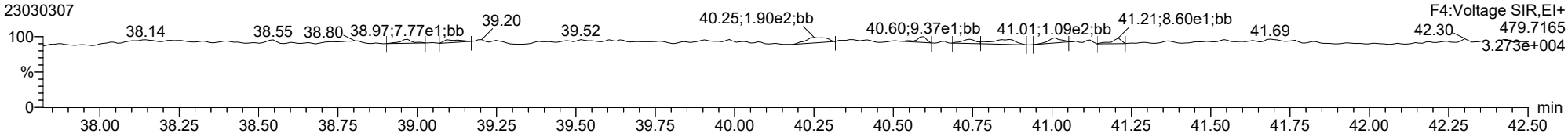


FUNCTION4 NCDPE



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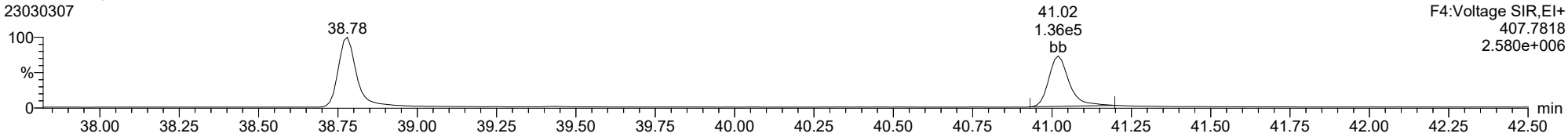

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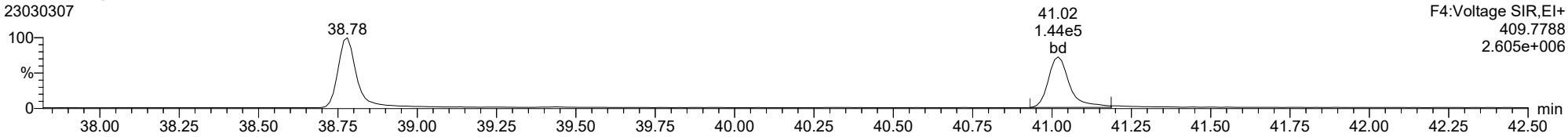

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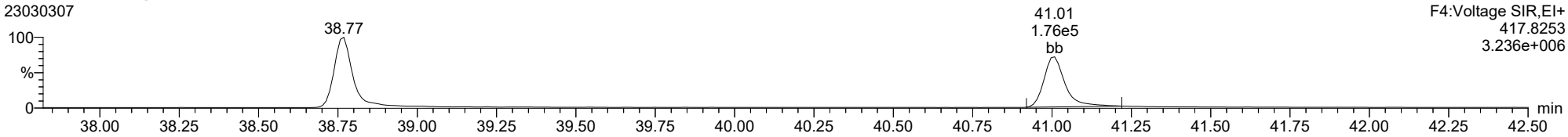

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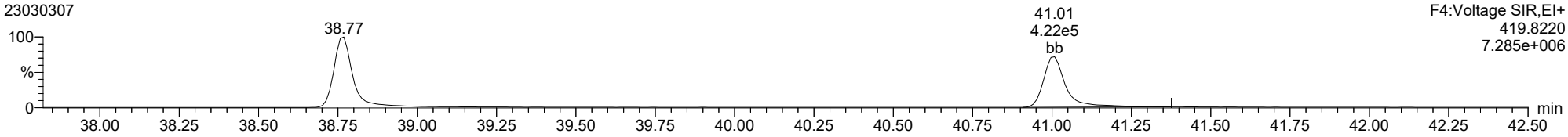

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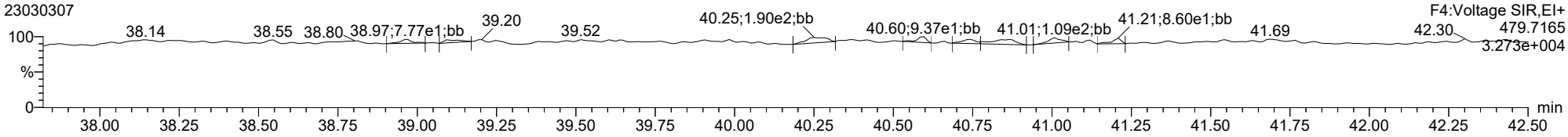

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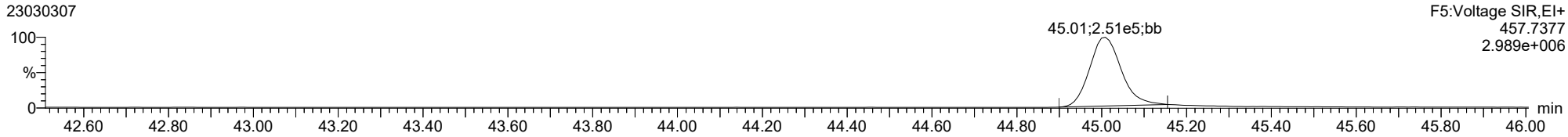

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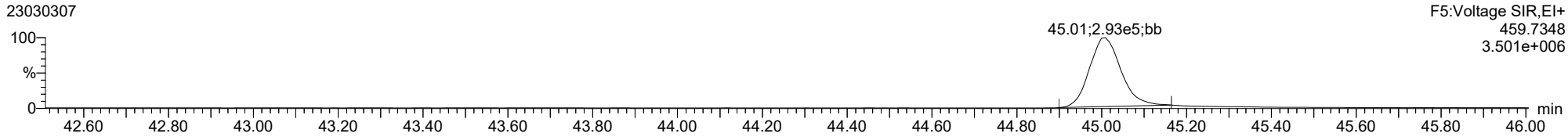

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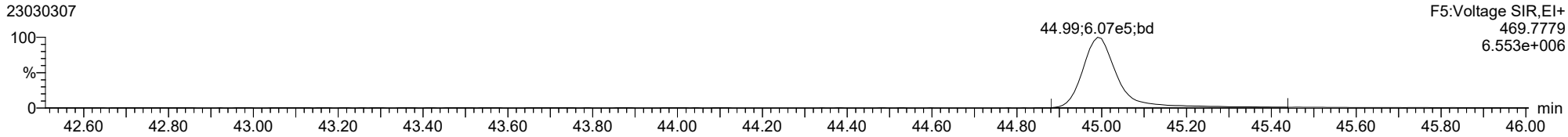

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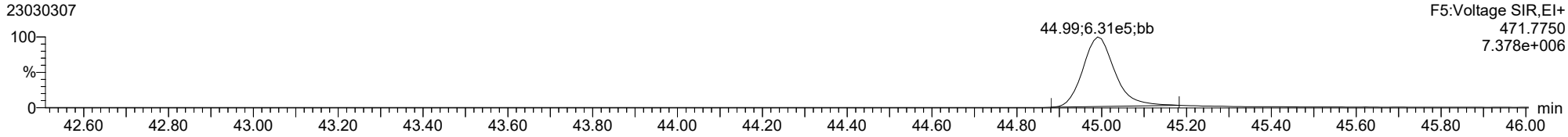
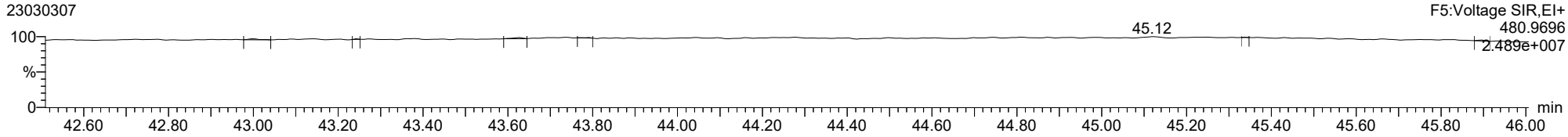


FUNCTION5 PFK



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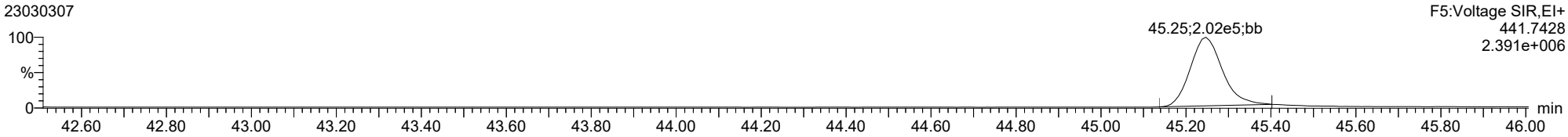

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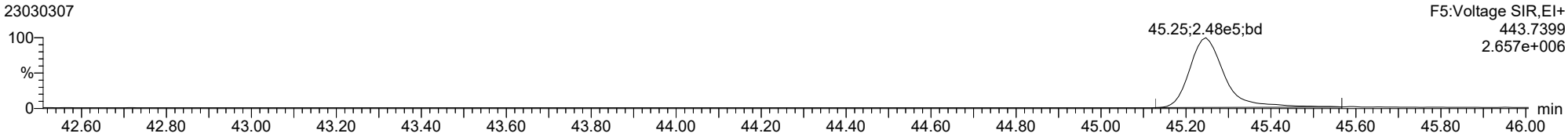

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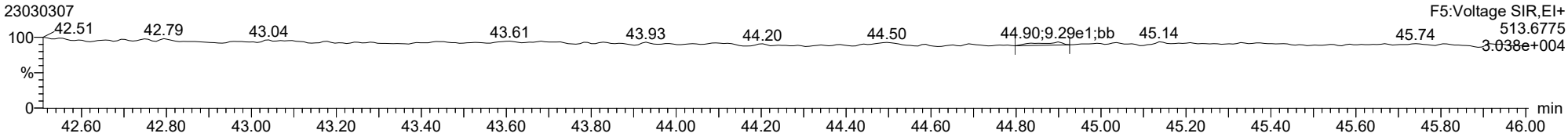

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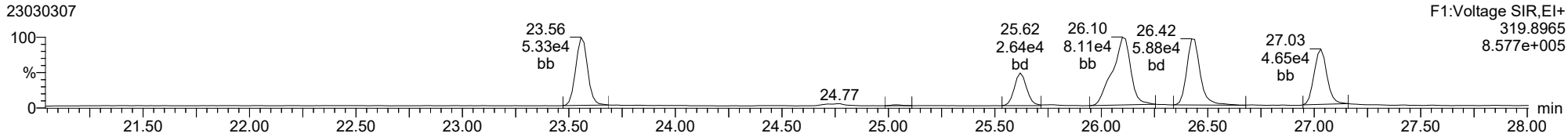
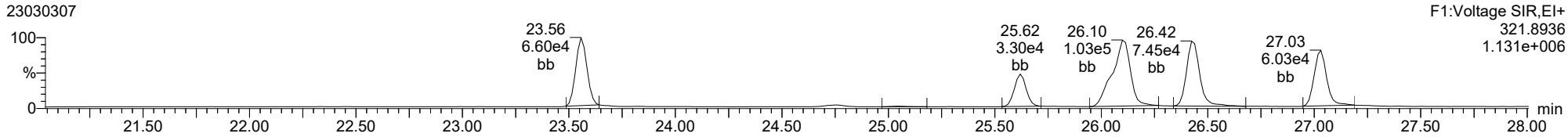
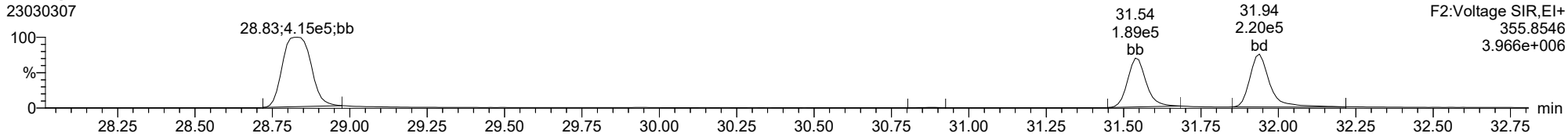
Total-tetradioxins



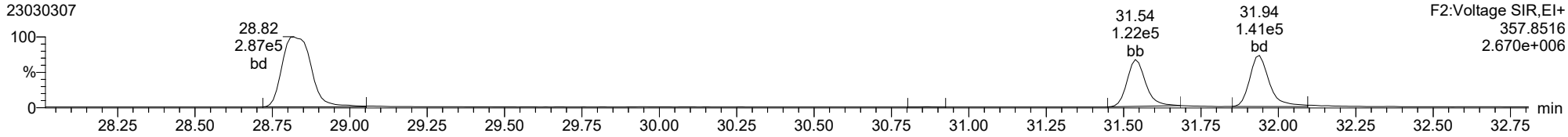
Total-tetradioxins



Total-pentadioxins



Total-pentadioxins



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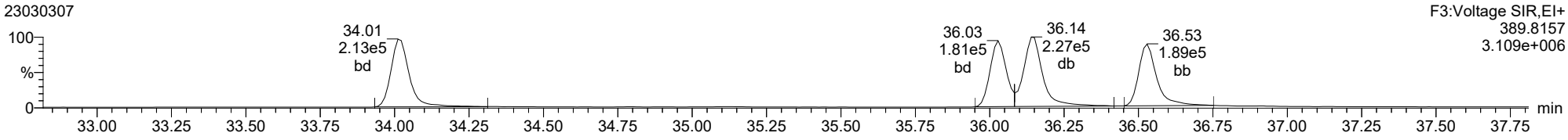

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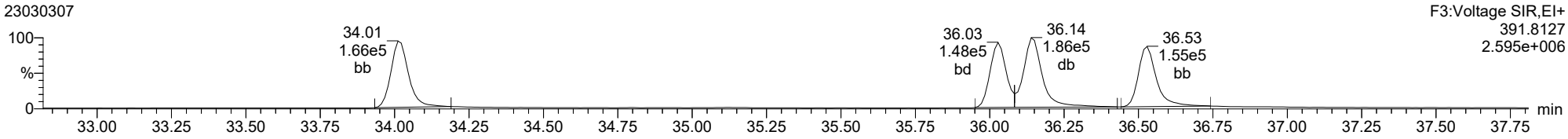

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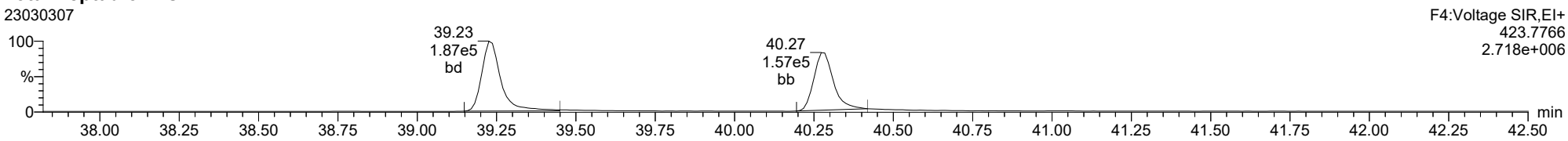

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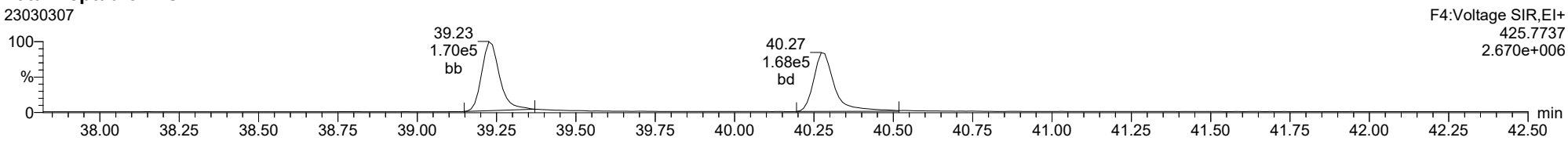

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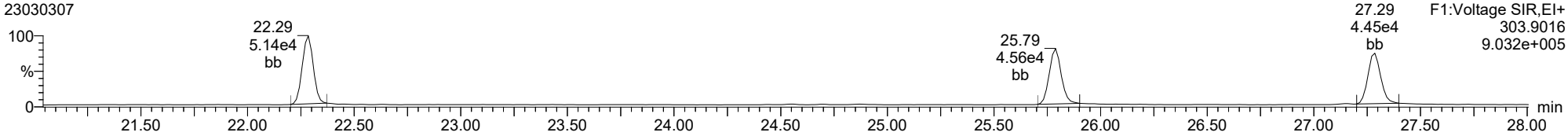
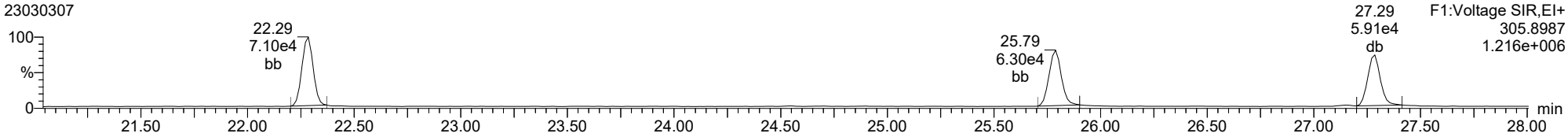
Total-tetrafurans



Total-tetrafurans



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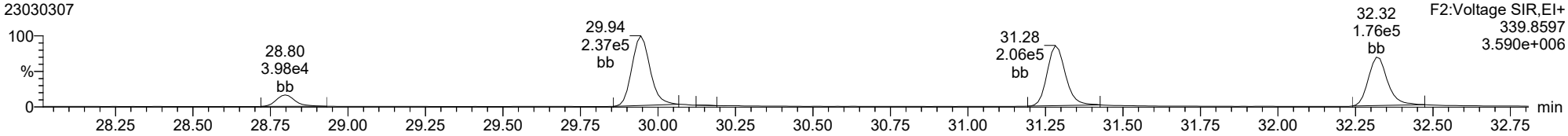
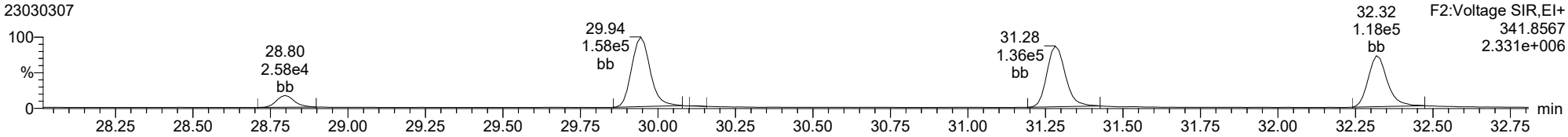


Total-pentafurans



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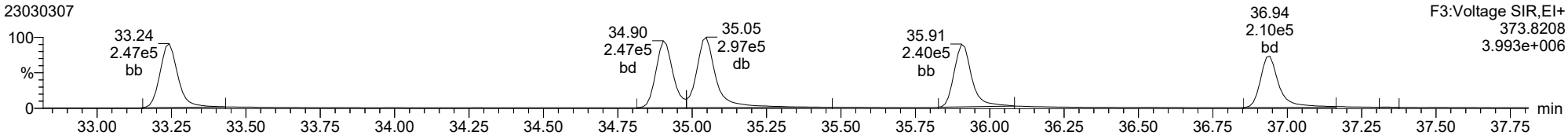
ID: CS3CW, Name: 23030307, Date: 03-Mar-2023, Time: 14:06:39, Conditions: AUTOSPEC01, User: pk

Total-hexafurans



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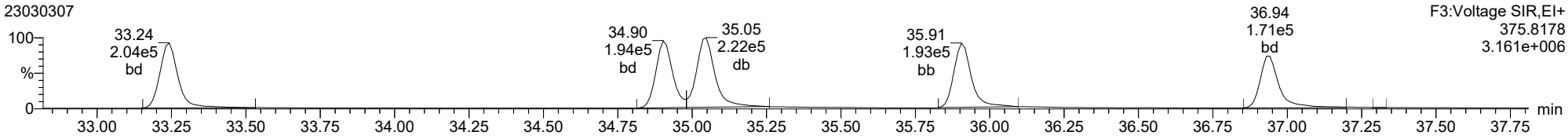

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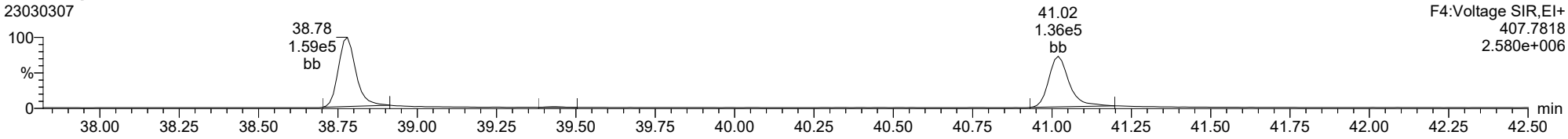

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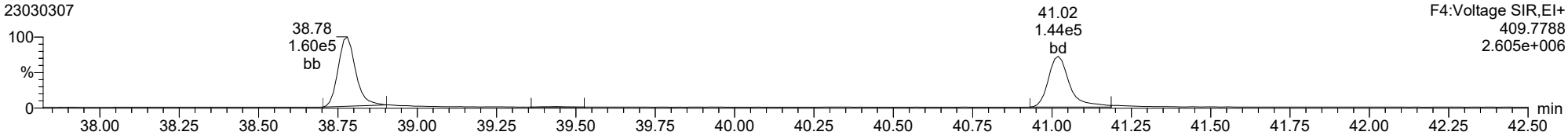

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Printed: Monday, March 06, 2023 11:34:51 Pacific Standard Time

Method: T:\Autospec\Methods\Dioxin230303.mdb 03 Mar 2023 14:58:50
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 10:57:27

ID: CS4CW, Name: 23030308, Date: 03-Mar-2023, Time: 14:59:53, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.788	1.001	2.145e5	2.910e5	0.702	0.737	0.770	1085	2356	3.19e6	4.36e6	2939.3	1849.8	NO	bb	bb	41.038
12378-PeCDF	29.944	1.000	1.256e6	8.416e5	0.679	1.492	1.550	4273	3650	1.86e7	1.25e7	4360.5	3425.9	NO	bb	bb	202.935
23478-PeCDF	31.292	1.001	1.346e6	8.943e5	0.786	1.505	1.550	4273	3650	2.02e7	1.34e7	4738.5	3680.0	NO	bb	bb	201.175
123478-HxCDF	34.913	1.001	1.546e6	1.218e6	1.166	1.269	1.240	1919	2508	2.36e7	1.86e7	12323.4	7421.9	NO	bd	bd	197.711
234678-HxCDF	35.916	1.001	1.547e6	1.307e6	1.140	1.184	1.240	1919	2508	2.33e7	1.85e7	12125.4	7387.3	NO	bb	bd	210.207
123678-HxCDF	35.047	1.000	1.740e6	1.369e6	1.091	1.271	1.240	1919	2508	2.57e7	2.04e7	13394.0	8153.6	NO	db	db	189.797
123789-HxCDF	36.941	1.000	1.209e6	1.036e6	1.137	1.167	1.240	1919	2508	1.81e7	1.44e7	9441.6	5749.5	NO	bb	bd	200.361
1234678-HpCDF	38.779	1.000	8.720e5	8.418e5	1.003	1.036	1.050	3326	3780	1.44e7	1.42e7	4339.3	3745.4	NO	bb	bb	204.650
1234789-HpCDF	41.019	1.000	7.221e5	7.262e5	0.953	0.994	1.050	3326	3780	1.01e7	1.02e7	3041.3	2689.4	NO	bb	bb	208.465
OCDF	45.255	1.006	1.195e6	1.333e6	0.778	0.897	0.890	1809	2070	1.43e7	1.59e7	7923.8	7701.9	NO	bb	bb	419.788
2378-TCDD	26.438	1.001	2.573e5	3.218e5	1.149	0.799	0.770	1559	1107	3.81e6	4.84e6	2446.0	4371.1	NO	bb	bb	39.968
12378-PeCDD	31.549	1.001	1.294e6	8.446e5	1.022	1.532	1.550	1566	1736	1.89e7	1.24e7	12077.0	7164.9	NO	bb	bb	199.637
123478-HxCDD	36.027	1.000	1.162e6	9.482e5	0.996	1.225	1.240	1816	1276	1.93e7	1.57e7	10622.2	12327.7	NO	bd	bd	198.133
123678-HxCDD	36.150	1.001	1.363e6	1.125e6	1.001	1.212	1.240	1816	1276	1.97e7	1.61e7	10823.8	12618.8	NO	db	db	204.224
123789-HxCDD	36.528	1.011	1.168e6	9.477e5	0.907	1.232	1.240	1816	1276	1.77e7	1.44e7	9764.9	11291.0	NO	bb	bb	203.974
1234678-HpCDD	40.283	1.001	8.284e5	8.038e5	1.039	1.031	1.050	3177	2938	1.22e7	1.19e7	3841.2	4046.8	NO	bb	bb	198.376
OCDD	45.008	1.000	1.293e6	1.512e6	0.920	0.855	0.890	1475	2373	1.59e7	1.85e7	10744.0	7810.6	NO	bb	bb	394.016
13C-2378-TCDF	25.774	1.007	7.645e5	9.914e5	1.620	0.771	0.770	1843	2282	1.15e7	1.49e7	6238.3	6526.6	NO	bb	bb	101.535
13C-12378-PeCDF	29.933	1.169	9.119e5	6.098e5	1.240	1.495	1.550	3738	4574	1.28e7	8.50e6	3418.3	1857.5	NO	bd	bd	114.934
13C-23478-PeCDF	31.270	1.221	8.522e5	5.645e5	1.118	1.510	1.550	3738	4574	1.28e7	8.47e6	3423.2	1851.3	NO	bb	bb	118.746
13C-123478-HxCDF	34.891	0.956	4.043e5	7.946e5	1.168	0.509	0.510	3379	2646	6.26e6	1.23e7	1851.5	4643.3	NO	bd	bd	93.689
13C-123678-HxCDF	35.036	0.959	5.122e5	9.895e5	1.386	0.518	0.510	3379	2646	6.72e6	1.32e7	1988.7	4975.1	NO	db	dd	98.879
13C-234678-HxCDF	35.894	0.983	4.066e5	7.845e5	1.129	0.518	0.510	3379	2646	6.03e6	1.18e7	1785.1	4452.3	NO	bb	bb	96.294
13C-123789-HxCDF	36.930	1.011	3.312e5	6.542e5	0.932	0.506	0.510	3379	2646	4.85e6	9.52e6	1434.9	3598.2	NO	bb	bb	96.556
13C-1234678-HpCDF	38.768	1.062	2.524e5	5.825e5	0.895	0.433	0.440	1935	3511	4.16e6	9.49e6	2148.5	2703.4	NO	bb	bb	85.151
13C-1234789-HpCDF	41.007	1.123	2.205e5	5.084e5	0.770	0.434	0.440	1935	3511	3.02e6	6.92e6	1559.8	1971.4	NO	bb	bb	86.451
13C-1234-TCDD	25.605	0.000	4.743e5	5.931e5	1.000	0.800	0.770	2271	1813	7.33e6	9.12e6	3228.4	5028.5	NO	bb	bb	100.000
13C-2378-TCDD	26.410	1.031	5.640e5	6.974e5	1.152	0.809	0.770	2271	1813	8.09e6	1.01e7	3563.4	5571.0	NO	bb	bb	102.553
13C-12378-PeCDD	31.526	1.231	6.480e5	4.003e5	0.829	1.619	1.550	1212	1529	9.47e6	5.85e6	7814.9	3827.1	NO	bb	bb	118.505
13C-123478-HxCDD	36.016	0.986	6.052e5	4.646e5	0.995	1.303	1.240	1807	1475	9.78e6	7.54e6	5412.5	5108.2	NO	bd	bd	98.154
13C-123678-HxCDD	36.127	0.989	6.753e5	5.418e5	1.157	1.246	1.240	1807	1475	1.01e7	8.01e6	5594.1	5426.8	NO	db	db	96.059
13C-1234678-HpCDD	40.261	1.102	3.968e5	3.950e5	0.840	1.005	1.050	2357	2248	5.68e6	5.37e6	2408.3	2387.8	NO	bb	bb	86.051
13C-OCDD	44.999	1.232	7.332e5	8.149e5	0.767	0.900	0.890	1459	1173	8.67e6	9.61e6	5943.8	8191.6	NO	bb	bb	184.151
13C-123789-HxCDD	36.518	0.000	6.173e5	4.781e5	1.000	1.291	1.240	1807	1475	9.34e6	7.24e6	5171.1	4908.4	NO	bb	bb	100.000
37CL-2378-TCDD	26.438	1.033	5.280e5		1.288			2576		7.74e6		3003.1			bb		38.410

Dataset: T:\Autospec\Processed Data Batch\230303ICIH.qld
Last Altered: Monday, March 06, 2023 10:57:27 Pacific Standard Time
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ID: CS4CW, Name: 23030308, Date: 03-Mar-2023, Time: 14:59:53, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF					0.802		0.770	1085	2356								
1289-TCDF					0.678		0.770	1085	2356								
13468-PECDF					1.246		1.550	728	1112								
12389-PECDF					0.496		1.550	4273	3650								
123468-HXCDF					1.169		1.240	1919	2508								
1368-TCDD					1.015		0.770	1559	1107								
1289-TCDD					0.909		0.770	1559	1107								
12479-PECDD					2.301		1.550	1566	1736								
12389-PECDD					1.184		1.550	1566	1736								
124679-HXCDD					1.115		1.240	1816	1276								
1234679-HPCDD					1.137		1.050	3177	2938								
Total-tetrafurans			2.178e5		0.727			1085		3.24e6							41.692
Total-penta1			0.000e0					728		0.00e0							
Total-pentafurans			2.604e6		0.654			4273		3.89e7							404.382
Total-hexafurans			6.043e6		1.141			1919		9.07e7							798.266
Total-heptafurans			1.594e6		0.978			3326		2.45e7							413.115
Total-Furans			1.165e7		0.922			1085		1.72e8							2077.243
Total-tetradioxins			2.634e5		1.024			1559		3.88e6							41.026
Total-pentadioxins			1.295e6		1.502			1566		1.89e7							199.743
Total-hexadioxins			3.693e6		1.005			1816		5.67e7							606.331
Total-heptadioxins			8.286e5		1.088			3177		1.22e7							198.425
Total-Dioxins			7.373e6		1.130			1559		1.08e8							1439.540
Total-TEQ			1.903e7					1559		2.79e8							3516.783
FUNCTION1 PFK			2.654e6					566854		2.19e6							
FUNCTION2 PFK			2.398e5					242860		6.75e6							0.000
FUNCTION3 PFK			5.441e7					394639		2.11e7							0.000
FUNCTION4 PFK			0.000e0					306708		0.00e0							
FUNCTION5 PFK			3.395e4					230570		1.65e6							
FUNCTION1 HXCD...			4.934e2					625		6.74e3							0.000
FUNCTION1 HPCD...																	
FUNCTION2 HPCD...			1.574e3					915		2.35e4							0.000
FUNCTION3 OCDPE			8.696e2					844		1.47e4							0.000
FUNCTION4 NCDPE			3.767e2					925		5.85e3							0.000
FUNCTION5 DCDPE			0.000e0					629		0.00e0							

Method: T:\Autospec\Methods\Dioxin230303.mdb 03 Mar 2023 14:58:50
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TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.79	2.145e5	2.910e5	0.702	0.74	0.77	2939.3	YES	NO	bb	bb	41.038
2	Total-tetrafurans	24.88	1.531e3	2.327e3	0.727	0.66	0.77	20.3	YES	NO	bb	bb	0.302
3	Total-tetrafurans	24.56	1.778e3	2.714e3	0.727	0.66	0.77	29.5	YES	NO	bb	bb	0.352

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentafurans	31.01	1.644e3	9.764e2	0.654	1.68	1.55	5.6	YES	NO	db	bd	0.273
2	12378-PeCDF	29.94	1.256e6	8.416e5	0.679	1.49	1.55	4360.5	YES	NO	bb	bb	202.935
3	23478-PeCDF	31.29	1.346e6	8.943e5	0.786	1.51	1.55	4738.5	YES	NO	bb	bb	201.175

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.94	1.209e6	1.036e6	1.137	1.17	1.24	9441.6	YES	NO	bb	bd	200.361
2	234678-HxCDF	35.92	1.547e6	1.307e6	1.140	1.18	1.24	12125.4	YES	NO	bb	bd	210.207
3	Total-hexafurans	35.77	1.562e2	1.389e2	1.141	1.12	1.24	3.4	NO	NO	bb	bb	0.021
4	123678-HxCDF	35.05	1.740e6	1.369e6	1.091	1.27	1.24	13394.0	YES	NO	db	db	189.797
5	123478-HxCDF	34.91	1.546e6	1.218e6	1.166	1.27	1.24	12323.4	YES	NO	bd	bd	197.711
6	Total-hexafurans	34.76	1.255e3	1.100e3	1.141	1.14	1.24	11.9	YES	NO	bb	bb	0.169

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDF	38.78	8.720e5	8.418e5	1.003	1.04	1.05	4339.3	YES	NO	bb	bb	204.650
2	1234789-HpCDF	41.02	7.221e5	7.262e5	0.953	0.99	1.05	3041.3	YES	NO	bb	bb	208.465

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Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.79	2.145e5	2.910e5	0.702	0.74	0.77	2939.3	YES	NO	bb	bb	41.038
2	Total-tetrafurans	24.88	1.531e3	2.327e3	0.727	0.66	0.77	20.3	YES	NO	bb	bb	0.302
3	Total-tetrafurans	24.56	1.778e3	2.714e3	0.727	0.66	0.77	29.5	YES	NO	bb	bb	0.352
4	Total-pentafurans	31.01	1.644e3	9.764e2	0.654	1.68	1.55	5.6	YES	NO	db	bd	0.273
5	12378-PeCDF	29.94	1.256e6	8.416e5	0.679	1.49	1.55	4360.5	YES	NO	bb	bb	202.935
6	23478-PeCDF	31.29	1.346e6	8.943e5	0.786	1.51	1.55	4738.5	YES	NO	bb	bb	201.175
7	123789-HxCDF	36.94	1.209e6	1.036e6	1.137	1.17	1.24	9441.6	YES	NO	bb	bd	200.361
8	234678-HxCDF	35.92	1.547e6	1.307e6	1.140	1.18	1.24	12125.4	YES	NO	bb	bd	210.207
9	Total-hexafurans	35.77	1.562e2	1.389e2	1.141	1.12	1.24	3.4	NO	NO	bb	bb	0.021
10	123678-HxCDF	35.05	1.740e6	1.369e6	1.091	1.27	1.24	13394.0	YES	NO	db	db	189.797
11	123478-HxCDF	34.91	1.546e6	1.218e6	1.166	1.27	1.24	12323.4	YES	NO	bd	bd	197.711
12	Total-hexafurans	34.76	1.255e3	1.100e3	1.141	1.14	1.24	11.9	YES	NO	bb	bb	0.169
13	1234678-HpCDF	38.78	8.720e5	8.418e5	1.003	1.04	1.05	4339.3	YES	NO	bb	bb	204.650
14	1234789-HpCDF	41.02	7.221e5	7.262e5	0.953	0.99	1.05	3041.3	YES	NO	bb	bb	208.465
15	OCDF	45.26	1.195e6	1.333e6	0.778	0.90	0.89	7923.8	YES	NO	bb	bb	419.788

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDD	26.44	2.573e5	3.218e5	1.149	0.80	0.77	2446.0	YES	NO	bb	bb	39.968
2	Total-tetradioxins	26.06	6.115e3	7.563e3	1.024	0.81	0.77	45.2	YES	NO	bb	bb	1.059

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDD	31.55	1.294e6	8.446e5	1.022	1.53	1.55	12077.0	YES	NO	bb	bb	199.637
2	Total-pentadioxins	29.94	9.896e2	6.778e2	1.502	1.46	1.55	7.8	YES	NO	bb	bb	0.106

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDD	36.53	1.168e6	9.477e5	0.907	1.23	1.24	9764.9	YES	NO	bb	bb	203.974
2	123678-HxCDD	36.15	1.363e6	1.125e6	1.001	1.21	1.24	10823.8	YES	NO	db	db	204.224
3	123478-HxCDD	36.03	1.162e6	9.482e5	0.996	1.23	1.24	10622.2	YES	NO	bd	bd	198.133

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HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-heptadioxins	40.57	2.148e2	2.026e2	1.088	1.06	1.05	2.3	NO	NO	bb	bb	0.048
2	1234678-HpCDD	40.28	8.284e5	8.038e5	1.039	1.03	1.05	3841.2	YES	NO	bb	bb	198.376

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDD	26.44	2.573e5	3.218e5	1.149	0.80	0.77	2446.0	YES	NO	bb	bb	39.968
2	Total-tetradioxins	26.06	6.115e3	7.563e3	1.024	0.81	0.77	45.2	YES	NO	bb	bb	1.059
3	12378-PeCDD	31.55	1.294e6	8.446e5	1.022	1.53	1.55	12077.0	YES	NO	bb	bb	199.637
4	Total-pentadioxins	29.94	9.896e2	6.778e2	1.502	1.46	1.55	7.8	YES	NO	bb	bb	0.106
5	123789-HxCDD	36.53	1.168e6	9.477e5	0.907	1.23	1.24	9764.9	YES	NO	bb	bb	203.974
6	123678-HxCDD	36.15	1.363e6	1.125e6	1.001	1.21	1.24	10823.8	YES	NO	db	db	204.224
7	123478-HxCDD	36.03	1.162e6	9.482e5	0.996	1.23	1.24	10622.2	YES	NO	bd	bd	198.133
8	Total-heptadioxins	40.57	2.148e2	2.026e2	1.088	1.06	1.05	2.3	NO	NO	bb	bb	0.048
9	1234678-HpCDD	40.28	8.284e5	8.038e5	1.039	1.03	1.05	3841.2	YES	NO	bb	bb	198.376
10	OCDD	45.01	1.293e6	1.512e6	0.920	0.86	0.89	10744.0	YES	NO	bb	bb	394.016

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.79	2.145e5	2.910e5	0.702	0.74	0.77	2939.3	YES	NO	bb	bb	41.038
2	Total-tetrafurans	24.88	1.531e3	2.327e3	0.727	0.66	0.77	20.3	YES	NO	bb	bb	0.302
3	Total-tetrafurans	24.56	1.778e3	2.714e3	0.727	0.66	0.77	29.5	YES	NO	bb	bb	0.352
4	Total-pentafurans	31.01	1.644e3	9.764e2	0.654	1.68	1.55	5.6	YES	NO	db	bd	0.273
5	12378-PeCDF	29.94	1.256e6	8.416e5	0.679	1.49	1.55	4360.5	YES	NO	bb	bb	202.935
6	23478-PeCDF	31.29	1.346e6	8.943e5	0.786	1.51	1.55	4738.5	YES	NO	bb	bb	201.175
7	123789-HxCDF	36.94	1.209e6	1.036e6	1.137	1.17	1.24	9441.6	YES	NO	bb	bd	200.361
8	234678-HxCDF	35.92	1.547e6	1.307e6	1.140	1.18	1.24	12125.4	YES	NO	bb	bd	210.207
9	Total-hexafurans	35.77	1.562e2	1.389e2	1.141	1.12	1.24	3.4	NO	NO	bb	bb	0.021
10	123678-HxCDF	35.05	1.740e6	1.369e6	1.091	1.27	1.24	13394.0	YES	NO	db	db	189.797
11	123478-HxCDF	34.91	1.546e6	1.218e6	1.166	1.27	1.24	12323.4	YES	NO	bd	bd	197.711
12	Total-hexafurans	34.76	1.255e3	1.100e3	1.141	1.14	1.24	11.9	YES	NO	bb	bb	0.169
13	1234678-HpCDF	38.78	8.720e5	8.418e5	1.003	1.04	1.05	4339.3	YES	NO	bb	bb	204.650
14	1234789-HpCDF	41.02	7.221e5	7.262e5	0.953	0.99	1.05	3041.3	YES	NO	bb	bb	208.465
15	OCDF	45.26	1.195e6	1.333e6	0.778	0.90	0.89	7923.8	YES	NO	bb	bb	419.788
16	2378-TCDD	26.44	2.573e5	3.218e5	1.149	0.80	0.77	2446.0	YES	NO	bb	bb	39.968
17	Total-tetradioxins	26.06	6.115e3	7.563e3	1.024	0.81	0.77	45.2	YES	NO	bb	bb	1.059
18	12378-PeCDD	31.55	1.294e6	8.446e5	1.022	1.53	1.55	12077.0	YES	NO	bb	bb	199.637
19	Total-pentadioxins	29.94	9.896e2	6.778e2	1.502	1.46	1.55	7.8	YES	NO	bb	bb	0.106
20	123789-HxCDD	36.53	1.168e6	9.477e5	0.907	1.23	1.24	9764.9	YES	NO	bb	bb	203.974
21	123678-HxCDD	36.15	1.363e6	1.125e6	1.001	1.21	1.24	10823.8	YES	NO	db	db	204.224
22	123478-HxCDD	36.03	1.162e6	9.482e5	0.996	1.23	1.24	10622.2	YES	NO	bd	bd	198.133
23	Total-heptadioxins	40.57	2.148e2	2.026e2	1.088	1.06	1.05	2.3	NO	NO	bb	bb	0.048
24	1234678-HpCDD	40.28	8.284e5	8.038e5	1.039	1.03	1.05	3841.2	YES	NO	bb	bb	198.376
25	OCDD	45.01	1.293e6	1.512e6	0.920	0.86	0.89	10744.0	YES	NO	bb	bb	394.016

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	26.75	1.219e6					0.4	NO		bb		
2	FUNCTION1 PFK	21.17	1.435e6					3.4	YES		bb		

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	28.26	4.048e3					0.9	NO		bb		0.000
2	FUNCTION2 PFK	28.22	4.511e3					0.9	NO		bb		0.000
3	FUNCTION2 PFK	28.09	1.180e4					1.6	NO		bb		0.000
4	FUNCTION2 PFK	32.40	7.400e3					1.4	NO		bd		0.000
5	FUNCTION2 PFK	31.78	3.780e3					0.8	NO		db		0.000
6	FUNCTION2 PFK	31.75	1.880e3					0.6	NO		bd		0.000
7	FUNCTION2 PFK	31.70	9.648e3					1.7	NO		db		0.000
8	FUNCTION2 PFK	31.63	2.054e4					2.2	NO		bd		0.000
9	FUNCTION2 PFK	31.52	5.247e4					2.4	NO		db		0.000
10	FUNCTION2 PFK	31.37	1.454e4					1.4	NO		bd		0.000
11	FUNCTION2 PFK	31.10	7.031e3					1.1	NO		bb		0.000
12	FUNCTION2 PFK	30.32	1.036e4					1.3	NO		bb		0.000
13	FUNCTION2 PFK	30.01	2.058e3					0.8	NO		bb		0.000
14	FUNCTION2 PFK	29.82	6.711e3					1.2	NO		db		0.000
15	FUNCTION2 PFK	29.78	1.288e4					1.7	NO		bd		0.000
16	FUNCTION2 PFK	29.02	5.997e3					0.8	NO		bb		0.000
17	FUNCTION2 PFK	28.82	2.827e4					1.7	NO		bb		0.000
18	FUNCTION2 PFK	28.47	4.519e3					0.9	NO		bb		0.000
19	FUNCTION2 PFK	28.42	5.823e3					1.1	NO		bb		0.000
20	FUNCTION2 PFK	32.71	1.137e4					1.6	NO		bb		0.000
21	FUNCTION2 PFK	32.44	1.418e4					1.8	NO		db		0.000

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	36.64	7.406e6					25.3	YES		db		0.000
2	FUNCTION3 PFK	36.25	4.701e7					28.1	YES		bd		0.000

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

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PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	45.68	7.516e3					1.5	NO		bb		
2	FUNCTION5 PFK	45.50	5.255e3					1.2	NO		bb		
3	FUNCTION5 PFK	43.66	5.108e3					1.2	NO		bb		
4	FUNCTION5 PFK	43.06	3.867e3					1.1	NO		bb		
5	FUNCTION5 PFK	42.63	1.220e4					2.1	NO		bb		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	21.64	8.072e1					1.8	NO		bb		0.000
2	FUNCTION1 HXCD...	21.44	1.165e2					2.1	NO		db		0.000
3	FUNCTION1 HXCD...	21.34	7.544e1					2.3	NO		bd		0.000
4	FUNCTION1 HXCD...	26.42	1.399e2					2.7	NO		bb		0.000
5	FUNCTION1 HXCD...	21.99	8.086e1					2.0	NO		bb		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	31.18	1.574e3					25.7	YES		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	36.15	3.227e2					5.7	YES		db		0.000
2	FUNCTION3 OCDPE	36.03	2.331e2					4.4	YES		bd		0.000
3	FUNCTION3 OCDPE	35.36	1.234e2					4.0	YES		bb		0.000
4	FUNCTION3 OCDPE	35.06	1.904e2					3.3	YES		bb		0.000

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	39.00	2.677e2					3.2	YES		bb		0.000
2	FUNCTION4 NCDPE	38.18	1.090e2					3.1	YES		bb		0.000

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Last Altered: Monday, March 06, 2023 10:57:27 Pacific Standard Time
Printed: Monday, March 06, 2023 11:34:51 Pacific Standard Time

ID: CS4CW, Name: 23030308, Date: 03-Mar-2023, Time: 14:59:53, Conditions: AUTOSPEC01, User: pk

ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
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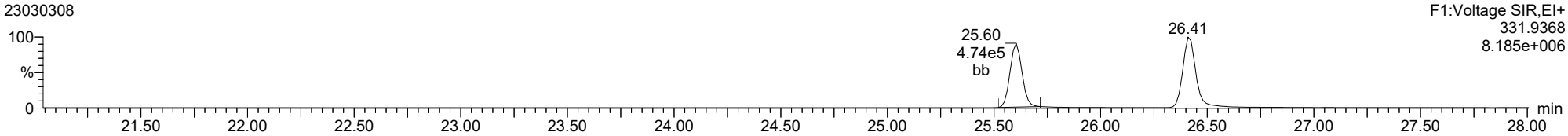
ID: CS4CW, Name: 23030308, Date: 03-Mar-2023, Time: 14:59:53, Conditions: AUTOSPEC01, User: pk

13C-1234-TCDD



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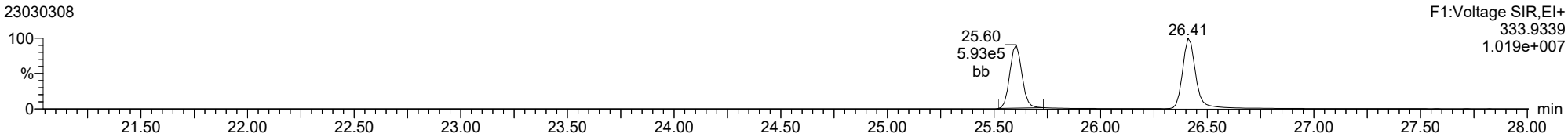
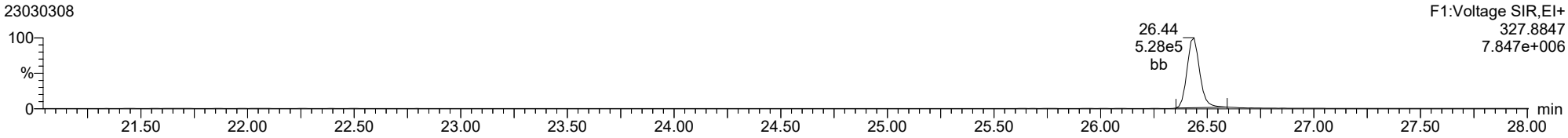


37CL-2378-TCDD



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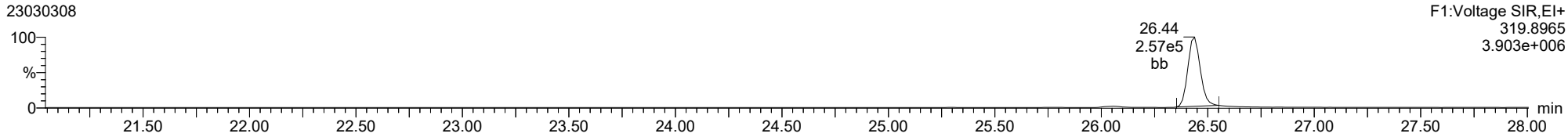

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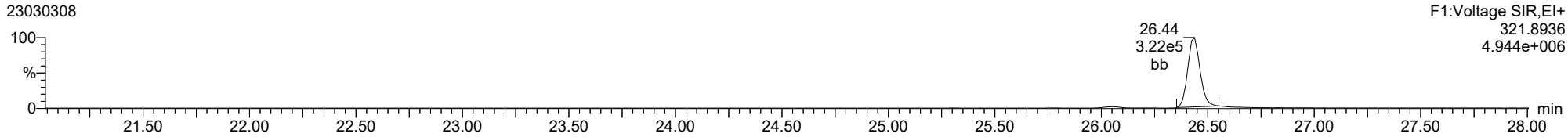

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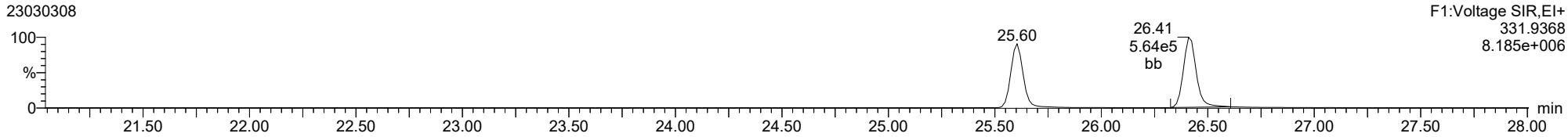

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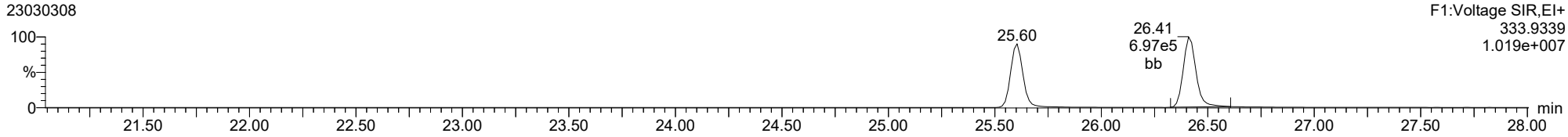

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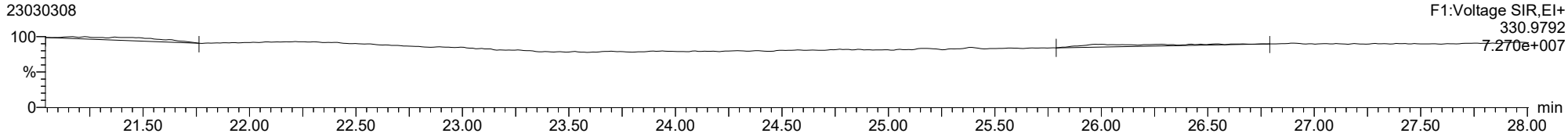

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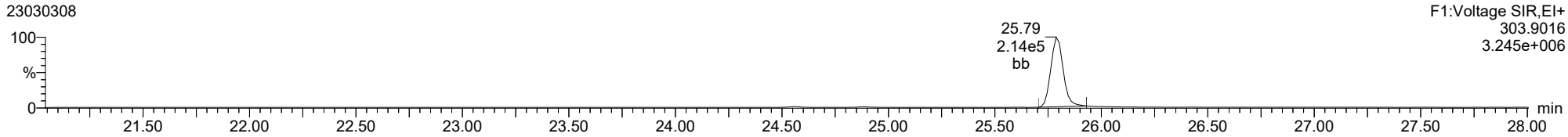

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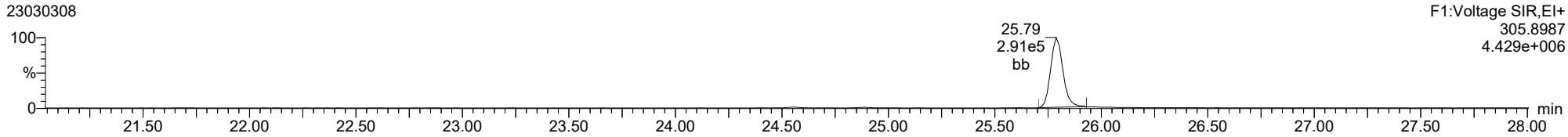

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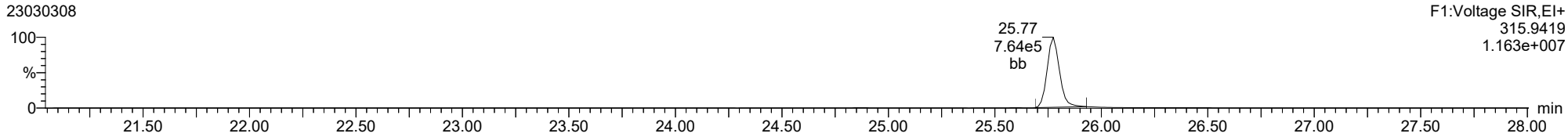

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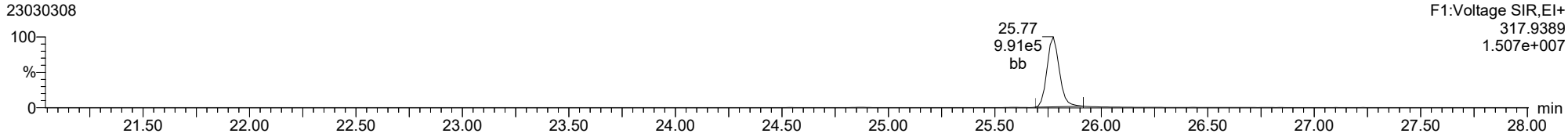
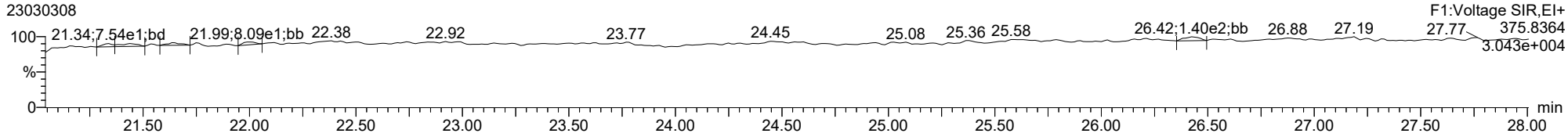


FUNCTION1 HXCDPE



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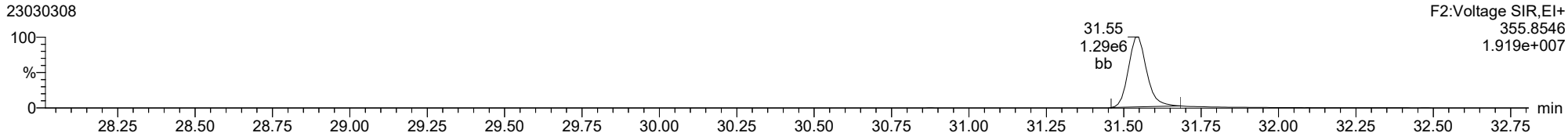
12378-PeCDD



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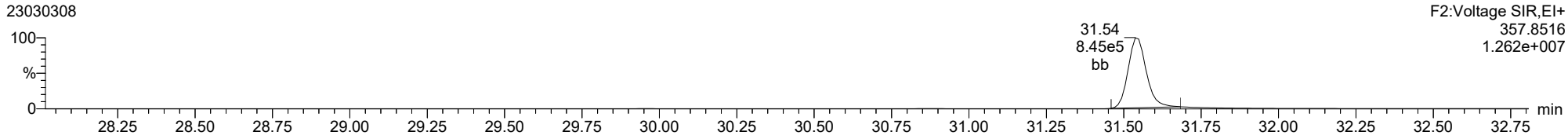

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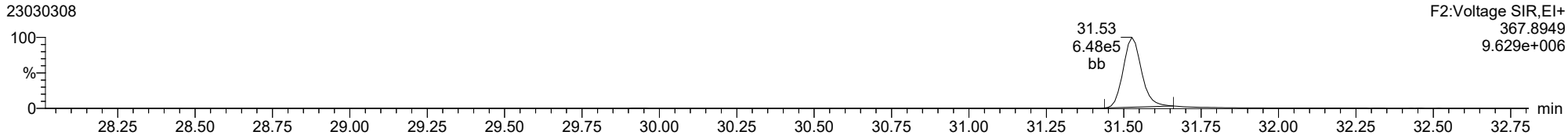

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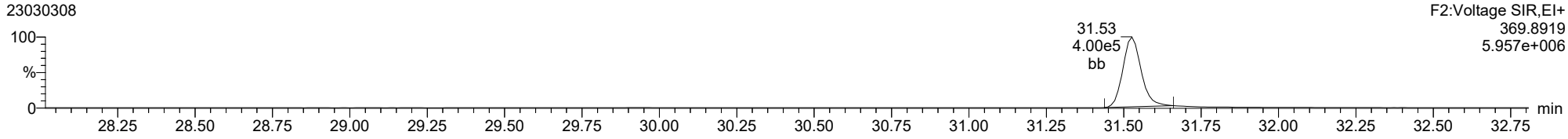
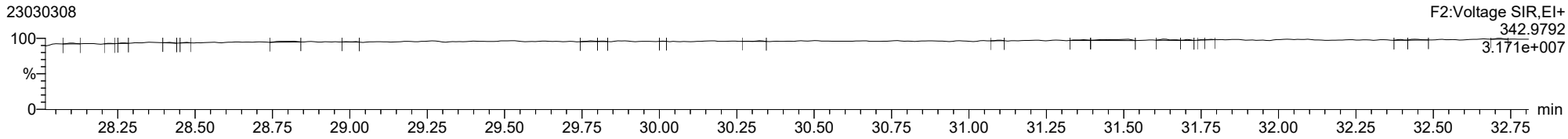


FUNCTION2 PFK



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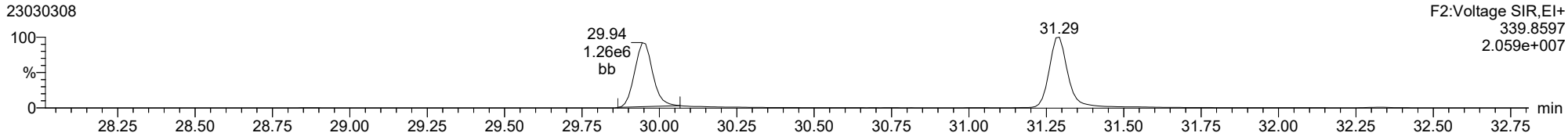

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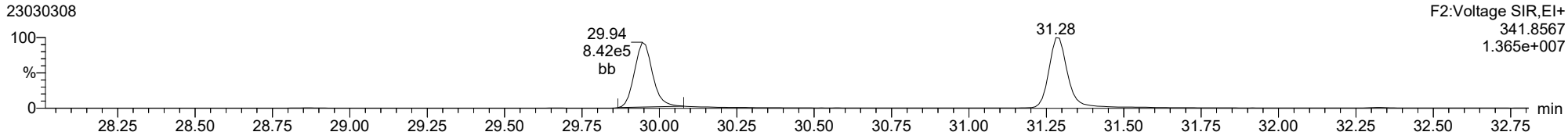

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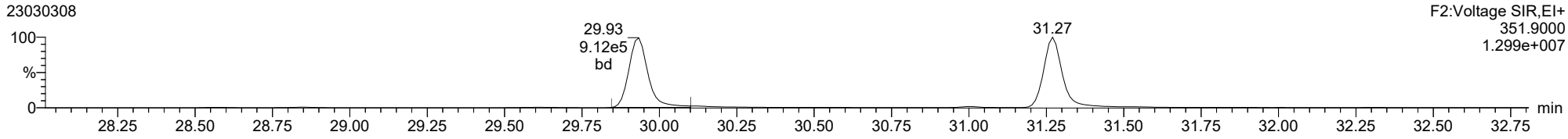

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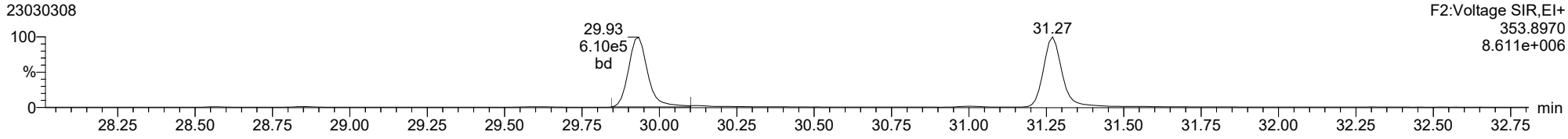
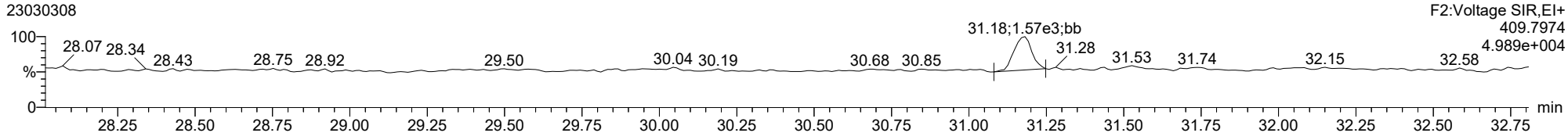


FUNCTION2 HPCDPE



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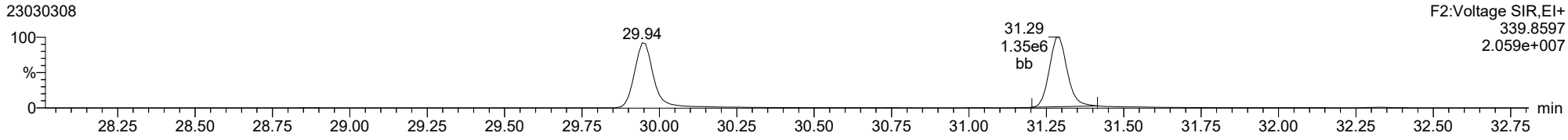
23478-PeCDF



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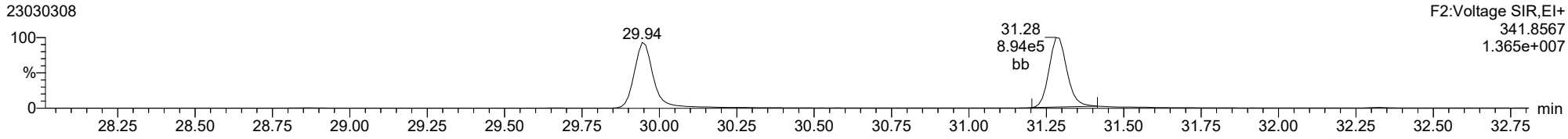

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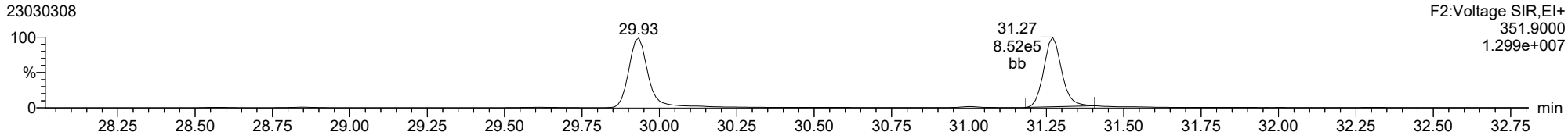

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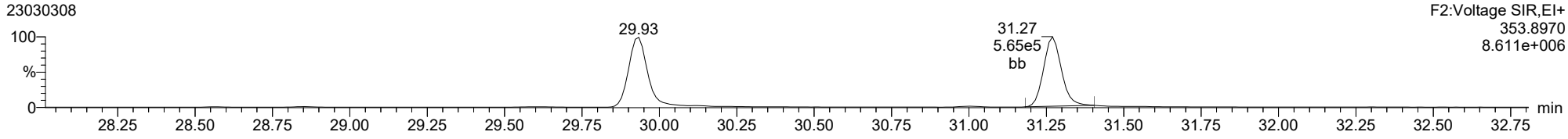
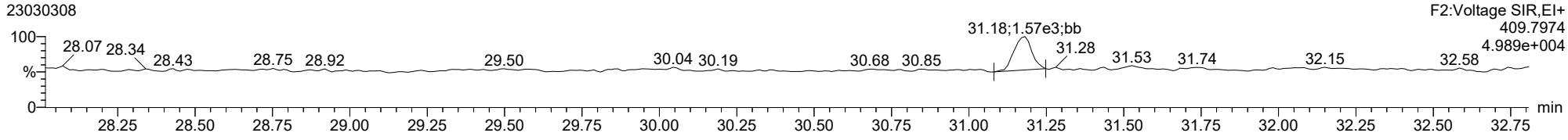


FUNCTION2 HPCDPE



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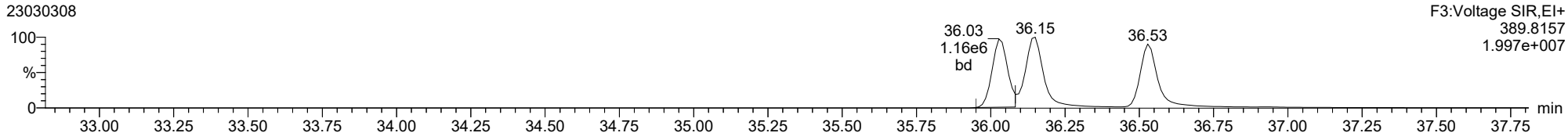
123478-HxCDD



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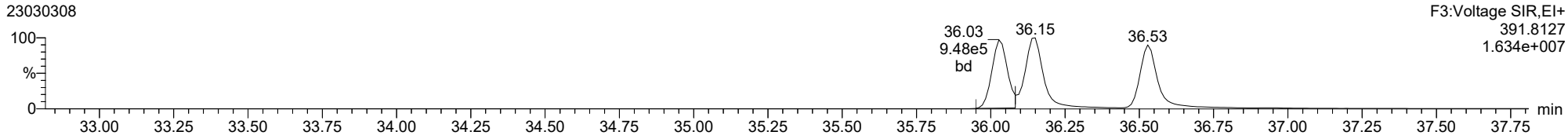

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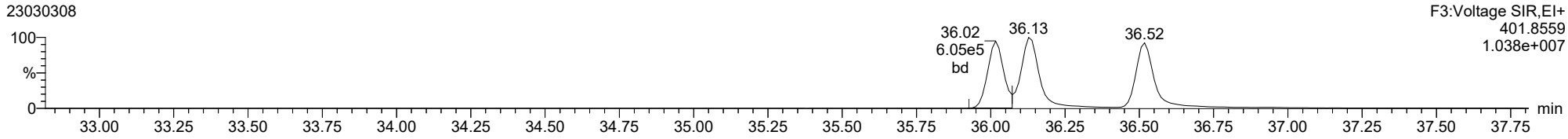

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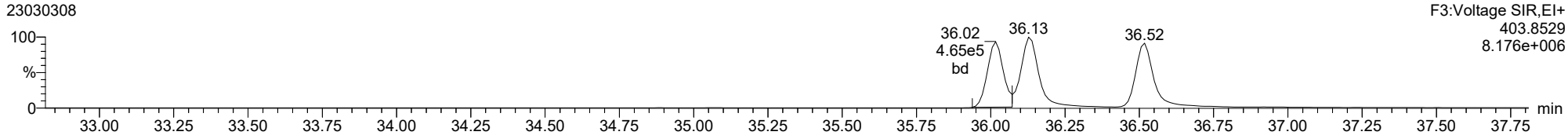
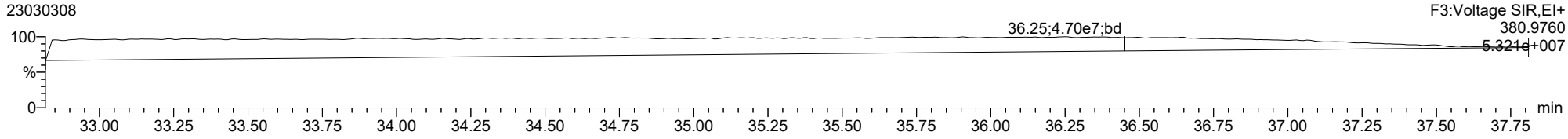


FUNCTION3 PFK



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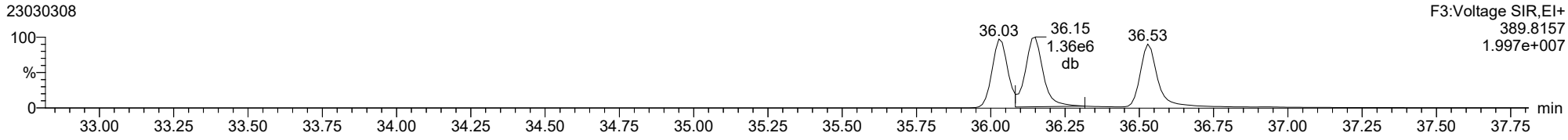
123678-HxCDD



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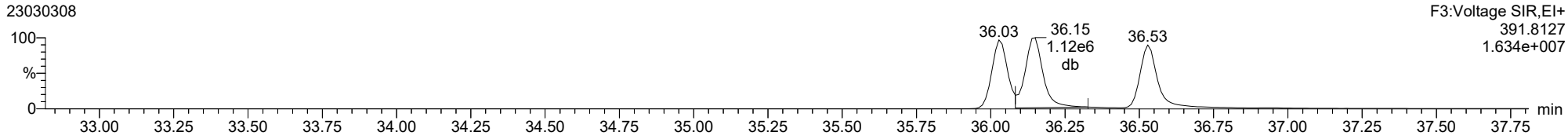

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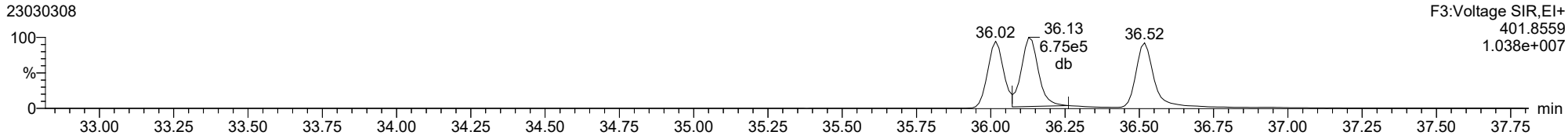

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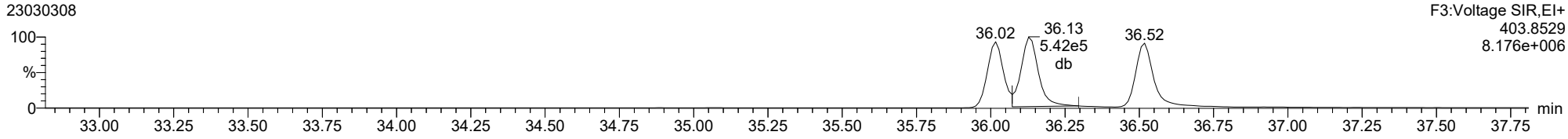

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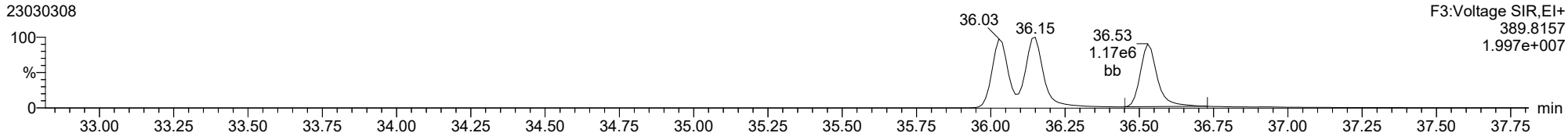

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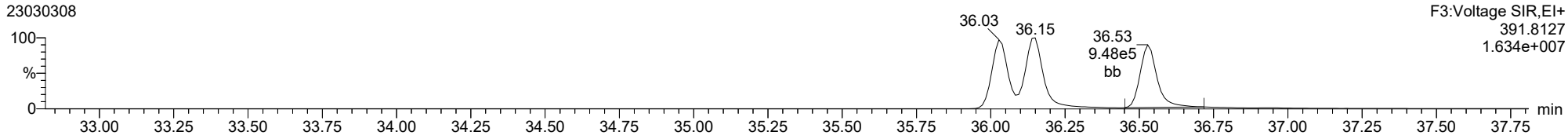

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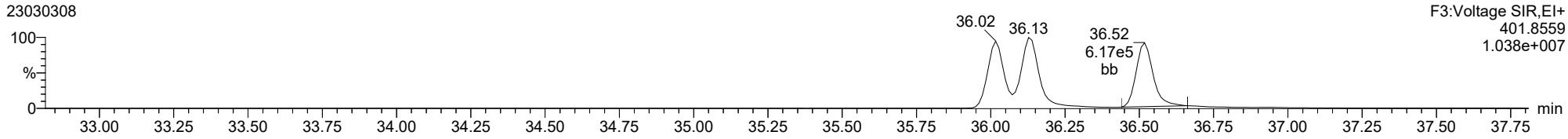

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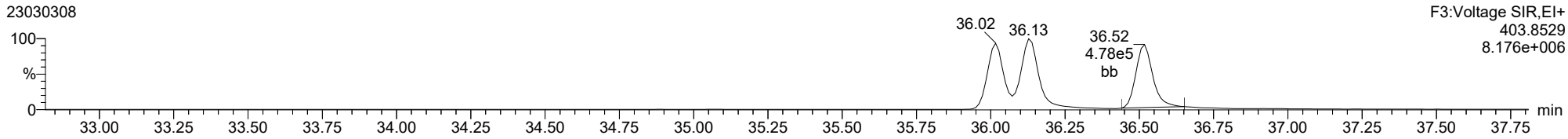

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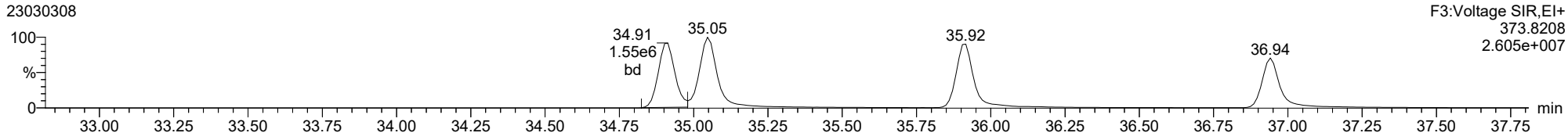

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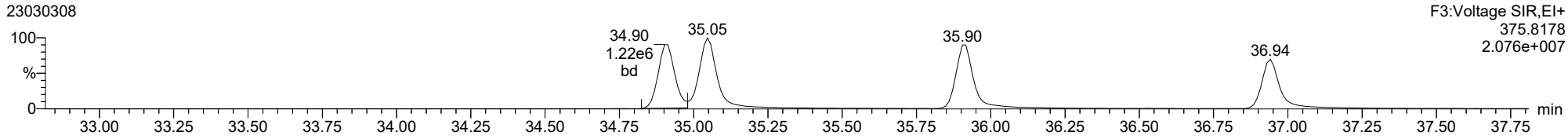

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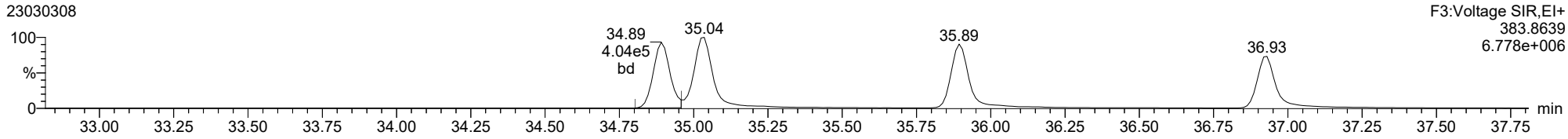

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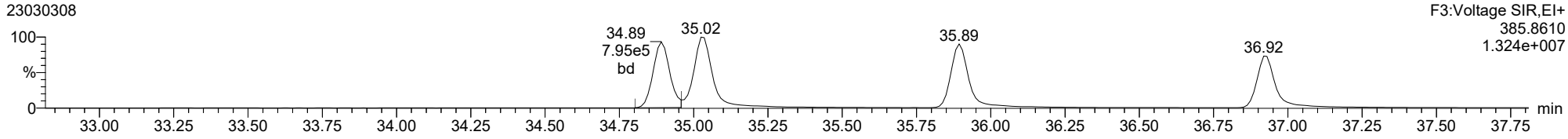

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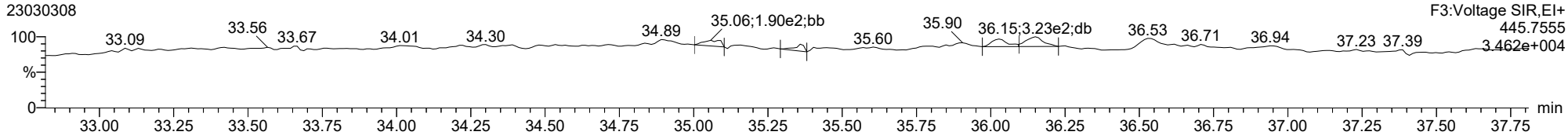

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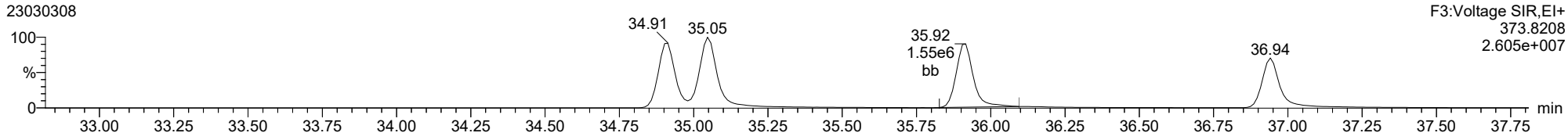

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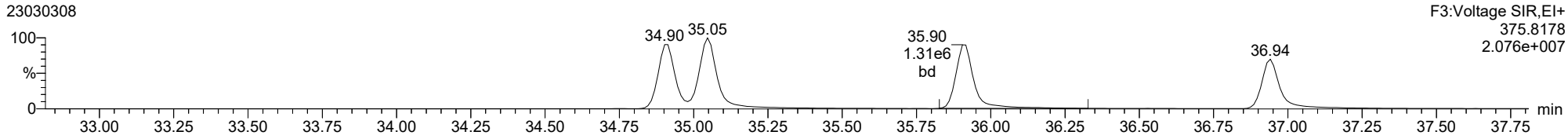

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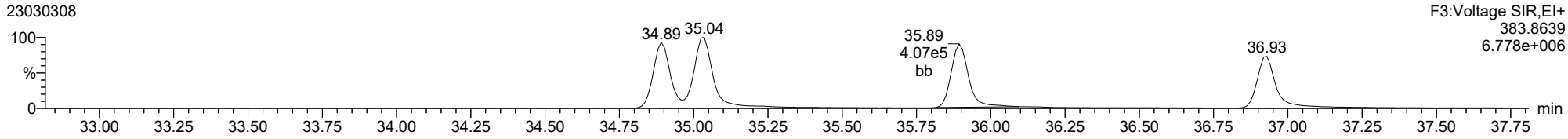

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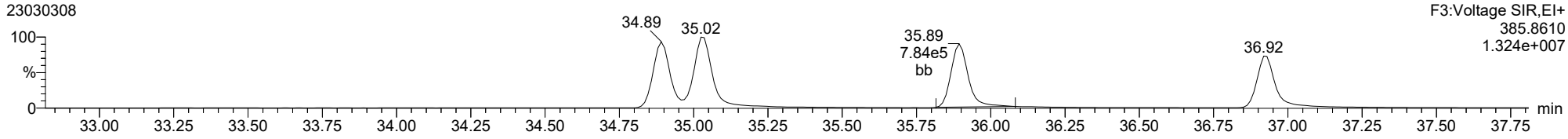

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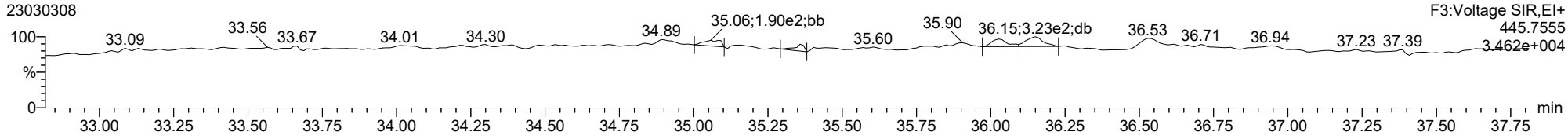

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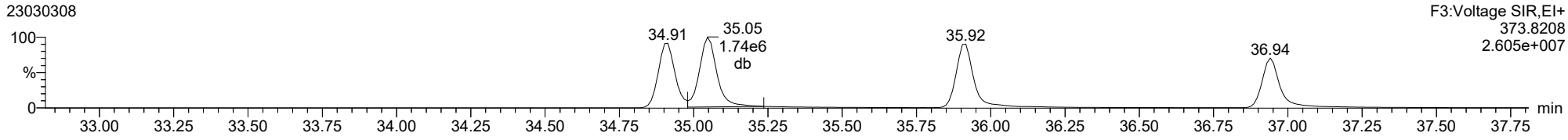

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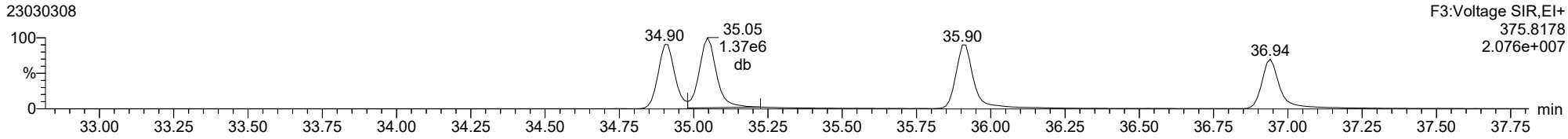

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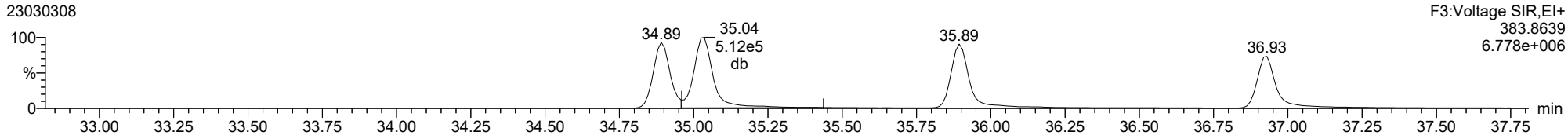

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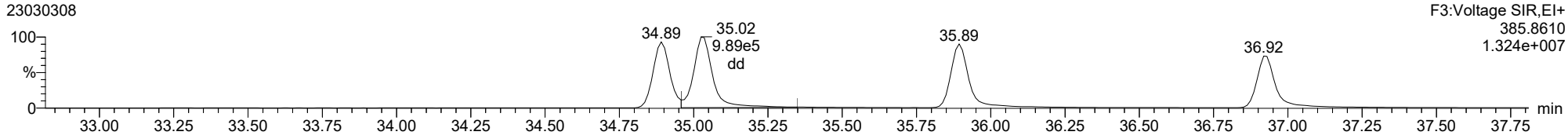

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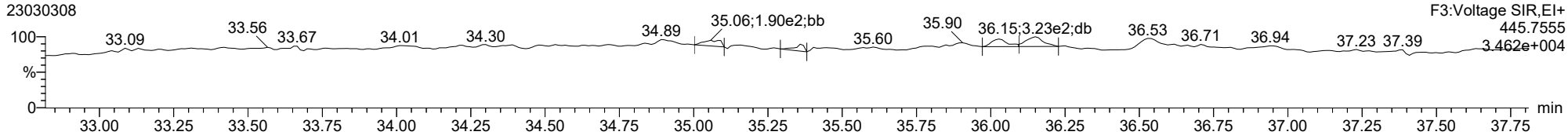

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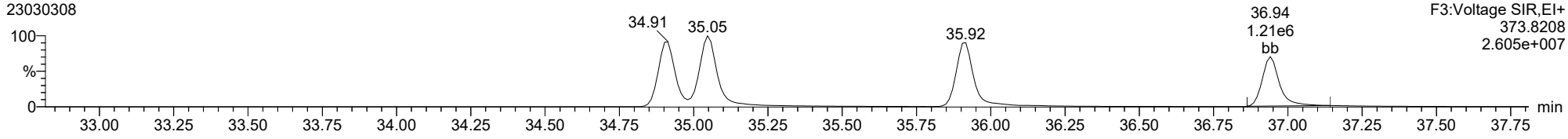

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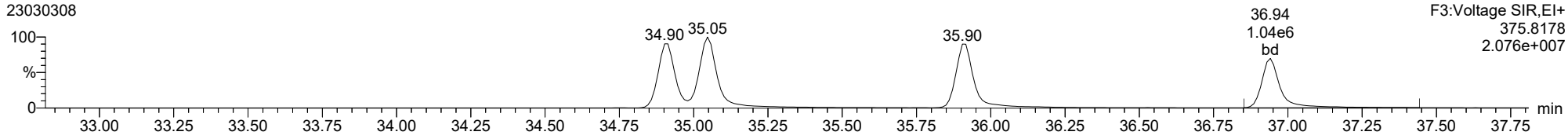

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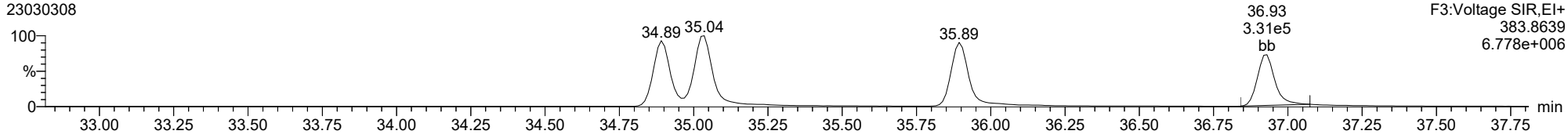

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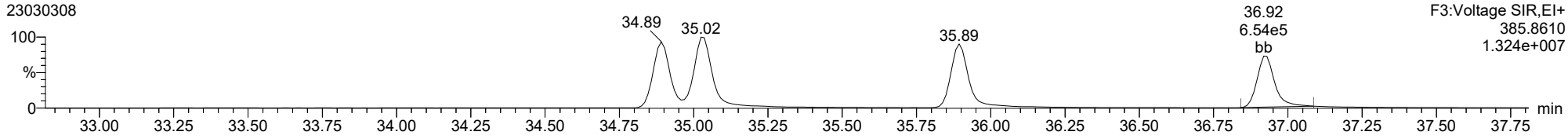

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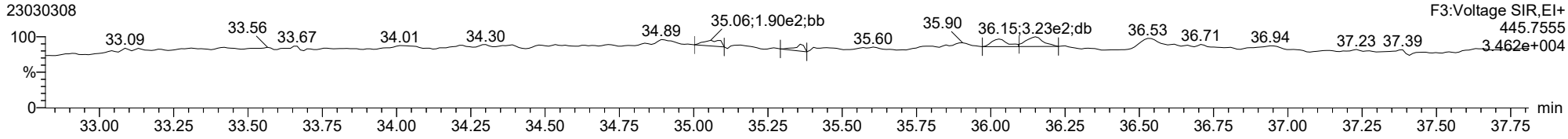

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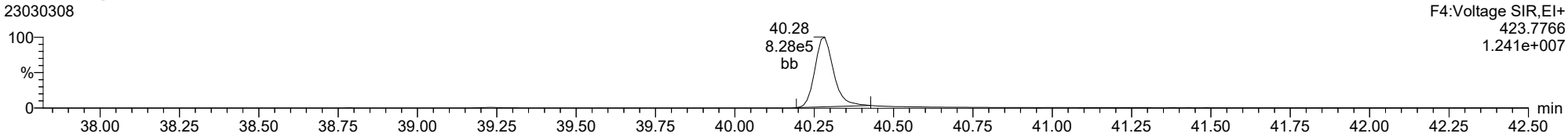

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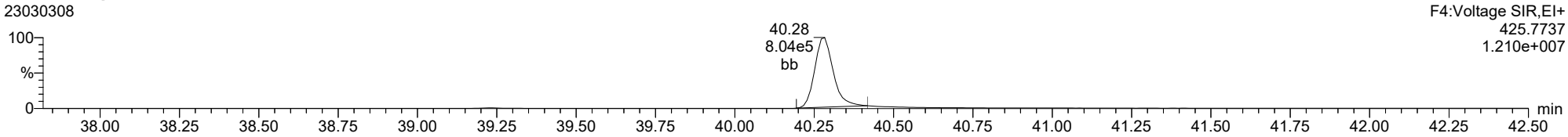

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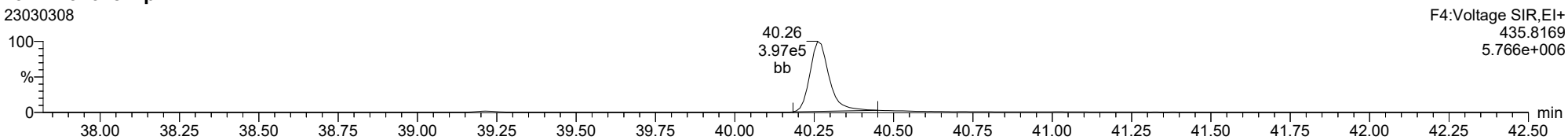

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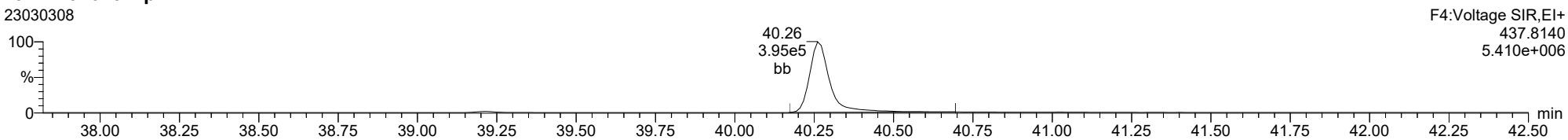

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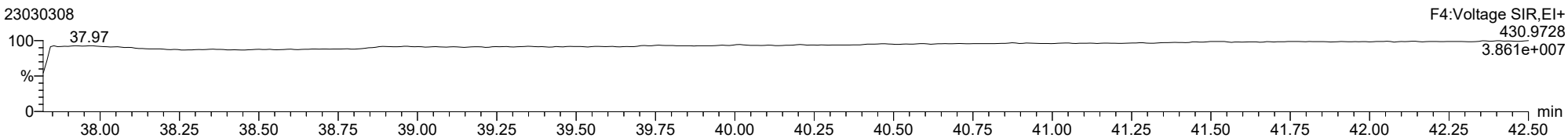

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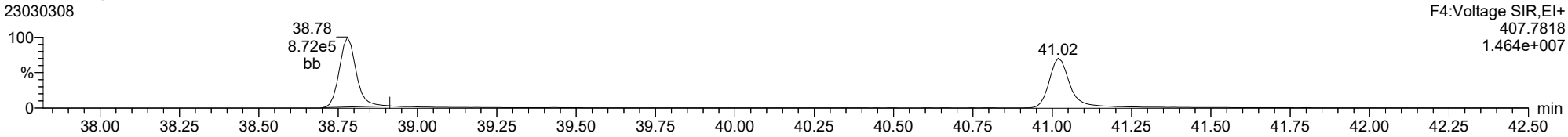

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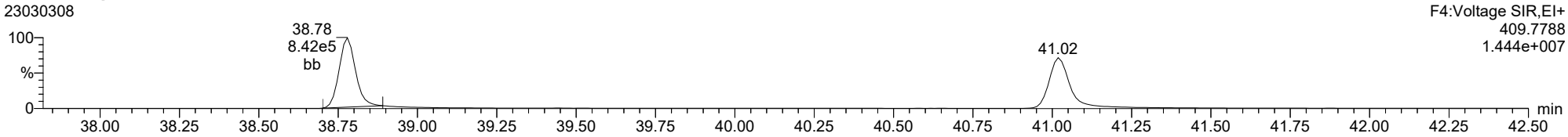

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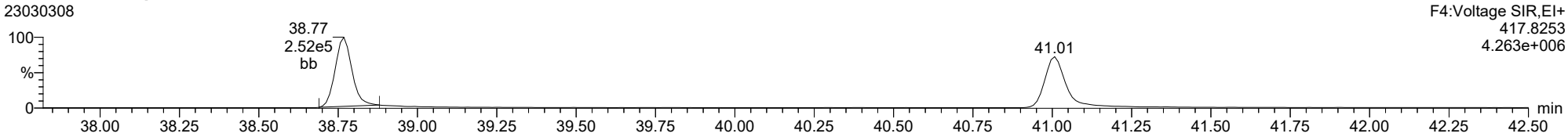

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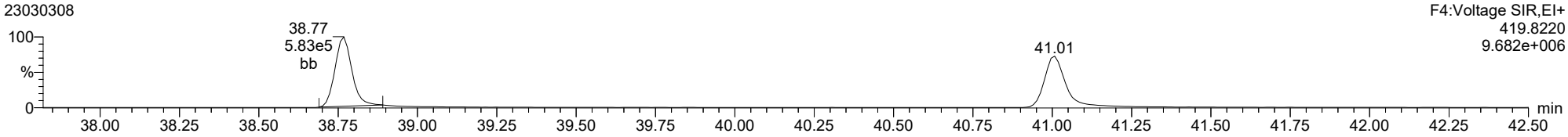

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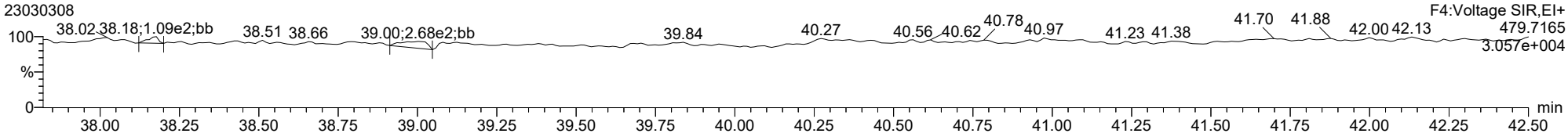

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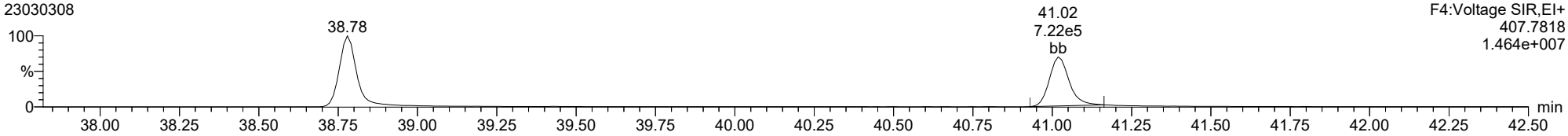

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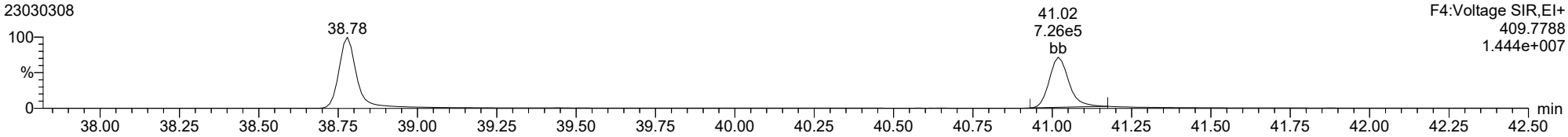

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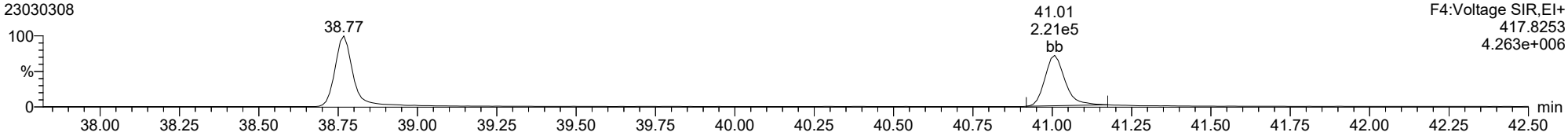

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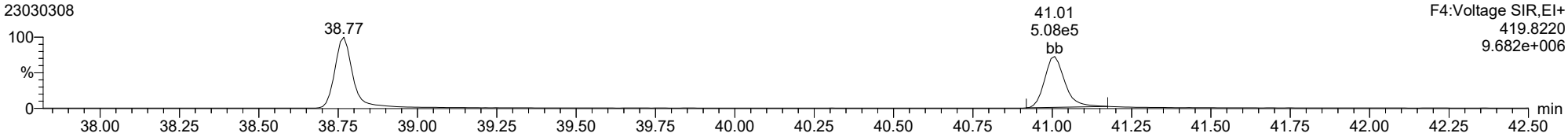

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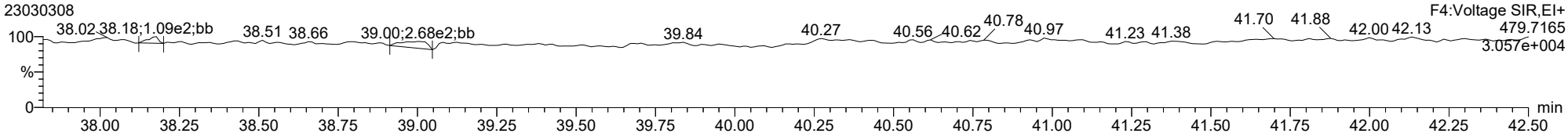

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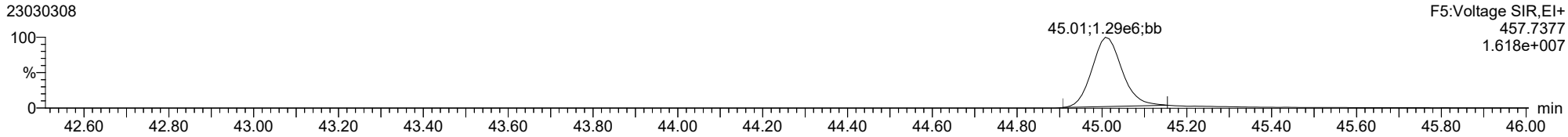
OCDD



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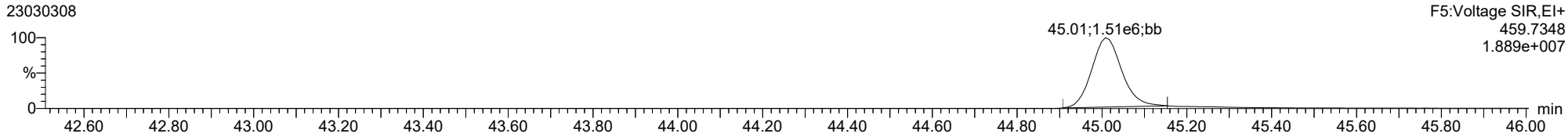

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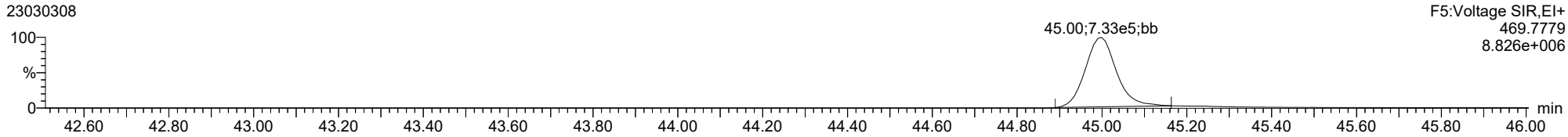

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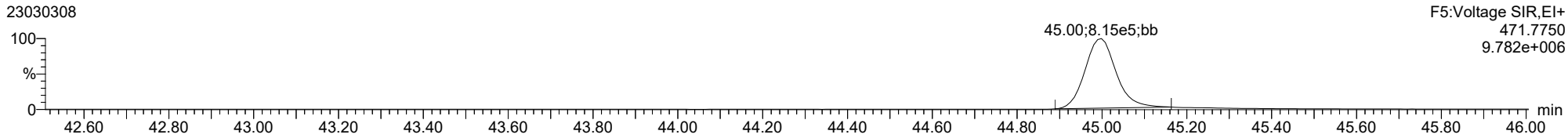

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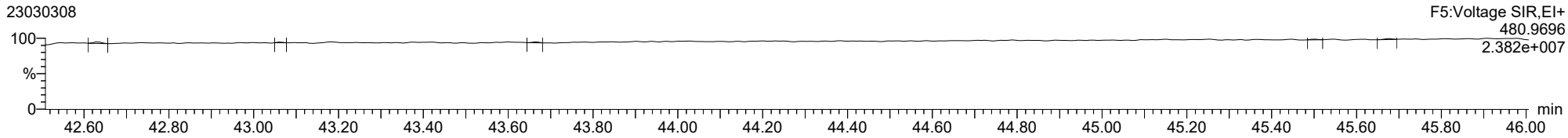

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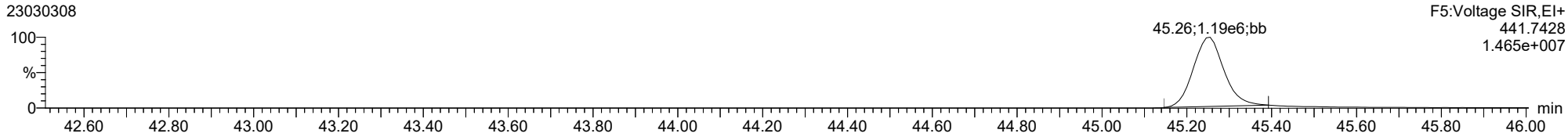
OCDF



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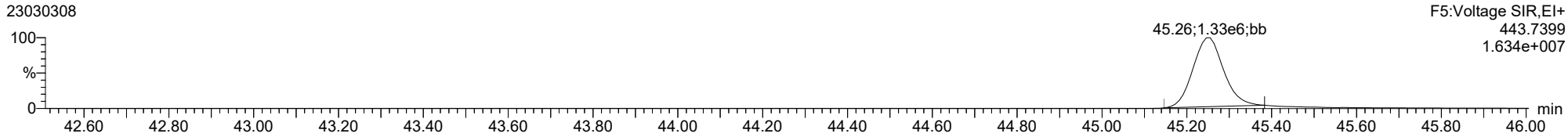
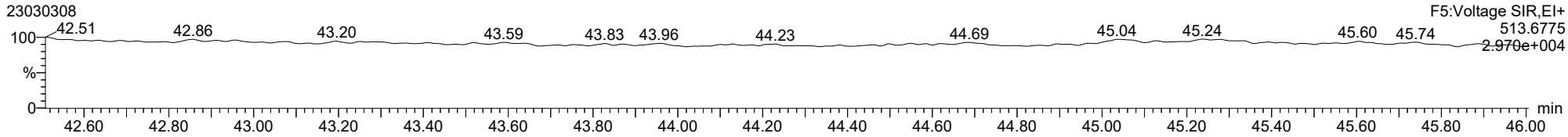


FUNCTION5 DCDPE



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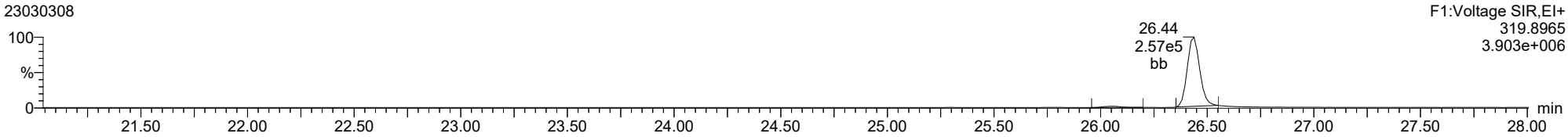
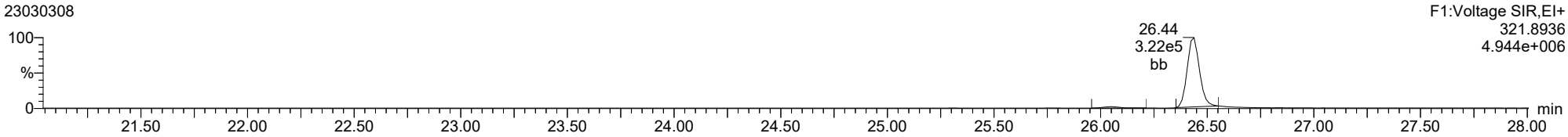
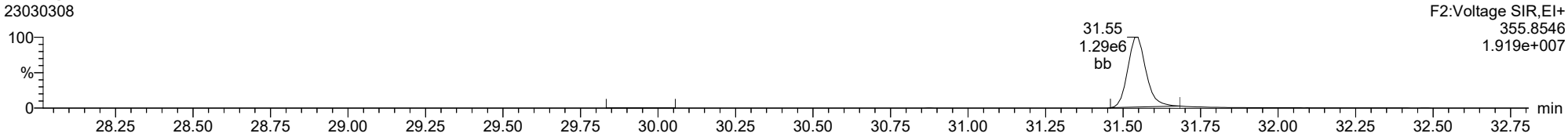
Total-tetradioxins



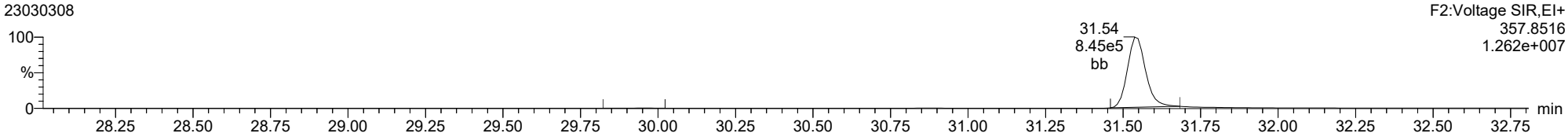
Total-tetradioxins



Total-pentadioxins

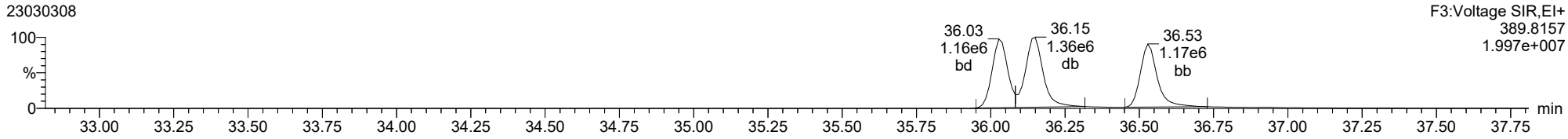


Total-pentadioxins

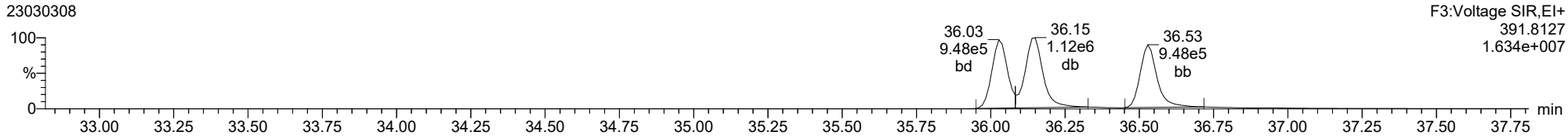


ID: CS4CW, Name: 23030308, Date: 03-Mar-2023, Time: 14:59:53, Conditions: AUTOSPEC01, User: pk

Total-hexadioxins



Total-hexadioxins



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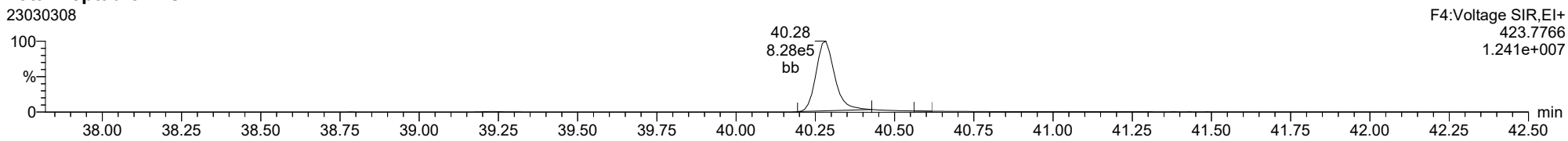

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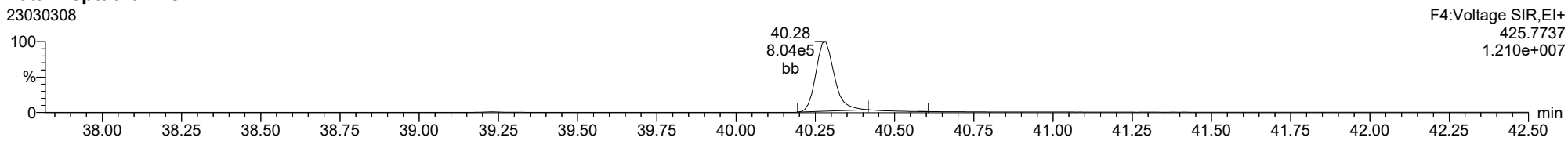
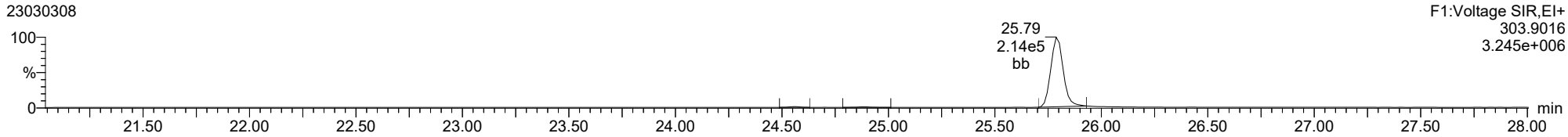
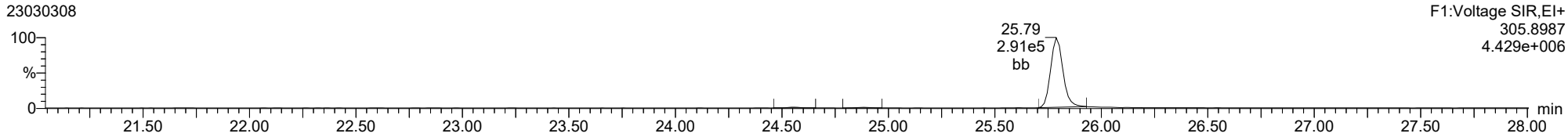


ID: CS4CW, Name: 23030308, Date: 03-Mar-2023, Time: 14:59:53, Conditions: AUTOSPEC01, User: pk

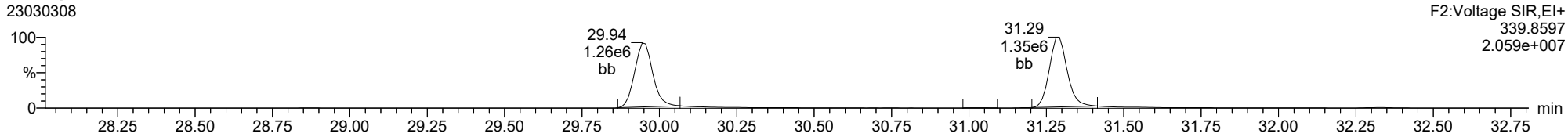
Total-tetrafurans



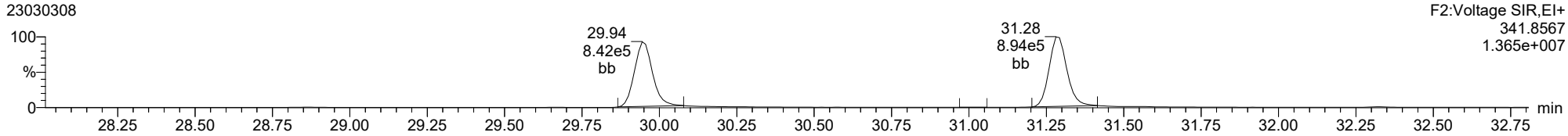
Total-tetrafurans



Total-pentafurans

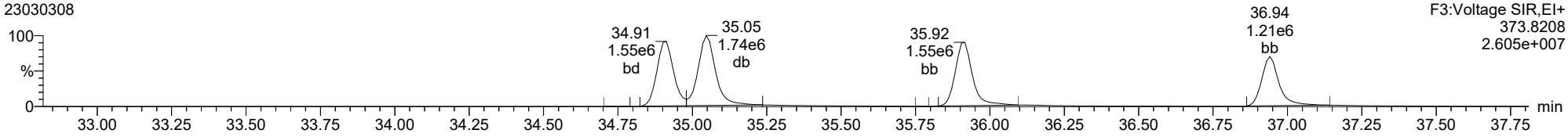


Total-pentafurans

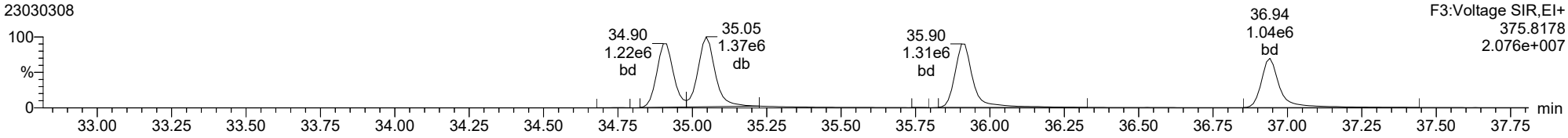


ID: CS4CW, Name: 23030308, Date: 03-Mar-2023, Time: 14:59:53, Conditions: AUTOSPEC01, User: pk

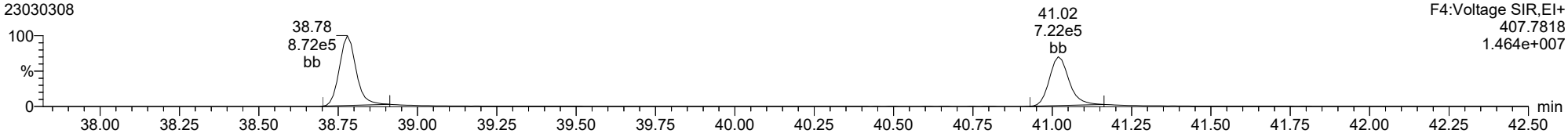
Total-hexafurans



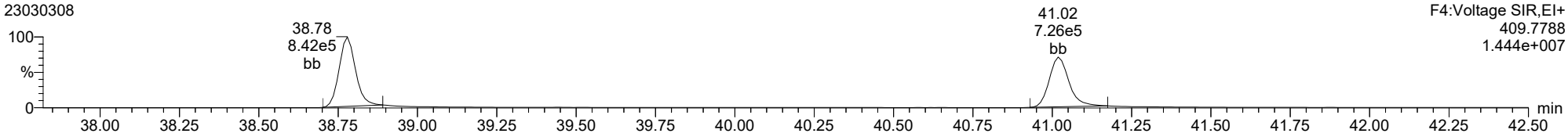
Total-hexafurans



Total-heptafurans



Total-heptafurans



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Last Altered: Monday, March 06, 2023 10:57:27 Pacific Standard Time
Printed: Monday, March 06, 2023 11:35:04 Pacific Standard Time

Method: T:\Autospec\Methods\Dioxin230303.mdb 03 Mar 2023 14:58:50
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 10:57:27

ID: CS5CW, Name: 23030309, Date: 03-Mar-2023, Time: 15:47:43, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.774	1.000	1.334e6	1.787e6	0.702	0.746	0.770	1816	2705	2.07e7	2.78e7	11389.3	10270.6	NO	bb	bb	200.466
12378-PeCDF	29.934	1.000	7.598e6	4.979e6	0.679	1.526	1.550	4787	5694	1.20e8	7.84e7	24983.0	13764.4	NO	bb	bb	1049.785
23478-PeCDF	31.271	1.000	8.034e6	5.310e6	0.786	1.513	1.550	4787	5694	1.23e8	8.18e7	25734.3	14361.4	NO	bb	bb	1006.165
123478-HxCDF	34.903	1.001	7.954e6	6.371e6	1.166	1.248	1.240	1657	3079	1.28e8	1.02e8	76946.6	33145.2	NO	bd	bd	988.542
234678-HxCDF	35.894	1.000	8.440e6	6.648e6	1.140	1.270	1.240	1657	3079	1.32e8	1.04e8	79492.3	33730.7	NO	bd	bd	997.904
123678-HxCDF	35.036	1.000	8.729e6	6.976e6	1.091	1.251	1.240	1657	3079	1.37e8	1.09e8	82564.4	35544.8	NO	db	db	1005.907
123789-HxCDF	36.930	1.000	7.107e6	5.643e6	1.137	1.259	1.240	1657	3079	1.15e8	9.05e7	69330.3	29396.1	NO	bb	bb	962.631
1234678-HpCDF	38.769	1.000	5.729e6	5.700e6	1.003	1.005	1.050	5984	6276	9.87e7	9.77e7	16498.3	15567.0	NO	bb	bb	1001.511
1234789-HpCDF	41.008	1.000	4.891e6	4.848e6	0.953	1.009	1.050	5984	6276	7.31e7	7.29e7	12213.8	11617.0	NO	bb	bb	1050.453
OCDF	45.246	1.006	8.007e6	9.001e6	0.778	0.890	0.890	617	1698	1.01e8	1.14e8	163878.0	67066.1	NO	bb	bb	2152.541
2378-TCDD	26.424	1.001	1.623e6	2.053e6	1.149	0.791	0.770	1583	1421	2.49e7	3.15e7	15719.4	22173.2	NO	bb	bb	201.416
12378-PeCDD	31.527	1.000	7.500e6	4.933e6	1.022	1.520	1.550	3207	3258	1.15e8	7.59e7	35906.6	23308.0	NO	bb	bb	987.154
123478-HxCDD	36.017	1.000	6.446e6	5.113e6	0.996	1.261	1.240	1269	1319	1.05e8	8.63e7	82869.7	65420.3	NO	bd	bd	1008.795
123678-HxCDD	36.139	1.001	6.944e6	5.798e6	1.001	1.198	1.240	1269	1319	1.11e8	8.98e7	87214.8	68064.1	NO	db	db	1011.135
123789-HxCDD	36.518	1.011	6.387e6	5.242e6	0.907	1.218	1.240	1269	1319	1.04e8	8.52e7	81996.1	64539.0	NO	bb	bb	1063.935
1234678-HpCDD	40.273	1.000	5.468e6	5.342e6	1.039	1.023	1.050	4639	3285	8.81e7	8.56e7	19002.3	26055.7	NO	bb	bb	1010.673
OCDD	45.008	1.000	8.523e6	9.997e6	0.920	0.853	0.890	1224	2738	1.09e8	1.28e8	89206.2	46574.8	NO	bb	bb	1981.710
13C-2378-TCDF	25.760	1.007	9.657e5	1.254e6	1.620	0.770	0.770	2759	1757	1.47e7	1.88e7	5325.4	10693.5	NO	bb	bb	104.465
13C-12378-PeCDF	29.923	1.169	1.058e6	7.059e5	1.240	1.499	1.550	2137	2181	1.59e7	1.06e7	7426.1	4845.6	NO	bb	bb	108.437
13C-23478-PeCDF	31.259	1.222	1.010e6	6.768e5	1.118	1.492	1.550	2137	2181	1.54e7	1.03e7	7192.1	4709.7	NO	bb	bb	115.091
13C-123478-HxCDF	34.880	0.955	4.197e5	8.230e5	1.168	0.510	0.510	2074	3087	6.86e6	1.33e7	3308.7	4323.9	NO	bd	bd	88.344
13C-123678-HxCDF	35.025	0.959	4.843e5	9.471e5	1.386	0.511	0.510	2074	3087	7.37e6	1.42e7	3551.0	4614.4	NO	db	db	85.742
13C-234678-HxCDF	35.883	0.983	4.483e5	8.783e5	1.129	0.510	0.510	2074	3087	6.95e6	1.37e7	3352.7	4438.0	NO	bd	bd	97.566
13C-123789-HxCDF	36.919	1.011	3.958e5	7.690e5	0.932	0.515	0.510	2074	3087	6.35e6	1.23e7	3061.9	3979.7	NO	bb	bb	103.822
13C-1234678-HpCDF	38.757	1.062	3.445e5	7.933e5	0.895	0.434	0.440	2404	3556	5.77e6	1.33e7	2401.1	3732.0	NO	bb	bb	105.552
13C-1234789-HpCDF	40.997	1.123	2.963e5	6.765e5	0.770	0.438	0.440	2404	3556	4.35e6	9.96e6	1811.4	2800.3	NO	bb	bb	104.955
13C-1234-TCDD	25.591	0.000	5.845e5	7.267e5	1.000	0.804	0.770	2994	1335	8.98e6	1.11e7	2999.9	8316.3	NO	bb	bb	100.000
13C-2378-TCDD	26.396	1.031	7.030e5	8.860e5	1.152	0.794	0.770	2994	1335	1.05e7	1.32e7	3492.1	9847.6	NO	bb	bb	105.160
13C-12378-PeCDD	31.515	1.232	7.626e5	4.699e5	0.829	1.623	1.550	1207	1205	1.17e7	7.16e6	9657.3	5939.7	NO	bb	bb	113.413
13C-123478-HxCDD	36.006	0.986	6.492e5	5.017e5	0.995	1.294	1.240	1422	1281	1.08e7	8.26e6	7562.7	6444.6	NO	bd	bd	96.063
13C-123678-HxCDD	36.117	0.989	7.072e5	5.517e5	1.157	1.282	1.240	1422	1281	1.11e7	8.74e6	7828.3	6824.3	NO	db	db	90.391
13C-1234678-HpCDD	40.262	1.103	5.341e5	4.953e5	0.840	1.078	1.050	2026	1583	8.10e6	7.45e6	3998.5	4702.7	NO	bb	bb	101.765
13C-OCDD	44.990	1.232	9.650e5	1.067e6	0.767	0.905	0.890	1467	1005	1.21e7	1.35e7	8264.7	13401.8	NO	bb	bb	219.862
13C-123789-HxCDD	36.507	0.000	6.722e5	5.319e5	1.000	1.264	1.240	1422	1281	1.10e7	8.62e6	7719.2	6727.3	NO	bb	bb	100.000
37CL-2378-TCDD	26.424	1.033	3.368e6		1.288			2667		5.07e7		19022.1			bb		199.444

Dataset: T:\Autospec\Processed Data Batch\230303ICIH.qld
Last Altered: Monday, March 06, 2023 10:57:27 Pacific Standard Time
Printed: Monday, March 06, 2023 11:35:04 Pacific Standard Time

ID: CS5CW, Name: 23030309, Date: 03-Mar-2023, Time: 15:47:43, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF					0.802		0.770	1816	2705								
1289-TCDF					0.678		0.770	1816	2705								
13468-PECDF					1.246		1.550	665	1133								
12389-PECDF					0.496		1.550	4787	5694								
123468-HXCDF					1.169		1.240	1657	3079								
1368-TCDD					1.015		0.770	1583	1421								
1289-TCDD					0.909		0.770	1583	1421								
12479-PECDD					2.301		1.550	3207	3258								
12389-PECDD					1.184		1.550	3207	3258								
124679-HXCDD					1.115		1.240	1269	1319								
1234679-HPCDD					1.137		1.050	4639	3285								
Total-tetrafurans			1.355e6		0.727			1816		2.10e7							203.619
Total-penta1			0.000e0					665		0.00e0							
Total-pentafurans			1.567e7		0.654			4787		2.43e8							2061.969
Total-hexafurans			3.237e7		1.141			1657		5.13e8							3971.633
Total-heptafurans			1.063e7		0.978			5984		1.72e8							2053.620
Total-Furans			6.803e7		0.922			1816		1.05e9							10443.382
Total-tetradioxins			1.660e6		1.024			1583		2.53e7							206.551
Total-pentadioxins			7.518e6		1.502			3207		1.15e8							988.757
Total-hexadioxins			1.981e7		1.005			1269		3.20e8							3089.249
Total-heptadioxins			5.468e6		1.088			4639		8.81e7							1010.701
Total-Dioxins			4.298e7		1.130			1583		6.58e8							7276.969
Total-TEQ			1.110e8					1583		1.71e9							17720.350
FUNCTION1 PFK			8.364e4					590794		3.29e6							
FUNCTION2 PFK			1.452e7					287139		1.24e7							0.000
FUNCTION3 PFK			2.904e5					447834		7.86e6							0.000
FUNCTION4 PFK			1.983e5					258971		5.49e6							
FUNCTION5 PFK			1.360e5					213310		3.56e6							
FUNCTION1 HXCD...			9.848e2					660		1.37e4							0.000
FUNCTION1 HPCD...																	
FUNCTION2 HPCD...			9.974e3					875		1.52e5							0.000
FUNCTION3 OCDPE			5.118e3					487		5.72e4							0.000
FUNCTION4 NCDPE			1.842e3					616		1.81e4							0.000
FUNCTION5 DCDPE			3.423e3					534		2.47e4							0.000

Method: T:\Autospec\Methods\Dioxin230303.mdb 03 Mar 2023 14:58:50
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 10:57:27

ID: CS5CW, Name: 23030309, Date: 03-Mar-2023, Time: 15:47:43, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.77	1.334e6	1.787e6	0.702	0.75	0.77	11389.3	YES	NO	bb	bb	200.466
2	Total-tetrafurans	24.87	8.544e3	1.186e4	0.727	0.72	0.77	70.8	YES	NO	bb	bb	1.264
3	Total-tetrafurans	24.67	1.054e3	1.493e3	0.727	0.71	0.77	9.1	YES	NO	db	db	0.158
4	Total-tetrafurans	24.55	1.152e4	1.641e4	0.727	0.70	0.77	91.4	YES	NO	bd	bd	1.731

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	23478-PeCDF	31.27	8.034e6	5.310e6	0.786	1.51	1.55	25734.3	YES	NO	bb	bb	1006.1...
2	Total-pentafurans	31.00	7.155e3	5.348e3	0.654	1.34	1.55	24.5	YES	NO	bb	bb	1.108
3	Total-pentafurans	30.22	6.707e3	3.991e3	0.654	1.68	1.55	18.6	YES	NO	bb	bb	0.948
4	12378-PeCDF	29.93	7.598e6	4.979e6	0.679	1.53	1.55	24983.0	YES	NO	bb	bb	1049.7...
5	Total-pentafurans	29.57	3.743e3	2.429e3	0.654	1.54	1.55	12.5	YES	NO	bd	bd	0.547
6	Total-pentafurans	28.85	2.348e4	1.505e4	0.654	1.56	1.55	59.4	YES	NO	bb	bb	3.415

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123678-HxCDF	35.04	8.729e6	6.976e6	1.091	1.25	1.24	82564.4	YES	NO	db	db	1005.9...
2	123478-HxCDF	34.90	7.954e6	6.371e6	1.166	1.25	1.24	76946.6	YES	NO	bd	bd	988.542
3	Total-hexafurans	34.75	7.748e3	5.706e3	1.141	1.36	1.24	87.3	YES	NO	bb	bb	0.913
4	Total-hexafurans	33.44	5.026e3	3.534e3	1.141	1.42	1.24	38.8	YES	NO	db	bb	0.581
5	123789-HxCDF	36.93	7.107e6	5.643e6	1.137	1.26	1.24	69330.3	YES	NO	bb	bb	962.631
6	Total-hexafurans	36.53	1.628e4	1.267e4	1.141	1.29	1.24	124.4	YES	NO	dd	bd	1.966
7	Total-hexafurans	36.13	1.100e5	8.424e4	1.141	1.31	1.24	706.6	YES	NO	dd	dd	13.189
8	234678-HxCDF	35.89	8.440e6	6.648e6	1.140	1.27	1.24	79492.3	YES	NO	bd	bd	997.904

ID: CS5CW, Name: 23030309, Date: 03-Mar-2023, Time: 15:47:43, Conditions: AUTOSPEC01, User: pk

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	41.01	4.891e6	4.848e6	0.953	1.01	1.05	12213.8	YES	NO	bb	bb	1050.4...
2	Total-heptafurans	39.43	9.256e3	7.833e3	0.978	1.18	1.05	24.5	YES	NO	bb	bb	1.656
3	1234678-HpCDF	38.77	5.729e6	5.700e6	1.003	1.01	1.05	16498.3	YES	NO	bb	bb	1001.5...

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.77	1.334e6	1.787e6	0.702	0.75	0.77	11389.3	YES	NO	bb	bb	200.466
2	Total-tetrafurans	24.87	8.544e3	1.186e4	0.727	0.72	0.77	70.8	YES	NO	bb	bb	1.264
3	Total-tetrafurans	24.67	1.054e3	1.493e3	0.727	0.71	0.77	9.1	YES	NO	db	db	0.158
4	Total-tetrafurans	24.55	1.152e4	1.641e4	0.727	0.70	0.77	91.4	YES	NO	bd	bd	1.731
5	23478-PeCDF	31.27	8.034e6	5.310e6	0.786	1.51	1.55	25734.3	YES	NO	bb	bb	1006.1...
6	Total-pentafurans	31.00	7.155e3	5.348e3	0.654	1.34	1.55	24.5	YES	NO	bb	bb	1.108
7	Total-pentafurans	30.22	6.707e3	3.991e3	0.654	1.68	1.55	18.6	YES	NO	bb	bb	0.948
8	12378-PeCDF	29.93	7.598e6	4.979e6	0.679	1.53	1.55	24983.0	YES	NO	bb	bb	1049.7...
9	Total-pentafurans	29.57	3.743e3	2.429e3	0.654	1.54	1.55	12.5	YES	NO	bd	bd	0.547
10	Total-pentafurans	28.85	2.348e4	1.505e4	0.654	1.56	1.55	59.4	YES	NO	bb	bb	3.415
11	123678-HxCDF	35.04	8.729e6	6.976e6	1.091	1.25	1.24	82564.4	YES	NO	db	db	1005.9...
12	123478-HxCDF	34.90	7.954e6	6.371e6	1.166	1.25	1.24	76946.6	YES	NO	bd	bd	988.542
13	Total-hexafurans	34.75	7.748e3	5.706e3	1.141	1.36	1.24	87.3	YES	NO	bb	bb	0.913
14	Total-hexafurans	33.44	5.026e3	3.534e3	1.141	1.42	1.24	38.8	YES	NO	db	bb	0.581
15	123789-HxCDF	36.93	7.107e6	5.643e6	1.137	1.26	1.24	69330.3	YES	NO	bb	bb	962.631
16	Total-hexafurans	36.53	1.628e4	1.267e4	1.141	1.29	1.24	124.4	YES	NO	dd	bd	1.966
17	Total-hexafurans	36.13	1.100e5	8.424e4	1.141	1.31	1.24	706.6	YES	NO	dd	dd	13.189
18	234678-HxCDF	35.89	8.440e6	6.648e6	1.140	1.27	1.24	79492.3	YES	NO	bd	bd	997.904
19	1234789-HpCDF	41.01	4.891e6	4.848e6	0.953	1.01	1.05	12213.8	YES	NO	bb	bb	1050.4...
20	Total-heptafurans	39.43	9.256e3	7.833e3	0.978	1.18	1.05	24.5	YES	NO	bb	bb	1.656
21	1234678-HpCDF	38.77	5.729e6	5.700e6	1.003	1.01	1.05	16498.3	YES	NO	bb	bb	1001.5...
22	OCDF	45.25	8.007e6	9.001e6	0.778	0.89	0.89	16387...	YES	NO	bb	bb	2152.5...

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDD	26.42	1.623e6	2.053e6	1.149	0.79	0.77	15719.4	YES	NO	bb	bb	201.416
2	Total-tetradioxins	26.03	3.492e4	4.469e4	1.024	0.78	0.77	261.5	YES	NO	bb	bb	4.891
3	Total-tetradioxins	25.59	3.088e2	4.283e2	1.024	0.72	0.77	3.2	YES	NO	bb	bb	0.045
4	Total-tetradioxins	25.29	1.293e3	1.946e3	1.024	0.66	0.77	15.2	YES	NO	bb	bb	0.199

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PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentadioxins	30.29	1.049e3	6.224e2	1.502	1.68	1.55	4.4	YES	NO	dd	db	0.090
2	Total-pentadioxins	30.15	1.847e3	1.302e3	1.502	1.42	1.55	8.1	YES	NO	dd	dd	0.170
3	Total-pentadioxins	29.93	6.137e3	4.352e3	1.502	1.41	1.55	24.1	YES	NO	bd	bd	0.567
4	12378-PeCDD	31.53	7.500e6	4.933e6	1.022	1.52	1.55	35906.6	YES	NO	bb	bb	987.154
5	Total-pentadioxins	30.86	8.777e3	5.596e3	1.502	1.57	1.55	39.8	YES	NO	bd	bb	0.776

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexadioxins	36.92	3.612e4	2.906e4	1.005	1.24	1.24	377.1	YES	NO	bb	bb	5.383
2	123789-HxCDD	36.52	6.387e6	5.242e6	0.907	1.22	1.24	81996.1	YES	NO	bb	bb	1063.9...
3	123678-HxCDD	36.14	6.944e6	5.798e6	1.001	1.20	1.24	87214.8	YES	NO	db	db	1011.1...
4	123478-HxCDD	36.02	6.446e6	5.113e6	0.996	1.26	1.24	82869.7	YES	NO	bd	bd	1008.7...

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-heptadioxins	40.66	1.670e2	1.486e2	1.088	1.12	1.05	0.0	NO	NO	bb	bb	0.028
2	1234678-HpCDD	40.27	5.468e6	5.342e6	1.039	1.02	1.05	19002.3	YES	NO	bb	bb	1010.6...

Dataset: T:\Autospec\Processed Data Batch\230303ICIH.qld
Last Altered: Monday, March 06, 2023 10:57:27 Pacific Standard Time
Printed: Monday, March 06, 2023 11:35:04 Pacific Standard Time

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Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDD	26.42	1.623e6	2.053e6	1.149	0.79	0.77	15719.4	YES	NO	bb	bb	201.416
2	Total-tetradioxins	26.03	3.492e4	4.469e4	1.024	0.78	0.77	261.5	YES	NO	bb	bb	4.891
3	Total-tetradioxins	25.59	3.088e2	4.283e2	1.024	0.72	0.77	3.2	YES	NO	bb	bb	0.045
4	Total-tetradioxins	25.29	1.293e3	1.946e3	1.024	0.66	0.77	15.2	YES	NO	bb	bb	0.199
5	Total-pentadioxins	30.29	1.049e3	6.224e2	1.502	1.68	1.55	4.4	YES	NO	dd	db	0.090
6	Total-pentadioxins	30.15	1.847e3	1.302e3	1.502	1.42	1.55	8.1	YES	NO	dd	dd	0.170
7	Total-pentadioxins	29.93	6.137e3	4.352e3	1.502	1.41	1.55	24.1	YES	NO	bd	bd	0.567
8	12378-PeCDD	31.53	7.500e6	4.933e6	1.022	1.52	1.55	35906.6	YES	NO	bb	bb	987.154
9	Total-pentadioxins	30.86	8.777e3	5.596e3	1.502	1.57	1.55	39.8	YES	NO	bd	bb	0.776
10	Total-hexadioxins	36.92	3.612e4	2.906e4	1.005	1.24	1.24	377.1	YES	NO	bb	bb	5.383
11	123789-HxCDD	36.52	6.387e6	5.242e6	0.907	1.22	1.24	81996.1	YES	NO	bb	bb	1063.9...
12	123678-HxCDD	36.14	6.944e6	5.798e6	1.001	1.20	1.24	87214.8	YES	NO	db	db	1011.1...
13	123478-HxCDD	36.02	6.446e6	5.113e6	0.996	1.26	1.24	82869.7	YES	NO	bd	bd	1008.7...
14	Total-heptadioxins	40.66	1.670e2	1.486e2	1.088	1.12	1.05	0.0	NO	NO	bb	bb	0.028
15	1234678-HpCDD	40.27	5.468e6	5.342e6	1.039	1.02	1.05	19002.3	YES	NO	bb	bb	1010.6...
16	OCDD	45.01	8.523e6	9.997e6	0.920	0.85	0.89	89206.2	YES	NO	bb	bb	1981.7...

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.77	1.334e6	1.787e6	0.702	0.75	0.77	11389.3	YES	NO	bb	bb	200.466
2	Total-tetrafurans	24.87	8.544e3	1.186e4	0.727	0.72	0.77	70.8	YES	NO	bb	bb	1.264
3	Total-tetrafurans	24.67	1.054e3	1.493e3	0.727	0.71	0.77	9.1	YES	NO	db	db	0.158
4	Total-tetrafurans	24.55	1.152e4	1.641e4	0.727	0.70	0.77	91.4	YES	NO	bd	bd	1.731
5	23478-PeCDF	31.27	8.034e6	5.310e6	0.786	1.51	1.55	25734.3	YES	NO	bb	bb	1006.1...
6	Total-pentafurans	31.00	7.155e3	5.348e3	0.654	1.34	1.55	24.5	YES	NO	bb	bb	1.108
7	Total-pentafurans	30.22	6.707e3	3.991e3	0.654	1.68	1.55	18.6	YES	NO	bb	bb	0.948
8	12378-PeCDF	29.93	7.598e6	4.979e6	0.679	1.53	1.55	24983.0	YES	NO	bb	bb	1049.7...
9	Total-pentafurans	29.57	3.743e3	2.429e3	0.654	1.54	1.55	12.5	YES	NO	bd	bd	0.547
10	Total-pentafurans	28.85	2.348e4	1.505e4	0.654	1.56	1.55	59.4	YES	NO	bb	bb	3.415
11	123678-HxCDF	35.04	8.729e6	6.976e6	1.091	1.25	1.24	82564.4	YES	NO	db	db	1005.9...
12	123478-HxCDF	34.90	7.954e6	6.371e6	1.166	1.25	1.24	76946.6	YES	NO	bd	bd	988.542
13	Total-hexafurans	34.75	7.748e3	5.706e3	1.141	1.36	1.24	87.3	YES	NO	bb	bb	0.913
14	Total-hexafurans	33.44	5.026e3	3.534e3	1.141	1.42	1.24	38.8	YES	NO	db	bb	0.581
15	123789-HxCDF	36.93	7.107e6	5.643e6	1.137	1.26	1.24	69330.3	YES	NO	bb	bb	962.631
16	Total-hexafurans	36.53	1.628e4	1.267e4	1.141	1.29	1.24	124.4	YES	NO	dd	bd	1.966
17	Total-hexafurans	36.13	1.100e5	8.424e4	1.141	1.31	1.24	706.6	YES	NO	dd	dd	13.189
18	234678-HxCDF	35.89	8.440e6	6.648e6	1.140	1.27	1.24	79492.3	YES	NO	bd	bd	997.904
19	1234789-HpCDF	41.01	4.891e6	4.848e6	0.953	1.01	1.05	12213.8	YES	NO	bb	bb	1050.4...
20	Total-heptafurans	39.43	9.256e3	7.833e3	0.978	1.18	1.05	24.5	YES	NO	bb	bb	1.656
21	1234678-HpCDF	38.77	5.729e6	5.700e6	1.003	1.01	1.05	16498.3	YES	NO	bb	bb	1001.5...
22	OCDF	45.25	8.007e6	9.001e6	0.778	0.89	0.89	16387...	YES	NO	bb	bb	2152.5...
23	2378-TCDD	26.42	1.623e6	2.053e6	1.149	0.79	0.77	15719.4	YES	NO	bb	bb	201.416
24	Total-tetradioxins	26.03	3.492e4	4.469e4	1.024	0.78	0.77	261.5	YES	NO	bb	bb	4.891
25	Total-tetradioxins	25.59	3.088e2	4.283e2	1.024	0.72	0.77	3.2	YES	NO	bb	bb	0.045
26	Total-tetradioxins	25.29	1.293e3	1.946e3	1.024	0.66	0.77	15.2	YES	NO	bb	bb	0.199
27	Total-pentadioxins	30.29	1.049e3	6.224e2	1.502	1.68	1.55	4.4	YES	NO	dd	db	0.090
28	Total-pentadioxins	30.15	1.847e3	1.302e3	1.502	1.42	1.55	8.1	YES	NO	dd	dd	0.170
29	Total-pentadioxins	29.93	6.137e3	4.352e3	1.502	1.41	1.55	24.1	YES	NO	bd	bd	0.567
30	12378-PeCDD	31.53	7.500e6	4.933e6	1.022	1.52	1.55	35906.6	YES	NO	bb	bb	987.154
31	Total-pentadioxins	30.86	8.777e3	5.596e3	1.502	1.57	1.55	39.8	YES	NO	bd	bb	0.776
32	Total-hexadioxins	36.92	3.612e4	2.906e4	1.005	1.24	1.24	377.1	YES	NO	bb	bb	5.383
33	123789-HxCDD	36.52	6.387e6	5.242e6	0.907	1.22	1.24	81996.1	YES	NO	bb	bb	1063.9...
34	123678-HxCDD	36.14	6.944e6	5.798e6	1.001	1.20	1.24	87214.8	YES	NO	db	db	1011.1...
35	123478-HxCDD	36.02	6.446e6	5.113e6	0.996	1.26	1.24	82869.7	YES	NO	bd	bd	1008.7...
36	Total-heptadioxins	40.66	1.670e2	1.486e2	1.088	1.12	1.05	0.0	NO	NO	bb	bb	0.028
37	1234678-HpCDD	40.27	5.468e6	5.342e6	1.039	1.02	1.05	19002.3	YES	NO	bb	bb	1010.6...

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	OCDD	45.01	8.523e6	9.997e6	0.920	0.85	0.89	89206.2	YES	NO	bb	bb	1981.7...

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	23.64	6.068e3					0.7	NO		bb		
2	FUNCTION1 PFK	21.78	2.376e4					1.4	NO		bb		
3	FUNCTION1 PFK	26.65	6.322e3					0.8	NO		bb		
4	FUNCTION1 PFK	26.20	6.018e3					0.7	NO		bb		
5	FUNCTION1 PFK	24.62	4.147e4					1.9	NO		bb		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	31.96	1.329e6					11.3	YES		db		0.000
2	FUNCTION2 PFK	29.68	9.729e6					13.1	YES		dd		0.000
3	FUNCTION2 PFK	29.12	3.197e6					12.0	YES		dd		0.000
4	FUNCTION2 PFK	28.11	2.639e5					6.8	YES		bd		0.000

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	35.58	5.268e3					0.6	NO		bb		0.000
2	FUNCTION3 PFK	35.20	2.459e4					1.4	NO		bb		0.000
3	FUNCTION3 PFK	34.94	1.904e4					1.3	NO		bb		0.000
4	FUNCTION3 PFK	34.64	1.893e4					1.6	NO		bb		0.000
5	FUNCTION3 PFK	34.45	3.091e4					1.7	NO		bb		0.000
6	FUNCTION3 PFK	34.20	2.876e3					0.6	NO		bb		0.000
7	FUNCTION3 PFK	34.01	8.291e4					2.8	NO		bb		0.000
8	FUNCTION3 PFK	37.45	2.878e4					1.5	NO		bb		0.000
9	FUNCTION3 PFK	37.14	1.025e4					1.2	NO		bb		0.000
10	FUNCTION3 PFK	36.92	2.201e4					1.4	NO		bb		0.000
11	FUNCTION3 PFK	36.82	6.882e3					0.7	NO		bb		0.000
12	FUNCTION3 PFK	36.27	2.697e4					1.6	NO		bb		0.000
13	FUNCTION3 PFK	35.83	1.096e4					1.2	NO		bb		0.000

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	40.36	1.487e4					2.2	NO		db		
2	FUNCTION4 PFK	40.28	5.399e4					2.8	NO		bd		
3	FUNCTION4 PFK	39.84	7.632e3					1.3	NO		bb		
4	FUNCTION4 PFK	39.63	5.817e3					1.3	NO		bb		
5	FUNCTION4 PFK	39.58	2.233e4					2.4	NO		bb		
6	FUNCTION4 PFK	39.26	1.840e3					0.6	NO		bb		
7	FUNCTION4 PFK	39.15	1.821e4					2.0	NO		bb		
8	FUNCTION4 PFK	38.75	4.539e3					0.9	NO		bb		
9	FUNCTION4 PFK	38.40	3.735e3					0.9	NO		bb		
10	FUNCTION4 PFK	42.22	2.101e4					1.9	NO		bb		
11	FUNCTION4 PFK	41.91	9.871e3					1.2	NO		bb		
12	FUNCTION4 PFK	41.56	2.609e4					2.3	NO		bb		
13	FUNCTION4 PFK	40.96	8.343e3					1.4	NO		bb		

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	45.55	1.986e4					1.8	NO		bb		
2	FUNCTION5 PFK	44.84	1.038e4					2.0	NO		bb		
3	FUNCTION5 PFK	44.32	5.641e3					1.1	NO		bb		
4	FUNCTION5 PFK	44.16	5.508e3					1.3	NO		bb		
5	FUNCTION5 PFK	43.92	3.533e3					1.2	NO		bb		
6	FUNCTION5 PFK	43.74	1.099e4					1.6	NO		bb		
7	FUNCTION5 PFK	43.65	5.197e4					3.3	YES		db		
8	FUNCTION5 PFK	43.53	1.828e4					2.1	NO		bd		
9	FUNCTION5 PFK	42.94	8.618e3					1.5	NO		bb		
10	FUNCTION5 PFK	42.73	1.271e3					0.6	NO		bb		

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ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	27.02	8.181e1					1.9	NO		bb		0.000
2	FUNCTION1 HXCD...	26.42	2.971e2					5.1	YES		bb		0.000
3	FUNCTION1 HXCD...	25.83	8.848e1					2.3	NO		db		0.000
4	FUNCTION1 HXCD...	25.77	1.170e2					2.5	NO		dd		0.000
5	FUNCTION1 HXCD...	25.59	1.285e2					2.6	NO		bd		0.000
6	FUNCTION1 HXCD...	24.84	1.183e2					1.2	NO		bb		0.000
7	FUNCTION1 HXCD...	24.11	7.501e1					1.5	NO		bb		0.000
8	FUNCTION1 HXCD...	22.26	7.865e1					3.6	YES		bb		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	31.55	8.739e2					12.4	YES		bb		0.000
2	FUNCTION2 HPCD...	31.16	9.100e3					161.2	YES		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	36.02	1.011e3					23.2	YES		dd		0.000
2	FUNCTION3 OCDPE	35.92	4.171e2					12.8	YES		bd		0.000
3	FUNCTION3 OCDPE	35.05	6.001e2					12.0	YES		db		0.000
4	FUNCTION3 OCDPE	34.90	4.386e2					11.4	YES		bd		0.000
5	FUNCTION3 OCDPE	36.94	5.713e2					12.4	YES		bb		0.000
6	FUNCTION3 OCDPE	36.52	9.647e2					21.7	YES		bb		0.000
7	FUNCTION3 OCDPE	36.14	1.116e3					24.0	YES		db		0.000

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	41.03	4.935e2					7.5	YES		bb		0.000
2	FUNCTION4 NCDPE	40.28	7.486e2					12.2	YES		bb		0.000
3	FUNCTION4 NCDPE	38.78	6.004e2					9.6	YES		bb		0.000

ID: CS5CW, Name: 23030309, Date: 03-Mar-2023, Time: 15:47:43, Conditions: AUTOSPEC01, User: pk

ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 DCDPE	45.26	1.761e3					22.2	YES		db		0.000
2	FUNCTION5 DCDPE	45.02	1.661e3					24.0	YES		bd		0.000

Method: T:\Autospec\Methods\Dioxin230303.mdb 03 Mar 2023 14:58:50
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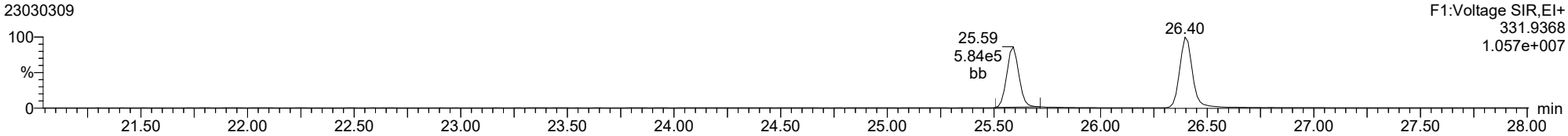
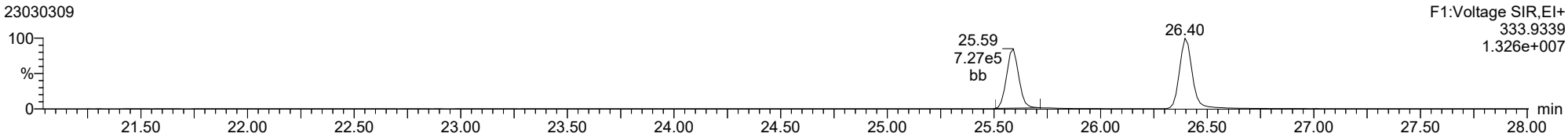
ID: CS5CW, Name: 23030309, Date: 03-Mar-2023, Time: 15:47:43, Conditions: AUTOSPEC01, User: pk

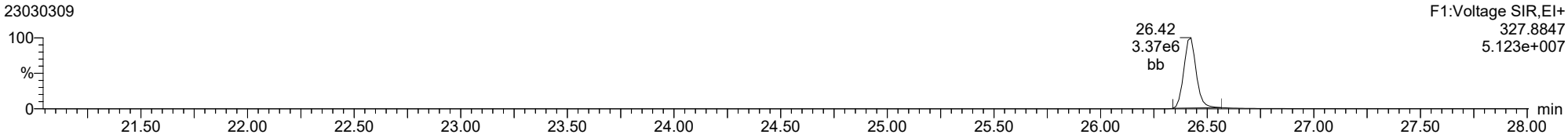
13C-1234-TCDD



13C-1234-TCDD



37CL-2378-TCDD



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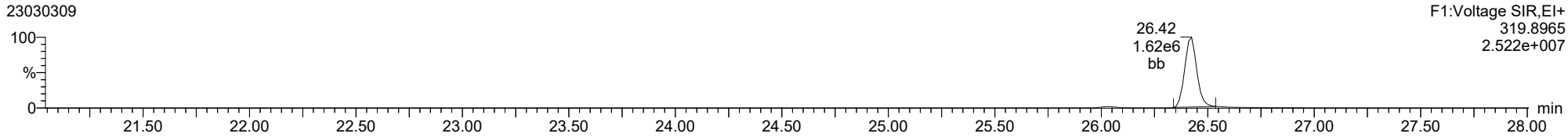
2378-TCDD



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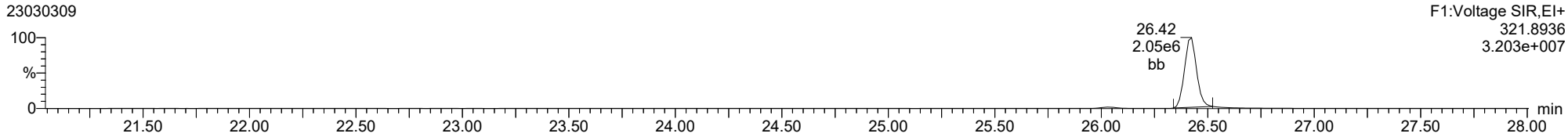

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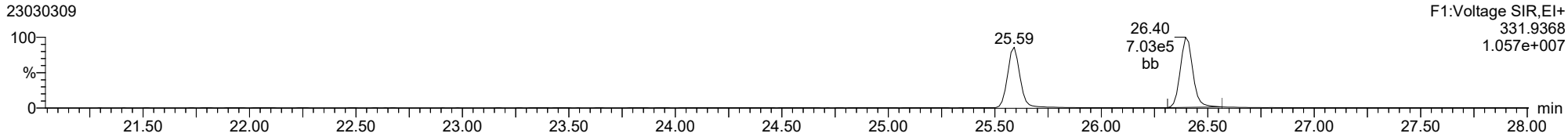

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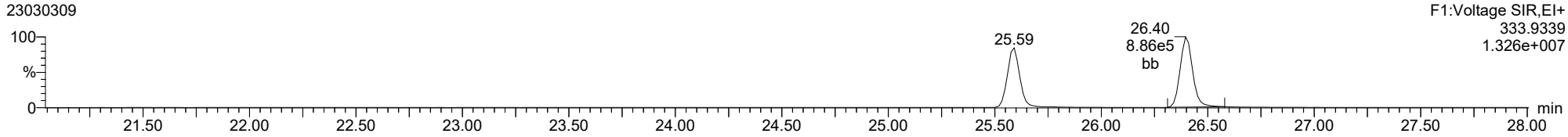

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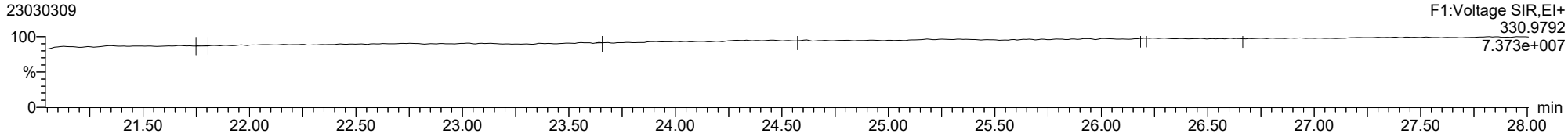

ID: CS5CW, Name: 23030309, Date: 03-Mar-2023, Time: 15:47:43, Conditions: AUTOSPEC01, User: pk

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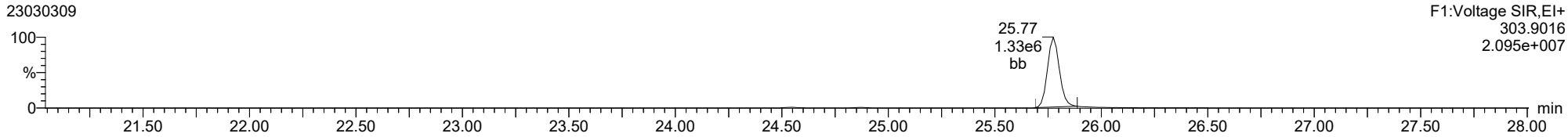

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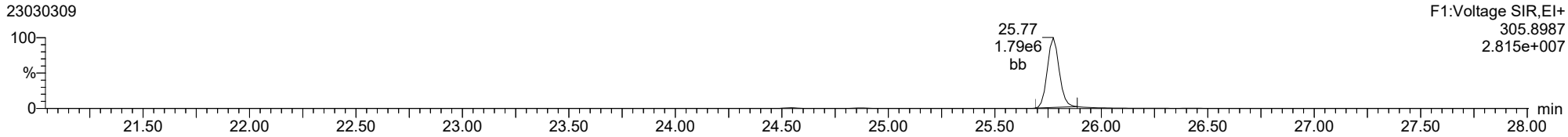

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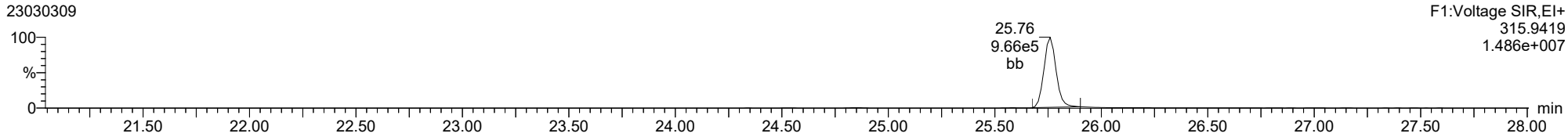

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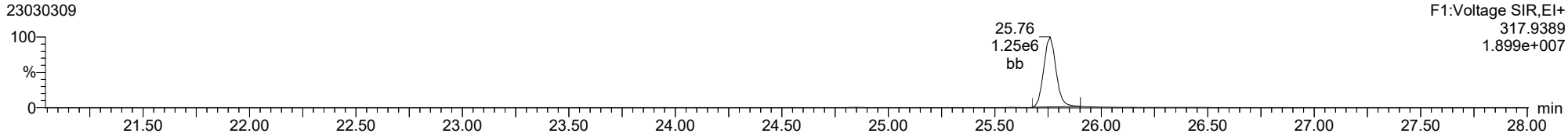
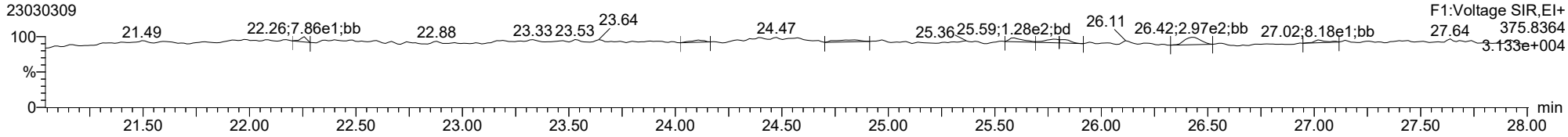


FUNCTION1 HXCDPE



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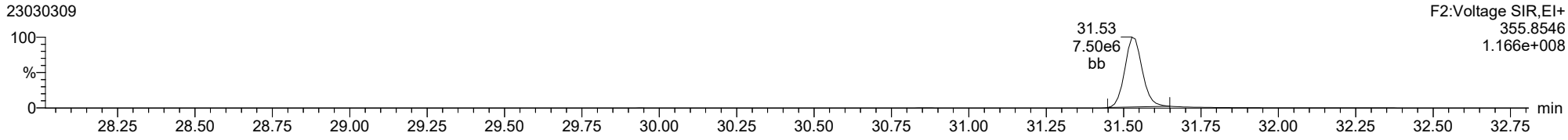
12378-PeCDD



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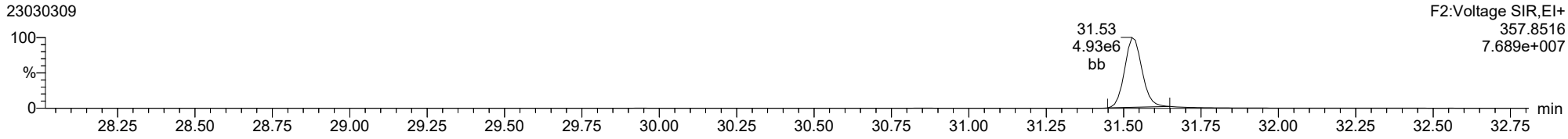

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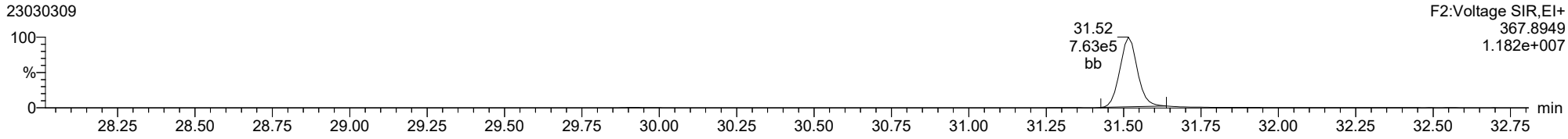

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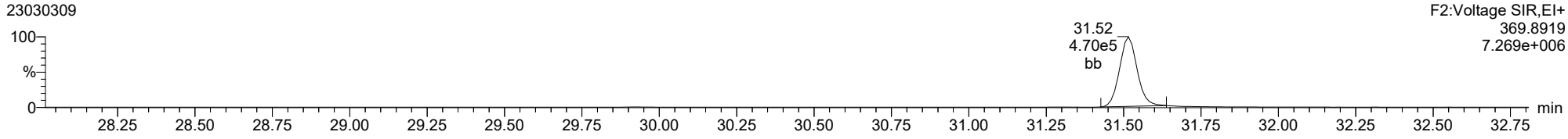
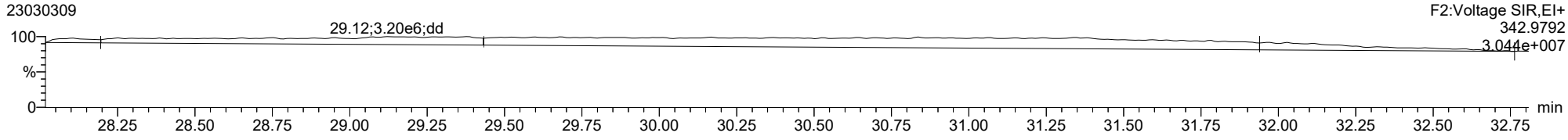


FUNCTION2 PFK



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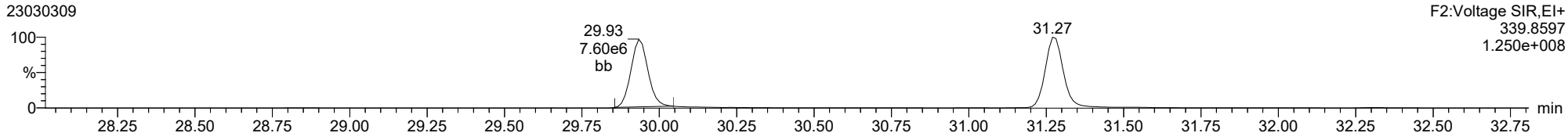

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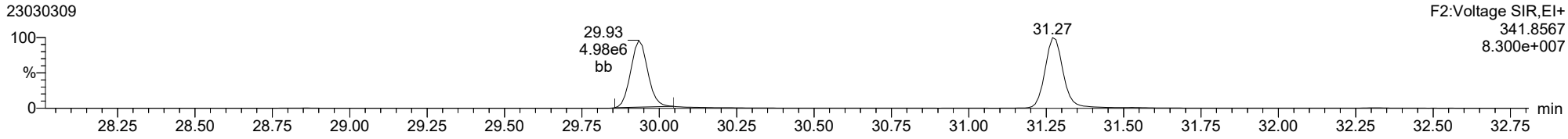

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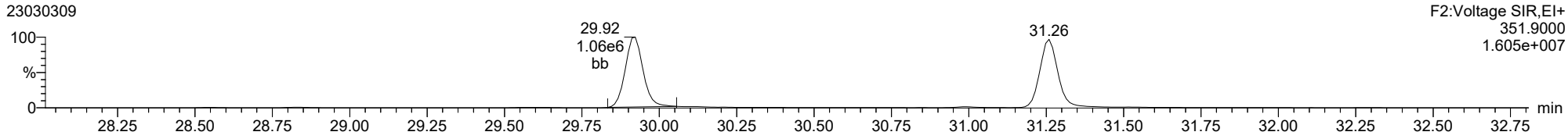

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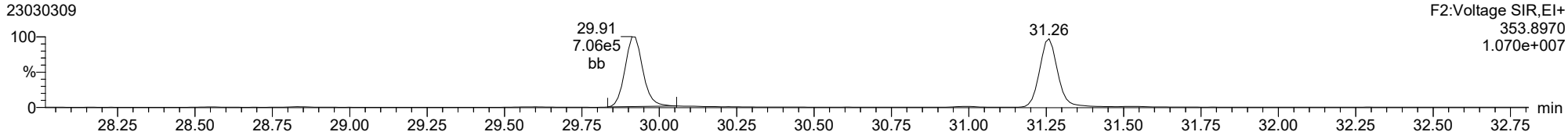
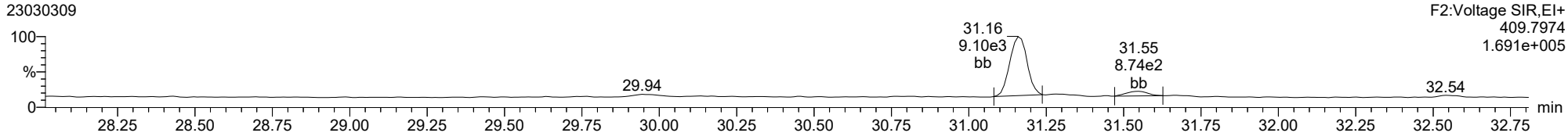


FUNCTION2 HPCDPE



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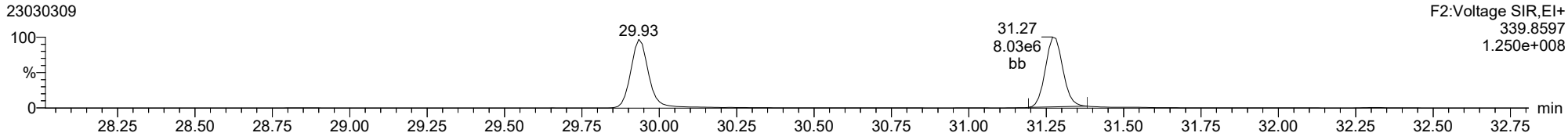

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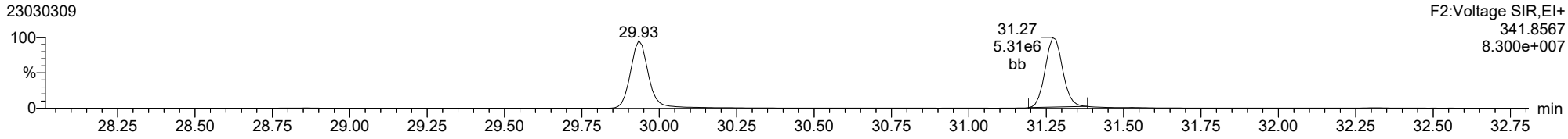

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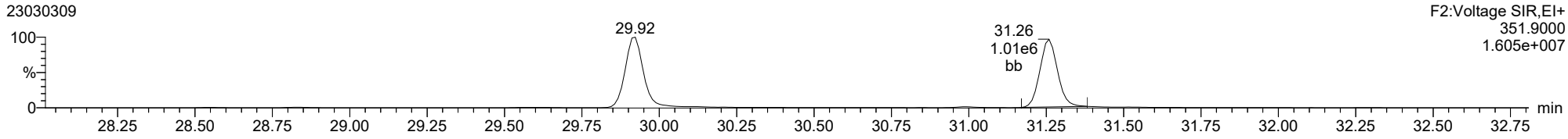

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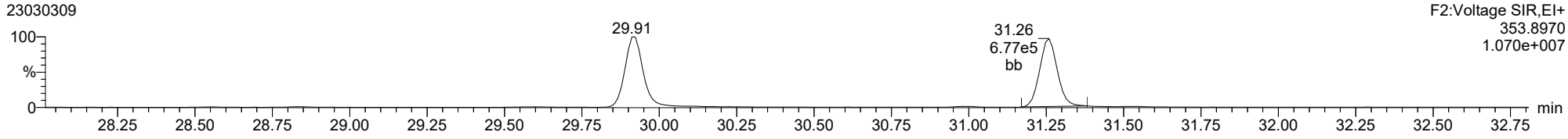

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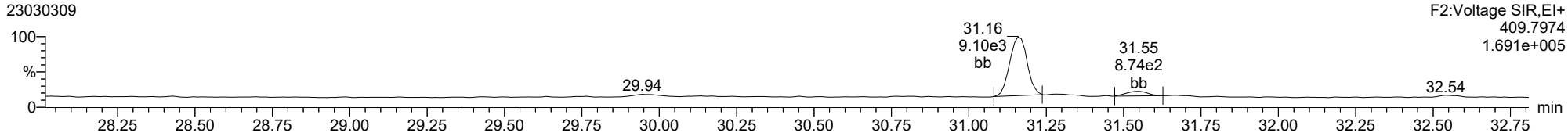

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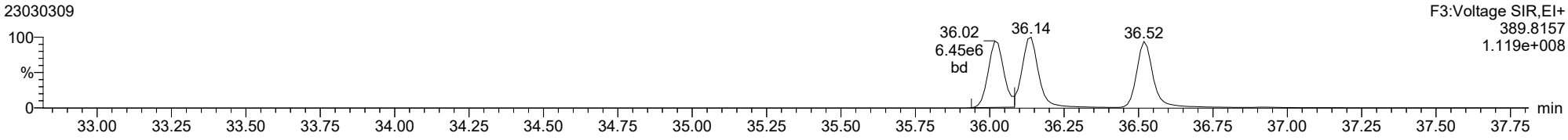

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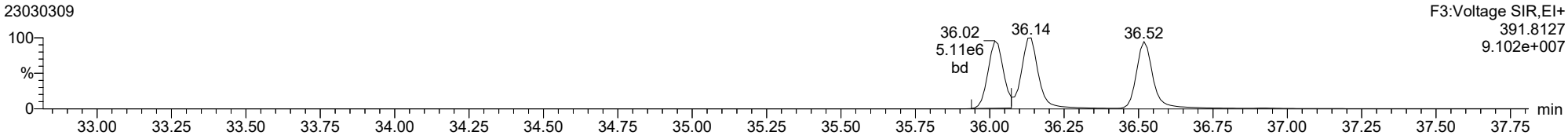

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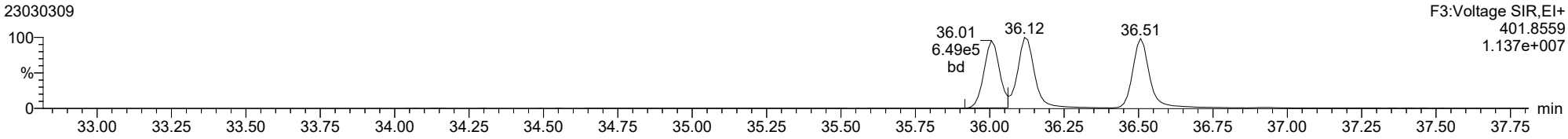

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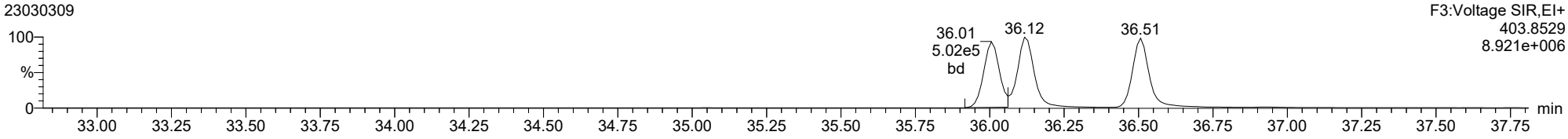

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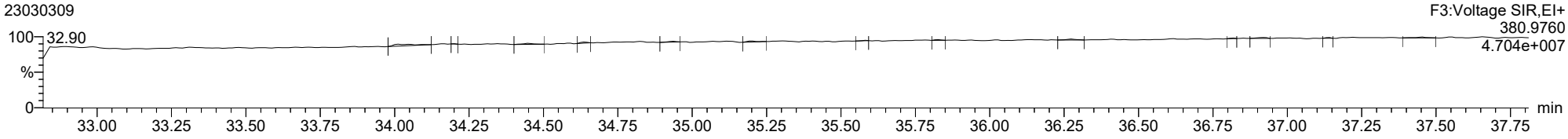

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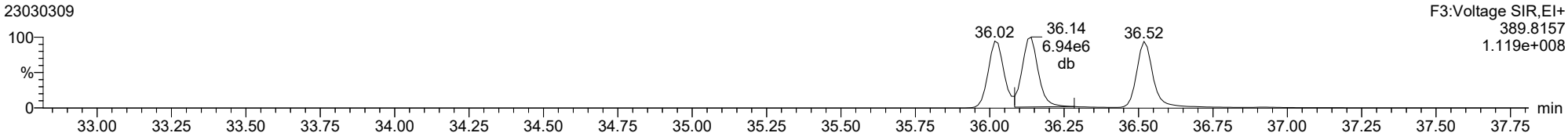

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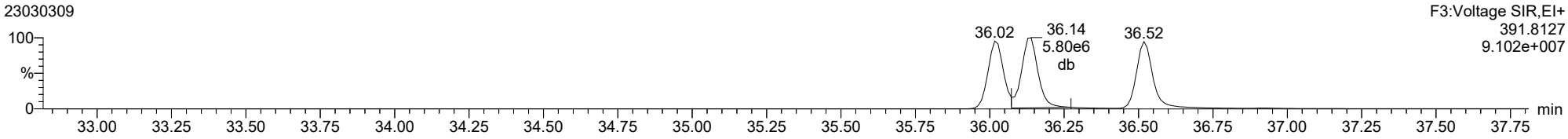

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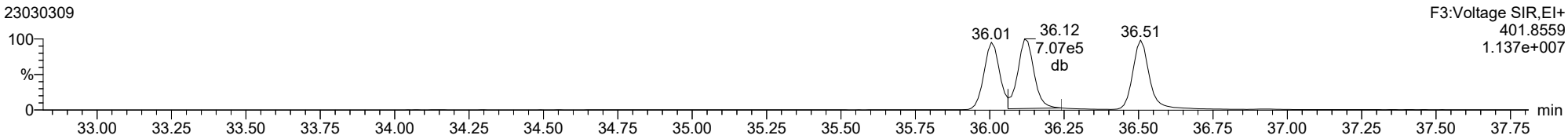

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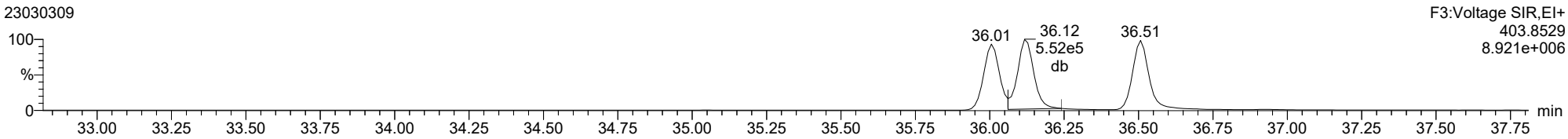

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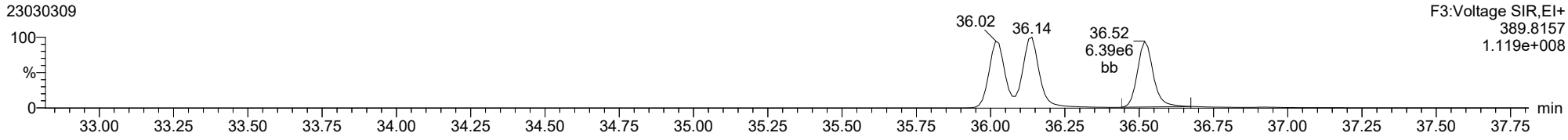

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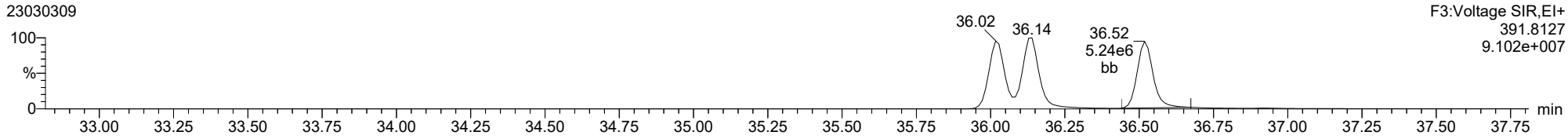

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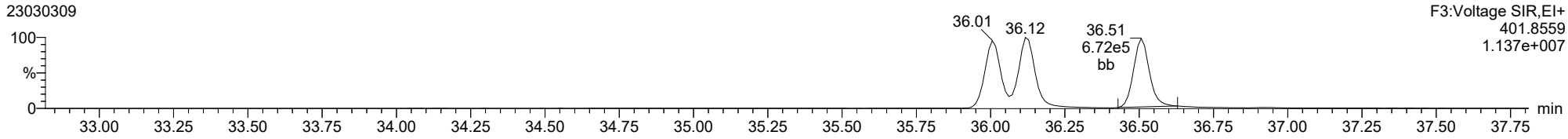

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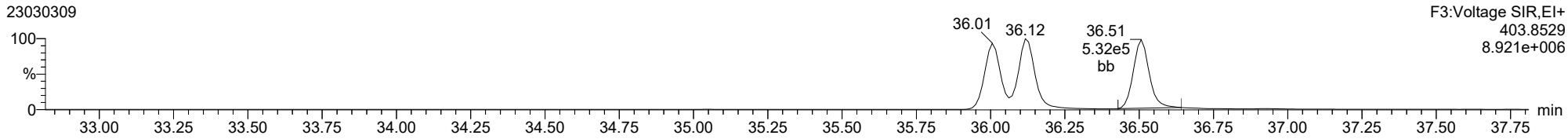

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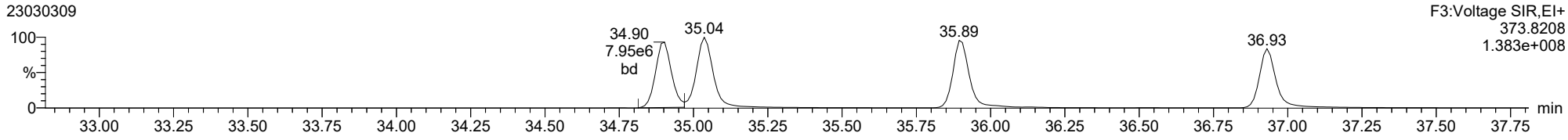

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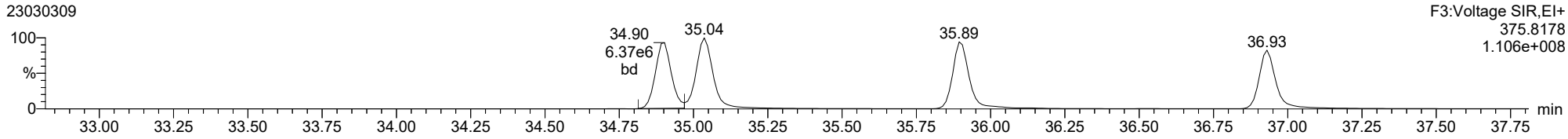

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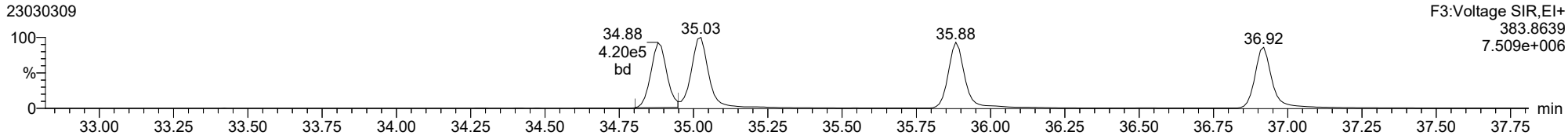

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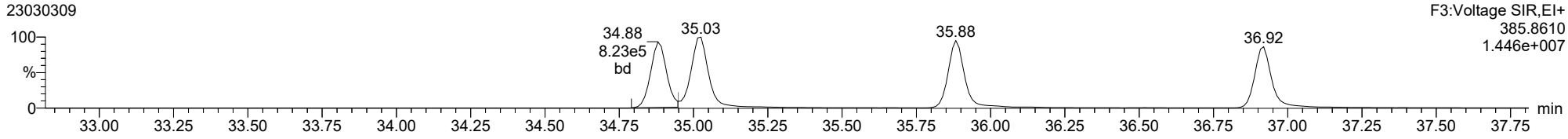
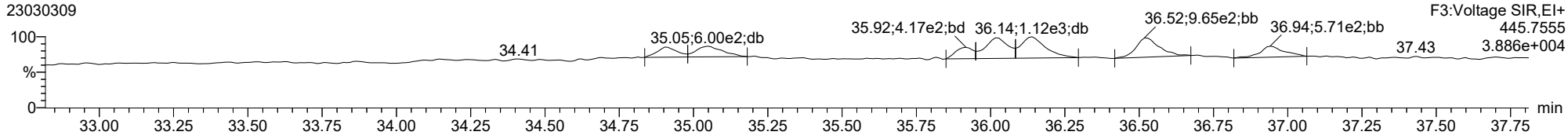


FUNCTION3 OCDPE



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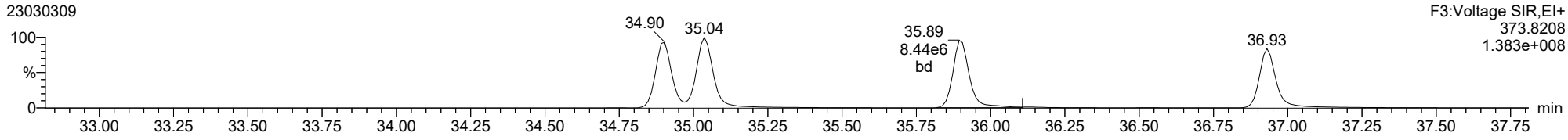
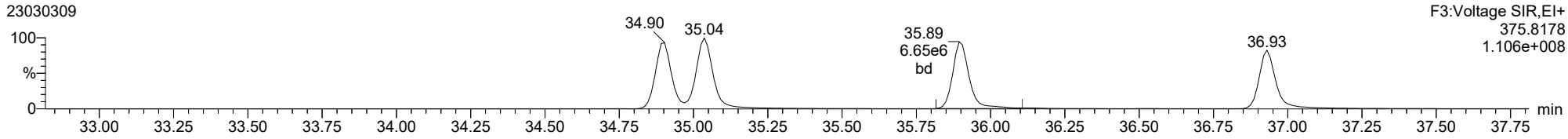


234678-HxCDF



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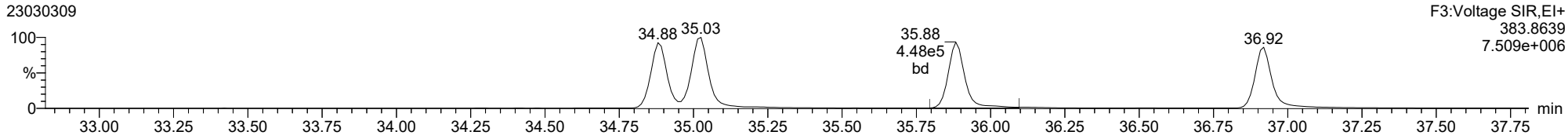

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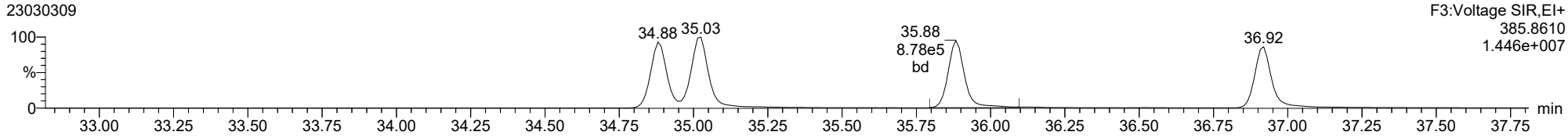
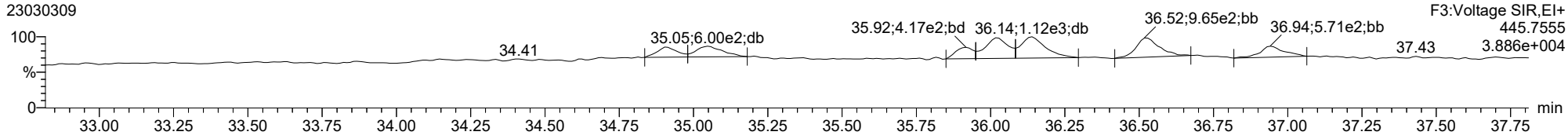


FUNCTION3 OCDPE



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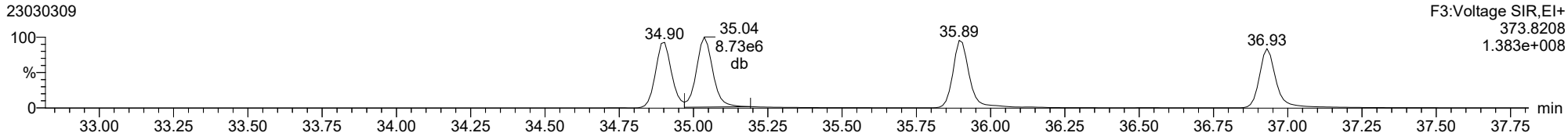
Printed: Monday, March 06, 2023 11:35:04 Pacific Standard Time

ID: CS5CW, Name: 23030309, Date: 03-Mar-2023, Time: 15:47:43, Conditions: AUTOSPEC01, User: pk

123678-HxCDF



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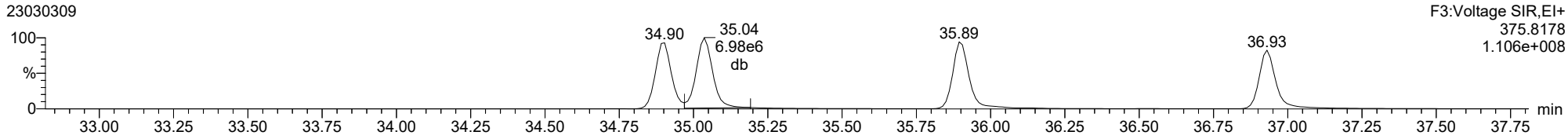

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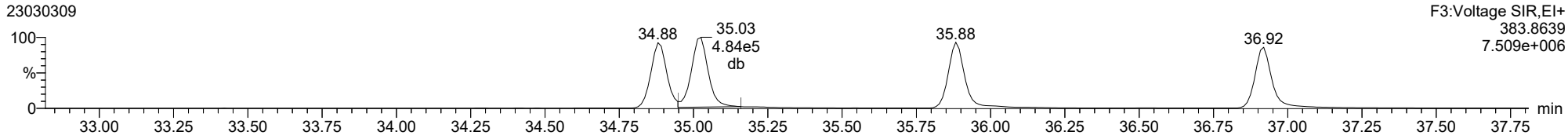

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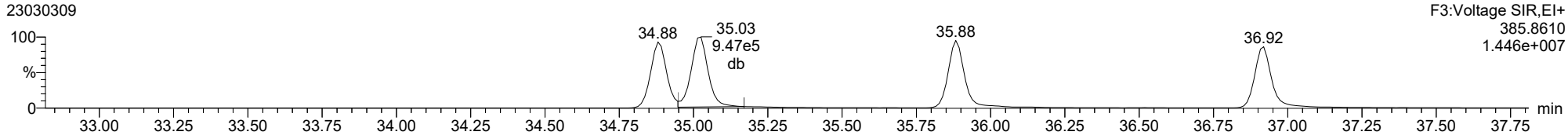

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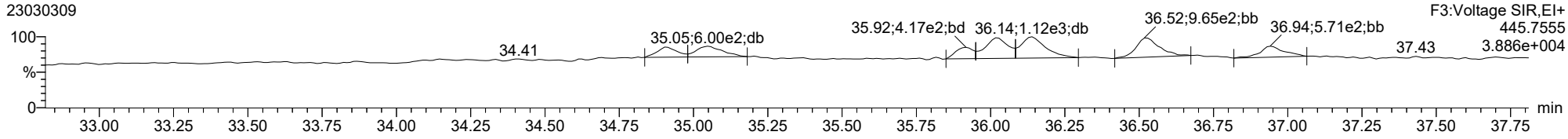

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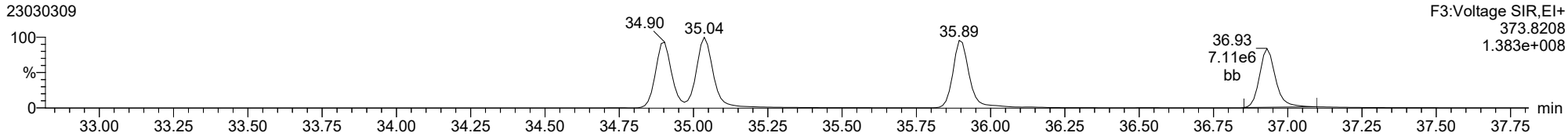

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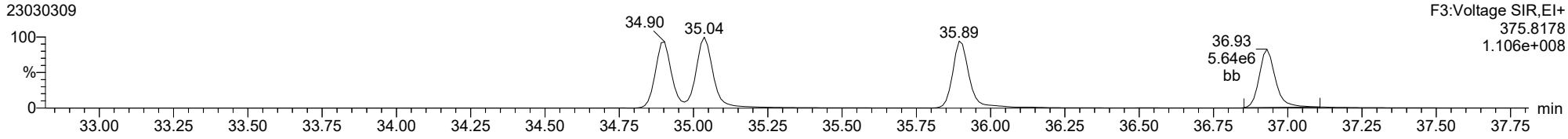

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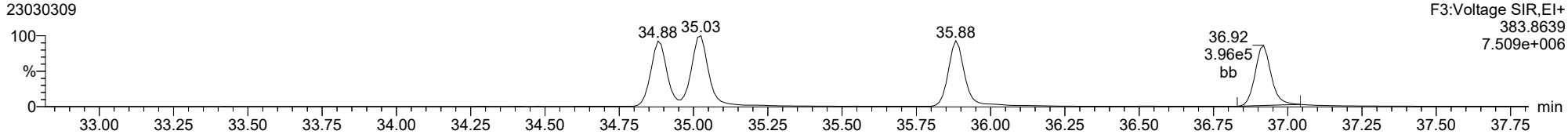

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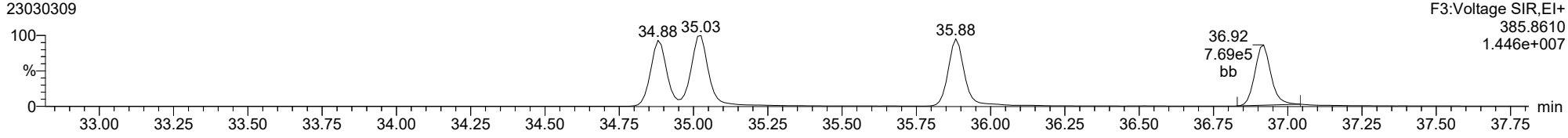
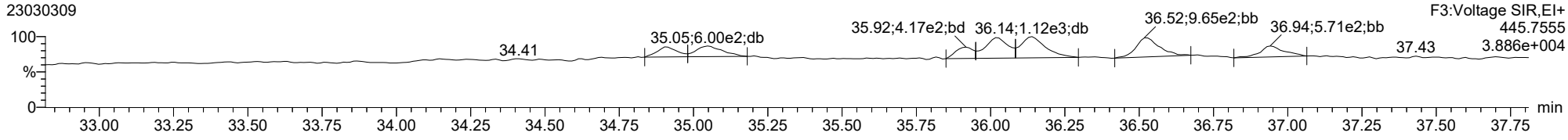


FUNCTION3 OCDPE



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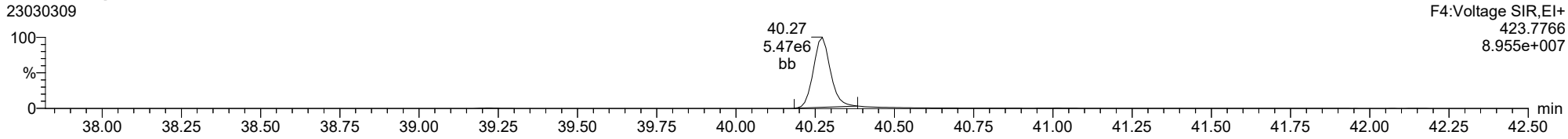

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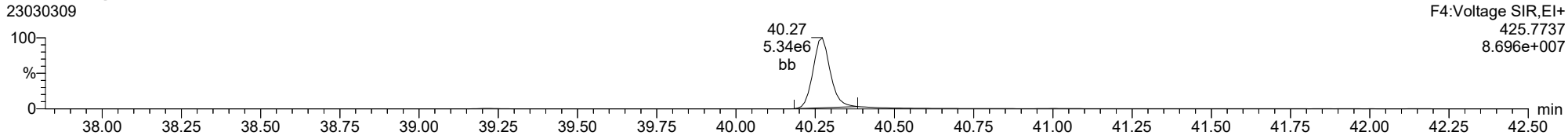

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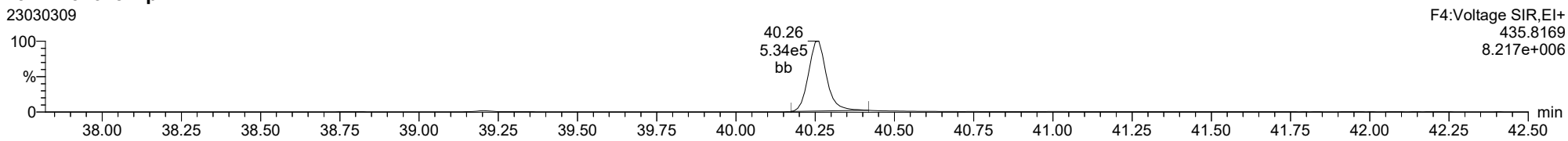

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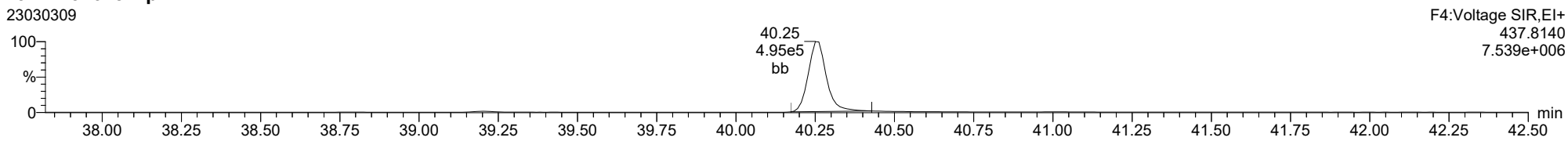
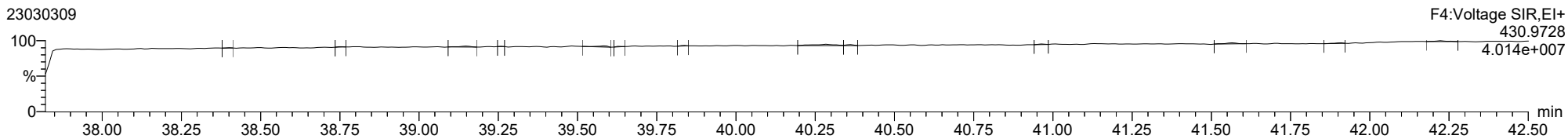


FUNCTION4 PFK



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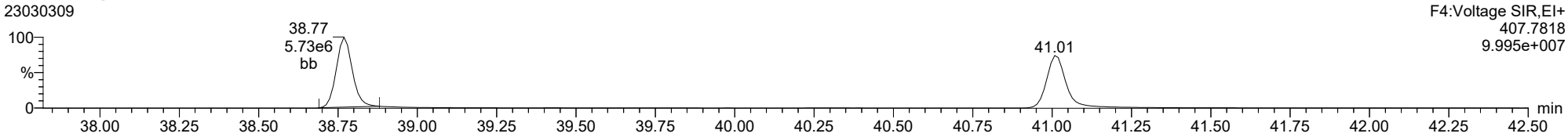

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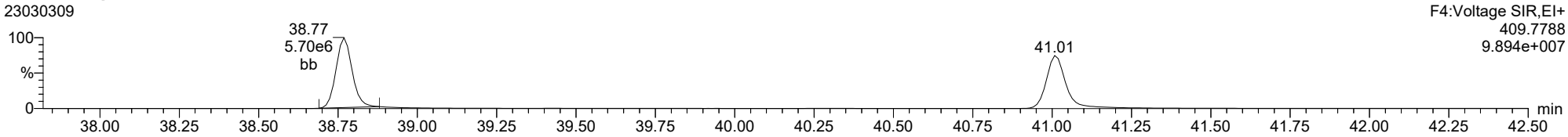

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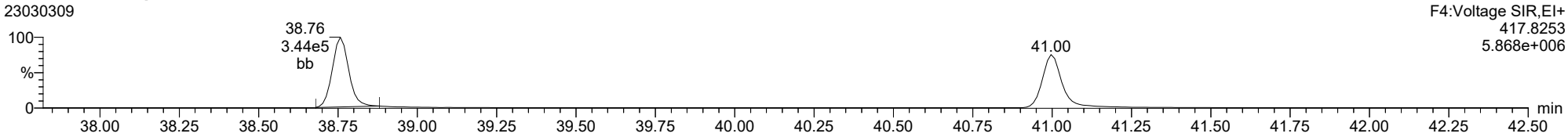

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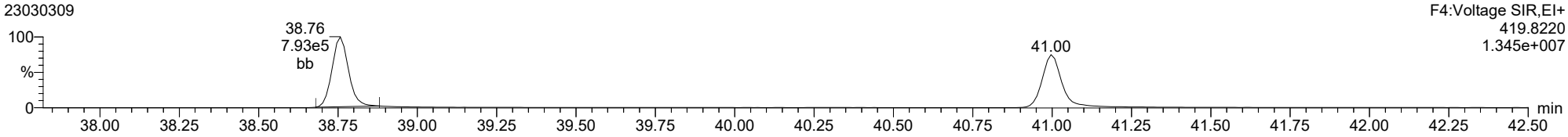
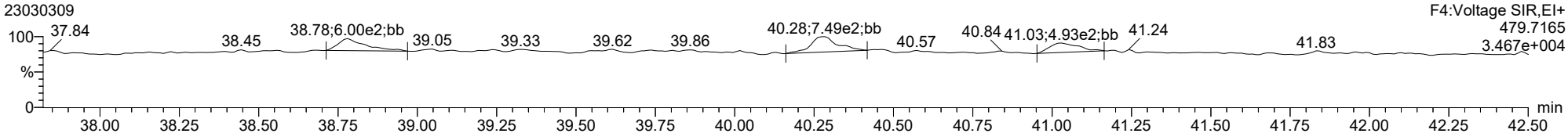


FUNCTION4 NCDPE



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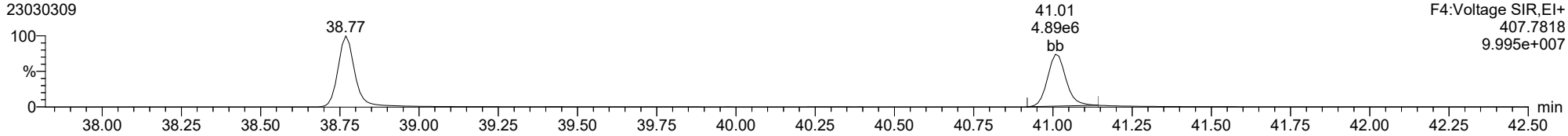

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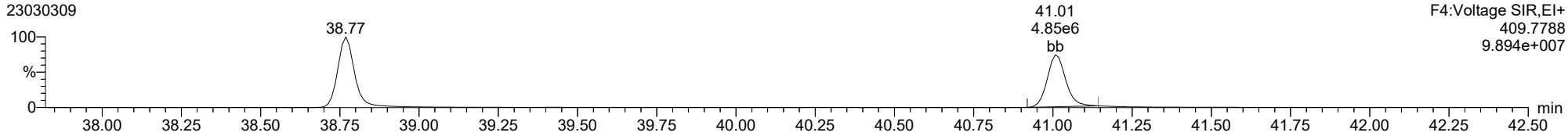

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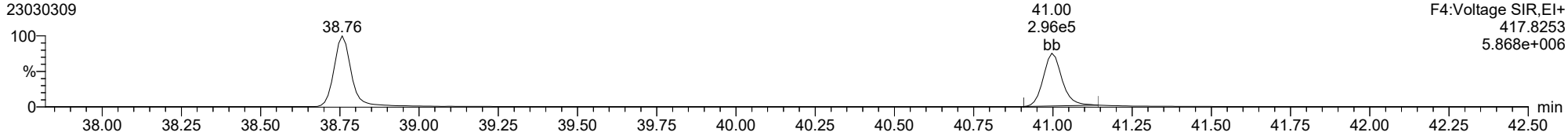

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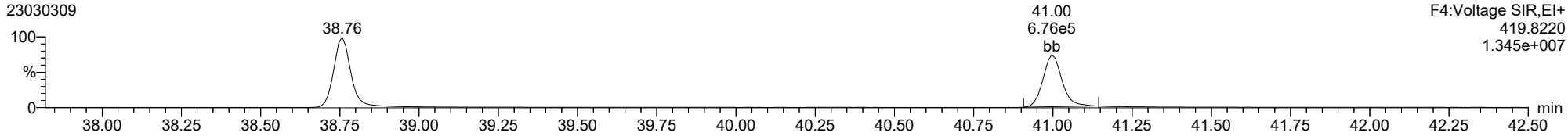
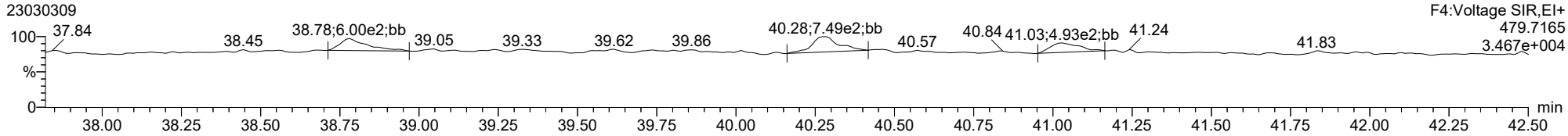


FUNCTION4 NCDPE



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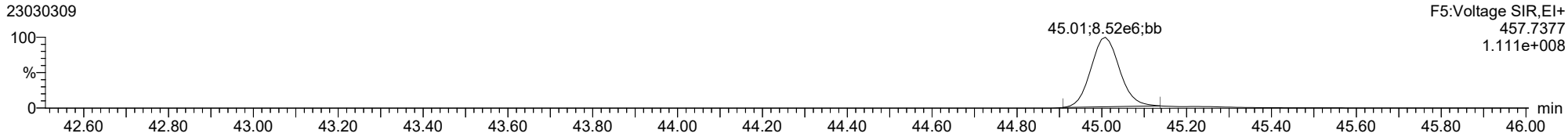

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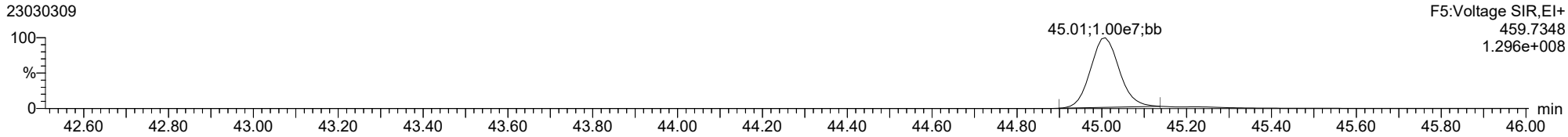

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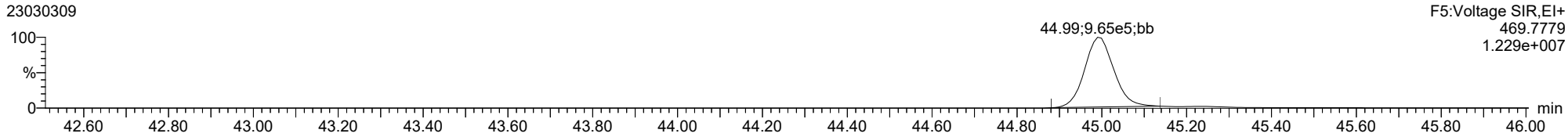
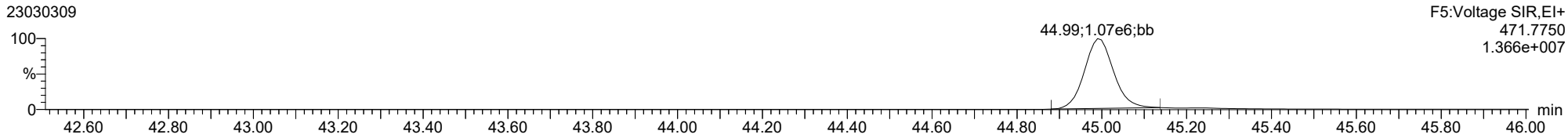
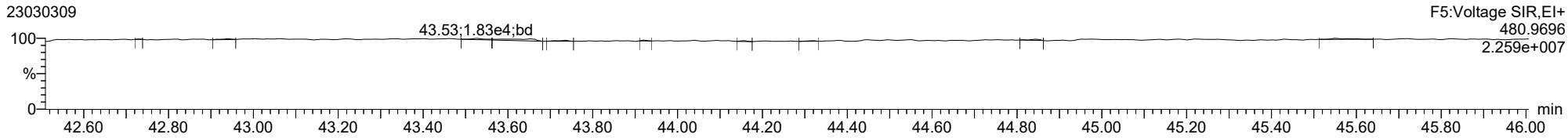


13C-OCDD



FUNCTION5 PFK



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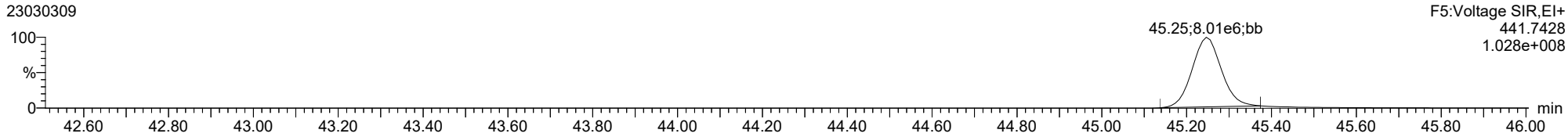
OCDF



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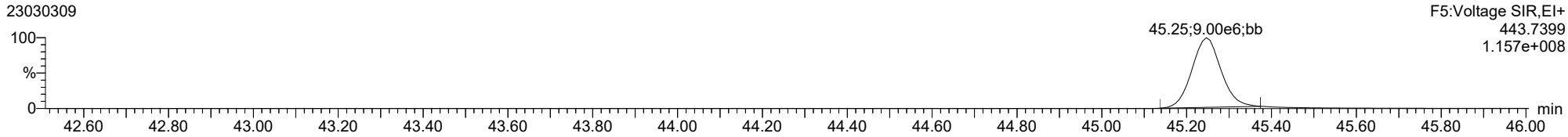
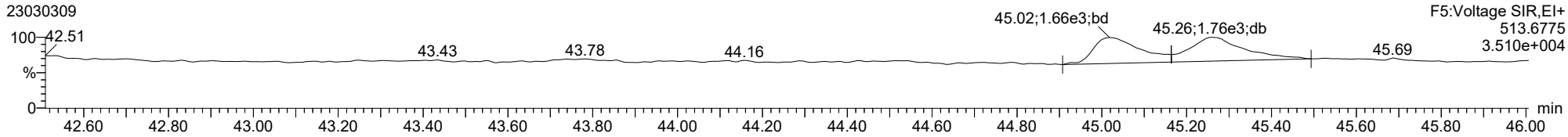


FUNCTION5 DCDPE



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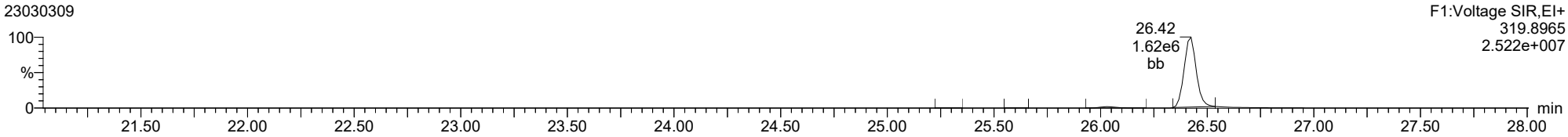
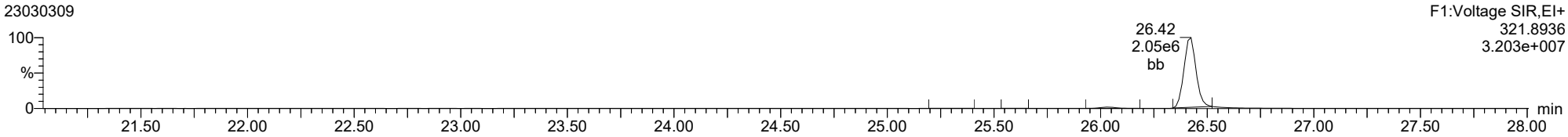
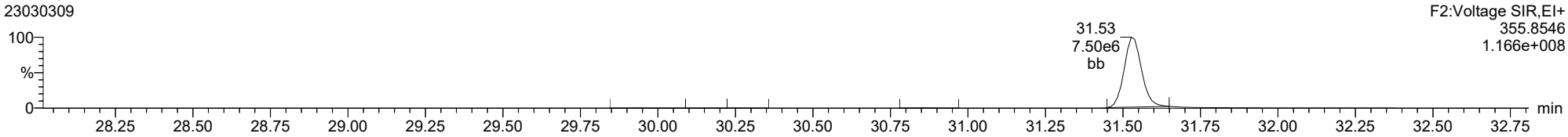
Total-tetradioxins



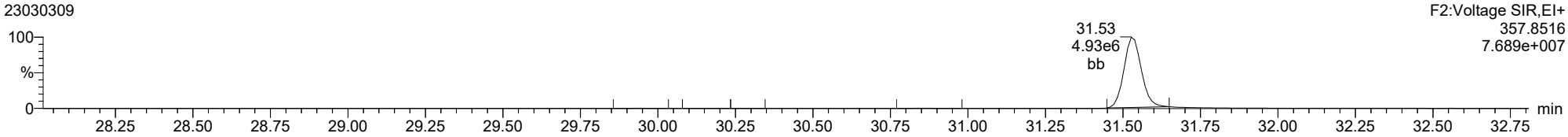
Total-tetradioxins



Total-pentadioxins



Total-pentadioxins



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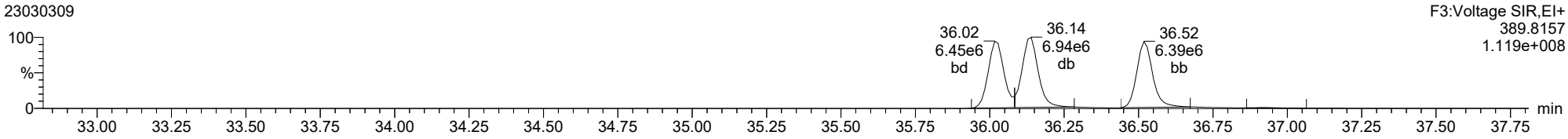

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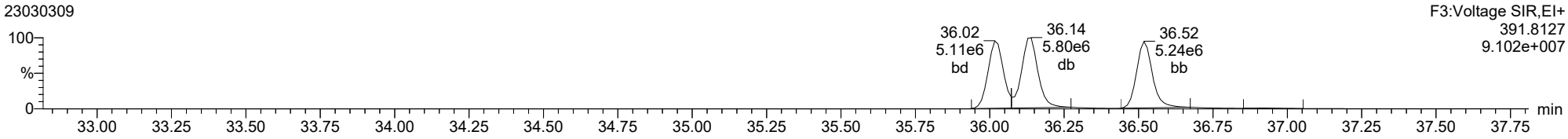

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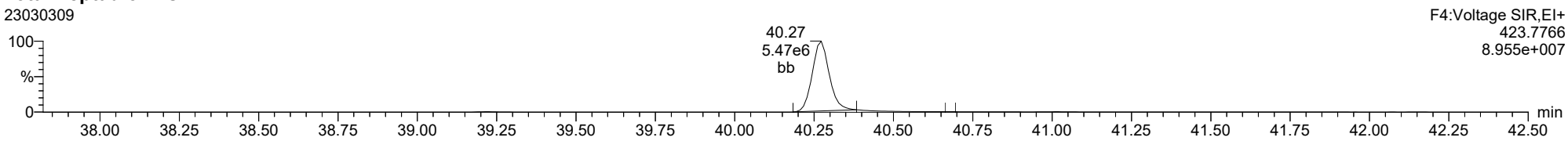

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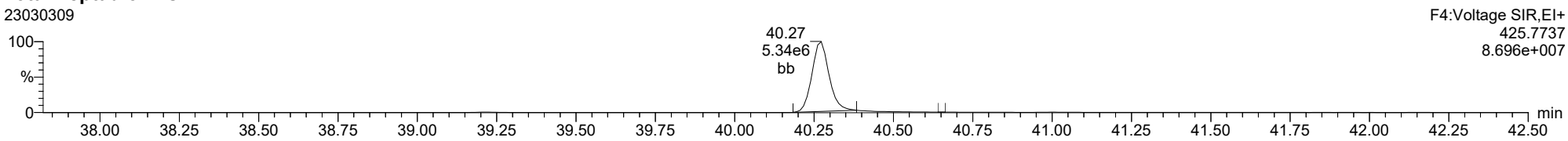

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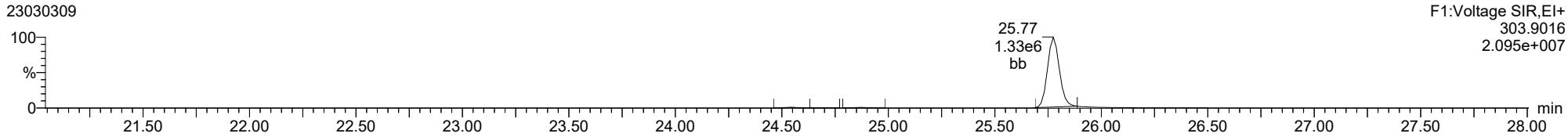
Total-tetrafurans



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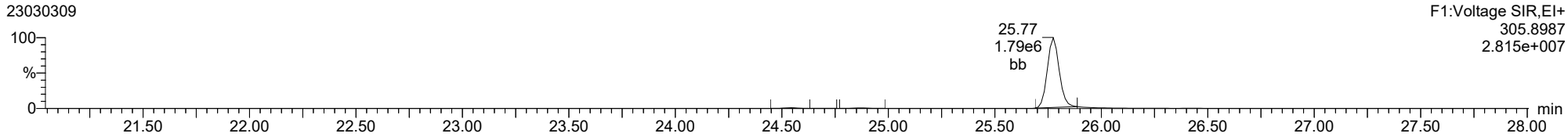

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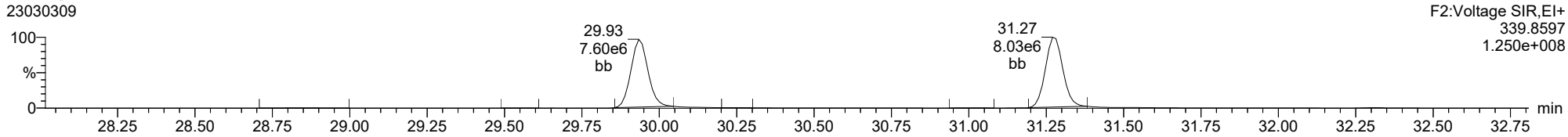

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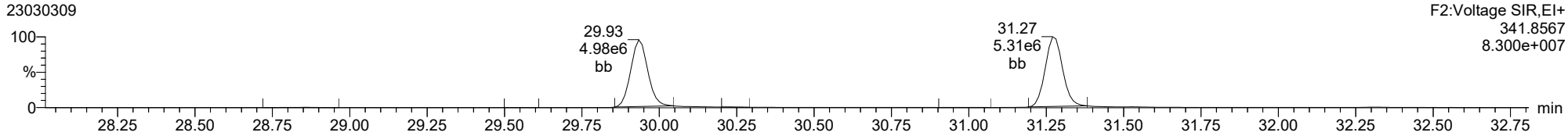

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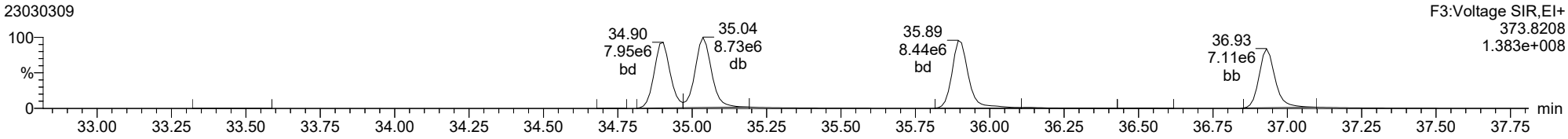
Total-hexafurans



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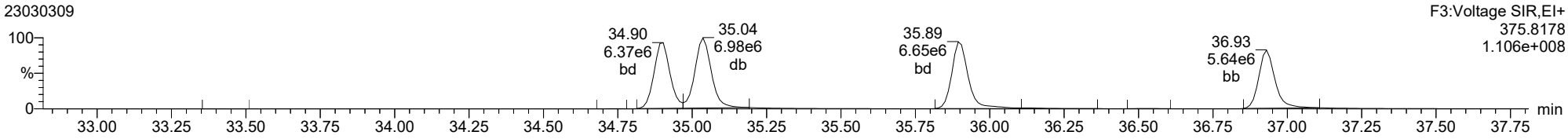

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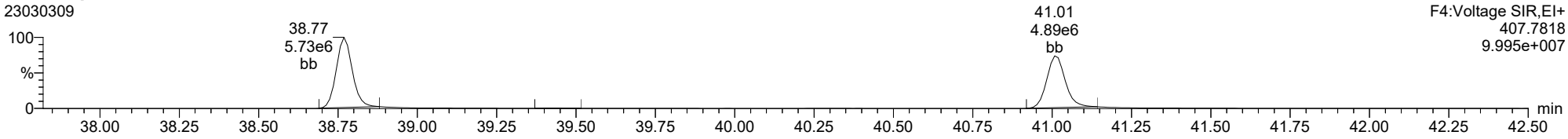

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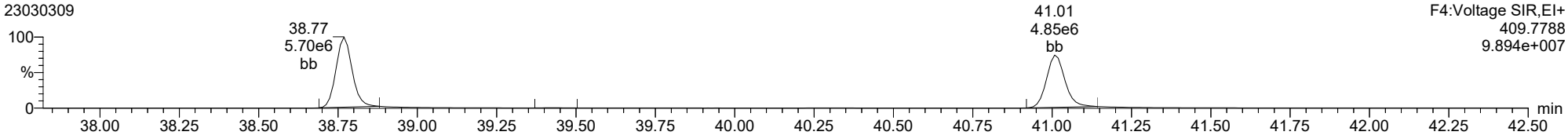

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Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.774	1.000	5.338e4	7.452e4	0.702	0.716	0.770	1163	2029	8.36e5	1.13e6	718.7	556.3	NO	bb	bb	9.838
12378-PeCDF	29.934	1.000	2.214e5	1.526e5	0.679	1.451	1.550	3022	2812	3.24e6	2.15e6	1073.8	764.7	NO	bb	bd	51.391
23478-PeCDF	31.271	1.000	2.350e5	1.508e5	0.786	1.559	1.550	3022	2812	3.42e6	2.23e6	1131.6	792.3	NO	bb	bb	48.980
123478-HxCDF	34.903	1.001	2.903e5	2.325e5	1.166	1.248	1.240	3142	2543	4.30e6	3.42e6	1370.1	1344.7	NO	bd	bd	48.245
234678-HxCDF	35.905	1.001	2.873e5	2.291e5	1.140	1.254	1.240	3142	2543	4.27e6	3.38e6	1358.7	1330.7	NO	bb	bb	50.224
123678-HxCDF	35.036	1.001	3.271e5	2.812e5	1.091	1.163	1.240	3142	2543	4.70e6	3.76e6	1497.0	1479.3	NO	db	db	47.992
123789-HxCDF	36.930	1.001	2.403e5	1.952e5	1.137	1.231	1.240	3142	2543	3.49e6	2.77e6	1110.7	1088.1	NO	bb	bb	49.077
1234678-HpCDF	38.769	1.000	2.051e5	2.017e5	1.003	1.017	1.050	2774	2508	3.29e6	3.29e6	1185.4	1309.8	NO	bb	bb	51.838
1234789-HpCDF	41.008	1.000	1.584e5	1.578e5	0.953	1.004	1.050	2774	2508	2.19e6	2.22e6	790.9	884.0	NO	bb	bb	48.461
OCDF	45.237	1.006	2.094e5	2.177e5	0.778	0.962	0.890	1876	1660	2.24e6	2.46e6	1194.3	1483.7	NO	bd	bb	103.506
2378-TCDD	26.424	1.001	6.583e4	8.225e4	1.149	0.800	0.770	1514	1206	9.92e5	1.24e6	654.9	1028.2	NO	bb	bb	9.815
12378-PeCDD	31.538	1.001	2.257e5	1.459e5	1.022	1.547	1.550	2000	2144	3.28e6	2.13e6	1638.2	994.7	NO	bb	bb	48.547
123478-HxCDD	36.016	1.000	2.316e5	1.815e5	0.996	1.276	1.240	2983	1710	3.62e6	3.01e6	1214.5	1762.3	NO	bd	bd	50.799
123678-HxCDD	36.139	1.001	2.694e5	2.159e5	1.001	1.248	1.240	2983	1710	3.76e6	3.05e6	1260.5	1785.9	NO	db	db	50.174
123789-HxCDD	36.518	1.011	2.330e5	1.844e5	0.907	1.263	1.240	2983	1710	3.29e6	2.69e6	1104.0	1571.7	NO	bd	bb	51.608
1234678-HpCDD	40.272	1.001	1.962e5	1.803e5	1.039	1.088	1.050	2922	2339	2.72e6	2.60e6	932.5	1113.0	NO	bd	bb	49.199
OCDD	44.999	1.000	2.234e5	2.618e5	0.920	0.853	0.890	1774	1393	2.65e6	3.06e6	1496.5	2199.2	NO	bb	bb	99.422
13C-2378-TCDF	25.760	1.007	7.988e5	1.054e6	1.620	0.758	0.770	2799	1492	1.21e7	1.60e7	4320.8	10737.9	NO	bb	bb	96.925
13C-12378-PeCDF	29.923	1.169	6.425e5	4.290e5	1.240	1.498	1.550	3398	4585	8.78e6	5.86e6	2583.4	1278.4	NO	bd	bd	73.193
13C-23478-PeCDF	31.259	1.222	6.035e5	3.982e5	1.118	1.515	1.550	3398	4585	8.73e6	5.79e6	2568.3	1261.6	NO	bb	bb	75.943
13C-123478-HxCDF	34.880	0.955	3.186e5	6.107e5	1.168	0.522	0.510	2913	2215	4.74e6	9.25e6	1627.4	4175.4	NO	bd	bd	92.972
13C-123678-HxCDF	35.014	0.959	3.885e5	7.735e5	1.386	0.502	0.510	2913	2215	5.29e6	1.03e7	1816.0	4636.7	NO	dd	db	97.958
13C-234678-HxCDF	35.883	0.983	3.009e5	6.013e5	1.129	0.500	0.510	2913	2215	4.56e6	8.94e6	1567.0	4037.6	NO	bb	bb	93.371
13C-123789-HxCDF	36.908	1.011	2.634e5	5.171e5	0.932	0.509	0.510	2913	2215	3.83e6	7.41e6	1313.2	3346.2	NO	bb	bb	97.906
13C-1234678-HpCDF	38.757	1.062	2.395e5	5.428e5	0.895	0.441	0.440	2666	4327	3.79e6	8.70e6	1422.6	2009.5	NO	bb	bb	102.148
13C-1234789-HpCDF	40.997	1.123	1.971e5	4.875e5	0.770	0.404	0.440	2666	4327	2.64e6	6.15e6	990.0	1422.1	NO	bb	bb	103.953
13C-1234-TCDD	25.591	0.000	5.239e5	6.562e5	1.000	0.798	0.770	2541	1448	8.13e6	1.01e7	3200.8	6994.1	NO	bb	bb	100.000
13C-2378-TCDD	26.396	1.031	5.859e5	7.277e5	1.152	0.805	0.770	2541	1448	8.48e6	1.06e7	3338.5	7327.1	NO	bb	bb	96.583
13C-12378-PeCDD	31.515	1.232	4.640e5	2.850e5	0.829	1.628	1.550	1690	813	6.82e6	4.16e6	4037.7	5122.1	NO	bb	bb	76.570
13C-123478-HxCDD	36.005	0.986	4.566e5	3.601e5	0.995	1.268	1.240	2230	1571	7.33e6	5.72e6	3288.3	3642.7	NO	bd	bd	95.938
13C-123678-HxCDD	36.117	0.989	5.277e5	4.388e5	1.157	1.203	1.240	2230	1571	7.53e6	5.98e6	3378.3	3806.0	NO	db	db	97.660
13C-1234678-HpCDD	40.250	1.102	3.788e5	3.578e5	0.840	1.059	1.050	1327	2781	5.06e6	4.73e6	3813.0	1700.4	NO	bd	bb	102.476
13C-OCDD	44.981	1.232	5.015e5	5.594e5	0.767	0.896	0.890	2228	1562	5.65e6	6.37e6	2536.4	4080.5	NO	bb	bb	161.563
13C-123789-HxCDD	36.507	0.000	4.814e5	3.742e5	1.000	1.287	1.240	2230	1571	7.02e6	5.48e6	3149.1	3490.5	NO	bb	bb	100.000
37CL-2378-TCDD	26.424	1.033	1.324e5		1.288			2249		1.92e6		853.0			bb		8.714

Dataset: T:\Autospec\Processed Data Batch\230303IHICV.qld
Last Altered: Monday, March 06, 2023 11:49:27 Pacific Standard Time
Printed: Monday, March 06, 2023 14:47:19 Pacific Standard Time

ID: ICVCW, Name: 23030310, Date: 03-Mar-2023, Time: 16:36:24, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF	22.271	0.865	6.666e4	8.755e4	0.802	0.761	0.770	1163	2029	1.09e6	1.45e6	933.7	713.4	NO	bb	bb	10.382
1289-TCDF	27.272	1.059	5.306e4	7.400e4	0.678	0.717	0.770	1163	2029	8.00e5	1.11e6	688.3	549.0	NO	bb	db	10.112
13468-PECDF	27.130	0.907	5.428e5	3.536e5	1.246	1.535	1.550	921	1306	8.56e6	5.56e6	9287.8	4254.6	NO	bb	bb	67.124
12389-PECDF	32.307	1.080	2.363e5	1.551e5	0.496	1.524	1.550	3022	2812	3.29e6	2.19e6	1088.1	777.6	NO	bb	bb	73.589
123468-HXCDF	33.231	0.953	3.102e5	2.472e5	1.169	1.255	1.240	3142	2543	4.60e6	3.67e6	1465.3	1443.2	NO	bb	bb	51.304
1368-TCDD	23.557	0.892	6.641e4	8.365e4	1.015	0.794	0.770	1514	1206	1.07e6	1.32e6	704.3	1092.4	NO	bb	bb	11.251
1289-TCDD	27.017	1.023	6.055e4	8.062e4	0.909	0.751	0.770	1514	1206	8.59e5	1.12e6	567.6	932.6	NO	bd	bd	11.826
12479-PECDD	28.819	0.914	4.776e5	3.067e5	2.301	1.557	1.550	2000	2144	4.46e6	2.89e6	2227.8	1348.6	NO	bb	bb	45.504
12389-PECDD	31.928	1.013	2.675e5	1.746e5	1.184	1.532	1.550	2000	2144	3.96e6	2.51e6	1980.6	1171.6	NO	bb	bb	49.870
124679-HXCDD	34.011	0.945	2.545e5	2.054e5	1.115	1.239	1.240	2983	1710	3.72e6	3.05e6	1245.7	1780.9	NO	bb	bb	50.484
1234679-HPCDD	39.225	0.975	2.082e5	2.022e5	1.137	1.029	1.050	2922	2339	3.21e6	3.09e6	1099.8	1322.5	NO	bb	bb	49.010
Total-tetrafurans			1.731e5		0.727			1163		2.72e6							30.332
Total-penta1			5.428e5					921		8.56e6							67.124
Total-pentafurans			7.375e5		0.654			3022		1.06e7							184.995
Total-hexafurans			1.455e6		1.141			3142		2.14e7							246.841
Total-heptafurans			3.635e5		0.978			2774		5.48e6							100.299
Total-Furans			3.482e6		0.922			1163		5.10e7							733.097
Total-tetradioxins			3.292e5		1.024			1514		4.53e6							56.345
Total-pentadioxins			9.708e5		1.502			2000		1.17e7							143.922
Total-hexadioxins			9.885e5		1.005			2983		1.44e7							203.065
Total-heptadioxins			4.044e5		1.088			2922		5.94e6							98.208
Total-Dioxins			2.916e6		1.130			1514		3.92e7							600.962
Total-TEQ			6.398e6					1514		9.02e7							1334.059
FUNCTION1 PFK			0.000e0					539943		0.00e0							
FUNCTION2 PFK			2.253e6					228820		1.84e6							0.000
FUNCTION3 PFK			3.977e4					386595		8.75e5							0.000
FUNCTION4 PFK			7.296e4					280107		2.70e6							
FUNCTION5 PFK			1.323e3					209307		1.46e5							
FUNCTION1 HXCD...			6.633e2					708		9.34e3							0.000
FUNCTION1 HPCD...																	
FUNCTION2 HPCD...			5.152e2					1165		9.44e3							0.000
FUNCTION3 OCDPE			5.246e2					459		6.83e3							0.000
FUNCTION4 NCDPE			4.889e2					641		6.04e3							0.000
FUNCTION5 DCDPE			0.000e0					644		0.00e0							

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Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 10:57:27

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TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.27	5.306e4	7.400e4	0.678	0.72	0.77	688.3	YES	NO	bb	db	10.112
2	2378-TCDF	25.77	5.338e4	7.452e4	0.702	0.72	0.77	718.7	YES	NO	bb	bb	9.838
3	1368-TCDF	22.27	6.666e4	8.755e4	0.802	0.76	0.77	933.7	YES	NO	bb	bb	10.382

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	27.13	5.428e5	3.536e5	1.246	1.54	1.55	9287.8	YES	NO	bb	bb	67.124

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDF	32.31	2.363e5	1.551e5	0.496	1.52	1.55	1088.1	YES	NO	bb	bb	73.589
2	23478-PeCDF	31.27	2.350e5	1.508e5	0.786	1.56	1.55	1131.6	YES	NO	bb	bb	48.980
3	12378-PeCDF	29.93	2.214e5	1.526e5	0.679	1.45	1.55	1073.8	YES	NO	bb	bd	51.391
4	Total-pentafurans	28.79	4.479e4	3.002e4	0.654	1.49	1.55	225.2	YES	NO	bb	bb	11.035

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123478-HxCDF	34.90	2.903e5	2.325e5	1.166	1.25	1.24	1370.1	YES	NO	bd	bd	48.245
2	123468-HXCDF	33.23	3.102e5	2.472e5	1.169	1.26	1.24	1465.3	YES	NO	bb	bb	51.304
3	123789-HxCDF	36.93	2.403e5	1.952e5	1.137	1.23	1.24	1110.7	YES	NO	bb	bb	49.077
4	234678-HxCDF	35.91	2.873e5	2.291e5	1.140	1.25	1.24	1358.7	YES	NO	bb	bb	50.224
5	123678-HxCDF	35.04	3.271e5	2.812e5	1.091	1.16	1.24	1497.0	YES	NO	db	db	47.992

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDF	38.77	2.051e5	2.017e5	1.003	1.02	1.05	1185.4	YES	NO	bb	bb	51.838
2	1234789-HpCDF	41.01	1.584e5	1.578e5	0.953	1.00	1.05	790.9	YES	NO	bb	bb	48.461

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Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.27	5.306e4	7.400e4	0.678	0.72	0.77	688.3	YES	NO	bb	db	10.112
2	2378-TCDF	25.77	5.338e4	7.452e4	0.702	0.72	0.77	718.7	YES	NO	bb	bb	9.838
3	1368-TCDF	22.27	6.666e4	8.755e4	0.802	0.76	0.77	933.7	YES	NO	bb	bb	10.382
4	12389-PECDF	32.31	2.363e5	1.551e5	0.496	1.52	1.55	1088.1	YES	NO	bb	bb	73.589
5	23478-PeCDF	31.27	2.350e5	1.508e5	0.786	1.56	1.55	1131.6	YES	NO	bb	bb	48.980
6	12378-PeCDF	29.93	2.214e5	1.526e5	0.679	1.45	1.55	1073.8	YES	NO	bb	bd	51.391
7	Total-pentafurans	28.79	4.479e4	3.002e4	0.654	1.49	1.55	225.2	YES	NO	bb	bb	11.035
8	123478-HxCDF	34.90	2.903e5	2.325e5	1.166	1.25	1.24	1370.1	YES	NO	bd	bd	48.245
9	123468-HXCDF	33.23	3.102e5	2.472e5	1.169	1.26	1.24	1465.3	YES	NO	bb	bb	51.304
10	123789-HxCDF	36.93	2.403e5	1.952e5	1.137	1.23	1.24	1110.7	YES	NO	bb	bb	49.077
11	234678-HxCDF	35.91	2.873e5	2.291e5	1.140	1.25	1.24	1358.7	YES	NO	bb	bb	50.224
12	123678-HxCDF	35.04	3.271e5	2.812e5	1.091	1.16	1.24	1497.0	YES	NO	db	db	47.992
13	1234678-HpCDF	38.77	2.051e5	2.017e5	1.003	1.02	1.05	1185.4	YES	NO	bb	bb	51.838
14	1234789-HpCDF	41.01	1.584e5	1.578e5	0.953	1.00	1.05	790.9	YES	NO	bb	bb	48.461
15	OCDF	45.24	2.094e5	2.177e5	0.778	0.96	0.89	1194.3	YES	NO	bd	bb	103.506
16	13468-PECDF	27.13	5.428e5	3.536e5	1.246	1.54	1.55	9287.8	YES	NO	bb	bb	67.124

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	25.60	3.327e4	3.983e4	1.024	0.84	0.77	333.8	YES	NO	bd	bb	5.433
2	Total-tetradioxins	25.04	8.004e2	1.202e3	1.024	0.67	0.77	7.4	YES	NO	bb	db	0.149
3	Total-tetradioxins	24.74	2.704e3	4.097e3	1.024	0.66	0.77	17.7	YES	NO	bb	bd	0.506
4	1368-TCDD	23.56	6.641e4	8.365e4	1.015	0.79	0.77	704.3	YES	NO	bb	bb	11.251
5	1289-TCDD	27.02	6.055e4	8.062e4	0.909	0.75	0.77	567.6	YES	NO	bd	bd	11.826
6	Total-tetradioxins	26.76	1.054e2	1.391e2	1.024	0.76	0.77	2.1	NO	NO	bb	bb	0.018
7	2378-TCDD	26.42	6.583e4	8.225e4	1.149	0.80	0.77	654.9	YES	NO	bb	bb	9.815
8	Total-tetradioxins	26.10	9.949e4	1.339e5	1.024	0.74	0.77	703.4	YES	NO	bb	bb	17.347

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDD	31.93	2.675e5	1.746e5	1.184	1.53	1.55	1980.6	YES	NO	bb	bb	49.870
2	12378-PeCDD	31.54	2.257e5	1.459e5	1.022	1.55	1.55	1638.2	YES	NO	bb	bb	48.547
3	12479-PECDD	28.82	4.776e5	3.067e5	2.301	1.56	1.55	2227.8	YES	NO	bb	bb	45.504

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HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	124679-HXCDD	34.01	2.545e5	2.054e5	1.115	1.24	1.24	1245.7	YES	NO	bb	bb	50.484
2	123789-HxCDD	36.52	2.330e5	1.844e5	0.907	1.26	1.24	1104.0	YES	NO	bd	bb	51.608
3	123678-HxCDD	36.14	2.694e5	2.159e5	1.001	1.25	1.24	1260.5	YES	NO	db	db	50.174
4	123478-HxCDD	36.02	2.316e5	1.815e5	0.996	1.28	1.24	1214.5	YES	NO	bd	bd	50.799

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234679-HPCDD	39.23	2.082e5	2.022e5	1.137	1.03	1.05	1099.8	YES	NO	bb	bb	49.010
2	1234678-HpCDD	40.27	1.962e5	1.803e5	1.039	1.09	1.05	932.5	YES	NO	bd	bb	49.199

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	25.60	3.327e4	3.983e4	1.024	0.84	0.77	333.8	YES	NO	bd	bb	5.433
2	Total-tetradioxins	25.04	8.004e2	1.202e3	1.024	0.67	0.77	7.4	YES	NO	bb	db	0.149
3	Total-tetradioxins	24.74	2.704e3	4.097e3	1.024	0.66	0.77	17.7	YES	NO	bb	bd	0.506
4	1368-TCDD	23.56	6.641e4	8.365e4	1.015	0.79	0.77	704.3	YES	NO	bb	bb	11.251
5	1289-TCDD	27.02	6.055e4	8.062e4	0.909	0.75	0.77	567.6	YES	NO	bd	bd	11.826
6	Total-tetradioxins	26.76	1.054e2	1.391e2	1.024	0.76	0.77	2.1	NO	NO	bb	bb	0.018
7	2378-TCDD	26.42	6.583e4	8.225e4	1.149	0.80	0.77	654.9	YES	NO	bb	bb	9.815
8	Total-tetradioxins	26.10	9.949e4	1.339e5	1.024	0.74	0.77	703.4	YES	NO	bb	bb	17.347
9	12389-PECDD	31.93	2.675e5	1.746e5	1.184	1.53	1.55	1980.6	YES	NO	bb	bb	49.870
10	12378-PeCDD	31.54	2.257e5	1.459e5	1.022	1.55	1.55	1638.2	YES	NO	bb	bb	48.547
11	12479-PECDD	28.82	4.776e5	3.067e5	2.301	1.56	1.55	2227.8	YES	NO	bb	bb	45.504
12	124679-HXCDD	34.01	2.545e5	2.054e5	1.115	1.24	1.24	1245.7	YES	NO	bb	bb	50.484
13	123789-HxCDD	36.52	2.330e5	1.844e5	0.907	1.26	1.24	1104.0	YES	NO	bd	bb	51.608
14	123678-HxCDD	36.14	2.694e5	2.159e5	1.001	1.25	1.24	1260.5	YES	NO	db	db	50.174
15	123478-HxCDD	36.02	2.316e5	1.815e5	0.996	1.28	1.24	1214.5	YES	NO	bd	bd	50.799
16	1234679-HPCDD	39.23	2.082e5	2.022e5	1.137	1.03	1.05	1099.8	YES	NO	bb	bb	49.010
17	1234678-HpCDD	40.27	1.962e5	1.803e5	1.039	1.09	1.05	932.5	YES	NO	bd	bb	49.199
18	OCDD	45.00	2.234e5	2.618e5	0.920	0.85	0.89	1496.5	YES	NO	bb	bb	99.422

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Last Altered: Monday, March 06, 2023 11:49:27 Pacific Standard Time
Printed: Monday, March 06, 2023 14:47:19 Pacific Standard Time

ID: ICVCW, Name: 23030310, Date: 03-Mar-2023, Time: 16:36:24, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.27	5.306e4	7.400e4	0.678	0.72	0.77	688.3	YES	NO	bb	db	10.112
2	2378-TCDF	25.77	5.338e4	7.452e4	0.702	0.72	0.77	718.7	YES	NO	bb	bb	9.838
3	1368-TCDF	22.27	6.666e4	8.755e4	0.802	0.76	0.77	933.7	YES	NO	bb	bb	10.382
4	12389-PECDF	32.31	2.363e5	1.551e5	0.496	1.52	1.55	1088.1	YES	NO	bb	bb	73.589
5	23478-PeCDF	31.27	2.350e5	1.508e5	0.786	1.56	1.55	1131.6	YES	NO	bb	bb	48.980
6	12378-PeCDF	29.93	2.214e5	1.526e5	0.679	1.45	1.55	1073.8	YES	NO	bb	bd	51.391
7	Total-pentafurans	28.79	4.479e4	3.002e4	0.654	1.49	1.55	225.2	YES	NO	bb	bb	11.035
8	123478-HxCDF	34.90	2.903e5	2.325e5	1.166	1.25	1.24	1370.1	YES	NO	bd	bd	48.245
9	123468-HXCDF	33.23	3.102e5	2.472e5	1.169	1.26	1.24	1465.3	YES	NO	bb	bb	51.304
10	123789-HxCDF	36.93	2.403e5	1.952e5	1.137	1.23	1.24	1110.7	YES	NO	bb	bb	49.077
11	234678-HxCDF	35.91	2.873e5	2.291e5	1.140	1.25	1.24	1358.7	YES	NO	bb	bb	50.224
12	123678-HxCDF	35.04	3.271e5	2.812e5	1.091	1.16	1.24	1497.0	YES	NO	db	db	47.992
13	1234678-HpCDF	38.77	2.051e5	2.017e5	1.003	1.02	1.05	1185.4	YES	NO	bb	bb	51.838
14	1234789-HpCDF	41.01	1.584e5	1.578e5	0.953	1.00	1.05	790.9	YES	NO	bb	bb	48.461
15	OCDF	45.24	2.094e5	2.177e5	0.778	0.96	0.89	1194.3	YES	NO	bd	bb	103.506
16	13468-PECDF	27.13	5.428e5	3.536e5	1.246	1.54	1.55	9287.8	YES	NO	bb	bb	67.124
17	Total-tetradioxins	25.60	3.327e4	3.983e4	1.024	0.84	0.77	333.8	YES	NO	bd	bb	5.433
18	Total-tetradioxins	25.04	8.004e2	1.202e3	1.024	0.67	0.77	7.4	YES	NO	bb	db	0.149
19	Total-tetradioxins	24.74	2.704e3	4.097e3	1.024	0.66	0.77	17.7	YES	NO	bb	bd	0.506
20	1368-TCDD	23.56	6.641e4	8.365e4	1.015	0.79	0.77	704.3	YES	NO	bb	bb	11.251
21	1289-TCDD	27.02	6.055e4	8.062e4	0.909	0.75	0.77	567.6	YES	NO	bd	bd	11.826
22	Total-tetradioxins	26.76	1.054e2	1.391e2	1.024	0.76	0.77	2.1	NO	NO	bb	bb	0.018
23	2378-TCDD	26.42	6.583e4	8.225e4	1.149	0.80	0.77	654.9	YES	NO	bb	bb	9.815
24	Total-tetradioxins	26.10	9.949e4	1.339e5	1.024	0.74	0.77	703.4	YES	NO	bb	bb	17.347
25	12389-PECDD	31.93	2.675e5	1.746e5	1.184	1.53	1.55	1980.6	YES	NO	bb	bb	49.870
26	12378-PeCDD	31.54	2.257e5	1.459e5	1.022	1.55	1.55	1638.2	YES	NO	bb	bb	48.547
27	12479-PECDD	28.82	4.776e5	3.067e5	2.301	1.56	1.55	2227.8	YES	NO	bb	bb	45.504
28	124679-HXCDD	34.01	2.545e5	2.054e5	1.115	1.24	1.24	1245.7	YES	NO	bb	bb	50.484
29	123789-HxCDD	36.52	2.330e5	1.844e5	0.907	1.26	1.24	1104.0	YES	NO	bd	bb	51.608
30	123678-HxCDD	36.14	2.694e5	2.159e5	1.001	1.25	1.24	1260.5	YES	NO	db	db	50.174
31	123478-HxCDD	36.02	2.316e5	1.815e5	0.996	1.28	1.24	1214.5	YES	NO	bd	bd	50.799
32	1234679-HPCDD	39.23	2.082e5	2.022e5	1.137	1.03	1.05	1099.8	YES	NO	bb	bb	49.010
33	1234678-HpCDD	40.27	1.962e5	1.803e5	1.039	1.09	1.05	932.5	YES	NO	bd	bb	49.199
34	OCDD	45.00	2.234e5	2.618e5	0.920	0.85	0.89	1496.5	YES	NO	bb	bb	99.422

ID: ICVCW, Name: 23030310, Date: 03-Mar-2023, Time: 16:36:24, Conditions: AUTOSPEC01, User: pk

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	28.14	2.253e6					8.0	YES		bb		0.000

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	34.08	3.977e4					2.3	NO		bb		0.000

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	41.32	4.162e3					0.8	NO		bb		
2	FUNCTION4 PFK	40.68	1.340e4					1.2	NO		bb		
3	FUNCTION4 PFK	40.50	1.024e4					1.3	NO		bb		
4	FUNCTION4 PFK	40.07	1.056e4					1.2	NO		bb		
5	FUNCTION4 PFK	39.50	1.007e4					1.4	NO		bb		
6	FUNCTION4 PFK	42.14	1.085e4					1.0	NO		bb		
7	FUNCTION4 PFK	42.10	6.400e3					1.1	NO		bb		
8	FUNCTION4 PFK	41.87	1.885e3					0.6	NO		bb		
9	FUNCTION4 PFK	41.61	5.389e3					0.9	NO		bb		

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	43.23	1.323e3					0.7	NO		bb		

ID: ICVCW, Name: 23030310, Date: 03-Mar-2023, Time: 16:36:24, Conditions: AUTOSPEC01, User: pk

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	26.55	1.589e2					2.0	NO		db		0.000
2	FUNCTION1 HXCD...	26.42	1.755e2					3.2	YES		bd		0.000
3	FUNCTION1 HXCD...	25.59	9.854e1					1.9	NO		bb		0.000
4	FUNCTION1 HXCD...	23.87	7.096e1					1.9	NO		bb		0.000
5	FUNCTION1 HXCD...	23.56	8.003e1					2.4	NO		bb		0.000
6	FUNCTION1 HXCD...	22.40	7.940e1					1.8	NO		bb		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	30.33	1.101e2					1.7	NO		bb		0.000
2	FUNCTION2 HPCD...	28.89	7.875e1					1.7	NO		bb		0.000
3	FUNCTION2 HPCD...	31.17	3.263e2					4.7	YES		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	36.51	1.586e2					5.0	YES		bb		0.000
2	FUNCTION3 OCDPE	36.13	1.909e2					4.9	YES		db		0.000
3	FUNCTION3 OCDPE	35.99	1.751e2					5.1	YES		bd		0.000

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	41.06	1.247e2					2.2	NO		db		0.000
2	FUNCTION4 NCDPE	40.94	7.187e1					1.7	NO		bd		0.000
3	FUNCTION4 NCDPE	40.37	7.003e1					1.7	NO		db		0.000
4	FUNCTION4 NCDPE	40.26	2.223e2					3.8	YES		bd		0.000

ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

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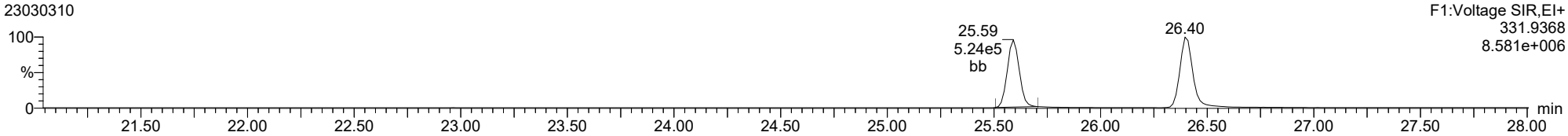
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 10:57:27

ID: ICVCW, Name: 23030310, Date: 03-Mar-2023, Time: 16:36:24, Conditions: AUTOSPEC01, User: pk

13C-1234-TCDD



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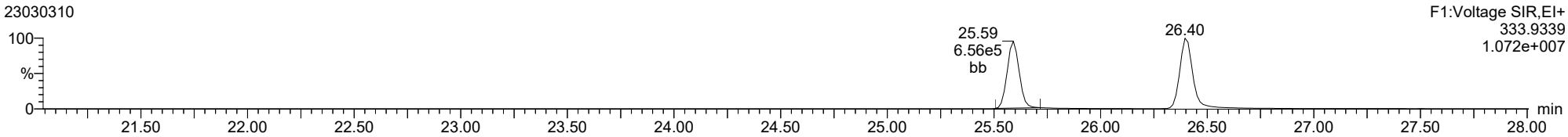
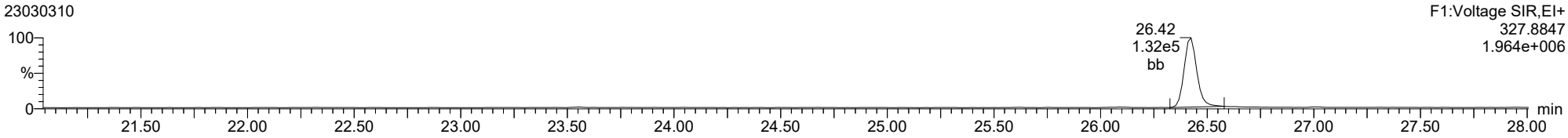


37CL-2378-TCDD



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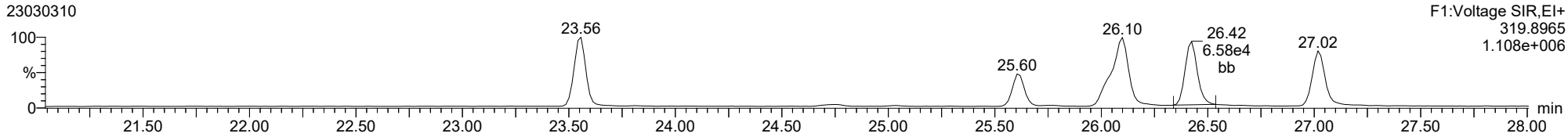

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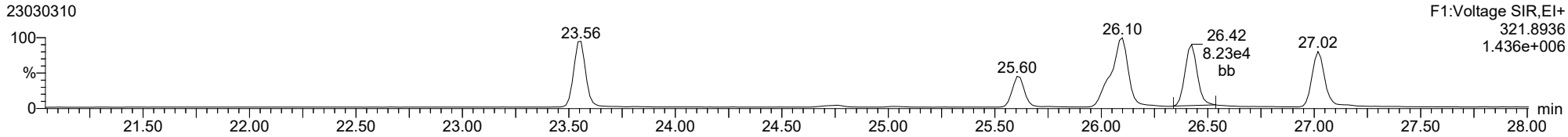

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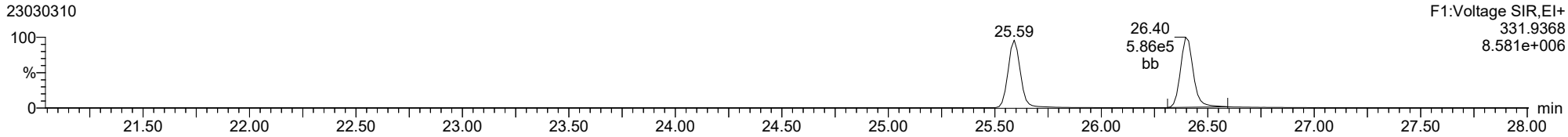

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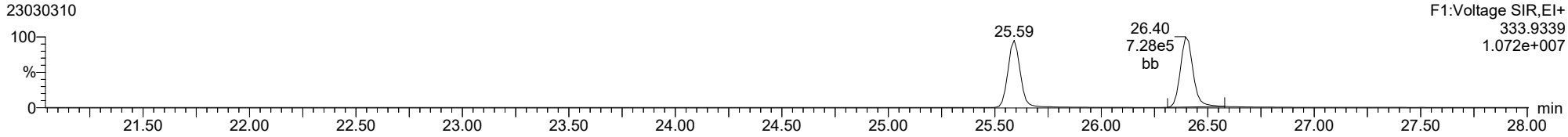
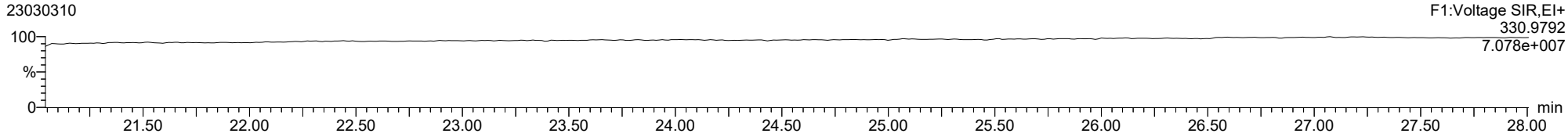


FUNCTION1 PFK



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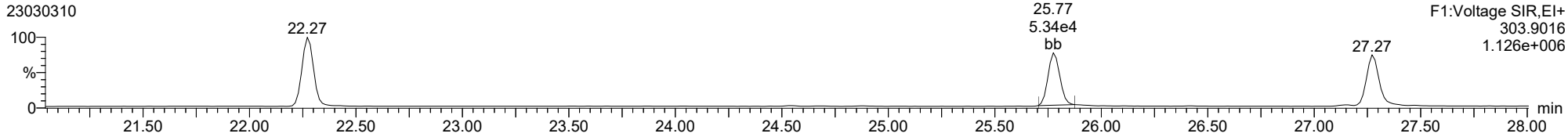

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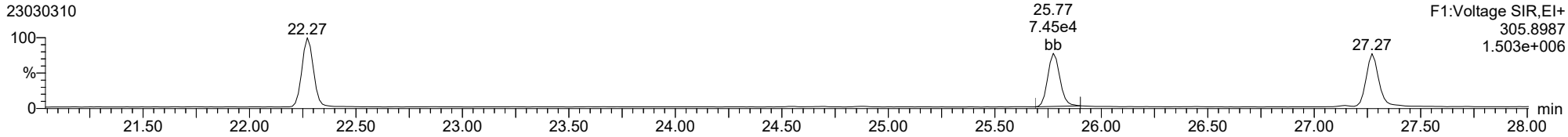

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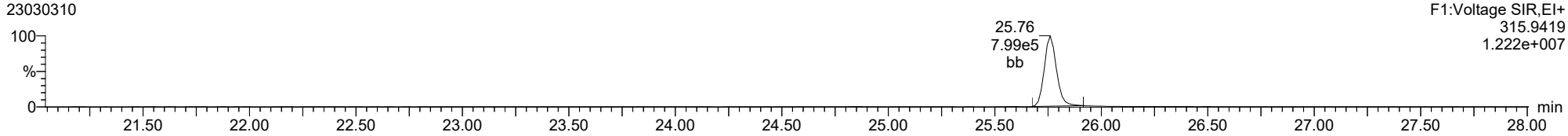

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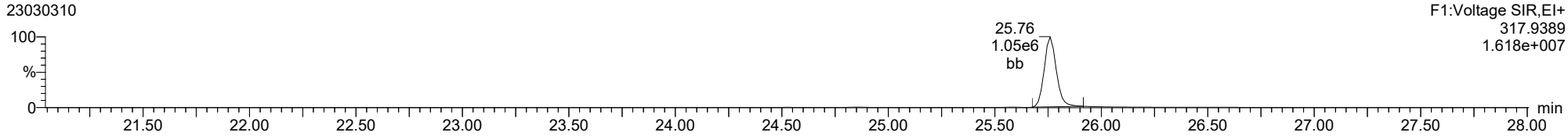
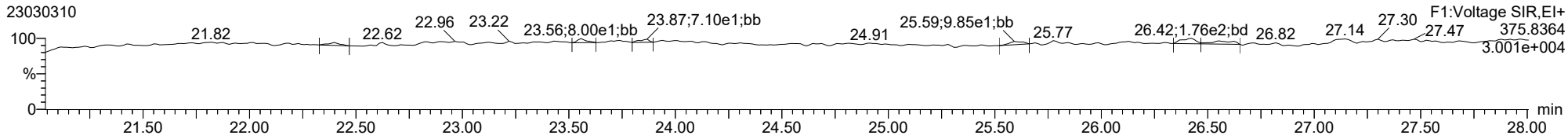
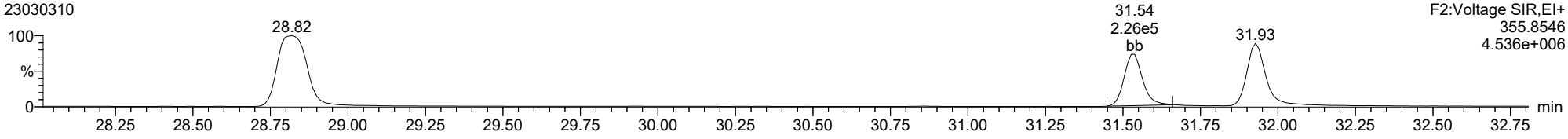


FUNCTION1 HXCDPE



ID: ICVCW, Name: 23030310, Date: 03-Mar-2023, Time: 16:36:24, Conditions: AUTOSPEC01, User: pk

12378-PeCDD



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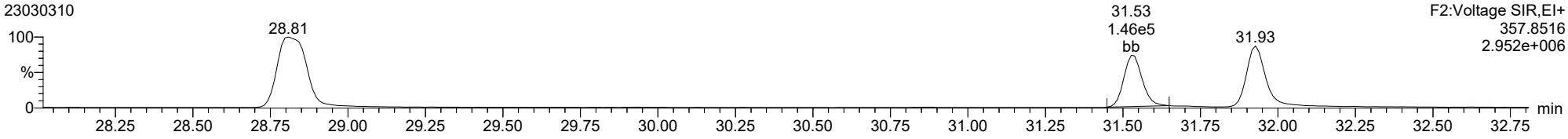

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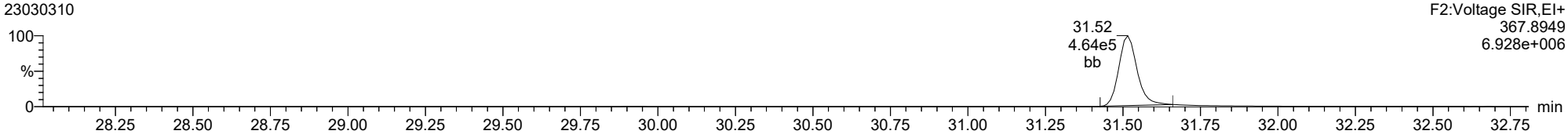

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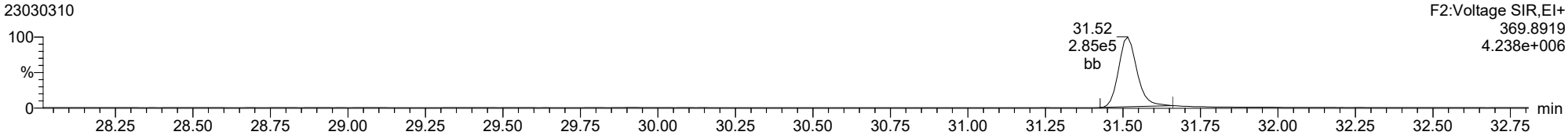
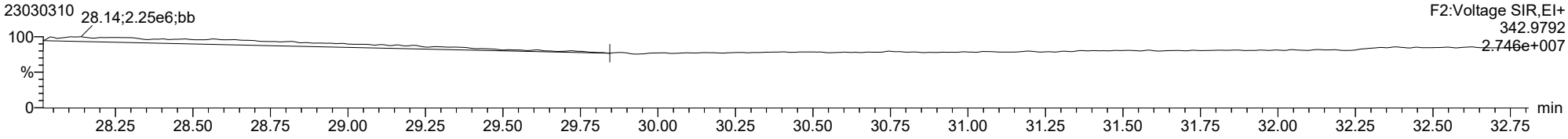


FUNCTION2 PFK



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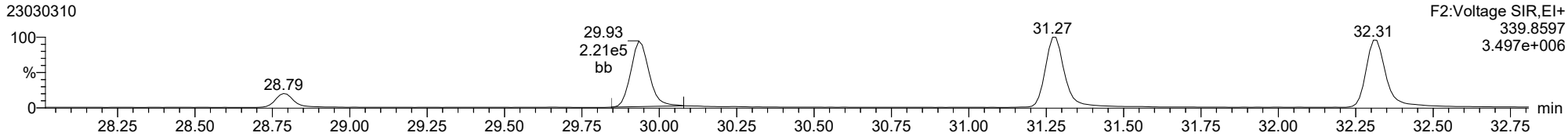
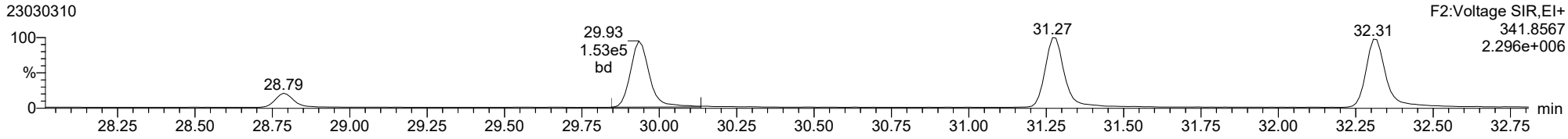
12378-PeCDF



12378-PeCDF



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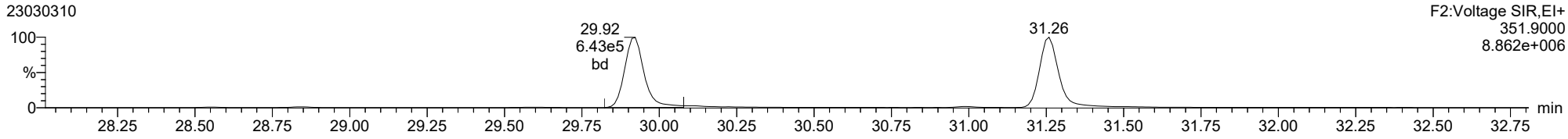

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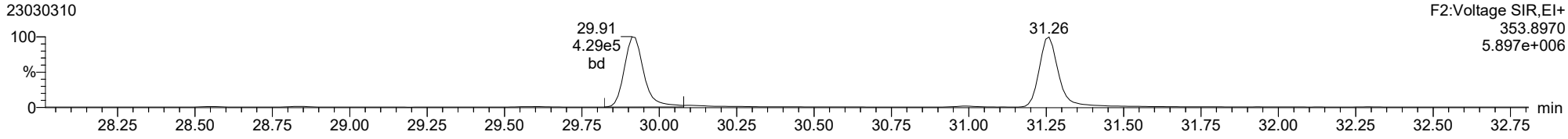
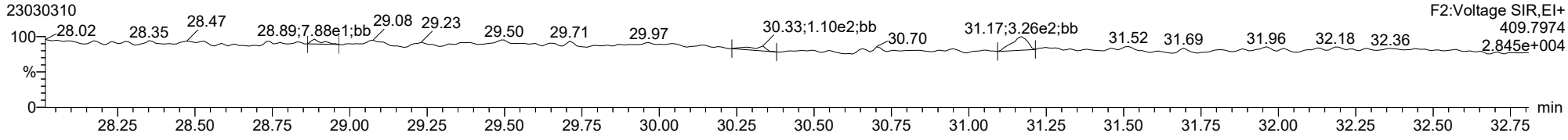
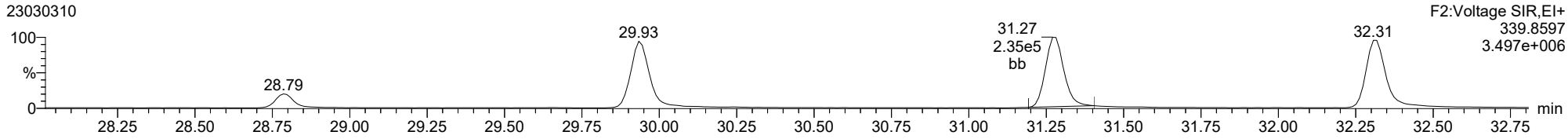


FUNCTION2 HPCDPE

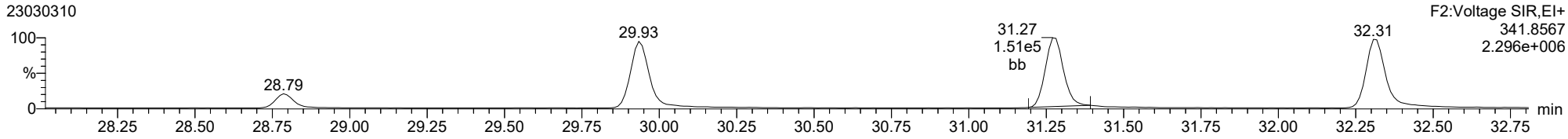


ID: ICVCW, Name: 23030310, Date: 03-Mar-2023, Time: 16:36:24, Conditions: AUTOSPEC01, User: pk

23478-PeCDF



23478-PeCDF



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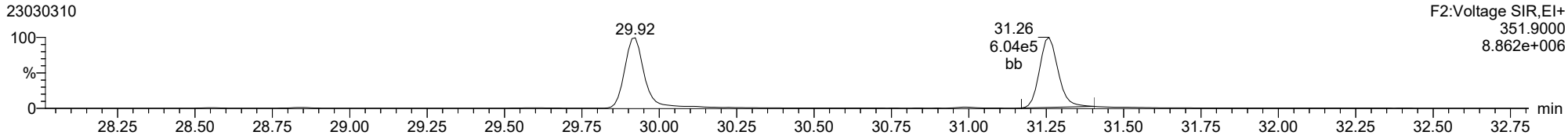

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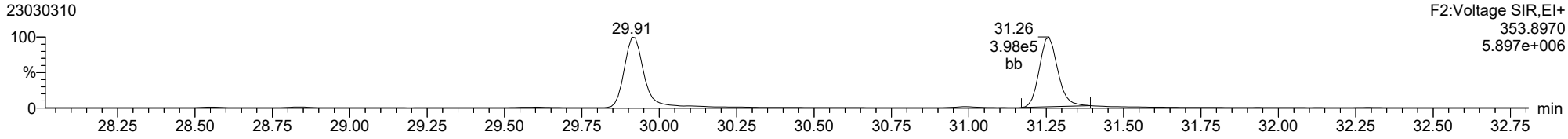
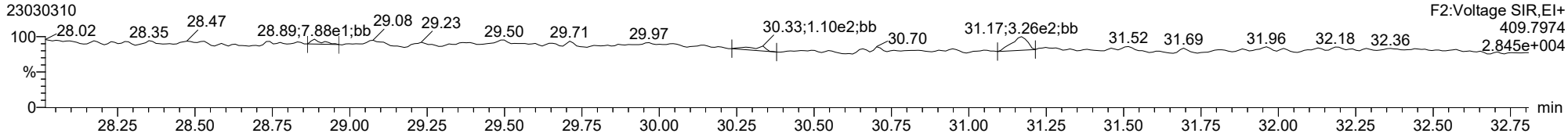


FUNCTION2 HPCDPE



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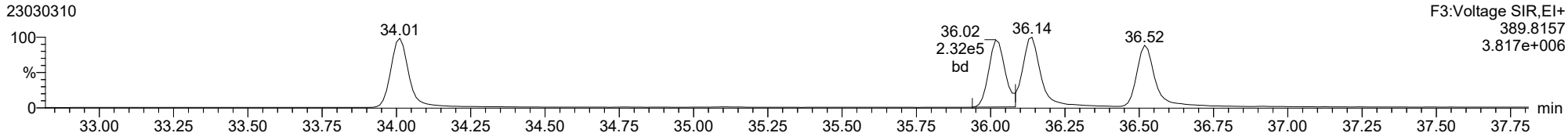

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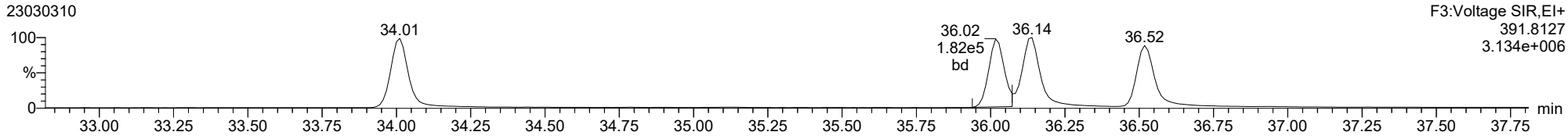

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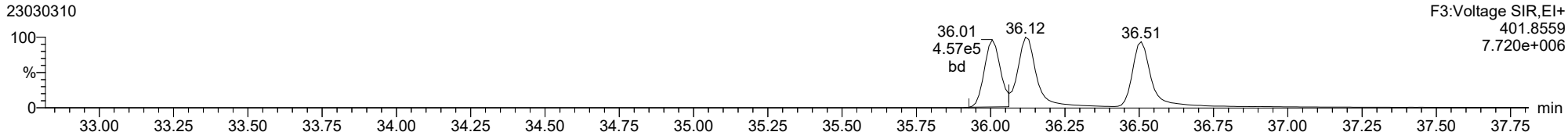

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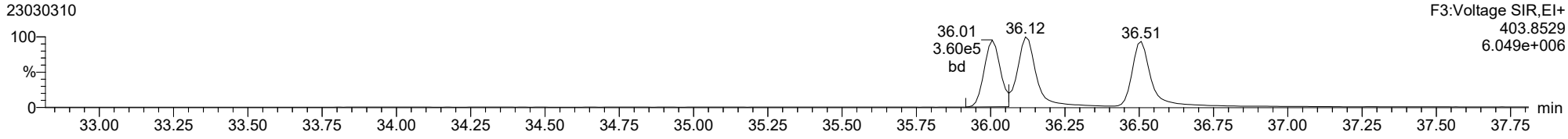

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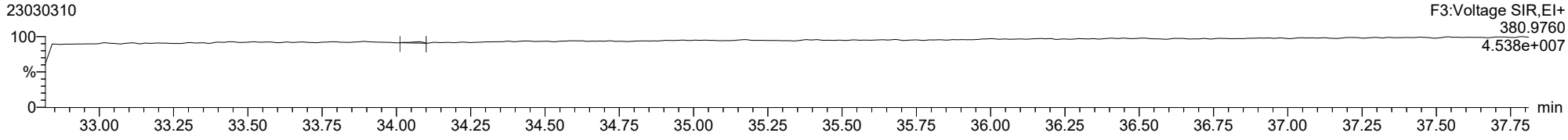

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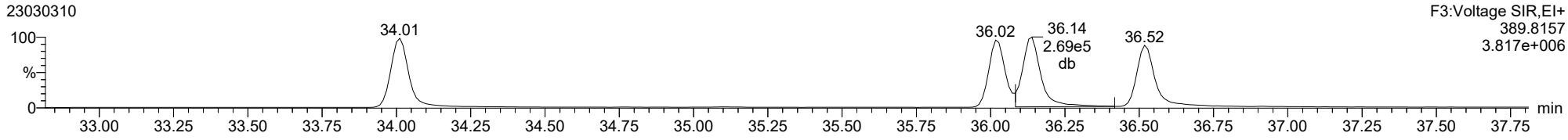

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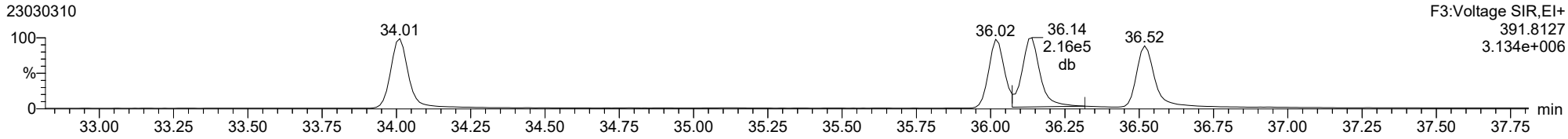

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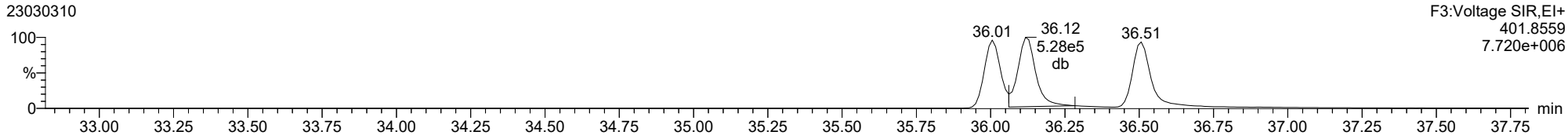

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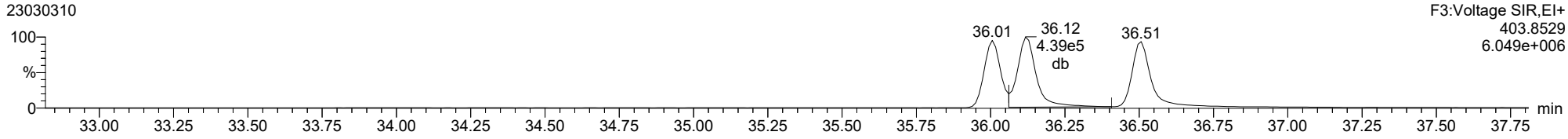

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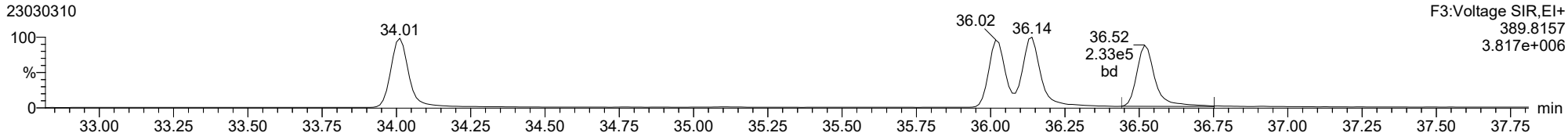

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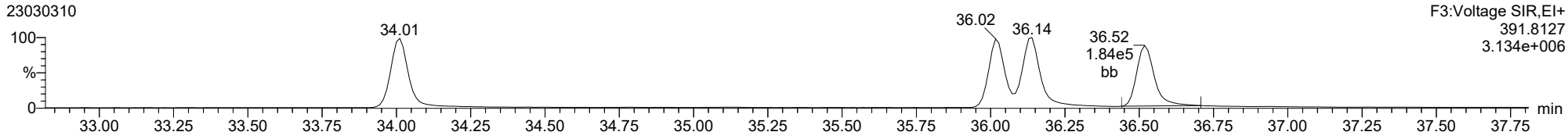

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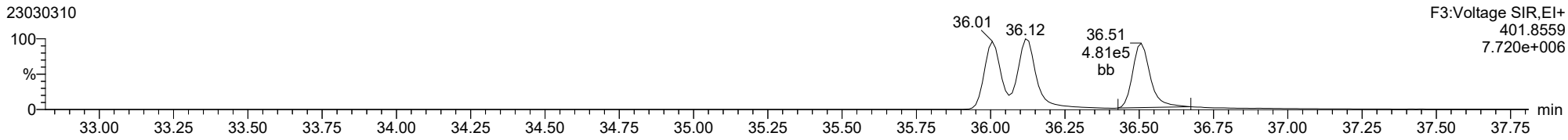

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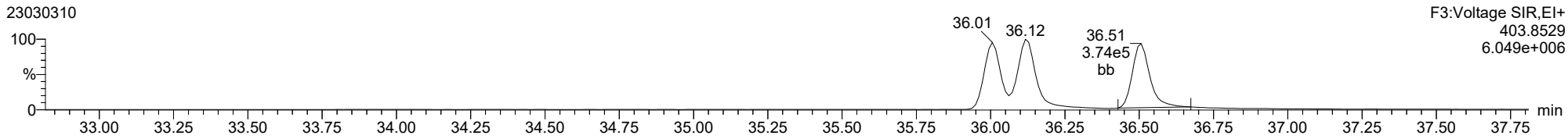

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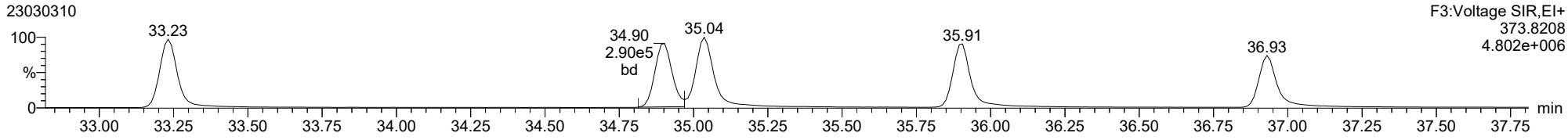

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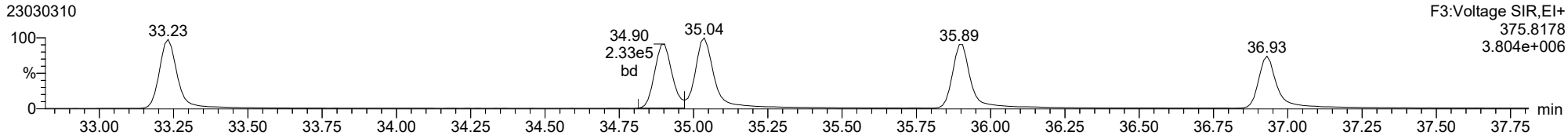

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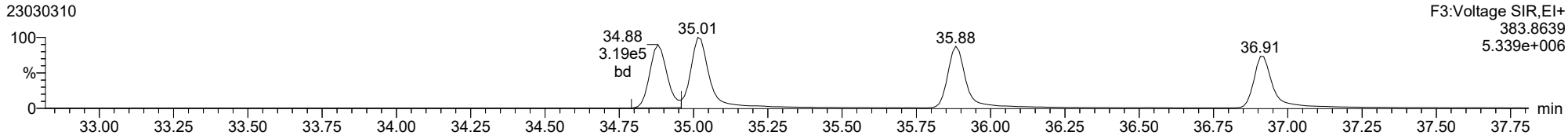

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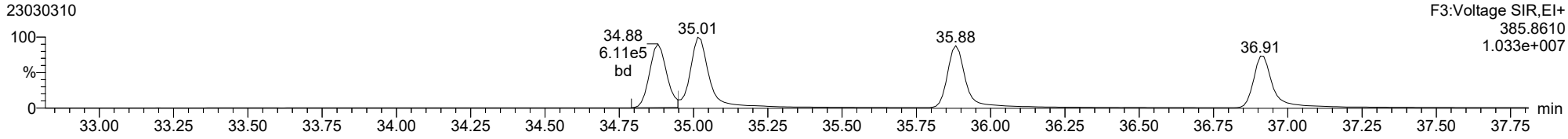

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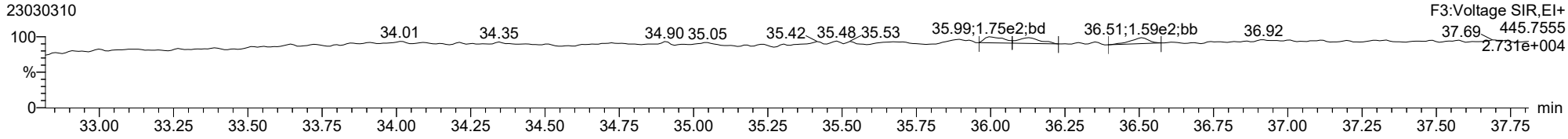

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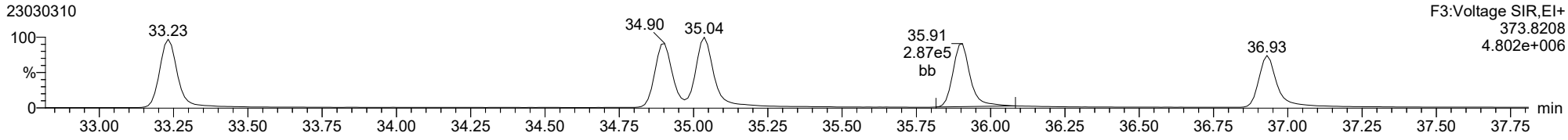

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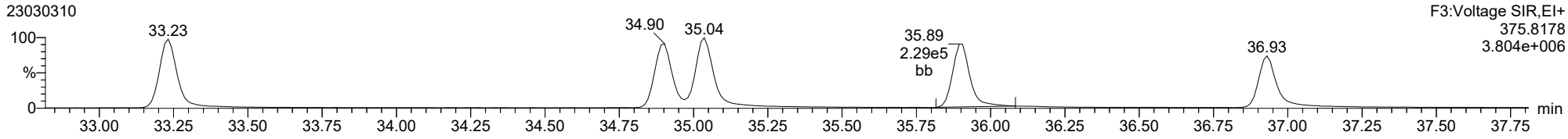

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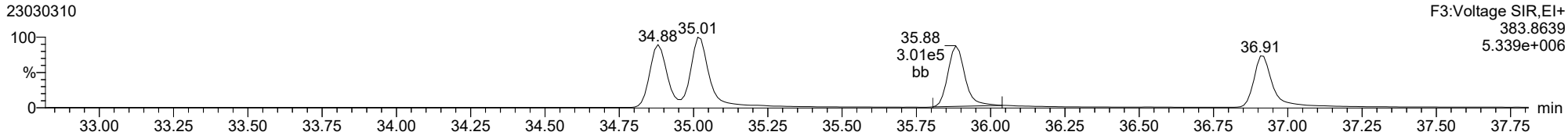

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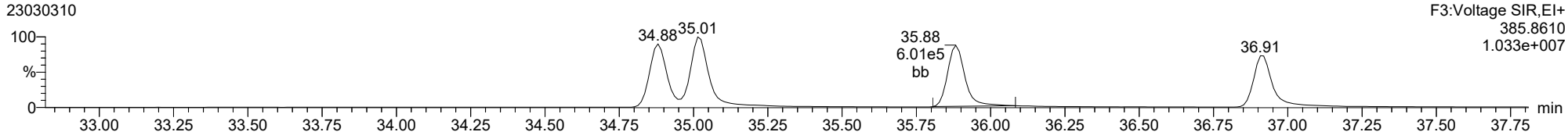

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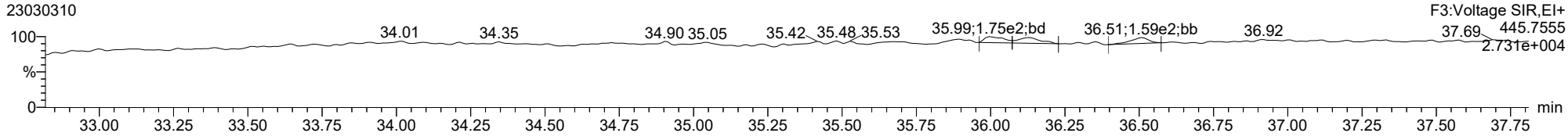

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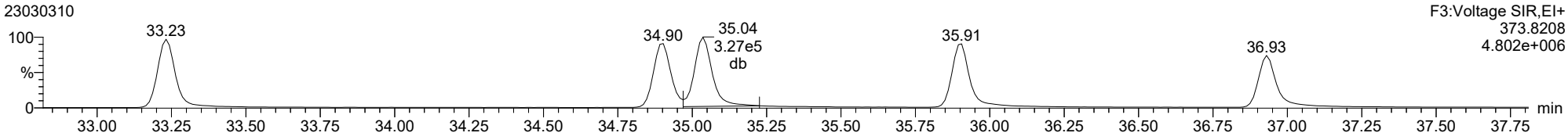

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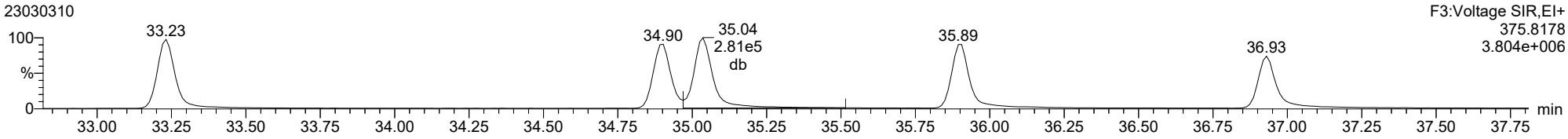

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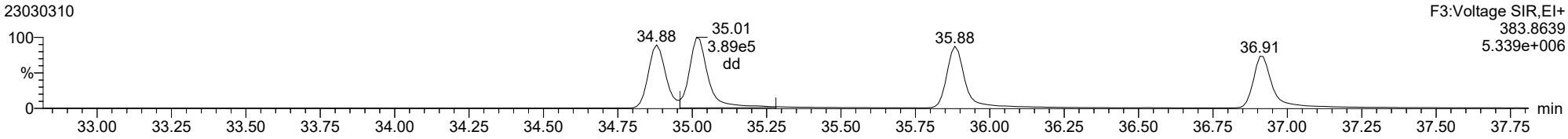

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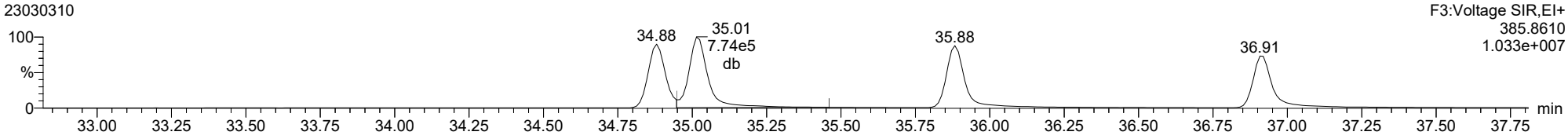

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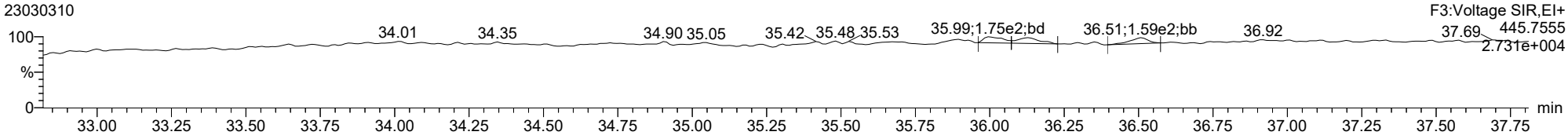

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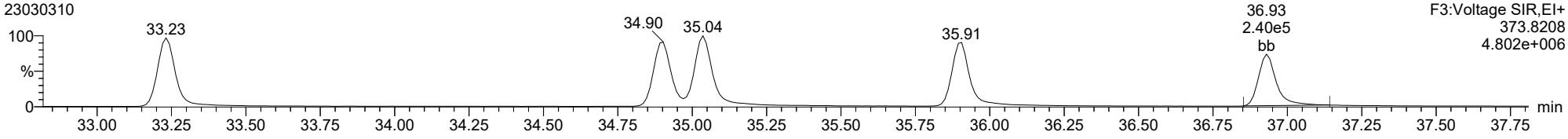

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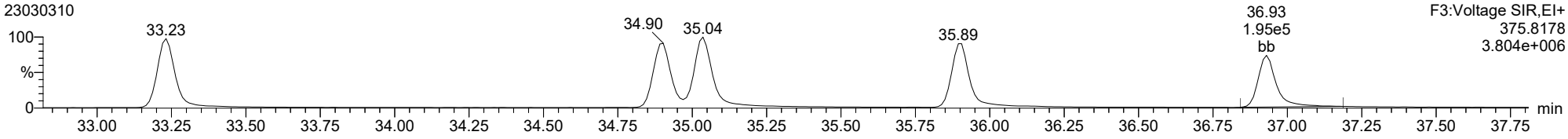

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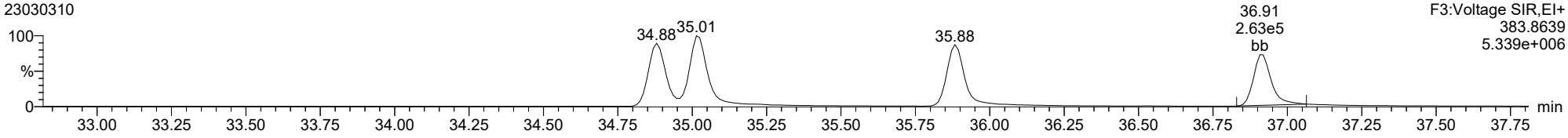

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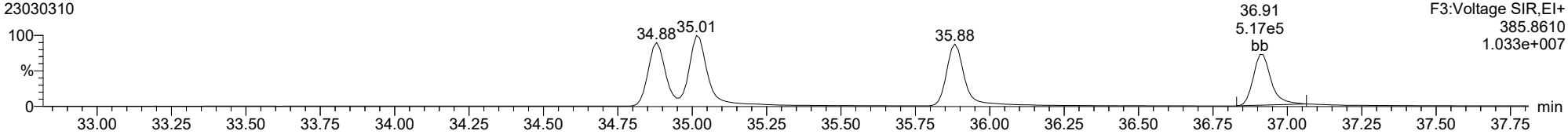

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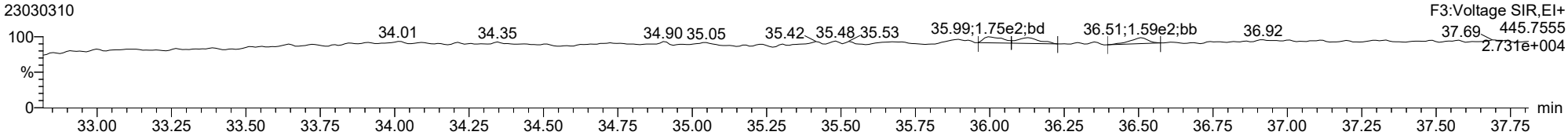

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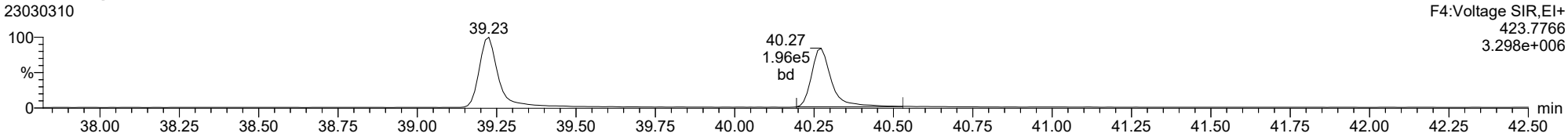

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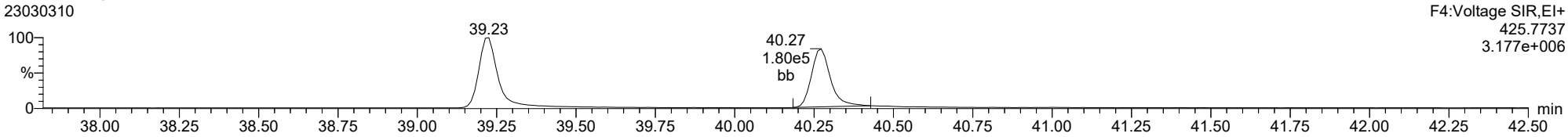

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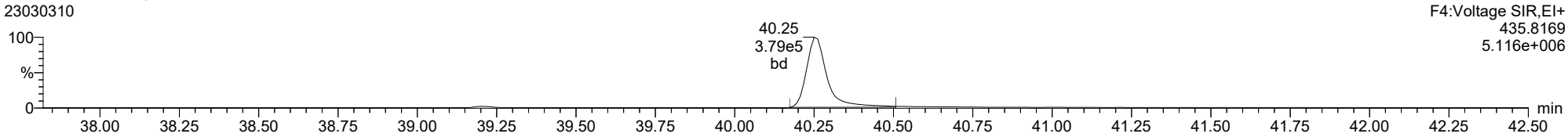

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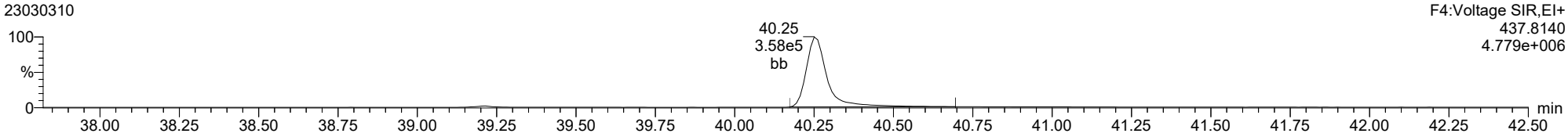
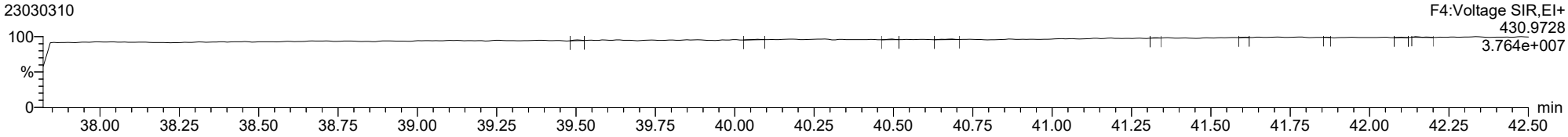


FUNCTION4 PFK



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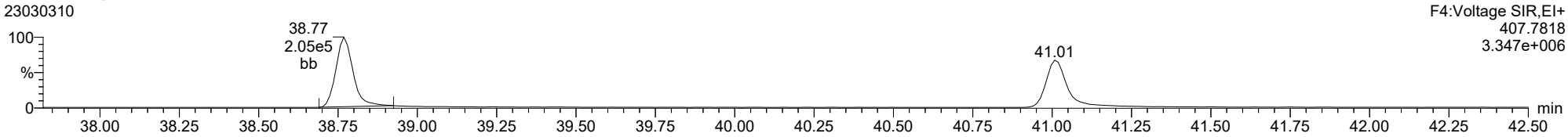

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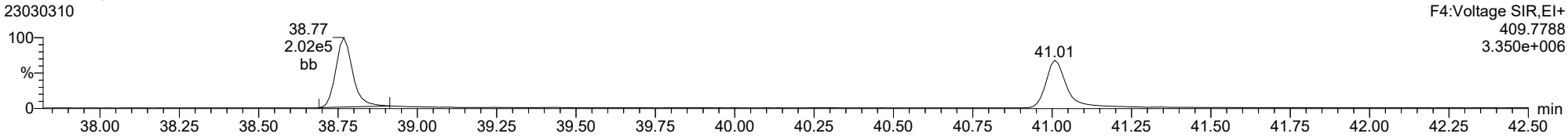

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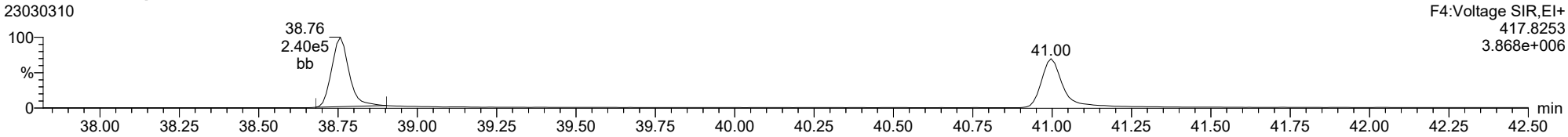

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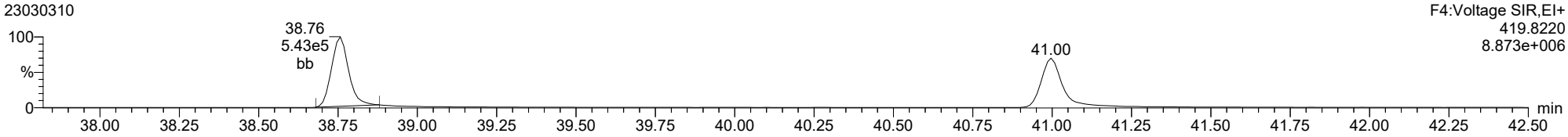
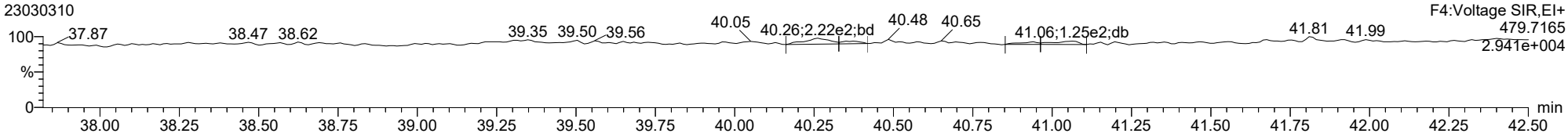


FUNCTION4 NCDPE



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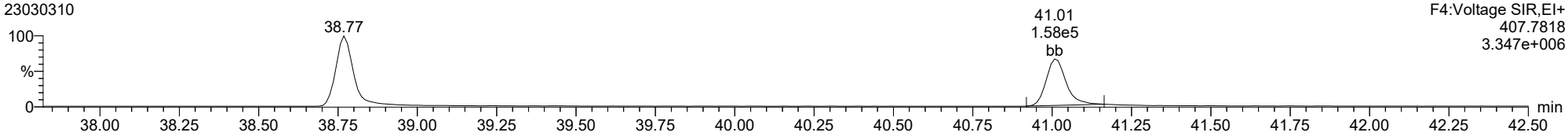

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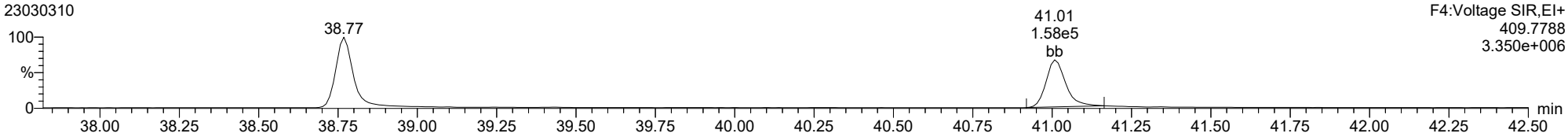

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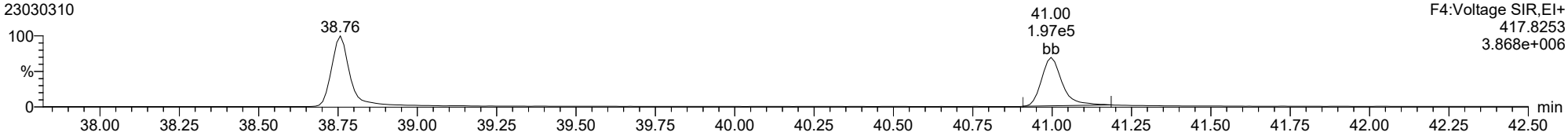

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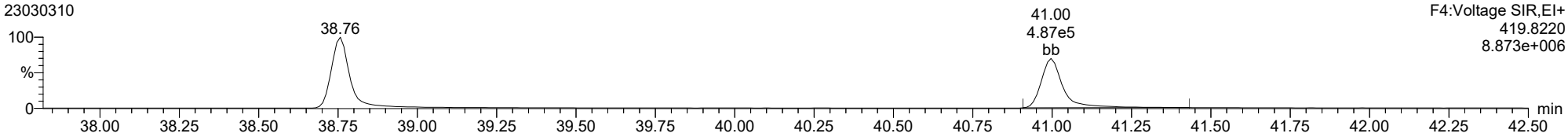

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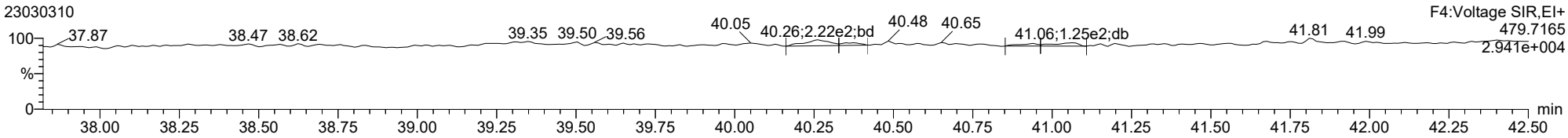

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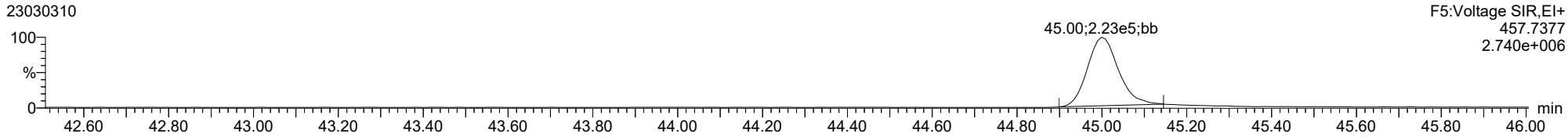

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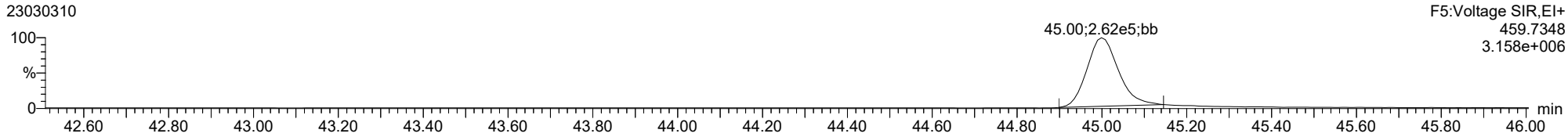

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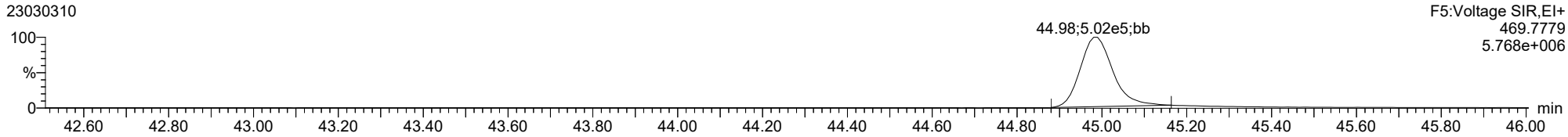

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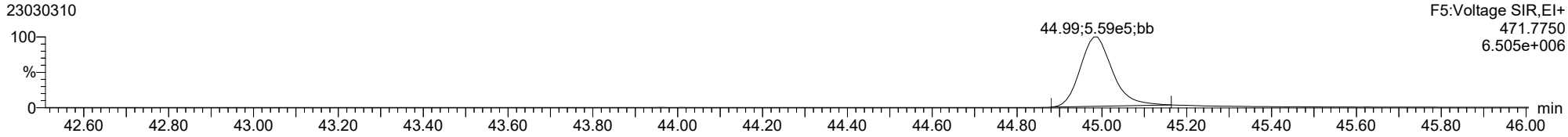
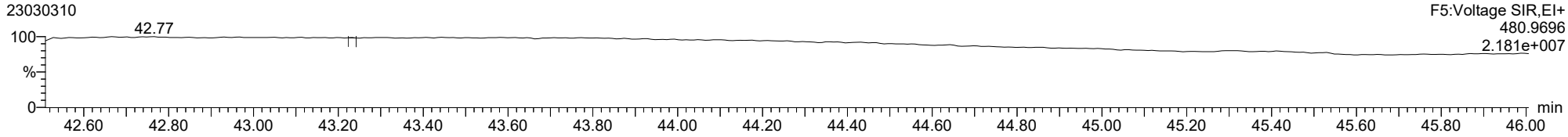
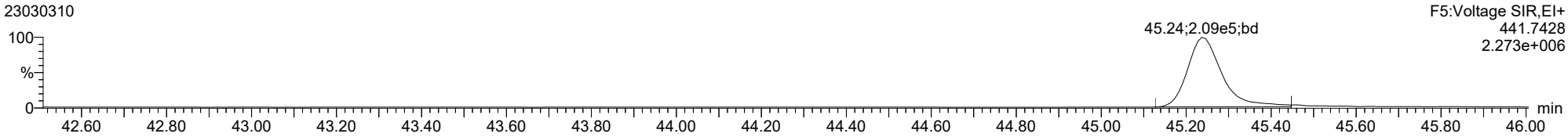


FUNCTION5 PFK



ID: ICVCW, Name: 23030310, Date: 03-Mar-2023, Time: 16:36:24, Conditions: AUTOSPEC01, User: pk

OCDF



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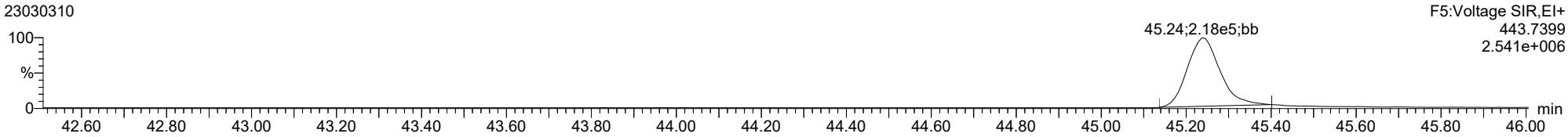
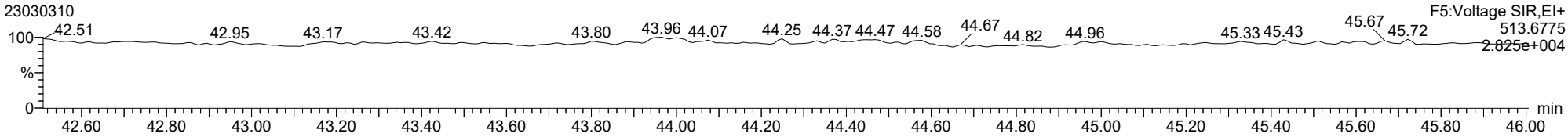


FUNCTION5 DCDPE



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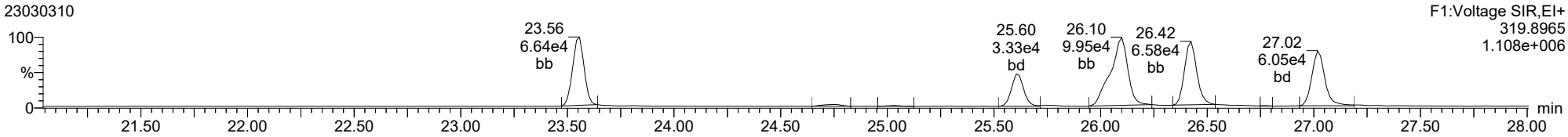
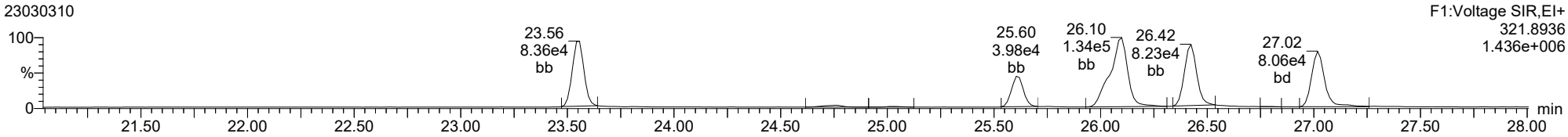
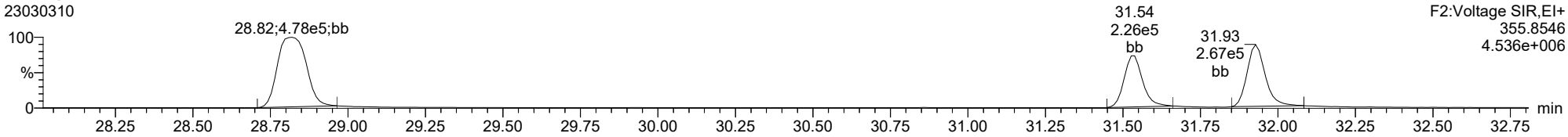
Total-tetradioxins



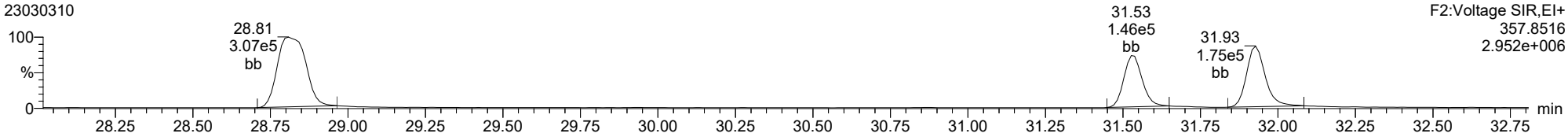
Total-tetradioxins



Total-pentadioxins



Total-pentadioxins



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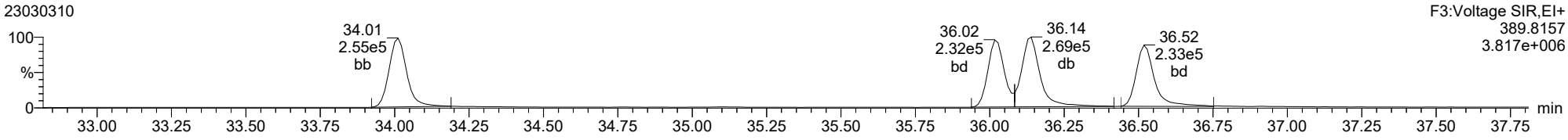
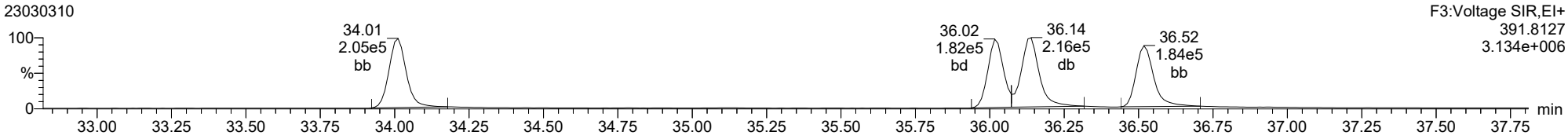
Total-hexadioxins



Total-hexadioxins



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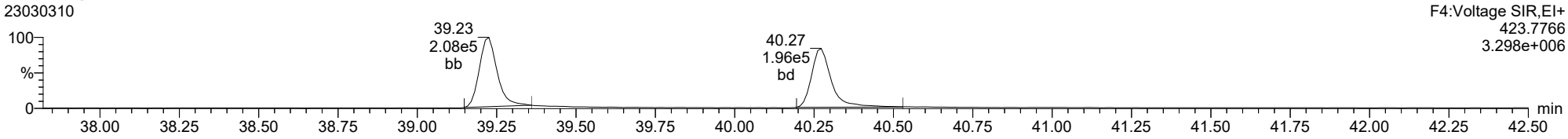

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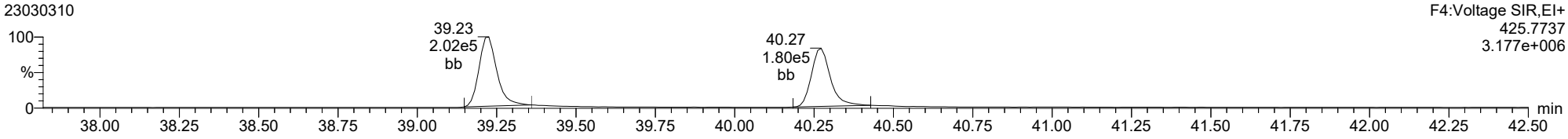

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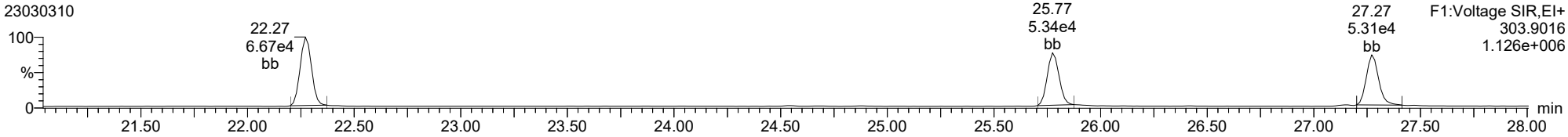
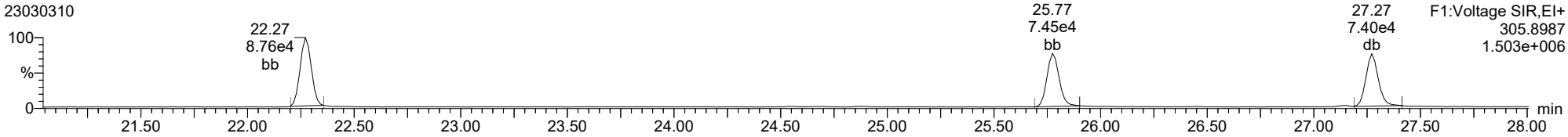
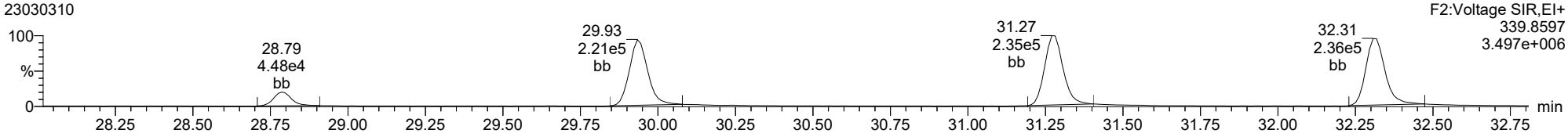
Total-tetrafurans



Total-tetrafurans



Total-pentafurans



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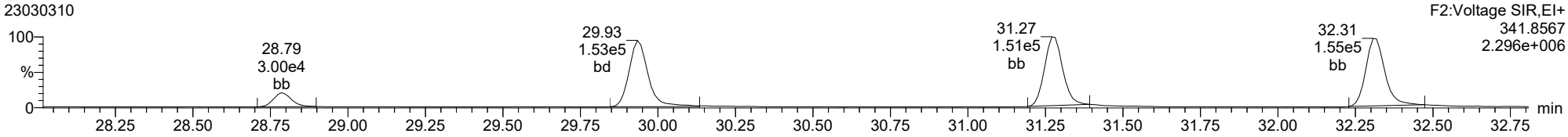

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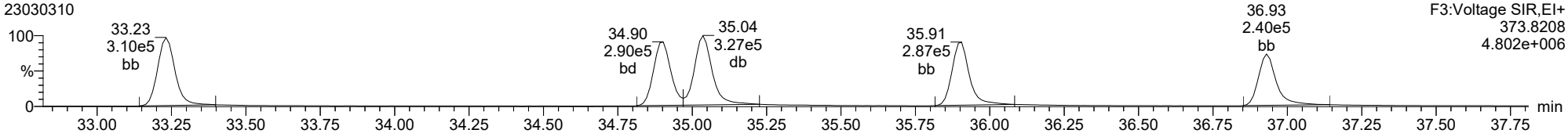
Total-hexafurans



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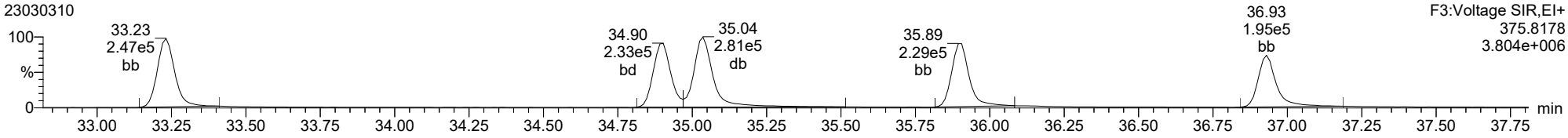

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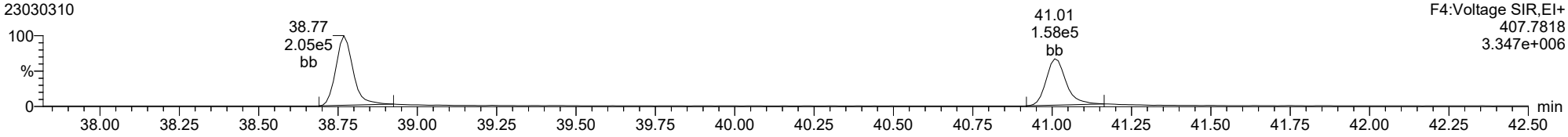

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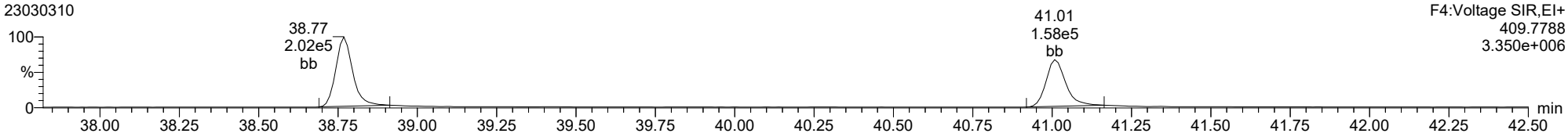

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Last Altered: Monday, March 06, 2023 11:49:27 Pacific Standard Time
Printed: Monday, March 06, 2023 14:47:33 Pacific Standard Time

Method: T:\Autospec\Methods\Dioxin230303.mdb 03 Mar 2023 14:58:50
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 10:57:27

ID: CS3W2, Name: 23030311, Date: 03-Mar-2023, Time: 17:25:01, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.774	1.000	4.131e4	5.488e4	0.702	0.753	0.770	1493	2220	6.02e5	8.13e5	403.0	366.2	NO	bb	bb	10.126
12378-PeCDF	29.934	1.000	2.094e5	1.387e5	0.679	1.510	1.550	3237	2768	3.10e6	2.08e6	956.2	750.8	NO	bb	bb	47.721
23478-PeCDF	31.282	1.001	2.189e5	1.466e5	0.786	1.493	1.550	3237	2768	3.25e6	2.13e6	1004.6	769.0	NO	bb	bb	48.580
123478-HxCDF	34.903	1.001	2.702e5	2.168e5	1.166	1.247	1.240	2948	2161	4.14e6	3.34e6	1404.3	1544.7	NO	bd	bd	47.304
234678-HxCDF	35.905	1.001	2.808e5	2.345e5	1.140	1.198	1.240	2948	2161	4.05e6	3.23e6	1375.6	1495.3	NO	bb	bd	52.050
123678-HxCDF	35.036	1.000	3.125e5	2.496e5	1.091	1.252	1.240	2948	2161	4.44e6	3.55e6	1506.3	1641.4	NO	db	db	51.387
123789-HxCDF	36.931	1.000	2.304e5	1.857e5	1.137	1.240	1.240	2948	2161	3.37e6	2.68e6	1143.7	1240.6	NO	bb	bb	48.904
1234678-HpCDF	38.769	1.000	1.725e5	1.737e5	1.003	0.993	1.050	2044	2260	2.71e6	2.74e6	1326.3	1210.9	NO	bb	bb	47.690
1234789-HpCDF	41.008	1.000	1.395e5	1.236e5	0.953	1.128	1.050	2044	2260	1.71e6	1.64e6	836.3	725.6	NO	bd	bb	53.601
OCDF	45.237	1.005	1.863e5	1.970e5	0.778	0.946	0.890	1162	1746	2.03e6	2.27e6	1745.6	1302.8	NO	bd	bb	95.021
2378-TCDD	26.424	1.001	4.111e4	5.488e4	1.149	0.749	0.770	1210	797	6.31e5	8.06e5	521.2	1010.5	NO	bb	bb	9.017
12378-PeCDD	31.538	1.001	2.212e5	1.442e5	1.022	1.534	1.550	2794	1649	3.14e6	2.05e6	1124.1	1244.9	NO	bb	bb	50.849
123478-HxCDD	36.017	1.000	2.147e5	1.744e5	0.996	1.231	1.240	3133	1871	3.31e6	2.68e6	1055.8	1434.4	NO	bd	bd	50.696
123678-HxCDD	36.139	1.001	2.532e5	2.091e5	1.001	1.211	1.240	3133	1871	3.49e6	2.85e6	1112.6	1520.4	NO	db	db	51.126
123789-HxCDD	36.518	1.011	2.114e5	1.814e5	0.907	1.166	1.240	3133	1871	3.08e6	2.54e6	982.1	1355.5	NO	bb	bd	51.723
1234678-HpCDD	40.273	1.000	1.700e5	1.663e5	1.039	1.022	1.050	1948	2105	2.22e6	2.15e6	1138.4	1022.1	NO	bd	bd	52.721
OCDD	45.000	1.000	2.152e5	2.483e5	0.920	0.867	0.890	885	1554	2.46e6	2.84e6	2785.0	1828.9	NO	bb	bb	97.150
13C-2378-TCDF	25.760	1.007	5.853e5	7.688e5	1.620	0.761	0.770	1921	2018	8.54e6	1.13e7	4445.5	5599.2	NO	bb	bb	89.420
13C-12378-PeCDF	29.923	1.169	6.466e5	4.272e5	1.240	1.513	1.550	2442	3390	8.85e6	5.90e6	3622.7	1739.1	NO	bb	bd	92.612
13C-23478-PeCDF	31.259	1.222	5.702e5	3.869e5	1.118	1.474	1.550	2442	3390	8.42e6	5.62e6	3447.3	1659.1	NO	bb	bb	91.616
13C-123478-HxCDF	34.881	0.955	2.992e5	5.837e5	1.168	0.513	0.510	2430	2952	4.46e6	8.67e6	1835.4	2935.2	NO	bd	bd	95.179
13C-123678-HxCDF	35.025	0.959	3.347e5	6.682e5	1.386	0.501	0.510	2430	2952	4.76e6	9.19e6	1958.9	3111.9	NO	db	db	91.102
13C-234678-HxCDF	35.883	0.983	2.956e5	5.730e5	1.129	0.516	0.510	2430	2952	4.27e6	8.35e6	1756.5	2829.2	NO	bb	bb	96.885
13C-123789-HxCDF	36.919	1.011	2.519e5	4.965e5	0.932	0.507	0.510	2430	2952	3.69e6	7.15e6	1518.9	2421.6	NO	bb	bb	101.167
13C-1234678-HpCDF	38.758	1.062	2.307e5	4.931e5	0.895	0.468	0.440	2487	3339	3.35e6	7.56e6	1347.2	2263.7	NO	bd	bb	101.839
13C-1234789-HpCDF	40.997	1.123	1.602e5	3.548e5	0.770	0.452	0.440	2487	3339	2.05e6	4.72e6	823.7	1413.6	NO	bb	bb	84.268
13C-1234-TCDD	25.591	0.000	4.152e5	5.195e5	1.000	0.799	0.770	2224	1360	6.53e6	8.14e6	2938.6	5984.1	NO	bb	bb	100.000
13C-2378-TCDD	26.396	1.031	4.083e5	5.184e5	1.152	0.788	0.770	2224	1360	5.76e6	7.36e6	2588.5	5411.0	NO	bb	bb	86.032
13C-12378-PeCDD	31.516	1.232	4.323e5	2.709e5	0.829	1.595	1.550	1217	913	6.32e6	3.99e6	5187.9	4362.9	NO	bb	bb	90.774
13C-123478-HxCDD	36.006	0.986	4.338e5	3.372e5	0.995	1.286	1.240	3851	1371	6.85e6	5.33e6	1778.6	3884.7	NO	bd	bd	97.589
13C-123678-HxCDD	36.117	0.989	5.114e5	3.919e5	1.157	1.305	1.240	3851	1371	7.20e6	5.65e6	1870.4	4120.3	NO	db	db	98.370
13C-1234678-HpCDD	40.262	1.103	3.166e5	2.972e5	0.840	1.065	1.050	1699	1520	4.20e6	3.95e6	2473.2	2598.3	NO	bb	bb	92.030
13C-OCDD	44.990	1.232	5.160e5	5.214e5	0.767	0.990	0.890	2001	1870	5.29e6	5.84e6	2645.0	3123.1	NO	bd	bb	170.247
13C-123789-HxCDD	36.507	0.000	4.452e5	3.487e5	1.000	1.277	1.240	3851	1371	6.49e6	5.07e6	1686.5	3694.9	NO	bb	bb	100.000
37CL-2378-TCDD	26.424	1.033	9.071e4		1.288			1721		1.34e6		776.4			bb		7.536

Dataset: T:\Autospec\Processed Data Batch\230303IHICV.qld
Last Altered: Monday, March 06, 2023 11:49:27 Pacific Standard Time
Printed: Monday, March 06, 2023 14:47:33 Pacific Standard Time

ID: CS3W2, Name: 23030311, Date: 03-Mar-2023, Time: 17:25:01, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF	22.271	0.865	5.764e4	7.805e4	0.802	0.738	0.770	1493	2220	9.22e5	1.25e6	617.6	564.2	NO	bb	bb	12.503
1289-TCDF	27.272	1.059	3.446e4	4.665e4	0.678	0.739	0.770	1493	2220	5.07e5	6.62e5	339.5	298.3	NO	bb	db	8.835
13468-PECDF	27.130	0.907	3.611e5	2.330e5	1.246	1.550	1.550	743	1090	5.44e6	3.55e6	7323.2	3255.0	NO	bb	bb	44.390
12389-PECDF	32.318	1.080	2.101e5	1.516e5	0.496	1.387	1.550	3237	2768	2.95e6	1.97e6	910.6	713.0	NO	bb	bd	67.866
123468-HXCDF	33.231	0.953	2.880e5	2.384e5	1.169	1.208	1.240	2948	2161	4.12e6	3.25e6	1397.4	1503.0	NO	bb	bb	51.002
1368-TCDD	23.557	0.892	5.668e4	7.180e4	1.015	0.789	0.770	1210	797	9.15e5	1.16e6	755.8	1460.4	NO	bb	bb	13.654
1289-TCDD	27.017	1.023	3.648e4	4.783e4	0.909	0.763	0.770	1210	797	5.40e5	6.90e5	445.8	865.4	NO	bb	bb	10.012
12479-PECDD	28.819	0.914	3.593e5	2.367e5	2.301	1.518	1.550	2794	1649	3.42e6	2.21e6	1224.5	1341.7	NO	bb	bb	36.832
12389-PECDD	31.928	1.013	2.423e5	1.700e5	1.184	1.426	1.550	2794	1649	3.48e6	2.31e6	1246.0	1399.4	NO	bb	bd	49.543
124679-HXCDD	34.011	0.945	2.330e5	1.909e5	1.115	1.220	1.240	3133	1871	3.38e6	2.76e6	1078.1	1473.6	NO	bb	bb	49.292
1234679-HPCDD	39.225	0.974	2.020e5	1.832e5	1.137	1.103	1.050	1948	2105	2.83e6	2.72e6	1451.0	1293.3	NO	bd	bb	55.196
Total-tetrafurans			1.346e5		0.727			1493		2.05e6							31.724
Total-penta1			3.611e5					743		5.44e6							44.390
Total-pentafurans			6.730e5		0.654			3237		9.80e6							172.856
Total-hexafurans			1.382e6		1.141			2948		2.01e7							250.647
Total-heptafurans			3.120e5		0.978			2044		4.42e6							101.291
Total-Furans			3.049e6		0.922			1493		4.39e7							695.930
Total-tetradioxins			2.249e5		1.024			1210		3.13e6							54.516
Total-pentadioxins			8.229e5		1.502			2794		1.00e7							137.223
Total-hexadioxins			9.123e5		1.005			3133		1.32e7							202.837
Total-heptadioxins			3.720e5		1.088			1948		5.04e6							107.918
Total-Dioxins			2.547e6		1.130			1210		3.39e7							599.643
Total-TEQ			5.596e6					1210		7.78e7							1295.573
FUNCTION1 PFK			7.521e6					557945		8.00e6							
FUNCTION2 PFK			4.110e5					226700		1.13e7							0.000
FUNCTION3 PFK			8.443e6					414812		2.82e6							0.000
FUNCTION4 PFK			2.598e7					304689		2.22e7							
FUNCTION5 PFK			7.163e4					189891		2.74e6							
FUNCTION1 HXCD...			3.794e2					593		5.61e3							0.000
FUNCTION1 HPCD...																	
FUNCTION2 HPCD...			8.042e2					818		1.73e4							0.000
FUNCTION3 OCDPE			9.563e1					429		1.87e3							0.000
FUNCTION4 NCDPE			0.000e0					545		0.00e0							
FUNCTION5 DCDPE			0.000e0					542		0.00e0							

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Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 10:57:27

ID: CS3W2, Name: 23030311, Date: 03-Mar-2023, Time: 17:25:01, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.27	3.446e4	4.665e4	0.678	0.74	0.77	339.5	YES	NO	bb	db	8.835
2	2378-TCDF	25.77	4.131e4	5.488e4	0.702	0.75	0.77	403.0	YES	NO	bb	bb	10.126
3	Total-tetrafurans	24.86	6.389e2	7.978e2	0.727	0.80	0.77	6.2	YES	NO	bb	bb	0.146
4	Total-tetrafurans	24.55	5.238e2	5.981e2	0.727	0.88	0.77	6.0	YES	NO	bb	bb	0.114
5	1368-TCDF	22.27	5.764e4	7.805e4	0.802	0.74	0.77	617.6	YES	NO	bb	bb	12.503

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	27.13	3.611e5	2.330e5	1.246	1.55	1.55	7323.2	YES	NO	bb	bb	44.390

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDF	32.32	2.101e5	1.516e5	0.496	1.39	1.55	910.6	YES	NO	bb	bd	67.866
2	23478-PeCDF	31.28	2.189e5	1.466e5	0.786	1.49	1.55	1004.6	YES	NO	bb	bb	48.580
3	12378-PeCDF	29.93	2.094e5	1.387e5	0.679	1.51	1.55	956.2	YES	NO	bb	bb	47.721
4	Total-pentafurans	28.80	3.458e4	2.311e4	0.654	1.50	1.55	155.8	YES	NO	bb	bb	8.688

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123478-HxCDF	34.90	2.702e5	2.168e5	1.166	1.25	1.24	1404.3	YES	NO	bd	bd	47.304
2	123468-HXCDF	33.23	2.880e5	2.384e5	1.169	1.21	1.24	1397.4	YES	NO	bb	bb	51.002
3	123789-HxCDF	36.93	2.304e5	1.857e5	1.137	1.24	1.24	1143.7	YES	NO	bb	bb	48.904
4	234678-HxCDF	35.91	2.808e5	2.345e5	1.140	1.20	1.24	1375.6	YES	NO	bb	bd	52.050
5	123678-HxCDF	35.04	3.125e5	2.496e5	1.091	1.25	1.24	1506.3	YES	NO	db	db	51.387

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	41.01	1.395e5	1.236e5	0.953	1.13	1.05	836.3	YES	NO	bd	bb	53.601
2	1234678-HpCDF	38.77	1.725e5	1.737e5	1.003	0.99	1.05	1326.3	YES	NO	bb	bb	47.690

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Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.27	3.446e4	4.665e4	0.678	0.74	0.77	339.5	YES	NO	bb	db	8.835
2	2378-TCDF	25.77	4.131e4	5.488e4	0.702	0.75	0.77	403.0	YES	NO	bb	bb	10.126
3	Total-tetrafurans	24.86	6.389e2	7.978e2	0.727	0.80	0.77	6.2	YES	NO	bb	bb	0.146
4	Total-tetrafurans	24.55	5.238e2	5.981e2	0.727	0.88	0.77	6.0	YES	NO	bb	bb	0.114
5	1368-TCDF	22.27	5.764e4	7.805e4	0.802	0.74	0.77	617.6	YES	NO	bb	bb	12.503
6	12389-PECDF	32.32	2.101e5	1.516e5	0.496	1.39	1.55	910.6	YES	NO	bb	bd	67.866
7	23478-PeCDF	31.28	2.189e5	1.466e5	0.786	1.49	1.55	1004.6	YES	NO	bb	bb	48.580
8	12378-PeCDF	29.93	2.094e5	1.387e5	0.679	1.51	1.55	956.2	YES	NO	bb	bb	47.721
9	Total-pentafurans	28.80	3.458e4	2.311e4	0.654	1.50	1.55	155.8	YES	NO	bb	bb	8.688
10	123478-HxCDF	34.90	2.702e5	2.168e5	1.166	1.25	1.24	1404.3	YES	NO	bd	bd	47.304
11	123468-HXCDF	33.23	2.880e5	2.384e5	1.169	1.21	1.24	1397.4	YES	NO	bb	bb	51.002
12	123789-HxCDF	36.93	2.304e5	1.857e5	1.137	1.24	1.24	1143.7	YES	NO	bb	bb	48.904
13	234678-HxCDF	35.91	2.808e5	2.345e5	1.140	1.20	1.24	1375.6	YES	NO	bb	bd	52.050
14	123678-HxCDF	35.04	3.125e5	2.496e5	1.091	1.25	1.24	1506.3	YES	NO	db	db	51.387
15	1234789-HpCDF	41.01	1.395e5	1.236e5	0.953	1.13	1.05	836.3	YES	NO	bd	bb	53.601
16	1234678-HpCDF	38.77	1.725e5	1.737e5	1.003	0.99	1.05	1326.3	YES	NO	bb	bb	47.690
17	OCDF	45.24	1.863e5	1.970e5	0.778	0.95	0.89	1745.6	YES	NO	bd	bb	95.021
18	13468-PECDF	27.13	3.611e5	2.330e5	1.246	1.55	1.55	7323.2	YES	NO	bb	bb	44.390

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1368-TCDD	23.56	5.668e4	7.180e4	1.015	0.79	0.77	755.8	YES	NO	bb	bb	13.654
2	1289-TCDD	27.02	3.648e4	4.783e4	0.909	0.76	0.77	445.8	YES	NO	bb	bb	10.012
3	2378-TCDD	26.42	4.111e4	5.488e4	1.149	0.75	0.77	521.2	YES	NO	bb	bb	9.017
4	Total-tetradioxins	26.10	6.719e4	8.697e4	1.024	0.77	0.77	561.8	YES	NO	bb	bb	16.242
5	Total-tetradioxins	25.60	2.343e4	2.963e4	1.024	0.79	0.77	301.6	YES	NO	bb	bb	5.591

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDD	31.93	2.423e5	1.700e5	1.184	1.43	1.55	1246.0	YES	NO	bb	bd	49.543
2	12378-PeCDD	31.54	2.212e5	1.442e5	1.022	1.53	1.55	1124.1	YES	NO	bb	bb	50.849
3	12479-PECDD	28.82	3.593e5	2.367e5	2.301	1.52	1.55	1224.5	YES	NO	bb	bb	36.832

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HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	124679-HXCDD	34.01	2.330e5	1.909e5	1.115	1.22	1.24	1078.1	YES	NO	bb	bb	49.292
2	123789-HxCDD	36.52	2.114e5	1.814e5	0.907	1.17	1.24	982.1	YES	NO	bb	bd	51.723
3	123678-HxCDD	36.14	2.532e5	2.091e5	1.001	1.21	1.24	1112.6	YES	NO	db	db	51.126
4	123478-HxCDD	36.02	2.147e5	1.744e5	0.996	1.23	1.24	1055.8	YES	NO	bd	bd	50.696

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.27	1.700e5	1.663e5	1.039	1.02	1.05	1138.4	YES	NO	bd	bd	52.721
2	1234679-HPCDD	39.23	2.020e5	1.832e5	1.137	1.10	1.05	1451.0	YES	NO	bd	bb	55.196

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1368-TCDD	23.56	5.668e4	7.180e4	1.015	0.79	0.77	755.8	YES	NO	bb	bb	13.654
2	1289-TCDD	27.02	3.648e4	4.783e4	0.909	0.76	0.77	445.8	YES	NO	bb	bb	10.012
3	2378-TCDD	26.42	4.111e4	5.488e4	1.149	0.75	0.77	521.2	YES	NO	bb	bb	9.017
4	Total-tetradioxins	26.10	6.719e4	8.697e4	1.024	0.77	0.77	561.8	YES	NO	bb	bb	16.242
5	Total-tetradioxins	25.60	2.343e4	2.963e4	1.024	0.79	0.77	301.6	YES	NO	bb	bb	5.591
6	12389-PECDD	31.93	2.423e5	1.700e5	1.184	1.43	1.55	1246.0	YES	NO	bb	bd	49.543
7	12378-PeCDD	31.54	2.212e5	1.442e5	1.022	1.53	1.55	1124.1	YES	NO	bb	bb	50.849
8	12479-PECDD	28.82	3.593e5	2.367e5	2.301	1.52	1.55	1224.5	YES	NO	bb	bb	36.832
9	124679-HXCDD	34.01	2.330e5	1.909e5	1.115	1.22	1.24	1078.1	YES	NO	bb	bb	49.292
10	123789-HxCDD	36.52	2.114e5	1.814e5	0.907	1.17	1.24	982.1	YES	NO	bb	bd	51.723
11	123678-HxCDD	36.14	2.532e5	2.091e5	1.001	1.21	1.24	1112.6	YES	NO	db	db	51.126
12	123478-HxCDD	36.02	2.147e5	1.744e5	0.996	1.23	1.24	1055.8	YES	NO	bd	bd	50.696
13	1234678-HpCDD	40.27	1.700e5	1.663e5	1.039	1.02	1.05	1138.4	YES	NO	bd	bd	52.721
14	1234679-HPCDD	39.23	2.020e5	1.832e5	1.137	1.10	1.05	1451.0	YES	NO	bd	bb	55.196
15	OCDD	45.00	2.152e5	2.483e5	0.920	0.87	0.89	2785.0	YES	NO	bb	bb	97.150

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.27	3.446e4	4.665e4	0.678	0.74	0.77	339.5	YES	NO	bb	db	8.835
2	2378-TCDF	25.77	4.131e4	5.488e4	0.702	0.75	0.77	403.0	YES	NO	bb	bb	10.126
3	Total-tetrafurans	24.86	6.389e2	7.978e2	0.727	0.80	0.77	6.2	YES	NO	bb	bb	0.146
4	Total-tetrafurans	24.55	5.238e2	5.981e2	0.727	0.88	0.77	6.0	YES	NO	bb	bb	0.114
5	1368-TCDF	22.27	5.764e4	7.805e4	0.802	0.74	0.77	617.6	YES	NO	bb	bb	12.503
6	12389-PECDF	32.32	2.101e5	1.516e5	0.496	1.39	1.55	910.6	YES	NO	bb	bd	67.866
7	23478-PeCDF	31.28	2.189e5	1.466e5	0.786	1.49	1.55	1004.6	YES	NO	bb	bb	48.580
8	12378-PeCDF	29.93	2.094e5	1.387e5	0.679	1.51	1.55	956.2	YES	NO	bb	bb	47.721
9	Total-pentafurans	28.80	3.458e4	2.311e4	0.654	1.50	1.55	155.8	YES	NO	bb	bb	8.688
10	123478-HxCDF	34.90	2.702e5	2.168e5	1.166	1.25	1.24	1404.3	YES	NO	bd	bd	47.304
11	123468-HXCDF	33.23	2.880e5	2.384e5	1.169	1.21	1.24	1397.4	YES	NO	bb	bb	51.002
12	123789-HxCDF	36.93	2.304e5	1.857e5	1.137	1.24	1.24	1143.7	YES	NO	bb	bb	48.904
13	234678-HxCDF	35.91	2.808e5	2.345e5	1.140	1.20	1.24	1375.6	YES	NO	bb	bd	52.050
14	123678-HxCDF	35.04	3.125e5	2.496e5	1.091	1.25	1.24	1506.3	YES	NO	db	db	51.387
15	1234789-HpCDF	41.01	1.395e5	1.236e5	0.953	1.13	1.05	836.3	YES	NO	bd	bb	53.601
16	1234678-HpCDF	38.77	1.725e5	1.737e5	1.003	0.99	1.05	1326.3	YES	NO	bb	bb	47.690
17	OCDF	45.24	1.863e5	1.970e5	0.778	0.95	0.89	1745.6	YES	NO	bd	bb	95.021
18	13468-PECDF	27.13	3.611e5	2.330e5	1.246	1.55	1.55	7323.2	YES	NO	bb	bb	44.390
19	1368-TCDD	23.56	5.668e4	7.180e4	1.015	0.79	0.77	755.8	YES	NO	bb	bb	13.654
20	1289-TCDD	27.02	3.648e4	4.783e4	0.909	0.76	0.77	445.8	YES	NO	bb	bb	10.012
21	2378-TCDD	26.42	4.111e4	5.488e4	1.149	0.75	0.77	521.2	YES	NO	bb	bb	9.017
22	Total-tetradioxins	26.10	6.719e4	8.697e4	1.024	0.77	0.77	561.8	YES	NO	bb	bb	16.242
23	Total-tetradioxins	25.60	2.343e4	2.963e4	1.024	0.79	0.77	301.6	YES	NO	bb	bb	5.591
24	12389-PECDD	31.93	2.423e5	1.700e5	1.184	1.43	1.55	1246.0	YES	NO	bb	bd	49.543
25	12378-PeCDD	31.54	2.212e5	1.442e5	1.022	1.53	1.55	1124.1	YES	NO	bb	bb	50.849
26	12479-PECDD	28.82	3.593e5	2.367e5	2.301	1.52	1.55	1224.5	YES	NO	bb	bb	36.832
27	124679-HXCDD	34.01	2.330e5	1.909e5	1.115	1.22	1.24	1078.1	YES	NO	bb	bb	49.292
28	123789-HxCDD	36.52	2.114e5	1.814e5	0.907	1.17	1.24	982.1	YES	NO	bb	bd	51.723
29	123678-HxCDD	36.14	2.532e5	2.091e5	1.001	1.21	1.24	1112.6	YES	NO	db	db	51.126
30	123478-HxCDD	36.02	2.147e5	1.744e5	0.996	1.23	1.24	1055.8	YES	NO	bd	bd	50.696
31	1234678-HpCDD	40.27	1.700e5	1.663e5	1.039	1.02	1.05	1138.4	YES	NO	bd	bd	52.721
32	1234679-HPCDD	39.23	2.020e5	1.832e5	1.137	1.10	1.05	1451.0	YES	NO	bd	bb	55.196
33	OCDD	45.00	2.152e5	2.483e5	0.920	0.87	0.89	2785.0	YES	NO	bb	bb	97.150

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	22.45	3.397e6					9.1	YES		db		
2	FUNCTION1 PFK	22.00	4.124e6					5.2	YES		bd		

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	28.25	2.674e4					2.5	NO		db		0.000
2	FUNCTION2 PFK	28.20	5.558e3					1.1	NO		dd		0.000
3	FUNCTION2 PFK	28.15	1.333e4					1.7	NO		bd		0.000
4	FUNCTION2 PFK	28.11	4.408e3					0.8	NO		bb		0.000
5	FUNCTION2 PFK	30.52	5.287e3					0.9	NO		bd		0.000
6	FUNCTION2 PFK	30.38	1.568e4					1.4	NO		bb		0.000
7	FUNCTION2 PFK	30.23	2.380e4					1.5	NO		db		0.000
8	FUNCTION2 PFK	30.10	2.694e4					1.7	NO		bd		0.000
9	FUNCTION2 PFK	29.99	2.076e3					0.5	NO		bb		0.000
10	FUNCTION2 PFK	29.89	7.421e3					1.2	NO		bb		0.000
11	FUNCTION2 PFK	29.80	6.022e3					0.5	NO		bb		0.000
12	FUNCTION2 PFK	29.62	1.101e4					1.2	NO		bb		0.000
13	FUNCTION2 PFK	29.52	2.200e4					2.0	NO		bb		0.000
14	FUNCTION2 PFK	29.42	7.036e3					1.0	NO		bb		0.000
15	FUNCTION2 PFK	29.29	2.309e4					2.2	NO		bb		0.000
16	FUNCTION2 PFK	29.03	1.036e4					1.7	NO		db		0.000
17	FUNCTION2 PFK	29.00	8.382e3					1.3	NO		bd		0.000
18	FUNCTION2 PFK	28.80	5.680e3					0.9	NO		bb		0.000
19	FUNCTION2 PFK	28.70	1.413e4					1.3	NO		bb		0.000
20	FUNCTION2 PFK	28.60	2.690e3					0.7	NO		bb		0.000
21	FUNCTION2 PFK	32.35	9.362e3					1.3	NO		bd		0.000
22	FUNCTION2 PFK	32.28	5.282e3					0.9	NO		bb		0.000
23	FUNCTION2 PFK	31.94	5.478e3					0.6	NO		bb		0.000
24	FUNCTION2 PFK	31.86	9.539e3					1.3	NO		bb		0.000
25	FUNCTION2 PFK	31.70	8.598e3					0.9	NO		bb		0.000
26	FUNCTION2 PFK	31.56	1.164e4					1.5	NO		bb		0.000
27	FUNCTION2 PFK	31.44	9.870e3					1.2	NO		bb		0.000
28	FUNCTION2 PFK	31.37	5.651e3					1.2	NO		bb		0.000
29	FUNCTION2 PFK	31.16	3.906e3					0.7	NO		db		0.000
30	FUNCTION2 PFK	31.10	5.259e3					1.0	NO		bd		0.000
31	FUNCTION2 PFK	31.00	2.220e3					0.5	NO		bb		0.000
32	FUNCTION2 PFK	30.93	4.197e3					0.6	NO		bb		0.000
33	FUNCTION2 PFK	30.84	1.813e4					1.7	NO		bb		0.000
34	FUNCTION2 PFK	30.68	6.046e3					1.3	NO		db		0.000
35	FUNCTION2 PFK	30.64	6.706e3					1.2	NO		dd		0.000
36	FUNCTION2 PFK	30.58	1.475e4					1.4	NO		dd		0.000
37	FUNCTION2 PFK	32.74	9.704e3					1.1	NO		bb		0.000

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION2 PFK	32.61	1.975e3					0.6	NO		bb		0.000
39	FUNCTION2 PFK	32.55	1.171e3					0.5	NO		bb		0.000
40	FUNCTION2 PFK	32.51	7.325e3					1.0	NO		db		0.000
41	FUNCTION2 PFK	32.45	9.340e3					1.3	NO		dd		0.000
42	FUNCTION2 PFK	32.41	1.322e4					1.9	NO		dd		0.000

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	37.70	5.175e4					1.9	NO		bb		0.000
2	FUNCTION3 PFK	35.52	3.681e5					3.3	YES		bb		0.000
3	FUNCTION3 PFK	34.42	8.023e6					1.5	NO		bb		0.000

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	40.67	5.668e6					23.1	YES		db		
2	FUNCTION4 PFK	39.84	1.814e7					26.9	YES		dd		
3	FUNCTION4 PFK	38.09	2.173e6					22.8	YES		bd		

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	42.82	4.953e3					1.4	NO		bb		
2	FUNCTION5 PFK	45.79	4.078e3					1.3	NO		db		
3	FUNCTION5 PFK	45.76	2.296e3					0.8	NO		bd		
4	FUNCTION5 PFK	45.37	1.499e4					1.8	NO		bb		
5	FUNCTION5 PFK	45.31	3.040e3					1.0	NO		bb		
6	FUNCTION5 PFK	44.94	1.866e3					0.7	NO		bb		
7	FUNCTION5 PFK	44.62	4.342e3					1.3	NO		bb		
8	FUNCTION5 PFK	43.85	4.909e3					1.2	NO		bb		
9	FUNCTION5 PFK	43.55	9.698e3					1.7	NO		bb		
10	FUNCTION5 PFK	43.31	1.818e4					2.2	NO		bb		
11	FUNCTION5 PFK	43.18	3.274e3					1.0	NO		bb		

ID: CS3W2, Name: 23030311, Date: 03-Mar-2023, Time: 17:25:01, Conditions: AUTOSPEC01, User: pk

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	27.14	7.703e1					2.6	NO		bb		0.000
2	FUNCTION1 HXCD...	25.58	1.369e2					3.0	NO		bb		0.000
3	FUNCTION1 HXCD...	24.29	7.654e1					1.4	NO		bb		0.000
4	FUNCTION1 HXCD...	23.49	8.895e1					2.4	NO		bb		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	32.41	1.026e2					2.4	NO		db		0.000
2	FUNCTION2 HPCD...	32.32	1.299e2					2.2	NO		bd		0.000
3	FUNCTION2 HPCD...	31.19	1.035e2					3.9	YES		db		0.000
4	FUNCTION2 HPCD...	31.15	2.274e2					6.9	YES		bd		0.000
5	FUNCTION2 HPCD...	29.21	1.504e2					2.9	NO		bb		0.000
6	FUNCTION2 HPCD...	28.77	9.035e1					2.8	NO		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	36.51	9.563e1					4.4	YES		bb		0.000

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

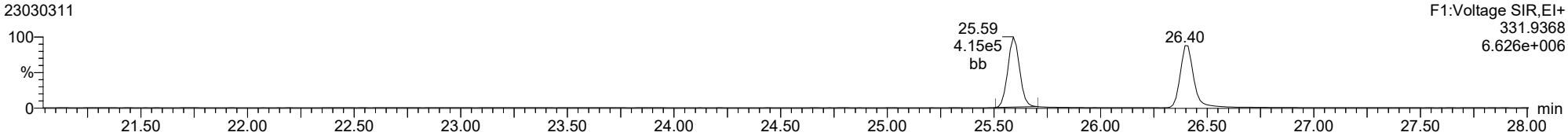
ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

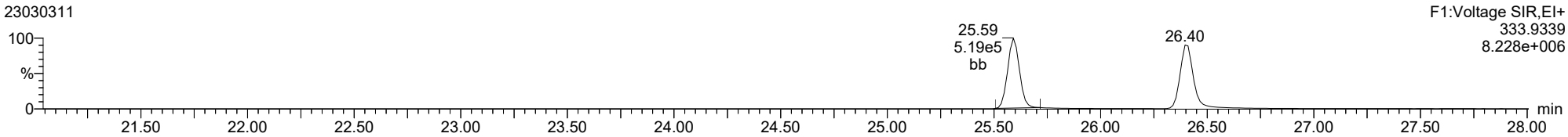
Method: T:\Autospec\Methods\Dioxin230303.mdb 03 Mar 2023 14:58:50
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 10:57:27

ID: CS3W2, Name: 23030311, Date: 03-Mar-2023, Time: 17:25:01, Conditions: AUTOSPEC01, User: pk

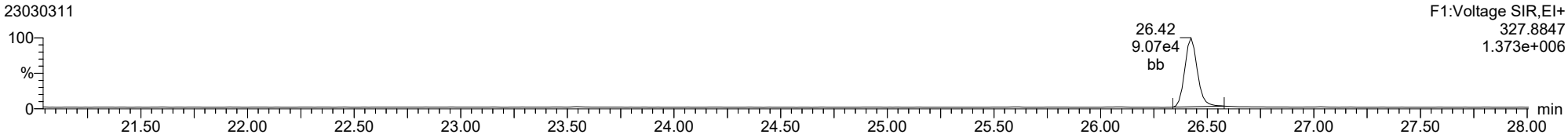
13C-1234-TCDD



13C-1234-TCDD



37CL-2378-TCDD



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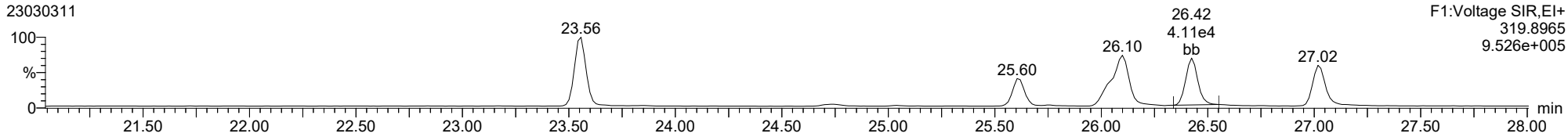
2378-TCDD



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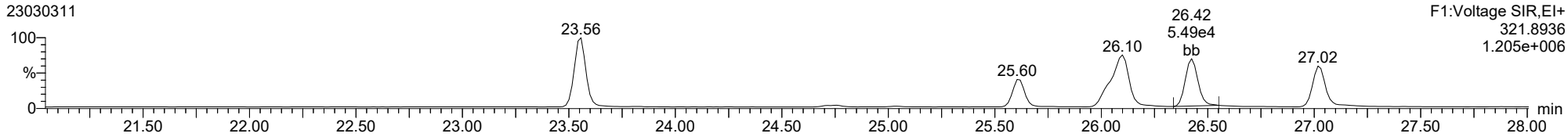

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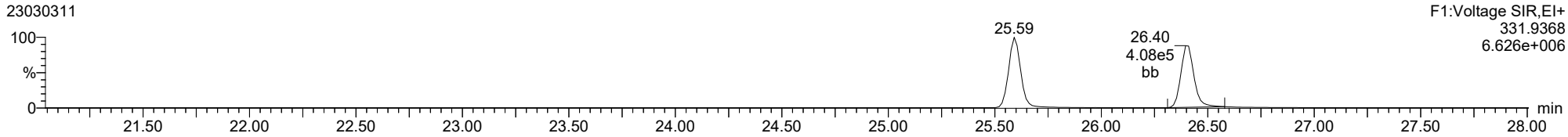

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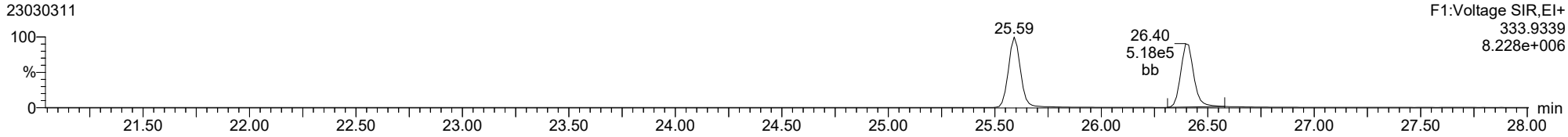
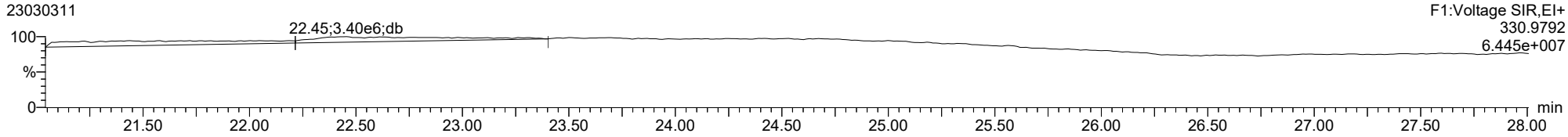
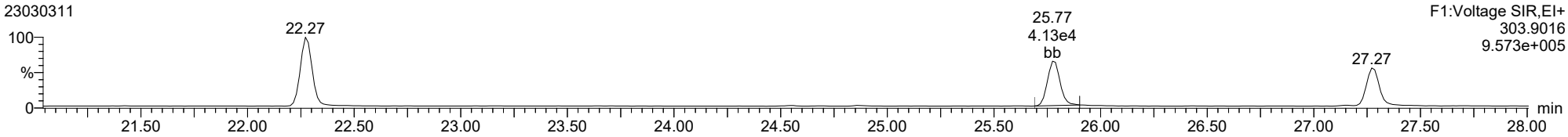


FUNCTION1 PFK



ID: CS3W2, Name: 23030311, Date: 03-Mar-2023, Time: 17:25:01, Conditions: AUTOSPEC01, User: pk

2378-TCDF



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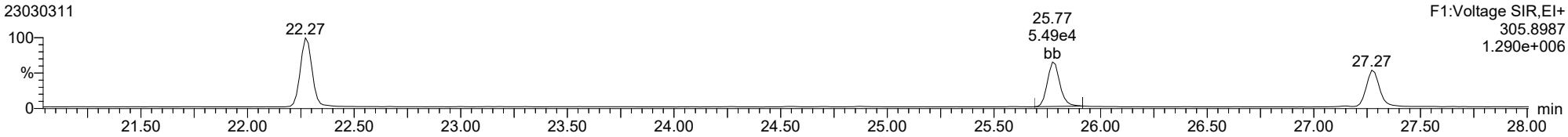

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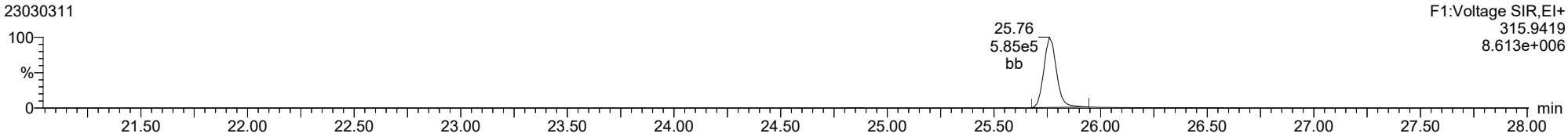

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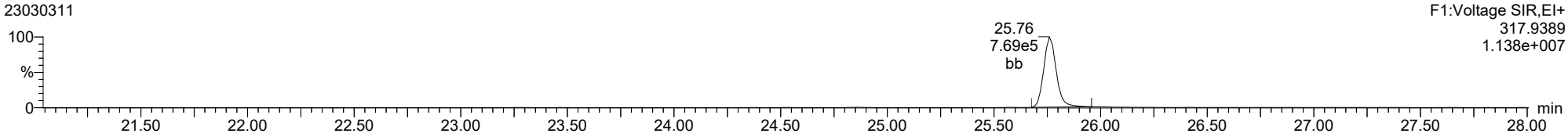
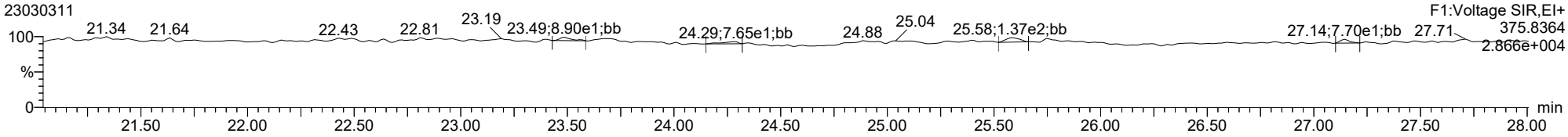
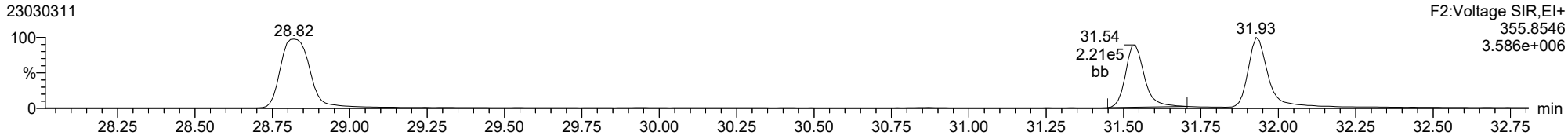


FUNCTION1 HXCDPE



ID: CS3W2, Name: 23030311, Date: 03-Mar-2023, Time: 17:25:01, Conditions: AUTOSPEC01, User: pk

12378-PeCDD



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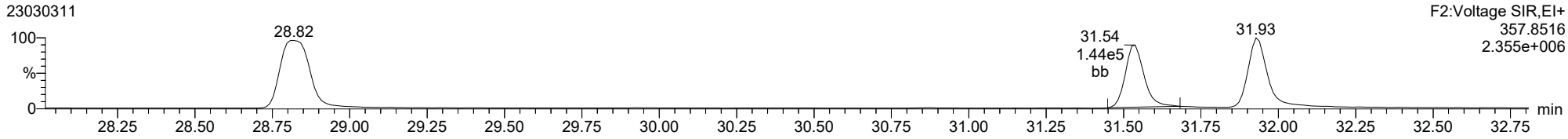

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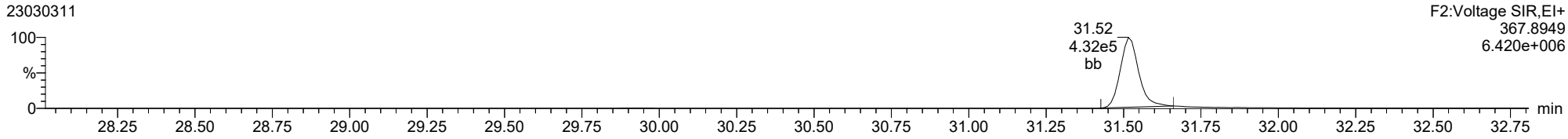

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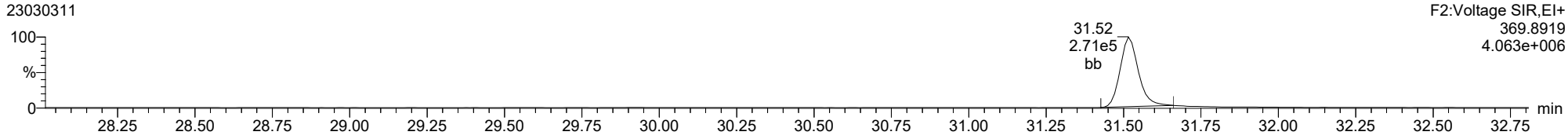
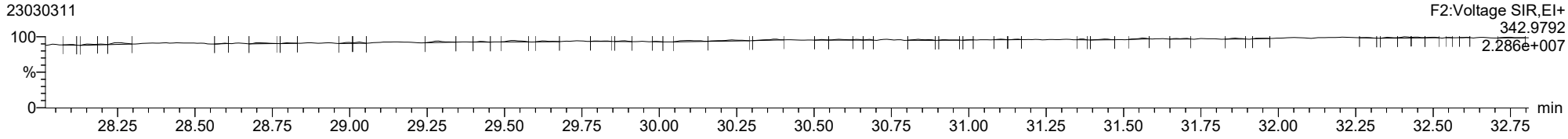


FUNCTION2 PFK



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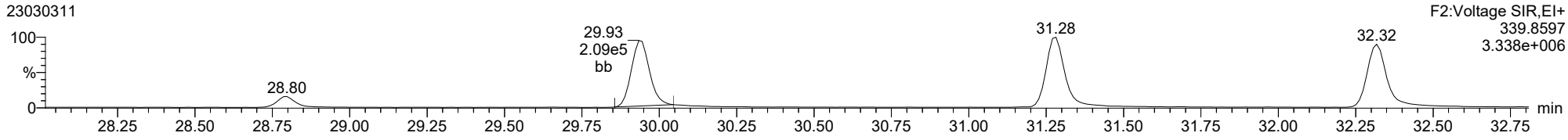

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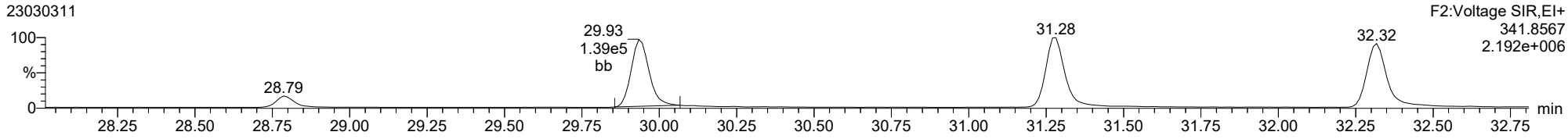

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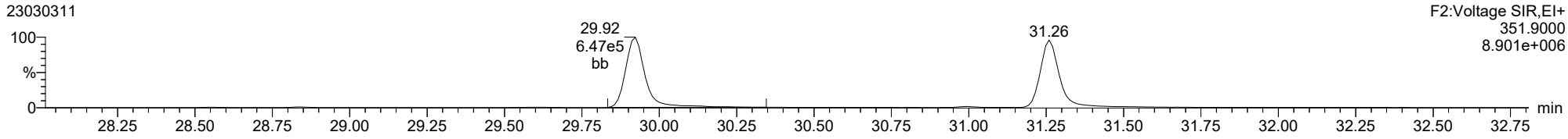

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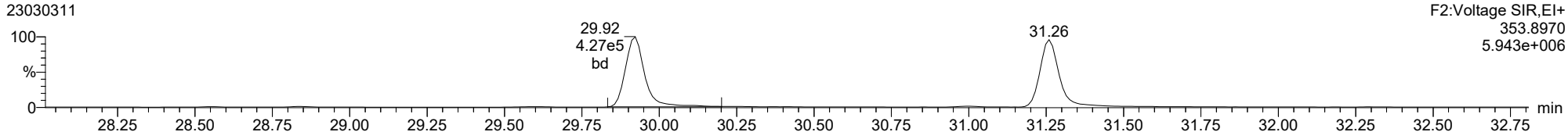
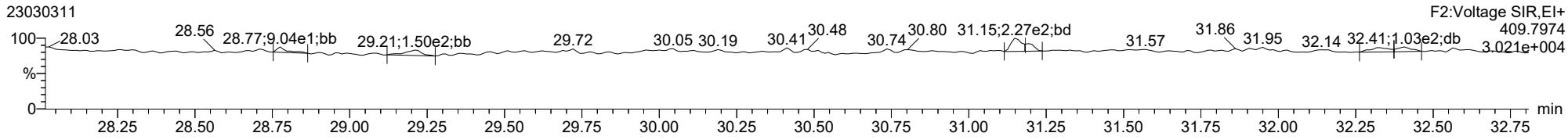


FUNCTION2 HPCDPE



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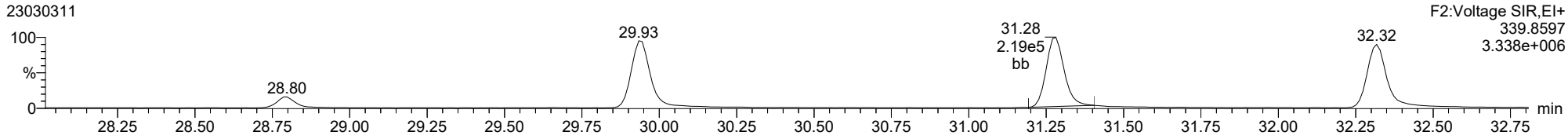
23478-PeCDF



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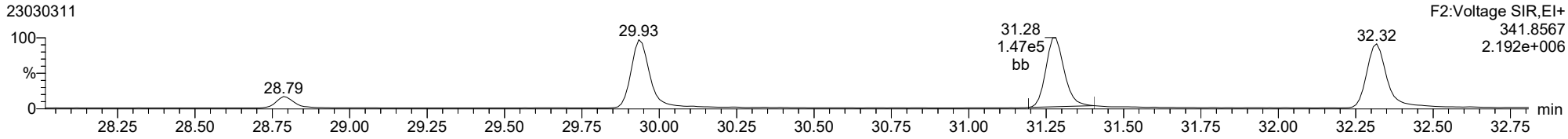

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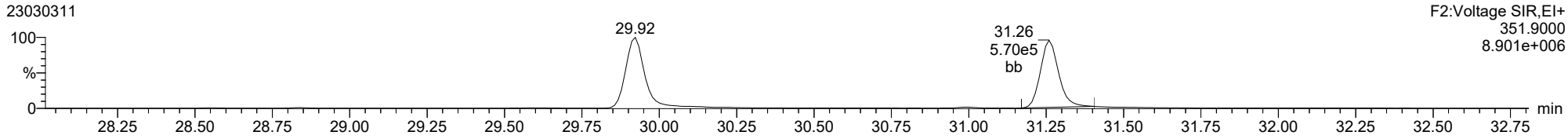

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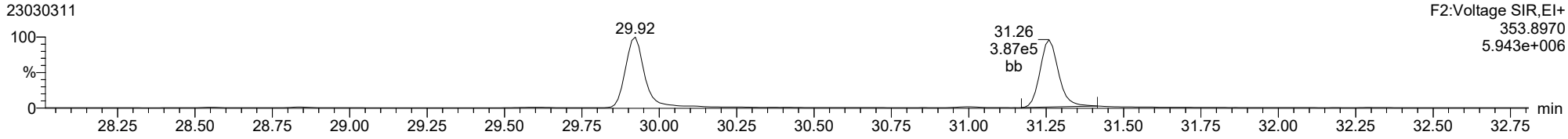
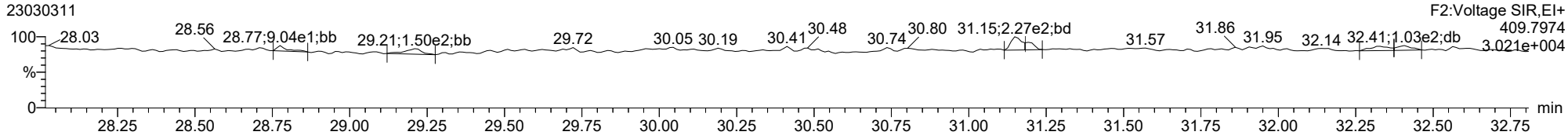


FUNCTION2 HPCDPE



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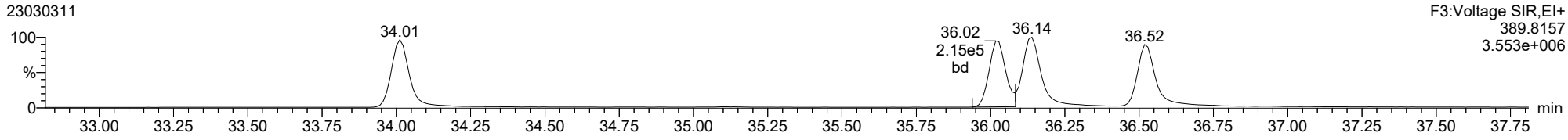
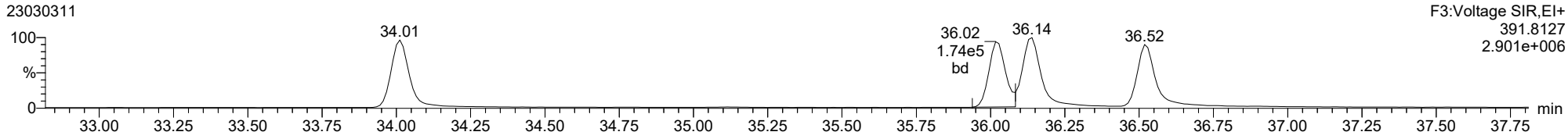
123478-HxCDD



123478-HxCDD



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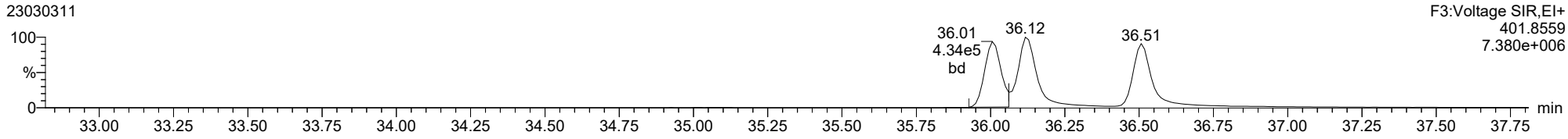

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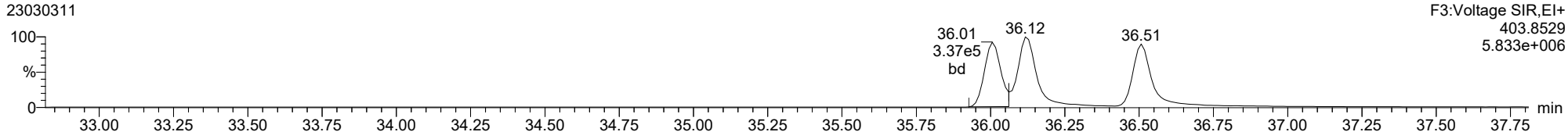
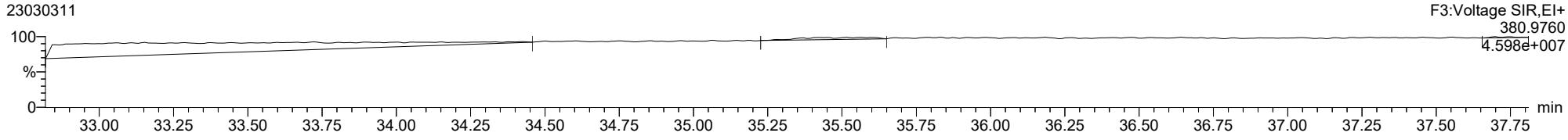


FUNCTION3 PFK



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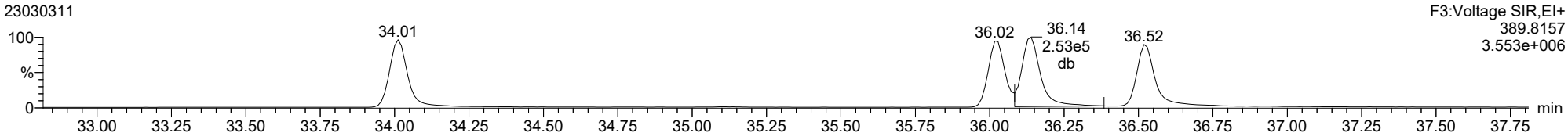
123678-HxCDD



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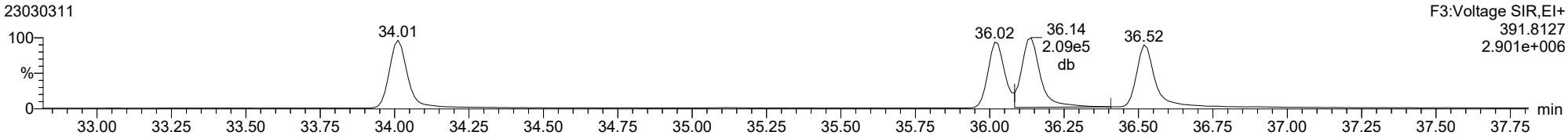

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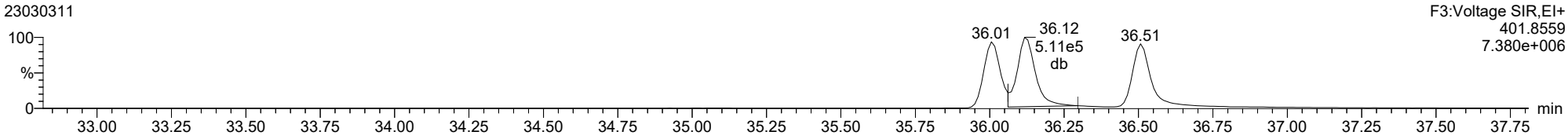

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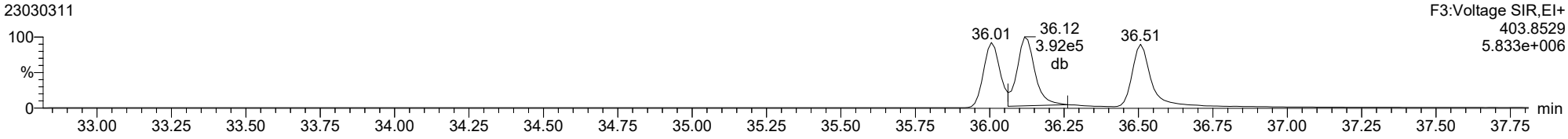

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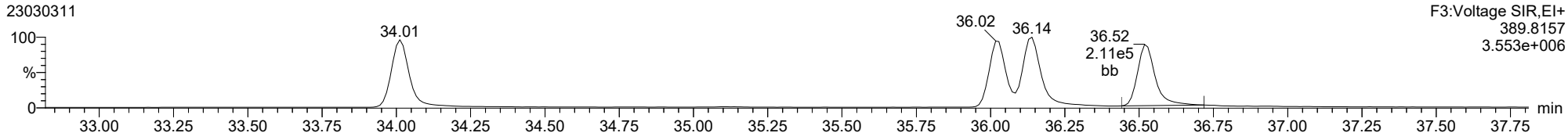
123789-HxCDD



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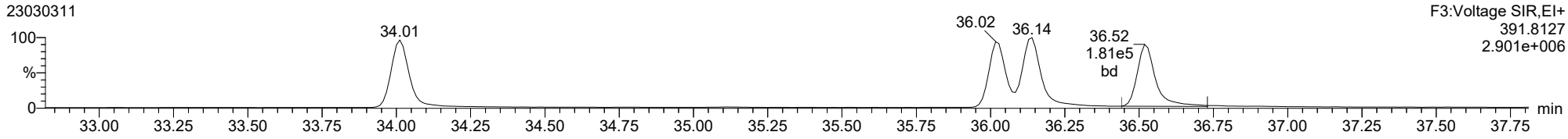

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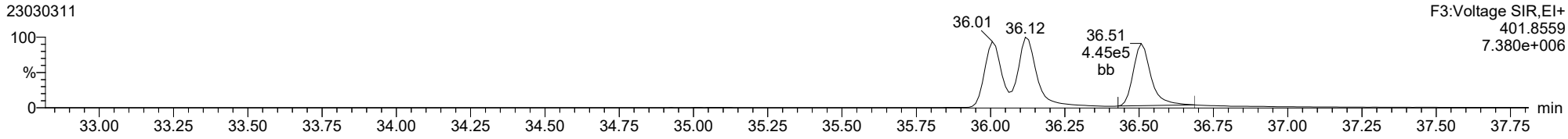

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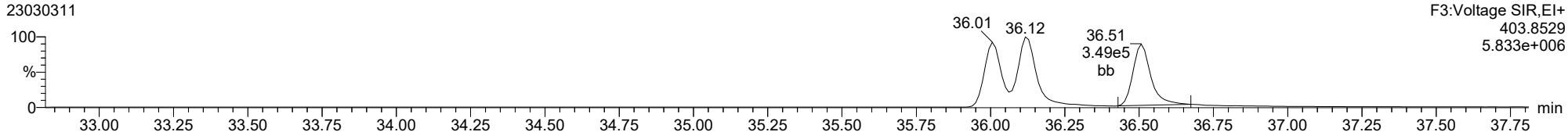

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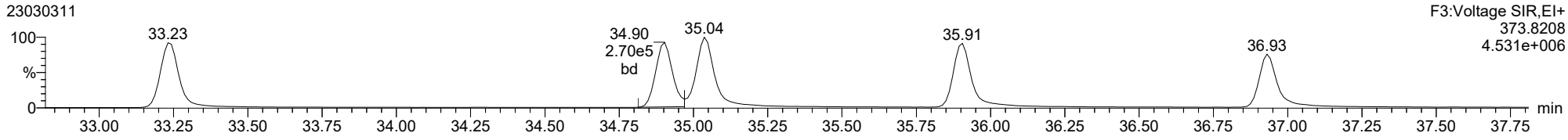
123478-HxCDF



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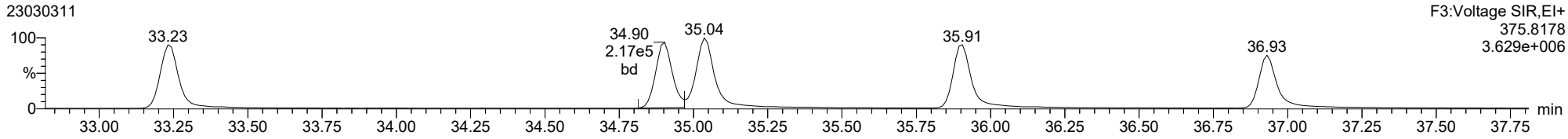

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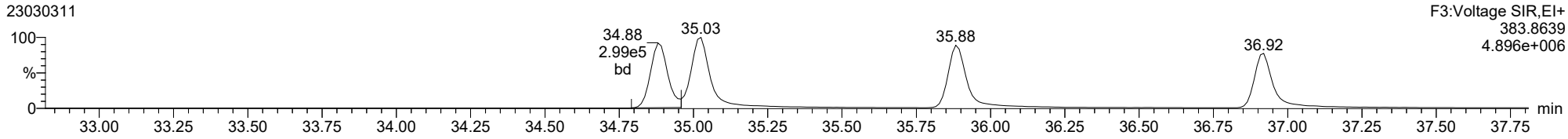

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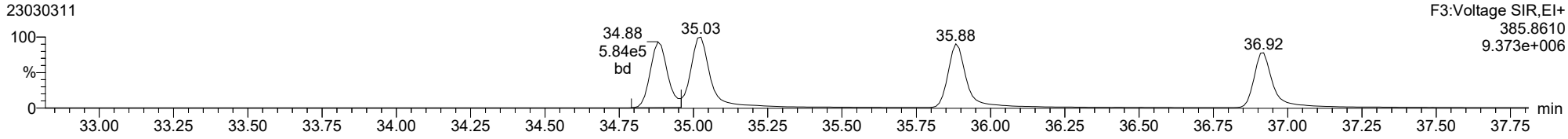
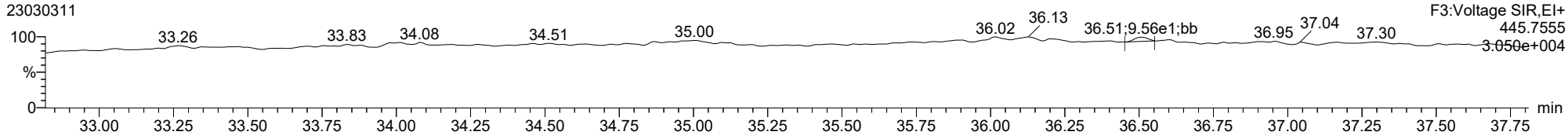


FUNCTION3 OCDPE



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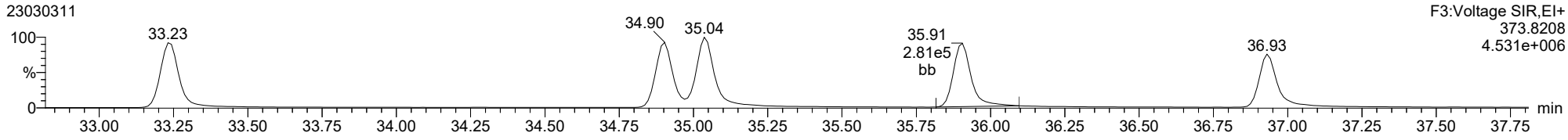
234678-HxCDF



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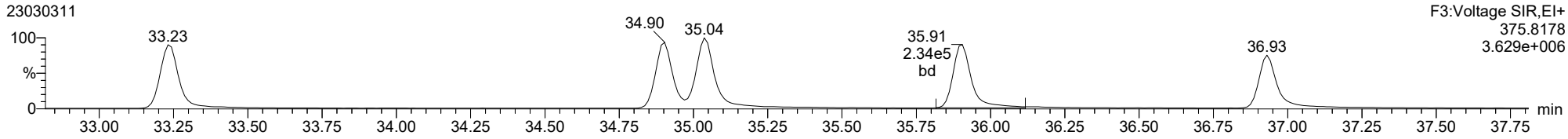

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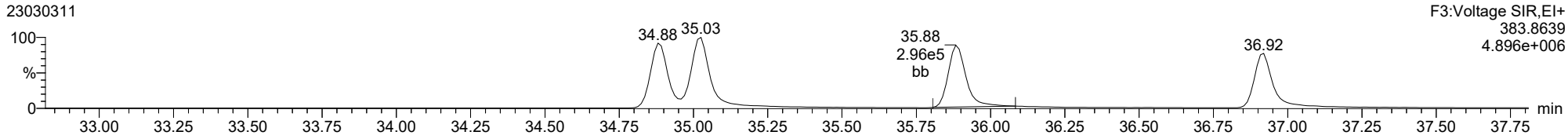

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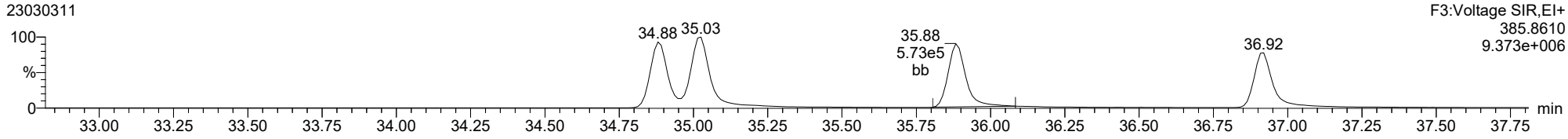
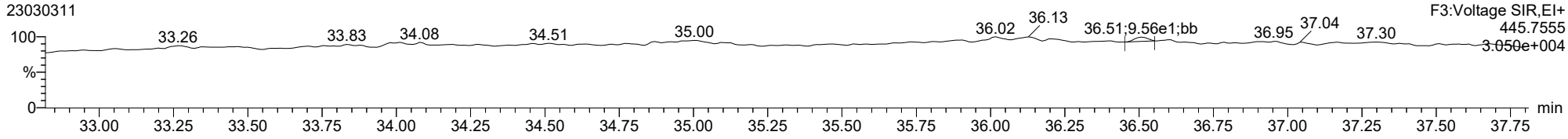


FUNCTION3 OCDPE



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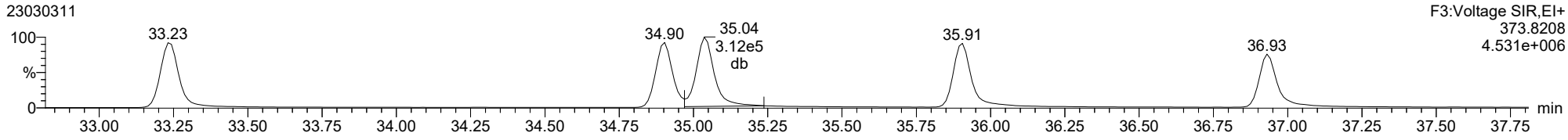

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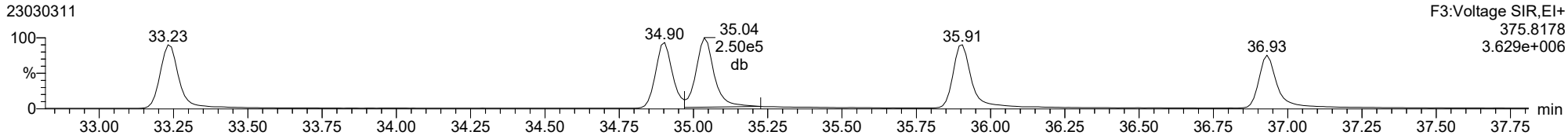

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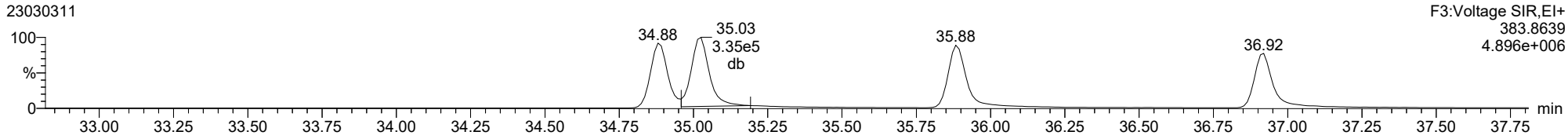

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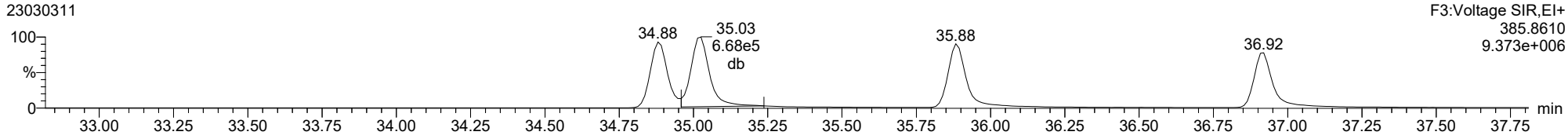

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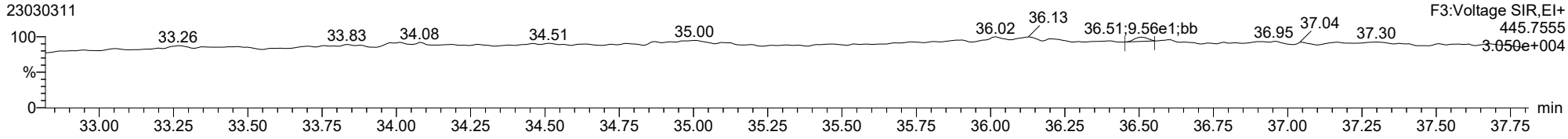

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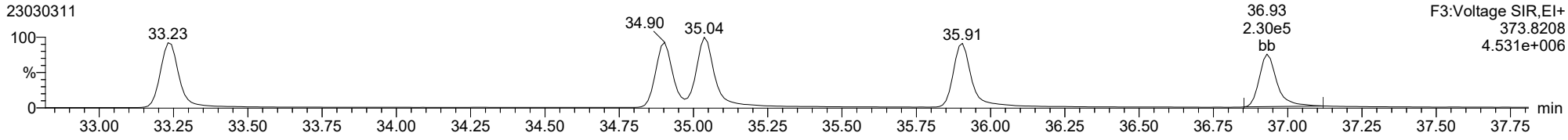

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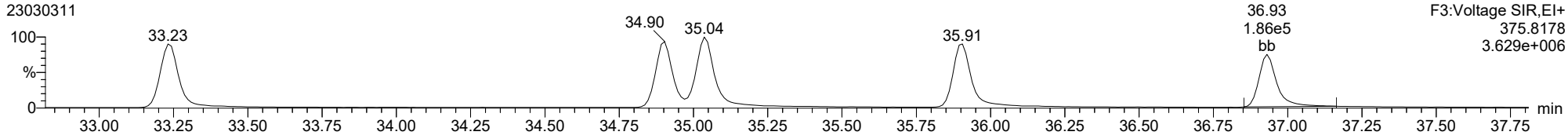

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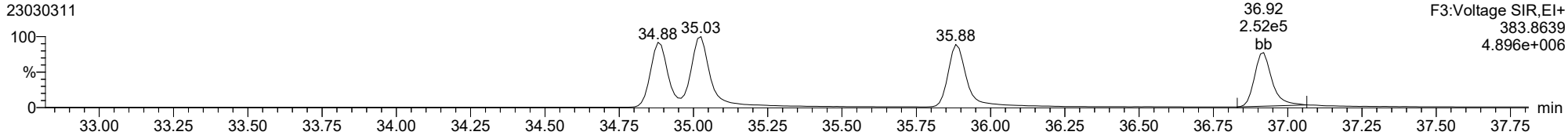

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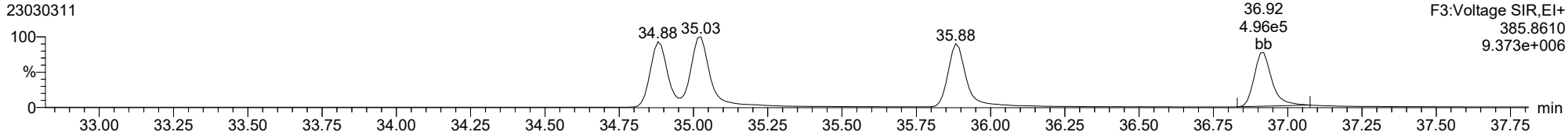

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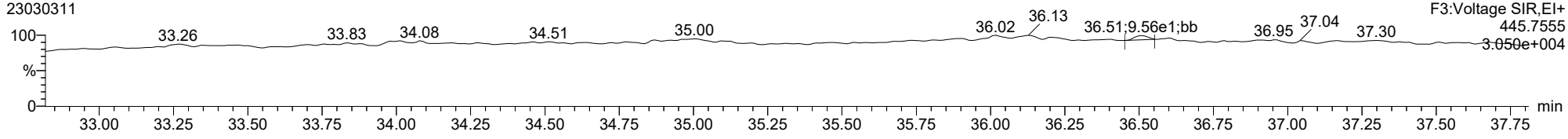

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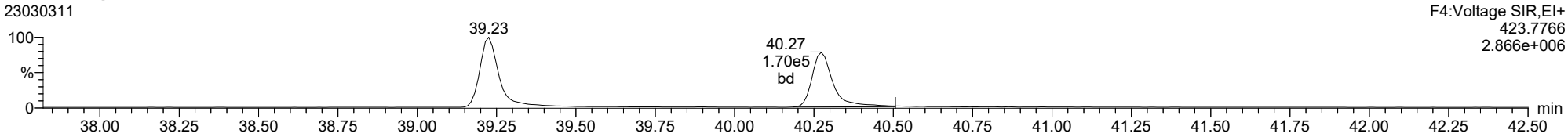

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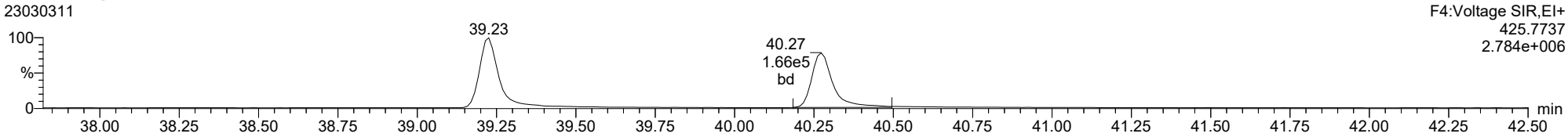

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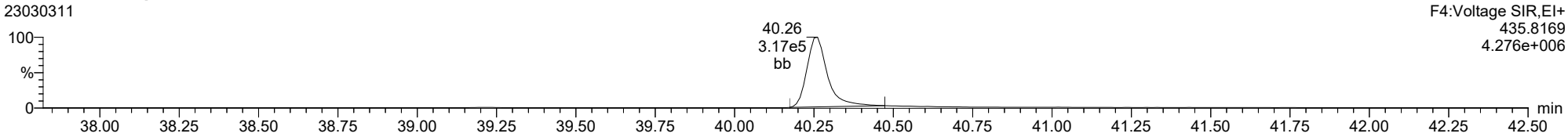

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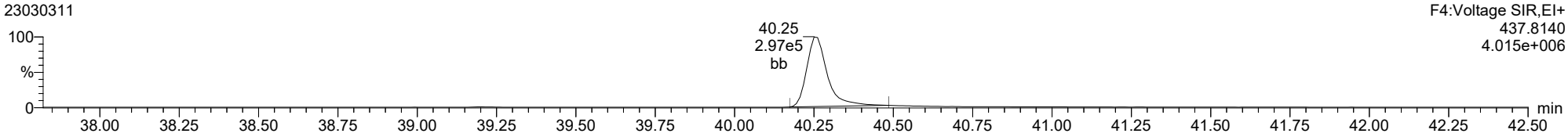
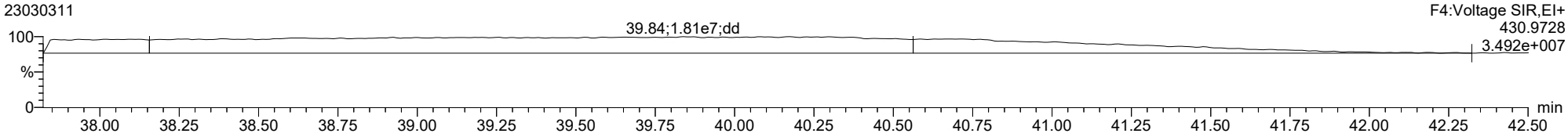


FUNCTION4 PFK



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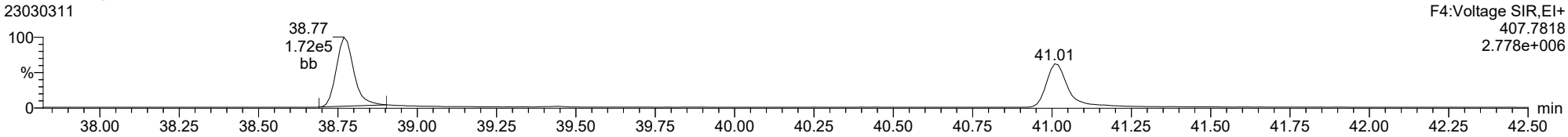

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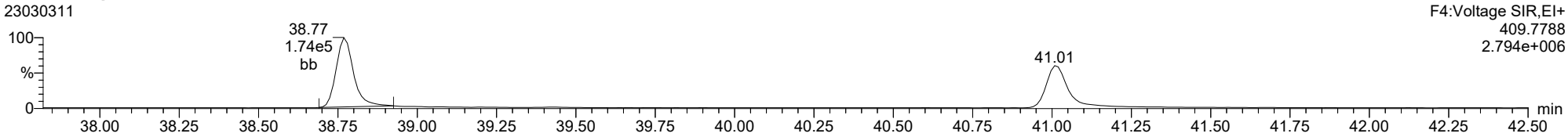

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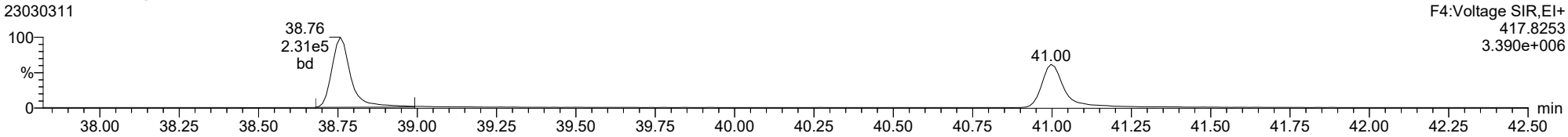

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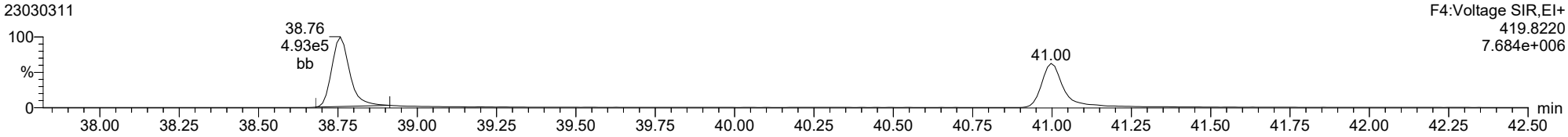
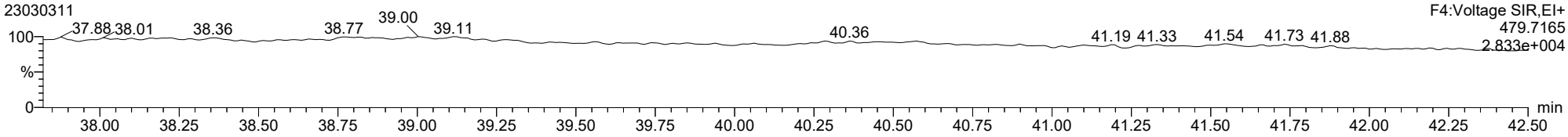


FUNCTION4 NCDPE



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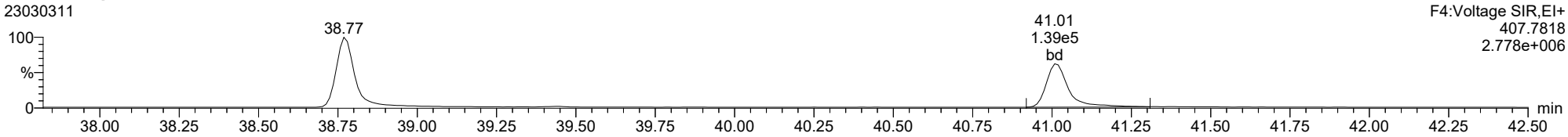

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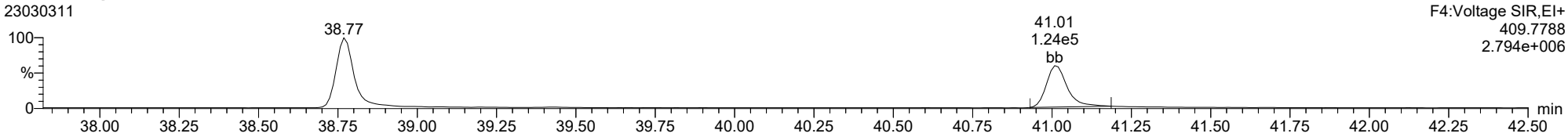

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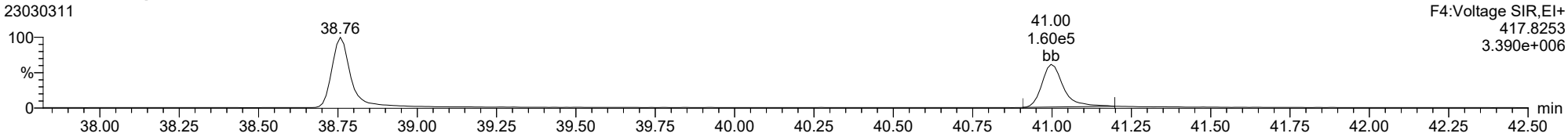

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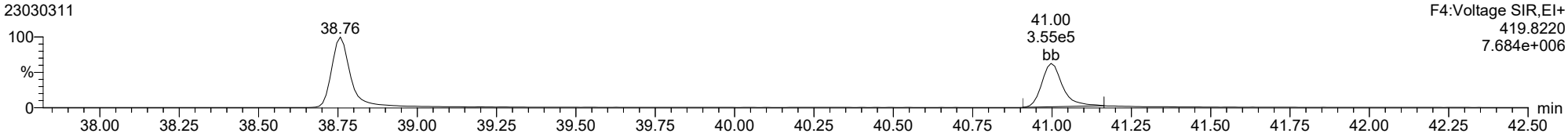

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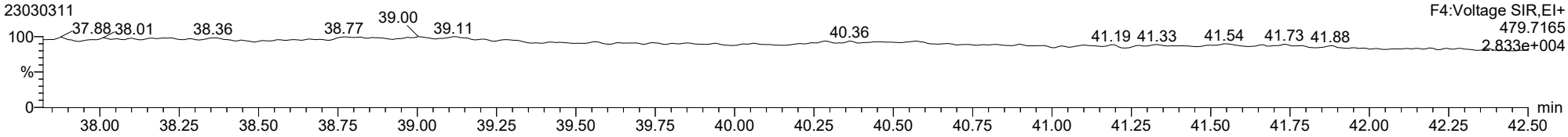

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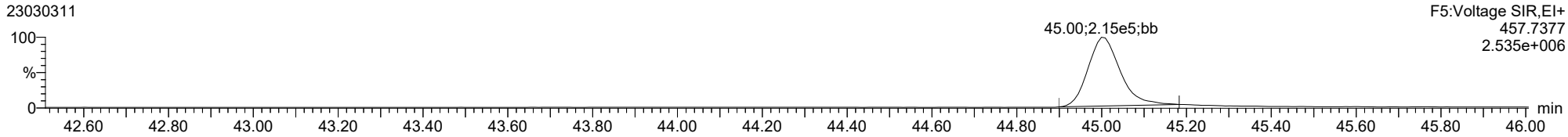

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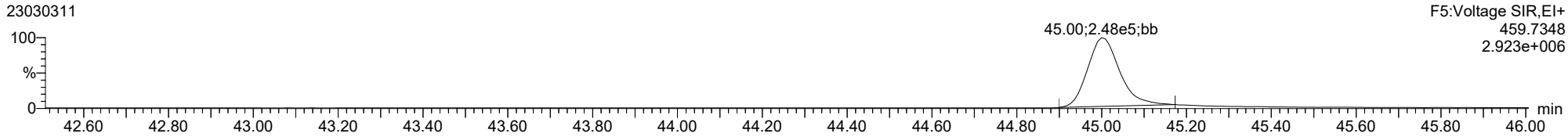

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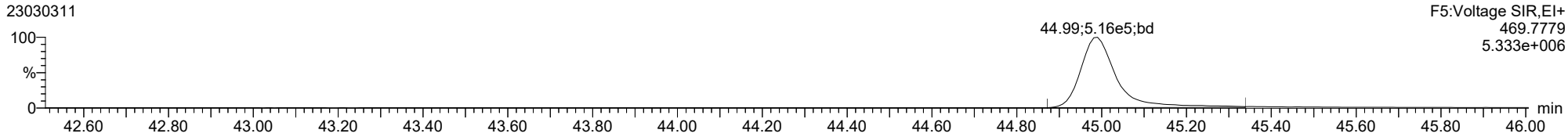

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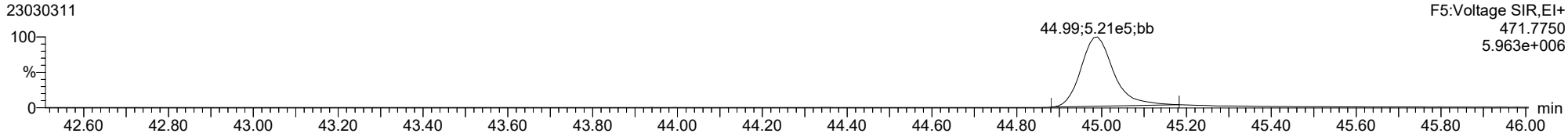
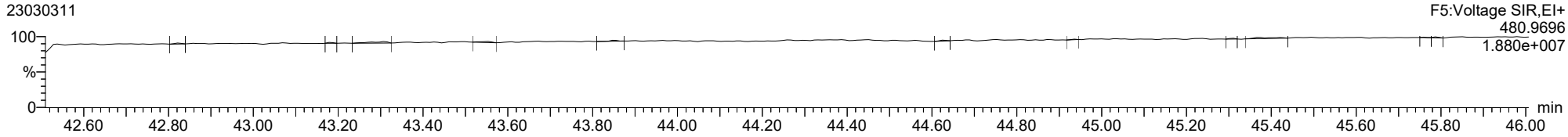


FUNCTION5 PFK



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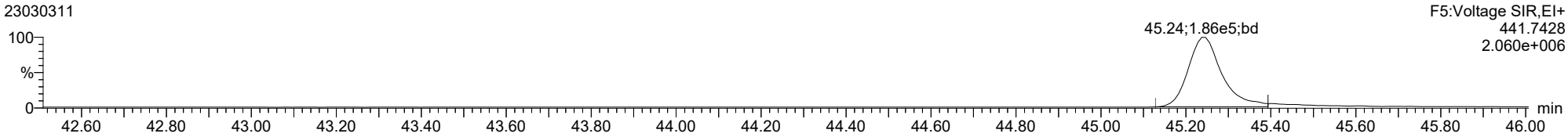
OCDF



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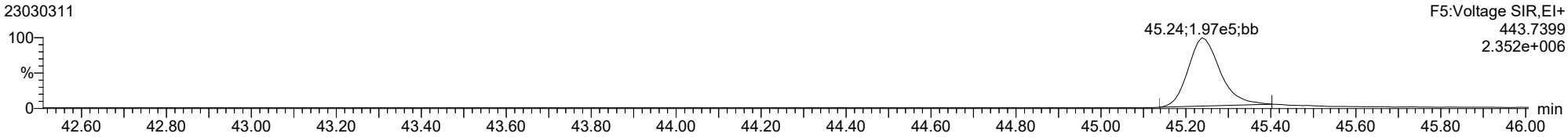

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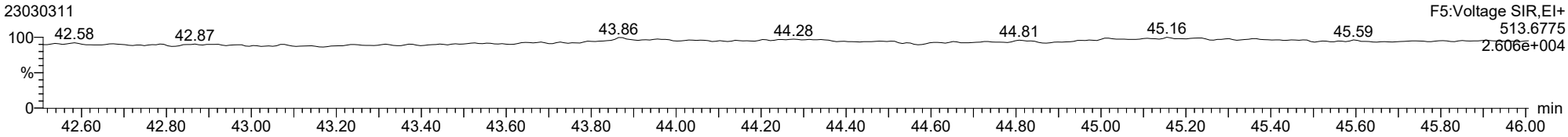

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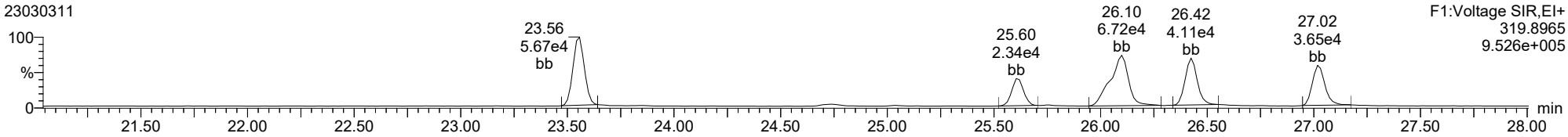
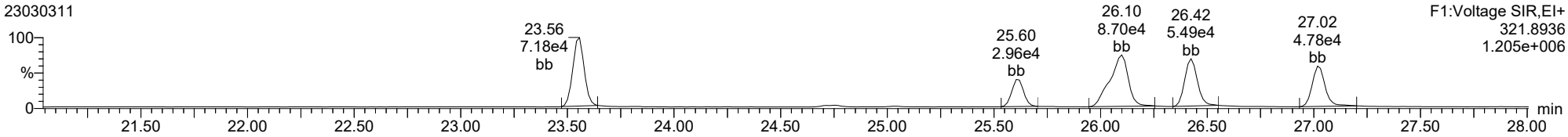
Total-tetradioxins



Total-tetradioxins



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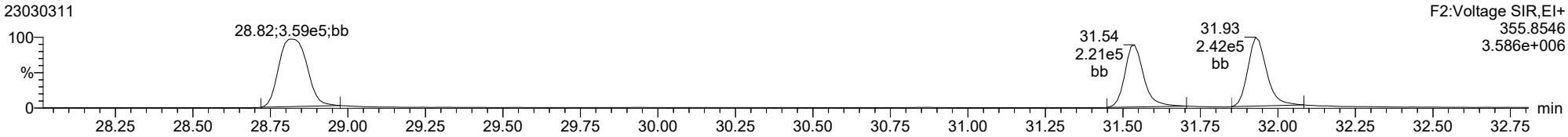

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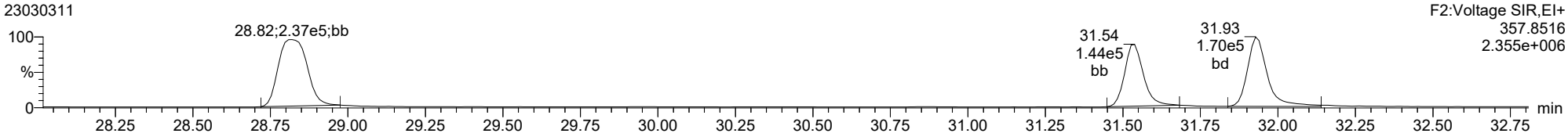

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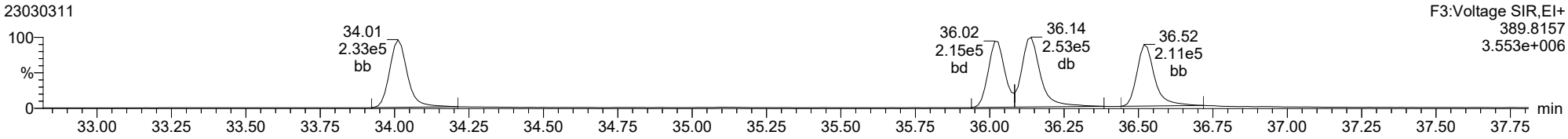

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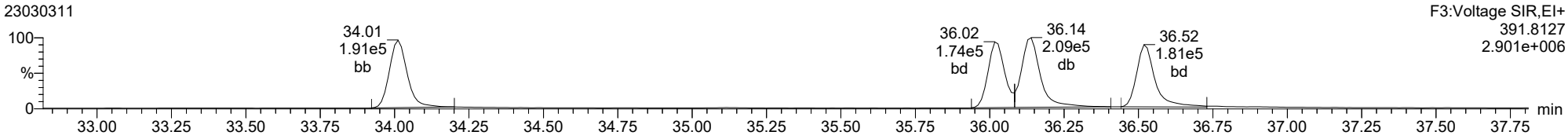
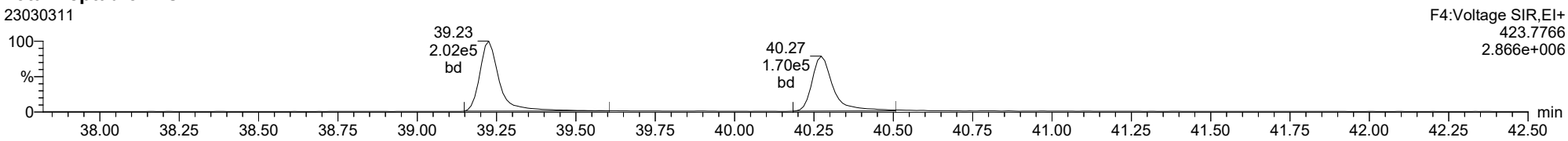


Total-heptadioxins



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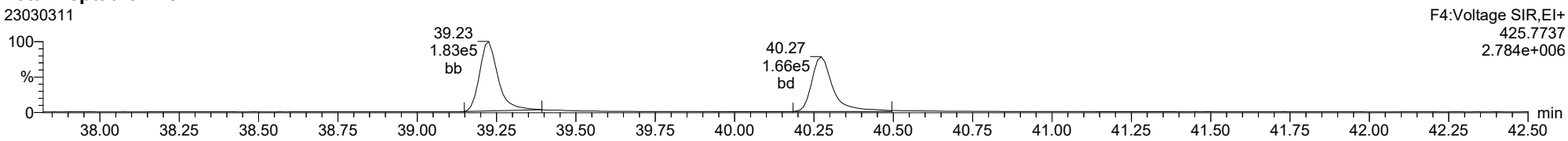

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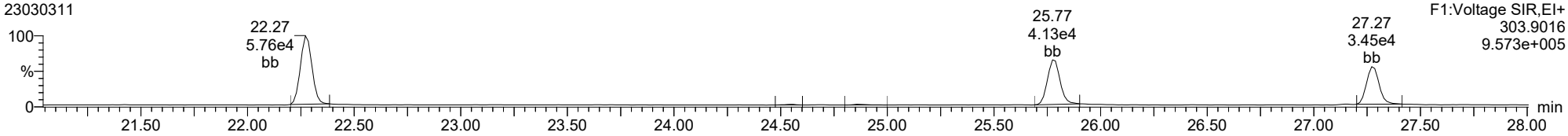
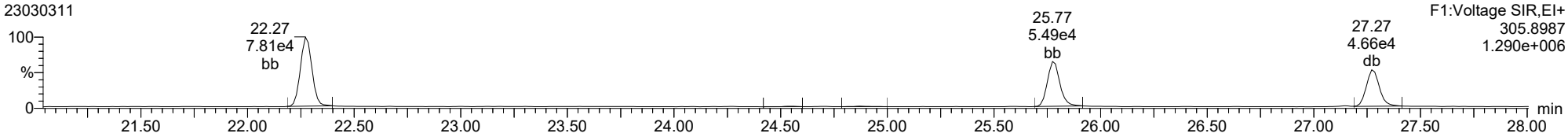
Total-tetrafurans



Total-tetrafurans



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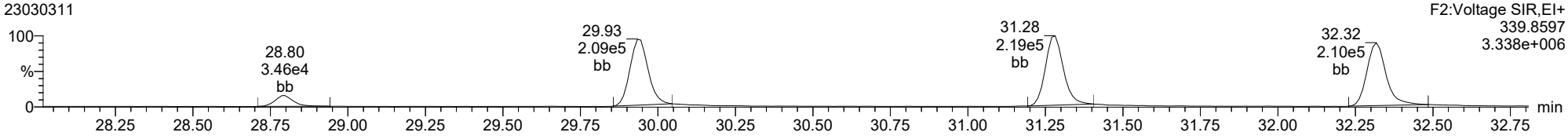

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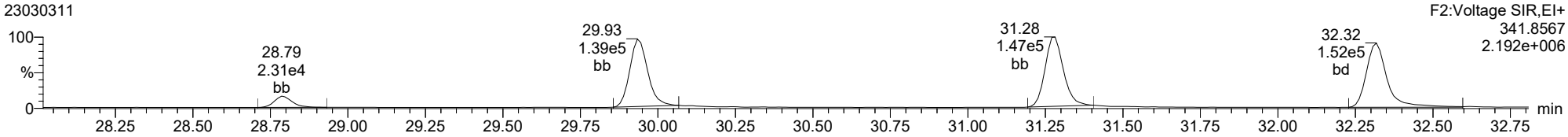

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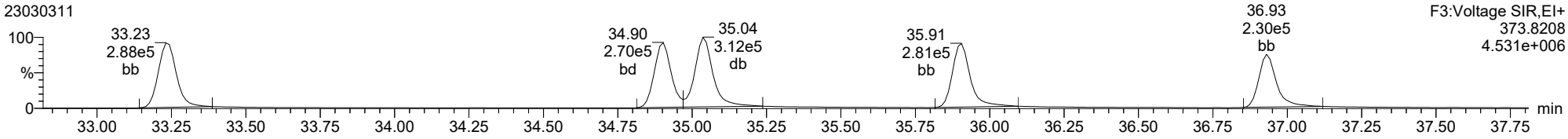

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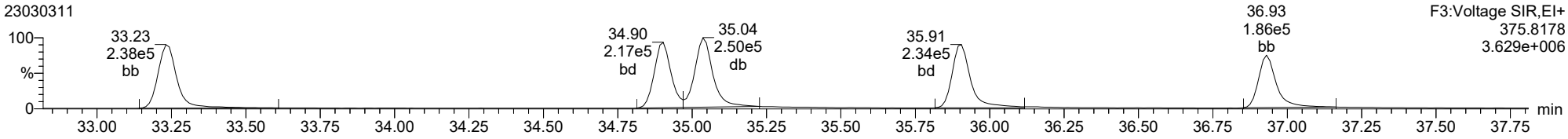

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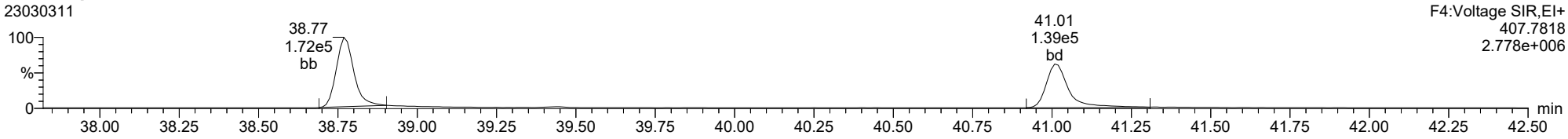

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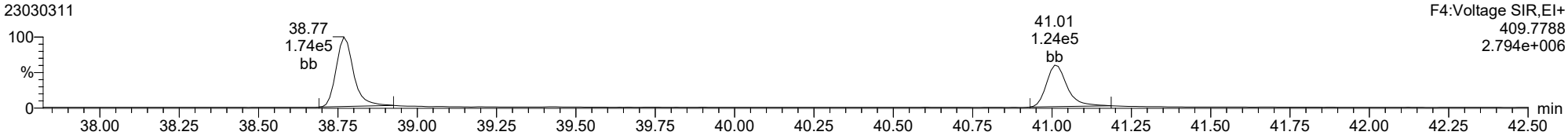
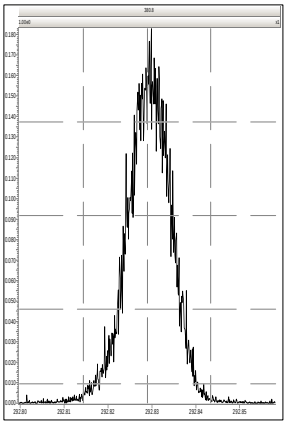
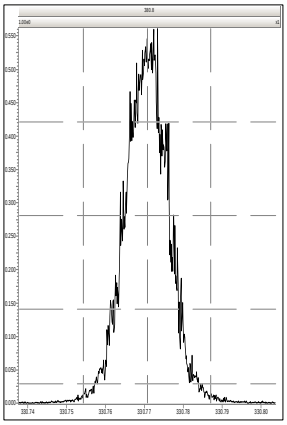


Printed: Friday, March 03, 2023 18:18:18 Pacific Standard Time

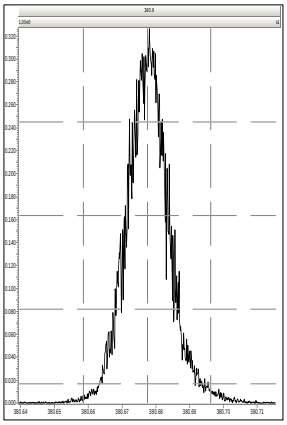
M 292.9824 R 13158



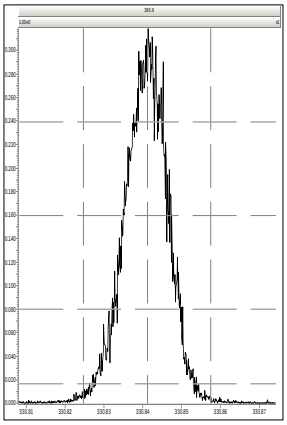
M 330.9792 R 12771



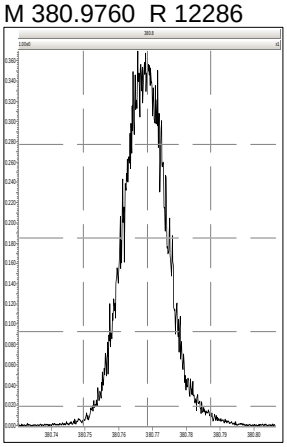
M 380.9760 R 12507



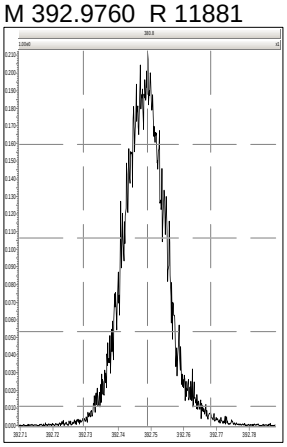
M 330.9792 R 13122



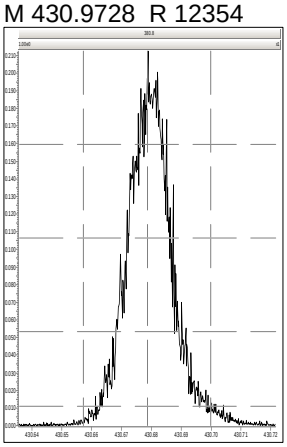
M 380.9760 R 12286



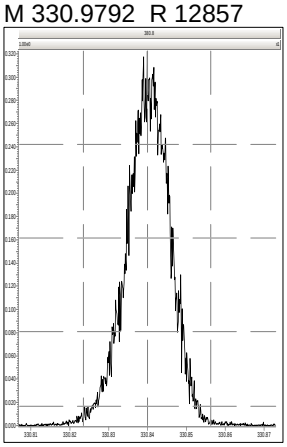
M 392.9760 R 11881



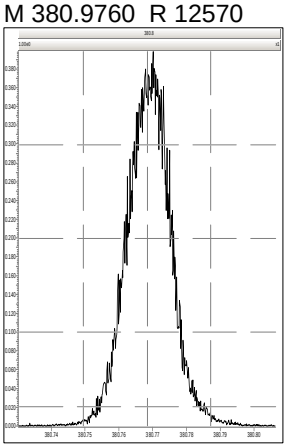
M 430.9728 R 12354



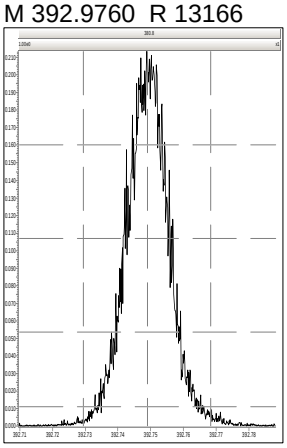
M 330.9792 R 12857



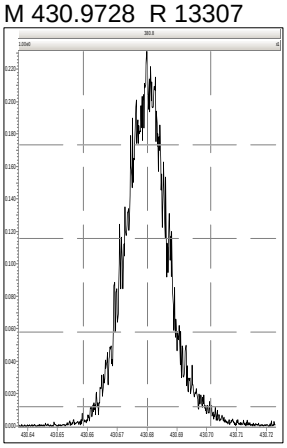
M 380.9760 R 12570



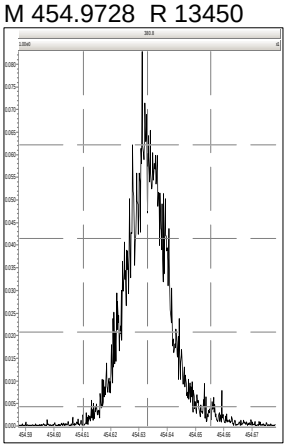
M 392.9760 R 13166



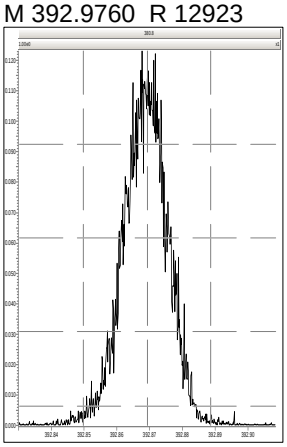
M 430.9728 R 13307



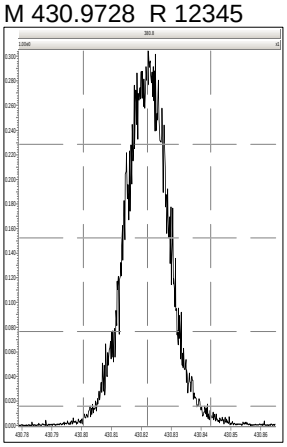
M 454.9728 R 13450



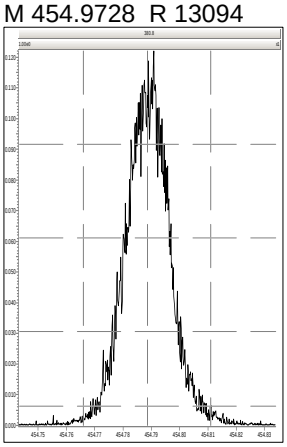
M 392.9760 R 12923



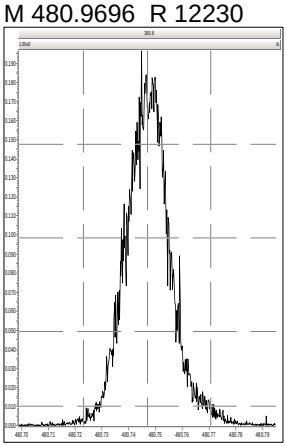
M 430.9728 R 12345



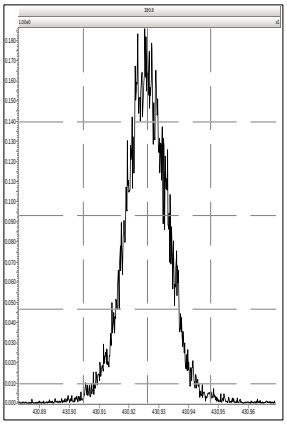
M 454.9728 R 13094



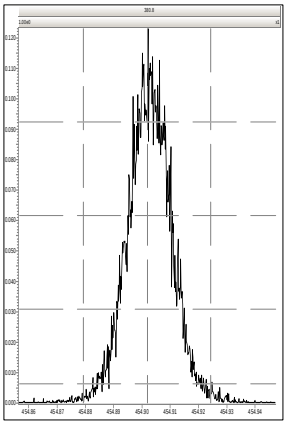
M 480.9696 R 12230



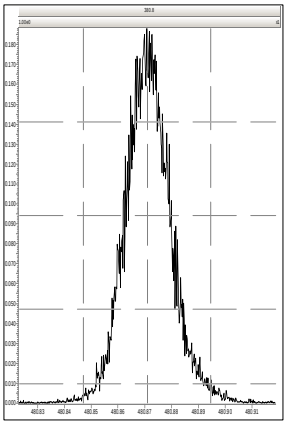
M 430.9728 R 12854



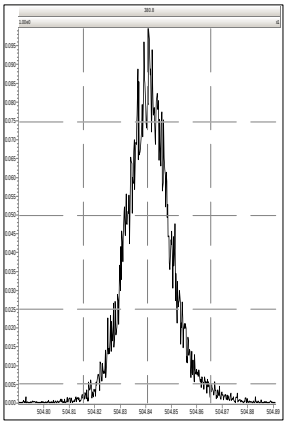
M 454.9728 R 13400



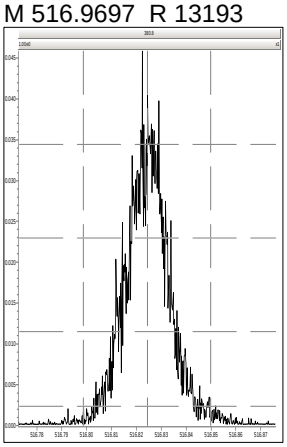
M 480.9696 R 11904

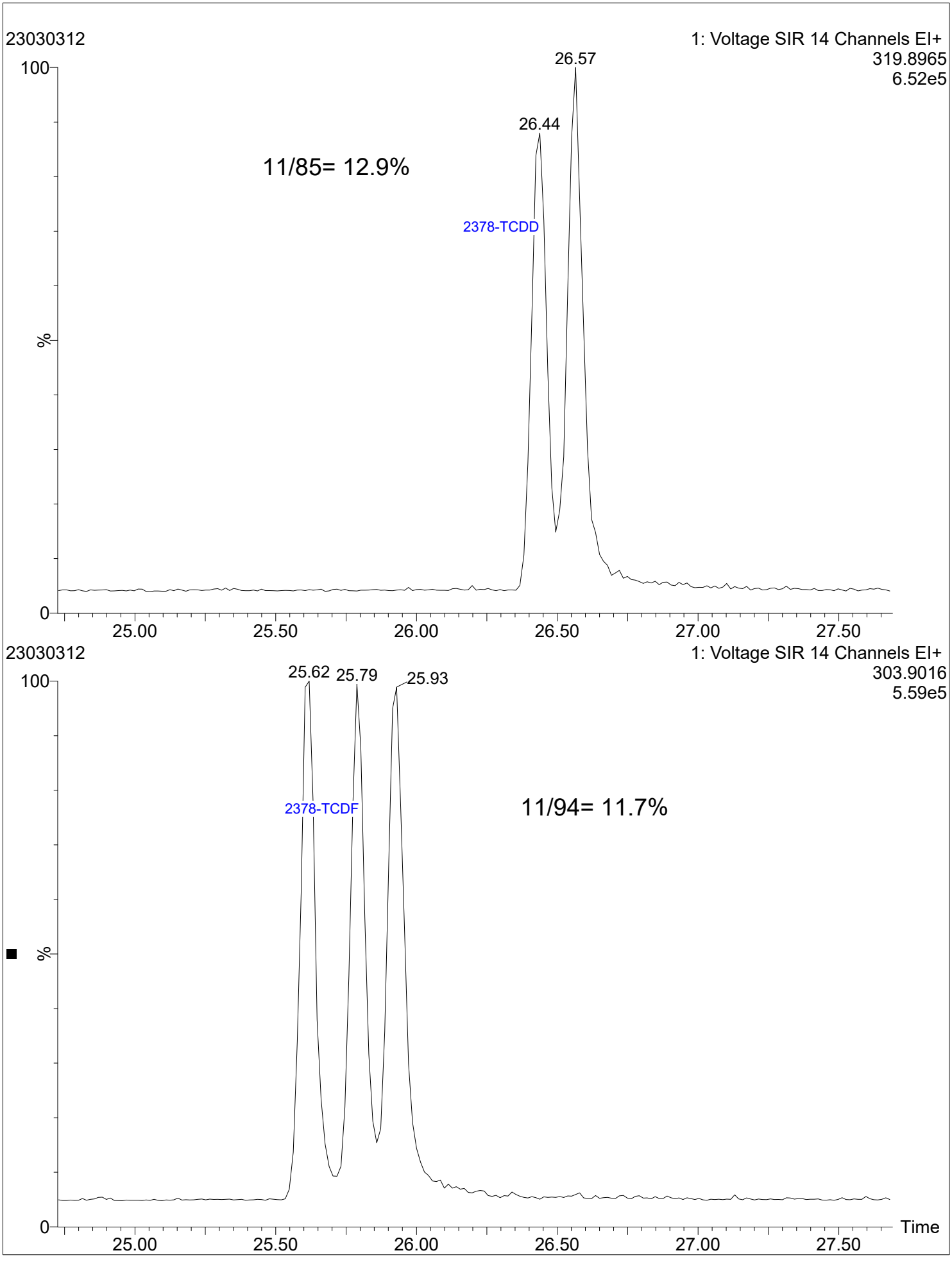


M 504.9696 R 12168



M 516.9697 R 13193




23030312
1: Voltage SIR 14 Channels EI+
319.8965
6.52e5
26.57
26.44
11/85= 12.9%
2378-TCDD
100
%
0
25.00
25.50
26.00
26.50
27.00
27.50
23030312
1: Voltage SIR 14 Channels EI+
303.9016
5.59e5
25.62
25.79
25.93
2378-TCDF
11/94= 11.7%
100
%
0
Time
25.00
25.50
26.00
26.50
27.00
27.50

Analytical Resources, LLC
Analytical Chemists and Consultants

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 1613B

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GC00015
Laboratory ID: SLC0045-SCV1
Sequence: SLC0045
Sequence Name: ICVCW
Standard ID: H008219

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
2,3,7,8-TCDF	10.000	9.84	-1.6	
2,3,7,8-TCDD	10.000	9.81	-1.9	
1,2,3,7,8-PeCDF	50.000	51.4	2.8	
2,3,4,7,8-PeCDF	50.000	49.0	-2.0	
1,2,3,7,8-PeCDD	50.000	48.5	-2.9	
1,2,3,4,7,8-HxCDF	50.000	48.2	-3.5	
1,2,3,6,7,8-HxCDF	50.000	48.0	-4.0	
2,3,4,6,7,8-HxCDF	50.000	50.2	0.4	
1,2,3,7,8,9-HxCDF	50.000	49.1	-1.8	
1,2,3,4,7,8-HxCDD	50.000	50.8	1.6	
1,2,3,6,7,8-HxCDD	50.000	50.2	0.3	
1,2,3,7,8,9-HxCDD	50.000	51.6	3.2	
1,2,3,4,6,7,8-HpCDF	50.000	51.8	3.7	
1,2,3,4,7,8,9-HpCDF	50.000	48.5	-3.1	
1,2,3,4,6,7,8-HpCDD	50.000	49.2	-1.6	
OCDF	100.00	104	3.5	
OCDD	100.00	99.4	-0.6	
13C12-2,3,7,8-TCDF	100.00	96.9	-3.1	
13C12-2,3,7,8-TCDD	100.00	96.6	-3.4	
13C12-1,2,3,7,8-PeCDF	100.00	73.2	-26.8	
13C12-2,3,4,7,8-PeCDF	100.00	75.9	-24.1	
13C12-1,2,3,7,8-PeCDD	100.00	76.6	-23.4	
13C12-1,2,3,4,7,8-HxCDF	100.00	93.0	-7.0	
13C12-1,2,3,6,7,8-HxCDF	100.00	98.0	-2.0	
13C12-2,3,4,6,7,8-HxCDF	100.00	93.4	-6.6	
13C12-1,2,3,7,8,9-HxCDF	100.00	97.9	-2.1	
13C12-1,2,3,4,7,8-HxCDD	100.00	95.9	-4.1	
13C12-1,2,3,6,7,8-HxCDD	100.00	97.7	-2.3	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	102	2.1	
13C12-1,2,3,4,7,8,9-HpCDF	100.00	104	4.0	
13C12-1,2,3,4,6,7,8-HpCDD	100.00	102	2.5	
13C12-OCDD	200.00	162	-19.2	
37Cl4-2,3,7,8-TCDD	10.000	8.71	-12.9	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 1613B

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Calibration: GC00015
Sequence: SLC0045

SDG: 23A0418
Project: AOC5 MR Phase 1
Laboratory ID: SLC0045-SCV1
Sequence Name: ICVCW
Standard ID: H008219

* Indicates values outside of QC limits

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 1613B

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GC00015
Laboratory ID: SLC0045-SCV1
Sequence: SLC0045
Standard ID: H008219

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
OCDF	100.00	104	3.5	
OCDD	100.00	99.4	-0.6	
13C12-2,3,7,8-TCDF	100.00	96.9	-3.1	
13C12-2,3,7,8-TCDD	100.00	96.6	-3.4	
13C12-1,2,3,7,8-PeCDF	100.00	73.2	-26.8	
13C12-2,3,4,7,8-PeCDF	100.00	75.9	-24.1	
13C12-1,2,3,7,8-PeCDD	100.00	76.6	-23.4	
13C12-1,2,3,4,7,8-HxCDF	100.00	93.0	-7.0	
13C12-1,2,3,6,7,8-HxCDF	100.00	98.0	-2.0	
13C12-2,3,4,6,7,8-HxCDF	100.00	93.4	-6.6	
13C12-1,2,3,7,8,9-HxCDF	100.00	97.9	-2.1	
13C12-1,2,3,4,7,8-HxCDD	100.00	95.9	-4.1	
13C12-1,2,3,6,7,8-HxCDD	100.00	97.7	-2.3	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	102	2.1	
13C12-1,2,3,4,7,8,9-HpCDF	100.00	104	4.0	
13C12-1,2,3,4,6,7,8-HpCDD	100.00	102	2.5	
13C12-OCDD	200.00	162	-19.2	
37Cl4-2,3,7,8-TCDD	10.000	8.71	-12.9	

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK
EPA 1613B

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	AUTOSPEC01	Calibration:	GC00015
Lab File ID:	23030302	Calibration Date:	03/03/2023
Sequence:	SLC0045	Injection Date:	03/03/23
Lab Sample ID:	SLC0045-ICV1	Injection Time:	09:51
Sequence Name:	CS3W1		

		CONC. (ng/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
2,3,7,8-TCDF	A	10.000	9.55	0.7015272	0.6699659		-4.5	+/-16
2,3,7,8-TCDD	A	10.000	9.45	1.1486620	1.0855020		-5.5	+/-22
1,2,3,7,8-PeCDF	A	50.000	49.6	0.6792300	0.6743560		-0.7	+/-18
2,3,4,7,8-PeCDF	A	50.000	47.5	0.7861704	0.7472986		-4.9	+/-18
1,2,3,7,8-PeCDD	A	50.000	49.7	1.0218450	1.0147700		-0.7	+/-22
1,2,3,4,7,8-HxCDF	A	50.000	47.1	1.1660380	1.0988190		-5.8	+/-10
1,2,3,6,7,8-HxCDF	A	50.000	49.6	1.0907410	1.0813380		-0.9	+/-12
2,3,4,6,7,8-HxCDF	A	50.000	49.3	1.1396990	1.1246750		-1.3	+/-12
1,2,3,7,8,9-HxCDF	A	50.000	47.0	1.1370930	1.0679460		-6.1	+/-10
1,2,3,4,7,8-HxCDD	A	50.000	50.1	0.9955689	0.9966266		0.1	+/-22
1,2,3,6,7,8-HxCDD	A	50.000	49.6	1.0009380	0.9938861		-0.7	+/-22
1,2,3,7,8,9-HxCDD	A	50.000	54.2	0.9071139	0.9838286		8.5	+/-18
1,2,3,4,6,7,8-HpCDF	A	50.000	47.5	1.0029930	0.9526502		-5.0	+/-10
1,2,3,4,7,8,9-HpCDF	A	50.000	50.2	0.9531152	0.9573187		0.4	+/-14
1,2,3,4,6,7,8-HpCDD	A	50.000	47.6	1.0390130	0.9895371		-4.8	+/-14
OCDF	A	100.00	88.6	0.7778078	0.6890651		-11.4	+/-37
OCDD	A	100.00	98.4	0.9199537	0.9055309		-1.6	+/-21
13C12-2,3,7,8-TCDF	A	100.00	94.0	1.6201960	1.5232274		-6.0	+/-29
13C12-2,3,7,8-TCDD	A	100.00	102	1.1524090	1.1727116		1.8	+/-18
13C12-1,2,3,7,8-PeCDF	A	100.00	92.2	1.2404520	1.1438587		-7.8	+/-24
13C12-2,3,4,7,8-PeCDF	A	100.00	87.6	1.1177860	0.9791895		-12.4	+/-23
13C12-1,2,3,7,8-PeCDD	A	100.00	84.3	0.8288129	0.6985475		-15.7	+/-38
13C12-1,2,3,4,7,8-HxCDF	A	100.00	84.0	1.1683050	0.9815313		-16.0	+/-24
13C12-1,2,3,6,7,8-HxCDF	A	100.00	74.6	1.3864660	1.0348865		-25.4	+/-30
13C12-2,3,4,6,7,8-HxCDF	A	100.00	88.7	1.1292560	1.0010969		-11.3	+/-27
13C12-1,2,3,7,8,9-HxCDF	A	100.00	99.9	0.9317541	0.9305560		-0.1	+/-26
13C12-1,2,3,4,7,8-HxCDD	A	100.00	93.5	0.9950393	0.9299453		-6.5	+/-15
13C12-1,2,3,6,7,8-HxCDD	A	100.00	86.9	1.1566890	1.0052205		-13.1	+/-15
13C12-1,2,3,4,6,7,8-HpCDF	A	100.00	95.3	0.8952017	0.8530837		-4.7	+/-22
13C12-1,2,3,4,7,8,9-HpCDF	A	100.00	98.7	0.7697516	0.7594900		-1.3	+/-23

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK
EPA 1613B

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	AUTOSPEC01	Calibration:	GC00015
Lab File ID:	23030302	Calibration Date:	03/03/2023
Sequence:	SLC0045	Injection Date:	03/03/23
Lab Sample ID:	SLC0045-ICV1	Injection Time:	09:51
Sequence Name:	CS3W1		

		CONC. (ng/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
13C12-1,2,3,4,6,7,8-HpCDD	A	100.00	105	0.8401226	0.8828452		5.1	+/-28
13C12-OCDD	A	200.00	214	0.7674714	0.8220320		7.1	+/-52
37Cl4-2,3,7,8-TCDD	A	10.000	9.05	1.2878040	1.1649542		-9.5	

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK
EPA 1613B

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	AUTOSPEC01	Calibration:	GC00015
Lab File ID:	23031302	Calibration Date:	03/03/2023
Sequence:	SLC0171	Injection Date:	03/13/23
Lab Sample ID:	SLC0171-ICV1	Injection Time:	10:33
Sequence Name:	CS3Z1		

		CONC. (ng/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
2,3,7,8-TCDF	A	10.000	9.73	0.7015272	0.6826249		-2.7	+/-16
2,3,7,8-TCDD	A	10.000	9.04	1.1486620	1.0381370		-9.6	+/-22
1,2,3,7,8-PeCDF	A	50.000	52.2	0.6792300	0.7090053		4.4	+/-18
2,3,4,7,8-PeCDF	A	50.000	51.3	0.7861704	0.8063136		2.6	+/-18
1,2,3,7,8-PeCDD	A	50.000	48.1	1.0218450	0.9840025		-3.7	+/-22
1,2,3,4,7,8-HxCDF	A	50.000	45.9	1.1660380	1.0693560		-8.3	+/-10
1,2,3,6,7,8-HxCDF	A	50.000	47.9	1.0907410	1.0441740		-4.3	+/-12
2,3,4,6,7,8-HxCDF	A	50.000	47.9	1.1396990	1.0922390		-4.2	+/-12
1,2,3,7,8,9-HxCDF	A	50.000	46.2	1.1370930	1.0507810		-7.6	+/-10
1,2,3,4,7,8-HxCDD	A	50.000	48.6	0.9955689	0.9673933		-2.8	+/-22
1,2,3,6,7,8-HxCDD	A	50.000	45.2	1.0009380	0.9046456		-9.6	+/-22
1,2,3,7,8,9-HxCDD	A	50.000	49.4	0.9071139	0.8968683		-1.1	+/-18
1,2,3,4,6,7,8-HpCDF	A	50.000	50.3	1.0029930	1.0088890		0.6	+/-10
1,2,3,4,7,8,9-HpCDF	A	50.000	50.3	0.9531152	0.9594089		0.7	+/-14
1,2,3,4,6,7,8-HpCDD	A	50.000	48.9	1.0390130	1.0153950		-2.3	+/-14
OCDF	A	100.00	91.8	0.7778078	0.7142511		-8.2	+/-37
OCDD	A	100.00	94.6	0.9199537	0.8700619		-5.4	+/-21
13C12-2,3,7,8-TCDF	A	100.00	85.5	1.6201960	1.3857194		-14.5	+/-29
13C12-2,3,7,8-TCDD	A	100.00	98.8	1.1524090	1.1383528		-1.2	+/-18
13C12-1,2,3,7,8-PeCDF	A	100.00	90.1	1.2404520	1.1175694		-9.9	+/-24
13C12-2,3,4,7,8-PeCDF	A	100.00	96.7	1.1177860	1.0804681		-3.3	+/-23
13C12-1,2,3,7,8-PeCDD	A	100.00	103	0.8288129	0.8506272		2.6	+/-38
13C12-1,2,3,4,7,8-HxCDF	A	100.00	101	1.1683050	1.1797284		1.0	+/-24
13C12-1,2,3,6,7,8-HxCDF	A	100.00	100	1.3864660	1.3915539		0.4	+/-30
13C12-2,3,4,6,7,8-HxCDF	A	100.00	88.6	1.1292560	1.0004623		-11.4	+/-27
13C12-1,2,3,7,8,9-HxCDF	A	100.00	95.2	0.9317541	0.8870995		-4.8	+/-26
13C12-1,2,3,4,7,8-HxCDD	A	100.00	95.1	0.9950393	0.9464434		-4.9	+/-15
13C12-1,2,3,6,7,8-HxCDD	A	100.00	104	1.1566890	1.2012880		3.9	+/-15
13C12-1,2,3,4,6,7,8-HpCDF	A	100.00	87.2	0.8952017	0.7807082		-12.8	+/-22
13C12-1,2,3,4,7,8,9-HpCDF	A	100.00	87.0	0.7697516	0.6700234		-13.0	+/-23

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK
EPA 1613B

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	AUTOSPEC01	Calibration:	GC00015
Lab File ID:	23031302	Calibration Date:	03/03/2023
Sequence:	SLC0171	Injection Date:	03/13/23
Lab Sample ID:	SLC0171-ICV1	Injection Time:	10:33
Sequence Name:	CS3Z1		

		CONC. (ng/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
13C12-1,2,3,4,6,7,8-HpCDD	A	100.00	93.2	0.8401226	0.7828292		-6.8	+/-28
13C12-OCDD	A	200.00	190	0.7674714	0.7306123		-4.8	+/-52
37Cl4-2,3,7,8-TCDD	A	10.000	8.81	1.2878040	1.1345628		-11.9	

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\230313D1.qld
Last Altered: Tuesday, March 14, 2023 09:54:11 Pacific Daylight Time
Printed: Tuesday, March 14, 2023 11:10:25 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin230313.mdb 13 Mar 2023 11:32:39
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 11:57:27

ID: CS3Z1, Name: 23031302, Date: 13-Mar-2023, Time: 10:33:12, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.619	1.001	1.958e4	2.801e4	0.702	0.699	0.770	730	1458	2.84e5	3.95e5	388.3	270.6	NO	bb	bb	9.731
12378-PeCDF	29.780	1.001	1.207e5	7.865e4	0.679	1.534	1.550	1500	1523	1.68e6	1.10e6	1121.9	722.1	NO	bd	bd	52.192
23478-PeCDF	31.117	1.001	1.317e5	8.745e4	0.786	1.506	1.550	1500	1523	1.84e6	1.21e6	1229.5	791.3	NO	bb	bb	51.281
123478-HxCDF	34.749	1.001	1.561e5	1.244e5	1.166	1.254	1.240	1831	1113	2.34e6	1.87e6	1279.6	1679.0	NO	bd	bd	45.854
234678-HxCDF	35.752	1.000	1.317e5	1.112e5	1.140	1.185	1.240	1831	1113	1.90e6	1.54e6	1036.2	1383.6	NO	bb	bd	47.918
123678-HxCDF	34.883	1.000	1.785e5	1.446e5	1.091	1.234	1.240	1831	1113	2.35e6	1.87e6	1283.8	1682.9	NO	dd	dd	47.865
123789-HxCDF	36.788	1.001	1.143e5	9.300e4	1.137	1.229	1.240	1831	1113	1.56e6	1.27e6	853.0	1137.0	NO	bb	bb	46.205
1234678-HpCDF	38.638	1.000	8.716e4	8.797e4	1.003	0.991	1.050	1667	1599	1.31e6	1.34e6	784.2	838.6	NO	bd	bd	50.294
1234789-HpCDF	40.855	1.000	7.141e4	7.153e4	0.953	0.998	1.050	1667	1599	9.32e5	9.45e5	559.0	590.9	NO	bb	bd	50.330
OCDF	45.057	1.005	1.077e5	1.244e5	0.778	0.866	0.890	1614	868	1.18e6	1.36e6	728.6	1567.7	NO	bb	bd	91.829
2378-TCDD	26.254	1.000	2.548e4	3.398e4	1.149	0.750	0.770	922	829	3.79e5	4.88e5	410.5	589.1	NO	bb	bb	9.038
12378-PeCDD	31.362	1.000	1.260e5	8.453e4	1.022	1.491	1.550	2099	1516	1.77e6	1.17e6	841.4	773.9	NO	bb	bb	48.148
123478-HxCDD	35.863	1.000	1.110e5	9.259e4	0.996	1.199	1.240	1275	1610	1.71e6	1.42e6	1340.1	883.2	NO	bd	bd	48.585
123678-HxCDD	35.986	1.001	1.352e5	1.064e5	1.001	1.270	1.240	1275	1610	1.85e6	1.51e6	1450.8	937.0	NO	db	db	45.190
123789-HxCDD	36.376	1.012	1.189e5	9.528e4	0.907	1.248	1.240	1275	1610	1.64e6	1.35e6	1285.2	839.3	NO	bd	bb	49.435
1234678-HpCDD	40.131	1.001	8.862e4	8.812e4	1.039	1.006	1.050	1147	1661	1.20e6	1.16e6	1046.6	701.1	NO	bd	bd	48.863
OCDD	44.828	1.000	1.298e5	1.528e5	0.920	0.850	0.890	974	1032	1.54e6	1.79e6	1581.4	1735.0	NO	bb	bb	94.577
13C-2378-TCDF	25.605	1.007	3.045e5	3.926e5	1.620	0.776	0.770	1956	1317	4.21e6	5.49e6	2154.8	4167.4	NO	bb	bb	85.528
13C-12378-PeCDF	29.758	1.171	3.290e5	2.333e5	1.240	1.410	1.550	2054	1698	4.75e6	3.19e6	2312.9	1881.9	NO	bb	bd	90.094
13C-23478-PeCDF	31.095	1.223	3.229e5	2.207e5	1.118	1.462	1.550	2054	1698	4.66e6	3.14e6	2267.3	1851.3	NO	bb	bb	96.662
13C-123478-HxCDF	34.727	0.955	1.748e5	3.498e5	1.168	0.500	0.510	1798	1052	2.55e6	5.13e6	1420.6	4869.8	NO	bd	bd	100.978
13C-123678-HxCDF	34.872	0.959	2.050e5	4.138e5	1.386	0.495	0.510	1798	1052	2.74e6	5.35e6	1525.5	5082.1	NO	dd	db	100.367
13C-234678-HxCDF	35.741	0.983	1.515e5	2.934e5	1.129	0.517	0.510	1798	1052	2.15e6	4.17e6	1197.8	3961.0	NO	bb	bb	88.595
13C-123789-HxCDF	36.766	1.011	1.321e5	2.624e5	0.932	0.503	0.510	1798	1052	1.93e6	3.82e6	1074.8	3628.2	NO	bb	bb	95.207
13C-1234678-HpCDF	38.626	1.062	1.063e5	2.409e5	0.895	0.441	0.440	1529	2645	1.70e6	3.89e6	1111.7	1469.1	NO	bb	bb	87.210
13C-1234789-HpCDF	40.844	1.123	9.194e4	2.060e5	0.770	0.446	0.440	1529	2645	1.19e6	2.77e6	780.2	1048.7	NO	bb	bb	87.044
13C-1234-TCDD	25.421	0.000	2.231e5	2.800e5	1.000	0.797	0.770	1867	1215	3.44e6	4.30e6	1842.4	3539.8	NO	bb	bb	100.000
13C-2378-TCDD	26.240	1.032	2.525e5	3.203e5	1.152	0.788	0.770	1867	1215	3.70e6	4.72e6	1982.6	3883.6	NO	bb	bb	98.780
13C-12378-PeCDD	31.351	1.233	2.642e5	1.637e5	0.829	1.614	1.550	952	1028	3.68e6	2.28e6	3862.3	2219.2	NO	bb	bb	102.632
13C-123478-HxCDD	35.852	0.986	2.376e5	1.833e5	0.995	1.296	1.240	1302	1389	3.81e6	2.97e6	2926.0	2137.4	NO	bd	bd	95.116
13C-123678-HxCDD	35.964	0.989	2.978e5	2.364e5	1.157	1.260	1.240	1302	1389	3.86e6	3.10e6	2964.6	2231.6	NO	db	db	103.856
13C-1234678-HpCDD	40.109	1.103	1.797e5	1.684e5	0.840	1.067	1.050	1165	1381	2.36e6	2.23e6	2022.7	1618.5	NO	bd	bd	93.180
13C-OCDD	44.810	1.232	2.954e5	3.544e5	0.767	0.833	0.890	1316	1461	3.48e6	3.92e6	2642.6	2683.5	NO	bb	bd	190.395
13C-123789-HxCDD	36.365	0.000	2.483e5	1.964e5	1.000	1.264	1.240	1302	1389	3.53e6	2.82e6	2714.8	2027.1	NO	bb	bb	100.000
37CL-2378-TCDD	26.254	1.033	5.708e4		1.288			1549		8.15e5		526.2			bd		8.810

Dataset: T:\Autospec\Processed Data Batch\230313D1.qld
Last Altered: Tuesday, March 14, 2023 09:54:11 Pacific Daylight Time
Printed: Tuesday, March 14, 2023 11:10:25 Pacific Daylight Time

ID: CS3Z1, Name: 23031302, Date: 13-Mar-2023, Time: 10:33:12, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF	22.116	0.864	2.386e4	3.192e4	0.802	0.748	0.770	730	1458	3.72e5	5.06e5	510.0	347.2	NO	bb	bb	9.983
1289-TCDF	27.102	1.059	2.011e4	2.818e4	0.678	0.714	0.770	730	1458	2.67e5	3.79e5	365.4	260.1	NO	db	dd	10.217
13468-PECDF	26.975	0.906	2.528e5	1.678e5	1.246	1.506	1.550	578	735	3.77e6	2.50e6	6512.0	3403.2	NO	bb	bb	60.008
12389-PECDF	32.142	1.080	1.232e5	8.057e4	0.496	1.529	1.550	1500	1523	1.53e6	1.03e6	1019.6	673.4	NO	bd	bb	72.999
123468-HXCDF	33.078	0.952	1.772e5	1.426e5	1.169	1.242	1.240	1831	1113	2.47e6	1.97e6	1346.5	1771.0	NO	bd	bb	52.147
1368-TCDD	23.387	0.891	2.337e4	2.942e4	1.015	0.794	0.770	922	829	3.68e5	4.64e5	398.5	559.8	NO	bb	bb	9.078
1289-TCDD	26.862	1.024	2.097e4	2.807e4	0.909	0.747	0.770	922	829	2.95e5	4.03e5	320.3	486.4	NO	bb	bb	9.423
12479-PECDD	28.644	0.914	2.034e5	1.341e5	2.301	1.517	1.550	2099	1516	1.87e6	1.22e6	891.7	804.4	NO	bb	bb	34.265
12389-PECDD	31.764	1.013	1.474e5	9.781e4	1.184	1.507	1.550	2099	1516	1.96e6	1.30e6	935.0	857.0	NO	bd	bd	48.401
124679-HXCDD	33.858	0.944	1.543e5	1.263e5	1.115	1.222	1.240	1275	1610	2.11e6	1.70e6	1654.3	1053.1	NO	bd	bd	59.765
1234679-HPCDD	39.083	0.974	9.847e4	9.908e4	1.137	0.994	1.050	1147	1661	1.39e6	1.40e6	1212.6	845.1	NO	bb	bd	49.915
Total-tetrafurans			6.355e4		0.727			730		9.23e5							29.931
Total-penta1			2.528e5					578		3.77e6							60.008
Total-pentafurans			3.945e5		0.654			1500		5.32e6							185.178
Total-hexafurans			7.577e5		1.141			1831		1.06e7							239.989
Total-heptafurans			1.586e5		0.978			1667		2.24e6							100.624
Total-Furans			1.735e6		0.922			730		2.40e7							707.558
Total-tetradioxins			1.195e5		1.024			922		1.60e6							46.802
Total-pentadioxins			4.768e5		1.502			2099		5.60e6							130.814
Total-hexadioxins			5.202e5		1.005			1275		7.32e6							203.295
Total-heptadioxins			1.872e5		1.088			1147		2.60e6							98.826
Total-Dioxins			1.434e6		1.130			922		1.87e7							574.314
Total-TEQ			3.168e6					922		4.27e7							1281.873
FUNCTION1 PFK			9.911e6					530914		3.85e6							
FUNCTION2 PFK			5.719e4					227228		1.26e6							0.000
FUNCTION3 PFK			2.648e7					371093		1.45e7							0.000
FUNCTION4 PFK			0.000e0					217043		0.00e0							
FUNCTION5 PFK			7.247e4					151617		2.76e6							
FUNCTION1 HXCD...			8.768e1					454		7.49e2							0.000
FUNCTION1 HPCD...																	
FUNCTION2 HPCD...			2.754e2					628		6.79e3							0.000
FUNCTION3 OCDPE			1.465e2					456		1.59e3							0.000
FUNCTION4 NCDPE			8.353e1					558		1.14e3							0.000
FUNCTION5 DCDPE			0.000e0					516		0.00e0							

Method: T:\Autospec\Methods\Dioxin230313.mdb 13 Mar 2023 11:32:39
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 11:57:27

ID: CS3Z1, Name: 23031302, Date: 13-Mar-2023, Time: 10:33:12, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.10	2.011e4	2.818e4	0.678	0.71	0.77	365.4	YES	NO	db	dd	10.217
2	2378-TCDF	25.62	1.958e4	2.801e4	0.702	0.70	0.77	388.3	YES	NO	bb	bb	9.731
3	1368-TCDF	22.12	2.386e4	3.192e4	0.802	0.75	0.77	510.0	YES	NO	bb	bb	9.983

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	26.97	2.528e5	1.678e5	1.246	1.51	1.55	6512.0	YES	NO	bb	bb	60.008

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDF	32.14	1.232e5	8.057e4	0.496	1.53	1.55	1019.6	YES	NO	bd	bb	72.999
2	23478-PeCDF	31.12	1.317e5	8.745e4	0.786	1.51	1.55	1229.5	YES	NO	bb	bb	51.281
3	12378-PeCDF	29.78	1.207e5	7.865e4	0.679	1.53	1.55	1121.9	YES	NO	bd	bd	52.192
4	Total-pentafurans	28.63	1.892e4	1.256e4	0.654	1.51	1.55	179.1	YES	NO	bb	bb	8.706

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123678-HxCDF	34.88	1.785e5	1.446e5	1.091	1.23	1.24	1283.8	YES	NO	dd	dd	47.865
2	123478-HxCDF	34.75	1.561e5	1.244e5	1.166	1.25	1.24	1279.6	YES	NO	bd	bd	45.854
3	123468-HXCDF	33.08	1.772e5	1.426e5	1.169	1.24	1.24	1346.5	YES	NO	bd	bb	52.147
4	123789-HxCDF	36.79	1.143e5	9.300e4	1.137	1.23	1.24	853.0	YES	NO	bb	bb	46.205
5	234678-HxCDF	35.75	1.317e5	1.112e5	1.140	1.18	1.24	1036.2	YES	NO	bb	bd	47.918

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDF	38.64	8.716e4	8.797e4	1.003	0.99	1.05	784.2	YES	NO	bd	bd	50.294
2	1234789-HpCDF	40.85	7.141e4	7.153e4	0.953	1.00	1.05	559.0	YES	NO	bb	bd	50.330

ID: CS3Z1, Name: 23031302, Date: 13-Mar-2023, Time: 10:33:12, Conditions: AUTOSPEC01, User: pk

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.10	2.011e4	2.818e4	0.678	0.71	0.77	365.4	YES	NO	db	dd	10.217
2	2378-TCDF	25.62	1.958e4	2.801e4	0.702	0.70	0.77	388.3	YES	NO	bb	bb	9.731
3	1368-TCDF	22.12	2.386e4	3.192e4	0.802	0.75	0.77	510.0	YES	NO	bb	bb	9.983
4	12389-PECDF	32.14	1.232e5	8.057e4	0.496	1.53	1.55	1019.6	YES	NO	bd	bb	72.999
5	23478-PeCDF	31.12	1.317e5	8.745e4	0.786	1.51	1.55	1229.5	YES	NO	bb	bb	51.281
6	12378-PeCDF	29.78	1.207e5	7.865e4	0.679	1.53	1.55	1121.9	YES	NO	bd	bd	52.192
7	Total-pentafurans	28.63	1.892e4	1.256e4	0.654	1.51	1.55	179.1	YES	NO	bb	bb	8.706
8	123678-HxCDF	34.88	1.785e5	1.446e5	1.091	1.23	1.24	1283.8	YES	NO	dd	dd	47.865
9	123478-HxCDF	34.75	1.561e5	1.244e5	1.166	1.25	1.24	1279.6	YES	NO	bd	bd	45.854
10	123468-HXCDF	33.08	1.772e5	1.426e5	1.169	1.24	1.24	1346.5	YES	NO	bd	bb	52.147
11	123789-HxCDF	36.79	1.143e5	9.300e4	1.137	1.23	1.24	853.0	YES	NO	bb	bb	46.205
12	234678-HxCDF	35.75	1.317e5	1.112e5	1.140	1.18	1.24	1036.2	YES	NO	bb	bd	47.918
13	1234678-HpCDF	38.64	8.716e4	8.797e4	1.003	0.99	1.05	784.2	YES	NO	bd	bd	50.294
14	1234789-HpCDF	40.85	7.141e4	7.153e4	0.953	1.00	1.05	559.0	YES	NO	bb	bd	50.330
15	OCDF	45.06	1.077e5	1.244e5	0.778	0.87	0.89	728.6	YES	NO	bb	bd	91.829
16	13468-PECDF	26.97	2.528e5	1.678e5	1.246	1.51	1.55	6512.0	YES	NO	bb	bb	60.008

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDD	26.86	2.097e4	2.807e4	0.909	0.75	0.77	320.3	YES	NO	bb	bb	9.423
2	2378-TCDD	26.25	2.548e4	3.398e4	1.149	0.75	0.77	410.5	YES	NO	bb	bb	9.038
3	Total-tetradioxins	25.93	3.707e4	4.740e4	1.024	0.78	0.77	400.5	YES	NO	bb	bb	14.400
4	Total-tetradioxins	25.44	1.227e4	1.541e4	1.024	0.80	0.77	196.5	YES	NO	bb	bb	4.720
5	Total-tetradioxins	24.87	3.712e2	4.769e2	1.024	0.78	0.77	5.4	YES	NO	bb	bb	0.145
6	1368-TCDD	23.39	2.337e4	2.942e4	1.015	0.79	0.77	398.5	YES	NO	bb	bb	9.078

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDD	31.76	1.474e5	9.781e4	1.184	1.51	1.55	935.0	YES	NO	bd	bd	48.401
2	12378-PeCDD	31.36	1.260e5	8.453e4	1.022	1.49	1.55	841.4	YES	NO	bb	bb	48.148
3	12479-PECDD	28.64	2.034e5	1.341e5	2.301	1.52	1.55	891.7	YES	NO	bb	bb	34.265

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HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexadioxins	34.24	2.579e2	2.330e2	1.005	1.11	1.24	5.2	YES	NO	dd	db	0.102
2	124679-HXCDD	33.86	1.543e5	1.263e5	1.115	1.22	1.24	1654.3	YES	NO	bd	bd	59.765
3	123789-HxCDD	36.38	1.189e5	9.528e4	0.907	1.25	1.24	1285.2	YES	NO	bd	bb	49.435
4	123678-HxCDD	35.99	1.352e5	1.064e5	1.001	1.27	1.24	1450.8	YES	NO	db	db	45.190
5	123478-HxCDD	35.86	1.110e5	9.259e4	0.996	1.20	1.24	1340.1	YES	NO	bd	bd	48.585
6	Total-hexadioxins	34.98	5.841e2	4.611e2	1.005	1.27	1.24	7.6	YES	NO	db	db	0.218

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.13	8.862e4	8.812e4	1.039	1.01	1.05	1046.6	YES	NO	bd	bd	48.863
2	Total-heptadioxins	39.92	8.522e1	9.322e1	1.088	0.91	1.05	3.4	NO	NO	bb	bb	0.047
3	1234679-HPCDD	39.08	9.847e4	9.908e4	1.137	0.99	1.05	1212.6	YES	NO	bb	bd	49.915

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDD	26.86	2.097e4	2.807e4	0.909	0.75	0.77	320.3	YES	NO	bb	bb	9.423
2	2378-TCDD	26.25	2.548e4	3.398e4	1.149	0.75	0.77	410.5	YES	NO	bb	bb	9.038
3	Total-tetradioxins	25.93	3.707e4	4.740e4	1.024	0.78	0.77	400.5	YES	NO	bb	bb	14.400
4	Total-tetradioxins	25.44	1.227e4	1.541e4	1.024	0.80	0.77	196.5	YES	NO	bb	bb	4.720
5	Total-tetradioxins	24.87	3.712e2	4.769e2	1.024	0.78	0.77	5.4	YES	NO	bb	bb	0.145
6	1368-TCDD	23.39	2.337e4	2.942e4	1.015	0.79	0.77	398.5	YES	NO	bb	bb	9.078
7	12389-PECDD	31.76	1.474e5	9.781e4	1.184	1.51	1.55	935.0	YES	NO	bd	bd	48.401
8	12378-PeCDD	31.36	1.260e5	8.453e4	1.022	1.49	1.55	841.4	YES	NO	bb	bb	48.148
9	12479-PECDD	28.64	2.034e5	1.341e5	2.301	1.52	1.55	891.7	YES	NO	bb	bb	34.265
10	Total-hexadioxins	34.24	2.579e2	2.330e2	1.005	1.11	1.24	5.2	YES	NO	dd	db	0.102
11	124679-HXCDD	33.86	1.543e5	1.263e5	1.115	1.22	1.24	1654.3	YES	NO	bd	bd	59.765
12	123789-HxCDD	36.38	1.189e5	9.528e4	0.907	1.25	1.24	1285.2	YES	NO	bd	bb	49.435
13	123678-HxCDD	35.99	1.352e5	1.064e5	1.001	1.27	1.24	1450.8	YES	NO	db	db	45.190
14	123478-HxCDD	35.86	1.110e5	9.259e4	0.996	1.20	1.24	1340.1	YES	NO	bd	bd	48.585
15	Total-hexadioxins	34.98	5.841e2	4.611e2	1.005	1.27	1.24	7.6	YES	NO	db	db	0.218
16	1234678-HpCDD	40.13	8.862e4	8.812e4	1.039	1.01	1.05	1046.6	YES	NO	bd	bd	48.863
17	Total-heptadioxins	39.92	8.522e1	9.322e1	1.088	0.91	1.05	3.4	NO	NO	bb	bb	0.047
18	1234679-HPCDD	39.08	9.847e4	9.908e4	1.137	0.99	1.05	1212.6	YES	NO	bb	bd	49.915
19	OCDD	44.83	1.298e5	1.528e5	0.920	0.85	0.89	1581.4	YES	NO	bb	bb	94.577

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.10	2.011e4	2.818e4	0.678	0.71	0.77	365.4	YES	NO	db	dd	10.217
2	2378-TCDF	25.62	1.958e4	2.801e4	0.702	0.70	0.77	388.3	YES	NO	bb	bb	9.731
3	1368-TCDF	22.12	2.386e4	3.192e4	0.802	0.75	0.77	510.0	YES	NO	bb	bb	9.983
4	12389-PECDF	32.14	1.232e5	8.057e4	0.496	1.53	1.55	1019.6	YES	NO	bd	bb	72.999
5	23478-PeCDF	31.12	1.317e5	8.745e4	0.786	1.51	1.55	1229.5	YES	NO	bb	bb	51.281
6	12378-PeCDF	29.78	1.207e5	7.865e4	0.679	1.53	1.55	1121.9	YES	NO	bd	bd	52.192
7	Total-pentafurans	28.63	1.892e4	1.256e4	0.654	1.51	1.55	179.1	YES	NO	bb	bb	8.706
8	123678-HxCDF	34.88	1.785e5	1.446e5	1.091	1.23	1.24	1283.8	YES	NO	dd	dd	47.865
9	123478-HxCDF	34.75	1.561e5	1.244e5	1.166	1.25	1.24	1279.6	YES	NO	bd	bd	45.854
10	123468-HXCDF	33.08	1.772e5	1.426e5	1.169	1.24	1.24	1346.5	YES	NO	bd	bb	52.147
11	123789-HxCDF	36.79	1.143e5	9.300e4	1.137	1.23	1.24	853.0	YES	NO	bb	bb	46.205
12	234678-HxCDF	35.75	1.317e5	1.112e5	1.140	1.18	1.24	1036.2	YES	NO	bb	bd	47.918
13	1234678-HpCDF	38.64	8.716e4	8.797e4	1.003	0.99	1.05	784.2	YES	NO	bd	bd	50.294
14	1234789-HpCDF	40.85	7.141e4	7.153e4	0.953	1.00	1.05	559.0	YES	NO	bb	bd	50.330
15	OCDF	45.06	1.077e5	1.244e5	0.778	0.87	0.89	728.6	YES	NO	bb	bd	91.829
16	13468-PECDF	26.97	2.528e5	1.678e5	1.246	1.51	1.55	6512.0	YES	NO	bb	bb	60.008
17	1289-TCDD	26.86	2.097e4	2.807e4	0.909	0.75	0.77	320.3	YES	NO	bb	bb	9.423
18	2378-TCDD	26.25	2.548e4	3.398e4	1.149	0.75	0.77	410.5	YES	NO	bb	bb	9.038
19	Total-tetradioxins	25.93	3.707e4	4.740e4	1.024	0.78	0.77	400.5	YES	NO	bb	bb	14.400
20	Total-tetradioxins	25.44	1.227e4	1.541e4	1.024	0.80	0.77	196.5	YES	NO	bb	bb	4.720
21	Total-tetradioxins	24.87	3.712e2	4.769e2	1.024	0.78	0.77	5.4	YES	NO	bb	bb	0.145
22	1368-TCDD	23.39	2.337e4	2.942e4	1.015	0.79	0.77	398.5	YES	NO	bb	bb	9.078
23	12389-PECDD	31.76	1.474e5	9.781e4	1.184	1.51	1.55	935.0	YES	NO	bd	bd	48.401
24	12378-PeCDD	31.36	1.260e5	8.453e4	1.022	1.49	1.55	841.4	YES	NO	bb	bb	48.148
25	12479-PECDD	28.64	2.034e5	1.341e5	2.301	1.52	1.55	891.7	YES	NO	bb	bb	34.265
26	Total-hexadioxins	34.24	2.579e2	2.330e2	1.005	1.11	1.24	5.2	YES	NO	dd	db	0.102
27	124679-HXCDD	33.86	1.543e5	1.263e5	1.115	1.22	1.24	1654.3	YES	NO	bd	bd	59.765
28	123789-HxCDD	36.38	1.189e5	9.528e4	0.907	1.25	1.24	1285.2	YES	NO	bd	bb	49.435
29	123678-HxCDD	35.99	1.352e5	1.064e5	1.001	1.27	1.24	1450.8	YES	NO	db	db	45.190
30	123478-HxCDD	35.86	1.110e5	9.259e4	0.996	1.20	1.24	1340.1	YES	NO	bd	bd	48.585
31	Total-hexadioxins	34.98	5.841e2	4.611e2	1.005	1.27	1.24	7.6	YES	NO	db	db	0.218
32	1234678-HpCDD	40.13	8.862e4	8.812e4	1.039	1.01	1.05	1046.6	YES	NO	bd	bd	48.863
33	Total-heptadioxins	39.92	8.522e1	9.322e1	1.088	0.91	1.05	3.4	NO	NO	bb	bb	0.047
34	1234679-HPCDD	39.08	9.847e4	9.908e4	1.137	0.99	1.05	1212.6	YES	NO	bb	bd	49.915
35	OCDD	44.83	1.298e5	1.528e5	0.920	0.85	0.89	1581.4	YES	NO	bb	bb	94.577

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	22.14	9.911e6					7.3	YES		bb		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	30.20	3.338e4					2.9	NO		bb		0.000
2	FUNCTION2 PFK	27.91	2.381e4					2.6	NO		bb		0.000

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	35.99	4.107e5					4.0	YES		bb		0.000
2	FUNCTION3 PFK	33.30	2.607e7					35.1	YES		bb		0.000

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	45.29	4.735e3					1.5	NO		bb		
2	FUNCTION5 PFK	44.80	7.470e3					1.8	NO		db		
3	FUNCTION5 PFK	44.74	1.077e4					2.0	NO		dd		
4	FUNCTION5 PFK	44.70	6.282e3					1.1	NO		bd		
5	FUNCTION5 PFK	44.10	2.837e3					0.9	NO		bb		
6	FUNCTION5 PFK	43.73	8.156e2					0.6	NO		bb		
7	FUNCTION5 PFK	43.67	2.388e3					1.1	NO		bb		
8	FUNCTION5 PFK	43.32	5.413e3					1.4	NO		db		
9	FUNCTION5 PFK	43.25	8.945e3					2.0	NO		bd		
10	FUNCTION5 PFK	42.89	4.043e3					1.2	NO		bb		
11	FUNCTION5 PFK	42.82	6.456e3					1.7	NO		bb		
12	FUNCTION5 PFK	42.60	6.712e3					1.3	NO		bb		
13	FUNCTION5 PFK	45.80	5.606e3					1.4	NO		bb		

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ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	22.31	8.768e1					1.7	NO		bb		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	30.98	9.936e1					3.6	YES		db		0.000
2	FUNCTION2 HPCD...	30.94	9.898e1					4.0	YES		bd		0.000
3	FUNCTION2 HPCD...	30.79	7.703e1					3.2	YES		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	36.38	1.465e2					3.5	YES		bb		0.000

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	40.08	8.353e1					2.0	NO		bb		0.000

ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

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Printed: Tuesday, March 14, 2023 11:10:25 Pacific Daylight Time

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ID: CS3Z1, Name: 23031302, Date: 13-Mar-2023, Time: 10:33:12, Conditions: AUTOSPEC01, User: pk

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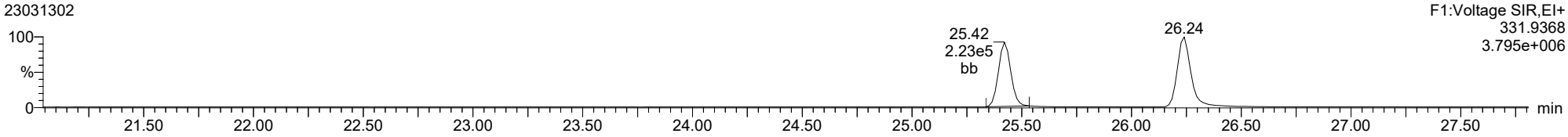

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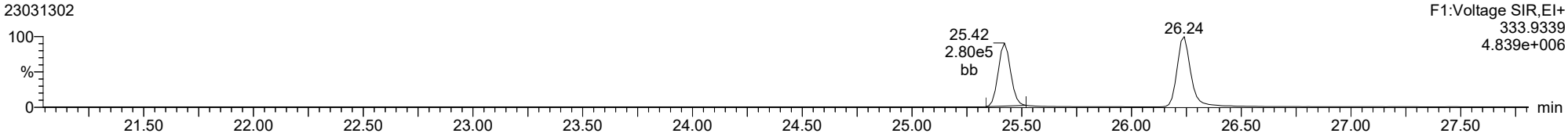

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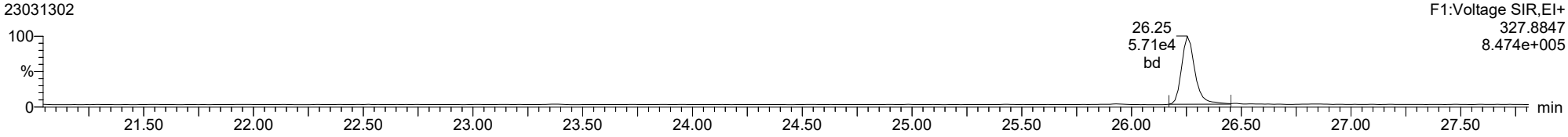

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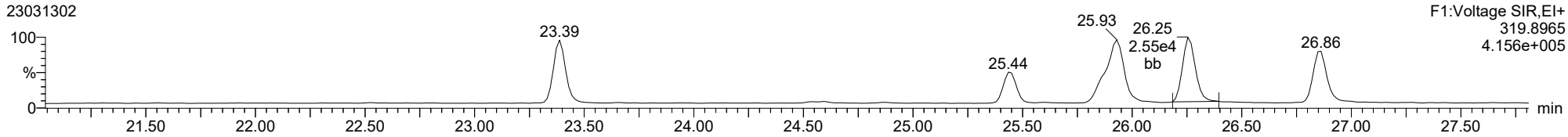

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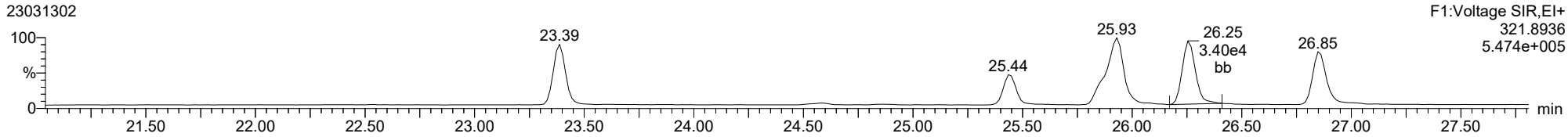

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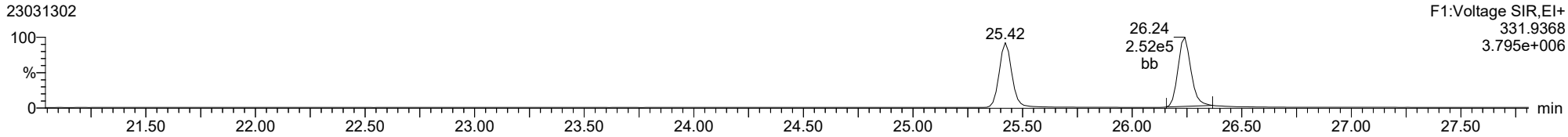

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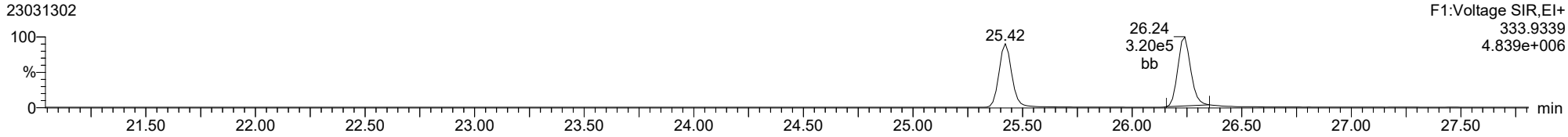

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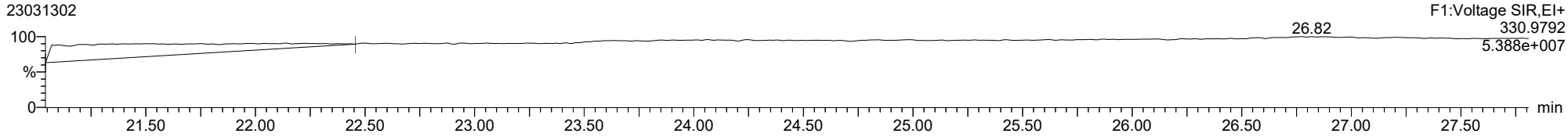

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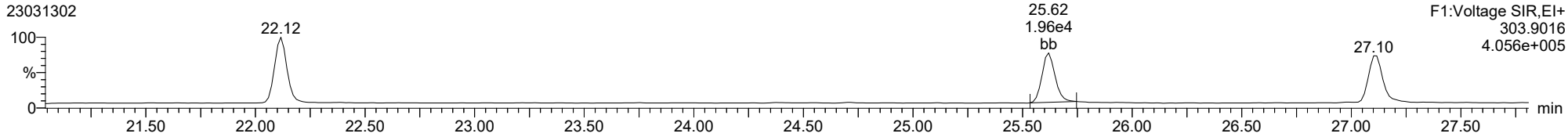

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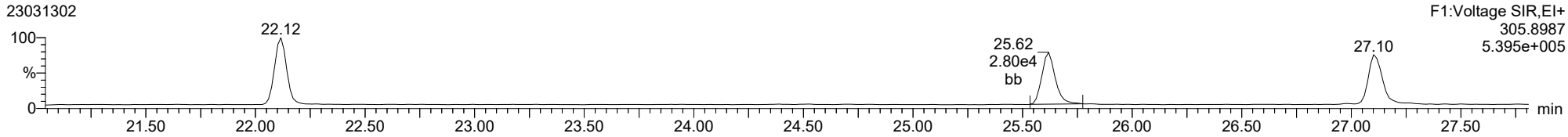

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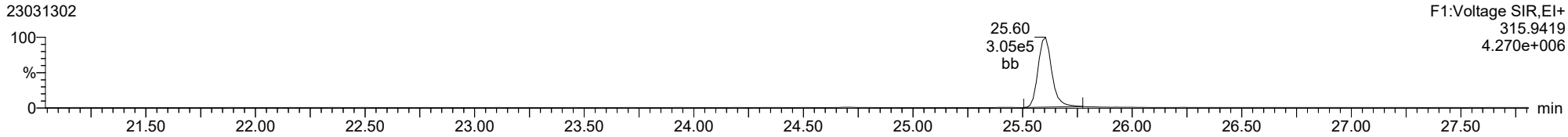

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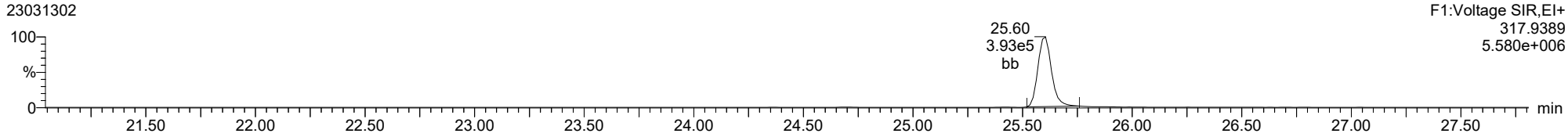

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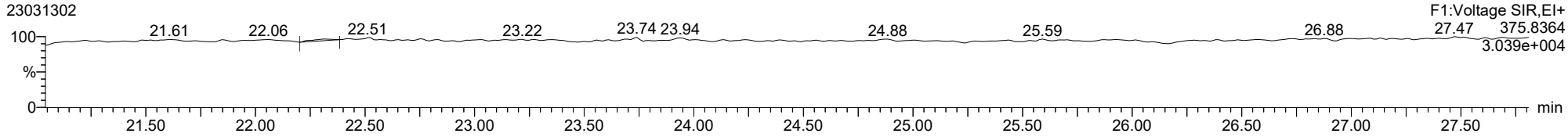

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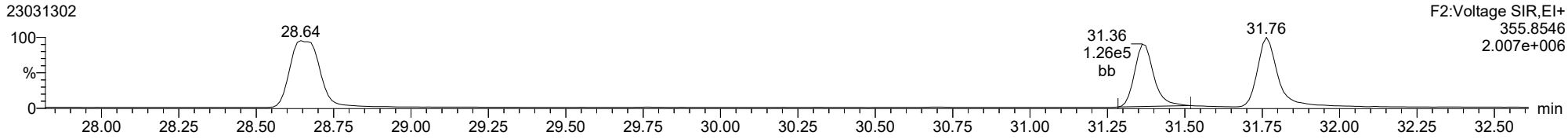
12378-PeCDD



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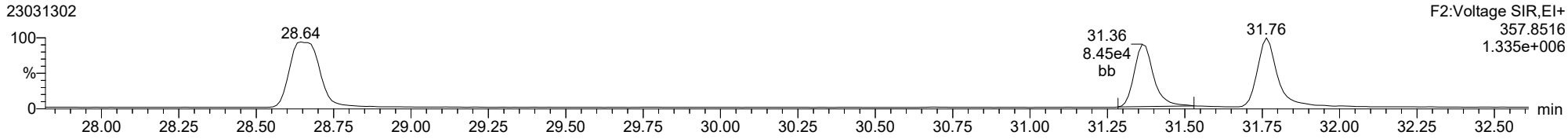

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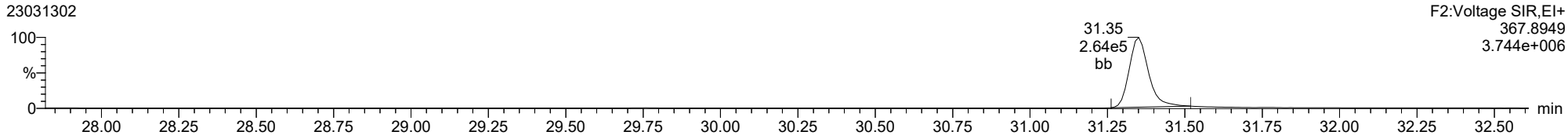

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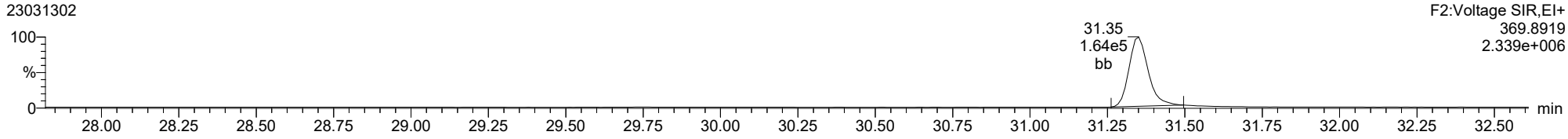
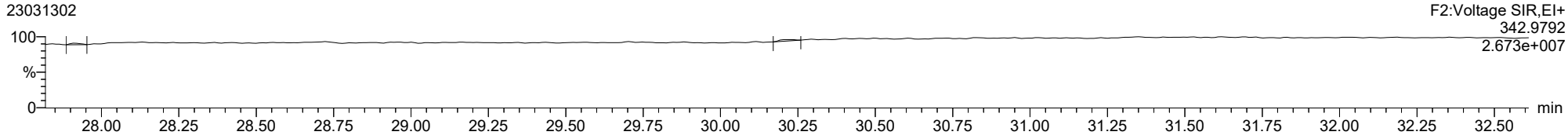


FUNCTION2 PFK



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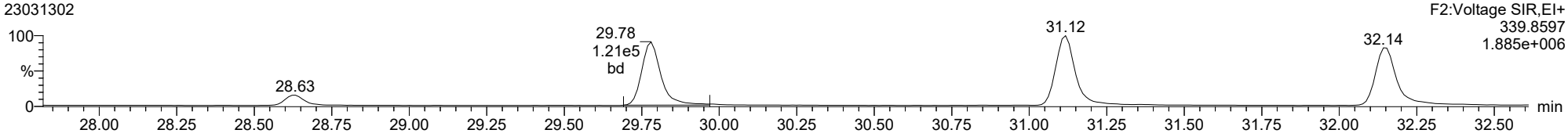
12378-PeCDF



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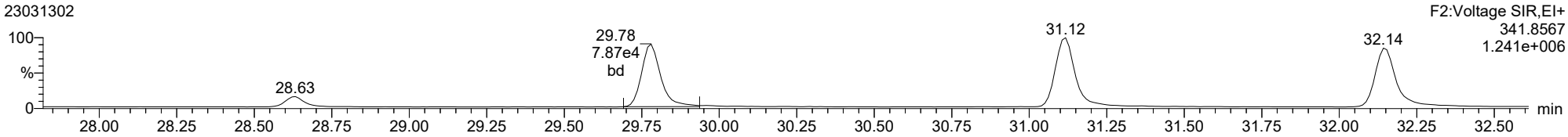

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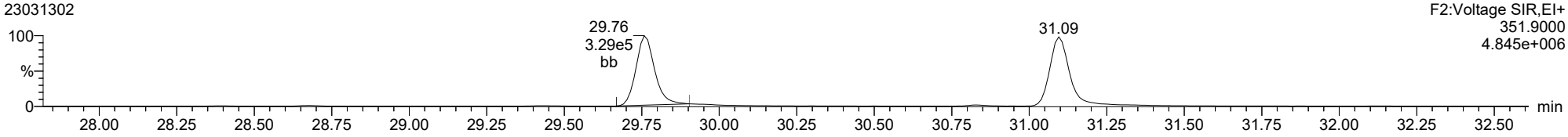

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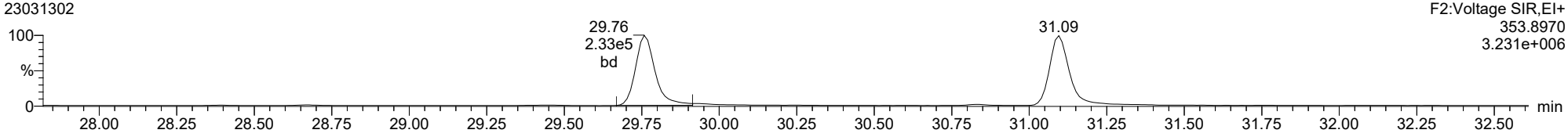
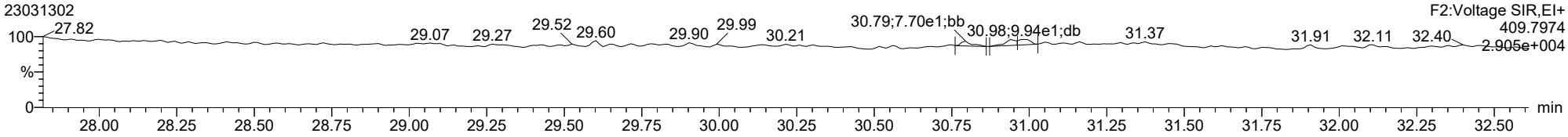


FUNCTION2 HPCDPE



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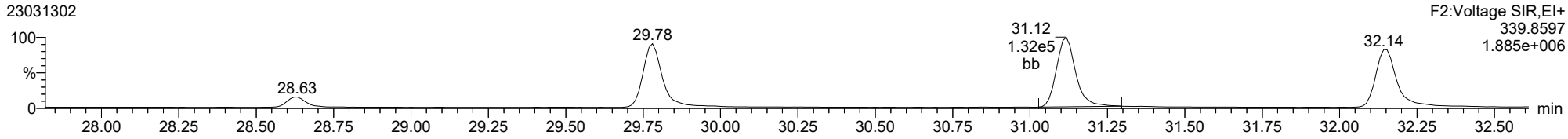
23478-PeCDF



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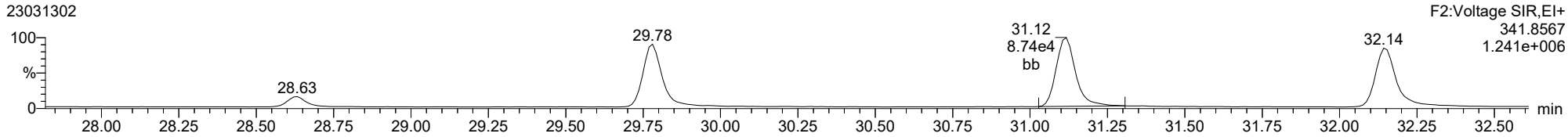

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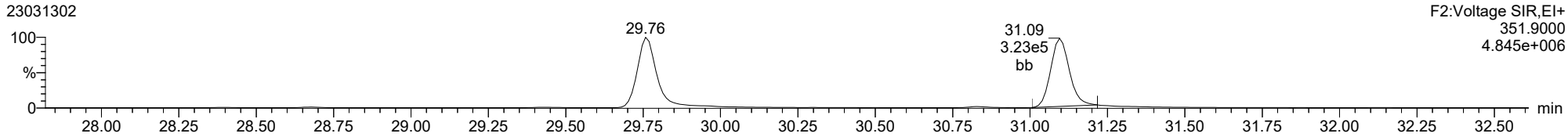

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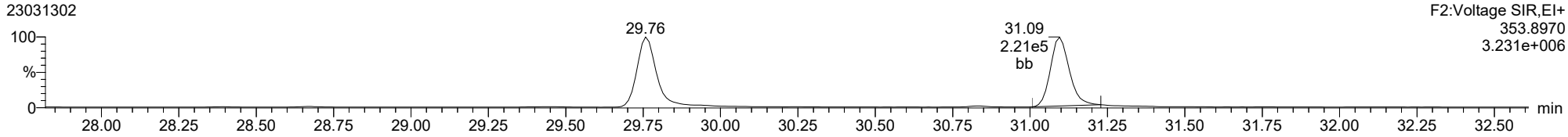

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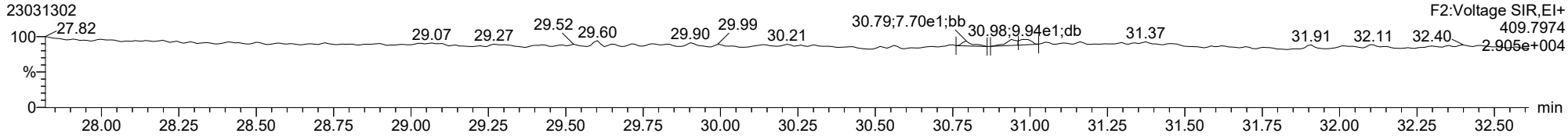

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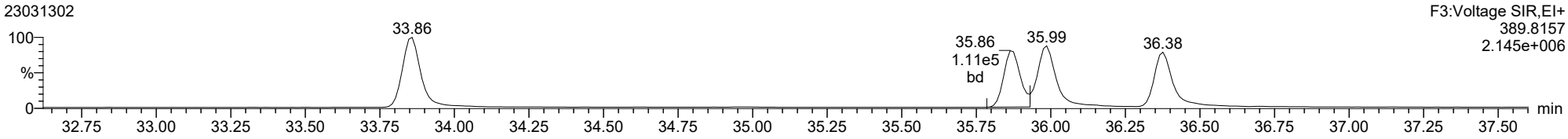

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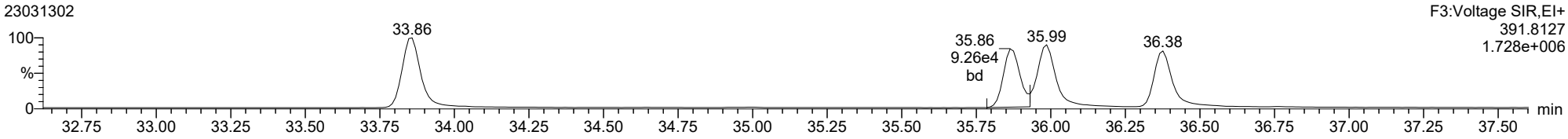

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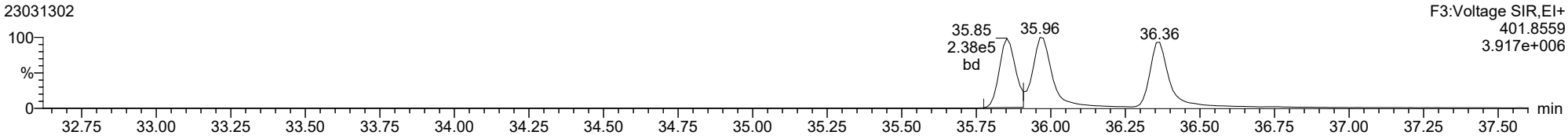

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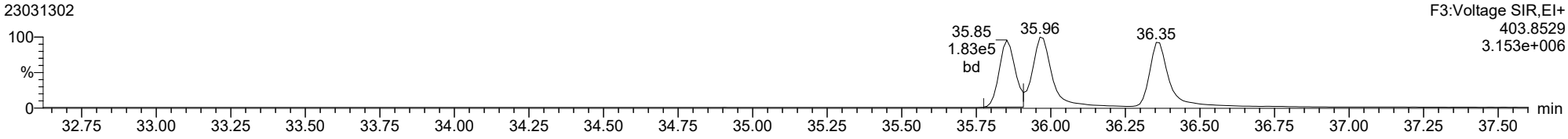

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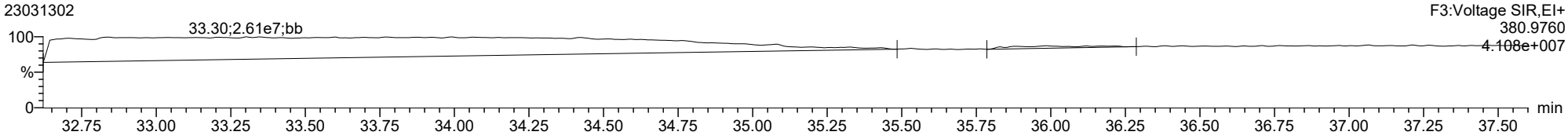

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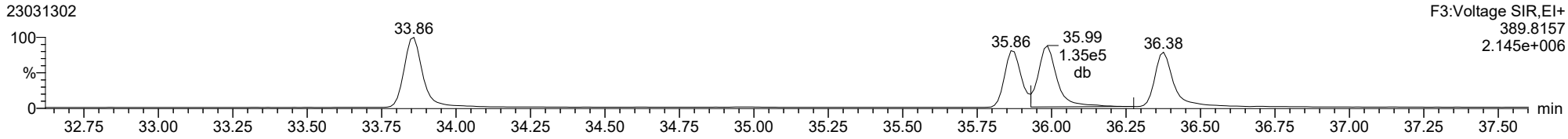

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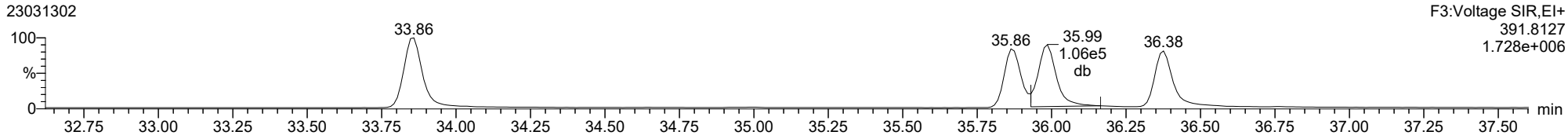

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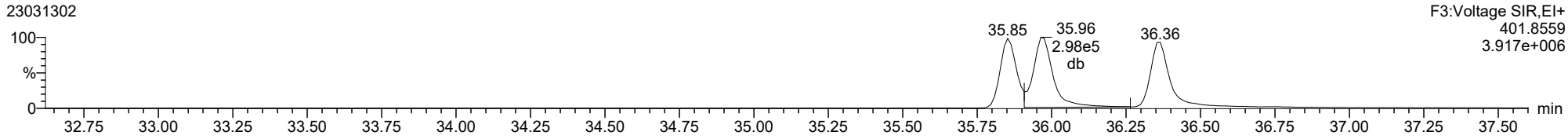

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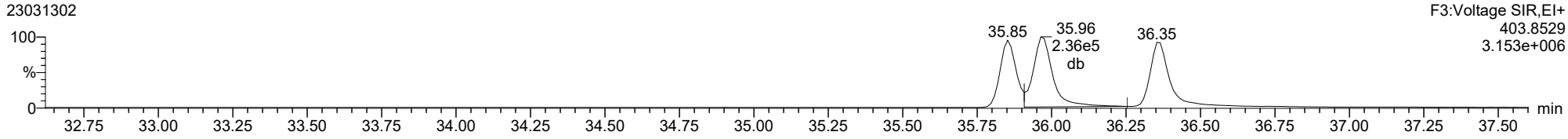

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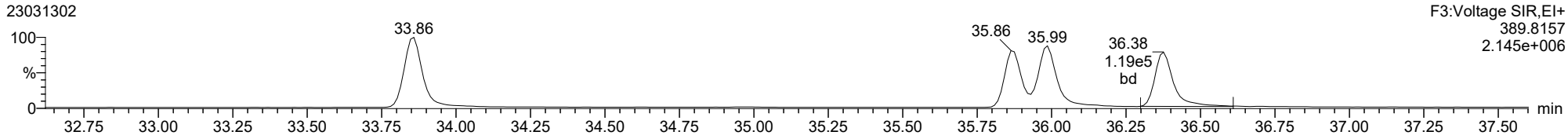

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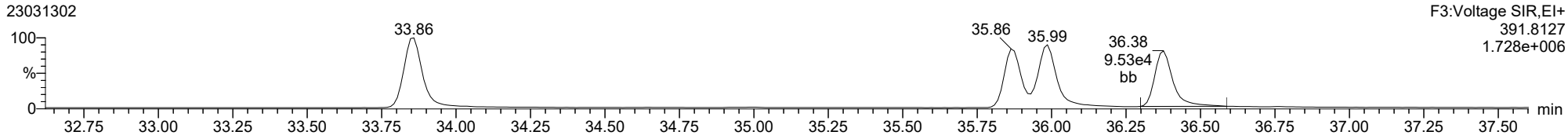

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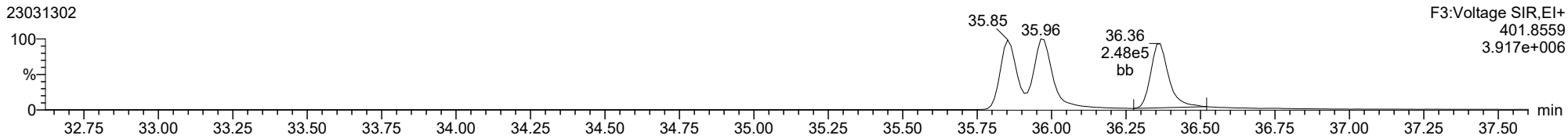

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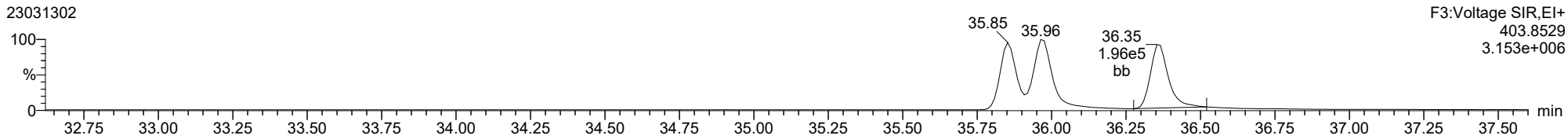

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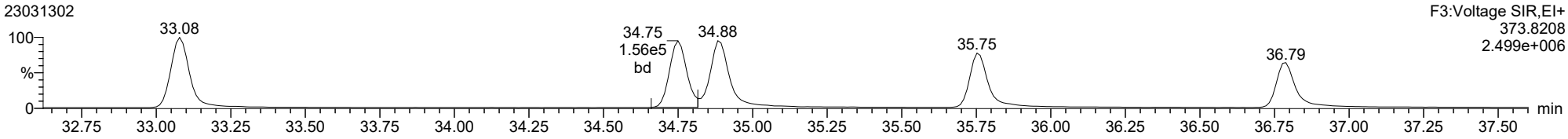

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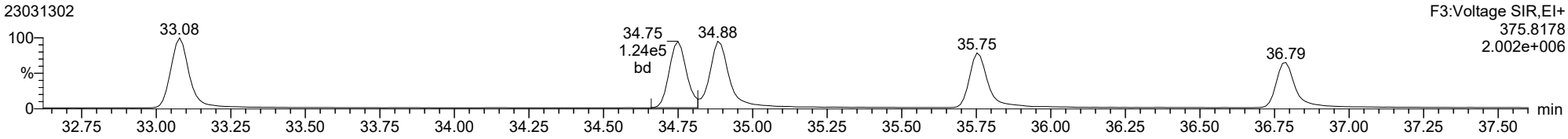

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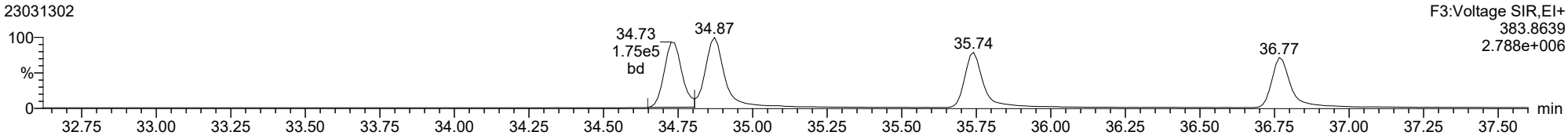

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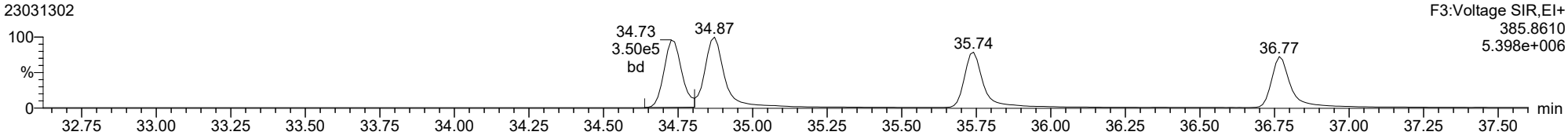
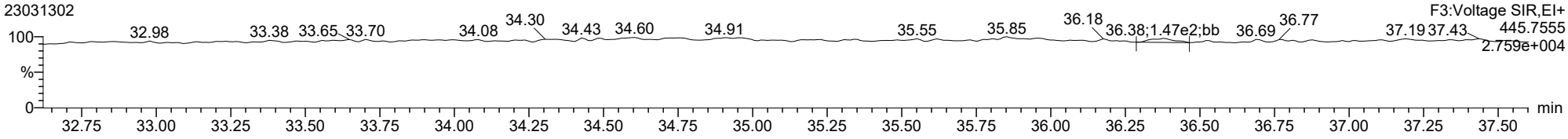


FUNCTION3 OCDPE



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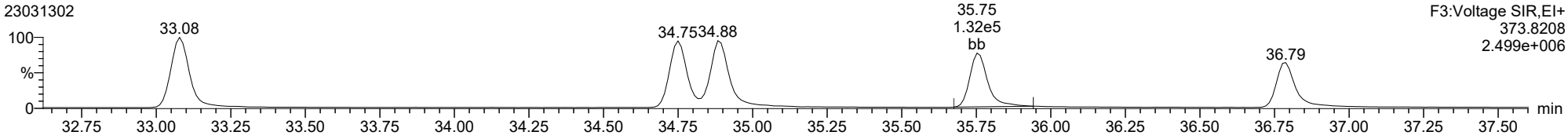
234678-HxCDF



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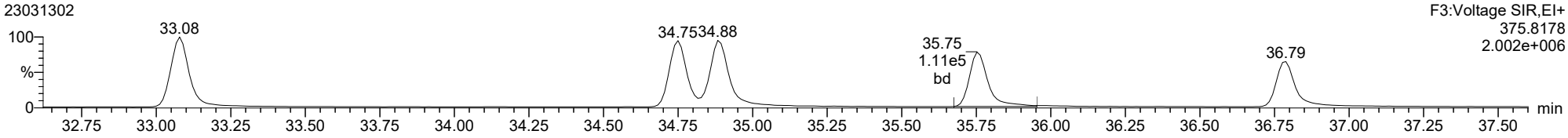

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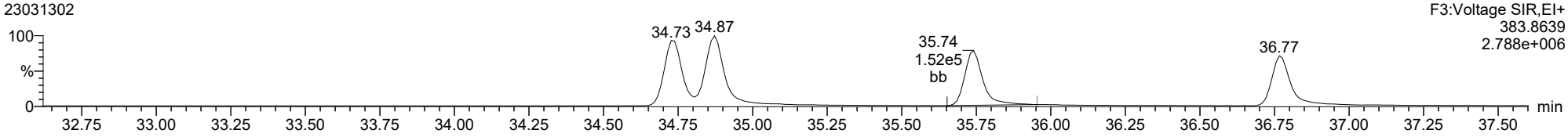

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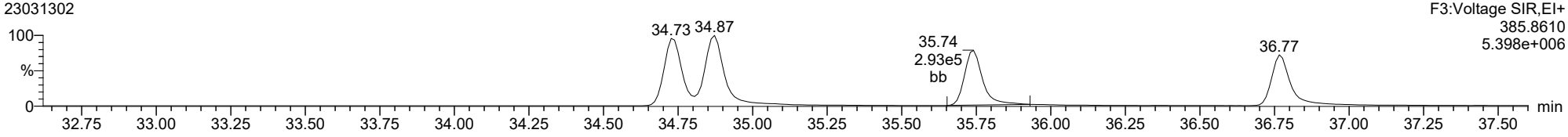

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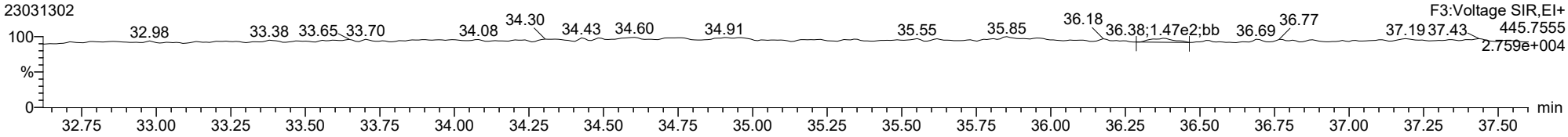

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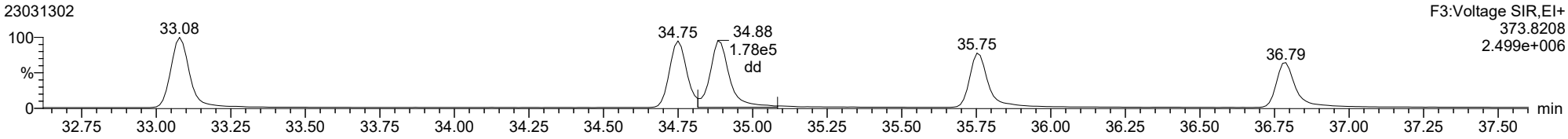

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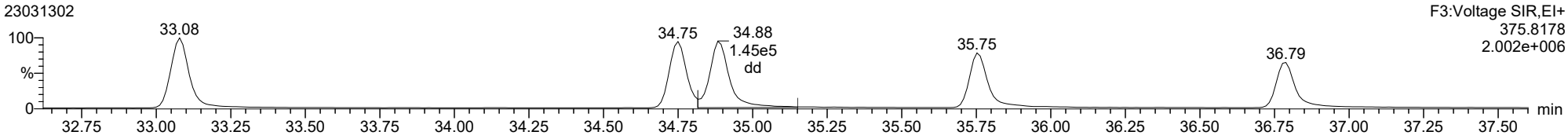

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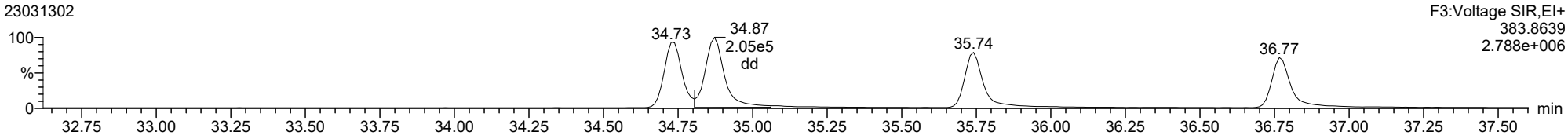

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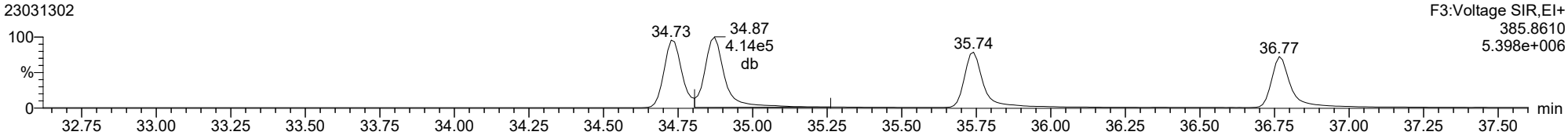

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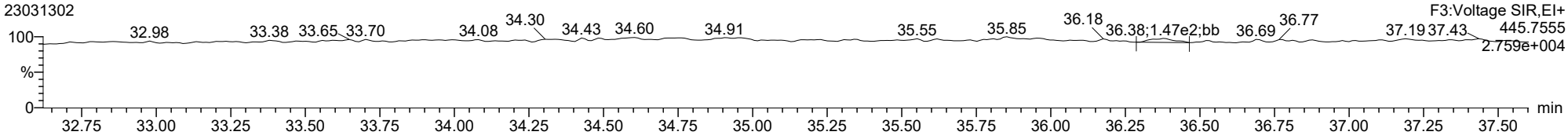

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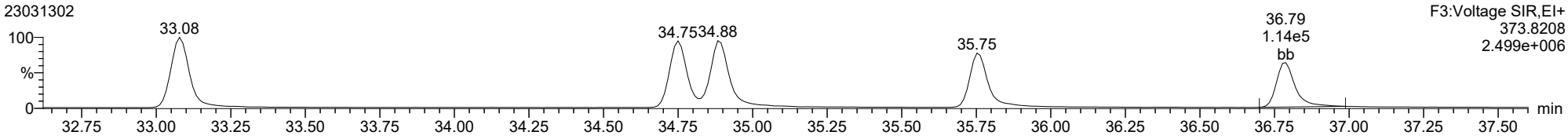

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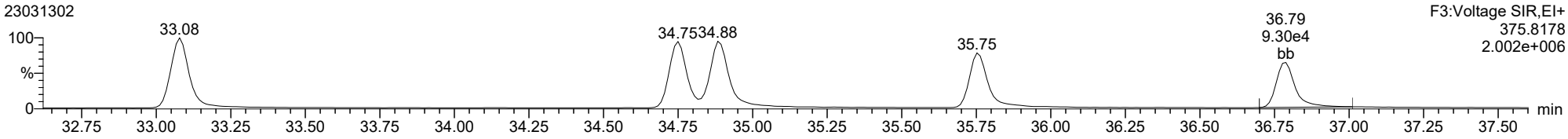

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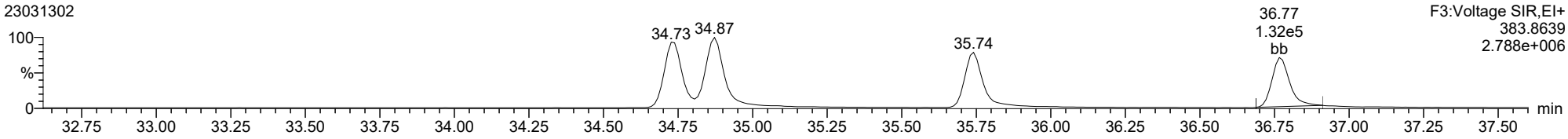

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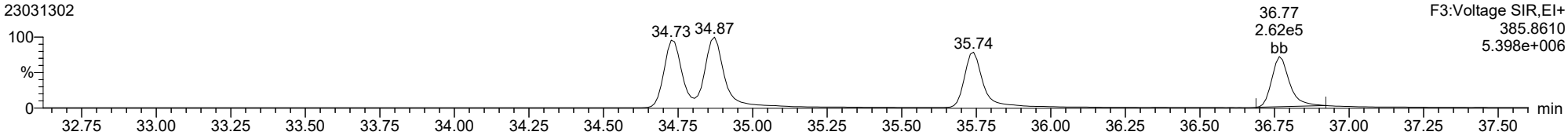
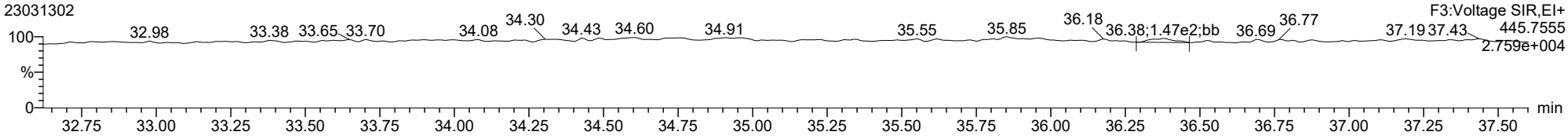


FUNCTION3 OCDPE



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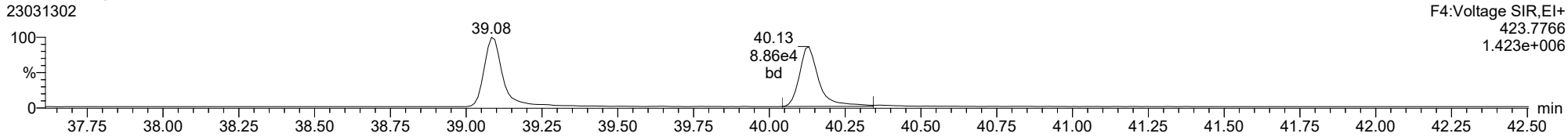
1234678-HpCDD



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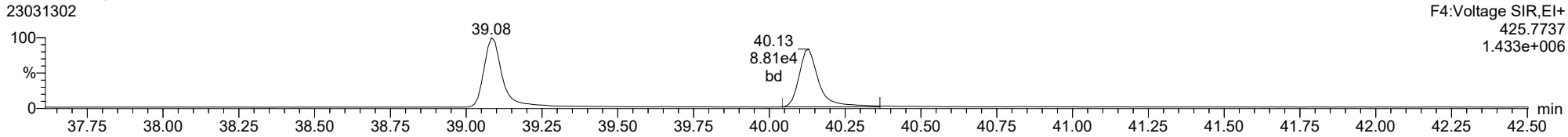

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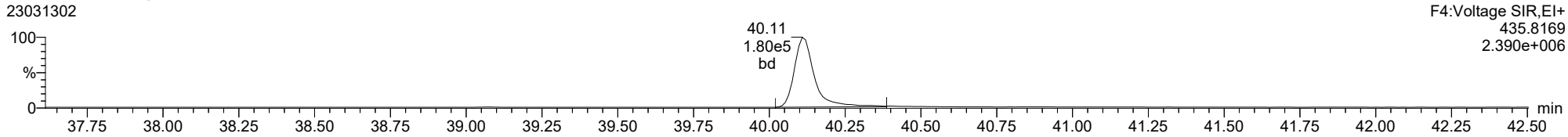

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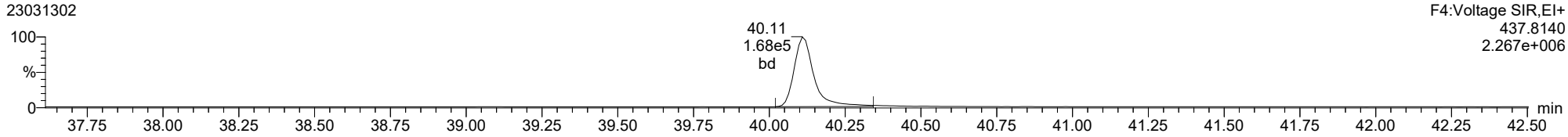
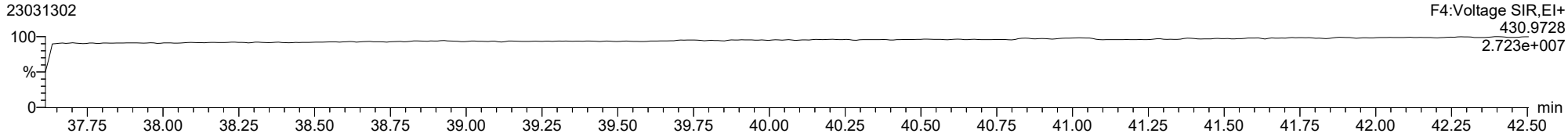


FUNCTION4 PFK



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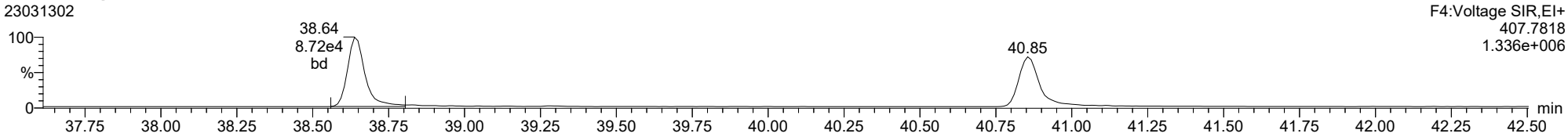

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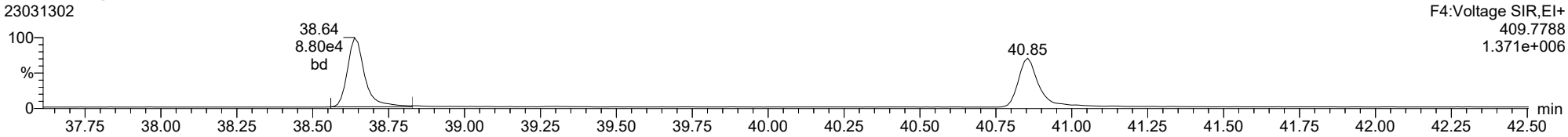

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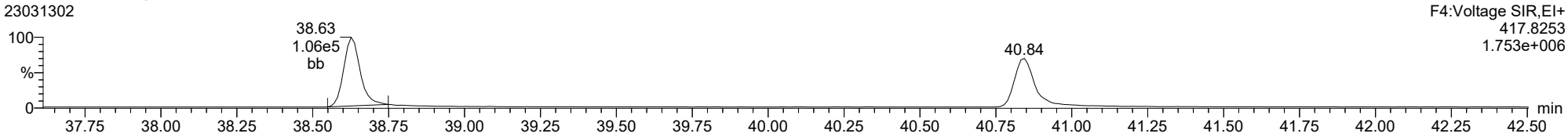

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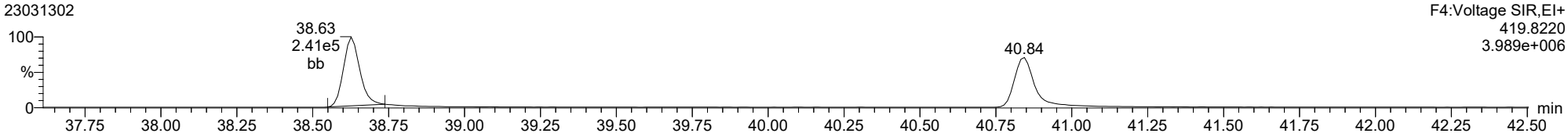

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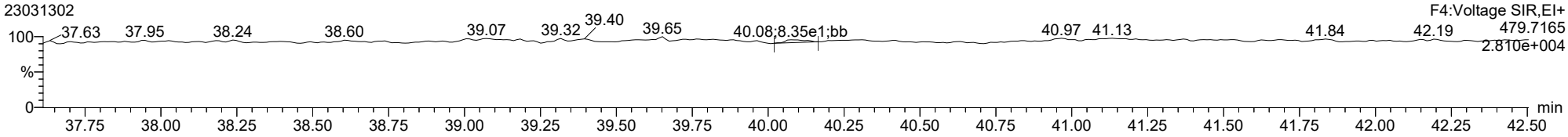

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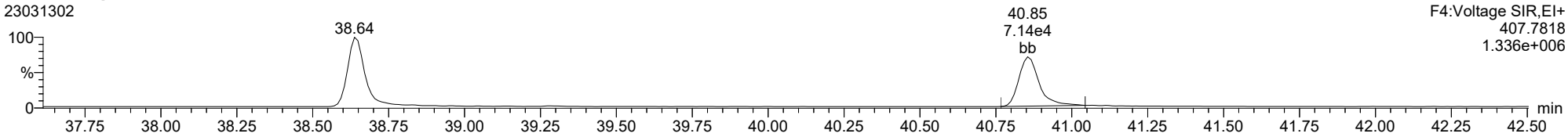

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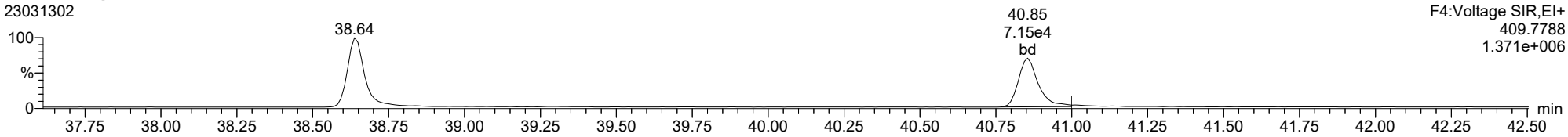

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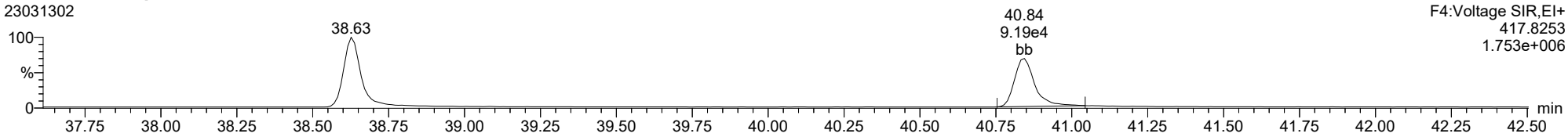

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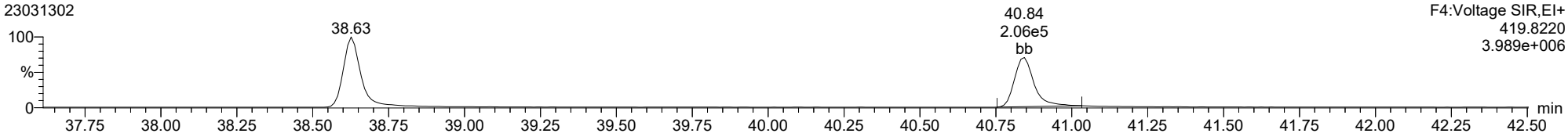

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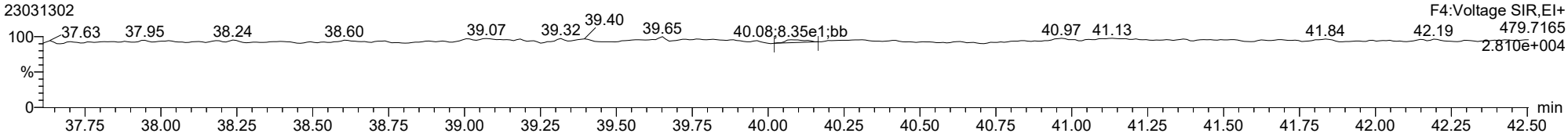

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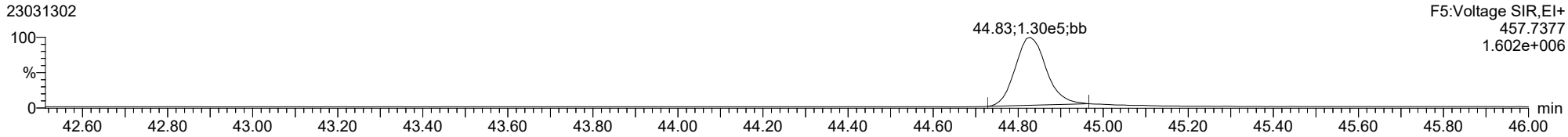

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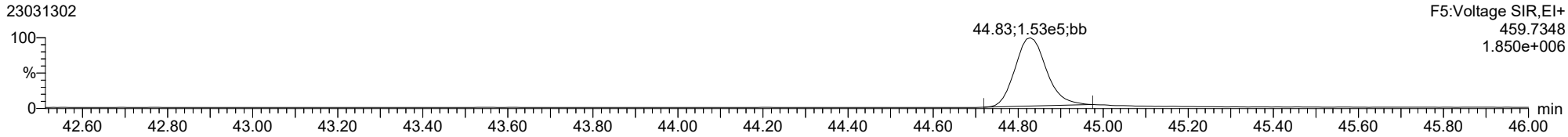

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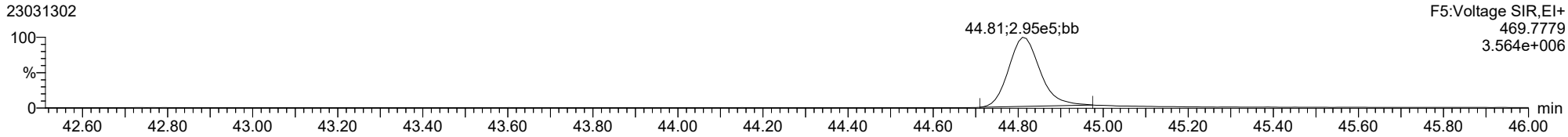

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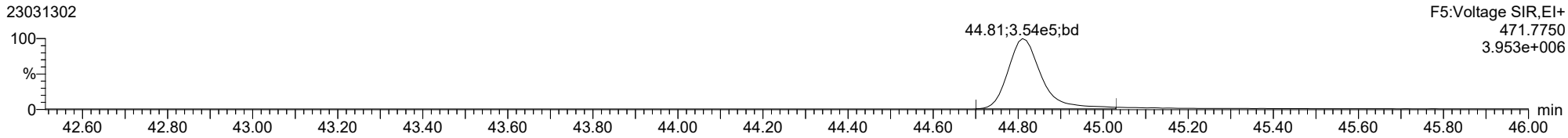
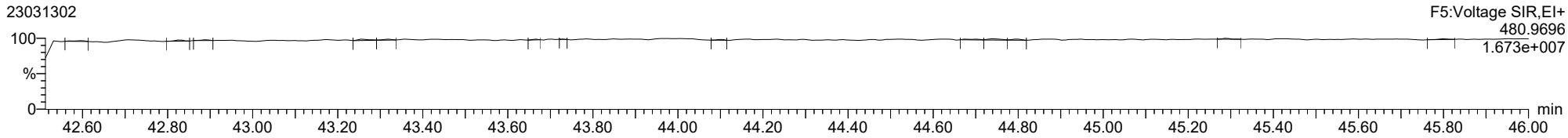


FUNCTION5 PFK



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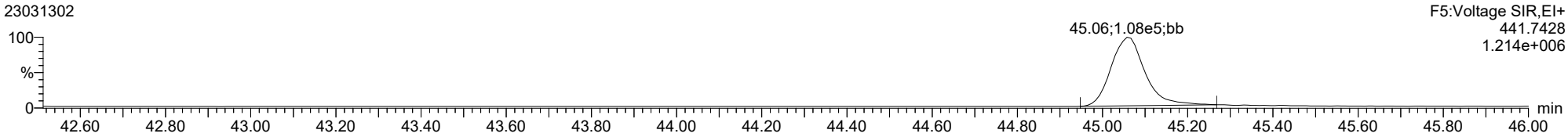

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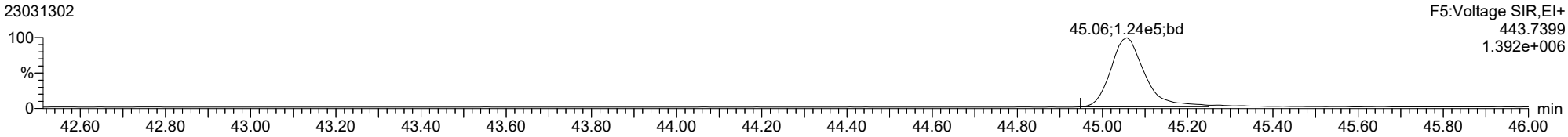

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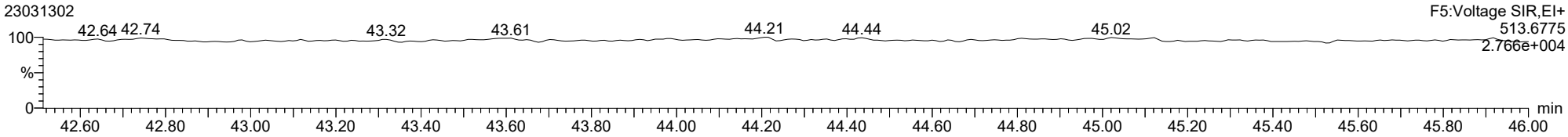

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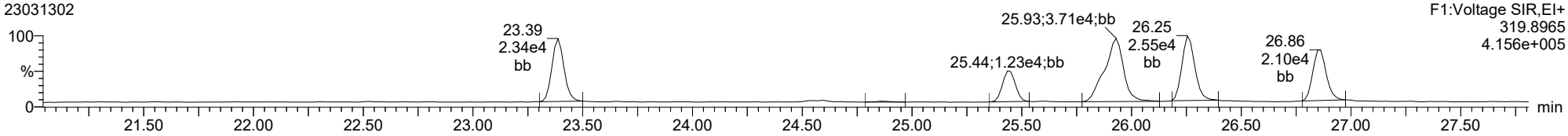
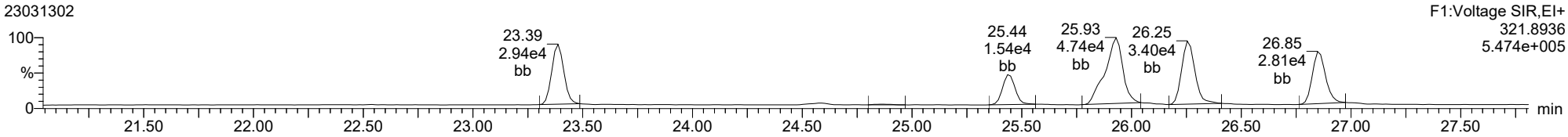


Total-tetradioxins



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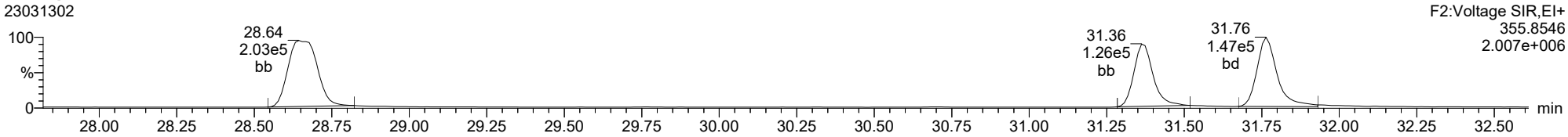

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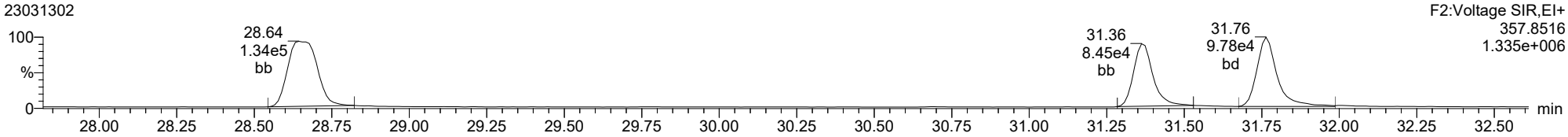

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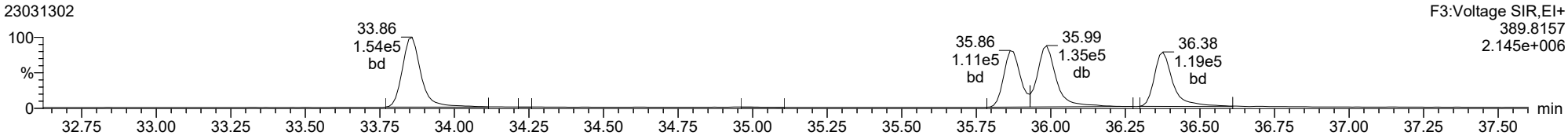

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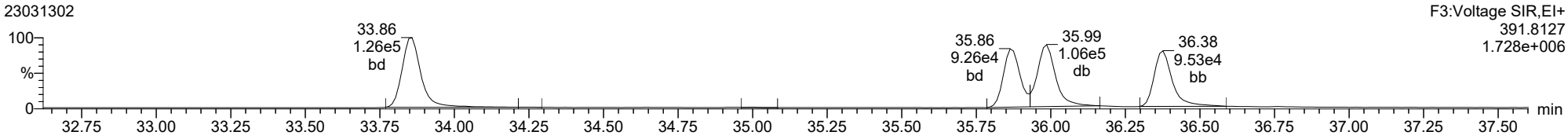

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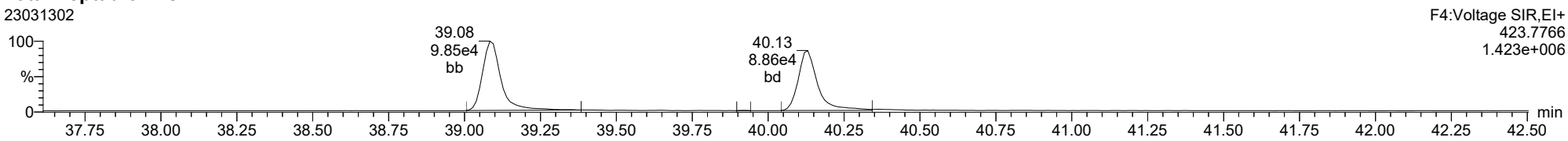

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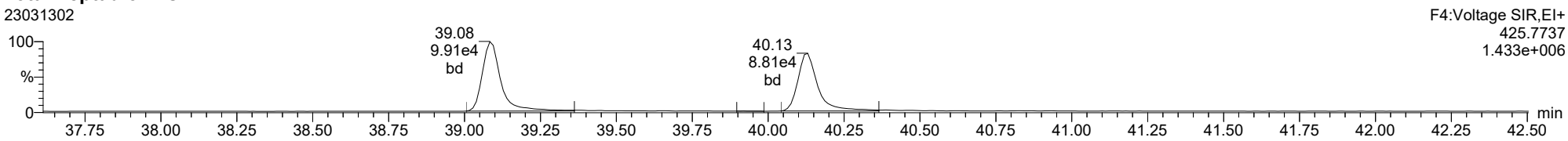

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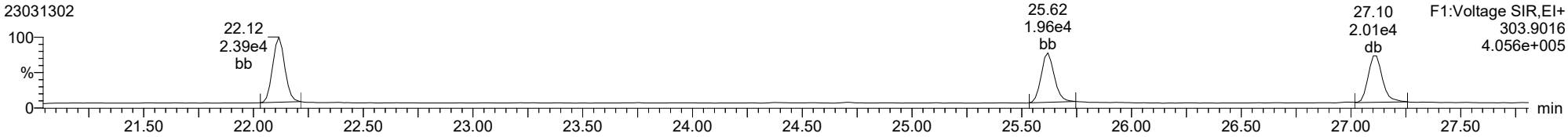
Total-tetrafurans



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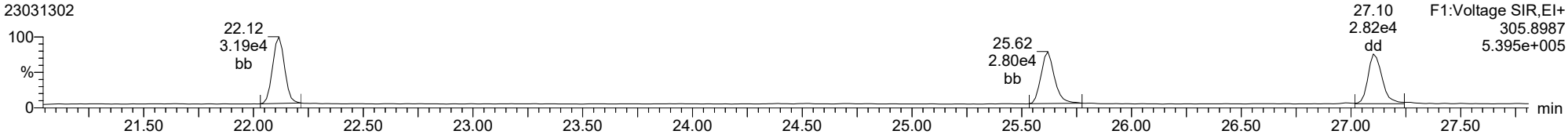

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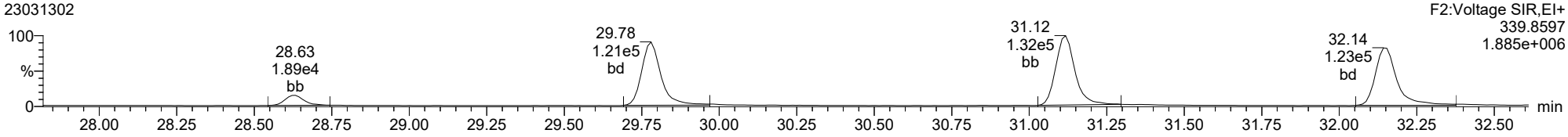

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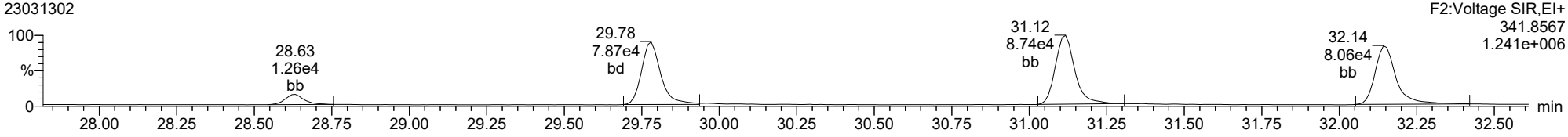

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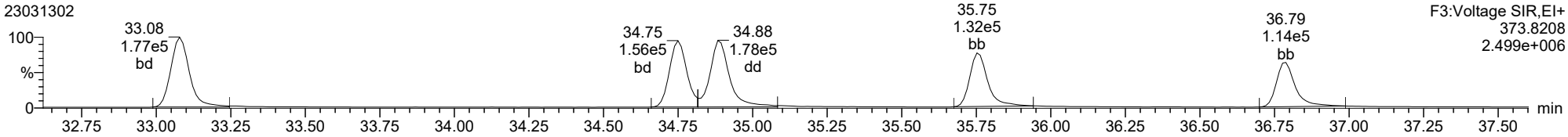

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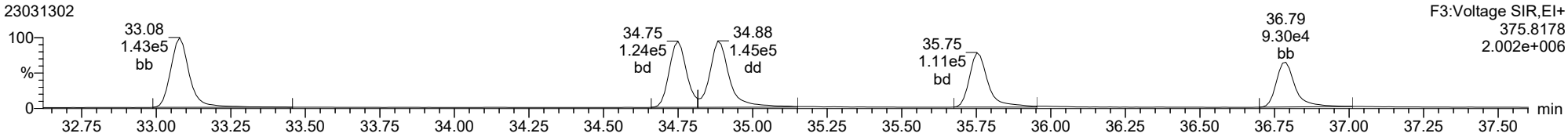

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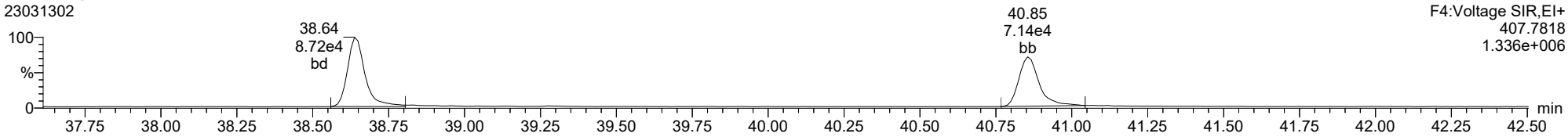

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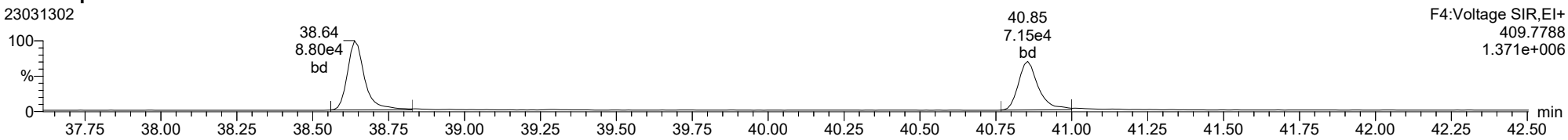

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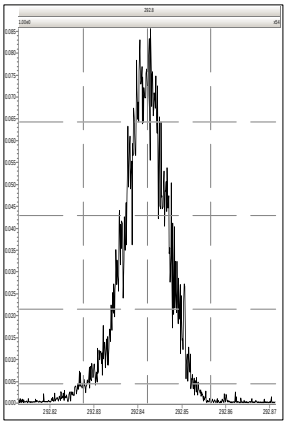
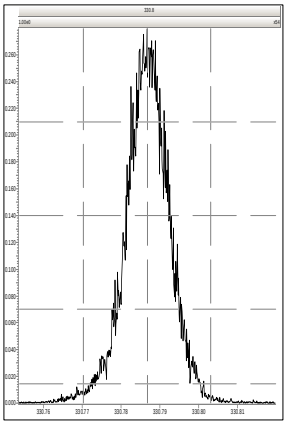
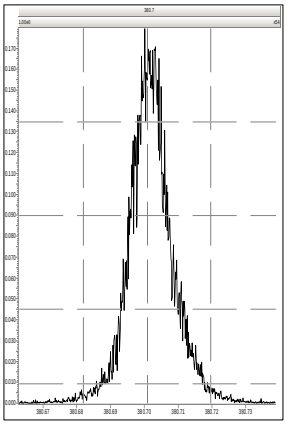


M 330.9792 R 12112



M 380.9760 R 12499



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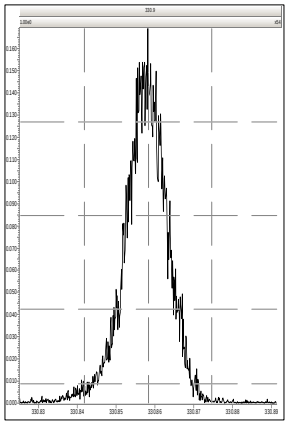

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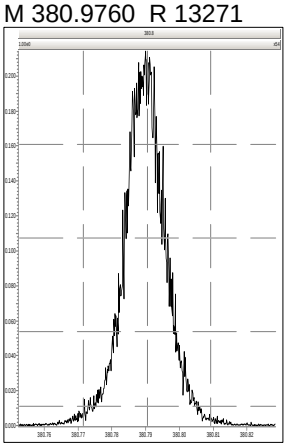

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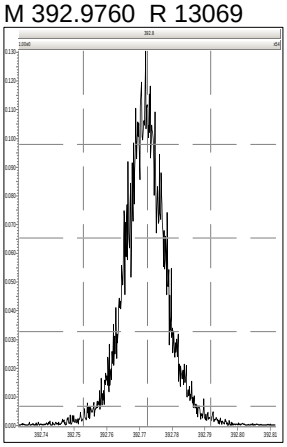

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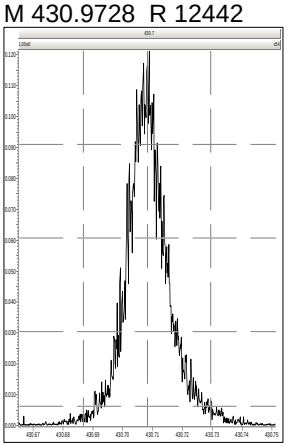

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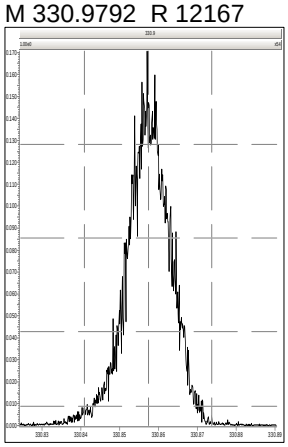
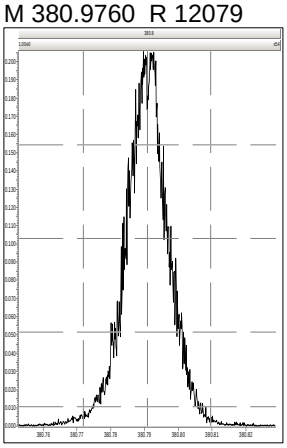
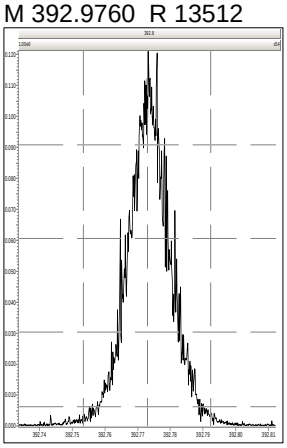


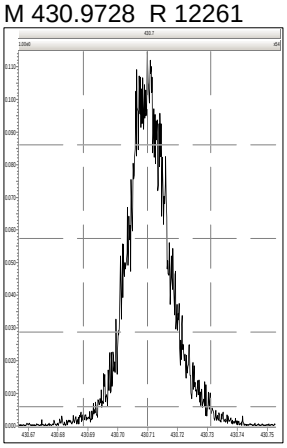
M 380.9760 R 12079



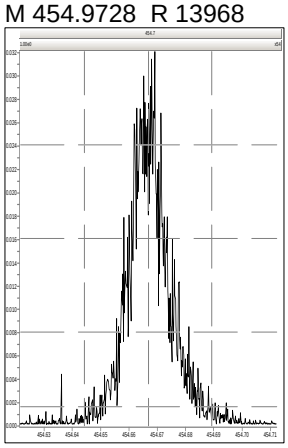
M 392.9760 R 13512



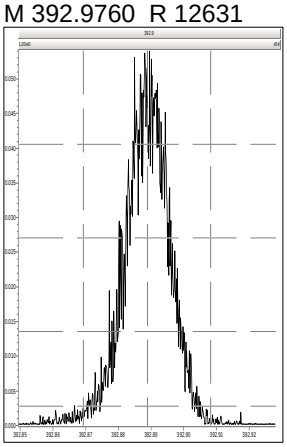
M 430.9728 R 12261



M 454.9728 R 13968



M 392.9760 R 12631



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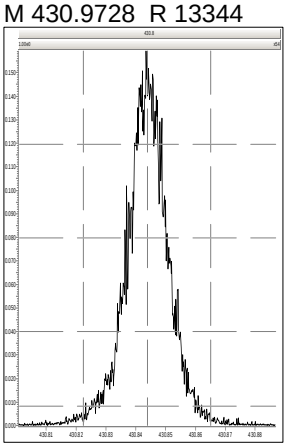

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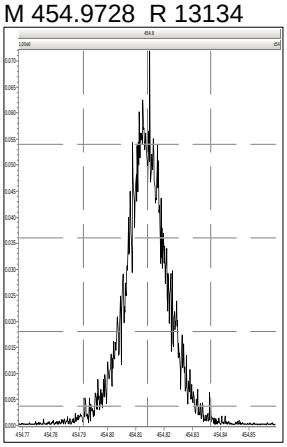
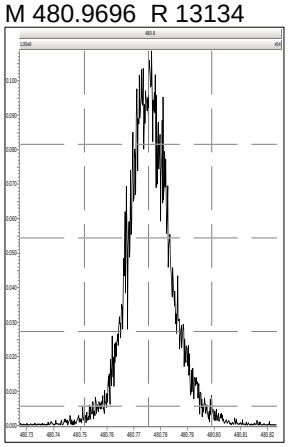


M 480.9696 R 13134



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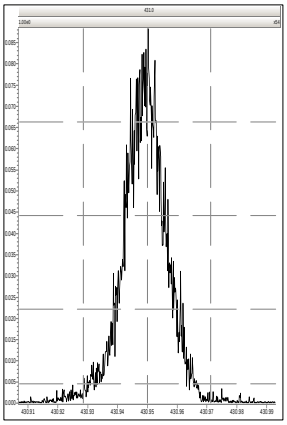
M 430.9728 R 13626



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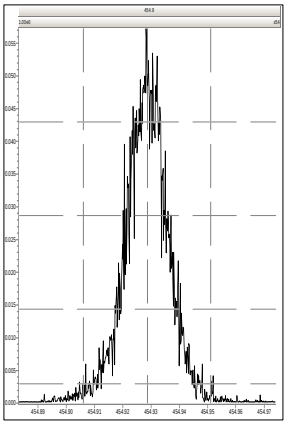

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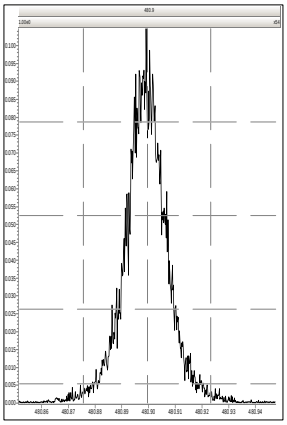

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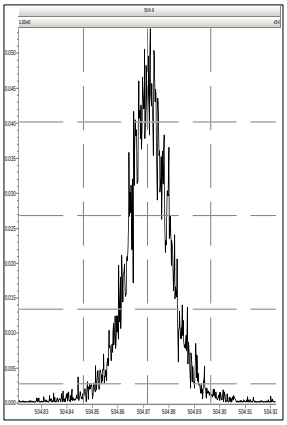
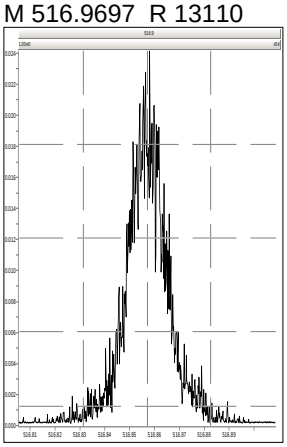
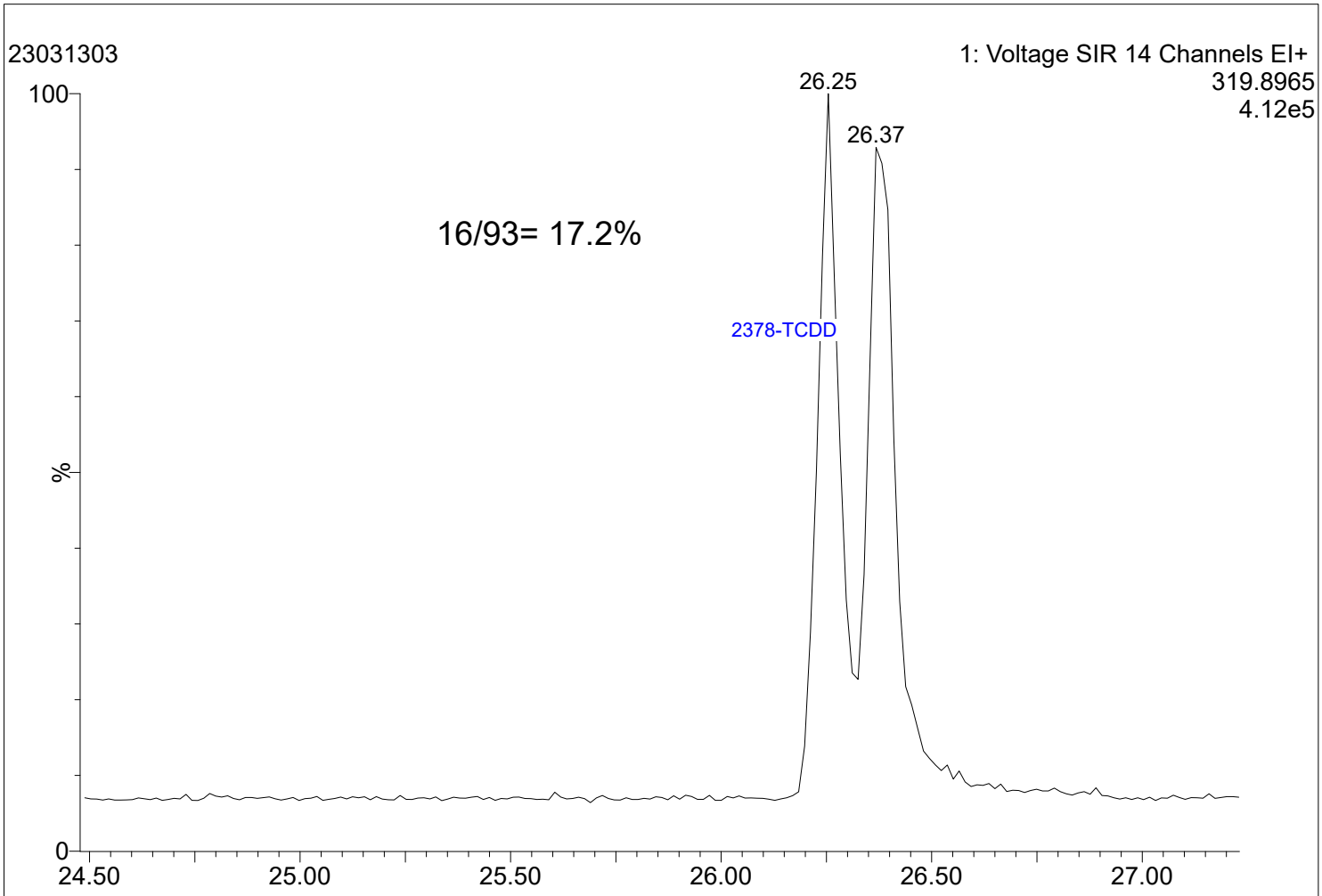


M 516.9697 R 13110




23031303
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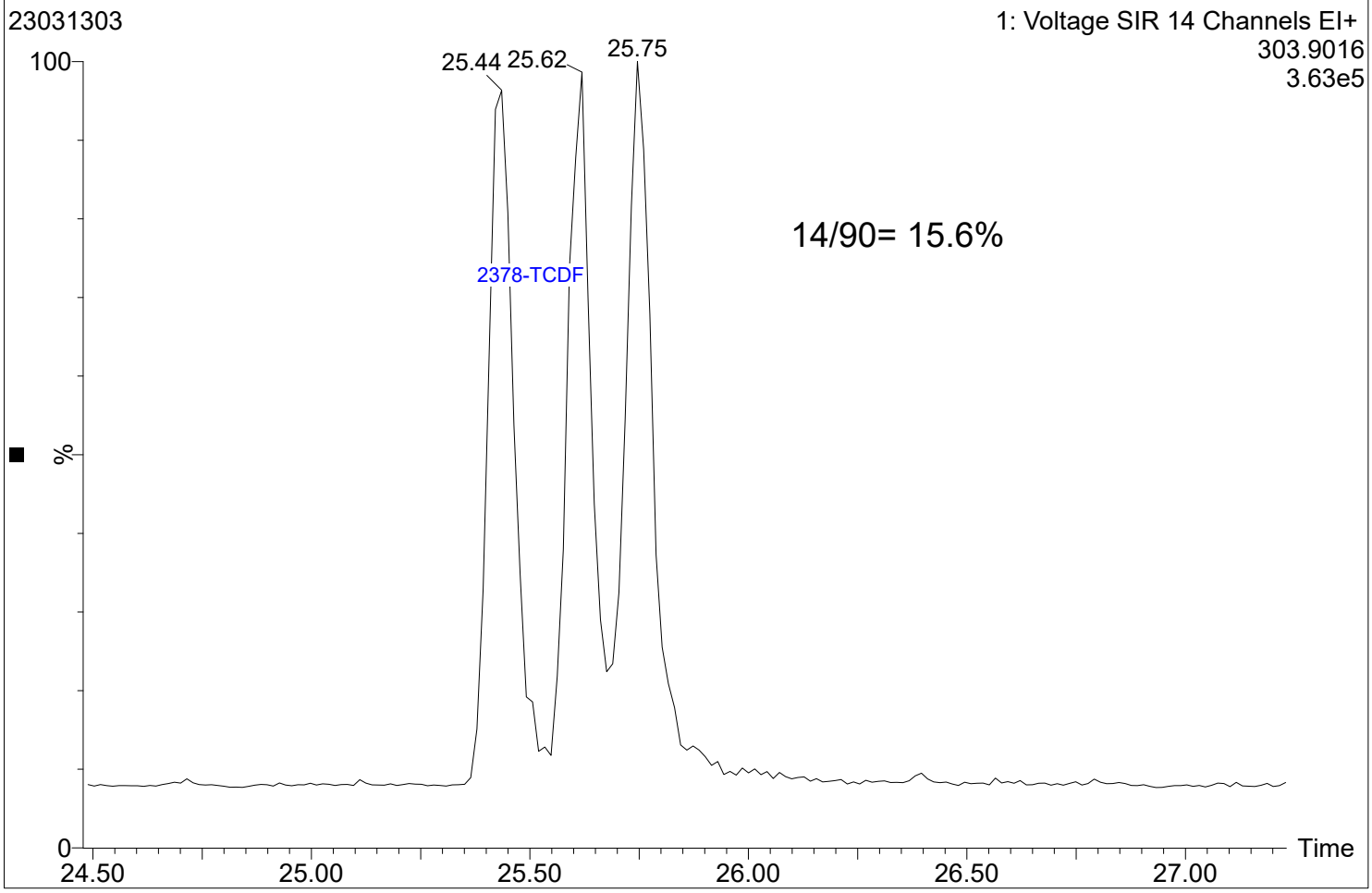
%
0
24.50
25.00
25.50
26.00
26.50
27.00


23031303
1: Voltage SIR 14 Channels EI+
303.9016
3.63e5
25.44
25.62
25.75
14/90= 15.6%
2378-TCDF
100
%
0
Time
24.50
25.00
25.50
26.00
26.50
27.00

Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 1613B

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	AUTOSPEC01	Calibration:	GC00015
Lab File ID:	23030311	Calibration Date:	03/03/2023
Sequence:	SLC0045	Injection Date:	03/03/23
Lab Sample ID:	SLC0045-CCV1	Injection Time:	17:25
Sequence Name:	CS3V4		

		CONC. (ng/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
2,3,7,8-TCDF	A	10.000	10.1	0.7015272	0.7103909		1.3	+/-16
2,3,7,8-TCDD	A	10.000	9.02	1.1486620	1.0358000		-9.8	+/-22
1,2,3,7,8-PeCDF	A	50.000	47.7	0.6792300	0.6482723		-4.6	+/-18
2,3,4,7,8-PeCDF	A	50.000	48.6	0.7861704	0.7638484		-2.8	+/-18
1,2,3,7,8-PeCDD	A	50.000	50.8	1.0218450	1.0391930		1.7	+/-22
1,2,3,4,7,8-HxCDF	A	50.000	47.3	1.1660380	1.1031690		-5.4	+/-10
1,2,3,6,7,8-HxCDF	A	50.000	51.4	1.0907410	1.1209930		2.8	+/-12
2,3,4,6,7,8-HxCDF	A	50.000	52.1	1.1396990	1.1864330		4.1	+/-12
1,2,3,7,8,9-HxCDF	A	50.000	48.9	1.1370930	1.1121660		-2.2	+/-10
1,2,3,4,7,8-HxCDD	A	50.000	50.7	0.9955689	1.0094320		1.4	+/-22
1,2,3,6,7,8-HxCDD	A	50.000	51.1	1.0009380	1.0234880		2.3	+/-22
1,2,3,7,8,9-HxCDD	A	50.000	51.7	0.9071139	0.9383686		3.4	+/-18
1,2,3,4,6,7,8-HpCDF	A	50.000	47.7	1.0029930	0.9566603		-4.6	+/-10
1,2,3,4,7,8,9-HpCDF	A	50.000	53.6	0.9531152	1.0217610		7.2	+/-14
1,2,3,4,6,7,8-HpCDD	A	50.000	52.7	1.0390130	1.0955650		5.4	+/-14
OCDF	A	100.00	95.0	0.7778078	0.7390842		-5.0	+/-37
OCDD	A	100.00	97.1	0.9199537	0.8937318		-2.9	+/-21
13C12-2,3,7,8-TCDF	A	100.00	89.4	1.6201960	1.4487738		-10.6	+/-29
13C12-2,3,7,8-TCDD	A	100.00	86.0	1.1524090	0.9914363		-14.0	+/-18
13C12-1,2,3,7,8-PeCDF	A	100.00	92.6	1.2404520	1.1488109		-7.4	+/-24
13C12-2,3,4,7,8-PeCDF	A	100.00	91.6	1.1177860	1.0240744		-8.4	+/-23
13C12-1,2,3,7,8-PeCDD	A	100.00	90.8	0.8288129	0.7523463		-9.2	+/-38
13C12-1,2,3,4,7,8-HxCDF	A	100.00	95.2	1.1683050	1.1119828		-4.8	+/-24
13C12-1,2,3,6,7,8-HxCDF	A	100.00	91.1	1.3864660	1.2630996		-8.9	+/-30
13C12-2,3,4,6,7,8-HxCDF	A	100.00	96.9	1.1292560	1.0940819		-3.1	+/-27
13C12-1,2,3,7,8,9-HxCDF	A	100.00	101	0.9317541	0.9426254		1.2	+/-26
13C12-1,2,3,4,7,8-HxCDD	A	100.00	97.6	0.9950393	0.9710534		-2.4	+/-15
13C12-1,2,3,6,7,8-HxCDD	A	100.00	98.4	1.1566890	1.1378328		-1.6	+/-15
13C12-1,2,3,4,6,7,8-HpCDF	A	100.00	102	0.8952017	0.9116661		1.8	+/-22
13C12-1,2,3,4,7,8,9-HpCDF	A	100.00	84.3	0.7697516	0.6486548		-15.7	+/-23
13C12-1,2,3,4,6,7,8-HpCDD	A	100.00	92.0	0.8401226	0.7731635		-8.0	+/-28
13C12-OCDD	A	200.00	170	0.7674714	0.6532994		-14.9	+/-52
37Cl4-2,3,7,8-TCDD	A	10.000	7.54	1.2878040	0.9705402		-24.6	

* Values outside of QC limits

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 1613B

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	AUTOSPEC01	Calibration:	GC00015
Lab File ID:	23030310	Calibration Date:	03/03/2023
Sequence:	SLC0045	Injection Date:	03/03/23
Lab Sample ID:	SLC0045-SCV1	Injection Time:	16:36
Sequence Name:	ICVCW		

		CONC. (ng/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
2,3,7,8-TCDF	A	10.000	9.84	0.7015272	0.6901560		-1.6	
2,3,7,8-TCDD	A	10.000	9.81	1.1486620	1.1273700		-1.9	
1,2,3,7,8-PeCDF	A	50.000	51.4	0.6792300	0.6981249		2.8	
2,3,4,7,8-PeCDF	A	50.000	49.0	0.7861704	0.7701368		-2.0	
1,2,3,7,8-PeCDD	A	50.000	48.5	1.0218450	0.9921504		-2.9	
1,2,3,4,7,8-HxCDF	A	50.000	48.2	1.1660380	1.1251100		-3.5	
1,2,3,6,7,8-HxCDF	A	50.000	48.0	1.0907410	1.0469270		-4.0	
2,3,4,6,7,8-HxCDF	A	50.000	50.2	1.1396990	1.1448090		0.4	
1,2,3,7,8,9-HxCDF	A	50.000	49.1	1.1370930	1.1161010		-1.8	
1,2,3,4,7,8-HxCDD	A	50.000	50.8	0.9955689	1.0114830		1.6	
1,2,3,6,7,8-HxCDD	A	50.000	50.2	1.0009380	1.0044310		0.3	
1,2,3,7,8,9-HxCDD	A	50.000	51.6	0.9071139	8347.938		3.2	
1,2,3,4,6,7,8-HpCDF	A	50.000	51.8	1.0029930	1.0398620		3.7	
1,2,3,4,7,8,9-HpCDF	A	50.000	48.5	0.9531152	0.9237809		-3.1	
1,2,3,4,6,7,8-HpCDD	A	50.000	49.2	1.0390130	1.0223590		-1.6	
OCDF	A	100.00	104	0.7778078	0.8050743		3.5	
OCDD	A	100.00	99.4	0.9199537	0.9146365		-0.6	
13C12-2,3,7,8-TCDF	A	100.00	96.9	1.6201960	1.5703703		-3.1	
13C12-2,3,7,8-TCDD	A	100.00	96.6	1.1524090	1.1130294		-3.4	
13C12-1,2,3,7,8-PeCDF	A	100.00	73.2	1.2404520	0.9079224		-26.8	
13C12-2,3,4,7,8-PeCDF	A	100.00	75.9	1.1177860	0.8488817		-24.1	
13C12-1,2,3,7,8-PeCDD	A	100.00	76.6	0.8288129	0.6346243		-23.4	
13C12-1,2,3,4,7,8-HxCDF	A	100.00	93.0	1.1683050	1.0861993		-7.0	
13C12-1,2,3,6,7,8-HxCDF	A	100.00	98.0	1.3864660	1.3581552		-2.0	
13C12-2,3,4,6,7,8-HxCDF	A	100.00	93.4	1.1292560	1.0544008		-6.6	
13C12-1,2,3,7,8,9-HxCDF	A	100.00	97.9	0.9317541	0.9122440		-2.1	
13C12-1,2,3,4,7,8-HxCDD	A	100.00	95.9	0.9950393	0.9546162		-4.1	
13C12-1,2,3,6,7,8-HxCDD	A	100.00	97.7	1.1566890	1.1296183		-2.3	
13C12-1,2,3,4,6,7,8-HpCDF	A	100.00	102	0.8952017	0.9144345		2.1	
13C12-1,2,3,4,7,8,9-HpCDF	A	100.00	104	0.7697516	0.8001798		4.0	
13C12-1,2,3,4,6,7,8-HpCDD	A	100.00	102	0.8401226	0.8609226		2.5	
13C12-OCDD	A	200.00	162	0.7674714	0.6199758		-19.2	
37Cl4-2,3,7,8-TCDD	A	10.000	8.71	1.2878040	1.1221835		-12.9	

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 1613B

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	AUTOSPEC01	Calibration:	GC00015
Lab File ID:	23031315	Calibration Date:	03/03/2023
Sequence:	SLC0171	Injection Date:	03/13/23
Lab Sample ID:	SLC0171-CCV1	Injection Time:	21:53
Sequence Name:	CS3Z2		

		CONC. (ng/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT	
2,3,7,8-TCDF	A	10.000	8.56	0.7015272	0.6007507		-14.4	+/-16	
2,3,7,8-TCDD	A	10.000	8.14	1.1486620	0.9350804		-18.6	+/-22	
1,2,3,7,8-PeCDF	A	50.000	52.9	0.6792300	0.7192166		5.9	+/-18	
2,3,4,7,8-PeCDF	A	50.000	49.0	0.7861704	0.7705335		-2.0	+/-18	
1,2,3,7,8-PeCDD	A	50.000	60.0	1.0218450	1.2258030		20.0	+/-22	
1,2,3,4,7,8-HxCDF	A	50.000	43.9	1.1660380	1.0227130		-12.3	+/-10	*
1,2,3,6,7,8-HxCDF	A	50.000	44.8	1.0907410	0.9778349		-10.4	+/-12	
2,3,4,6,7,8-HxCDF	A	50.000	46.0	1.1396990	1.0492100		-7.9	+/-12	
1,2,3,7,8,9-HxCDF	A	50.000	44.1	1.1370930	1.0021510		-11.9	+/-10	*
1,2,3,4,7,8-HxCDD	A	50.000	50.0	0.9955689	0.9952648		-0.03	+/-22	
1,2,3,6,7,8-HxCDD	A	50.000	50.9	1.0009380	1.0191710		1.8	+/-22	
1,2,3,7,8,9-HxCDD	A	50.000	53.2	0.9071139	0.9657033		6.5	+/-18	
1,2,3,4,6,7,8-HpCDF	A	50.000	44.2	1.0029930	0.8862351		-11.6	+/-10	*
1,2,3,4,7,8,9-HpCDF	A	50.000	47.5	0.9531152	0.9048948		-5.1	+/-14	
1,2,3,4,6,7,8-HpCDD	A	50.000	48.9	1.0390130	1.0164740		-2.2	+/-14	
OCDF	A	100.00	73.3	0.7778078	0.5698422		-26.7	+/-37	
OCDD	A	100.00	95.2	0.9199537	0.8756895		-4.8	+/-21	
13C12-2,3,7,8-TCDF	A	100.00	71.1	1.6201960	1.1517804		-28.9	+/-29	
13C12-2,3,7,8-TCDD	A	100.00	101	1.1524090	1.1647902		1.1	+/-18	
13C12-1,2,3,7,8-PeCDF	A	100.00	93.7	1.2404520	1.1623232		-6.3	+/-24	
13C12-2,3,4,7,8-PeCDF	A	100.00	99.9	1.1177860	1.1166880		-0.1	+/-23	
13C12-1,2,3,7,8-PeCDD	A	100.00	82.1	0.8288129	0.6805203		-17.9	+/-38	
13C12-1,2,3,4,7,8-HxCDF	A	100.00	96.9	1.1683050	1.1324418		-3.1	+/-24	
13C12-1,2,3,6,7,8-HxCDF	A	100.00	90.3	1.3864660	1.2513482		-9.7	+/-30	
13C12-2,3,4,6,7,8-HxCDF	A	100.00	95.6	1.1292560	1.0797885		-4.4	+/-27	
13C12-1,2,3,7,8,9-HxCDF	A	100.00	94.2	0.9317541	0.8775494		-5.8	+/-26	
13C12-1,2,3,4,7,8-HxCDD	A	100.00	97.5	0.9950393	0.9703836		-2.5	+/-15	
13C12-1,2,3,6,7,8-HxCDD	A	100.00	87.7	1.1566890	1.0149757		-12.3	+/-15	
13C12-1,2,3,4,6,7,8-HpCDF	A	100.00	79.9	0.8952017	0.7153888		-20.1	+/-22	
13C12-1,2,3,4,7,8,9-HpCDF	A	100.00	80.8	0.7697516	0.6222114		-19.2	+/-23	
13C12-1,2,3,4,6,7,8-HpCDD	A	100.00	82.4	0.8401226	0.6921071		-17.6	+/-28	
13C12-OCDD	A	200.00	179	0.7674714	0.6887809		-10.3	+/-52	
37Cl4-2,3,7,8-TCDD	A	10.000	8.22	1.2878040	1.0589536		-17.8		

* Values outside of QC limits

* Values outside of QC limits

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\230313D1MID.qld
Last Altered: Tuesday, March 14, 2023 10:34:49 Pacific Daylight Time
Printed: Tuesday, March 14, 2023 11:08:29 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin230313.mdb 14 Mar 2023 10:34:25
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 11:57:27

ID: CS3Z2, Name: 23031315, Date: 13-Mar-2023, Time: 21:53:57, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.576	1.001	1.913e4	2.554e4	0.702	0.749	0.770	679	821	2.86e5	3.90e5	421.8	475.2	NO	bd	bb	8.563
12378-PeCDF	29.747	1.001	1.632e5	1.066e5	0.679	1.531	1.550	1265	1408	2.48e6	1.61e6	1963.8	1145.7	NO	bd	bd	52.944
23478-PeCDF	31.084	1.001	1.678e5	1.099e5	0.786	1.527	1.550	1265	1408	2.58e6	1.71e6	2043.2	1214.3	NO	bb	bb	49.005
123478-HxCDF	34.727	1.001	2.283e5	1.879e5	1.166	1.215	1.240	1370	974	3.60e6	2.98e6	2623.8	3065.2	NO	bd	bd	43.854
234678-HxCDF	35.730	1.000	2.267e5	1.804e5	1.140	1.257	1.240	1370	974	3.50e6	2.87e6	2556.7	2942.8	NO	bb	bb	46.030
123678-HxCDF	34.861	1.001	2.432e5	1.966e5	1.091	1.237	1.240	1370	974	3.81e6	3.12e6	2777.5	3204.2	NO	db	db	44.824
123789-HxCDF	36.766	1.001	1.740e5	1.421e5	1.137	1.224	1.240	1370	974	2.72e6	2.19e6	1988.2	2249.6	NO	bb	bb	44.066
1234678-HpCDF	38.626	1.001	1.111e5	1.168e5	1.003	0.951	1.050	959	906	1.83e6	1.92e6	1906.7	2114.9	NO	bb	bb	44.180
1234789-HpCDF	40.832	1.000	1.027e5	9.969e4	0.953	1.030	1.050	959	906	1.48e6	1.41e6	1538.7	1559.9	NO	bd	bd	47.470
OCDF	45.029	1.005	1.312e5	1.509e5	0.778	0.869	0.890	623	1327	1.62e6	1.88e6	2603.8	1413.0	NO	bb	bb	73.263
2378-TCDD	26.226	1.001	3.026e4	4.006e4	1.149	0.756	0.770	1222	701	4.46e5	6.09e5	364.6	868.0	NO	db	bb	8.141
12378-PeCDD	31.329	1.000	1.649e5	1.044e5	1.022	1.579	1.550	1219	1022	2.50e6	1.59e6	2054.5	1557.6	NO	bb	bb	59.980
123478-HxCDD	35.841	1.000	1.963e5	1.508e5	0.996	1.302	1.240	1107	907	3.19e6	2.54e6	2880.5	2801.9	NO	bd	bd	49.985
123678-HxCDD	35.964	1.001	2.032e5	1.685e5	1.001	1.206	1.240	1107	907	3.22e6	2.60e6	2905.1	2866.7	NO	db	dd	50.911
123789-HxCDD	36.354	1.012	1.908e5	1.537e5	0.907	1.241	1.240	1107	907	3.12e6	2.52e6	2817.5	2773.6	NO	bb	bb	53.229
1234678-HpCDD	40.108	1.001	1.272e5	1.256e5	1.039	1.013	1.050	1302	946	2.01e6	1.94e6	1541.0	2054.4	NO	bb	bb	48.915
OCDD	44.800	1.000	2.016e5	2.319e5	0.920	0.869	0.890	673	789	2.46e6	2.85e6	3663.9	3615.3	NO	bb	bb	95.188
13C-2378-TCDF	25.562	1.007	3.138e5	4.297e5	1.620	0.730	0.770	1352	1084	4.68e6	6.46e6	3459.6	5957.0	NO	bb	bb	71.089
13C-12378-PeCDF	29.725	1.171	4.498e5	3.006e5	1.240	1.496	1.550	1666	1420	6.93e6	4.63e6	4160.0	3262.9	NO	bb	bb	93.702
13C-23478-PeCDF	31.062	1.223	4.292e5	2.918e5	1.118	1.471	1.550	1666	1420	6.79e6	4.58e6	4075.2	3226.9	NO	bb	bb	99.902
13C-123478-HxCDF	34.705	0.955	2.725e5	5.416e5	1.168	0.503	0.510	1348	1534	4.35e6	8.61e6	3231.7	5610.7	NO	bd	bd	96.930
13C-123678-HxCDF	34.839	0.959	3.078e5	5.917e5	1.386	0.520	0.510	1348	1534	4.59e6	8.82e6	3403.4	5751.8	NO	dd	dd	90.255
13C-234678-HxCDF	35.719	0.983	2.615e5	5.146e5	1.129	0.508	0.510	1348	1534	4.10e6	8.01e6	3046.3	5219.9	NO	bb	bb	95.619
13C-123789-HxCDF	36.743	1.011	2.110e5	4.198e5	0.932	0.503	0.510	1348	1534	3.37e6	6.77e6	2502.1	4413.3	NO	bb	bb	94.183
13C-1234678-HpCDF	38.604	1.063	1.548e5	3.595e5	0.895	0.431	0.440	961	1889	2.58e6	6.10e6	2687.8	3227.7	NO	bb	bb	79.914
13C-1234789-HpCDF	40.821	1.124	1.355e5	3.117e5	0.770	0.435	0.440	961	1889	2.01e6	4.54e6	2095.0	2401.0	NO	bb	bb	80.833
13C-1234-TCDD	25.393	0.000	2.822e5	3.634e5	1.000	0.776	0.770	1227	953	4.36e6	5.62e6	3556.5	5894.5	NO	bb	bb	100.000
13C-2378-TCDD	26.198	1.032	3.289e5	4.231e5	1.152	0.777	0.770	1227	953	5.06e6	6.49e6	4123.4	6804.0	NO	bb	bb	101.074
13C-12378-PeCDD	31.318	1.233	2.771e5	1.622e5	0.829	1.708	1.550	696	753	4.16e6	2.52e6	5979.0	3351.8	NO	bb	bb	82.108
13C-123478-HxCDD	35.830	0.986	3.898e5	3.077e5	0.995	1.267	1.240	1306	905	6.64e6	5.23e6	5083.5	5786.4	NO	bd	bd	97.522
13C-123678-HxCDD	35.942	0.989	4.031e5	3.264e5	1.157	1.235	1.240	1306	905	6.08e6	5.04e6	4654.6	5576.6	NO	db	db	87.748
13C-1234678-HpCDD	40.086	1.103	2.565e5	2.410e5	0.840	1.064	1.050	927	940	4.08e6	3.78e6	4406.3	4024.8	NO	bb	bb	82.382
13C-OCDD	44.782	1.233	4.669e5	5.233e5	0.767	0.892	0.890	1825	1070	5.83e6	6.50e6	3193.0	6074.1	NO	bb	bb	179.494
13C-123789-HxCDD	36.331	0.000	3.941e5	3.247e5	1.000	1.214	1.240	1306	905	6.32e6	5.30e6	4836.5	5863.6	NO	bb	bb	100.000
37CL-2378-TCDD	26.226	1.033	6.837e4		1.288			1097		1.04e6		949.7			bb		8.223

Dataset: T:\Autospec\Processed Data Batch\230313D1MID.qld
Last Altered: Tuesday, March 14, 2023 10:34:49 Pacific Daylight Time
Printed: Tuesday, March 14, 2023 11:08:29 Pacific Daylight Time

ID: CS3Z2, Name: 23031315, Date: 13-Mar-2023, Time: 21:53:57, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF	22.073	0.863	2.127e4	3.098e4	0.802	0.687	0.770	679	821	3.38e5	4.98e5	497.1	606.8	NO	bb	bb	8.768
1289-TCDF	27.074	1.059	1.772e4	2.461e4	0.678	0.720	0.770	679	821	2.41e5	3.53e5	354.5	429.8	NO	db	dd	8.397
13468-PECDF	26.933	0.906	3.190e5	2.111e5	1.246	1.511	1.550	665	873	4.88e6	3.24e6	7332.6	3714.3	NO	bb	bb	56.671
12389-PECDF	32.109	1.080	1.588e5	1.058e5	0.496	1.501	1.550	1265	1408	2.34e6	1.55e6	1853.8	1101.6	NO	bb	bb	71.034
123468-HXCDF	33.045	0.952	2.235e5	1.826e5	1.169	1.224	1.240	1370	974	3.44e6	2.85e6	2509.9	2928.6	NO	bb	bb	42.672
1368-TCDD	23.345	0.891	2.765e4	3.569e4	1.015	0.775	0.770	1222	701	4.31e5	5.59e5	352.2	797.6	NO	bd	bb	8.296
1289-TCDD	26.819	1.024	2.656e4	3.490e4	0.909	0.761	0.770	1222	701	3.87e5	5.24e5	317.0	747.1	NO	bb	bb	8.994
12479-PECDD	28.611	0.914	2.597e5	1.719e5	2.301	1.511	1.550	1219	1022	2.50e6	1.64e6	2049.1	1601.0	NO	bb	bb	42.681
12389-PECDD	31.730	1.013	1.899e5	1.243e5	1.184	1.527	1.550	1219	1022	2.86e6	1.87e6	2345.3	1829.3	NO	bb	bb	60.427
124679-HXCDD	33.825	0.944	2.018e5	1.640e5	1.115	1.231	1.240	1107	907	3.14e6	2.58e6	2833.2	2842.6	NO	bb	bb	47.019
1234679-HPCDD	39.072	0.975	1.400e5	1.361e5	1.137	1.028	1.050	1302	946	2.30e6	2.26e6	1765.3	2389.5	NO	bb	bb	48.825
Total-tetrafurans			5.882e4		0.727			679		8.76e5							26.046
Total-penta1			3.190e5					665		4.88e6							56.671
Total-pentafurans			5.159e5		0.654			1265		7.82e6							182.085
Total-hexafurans			1.096e6		1.141			1370		1.71e7							221.447
Total-heptafurans			2.152e5		0.978			959		3.33e6							92.242
Total-Furans			2.336e6		0.922			679		3.56e7							651.755
Total-tetradioxins			1.438e5		1.024			1222		1.96e6							43.127
Total-pentadioxins			6.151e5		1.502			1219		7.87e6							163.243
Total-hexadioxins			7.940e5		1.005			1107		1.27e7							201.591
Total-heptadioxins			2.672e5		1.088			1302		4.30e6							97.741
Total-Dioxins			2.022e6		1.130			1222		2.93e7							600.890
Total-TEQ			4.357e6					1222		6.49e7							1252.645
FUNCTION1 PFK			4.577e7					400216		4.81e7							
FUNCTION2 PFK			2.896e5					220330		8.01e6							0.000
FUNCTION3 PFK			1.129e8					357332		3.62e7							0.000
FUNCTION4 PFK			2.660e5					258228		7.87e6							
FUNCTION5 PFK			1.745e5					171785		5.92e6							
FUNCTION1 HXCD...			4.886e2					458		6.64e3							0.000
FUNCTION1 HPCD...																	
FUNCTION2 HPCD...			1.186e2					898		1.70e3							0.000
FUNCTION3 OCDPE			7.147e2					493		9.25e3							0.000
FUNCTION4 NCDPE			2.533e2					552		4.31e3							0.000
FUNCTION5 DCDPE			0.000e0					455		0.00e0							

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TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.07	1.772e4	2.461e4	0.678	0.72	0.77	354.5	YES	NO	db	dd	8.397
2	Total-tetrafurans	26.95	6.870e2	1.032e3	0.727	0.67	0.77	16.3	YES	NO	bd	bd	0.318
3	2378-TCDF	25.58	1.913e4	2.554e4	0.702	0.75	0.77	421.8	YES	NO	bd	bb	8.563
4	1368-TCDF	22.07	2.127e4	3.098e4	0.802	0.69	0.77	497.1	YES	NO	bb	bb	8.768

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	26.93	3.190e5	2.111e5	1.246	1.51	1.55	7332.6	YES	NO	bb	bb	56.671

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentafurans	29.90	7.692e2	5.420e2	0.654	1.42	1.55	15.4	YES	NO	dd	db	0.273
2	12378-PeCDF	29.75	1.632e5	1.066e5	0.679	1.53	1.55	1963.8	YES	NO	bd	bd	52.944
3	Total-pentafurans	28.60	2.521e4	1.726e4	0.654	1.46	1.55	309.8	YES	NO	bb	bb	8.829
4	12389-PECDF	32.11	1.588e5	1.058e5	0.496	1.50	1.55	1853.8	YES	NO	bb	bb	71.034
5	23478-PeCDF	31.08	1.678e5	1.099e5	0.786	1.53	1.55	2043.2	YES	NO	bb	bb	49.005

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.77	1.740e5	1.421e5	1.137	1.22	1.24	1988.2	YES	NO	bb	bb	44.066
2	234678-HxCDF	35.73	2.267e5	1.804e5	1.140	1.26	1.24	2556.7	YES	NO	bb	bb	46.030
3	123678-HxCDF	34.86	2.432e5	1.966e5	1.091	1.24	1.24	2777.5	YES	NO	db	db	44.824
4	123478-HxCDF	34.73	2.283e5	1.879e5	1.166	1.22	1.24	2623.8	YES	NO	bd	bd	43.854
5	123468-HXCDF	33.04	2.235e5	1.826e5	1.169	1.22	1.24	2509.9	YES	NO	bb	bb	42.672

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-heptafurans	41.08	4.668e2	3.920e2	0.978	1.19	1.05	7.8	YES	NO	dd	db	0.183
2	1234789-HpCDF	40.83	1.027e5	9.969e4	0.953	1.03	1.05	1538.7	YES	NO	bd	bd	47.470
3	Total-heptafurans	39.27	9.623e2	9.653e2	0.978	1.00	1.05	15.1	YES	NO	bb	bb	0.410
4	1234678-HpCDF	38.63	1.111e5	1.168e5	1.003	0.95	1.05	1906.7	YES	NO	bb	bb	44.180

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Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.07	1.772e4	2.461e4	0.678	0.72	0.77	354.5	YES	NO	db	dd	8.397
2	Total-tetrafurans	26.95	6.870e2	1.032e3	0.727	0.67	0.77	16.3	YES	NO	bd	bd	0.318
3	2378-TCDF	25.58	1.913e4	2.554e4	0.702	0.75	0.77	421.8	YES	NO	bd	bb	8.563
4	1368-TCDF	22.07	2.127e4	3.098e4	0.802	0.69	0.77	497.1	YES	NO	bb	bb	8.768
5	Total-pentafurans	29.90	7.692e2	5.420e2	0.654	1.42	1.55	15.4	YES	NO	dd	db	0.273
6	12378-PeCDF	29.75	1.632e5	1.066e5	0.679	1.53	1.55	1963.8	YES	NO	bd	bd	52.944
7	Total-pentafurans	28.60	2.521e4	1.726e4	0.654	1.46	1.55	309.8	YES	NO	bb	bb	8.829
8	12389-PECDF	32.11	1.588e5	1.058e5	0.496	1.50	1.55	1853.8	YES	NO	bb	bb	71.034
9	23478-PeCDF	31.08	1.678e5	1.099e5	0.786	1.53	1.55	2043.2	YES	NO	bb	bb	49.005
10	123789-HxCDF	36.77	1.740e5	1.421e5	1.137	1.22	1.24	1988.2	YES	NO	bb	bb	44.066
11	234678-HxCDF	35.73	2.267e5	1.804e5	1.140	1.26	1.24	2556.7	YES	NO	bb	bb	46.030
12	123678-HxCDF	34.86	2.432e5	1.966e5	1.091	1.24	1.24	2777.5	YES	NO	db	db	44.824
13	123478-HxCDF	34.73	2.283e5	1.879e5	1.166	1.22	1.24	2623.8	YES	NO	bd	bd	43.854
14	123468-HXCDF	33.04	2.235e5	1.826e5	1.169	1.22	1.24	2509.9	YES	NO	bb	bb	42.672
15	Total-heptafurans	41.08	4.668e2	3.920e2	0.978	1.19	1.05	7.8	YES	NO	dd	db	0.183
16	1234789-HpCDF	40.83	1.027e5	9.969e4	0.953	1.03	1.05	1538.7	YES	NO	bd	bd	47.470
17	Total-heptafurans	39.27	9.623e2	9.653e2	0.978	1.00	1.05	15.1	YES	NO	bb	bb	0.410
18	1234678-HpCDF	38.63	1.111e5	1.168e5	1.003	0.95	1.05	1906.7	YES	NO	bb	bb	44.180
19	OCDF	45.03	1.312e5	1.509e5	0.778	0.87	0.89	2603.8	YES	NO	bb	bb	73.263
20	13468-PECDF	26.93	3.190e5	2.111e5	1.246	1.51	1.55	7332.6	YES	NO	bb	bb	56.671

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDD	26.82	2.656e4	3.490e4	0.909	0.76	0.77	317.0	YES	NO	bb	bb	8.994
2	2378-TCDD	26.23	3.026e4	4.006e4	1.149	0.76	0.77	364.6	YES	NO	db	bb	8.141
3	Total-tetradioxins	25.90	4.392e4	5.735e4	1.024	0.77	0.77	375.7	YES	NO	bd	bb	13.147
4	Total-tetradioxins	25.41	1.370e4	1.767e4	1.024	0.78	0.77	178.7	YES	NO	bd	bb	4.073
5	Total-tetradioxins	24.84	3.911e2	4.557e2	1.024	0.86	0.77	3.9	YES	NO	bb	bb	0.110
6	Total-tetradioxins	24.55	1.287e3	1.540e3	1.024	0.84	0.77	10.6	YES	NO	bb	bb	0.367
7	1368-TCDD	23.34	2.765e4	3.569e4	1.015	0.77	0.77	352.2	YES	NO	bd	bb	8.296

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PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDD	31.73	1.899e5	1.243e5	1.184	1.53	1.55	2345.3	YES	NO	bb	bb	60.427
2	12378-PeCDD	31.33	1.649e5	1.044e5	1.022	1.58	1.55	2054.5	YES	NO	bb	bb	59.980
3	Total-pentadioxins	30.66	6.576e2	3.734e2	1.502	1.76	1.55	8.3	YES	NO	bb	bb	0.156
4	12479-PECDD	28.61	2.597e5	1.719e5	2.301	1.51	1.55	2049.1	YES	NO	bb	bb	42.681

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123678-HxCDD	35.96	2.032e5	1.685e5	1.001	1.21	1.24	2905.1	YES	NO	db	dd	50.911
2	123478-HxCDD	35.84	1.963e5	1.508e5	0.996	1.30	1.24	2880.5	YES	NO	bd	bd	49.985
3	Total-hexadioxins	34.94	1.800e3	1.407e3	1.005	1.28	1.24	14.1	YES	NO	bb	bb	0.447
4	124679-HXCDD	33.82	2.018e5	1.640e5	1.115	1.23	1.24	2833.2	YES	NO	bb	bb	47.019
5	123789-HxCDD	36.35	1.908e5	1.537e5	0.907	1.24	1.24	2817.5	YES	NO	bb	bb	53.229

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.11	1.272e5	1.256e5	1.039	1.01	1.05	1541.0	YES	NO	bb	bb	48.915
2	1234679-HPCDD	39.07	1.400e5	1.361e5	1.137	1.03	1.05	1765.3	YES	NO	bb	bb	48.825

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Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDD	26.82	2.656e4	3.490e4	0.909	0.76	0.77	317.0	YES	NO	bb	bb	8.994
2	2378-TCDD	26.23	3.026e4	4.006e4	1.149	0.76	0.77	364.6	YES	NO	db	bb	8.141
3	Total-tetradioxins	25.90	4.392e4	5.735e4	1.024	0.77	0.77	375.7	YES	NO	bd	bb	13.147
4	Total-tetradioxins	25.41	1.370e4	1.767e4	1.024	0.78	0.77	178.7	YES	NO	bd	bb	4.073
5	Total-tetradioxins	24.84	3.911e2	4.557e2	1.024	0.86	0.77	3.9	YES	NO	bb	bb	0.110
6	Total-tetradioxins	24.55	1.287e3	1.540e3	1.024	0.84	0.77	10.6	YES	NO	bb	bb	0.367
7	1368-TCDD	23.34	2.765e4	3.569e4	1.015	0.77	0.77	352.2	YES	NO	bd	bb	8.296
8	12389-PECDD	31.73	1.899e5	1.243e5	1.184	1.53	1.55	2345.3	YES	NO	bb	bb	60.427
9	12378-PeCDD	31.33	1.649e5	1.044e5	1.022	1.58	1.55	2054.5	YES	NO	bb	bb	59.980
10	Total-pentadioxins	30.66	6.576e2	3.734e2	1.502	1.76	1.55	8.3	YES	NO	bb	bb	0.156
11	12479-PECDD	28.61	2.597e5	1.719e5	2.301	1.51	1.55	2049.1	YES	NO	bb	bb	42.681
12	123678-HxCDD	35.96	2.032e5	1.685e5	1.001	1.21	1.24	2905.1	YES	NO	db	dd	50.911
13	123478-HxCDD	35.84	1.963e5	1.508e5	0.996	1.30	1.24	2880.5	YES	NO	bd	bd	49.985
14	Total-hexadioxins	34.94	1.800e3	1.407e3	1.005	1.28	1.24	14.1	YES	NO	bb	bb	0.447
15	124679-HXCDD	33.82	2.018e5	1.640e5	1.115	1.23	1.24	2833.2	YES	NO	bb	bb	47.019
16	123789-HxCDD	36.35	1.908e5	1.537e5	0.907	1.24	1.24	2817.5	YES	NO	bb	bb	53.229
17	OCDD	44.80	2.016e5	2.319e5	0.920	0.87	0.89	3663.9	YES	NO	bb	bb	95.188
18	1234678-HpCDD	40.11	1.272e5	1.256e5	1.039	1.01	1.05	1541.0	YES	NO	bb	bb	48.915
19	1234679-HPCDD	39.07	1.400e5	1.361e5	1.137	1.03	1.05	1765.3	YES	NO	bb	bb	48.825

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.07	1.772e4	2.461e4	0.678	0.72	0.77	354.5	YES	NO	db	dd	8.397
2	Total-tetrafurans	26.95	6.870e2	1.032e3	0.727	0.67	0.77	16.3	YES	NO	bd	bd	0.318
3	2378-TCDF	25.58	1.913e4	2.554e4	0.702	0.75	0.77	421.8	YES	NO	bd	bb	8.563
4	1368-TCDF	22.07	2.127e4	3.098e4	0.802	0.69	0.77	497.1	YES	NO	bb	bb	8.768
5	Total-pentafurans	29.90	7.692e2	5.420e2	0.654	1.42	1.55	15.4	YES	NO	dd	db	0.273
6	12378-PeCDF	29.75	1.632e5	1.066e5	0.679	1.53	1.55	1963.8	YES	NO	bd	bd	52.944
7	Total-pentafurans	28.60	2.521e4	1.726e4	0.654	1.46	1.55	309.8	YES	NO	bb	bb	8.829
8	12389-PECDF	32.11	1.588e5	1.058e5	0.496	1.50	1.55	1853.8	YES	NO	bb	bb	71.034
9	23478-PeCDF	31.08	1.678e5	1.099e5	0.786	1.53	1.55	2043.2	YES	NO	bb	bb	49.005
10	123789-HxCDF	36.77	1.740e5	1.421e5	1.137	1.22	1.24	1988.2	YES	NO	bb	bb	44.066
11	234678-HxCDF	35.73	2.267e5	1.804e5	1.140	1.26	1.24	2556.7	YES	NO	bb	bb	46.030
12	123678-HxCDF	34.86	2.432e5	1.966e5	1.091	1.24	1.24	2777.5	YES	NO	db	db	44.824
13	123478-HxCDF	34.73	2.283e5	1.879e5	1.166	1.22	1.24	2623.8	YES	NO	bd	bd	43.854
14	123468-HXCDF	33.04	2.235e5	1.826e5	1.169	1.22	1.24	2509.9	YES	NO	bb	bb	42.672
15	Total-heptafurans	41.08	4.668e2	3.920e2	0.978	1.19	1.05	7.8	YES	NO	dd	db	0.183
16	1234789-HpCDF	40.83	1.027e5	9.969e4	0.953	1.03	1.05	1538.7	YES	NO	bd	bd	47.470
17	Total-heptafurans	39.27	9.623e2	9.653e2	0.978	1.00	1.05	15.1	YES	NO	bb	bb	0.410
18	1234678-HpCDF	38.63	1.111e5	1.168e5	1.003	0.95	1.05	1906.7	YES	NO	bb	bb	44.180
19	OCDF	45.03	1.312e5	1.509e5	0.778	0.87	0.89	2603.8	YES	NO	bb	bb	73.263
20	13468-PECDF	26.93	3.190e5	2.111e5	1.246	1.51	1.55	7332.6	YES	NO	bb	bb	56.671
21	1289-TCDD	26.82	2.656e4	3.490e4	0.909	0.76	0.77	317.0	YES	NO	bb	bb	8.994
22	2378-TCDD	26.23	3.026e4	4.006e4	1.149	0.76	0.77	364.6	YES	NO	db	bb	8.141
23	Total-tetradioxins	25.90	4.392e4	5.735e4	1.024	0.77	0.77	375.7	YES	NO	bd	bb	13.147
24	Total-tetradioxins	25.41	1.370e4	1.767e4	1.024	0.78	0.77	178.7	YES	NO	bd	bb	4.073
25	Total-tetradioxins	24.84	3.911e2	4.557e2	1.024	0.86	0.77	3.9	YES	NO	bb	bb	0.110
26	Total-tetradioxins	24.55	1.287e3	1.540e3	1.024	0.84	0.77	10.6	YES	NO	bb	bb	0.367
27	1368-TCDD	23.34	2.765e4	3.569e4	1.015	0.77	0.77	352.2	YES	NO	bd	bb	8.296
28	12389-PECDD	31.73	1.899e5	1.243e5	1.184	1.53	1.55	2345.3	YES	NO	bb	bb	60.427
29	12378-PeCDD	31.33	1.649e5	1.044e5	1.022	1.58	1.55	2054.5	YES	NO	bb	bb	59.980
30	Total-pentadioxins	30.66	6.576e2	3.734e2	1.502	1.76	1.55	8.3	YES	NO	bb	bb	0.156
31	12479-PECDD	28.61	2.597e5	1.719e5	2.301	1.51	1.55	2049.1	YES	NO	bb	bb	42.681
32	123678-HxCDD	35.96	2.032e5	1.685e5	1.001	1.21	1.24	2905.1	YES	NO	db	dd	50.911
33	123478-HxCDD	35.84	1.963e5	1.508e5	0.996	1.30	1.24	2880.5	YES	NO	bd	bd	49.985
34	Total-hexadioxins	34.94	1.800e3	1.407e3	1.005	1.28	1.24	14.1	YES	NO	bb	bb	0.447
35	124679-HXCDD	33.82	2.018e5	1.640e5	1.115	1.23	1.24	2833.2	YES	NO	bb	bb	47.019
36	123789-HxCDD	36.35	1.908e5	1.537e5	0.907	1.24	1.24	2817.5	YES	NO	bb	bb	53.229
37	OCDD	44.80	2.016e5	2.319e5	0.920	0.87	0.89	3663.9	YES	NO	bb	bb	95.188

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	1234678-HpCDD	40.11	1.272e5	1.256e5	1.039	1.01	1.05	1541.0	YES	NO	bb	bb	48.915
39	1234679-HPCDD	39.07	1.400e5	1.361e5	1.137	1.03	1.05	1765.3	YES	NO	bb	bb	48.825

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	22.29	1.642e7					41.5	YES		db		
2	FUNCTION1 PFK	21.18	2.935e7					78.7	YES		bd		

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ID: CS3Z2, Name: 23031315, Date: 13-Mar-2023, Time: 21:53:57, Conditions: AUTOSPEC01, User: pk

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	30.13	4.810e4					1.9	NO		bd		0.000
2	FUNCTION2 PFK	30.08	5.118e3					0.6	NO		bb		0.000
3	FUNCTION2 PFK	29.70	4.647e3					0.8	NO		bb		0.000
4	FUNCTION2 PFK	29.57	6.668e3					1.2	NO		bb		0.000
5	FUNCTION2 PFK	29.43	1.398e3					0.4	NO		bb		0.000
6	FUNCTION2 PFK	29.37	6.378e3					1.2	NO		bb		0.000
7	FUNCTION2 PFK	29.18	9.146e2					0.4	NO		bb		0.000
8	FUNCTION2 PFK	29.13	1.319e4					1.7	NO		db		0.000
9	FUNCTION2 PFK	29.08	9.109e3					1.4	NO		bd		0.000
10	FUNCTION2 PFK	28.72	3.818e3					0.7	NO		bb		0.000
11	FUNCTION2 PFK	28.48	7.877e3					1.1	NO		bb		0.000
12	FUNCTION2 PFK	28.41	4.982e3					1.0	NO		db		0.000
13	FUNCTION2 PFK	28.38	1.011e4					1.3	NO		bd		0.000
14	FUNCTION2 PFK	28.03	1.275e3					0.5	NO		bb		0.000
15	FUNCTION2 PFK	27.96	1.270e4					1.6	NO		db		0.000
16	FUNCTION2 PFK	27.92	1.112e4					1.5	NO		bd		0.000
17	FUNCTION2 PFK	32.49	1.175e3					0.5	NO		bb		0.000
18	FUNCTION2 PFK	32.44	9.839e3					0.9	NO		bb		0.000
19	FUNCTION2 PFK	32.29	7.997e3					1.4	NO		db		0.000
20	FUNCTION2 PFK	32.26	1.220e4					1.6	NO		bd		0.000
21	FUNCTION2 PFK	32.01	5.782e3					0.8	NO		bb		0.000
22	FUNCTION2 PFK	31.77	1.089e4					1.5	NO		bb		0.000
23	FUNCTION2 PFK	31.66	2.214e3					0.5	NO		bb		0.000
24	FUNCTION2 PFK	31.55	1.469e3					0.6	NO		bb		0.000
25	FUNCTION2 PFK	30.93	8.649e3					1.1	NO		bb		0.000
26	FUNCTION2 PFK	30.77	8.317e3					1.4	NO		db		0.000
27	FUNCTION2 PFK	30.74	1.546e4					1.6	NO		dd		0.000
28	FUNCTION2 PFK	30.65	2.392e4					1.9	NO		bd		0.000
29	FUNCTION2 PFK	30.56	1.094e4					1.4	NO		db		0.000
30	FUNCTION2 PFK	30.50	6.253e3					1.2	NO		bd		0.000
31	FUNCTION2 PFK	30.35	5.416e3					0.9	NO		db		0.000
32	FUNCTION2 PFK	30.30	1.172e4					1.7	NO		dd		0.000

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PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	36.28	9.028e6					42.8	YES		db		0.000
2	FUNCTION3 PFK	35.62	1.039e8					58.4	YES		bd		0.000

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	38.84	4.494e3					0.7	NO		bb		
2	FUNCTION4 PFK	38.74	2.544e3					0.6	NO		bb		
3	FUNCTION4 PFK	38.59	4.542e3					1.0	NO		bb		
4	FUNCTION4 PFK	38.55	5.887e3					1.1	NO		bb		
5	FUNCTION4 PFK	38.39	5.701e3					0.8	NO		bb		
6	FUNCTION4 PFK	38.21	1.420e4					1.1	NO		bb		
7	FUNCTION4 PFK	38.14	2.479e3					0.5	NO		bb		
8	FUNCTION4 PFK	38.02	6.495e3					1.0	NO		db		
9	FUNCTION4 PFK	37.99	1.004e4					1.2	NO		bd		
10	FUNCTION4 PFK	37.94	3.736e3					0.6	NO		bb		
11	FUNCTION4 PFK	37.82	1.701e4					1.4	NO		bb		
12	FUNCTION4 PFK	37.71	1.093e4					1.5	NO		bb		
13	FUNCTION4 PFK	41.40	8.811e2					0.3	NO		bb		
14	FUNCTION4 PFK	41.36	3.403e3					0.6	NO		bb		
15	FUNCTION4 PFK	41.24	8.113e2					0.3	NO		bb		
16	FUNCTION4 PFK	41.08	3.406e3					0.6	NO		bb		
17	FUNCTION4 PFK	40.93	8.032e3					0.9	NO		bb		
18	FUNCTION4 PFK	40.89	7.558e3					0.7	NO		db		
19	FUNCTION4 PFK	40.77	3.194e4					1.8	NO		bd		
20	FUNCTION4 PFK	40.54	1.014e4					0.9	NO		bb		
21	FUNCTION4 PFK	40.40	4.942e3					0.7	NO		bb		
22	FUNCTION4 PFK	40.26	2.297e4					1.0	NO		bb		
23	FUNCTION4 PFK	40.11	3.006e3					0.5	NO		bb		
24	FUNCTION4 PFK	39.82	2.831e3					0.5	NO		bb		
25	FUNCTION4 PFK	39.27	6.865e3					1.0	NO		bb		
26	FUNCTION4 PFK	39.15	6.947e3					0.6	NO		bb		
27	FUNCTION4 PFK	39.04	1.165e4					1.4	NO		bb		
28	FUNCTION4 PFK	38.94	3.518e3					0.7	NO		bb		
29	FUNCTION4 PFK	42.34	6.600e3					1.1	NO		bb		
30	FUNCTION4 PFK	42.20	2.682e3					0.6	NO		bb		
31	FUNCTION4 PFK	41.96	1.667e4					1.0	NO		bb		
32	FUNCTION4 PFK	41.76	5.790e3					0.6	NO		db		
33	FUNCTION4 PFK	41.70	3.459e3					0.7	NO		bd		
34	FUNCTION4 PFK	41.63	5.727e3					0.9	NO		bb		
35	FUNCTION4 PFK	41.58	8.143e3					1.0	NO		bb		

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PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	43.37	2.748e3					0.7	NO		bb		
2	FUNCTION5 PFK	43.05	3.831e3					1.0	NO		bb		
3	FUNCTION5 PFK	42.81	9.929e2					0.6	NO		bb		
4	FUNCTION5 PFK	42.75	2.619e3					0.9	NO		bb		
5	FUNCTION5 PFK	42.69	6.920e3					1.6	NO		bb		
6	FUNCTION5 PFK	42.63	1.690e4					2.9	NO		bb		
7	FUNCTION5 PFK	42.59	2.795e3					1.2	NO		db		
8	FUNCTION5 PFK	42.57	5.369e3					1.5	NO		bd		
9	FUNCTION5 PFK	45.89	2.338e4					2.6	NO		db		
10	FUNCTION5 PFK	45.85	1.715e4					2.7	NO		dd		
11	FUNCTION5 PFK	45.80	8.888e3					2.1	NO		dd		
12	FUNCTION5 PFK	45.76	8.625e3					1.9	NO		dd		
13	FUNCTION5 PFK	45.72	1.202e4					1.9	NO		bd		
14	FUNCTION5 PFK	45.65	5.275e3					1.8	NO		db		
15	FUNCTION5 PFK	45.61	1.346e4					2.1	NO		bd		
16	FUNCTION5 PFK	45.44	1.556e4					1.6	NO		db		
17	FUNCTION5 PFK	45.35	2.842e3					0.9	NO		bd		
18	FUNCTION5 PFK	44.45	3.115e3					1.0	NO		bb		
19	FUNCTION5 PFK	44.38	5.119e3					1.6	NO		db		
20	FUNCTION5 PFK	44.35	5.402e3					1.2	NO		bd		
21	FUNCTION5 PFK	44.17	3.997e3					1.0	NO		bb		
22	FUNCTION5 PFK	44.05	7.468e3					1.6	NO		bb		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	25.96	9.648e1					3.5	YES		bb		0.000
2	FUNCTION1 HXCD...	27.68	1.178e2					2.9	NO		db		0.000
3	FUNCTION1 HXCD...	27.47	1.013e2					3.5	YES		bd		0.000
4	FUNCTION1 HXCD...	26.57	9.695e1					2.3	NO		bb		0.000
5	FUNCTION1 HXCD...	26.20	7.601e1					2.3	NO		bb		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

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ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	29.43	1.186e2					1.9	NO		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	36.55	1.056e2					3.2	YES		db		0.000
2	FUNCTION3 OCDPE	36.34	2.187e2					5.5	YES		bd		0.000
3	FUNCTION3 OCDPE	35.94	2.470e2					5.2	YES		db		0.000
4	FUNCTION3 OCDPE	35.84	1.433e2					4.9	YES		bd		0.000

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	41.41	7.510e1					2.8	NO		bb		0.000
2	FUNCTION4 NCDPE	40.36	9.634e1					2.7	NO		bb		0.000
3	FUNCTION4 NCDPE	37.87	8.190e1					2.3	NO		bb		0.000

ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
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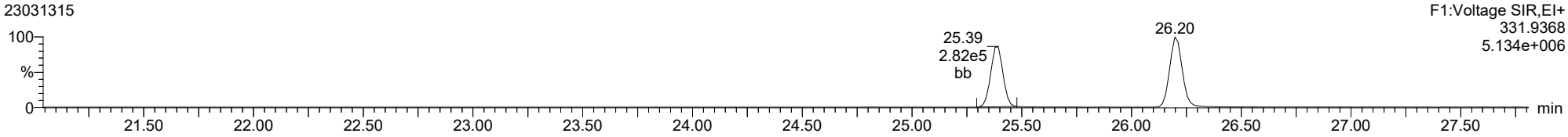

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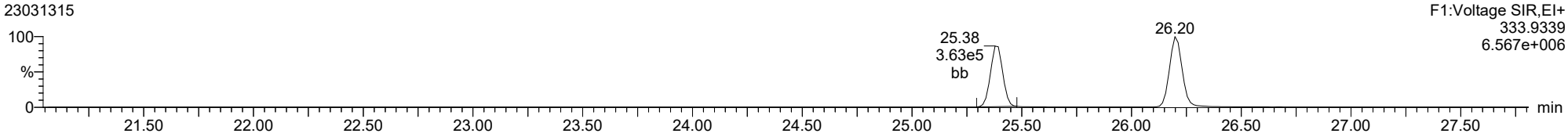

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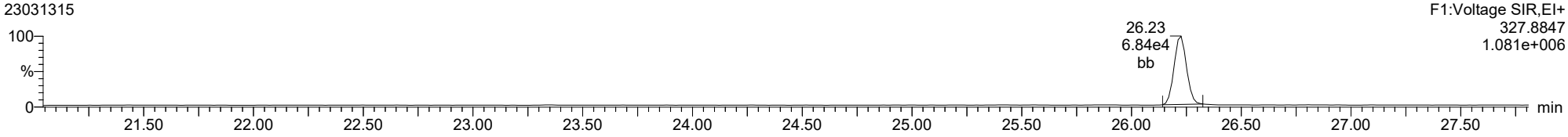

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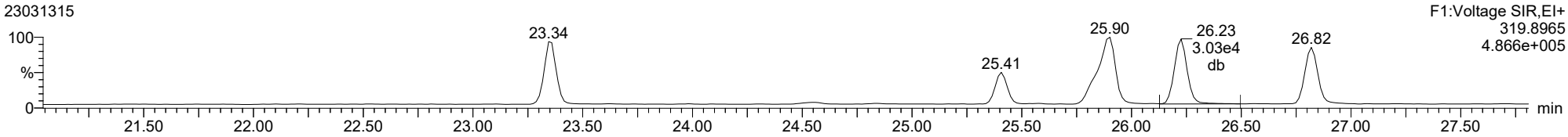

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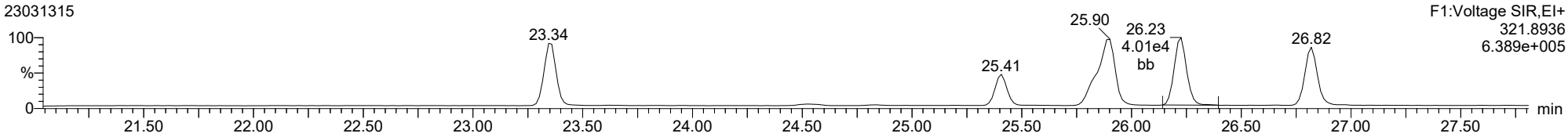

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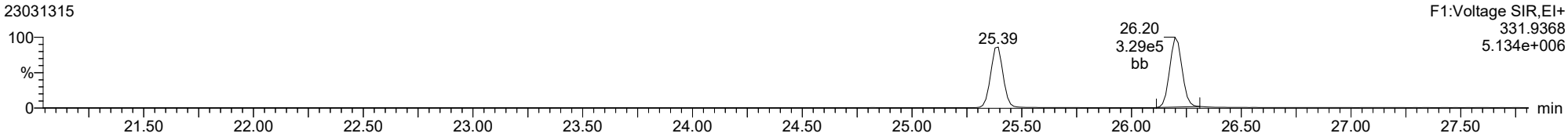

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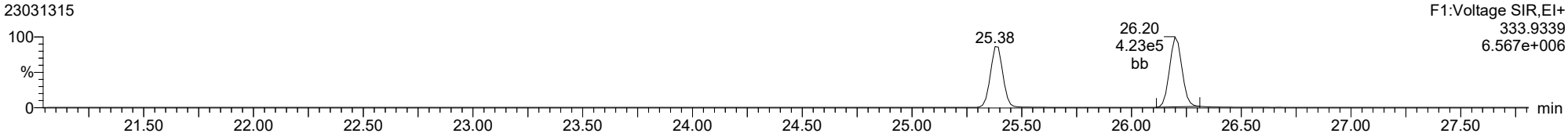

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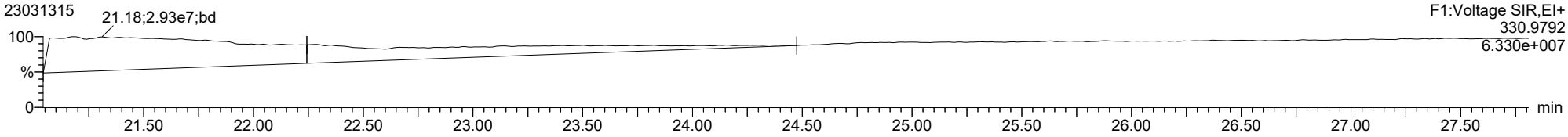

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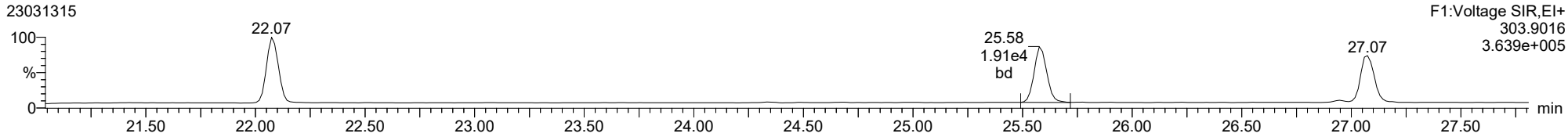

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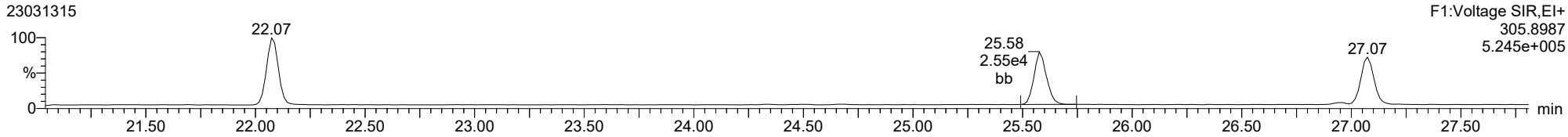

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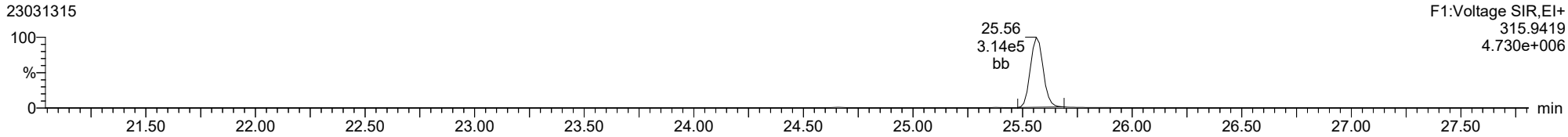

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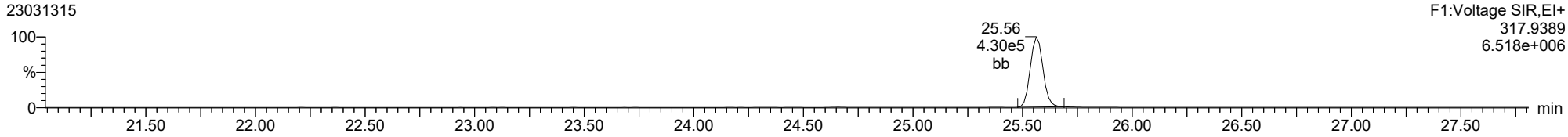

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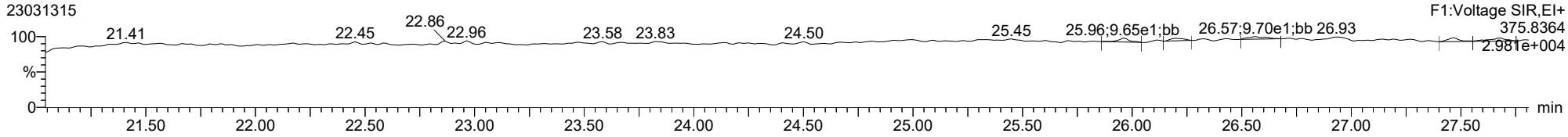

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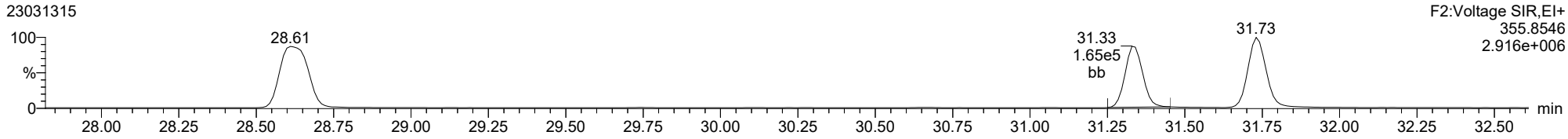
12378-PeCDD



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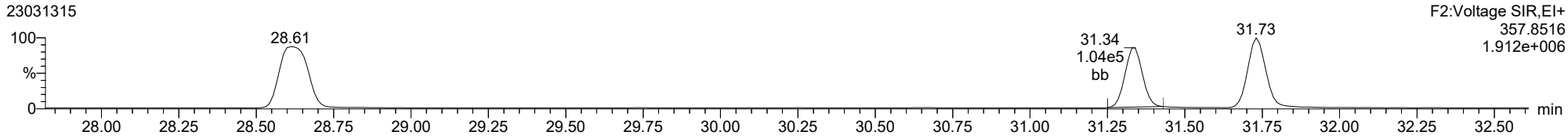

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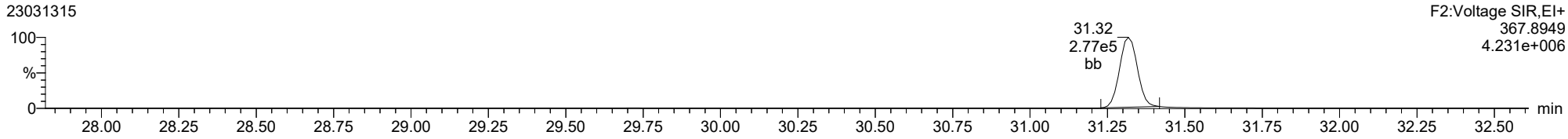

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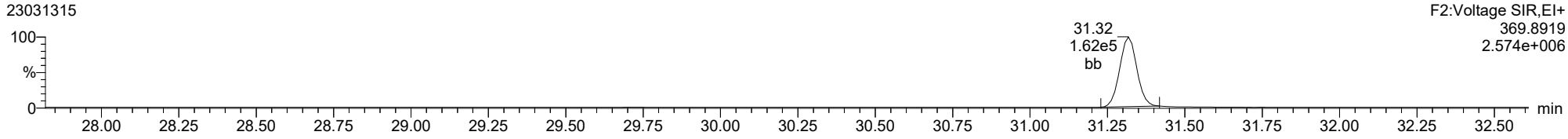
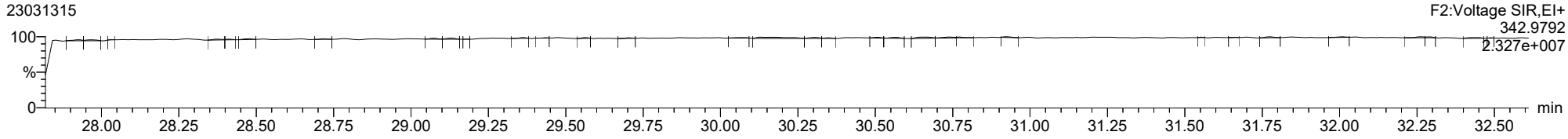


FUNCTION2 PFK



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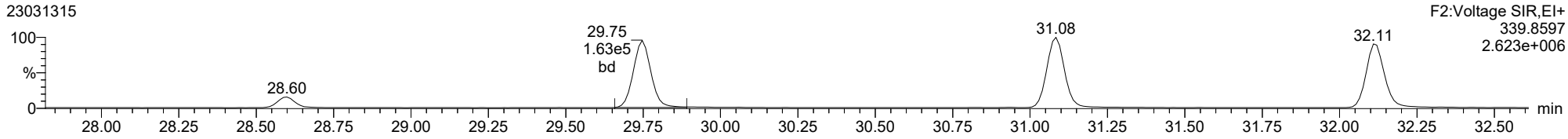

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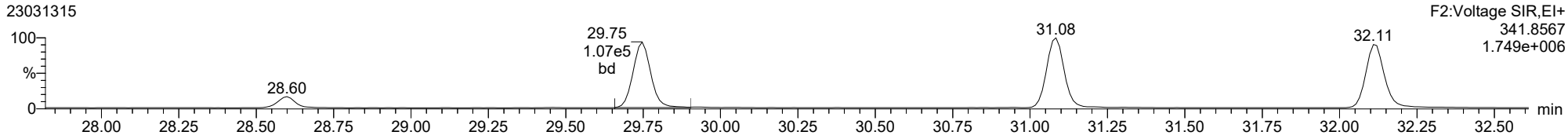

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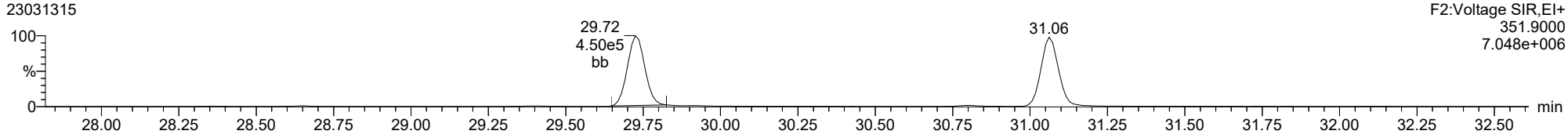

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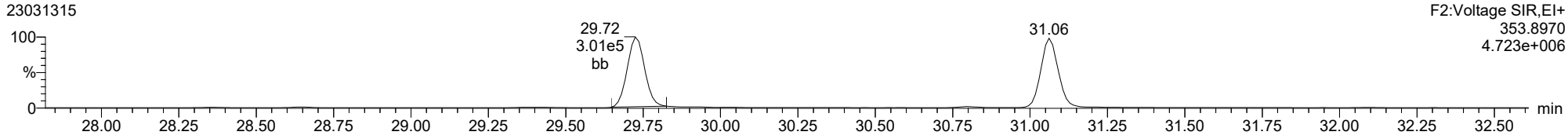

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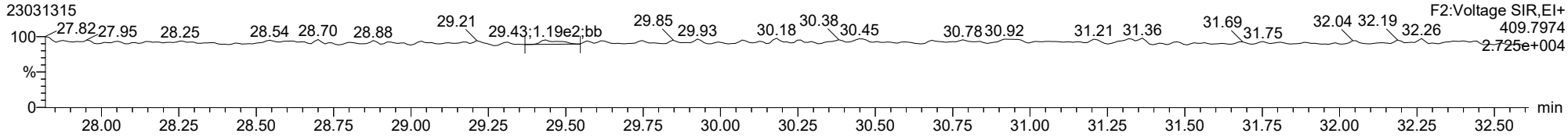

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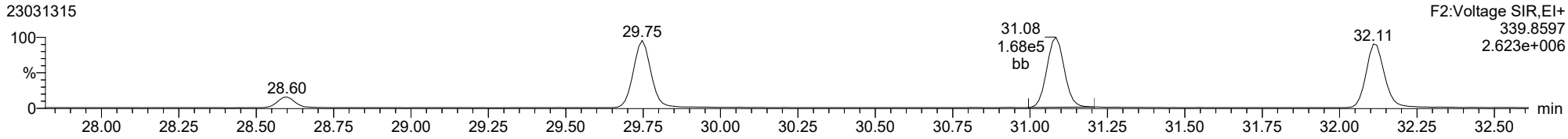
23478-PeCDF



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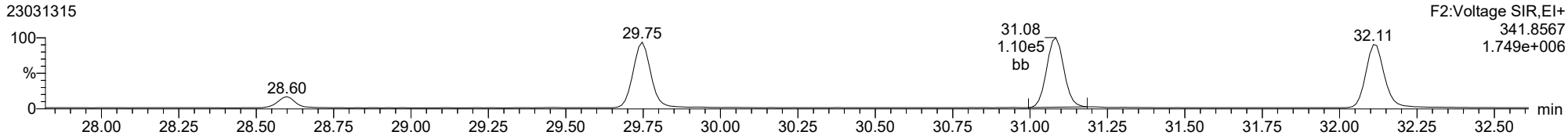

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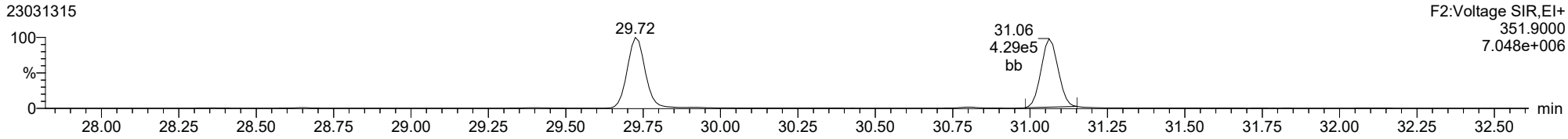

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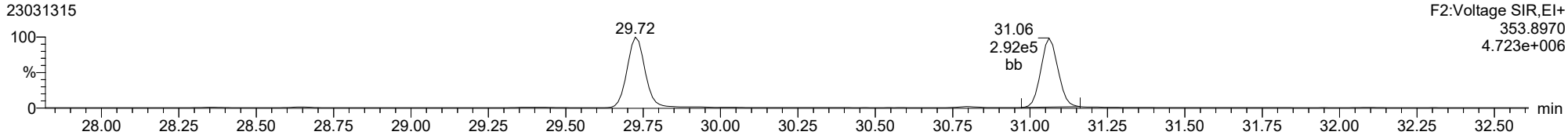

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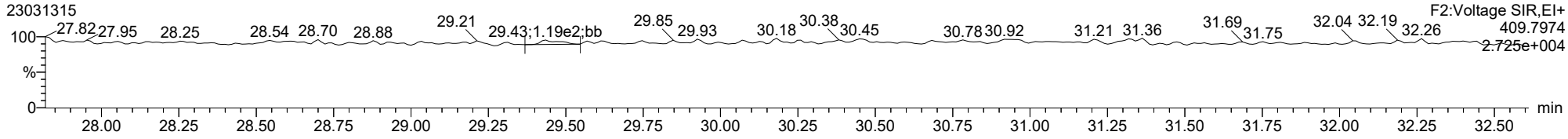

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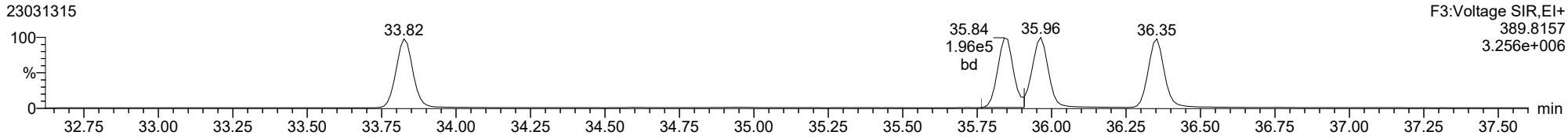

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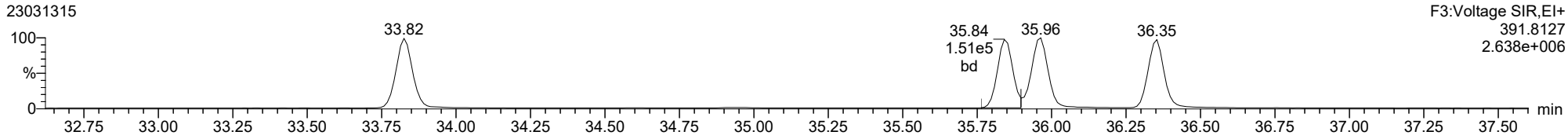

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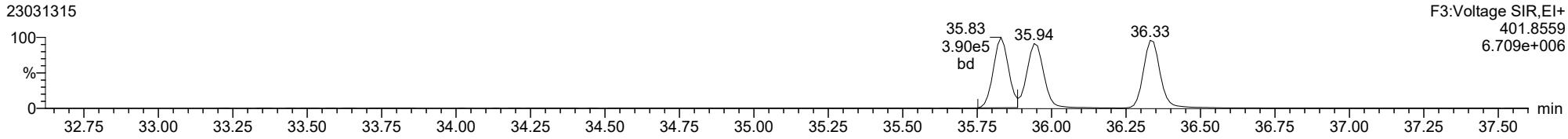

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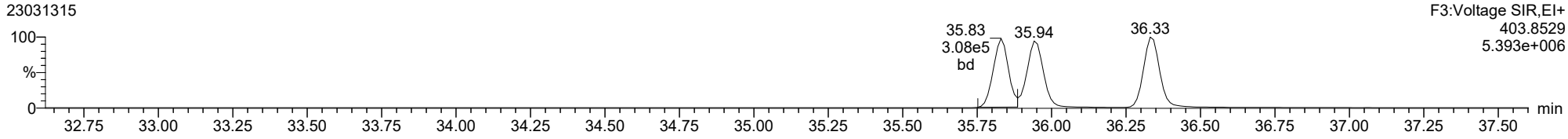

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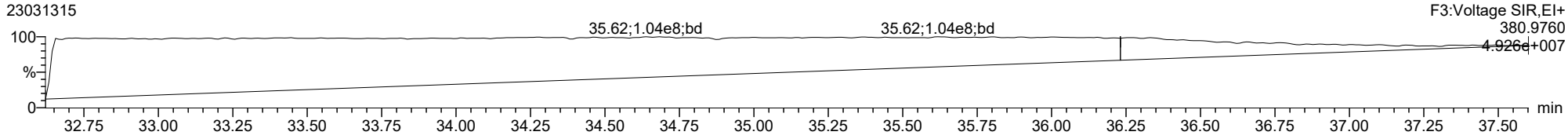

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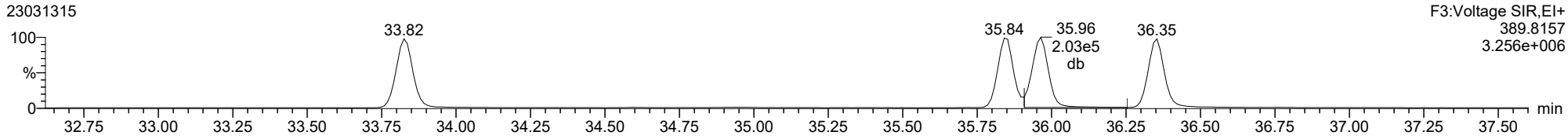

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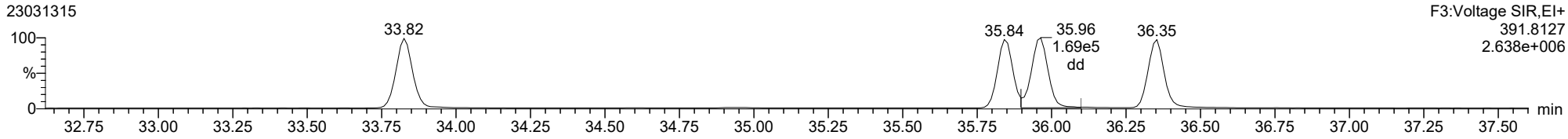

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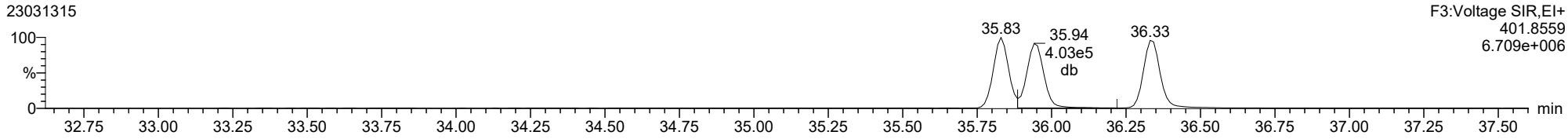

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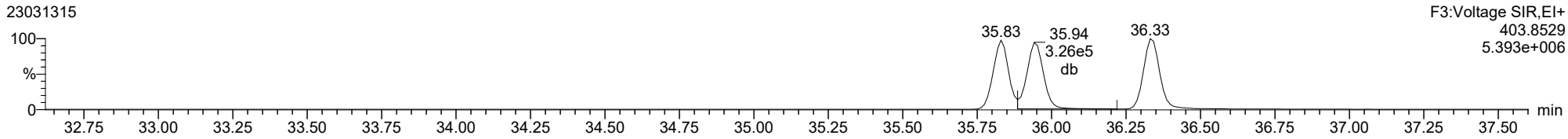

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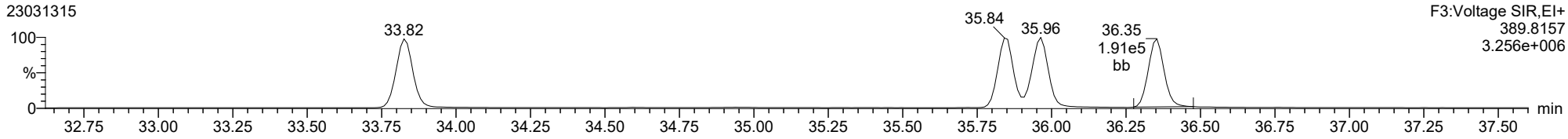

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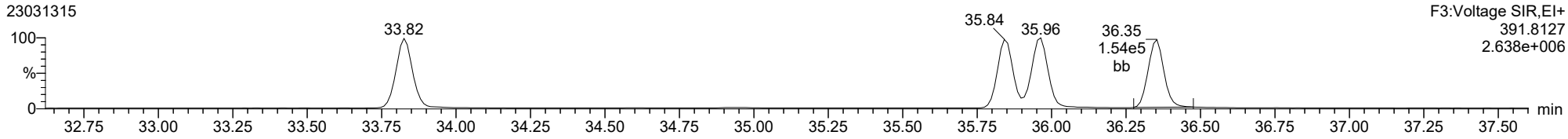

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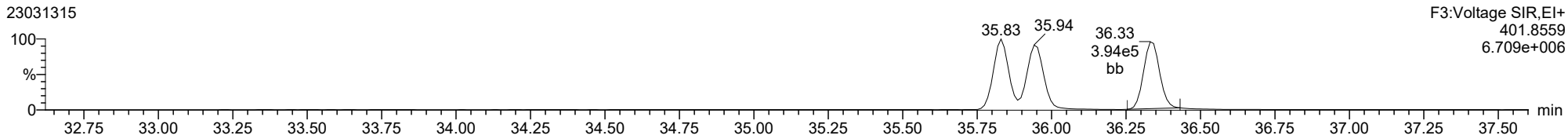

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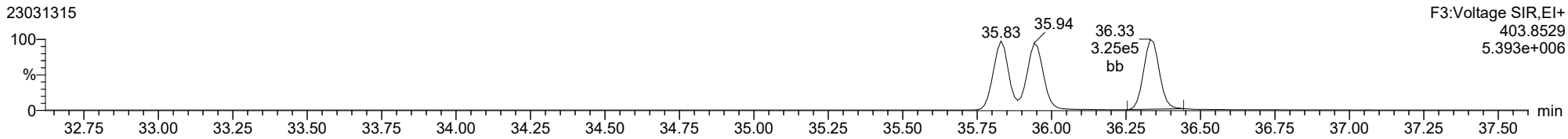

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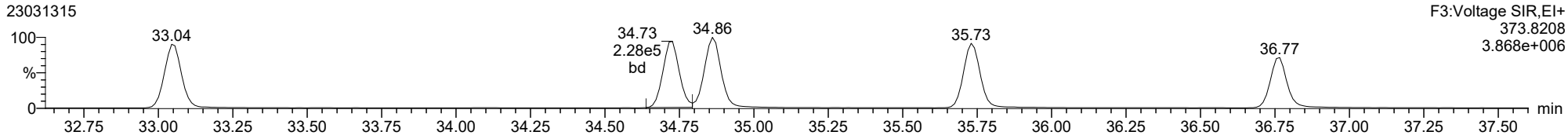

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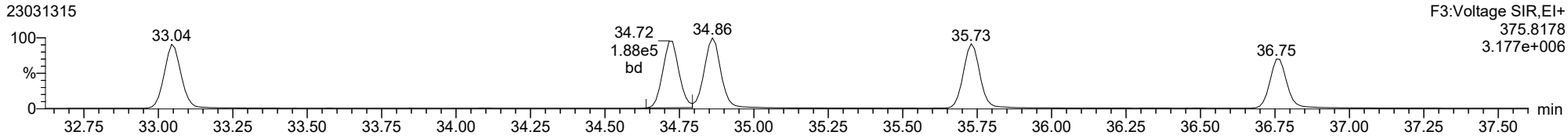

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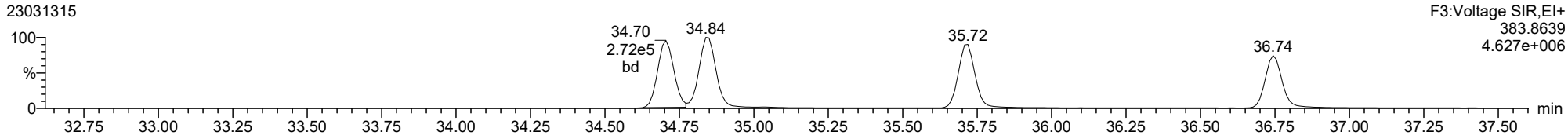

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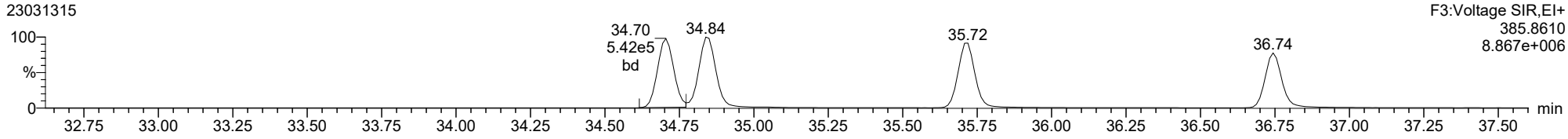

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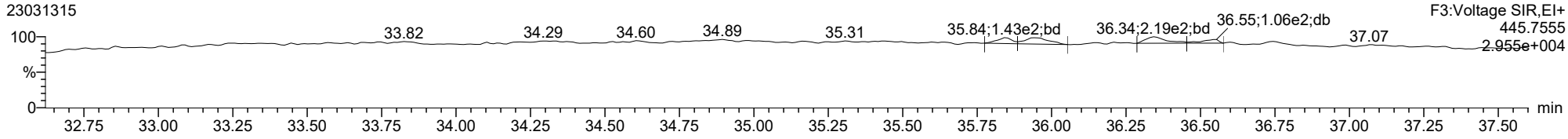

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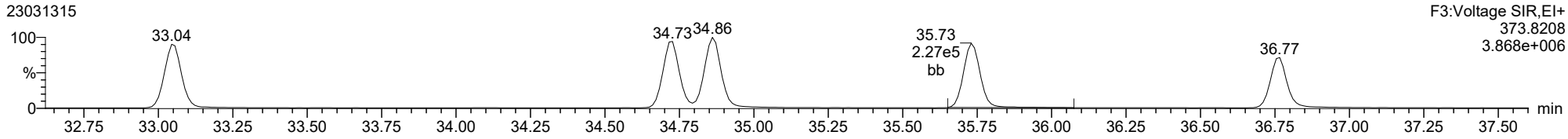
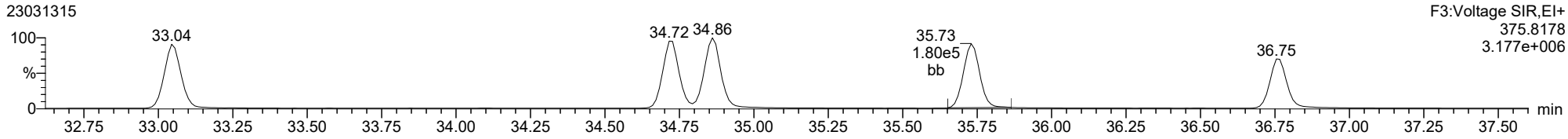
234678-HxCDF



234678-HxCDF



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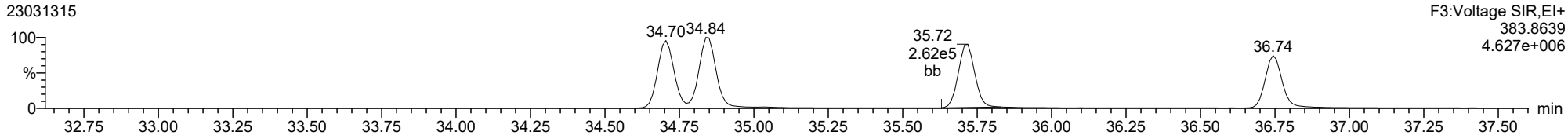

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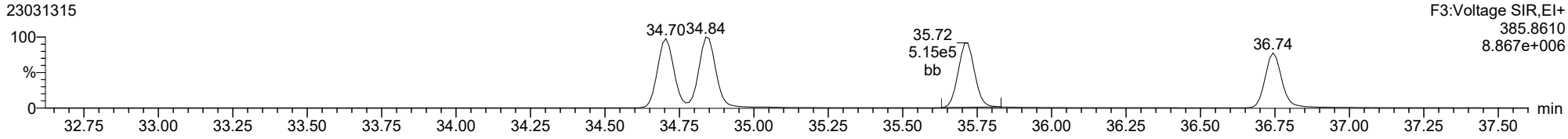

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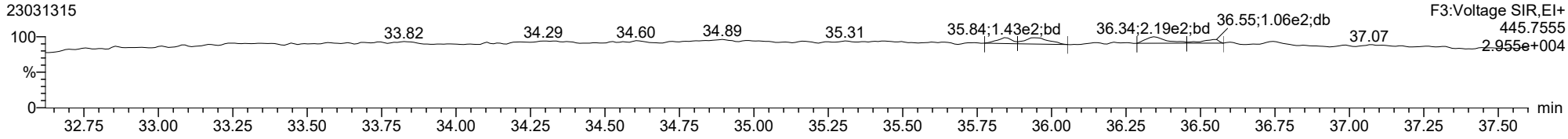

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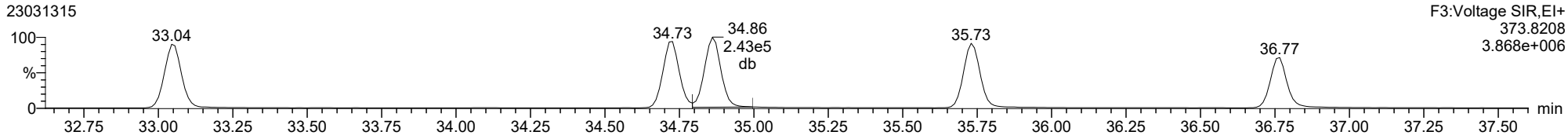

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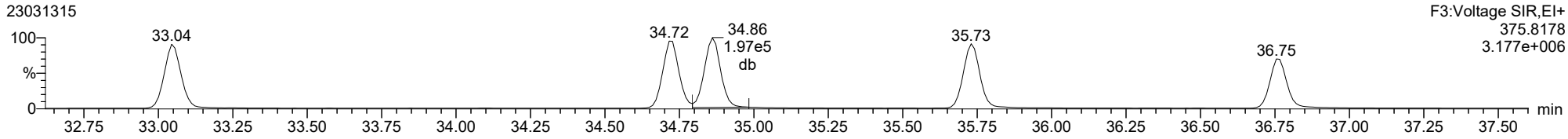

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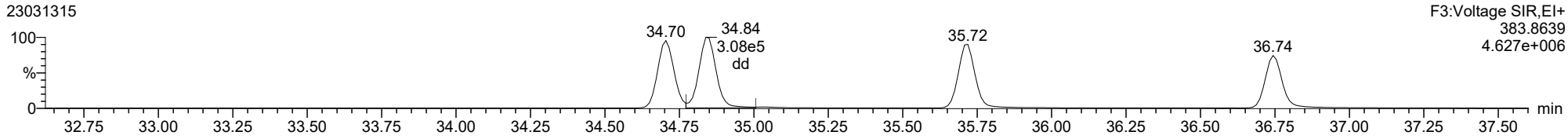

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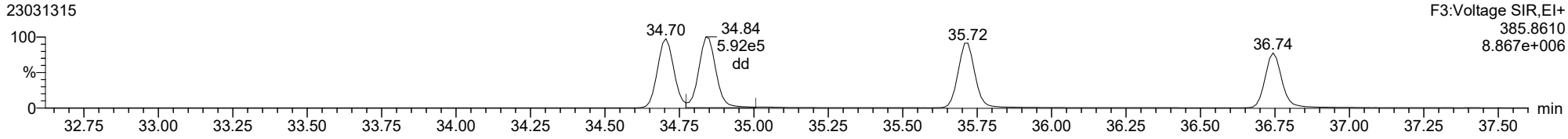

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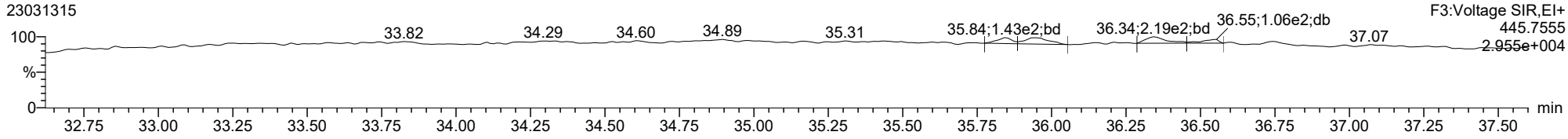

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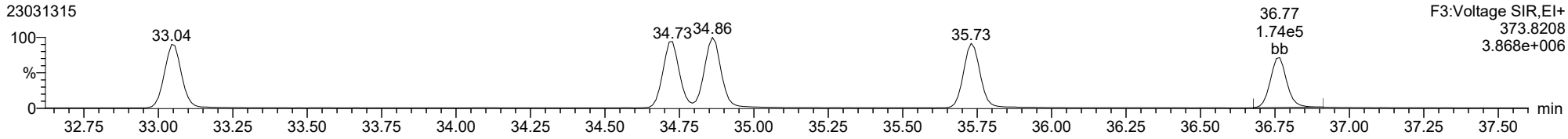

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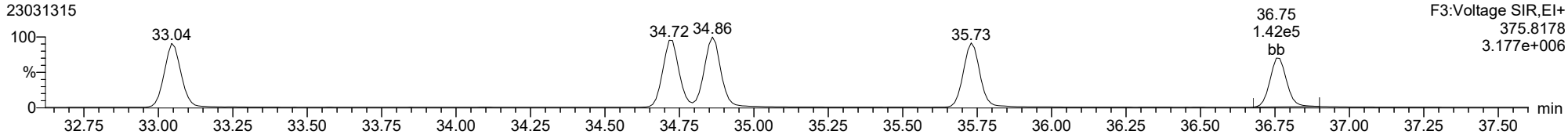

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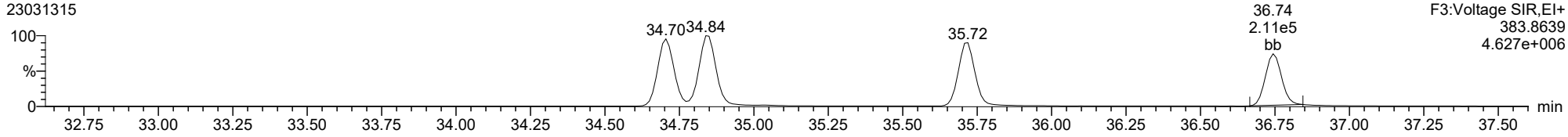

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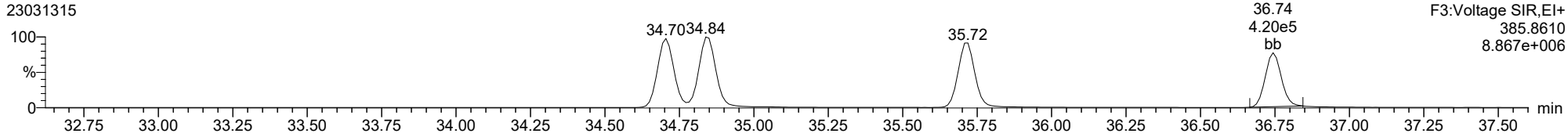
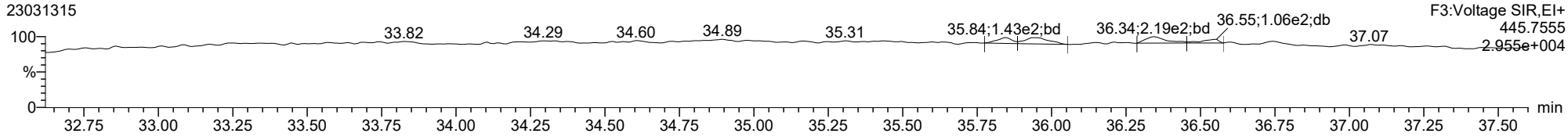


FUNCTION3 OCDPE



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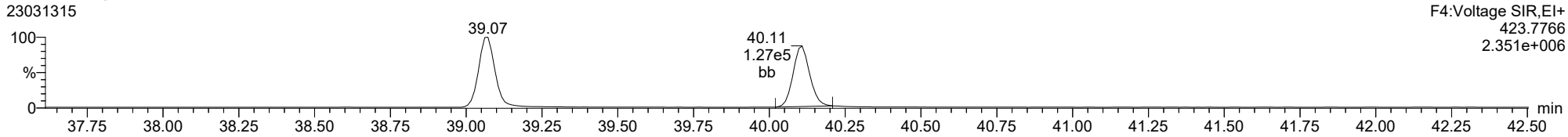
1234678-HpCDD



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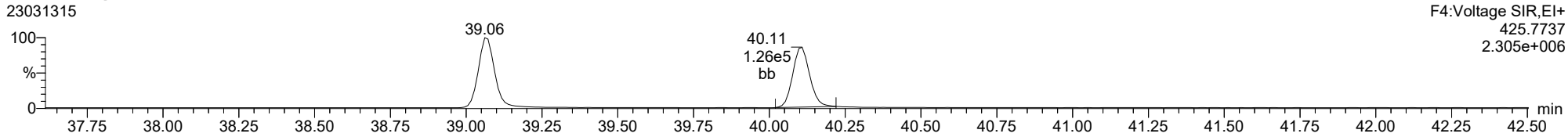

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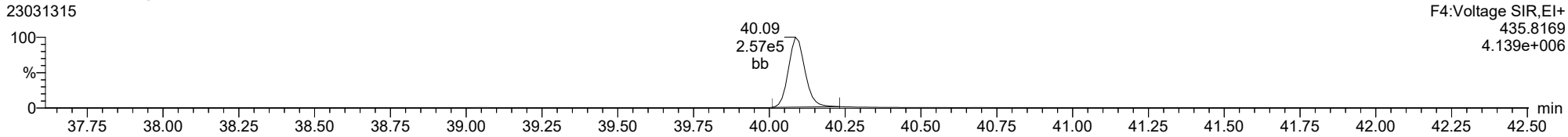

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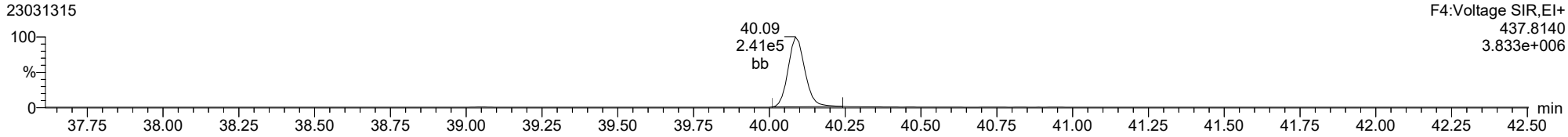
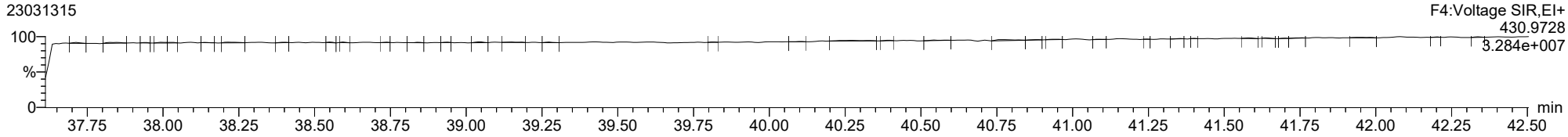


FUNCTION4 PFK



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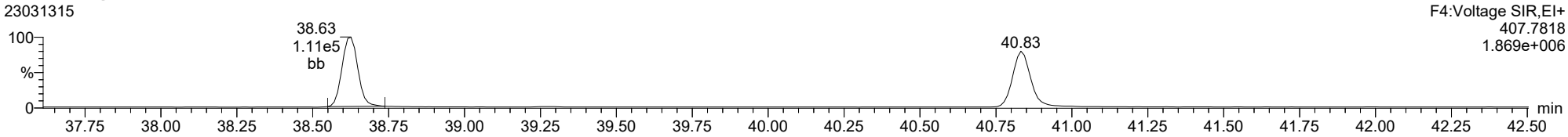

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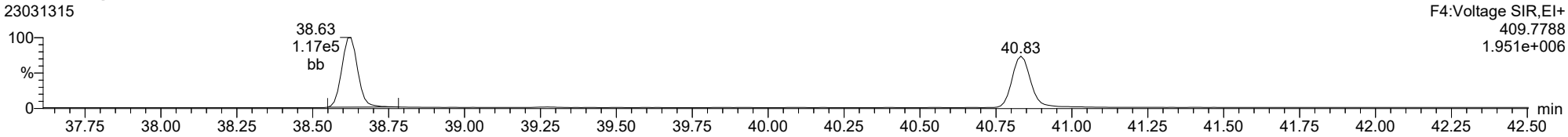

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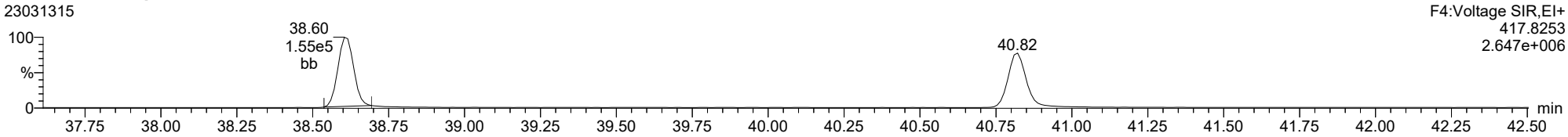

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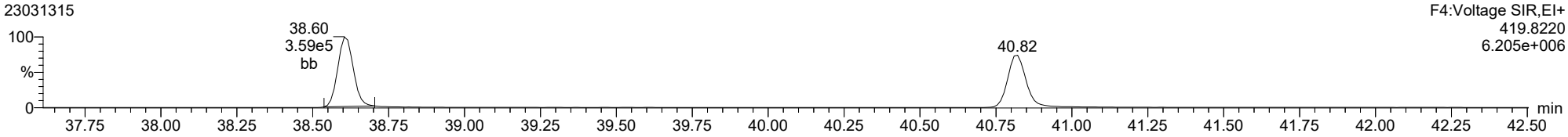

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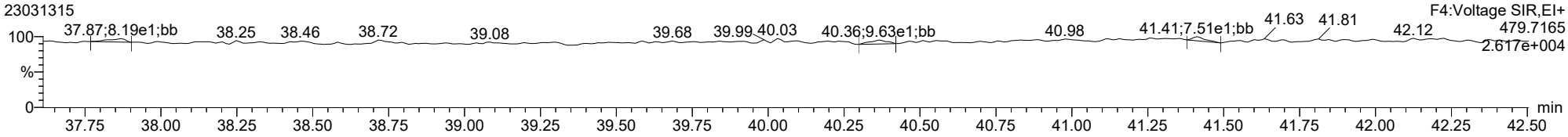

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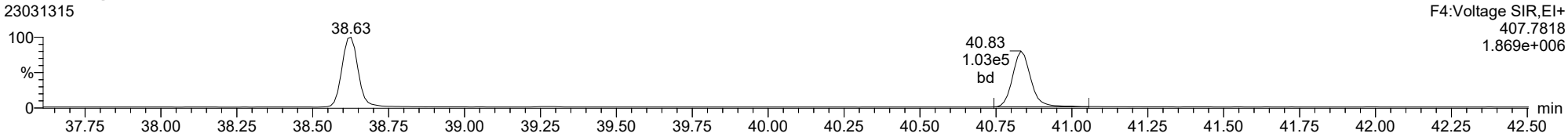

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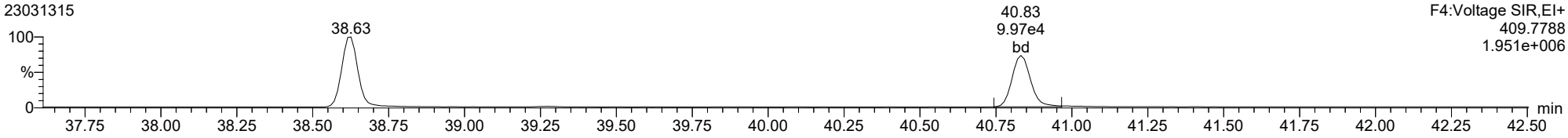

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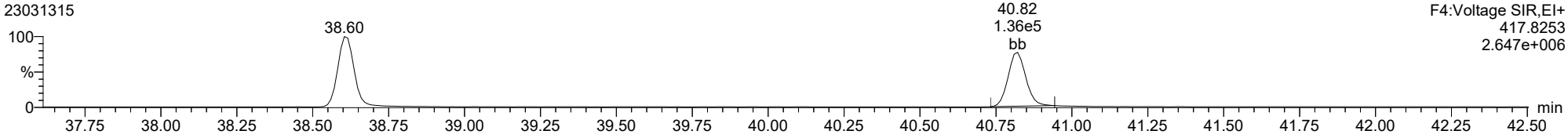

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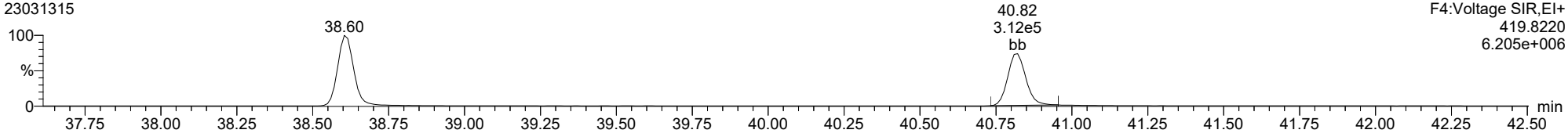

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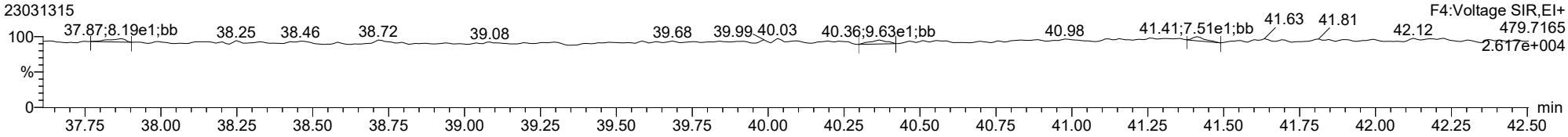

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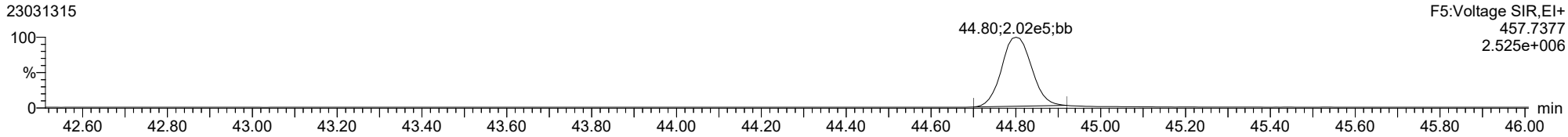
OCDD



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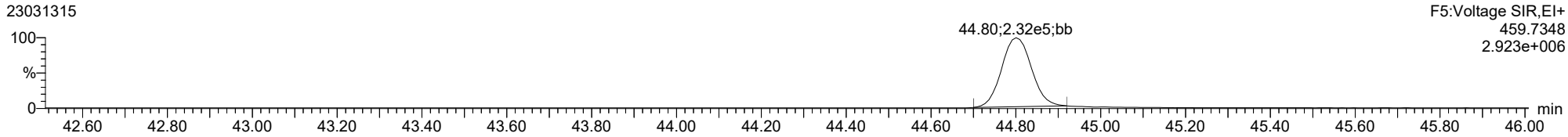

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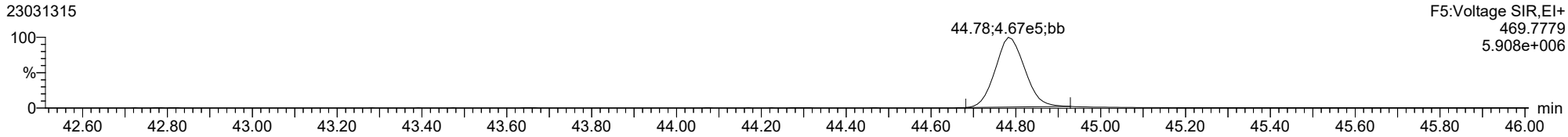

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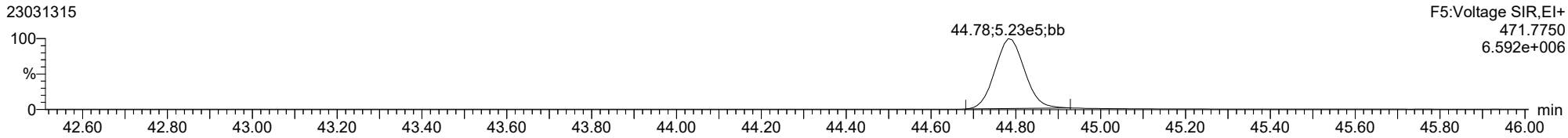

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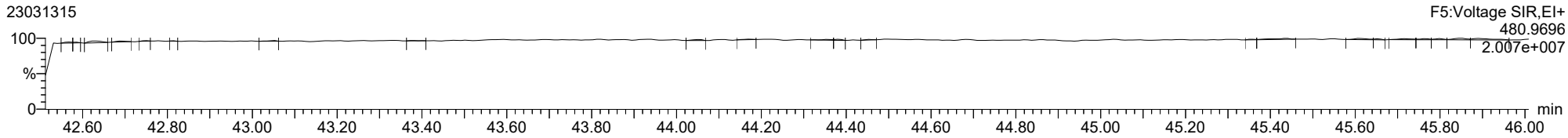

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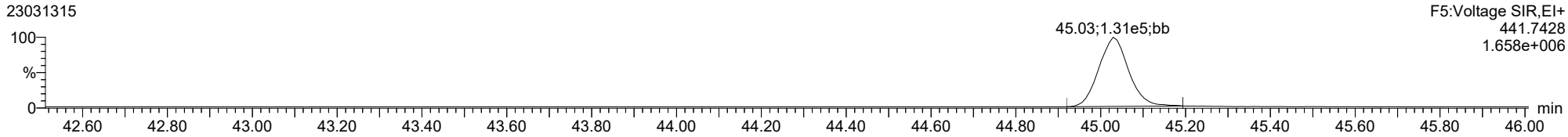

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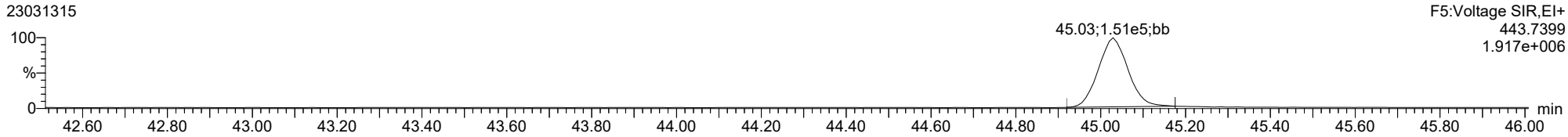

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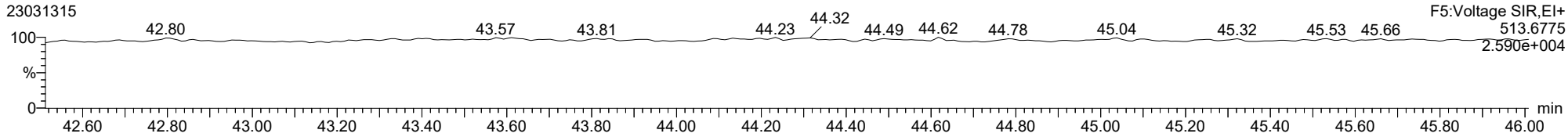

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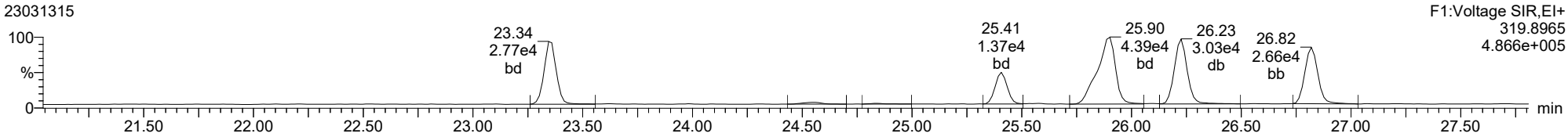

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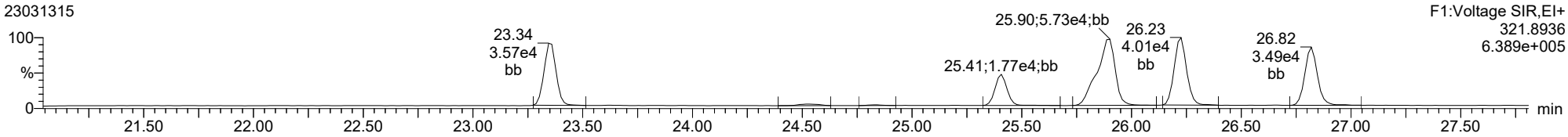

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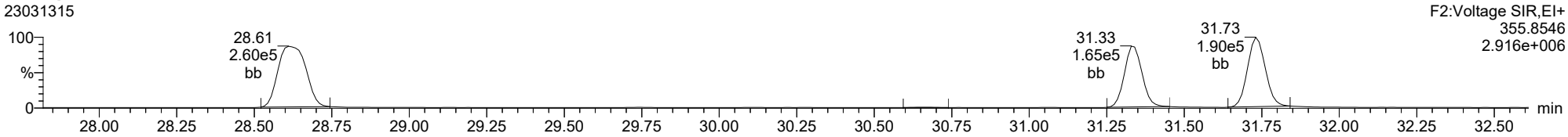

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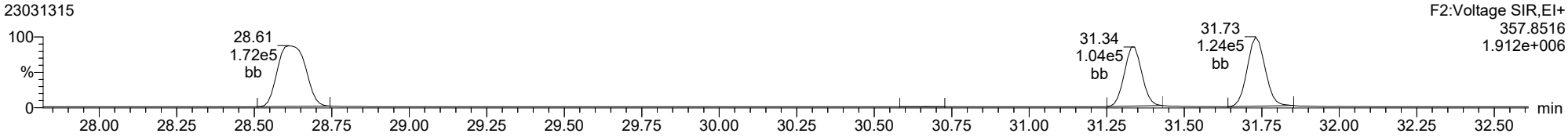

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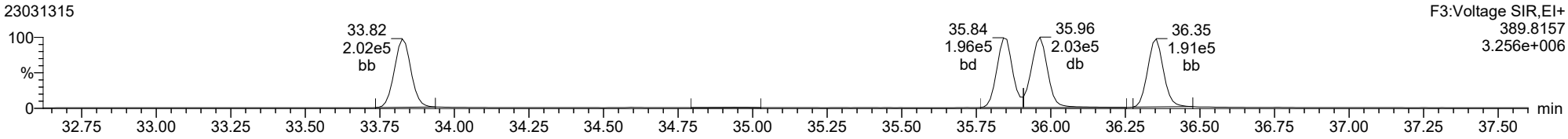

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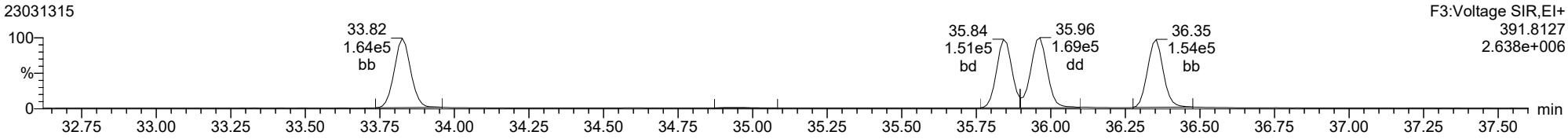

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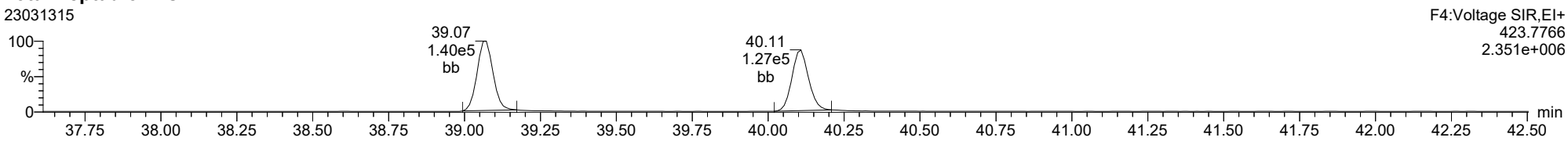

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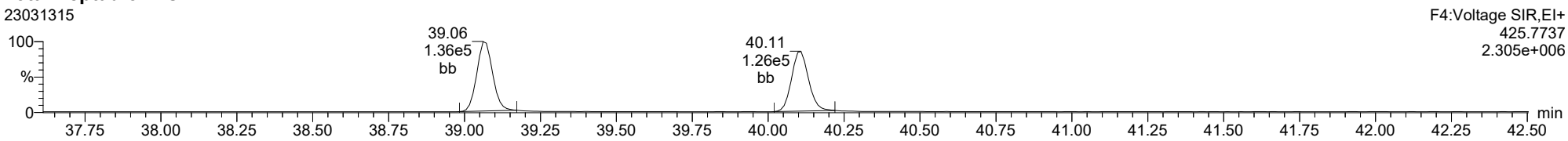

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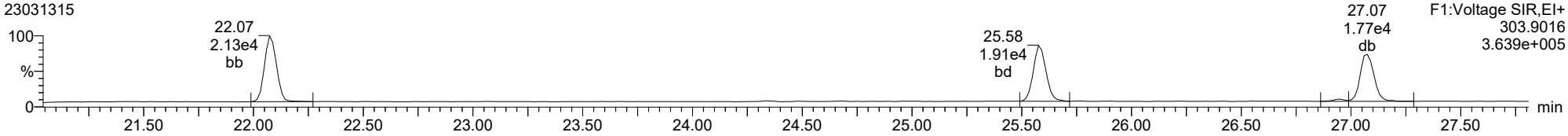

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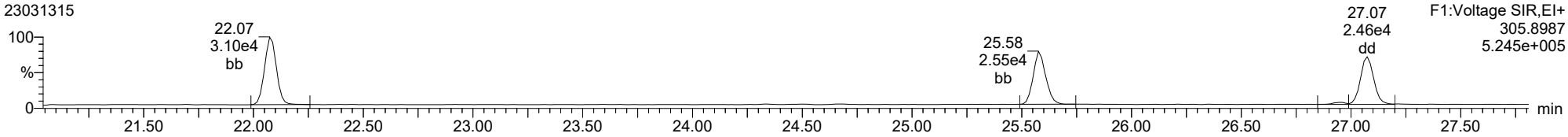

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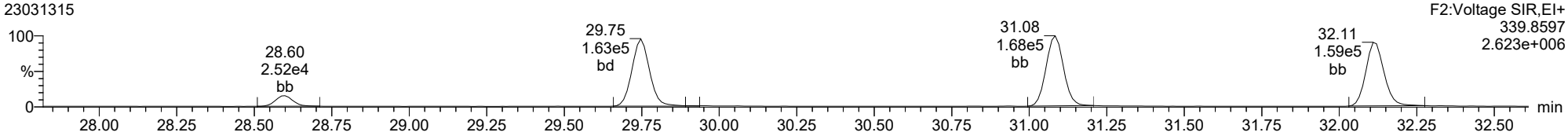

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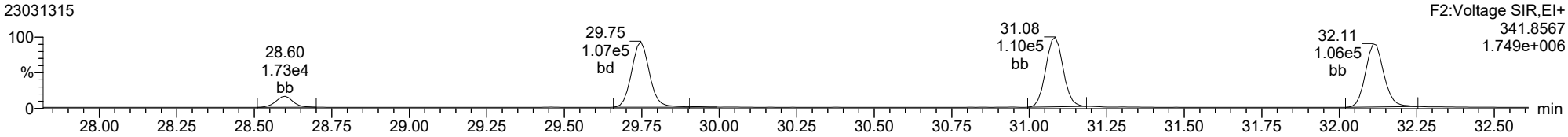

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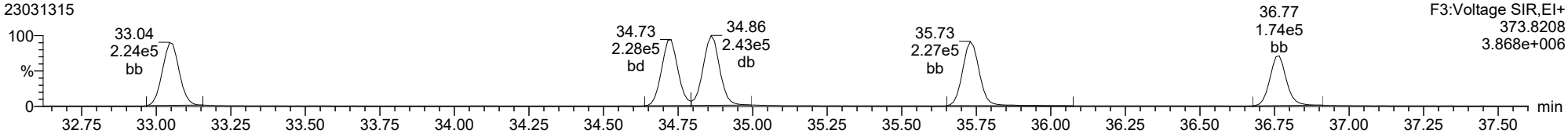

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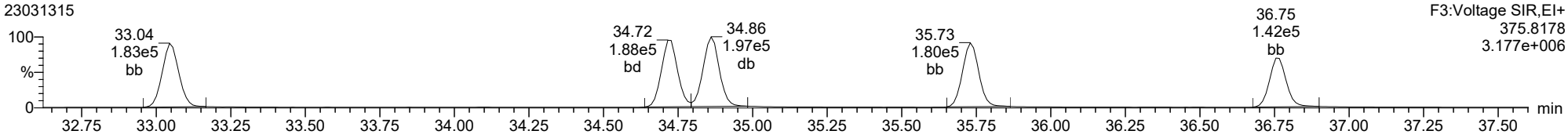

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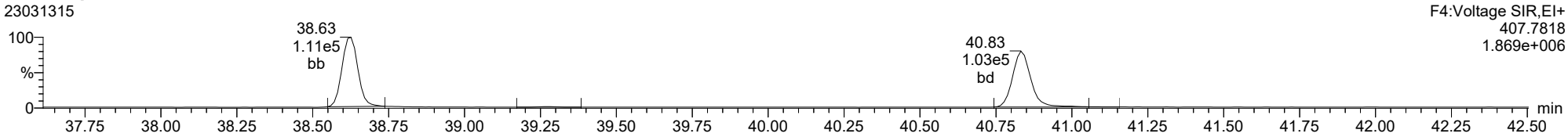

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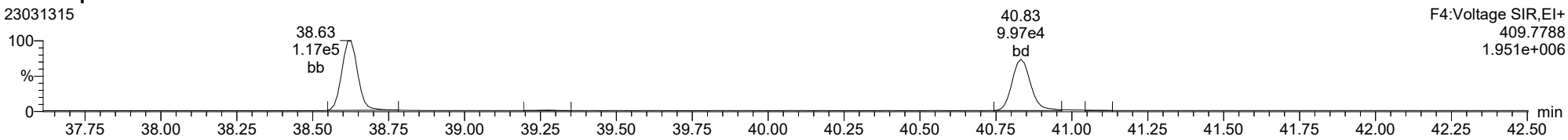

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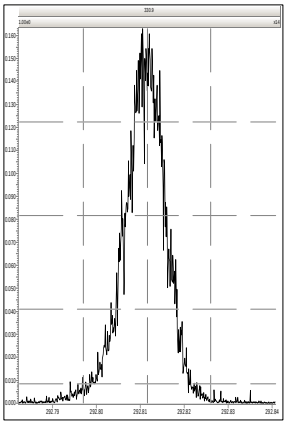

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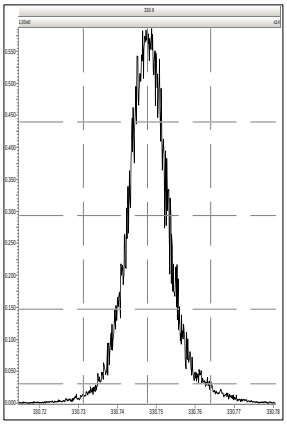

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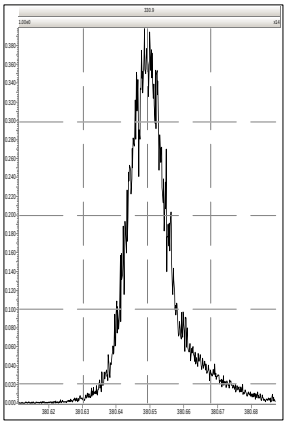

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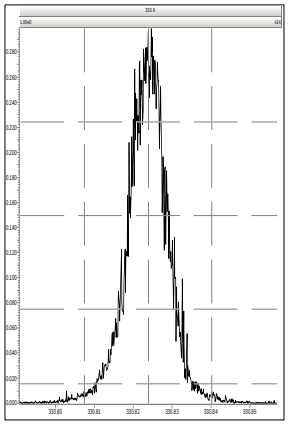

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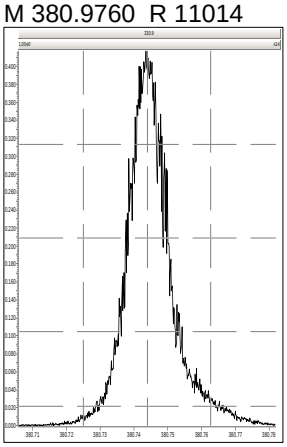
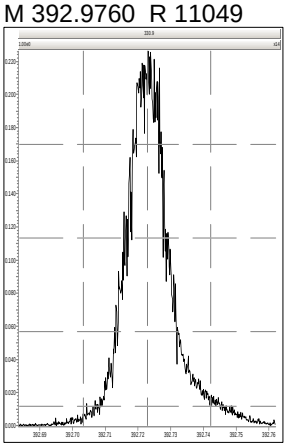
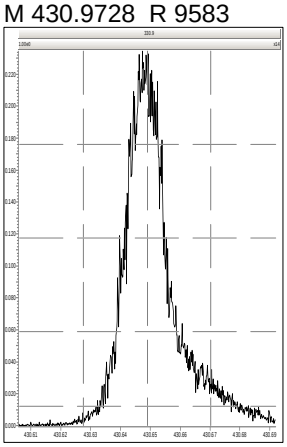


M 392.9760 R 11049



M 430.9728 R 9583



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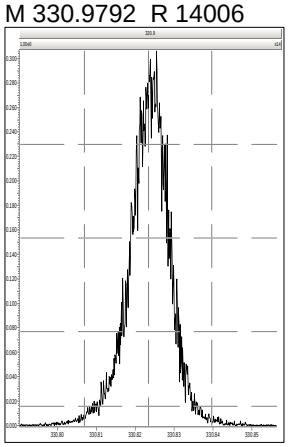

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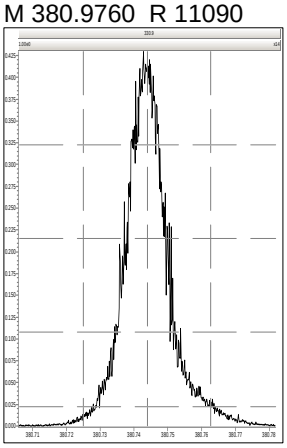

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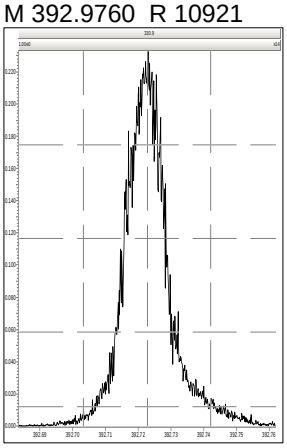
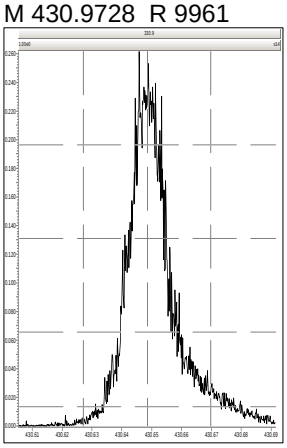


M 430.9728 R 9961



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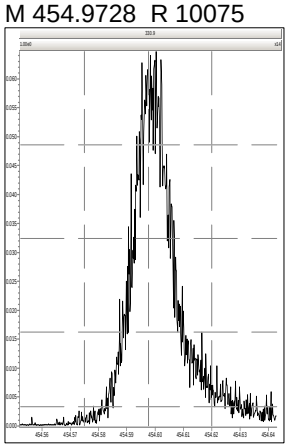
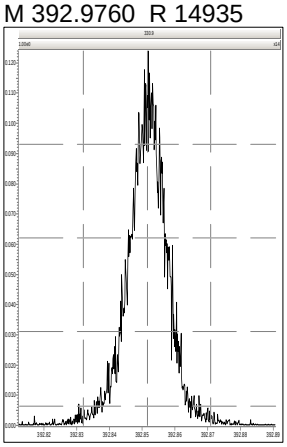
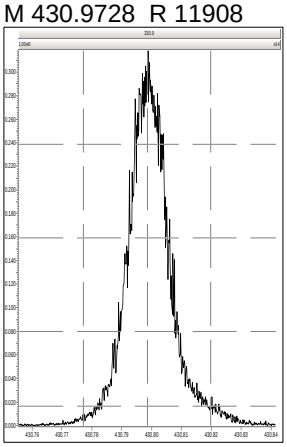


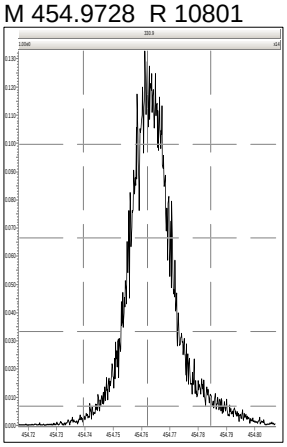
M 392.9760 R 14935



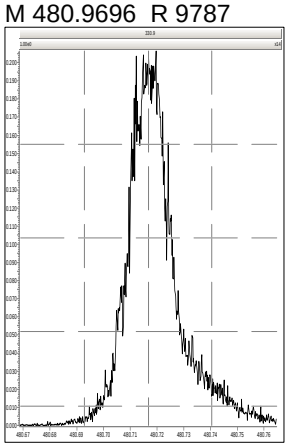
M 430.9728 R 11908



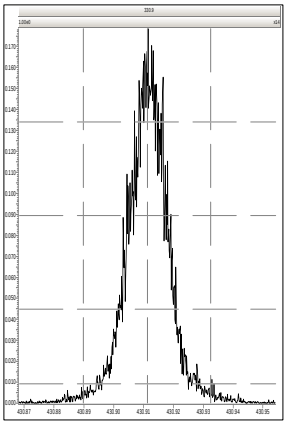
M 454.9728 R 10801



M 480.9696 R 9787



M 430.9728 R 14462



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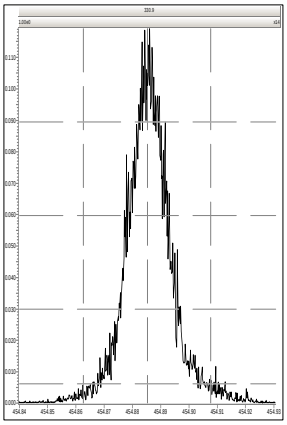

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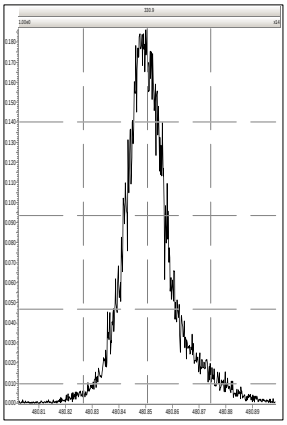

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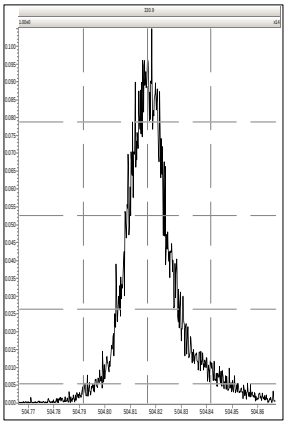
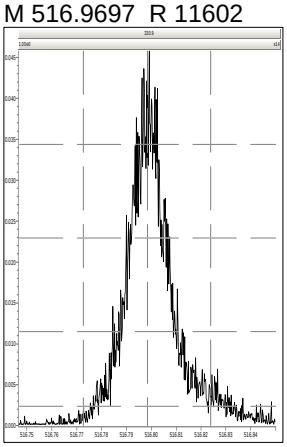
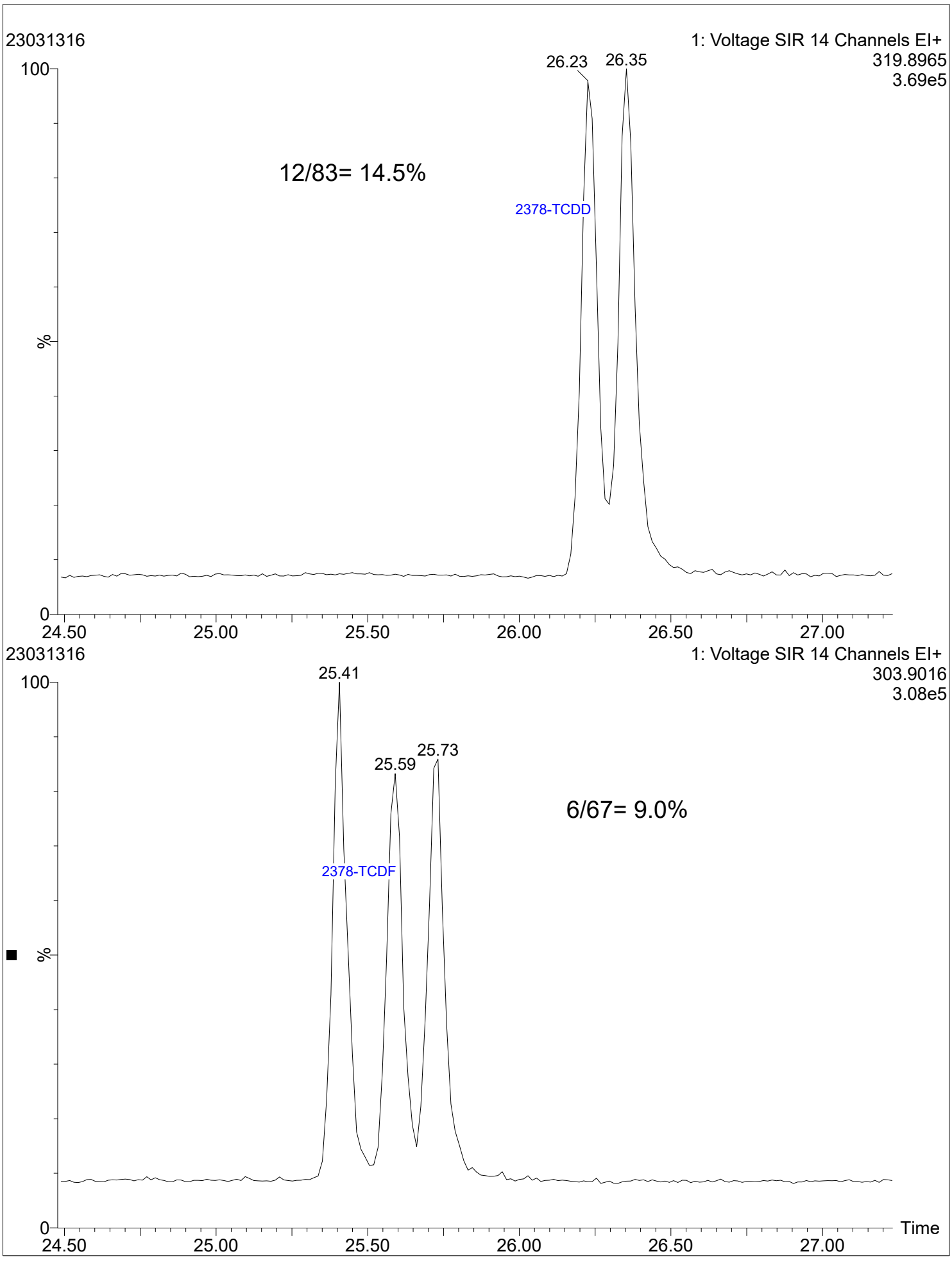


M 516.9697 R 11602




23031316
1: Voltage SIR 14 Channels EI+
319.8965
3.69e5
26.23
26.35
12/83= 14.5%
2378-TCDD
100
%
0
24.50
25.00
25.50
26.00
26.50
27.00
23031316
1: Voltage SIR 14 Channels EI+
303.9016
3.08e5
25.41
25.59
25.73
6/67= 9.0%
2378-TCDF
100
%
0
Time
24.50
25.00
25.50
26.00
26.50
27.00

Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 1613B

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	AUTOSPEC01	Calibration:	GC00015
Lab File ID:	23031323	Calibration Date:	03/03/2023
Sequence:	SLC0171	Injection Date:	03/14/23
Lab Sample ID:	SLC0171-CCV2	Injection Time:	04:32
Sequence Name:	CS3Z3		

		CONC. (ng/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT	
2,3,7,8-TCDF	A	10.000	8.40	0.7015272	0.5890817		-16.0	+/-16	
2,3,7,8-TCDD	A	10.000	8.48	1.1486620	0.9742742		-15.2	+/-22	
1,2,3,7,8-PeCDF	A	50.000	51.2	0.6792300	0.6957723		2.4	+/-18	
2,3,4,7,8-PeCDF	A	50.000	49.0	0.7861704	0.7697652		-2.1	+/-18	
1,2,3,7,8-PeCDD	A	50.000	59.9	1.0218450	1.2231540		19.7	+/-22	
1,2,3,4,7,8-HxCDF	A	50.000	43.0	1.1660380	1.0035360		-13.9	+/-10	*
1,2,3,6,7,8-HxCDF	A	50.000	44.3	1.0907410	0.9661884		-11.4	+/-12	
2,3,4,6,7,8-HxCDF	A	50.000	44.6	1.1396990	1.0162690		-10.8	+/-12	
1,2,3,7,8,9-HxCDF	A	50.000	43.9	1.1370930	0.9976068		-12.3	+/-10	*
1,2,3,4,7,8-HxCDD	A	50.000	52.0	0.9955689	1.0357970		4.0	+/-22	
1,2,3,6,7,8-HxCDD	A	50.000	48.3	1.0009380	0.9677817		-3.3	+/-22	
1,2,3,7,8,9-HxCDD	A	50.000	56.0	0.9071139	1.0152910		11.9	+/-18	
1,2,3,4,6,7,8-HpCDF	A	50.000	44.2	1.0029930	0.8868148		-11.6	+/-10	*
1,2,3,4,7,8,9-HpCDF	A	50.000	48.9	0.9531152	0.9314757		-2.3	+/-14	
1,2,3,4,6,7,8-HpCDD	A	50.000	49.6	1.0390130	1.0301190		-0.9	+/-14	
OCDF	A	100.00	71.2	0.7778078	0.5534402		-28.8	+/-37	
OCDD	A	100.00	96.2	0.9199537	0.8846520		-3.8	+/-21	
13C12-2,3,7,8-TCDF	A	100.00	70.9	1.6201960	1.1479927		-29.1	+/-29	*
13C12-2,3,7,8-TCDD	A	100.00	99.8	1.1524090	1.1499525		-0.2	+/-18	
13C12-1,2,3,7,8-PeCDF	A	100.00	88.3	1.2404520	1.0948003		-11.7	+/-24	
13C12-2,3,4,7,8-PeCDF	A	100.00	93.2	1.1177860	1.0416135		-6.8	+/-23	
13C12-1,2,3,7,8-PeCDD	A	100.00	76.7	0.8288129	0.6359217		-23.3	+/-38	
13C12-1,2,3,4,7,8-HxCDF	A	100.00	96.0	1.1683050	1.1219209		-4.0	+/-24	
13C12-1,2,3,6,7,8-HxCDF	A	100.00	86.0	1.3864660	1.1926834		-14.0	+/-30	
13C12-2,3,4,6,7,8-HxCDF	A	100.00	93.6	1.1292560	1.0575048		-6.4	+/-27	
13C12-1,2,3,7,8,9-HxCDF	A	100.00	98.3	0.9317541	0.9155520		-1.7	+/-26	
13C12-1,2,3,4,7,8-HxCDD	A	100.00	93.1	0.9950393	0.9266999		-6.9	+/-15	
13C12-1,2,3,6,7,8-HxCDD	A	100.00	87.2	1.1566890	1.0090645		-12.8	+/-15	
13C12-1,2,3,4,6,7,8-HpCDF	A	100.00	87.0	0.8952017	0.7785878		-13.0	+/-22	
13C12-1,2,3,4,7,8,9-HpCDF	A	100.00	92.1	0.7697516	0.7091954		-7.9	+/-23	
13C12-1,2,3,4,6,7,8-HpCDD	A	100.00	94.6	0.8401226	0.7950925		-5.4	+/-28	
13C12-OCDD	A	200.00	178	0.7674714	0.6834859		-10.9	+/-52	
37Cl4-2,3,7,8-TCDD	A	10.000	8.43	1.2878040	1.0859719		-15.7		

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\230313D1CL.qld
Last Altered: Tuesday, March 14, 2023 10:35:58 Pacific Daylight Time
Printed: Tuesday, March 14, 2023 11:03:44 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin230313.mdb 14 Mar 2023 10:34:25
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 11:57:27

ID: CS3Z3, Name: 23031323, Date: 14-Mar-2023, Time: 04:32:57, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.577	1.001	2.018e4	2.913e4	0.702	0.693	0.770	562	887	2.92e5	4.23e5	520.0	477.4	NO	bb	bb	8.397
12378-PeCDF	29.736	1.001	1.662e5	1.114e5	0.679	1.492	1.550	1640	1406	2.53e6	1.71e6	1540.5	1213.9	NO	bb	bb	51.218
23478-PeCDF	31.073	1.001	1.764e5	1.158e5	0.786	1.523	1.550	1640	1406	2.76e6	1.79e6	1684.0	1273.1	NO	bb	bb	48.957
123478-HxCDF	34.716	1.001	2.140e5	1.742e5	1.166	1.228	1.240	1184	1096	3.26e6	2.68e6	2753.5	2444.4	NO	bd	bd	43.032
234678-HxCDF	35.719	1.000	2.046e5	1.660e5	1.140	1.233	1.240	1184	1096	3.29e6	2.68e6	2776.6	2442.1	NO	bb	bb	44.585
123678-HxCDF	34.850	1.001	2.181e5	1.793e5	1.091	1.216	1.240	1184	1096	3.37e6	2.75e6	2850.2	2509.0	NO	db	db	44.290
123789-HxCDF	36.755	1.001	1.704e5	1.445e5	1.137	1.179	1.240	1184	1096	2.53e6	2.12e6	2135.5	1934.4	NO	bb	bd	43.867
1234678-HpCDF	38.616	1.001	1.169e5	1.211e5	1.003	0.965	1.050	986	1201	1.90e6	1.95e6	1922.6	1623.5	NO	bb	bb	44.208
1234789-HpCDF	40.822	1.000	1.127e5	1.151e5	0.953	0.979	1.050	986	1201	1.59e6	1.62e6	1609.0	1351.3	NO	bd	bd	48.865
OCDF	45.021	1.006	1.190e5	1.419e5	0.778	0.838	0.890	1153	1227	1.46e6	1.72e6	1262.2	1402.6	NO	bb	bb	71.154
2378-TCDD	26.212	1.001	3.544e4	4.625e4	1.149	0.766	0.770	874	655	5.45e5	7.06e5	622.9	1077.5	NO	bd	bb	8.482
12378-PeCDD	31.318	1.000	1.737e5	1.098e5	1.022	1.582	1.550	1025	890	2.70e6	1.68e6	2632.9	1891.5	NO	bb	bb	59.850
123478-HxCDD	35.830	1.000	1.827e5	1.482e5	0.996	1.233	1.240	1291	1514	2.96e6	2.42e6	2294.3	1598.9	NO	bd	bd	52.020
123678-HxCDD	35.953	1.001	1.863e5	1.504e5	1.001	1.239	1.240	1291	1514	2.91e6	2.35e6	2251.8	1552.6	NO	db	db	48.344
123789-HxCDD	36.343	1.011	1.851e5	1.537e5	0.907	1.205	1.240	1291	1514	2.96e6	2.45e6	2290.5	1615.4	NO	bb	bb	55.963
1234678-HpCDD	40.097	1.001	1.396e5	1.428e5	1.039	0.978	1.050	1190	863	2.19e6	2.11e6	1839.3	2447.1	NO	bb	bd	49.572
OCDD	44.792	1.000	1.904e5	2.265e5	0.920	0.841	0.890	1308	1251	2.34e6	2.80e6	1791.2	2239.8	NO	bb	bb	96.163
13C-2378-TCDF	25.548	1.007	3.564e5	4.805e5	1.620	0.742	0.770	980	840	5.37e6	7.31e6	5484.1	8694.5	NO	bb	bb	70.855
13C-12378-PeCDF	29.714	1.171	4.793e5	3.189e5	1.240	1.503	1.550	2076	1780	7.40e6	4.89e6	3564.8	2750.6	NO	bb	bb	88.258
13C-23478-PeCDF	31.051	1.223	4.551e5	3.043e5	1.118	1.495	1.550	2076	1780	7.12e6	4.82e6	3428.6	2709.8	NO	bb	bb	93.185
13C-123478-HxCDF	34.694	0.955	2.590e5	5.147e5	1.168	0.503	0.510	1075	2071	4.14e6	8.12e6	3850.4	3918.5	NO	bd	bd	96.030
13C-123678-HxCDF	34.827	0.959	2.787e5	5.438e5	1.386	0.512	0.510	1075	2071	4.20e6	8.19e6	3904.6	3952.9	NO	dd	dd	86.023
13C-234678-HxCDF	35.708	0.983	2.445e5	4.848e5	1.129	0.504	0.510	1075	2071	3.86e6	7.56e6	3592.8	3651.2	NO	bb	bb	93.646
13C-123789-HxCDF	36.733	1.011	2.141e5	4.173e5	0.932	0.513	0.510	1075	2071	3.44e6	6.77e6	3196.1	3268.3	NO	bb	bb	98.261
13C-1234678-HpCDF	38.593	1.063	1.650e5	3.719e5	0.895	0.444	0.440	939	1281	2.73e6	6.22e6	2901.5	4852.4	NO	bb	bb	86.973
13C-1234789-HpCDF	40.811	1.124	1.491e5	3.400e5	0.770	0.438	0.440	939	1281	2.15e6	4.87e6	2289.1	3801.4	NO	bb	bb	92.133
13C-1234-TCDD	25.379	0.000	3.218e5	4.073e5	1.000	0.790	0.770	1355	794	5.04e6	6.32e6	3718.6	7966.3	NO	bb	bb	100.000
13C-2378-TCDD	26.184	1.032	3.665e5	4.720e5	1.152	0.776	0.770	1355	794	5.57e6	7.26e6	4113.0	9144.6	NO	bb	bb	99.787
13C-12378-PeCDD	31.307	1.234	2.898e5	1.738e5	0.829	1.668	1.550	578	602	4.52e6	2.63e6	7812.4	4365.4	NO	bb	bb	76.727
13C-123478-HxCDD	35.819	0.986	3.536e5	2.855e5	0.995	1.239	1.240	1421	1327	5.93e6	4.84e6	4169.4	3645.8	NO	bd	bd	93.132
13C-123678-HxCDD	35.931	0.989	3.907e5	3.051e5	1.157	1.281	1.240	1421	1327	6.11e6	4.73e6	4299.2	3569.4	NO	db	db	87.237
13C-1234678-HpCDD	40.075	1.103	2.805e5	2.678e5	0.840	1.048	1.050	958	1170	4.23e6	3.97e6	4414.8	3396.1	NO	bb	bd	94.640
13C-OCDD	44.774	1.233	4.445e5	4.982e5	0.767	0.892	0.890	853	1016	5.61e6	6.26e6	6581.0	6164.6	NO	bb	bb	178.114
13C-123789-HxCDD	36.320	0.000	3.817e5	3.079e5	1.000	1.240	1.240	1421	1327	6.11e6	4.96e6	4296.8	3739.1	NO	bb	bb	100.000
37CL-2378-TCDD	26.212	1.033	7.918e4		1.288			961		1.22e6		1264.7			bb		8.433

Dataset: T:\Autospec\Processed Data Batch\230313D1CL.qld
Last Altered: Tuesday, March 14, 2023 10:35:58 Pacific Daylight Time
Printed: Tuesday, March 14, 2023 11:03:44 Pacific Daylight Time

ID: CS3Z3, Name: 23031323, Date: 14-Mar-2023, Time: 04:32:57, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF	22.059	0.863	2.219e4	3.123e4	0.802	0.711	0.770	562	887	3.57e5	5.03e5	635.5	566.7	NO	bb	bb	7.963
1289-TCDF	27.060	1.059	1.957e4	2.844e4	0.678	0.688	0.770	562	887	3.00e5	4.15e5	533.6	467.9	NO	db	dd	8.461
13468-PECDF	26.933	0.906	3.433e5	2.301e5	1.246	1.492	1.550	551	756	5.27e6	3.52e6	9563.4	4651.4	NO	bb	bb	57.633
12389-PECDF	32.098	1.080	1.686e5	1.130e5	0.496	1.491	1.550	1640	1406	2.47e6	1.66e6	1508.3	1183.9	NO	bb	bb	71.080
123468-HXCDF	33.034	0.952	2.377e5	1.943e5	1.169	1.224	1.240	1184	1096	3.63e6	2.97e6	3065.6	2710.5	NO	bb	bb	47.758
1368-TCDD	23.345	0.892	2.881e4	3.798e4	1.015	0.759	0.770	874	655	4.32e5	5.91e5	493.7	901.2	NO	bb	bd	7.846
1289-TCDD	26.806	1.024	2.882e4	3.822e4	0.909	0.754	0.770	874	655	4.39e5	5.83e5	502.1	890.1	NO	bb	bd	8.799
12479-PECDD	28.600	0.914	2.891e5	1.842e5	2.301	1.569	1.550	1025	890	2.83e6	1.81e6	2763.0	2027.8	NO	bb	bb	44.357
12389-PECDD	31.719	1.013	2.023e5	1.324e5	1.184	1.527	1.550	1025	890	3.07e6	2.03e6	2996.6	2277.6	NO	bb	bb	60.995
124679-HXCDD	33.814	0.944	2.170e5	1.741e5	1.115	1.247	1.240	1291	1514	3.42e6	2.73e6	2644.7	1801.3	NO	bb	bb	54.864
1234679-HPCDD	39.061	0.975	1.504e5	1.487e5	1.137	1.011	1.050	1190	863	2.39e6	2.38e6	2012.2	2754.9	NO	bb	bb	47.980
Total-tetrafurans			6.302e4		0.727			562		9.69e5							25.218
Total-penta1			3.433e5					551		5.27e6							57.633
Total-pentafurans			5.375e5		0.654			1640		8.16e6							179.878
Total-hexafurans			1.045e6		1.141			1184		1.61e7							223.532
Total-heptafurans			2.296e5		0.978			986		3.48e6							93.073
Total-Furans			2.337e6		0.922			562		3.54e7							650.487
Total-tetradioxins			1.631e5		1.024			874		2.25e6							43.838
Total-pentadioxins			6.660e5		1.502			1025		8.62e6							165.397
Total-hexadioxins			7.729e5		1.005			1291		1.23e7							211.649
Total-heptadioxins			2.900e5		1.088			1190		4.58e6							97.552
Total-Dioxins			2.082e6		1.130			874		3.01e7							614.598
Total-TEQ			4.420e6					874		6.55e7							1265.085
FUNCTION1 PFK			0.000e0					313651		0.00e0							
FUNCTION2 PFK			3.651e6					130716		2.62e7							0.000
FUNCTION3 PFK			7.223e7					241830		2.87e7							0.000
FUNCTION4 PFK			1.140e7					197587		1.82e6							
FUNCTION5 PFK			3.525e6					135254		3.71e7							
FUNCTION1 HXCD...			2.721e2					380		4.07e3							0.000
FUNCTION1 HPCD...																	
FUNCTION2 HPCD...			0.000e0					611		0.00e0							
FUNCTION3 OCDPE			8.925e1					439		1.31e3							0.000
FUNCTION4 NCDPE			0.000e0					563		0.00e0							
FUNCTION5 DCDPE			0.000e0					583		0.00e0							

Method: T:\Autospec\Methods\Dioxin230313.mdb 14 Mar 2023 10:34:25
Calibration: T:\Autospec\Curves\230303ICIH.cdb 06 Mar 2023 11:57:27

ID: CS3Z3, Name: 23031323, Date: 14-Mar-2023, Time: 04:32:57, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.06	1.957e4	2.844e4	0.678	0.69	0.77	533.6	YES	NO	db	dd	8.461
2	Total-tetrafurans	26.93	8.484e2	1.027e3	0.727	0.83	0.77	26.7	YES	NO	bd	bd	0.308
3	2378-TCDF	25.58	2.018e4	2.913e4	0.702	0.69	0.77	520.0	YES	NO	bb	bb	8.397
4	Total-tetrafurans	24.66	2.245e2	3.163e2	0.727	0.71	0.77	7.0	YES	NO	bb	bb	0.089
5	1368-TCDF	22.06	2.219e4	3.123e4	0.802	0.71	0.77	635.5	YES	NO	bb	bb	7.963

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	26.93	3.433e5	2.301e5	1.246	1.49	1.55	9563.4	YES	NO	bb	bb	57.633

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDF	32.10	1.686e5	1.130e5	0.496	1.49	1.55	1508.3	YES	NO	bb	bb	71.080
2	23478-PeCDF	31.07	1.764e5	1.158e5	0.786	1.52	1.55	1684.0	YES	NO	bb	bb	48.957
3	12378-PeCDF	29.74	1.662e5	1.114e5	0.679	1.49	1.55	1540.5	YES	NO	bb	bb	51.218
4	Total-pentafurans	28.59	2.628e4	1.764e4	0.654	1.49	1.55	242.8	YES	NO	bb	bb	8.623

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.76	1.704e5	1.445e5	1.137	1.18	1.24	2135.5	YES	NO	bb	bd	43.867
2	234678-HxCDF	35.72	2.046e5	1.660e5	1.140	1.23	1.24	2776.6	YES	NO	bb	bb	44.585
3	123678-HxCDF	34.85	2.181e5	1.793e5	1.091	1.22	1.24	2850.2	YES	NO	db	db	44.290
4	123478-HxCDF	34.72	2.140e5	1.742e5	1.166	1.23	1.24	2753.5	YES	NO	bd	bd	43.032
5	123468-HXCDF	33.03	2.377e5	1.943e5	1.169	1.22	1.24	3065.6	YES	NO	bb	bb	47.758

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	40.82	1.127e5	1.151e5	0.953	0.98	1.05	1609.0	YES	NO	bd	bd	48.865
2	1234678-HpCDF	38.62	1.169e5	1.211e5	1.003	0.97	1.05	1922.6	YES	NO	bb	bb	44.208

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Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.06	1.957e4	2.844e4	0.678	0.69	0.77	533.6	YES	NO	db	dd	8.461
2	Total-tetrafurans	26.93	8.484e2	1.027e3	0.727	0.83	0.77	26.7	YES	NO	bd	bd	0.308
3	2378-TCDF	25.58	2.018e4	2.913e4	0.702	0.69	0.77	520.0	YES	NO	bb	bb	8.397
4	Total-tetrafurans	24.66	2.245e2	3.163e2	0.727	0.71	0.77	7.0	YES	NO	bb	bb	0.089
5	1368-TCDF	22.06	2.219e4	3.123e4	0.802	0.71	0.77	635.5	YES	NO	bb	bb	7.963
6	12389-PECDF	32.10	1.686e5	1.130e5	0.496	1.49	1.55	1508.3	YES	NO	bb	bb	71.080
7	23478-PeCDF	31.07	1.764e5	1.158e5	0.786	1.52	1.55	1684.0	YES	NO	bb	bb	48.957
8	12378-PeCDF	29.74	1.662e5	1.114e5	0.679	1.49	1.55	1540.5	YES	NO	bb	bb	51.218
9	Total-pentafurans	28.59	2.628e4	1.764e4	0.654	1.49	1.55	242.8	YES	NO	bb	bb	8.623
10	123789-HxCDF	36.76	1.704e5	1.445e5	1.137	1.18	1.24	2135.5	YES	NO	bb	bd	43.867
11	234678-HxCDF	35.72	2.046e5	1.660e5	1.140	1.23	1.24	2776.6	YES	NO	bb	bb	44.585
12	123678-HxCDF	34.85	2.181e5	1.793e5	1.091	1.22	1.24	2850.2	YES	NO	db	db	44.290
13	123478-HxCDF	34.72	2.140e5	1.742e5	1.166	1.23	1.24	2753.5	YES	NO	bd	bd	43.032
14	123468-HXCDF	33.03	2.377e5	1.943e5	1.169	1.22	1.24	3065.6	YES	NO	bb	bb	47.758
15	1234789-HpCDF	40.82	1.127e5	1.151e5	0.953	0.98	1.05	1609.0	YES	NO	bd	bd	48.865
16	1234678-HpCDF	38.62	1.169e5	1.211e5	1.003	0.97	1.05	1922.6	YES	NO	bb	bb	44.208
17	OCDF	45.02	1.190e5	1.419e5	0.778	0.84	0.89	1262.2	YES	NO	bb	bb	71.154
18	13468-PECDF	26.93	3.433e5	2.301e5	1.246	1.49	1.55	9563.4	YES	NO	bb	bb	57.633

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	25.39	1.565e4	2.109e4	1.024	0.74	0.77	278.5	YES	NO	bb	bb	4.278
2	Total-tetradioxins	24.83	3.849e2	5.542e2	1.024	0.69	0.77	7.1	YES	NO	bb	bb	0.109
3	Total-tetradioxins	24.53	1.272e3	1.891e3	1.024	0.67	0.77	15.6	YES	NO	bb	bd	0.368
4	1368-TCDD	23.34	2.881e4	3.798e4	1.015	0.76	0.77	493.7	YES	NO	bb	bd	7.846
5	1289-TCDD	26.81	2.882e4	3.822e4	0.909	0.75	0.77	502.1	YES	NO	bb	bd	8.799
6	2378-TCDD	26.21	3.544e4	4.625e4	1.149	0.77	0.77	622.9	YES	NO	bd	bb	8.482
7	Total-tetradioxins	25.89	5.271e4	6.713e4	1.024	0.79	0.77	650.4	YES	NO	bd	bb	13.956

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDD	31.72	2.023e5	1.324e5	1.184	1.53	1.55	2996.6	YES	NO	bb	bb	60.995
2	12378-PeCDD	31.32	1.737e5	1.098e5	1.022	1.58	1.55	2632.9	YES	NO	bb	bb	59.850
3	Total-pentadioxins	30.65	8.454e2	5.054e2	1.502	1.67	1.55	12.2	YES	NO	bb	bb	0.194
4	12479-PECDD	28.60	2.891e5	1.842e5	2.301	1.57	1.55	2763.0	YES	NO	bb	bb	44.357

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HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexadioxins	36.71	1.097e2	8.412e1	1.005	1.30	1.24	2.0	NO	NO	bb	bb	0.029
2	123789-HxCDD	36.34	1.851e5	1.537e5	0.907	1.20	1.24	2290.5	YES	NO	bb	bb	55.963
3	123678-HxCDD	35.95	1.863e5	1.504e5	1.001	1.24	1.24	2251.8	YES	NO	db	db	48.344
4	123478-HxCDD	35.83	1.827e5	1.482e5	0.996	1.23	1.24	2294.3	YES	NO	bd	bd	52.020
5	Total-hexadioxins	34.93	1.247e3	1.004e3	1.005	1.24	1.24	10.7	YES	NO	db	bb	0.336
6	Total-hexadioxins	34.59	3.498e2	2.730e2	1.005	1.28	1.24	4.9	YES	NO	bb	bb	0.093
7	124679-HXCDD	33.81	2.170e5	1.741e5	1.115	1.25	1.24	2644.7	YES	NO	bb	bb	54.864

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.10	1.396e5	1.428e5	1.039	0.98	1.05	1839.3	YES	NO	bb	bd	49.572
2	1234679-HPCDD	39.06	1.504e5	1.487e5	1.137	1.01	1.05	2012.2	YES	NO	bb	bb	47.980

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Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	25.39	1.565e4	2.109e4	1.024	0.74	0.77	278.5	YES	NO	bb	bb	4.278
2	Total-tetradioxins	24.83	3.849e2	5.542e2	1.024	0.69	0.77	7.1	YES	NO	bb	bb	0.109
3	Total-tetradioxins	24.53	1.272e3	1.891e3	1.024	0.67	0.77	15.6	YES	NO	bb	bd	0.368
4	1368-TCDD	23.34	2.881e4	3.798e4	1.015	0.76	0.77	493.7	YES	NO	bb	bd	7.846
5	1289-TCDD	26.81	2.882e4	3.822e4	0.909	0.75	0.77	502.1	YES	NO	bb	bd	8.799
6	2378-TCDD	26.21	3.544e4	4.625e4	1.149	0.77	0.77	622.9	YES	NO	bd	bb	8.482
7	Total-tetradioxins	25.89	5.271e4	6.713e4	1.024	0.79	0.77	650.4	YES	NO	bd	bb	13.956
8	12389-PECDD	31.72	2.023e5	1.324e5	1.184	1.53	1.55	2996.6	YES	NO	bb	bb	60.995
9	12378-PeCDD	31.32	1.737e5	1.098e5	1.022	1.58	1.55	2632.9	YES	NO	bb	bb	59.850
10	Total-pentadioxins	30.65	8.454e2	5.054e2	1.502	1.67	1.55	12.2	YES	NO	bb	bb	0.194
11	12479-PECDD	28.60	2.891e5	1.842e5	2.301	1.57	1.55	2763.0	YES	NO	bb	bb	44.357
12	Total-hexadioxins	36.71	1.097e2	8.412e1	1.005	1.30	1.24	2.0	NO	NO	bb	bb	0.029
13	123789-HxCDD	36.34	1.851e5	1.537e5	0.907	1.20	1.24	2290.5	YES	NO	bb	bb	55.963
14	123678-HxCDD	35.95	1.863e5	1.504e5	1.001	1.24	1.24	2251.8	YES	NO	db	db	48.344
15	123478-HxCDD	35.83	1.827e5	1.482e5	0.996	1.23	1.24	2294.3	YES	NO	bd	bd	52.020
16	Total-hexadioxins	34.93	1.247e3	1.004e3	1.005	1.24	1.24	10.7	YES	NO	db	bb	0.336
17	Total-hexadioxins	34.59	3.498e2	2.730e2	1.005	1.28	1.24	4.9	YES	NO	bb	bb	0.093
18	124679-HXCDD	33.81	2.170e5	1.741e5	1.115	1.25	1.24	2644.7	YES	NO	bb	bb	54.864
19	1234678-HpCDD	40.10	1.396e5	1.428e5	1.039	0.98	1.05	1839.3	YES	NO	bb	bd	49.572
20	1234679-HPCDD	39.06	1.504e5	1.487e5	1.137	1.01	1.05	2012.2	YES	NO	bb	bb	47.980
21	OCDD	44.79	1.904e5	2.265e5	0.920	0.84	0.89	1791.2	YES	NO	bb	bb	96.163

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.06	1.957e4	2.844e4	0.678	0.69	0.77	533.6	YES	NO	db	dd	8.461
2	Total-tetrafurans	26.93	8.484e2	1.027e3	0.727	0.83	0.77	26.7	YES	NO	bd	bd	0.308
3	2378-TCDF	25.58	2.018e4	2.913e4	0.702	0.69	0.77	520.0	YES	NO	bb	bb	8.397
4	Total-tetrafurans	24.66	2.245e2	3.163e2	0.727	0.71	0.77	7.0	YES	NO	bb	bb	0.089
5	1368-TCDF	22.06	2.219e4	3.123e4	0.802	0.71	0.77	635.5	YES	NO	bb	bb	7.963
6	12389-PECDF	32.10	1.686e5	1.130e5	0.496	1.49	1.55	1508.3	YES	NO	bb	bb	71.080
7	23478-PeCDF	31.07	1.764e5	1.158e5	0.786	1.52	1.55	1684.0	YES	NO	bb	bb	48.957
8	12378-PeCDF	29.74	1.662e5	1.114e5	0.679	1.49	1.55	1540.5	YES	NO	bb	bb	51.218
9	Total-pentafurans	28.59	2.628e4	1.764e4	0.654	1.49	1.55	242.8	YES	NO	bb	bb	8.623
10	123789-HxCDF	36.76	1.704e5	1.445e5	1.137	1.18	1.24	2135.5	YES	NO	bb	bd	43.867
11	234678-HxCDF	35.72	2.046e5	1.660e5	1.140	1.23	1.24	2776.6	YES	NO	bb	bb	44.585
12	123678-HxCDF	34.85	2.181e5	1.793e5	1.091	1.22	1.24	2850.2	YES	NO	db	db	44.290
13	123478-HxCDF	34.72	2.140e5	1.742e5	1.166	1.23	1.24	2753.5	YES	NO	bd	bd	43.032
14	123468-HXCDF	33.03	2.377e5	1.943e5	1.169	1.22	1.24	3065.6	YES	NO	bb	bb	47.758
15	1234789-HpCDF	40.82	1.127e5	1.151e5	0.953	0.98	1.05	1609.0	YES	NO	bd	bd	48.865
16	1234678-HpCDF	38.62	1.169e5	1.211e5	1.003	0.97	1.05	1922.6	YES	NO	bb	bb	44.208
17	OCDF	45.02	1.190e5	1.419e5	0.778	0.84	0.89	1262.2	YES	NO	bb	bb	71.154
18	13468-PECDF	26.93	3.433e5	2.301e5	1.246	1.49	1.55	9563.4	YES	NO	bb	bb	57.633
19	Total-tetradioxins	25.39	1.565e4	2.109e4	1.024	0.74	0.77	278.5	YES	NO	bb	bb	4.278
20	Total-tetradioxins	24.83	3.849e2	5.542e2	1.024	0.69	0.77	7.1	YES	NO	bb	bb	0.109
21	Total-tetradioxins	24.53	1.272e3	1.891e3	1.024	0.67	0.77	15.6	YES	NO	bb	bd	0.368
22	1368-TCDD	23.34	2.881e4	3.798e4	1.015	0.76	0.77	493.7	YES	NO	bb	bd	7.846
23	1289-TCDD	26.81	2.882e4	3.822e4	0.909	0.75	0.77	502.1	YES	NO	bb	bd	8.799
24	2378-TCDD	26.21	3.544e4	4.625e4	1.149	0.77	0.77	622.9	YES	NO	bd	bb	8.482
25	Total-tetradioxins	25.89	5.271e4	6.713e4	1.024	0.79	0.77	650.4	YES	NO	bd	bb	13.956
26	12389-PECDD	31.72	2.023e5	1.324e5	1.184	1.53	1.55	2996.6	YES	NO	bb	bb	60.995
27	12378-PeCDD	31.32	1.737e5	1.098e5	1.022	1.58	1.55	2632.9	YES	NO	bb	bb	59.850
28	Total-pentadioxins	30.65	8.454e2	5.054e2	1.502	1.67	1.55	12.2	YES	NO	bb	bb	0.194
29	12479-PECDD	28.60	2.891e5	1.842e5	2.301	1.57	1.55	2763.0	YES	NO	bb	bb	44.357
30	Total-hexadioxins	36.71	1.097e2	8.412e1	1.005	1.30	1.24	2.0	NO	NO	bb	bb	0.029
31	123789-HxCDD	36.34	1.851e5	1.537e5	0.907	1.20	1.24	2290.5	YES	NO	bb	bb	55.963
32	123678-HxCDD	35.95	1.863e5	1.504e5	1.001	1.24	1.24	2251.8	YES	NO	db	db	48.344
33	123478-HxCDD	35.83	1.827e5	1.482e5	0.996	1.23	1.24	2294.3	YES	NO	bd	bd	52.020
34	Total-hexadioxins	34.93	1.247e3	1.004e3	1.005	1.24	1.24	10.7	YES	NO	db	bb	0.336
35	Total-hexadioxins	34.59	3.498e2	2.730e2	1.005	1.28	1.24	4.9	YES	NO	bb	bb	0.093
36	124679-HXCDD	33.81	2.170e5	1.741e5	1.115	1.25	1.24	2644.7	YES	NO	bb	bb	54.864
37	1234678-HpCDD	40.10	1.396e5	1.428e5	1.039	0.98	1.05	1839.3	YES	NO	bb	bd	49.572

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	1234679-HPCDD	39.06	1.504e5	1.487e5	1.137	1.01	1.05	2012.2	YES	NO	bb	bb	47.980
39	OCDD	44.79	1.904e5	2.265e5	0.920	0.84	0.89	1791.2	YES	NO	bb	bb	96.163

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	28.25	1.124e6					32.3	YES		dd		0.000
2	FUNCTION2 PFK	28.20	2.469e5					35.2	YES		dd		0.000
3	FUNCTION2 PFK	28.12	1.489e6					39.3	YES		dd		0.000
4	FUNCTION2 PFK	27.88	5.140e5					51.1	YES		bd		0.000
5	FUNCTION2 PFK	31.34	1.526e3					0.7	NO		bb		0.000
6	FUNCTION2 PFK	31.15	2.341e3					0.7	NO		bb		0.000
7	FUNCTION2 PFK	31.02	1.278e4					1.5	NO		bb		0.000
8	FUNCTION2 PFK	30.39	7.833e3					1.2	NO		bb		0.000
9	FUNCTION2 PFK	30.24	1.589e4					1.9	NO		bb		0.000
10	FUNCTION2 PFK	30.13	9.519e3					1.9	NO		bb		0.000
11	FUNCTION2 PFK	29.87	9.649e2					0.7	NO		bb		0.000
12	FUNCTION2 PFK	29.83	2.173e3					0.8	NO		bb		0.000
13	FUNCTION2 PFK	29.70	3.731e3					0.7	NO		bb		0.000
14	FUNCTION2 PFK	29.51	2.741e3					0.9	NO		db		0.000
15	FUNCTION2 PFK	29.48	2.522e3					0.9	NO		bd		0.000
16	FUNCTION2 PFK	29.18	1.501e4					2.7	NO		db		0.000
17	FUNCTION2 PFK	29.11	1.955e4					2.7	NO		dd		0.000
18	FUNCTION2 PFK	29.03	1.211e4					2.3	NO		dd		0.000
19	FUNCTION2 PFK	28.98	2.057e4					2.1	NO		bd		0.000
20	FUNCTION2 PFK	28.66	9.807e4					9.5	YES		db		0.000
21	FUNCTION2 PFK	32.57	4.181e3					1.0	NO		bb		0.000
22	FUNCTION2 PFK	32.45	1.258e4					1.6	NO		bb		0.000
23	FUNCTION2 PFK	32.33	2.146e3					0.7	NO		bb		0.000
24	FUNCTION2 PFK	32.21	2.183e3					0.9	NO		bb		0.000
25	FUNCTION2 PFK	32.04	7.992e2					0.5	NO		db		0.000
26	FUNCTION2 PFK	32.00	6.525e3					1.8	NO		dd		0.000
27	FUNCTION2 PFK	31.90	1.525e4					2.4	NO		bd		0.000
28	FUNCTION2 PFK	31.85	5.893e2					0.4	NO		bb		0.000
29	FUNCTION2 PFK	31.75	1.813e3					0.7	NO		bb		0.000
30	FUNCTION2 PFK	31.41	3.511e3					1.2	NO		bb		0.000

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	33.18	7.223e7					118.5	YES		bb		0.000

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	40.82	3.899e5					7.0	YES		bb		
2	FUNCTION4 PFK	39.40	1.101e7					2.2	NO		bb		

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	43.93	3.247e3					1.1	NO		db		
2	FUNCTION5 PFK	43.90	6.552e3					1.6	NO		dd		
3	FUNCTION5 PFK	43.85	7.769e3					1.8	NO		bd		
4	FUNCTION5 PFK	43.78	3.449e3					1.2	NO		bb		
5	FUNCTION5 PFK	43.73	6.217e3					1.0	NO		db		
6	FUNCTION5 PFK	43.67	4.584e3					1.3	NO		dd		
7	FUNCTION5 PFK	43.61	5.480e3					1.1	NO		bd		
8	FUNCTION5 PFK	43.40	7.173e4					8.1	YES		db		
9	FUNCTION5 PFK	43.36	3.179e4					9.2	YES		dd		
10	FUNCTION5 PFK	43.17	3.744e5					18.4	YES		dd		
11	FUNCTION5 PFK	43.08	2.574e5					22.7	YES		dd		
12	FUNCTION5 PFK	43.00	2.803e5					27.2	YES		dd		
13	FUNCTION5 PFK	42.87	5.390e5					34.0	YES		dd		
14	FUNCTION5 PFK	42.83	1.728e5					35.3	YES		dd		
15	FUNCTION5 PFK	42.61	1.227e6					47.3	YES		dd		
16	FUNCTION5 PFK	42.56	4.759e5					49.3	YES		bd		
17	FUNCTION5 PFK	45.97	1.296e3					0.6	NO		bb		
18	FUNCTION5 PFK	45.90	2.470e3					1.2	NO		bb		
19	FUNCTION5 PFK	45.76	4.998e3					1.4	NO		db		
20	FUNCTION5 PFK	45.70	6.648e3					1.5	NO		bd		
21	FUNCTION5 PFK	45.64	7.873e2					0.4	NO		db		
22	FUNCTION5 PFK	45.61	1.521e3					0.7	NO		bd		
23	FUNCTION5 PFK	45.41	3.457e3					1.2	NO		bb		
24	FUNCTION5 PFK	45.15	7.177e2					0.6	NO		bb		
25	FUNCTION5 PFK	45.11	2.416e3					0.7	NO		bb		
26	FUNCTION5 PFK	44.89	1.538e3					0.7	NO		bb		
27	FUNCTION5 PFK	44.49	5.985e3					1.4	NO		bb		
28	FUNCTION5 PFK	44.09	1.071e4					1.7	NO		db		
29	FUNCTION5 PFK	44.04	1.456e4					1.8	NO		bd		

ID: CS3Z3, Name: 23031323, Date: 14-Mar-2023, Time: 04:32:57, Conditions: AUTOSPEC01, User: pk

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	22.33	8.797e1					2.7	NO		bb		0.000
2	FUNCTION1 HXCD...	21.10	1.063e2					5.1	YES		bb		0.000
3	FUNCTION1 HXCD...	26.95	7.781e1					2.9	NO		bb		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	34.13	8.925e1					3.0	NO		bb		0.000

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
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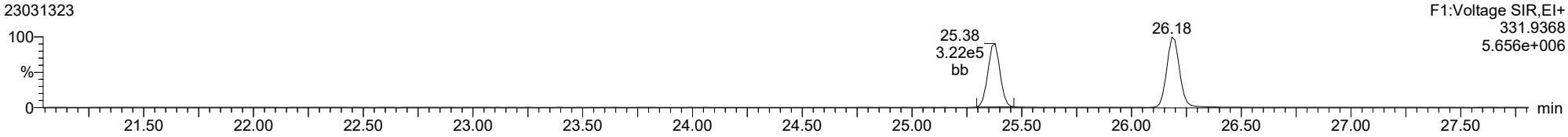
13C-1234-TCDD



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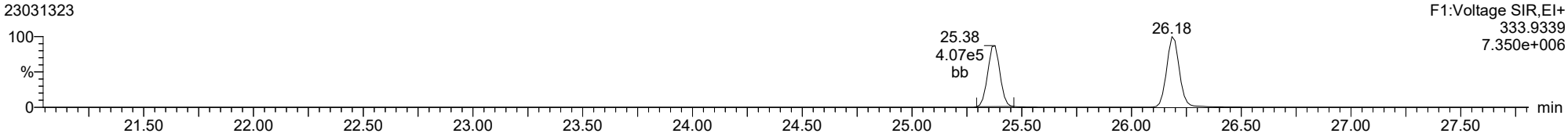
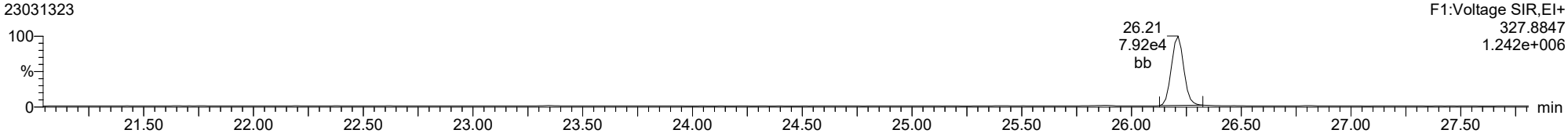


37CL-2378-TCDD



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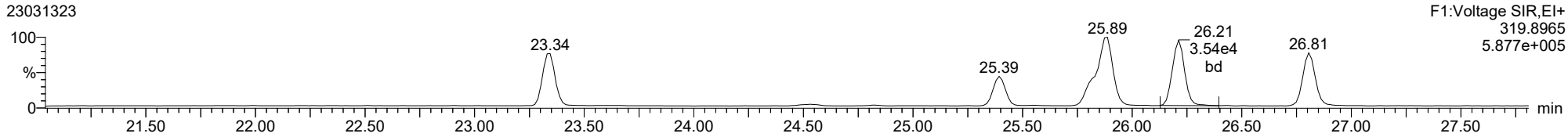
2378-TCDD



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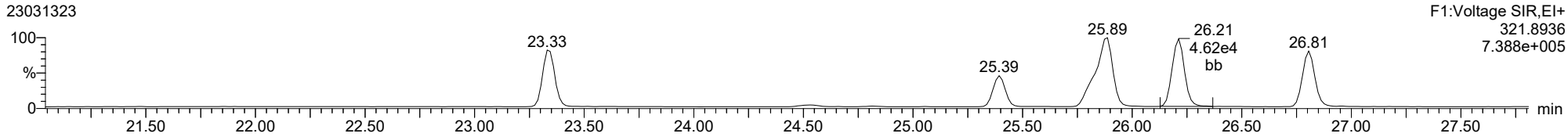

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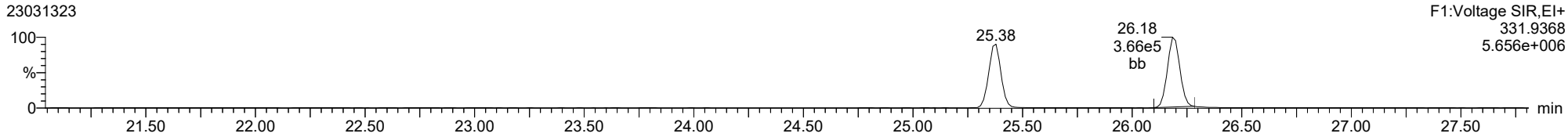

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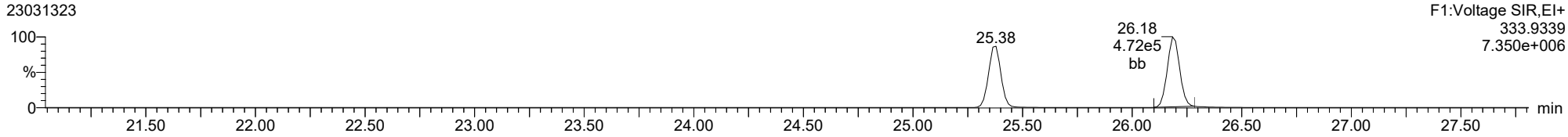

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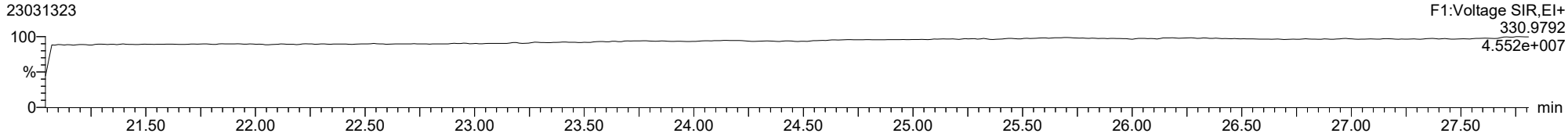

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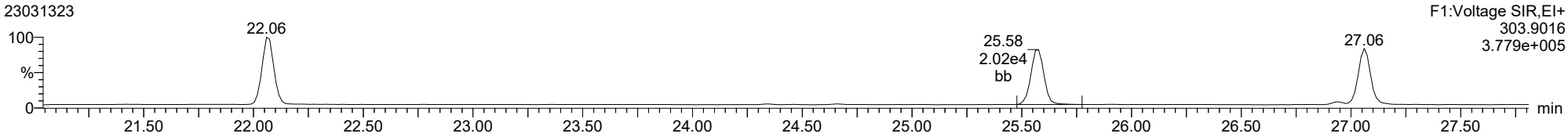
2378-TCDF



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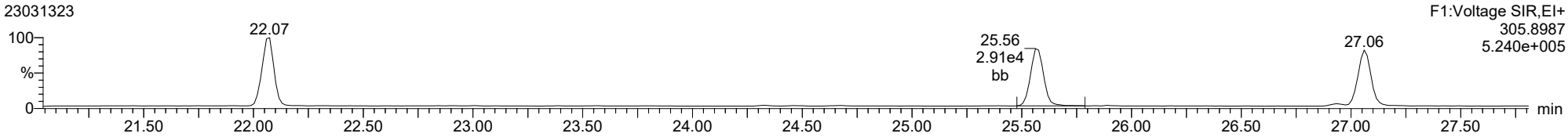

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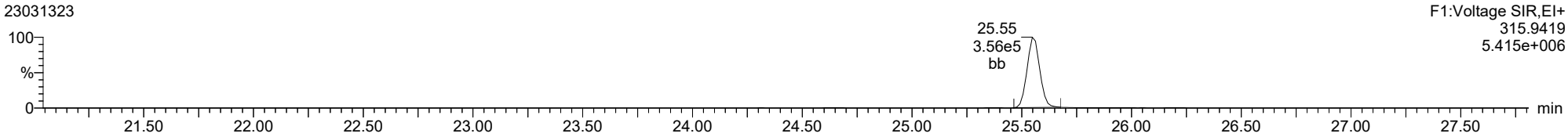

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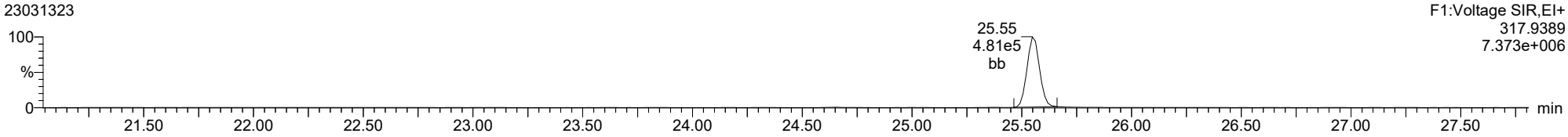
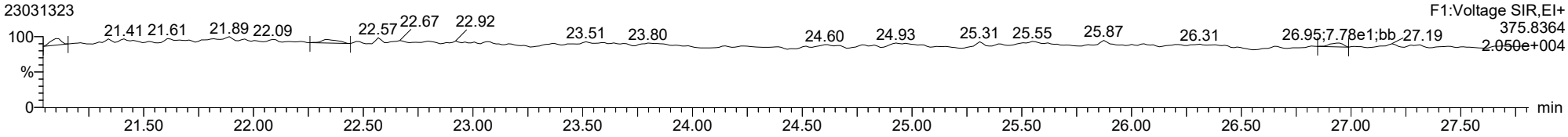


FUNCTION1 HXCDPE



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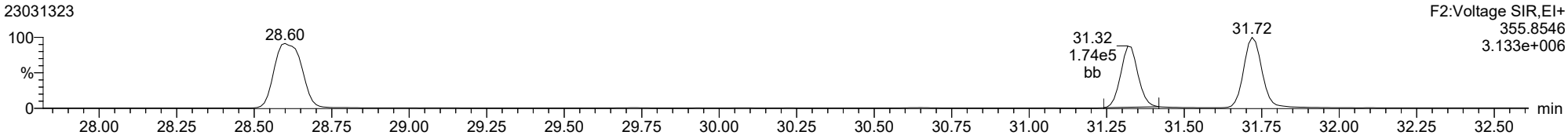
12378-PeCDD



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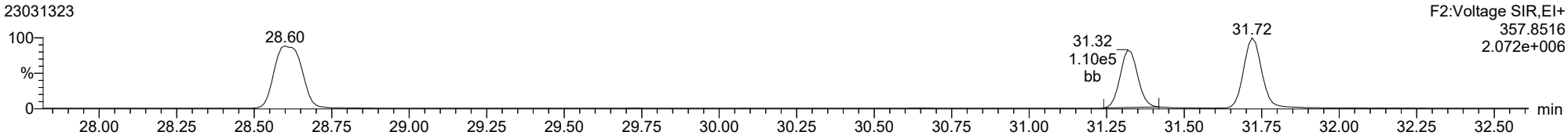

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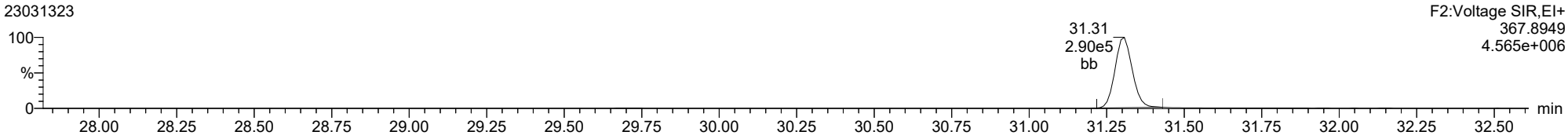

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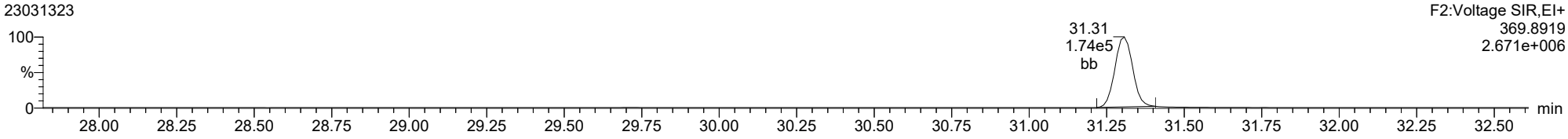
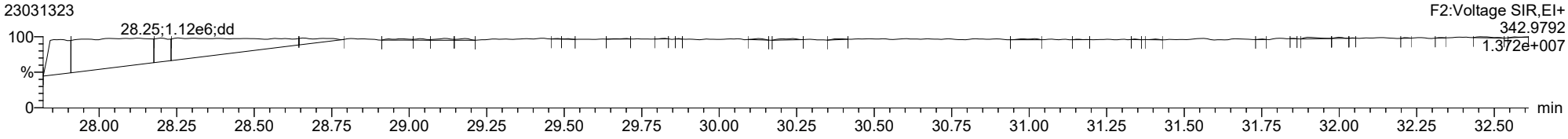


FUNCTION2 PFK



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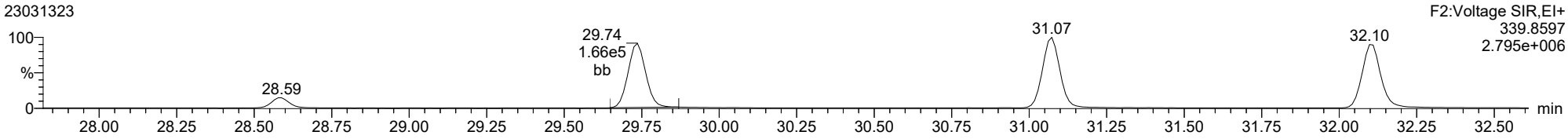

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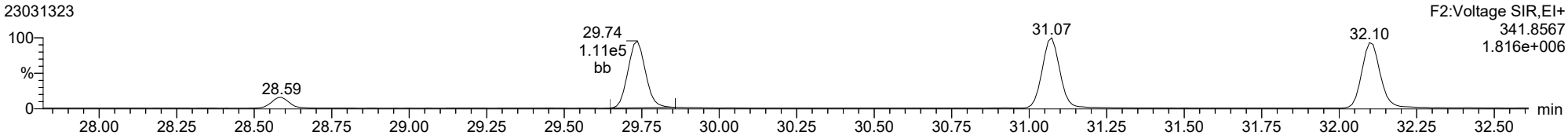

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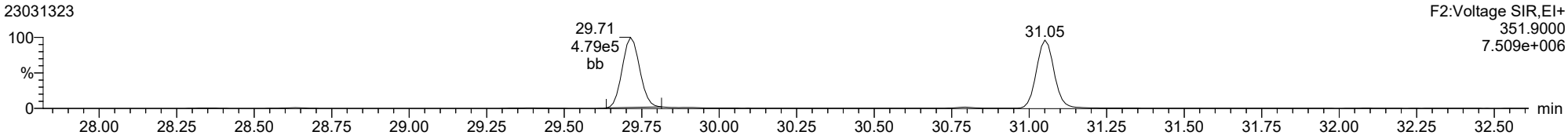

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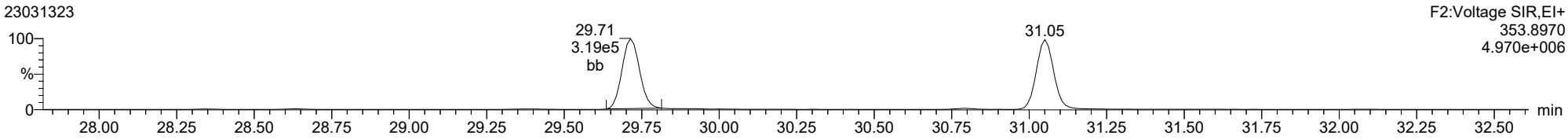
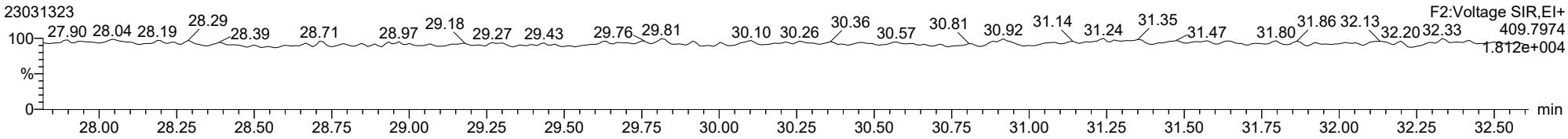


FUNCTION2 HPCDPE



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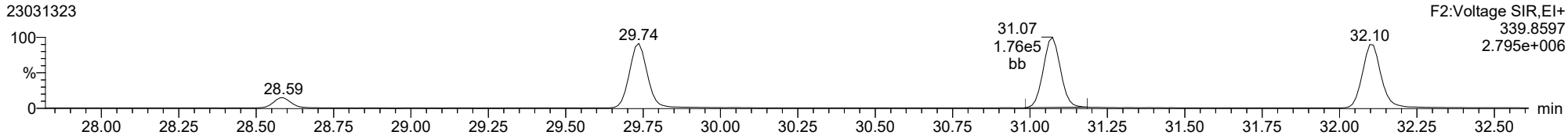
23478-PeCDF



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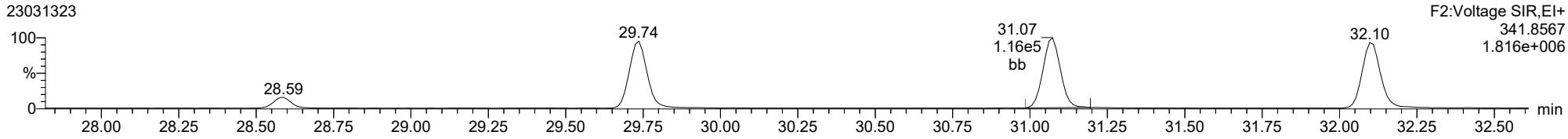

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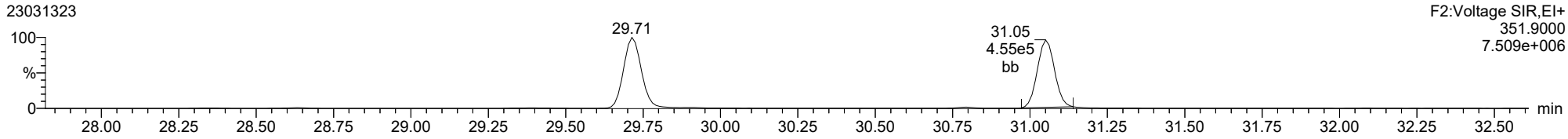

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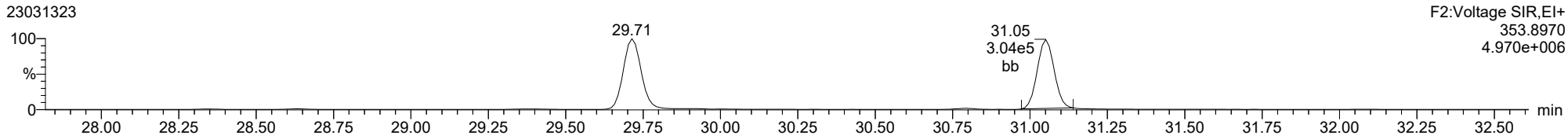

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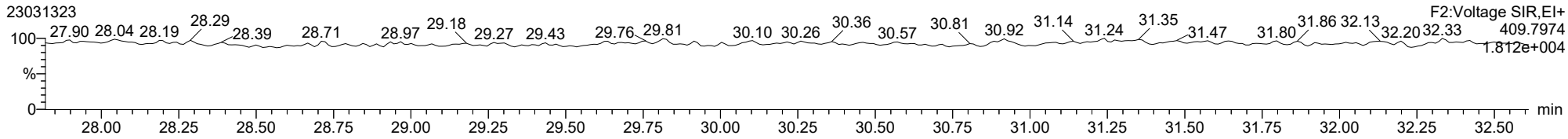

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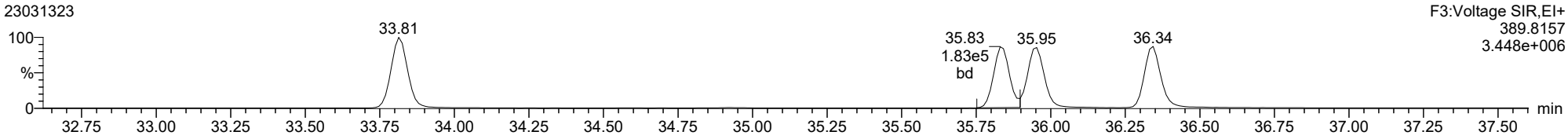
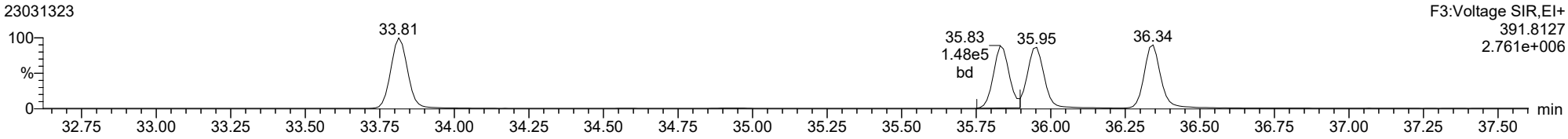
123478-HxCDD



123478-HxCDD



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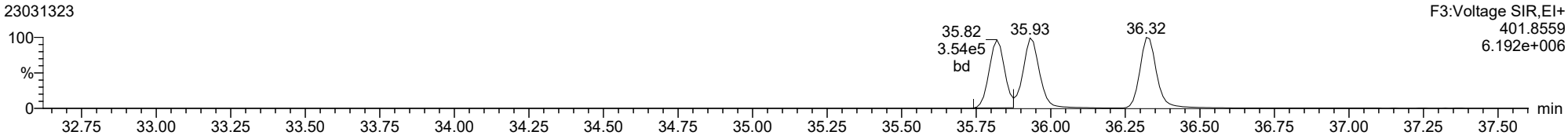

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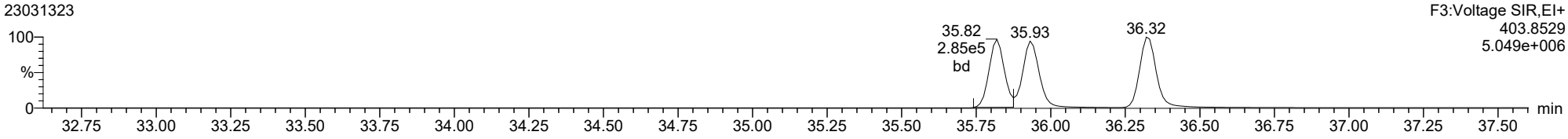

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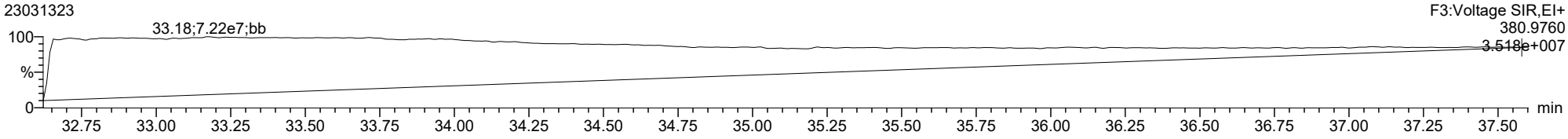

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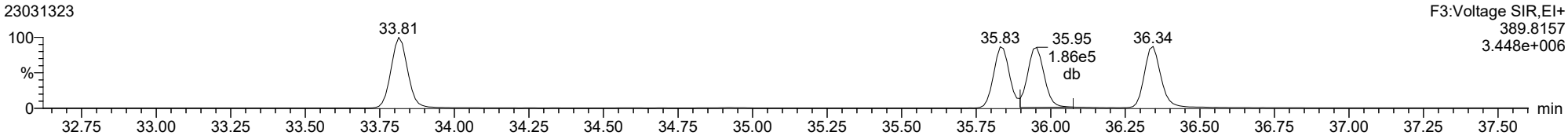

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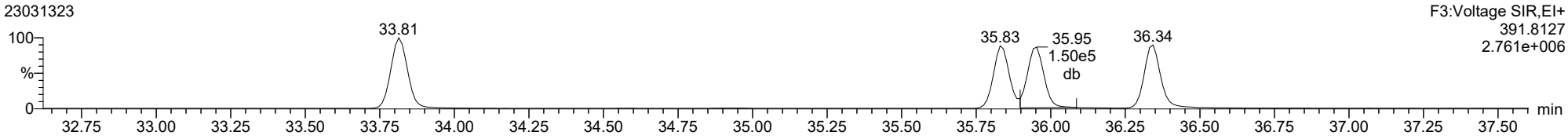

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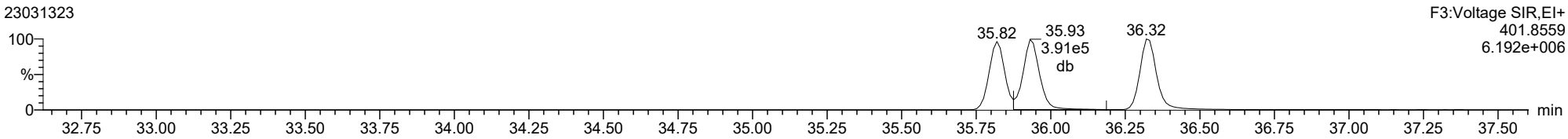

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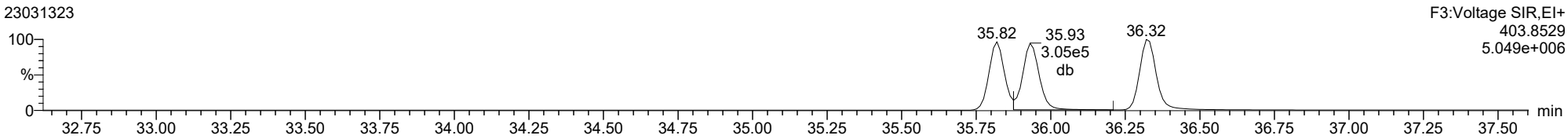

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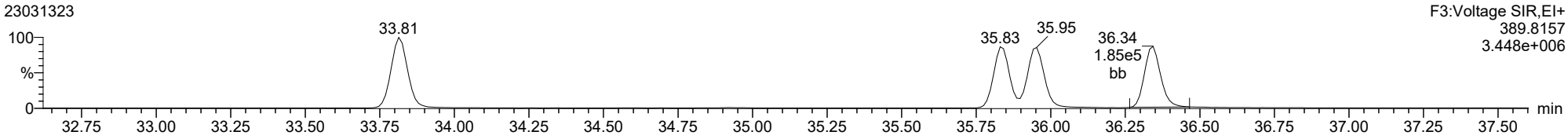

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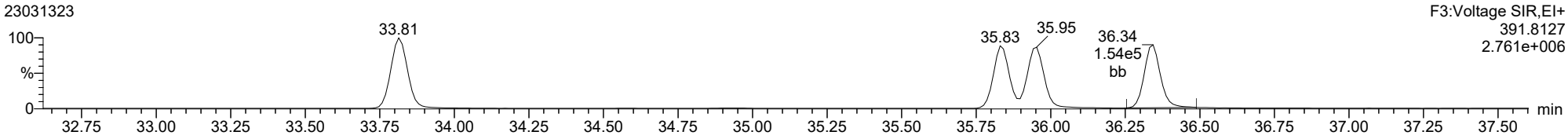

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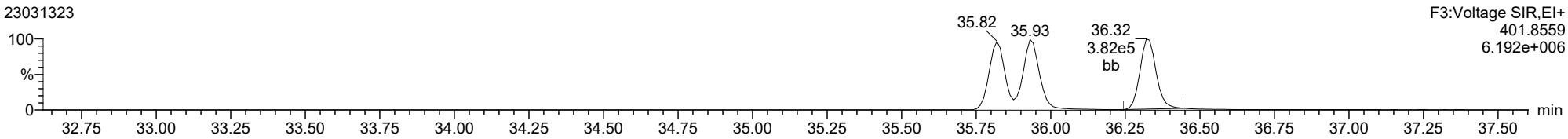

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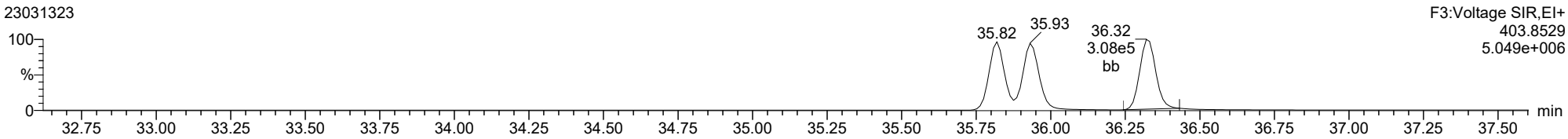

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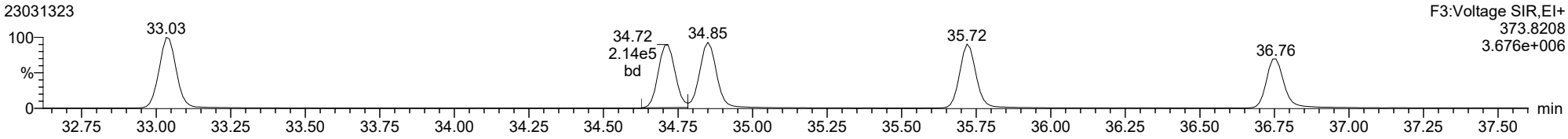

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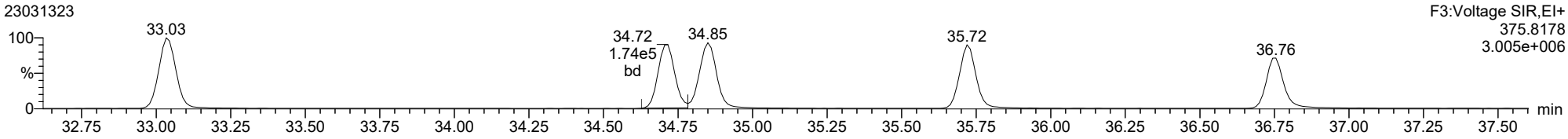

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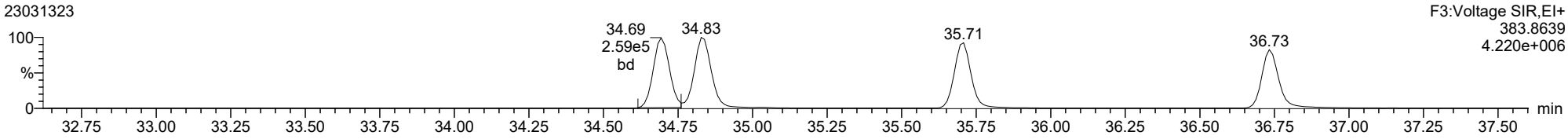

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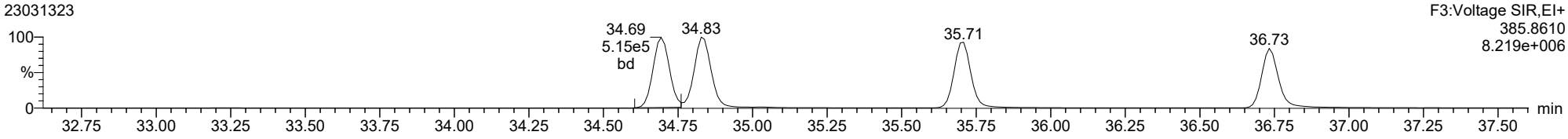
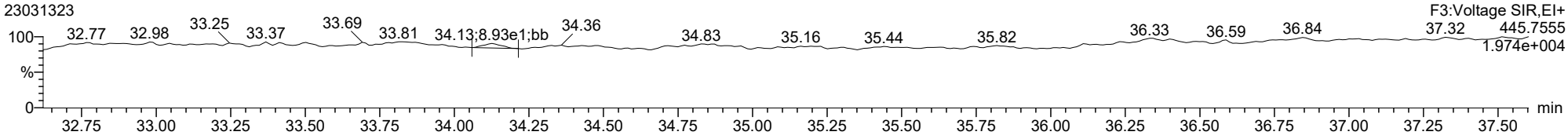


FUNCTION3 OCDPE



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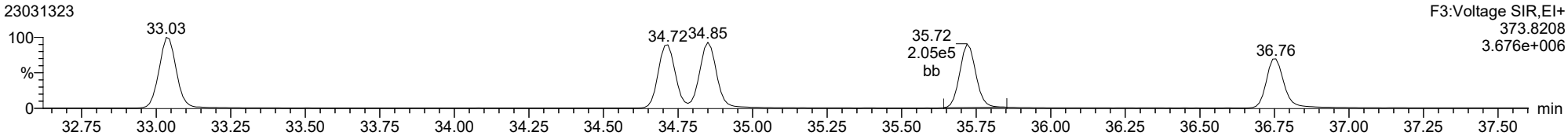
234678-HxCDF



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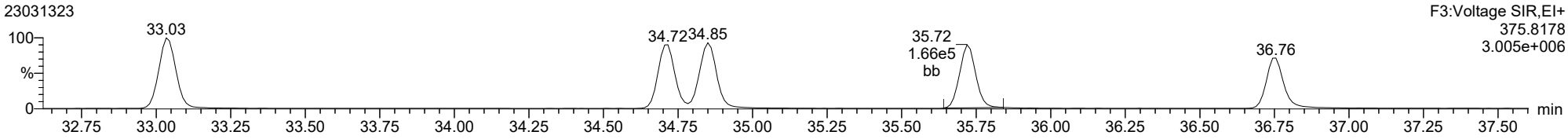

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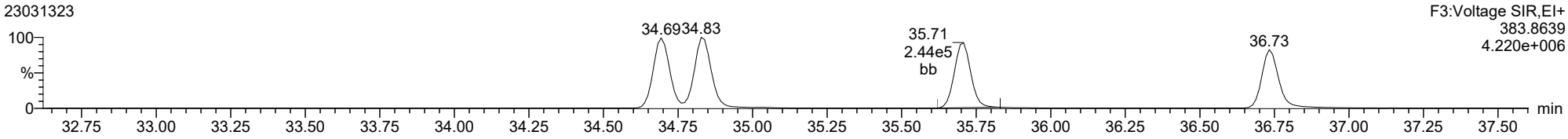

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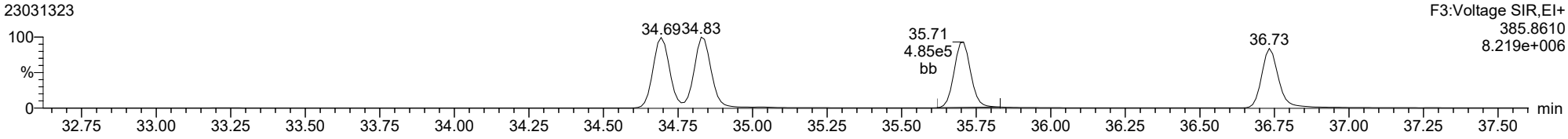
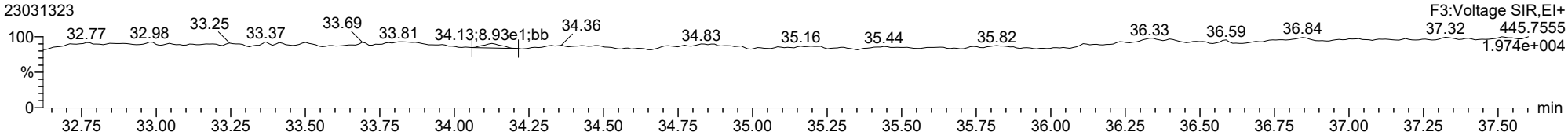


FUNCTION3 OCDPE



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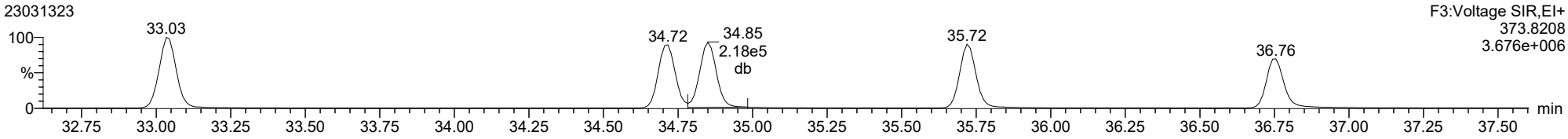

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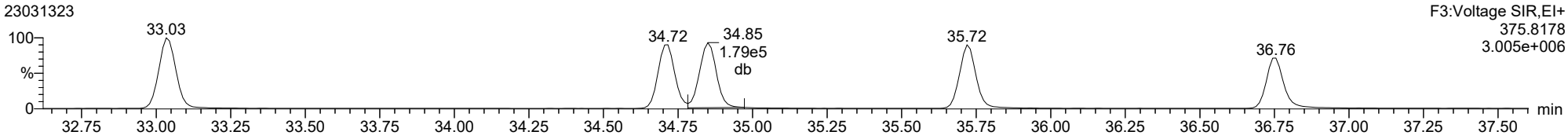

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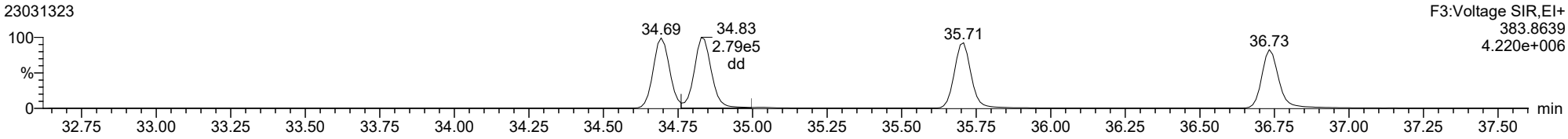

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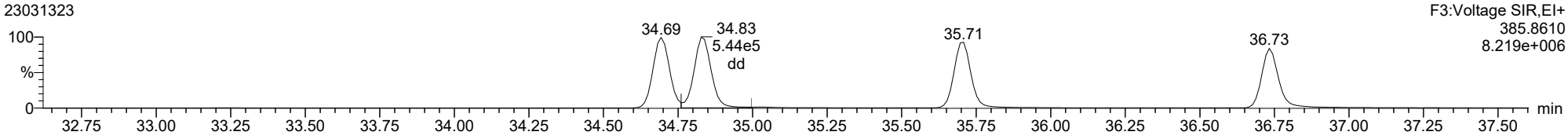
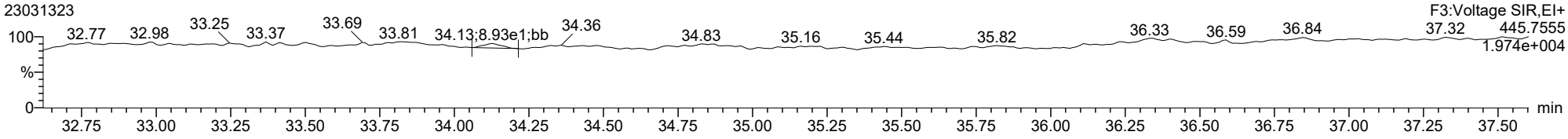


FUNCTION3 OCDPE



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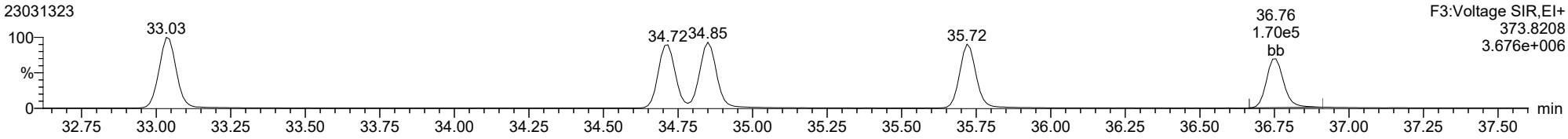

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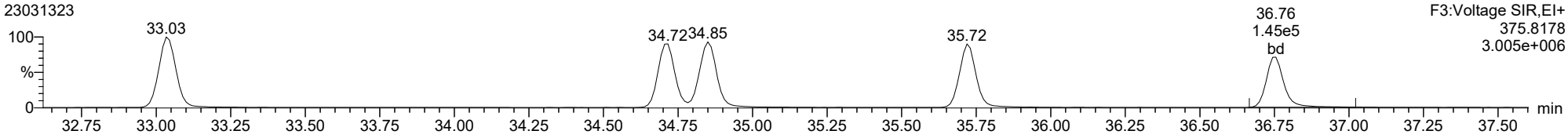

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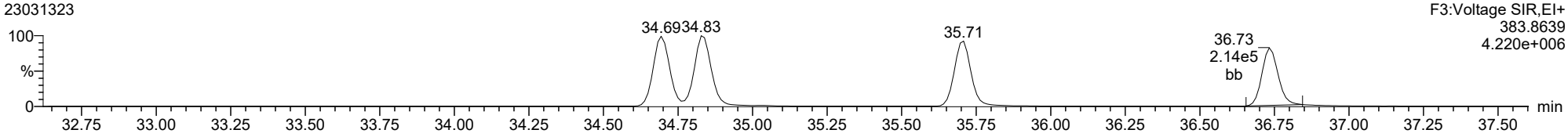

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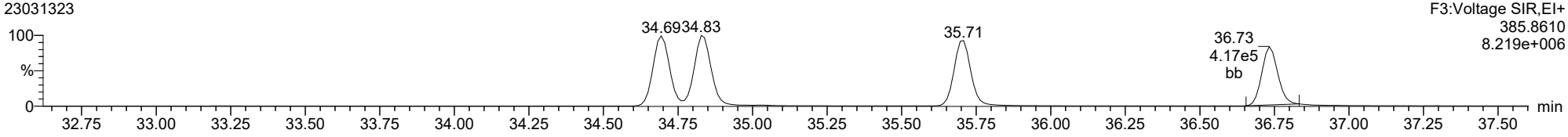

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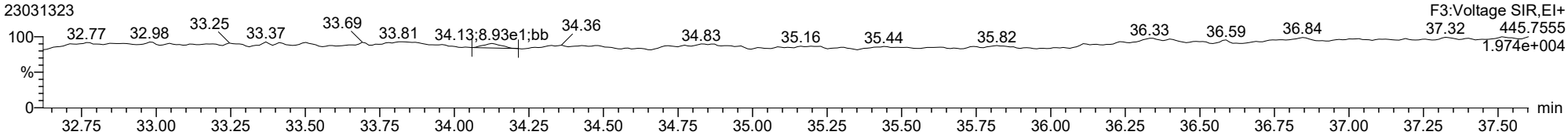

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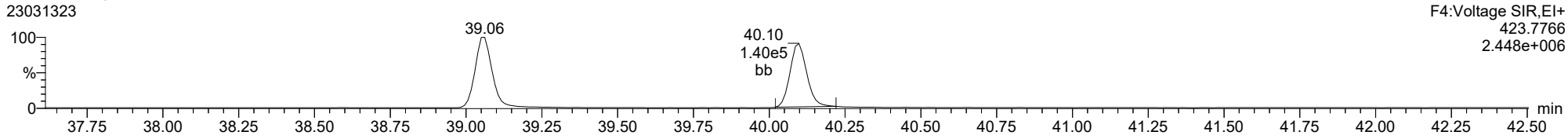

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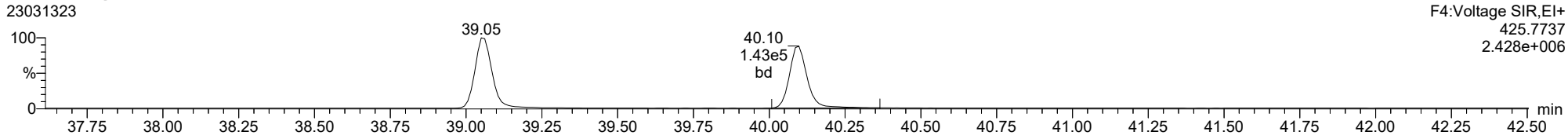

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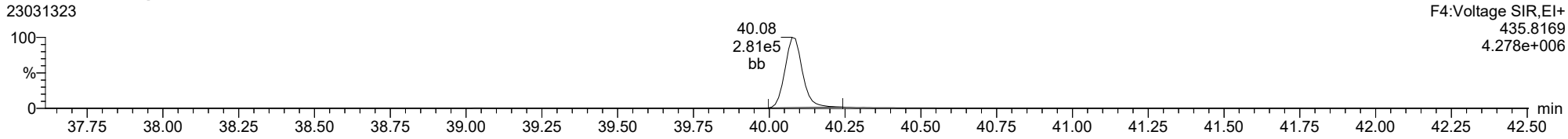

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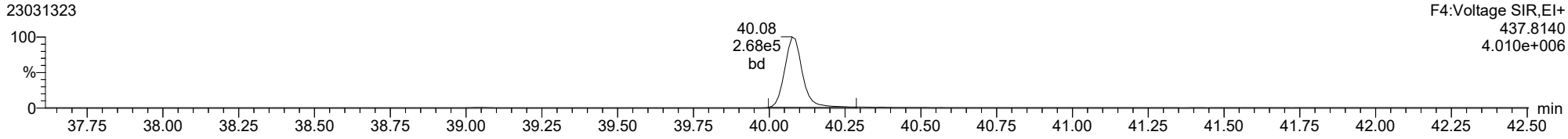
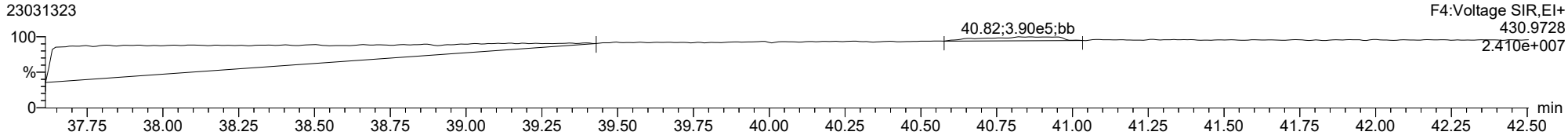


FUNCTION4 PFK



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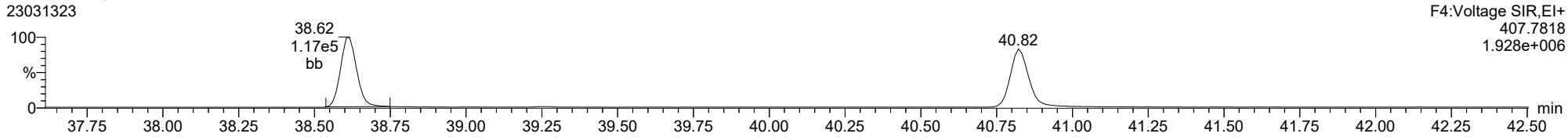

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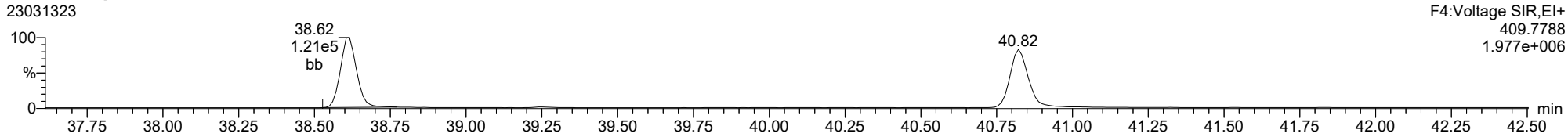

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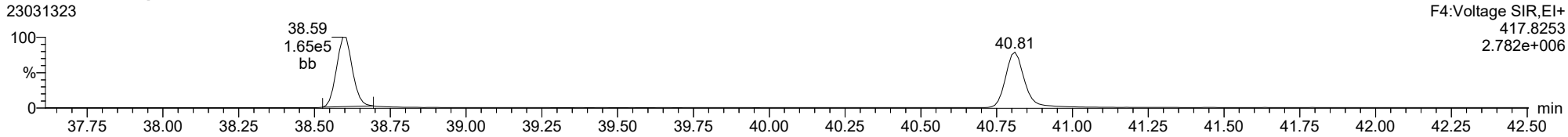

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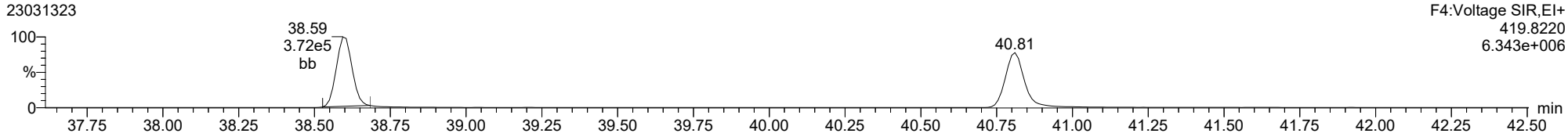
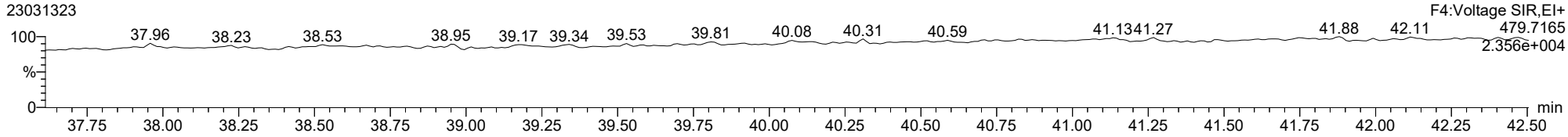


FUNCTION4 NCDPE



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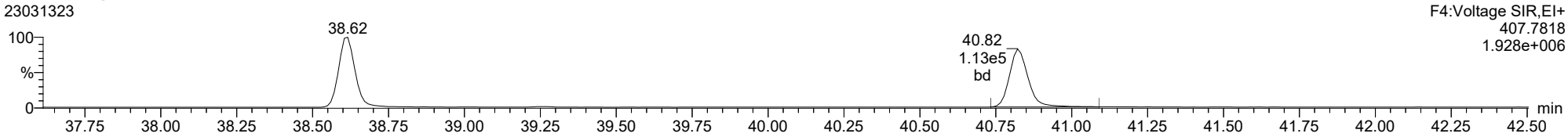

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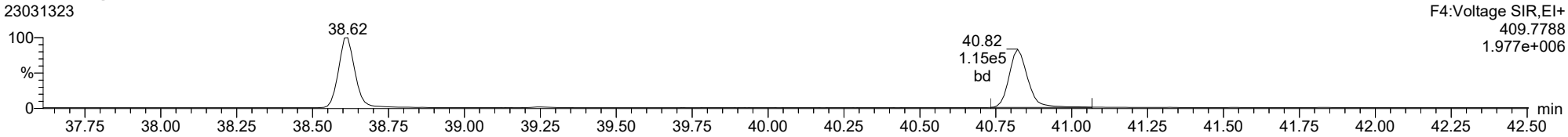

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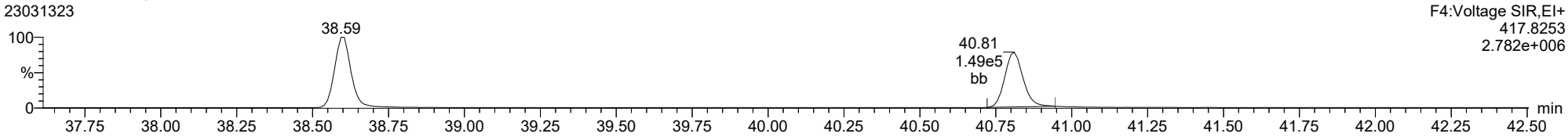

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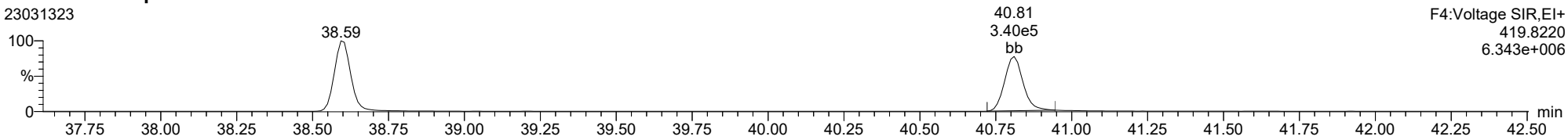

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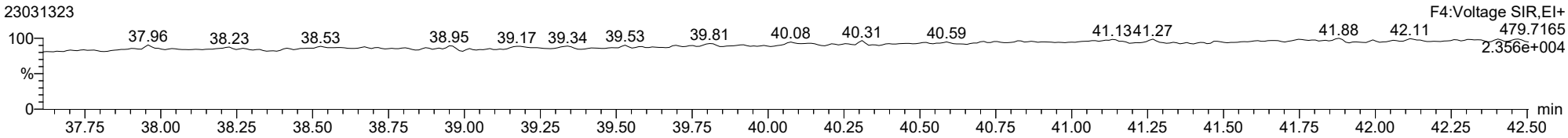

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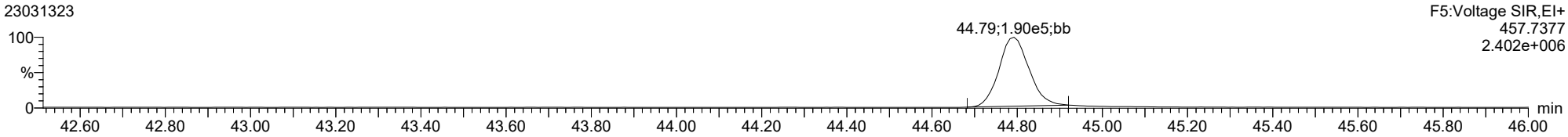

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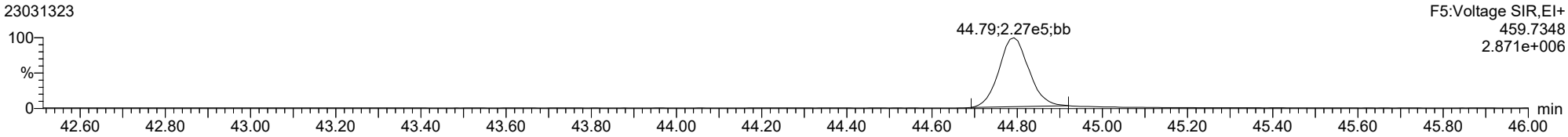

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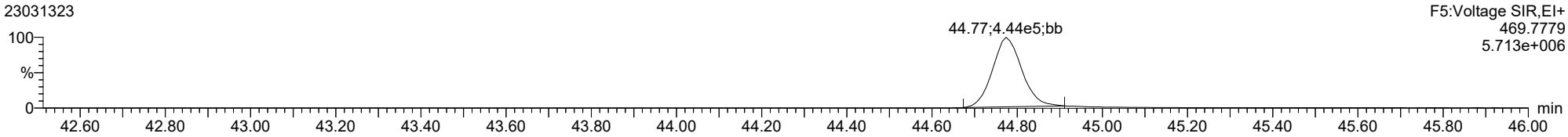

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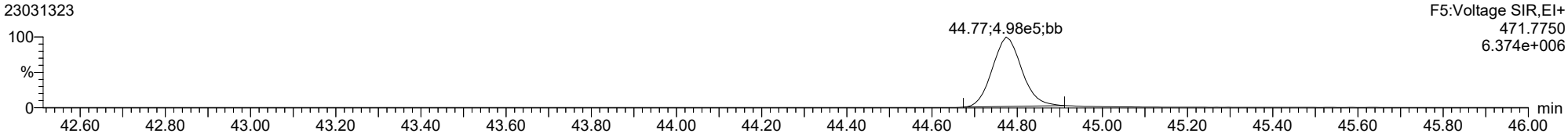
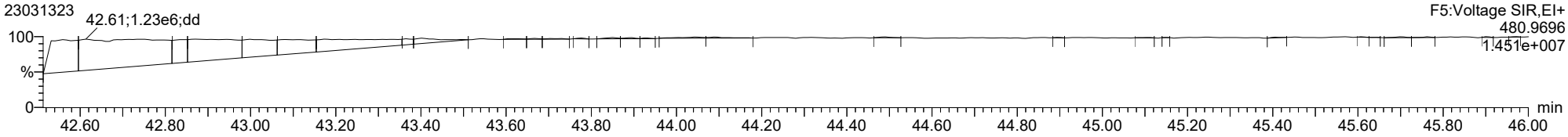


FUNCTION5 PFK



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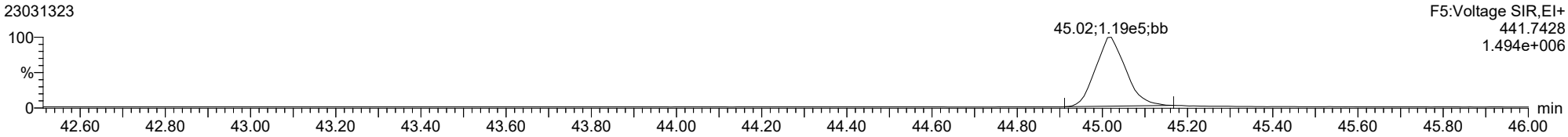
OCDF



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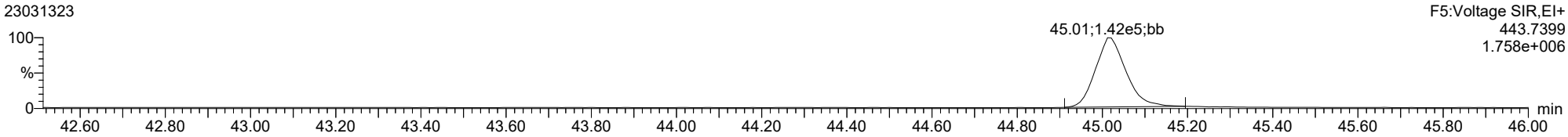

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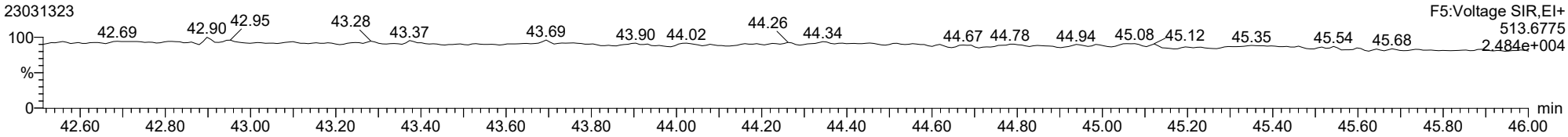

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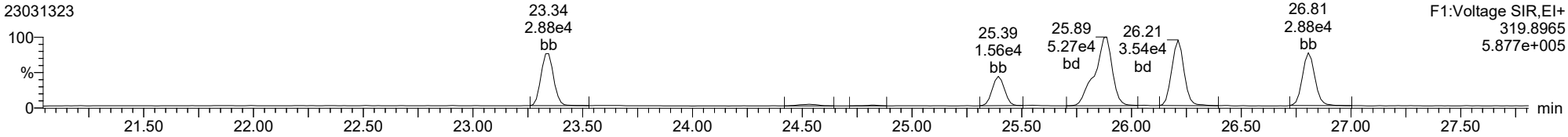
Total-tetradioxins



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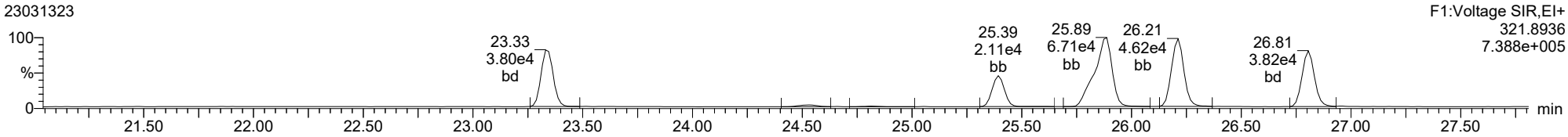

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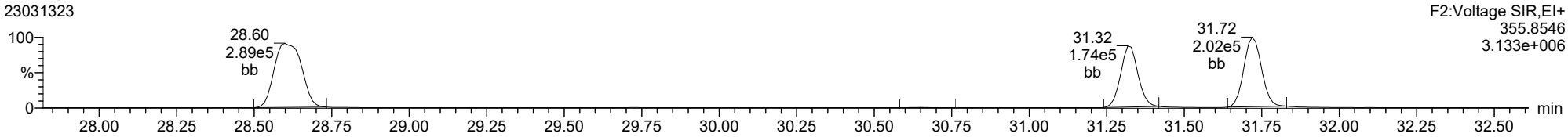

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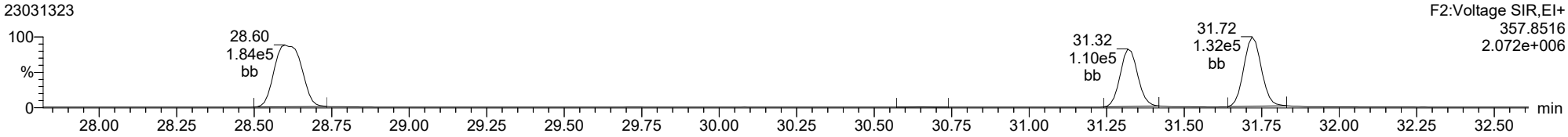

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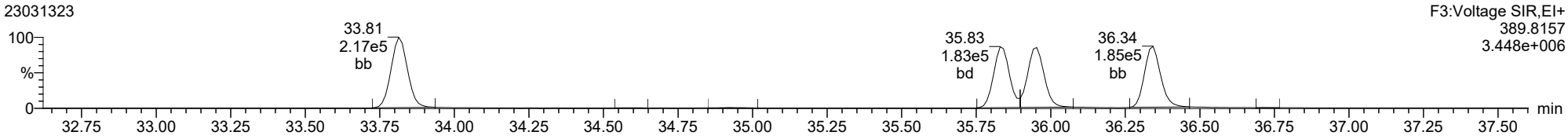

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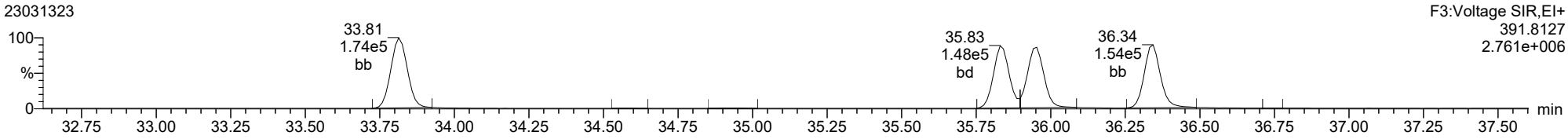

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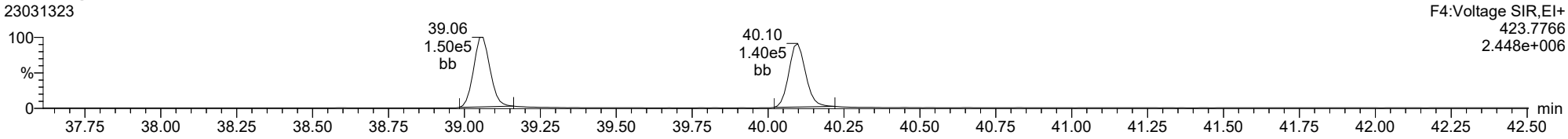
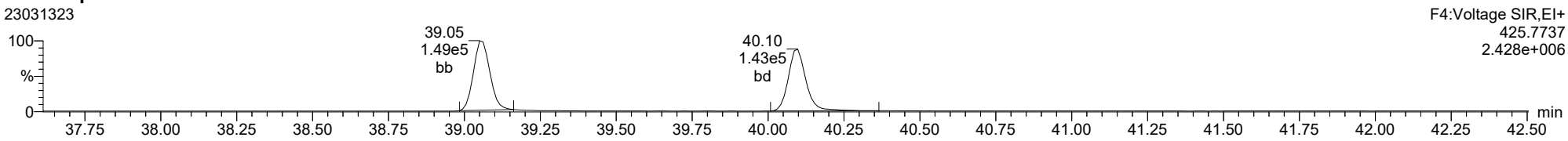


Total-heptadioxins



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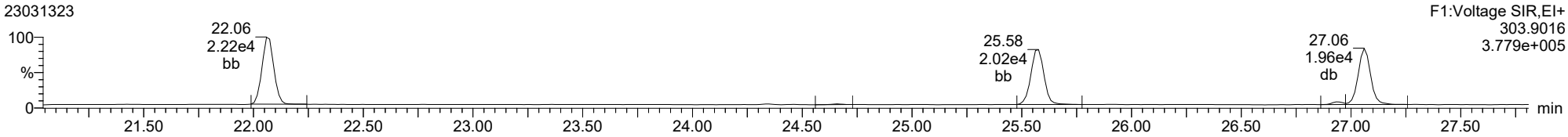
Total-tetrafurans



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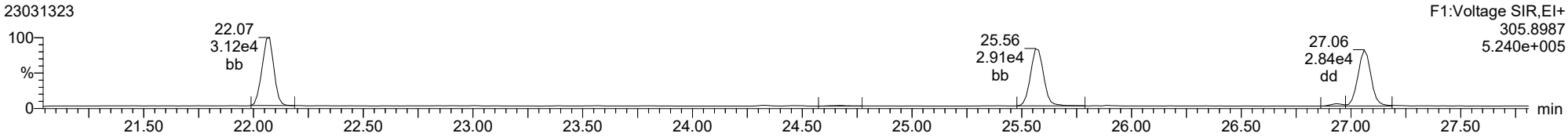

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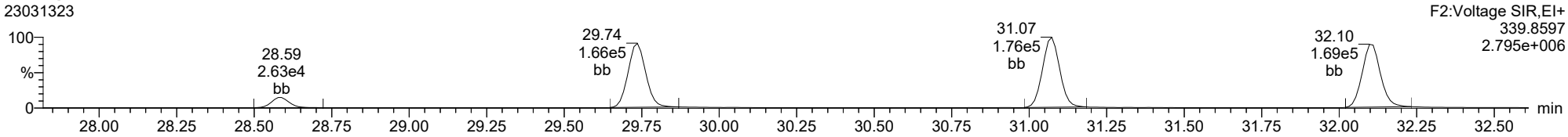

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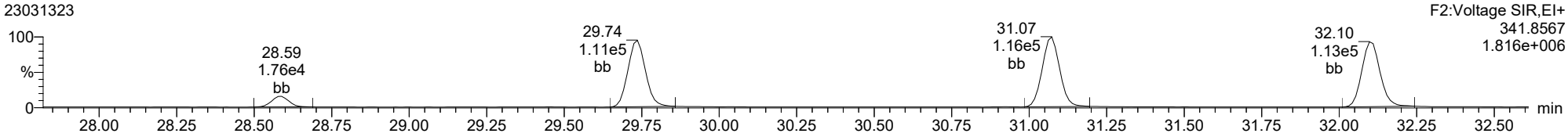

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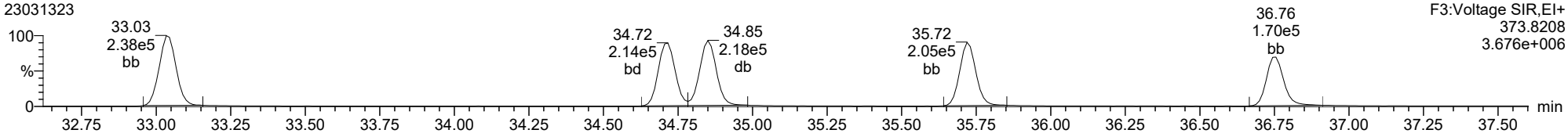
Total-hexafurans



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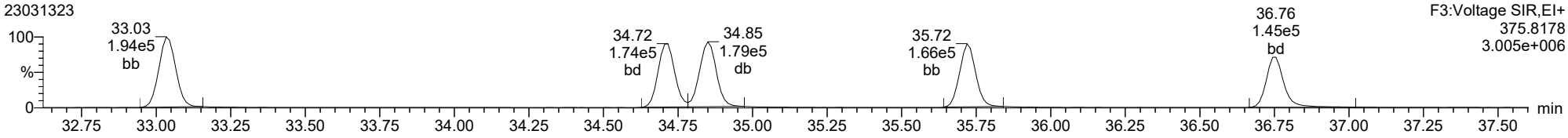

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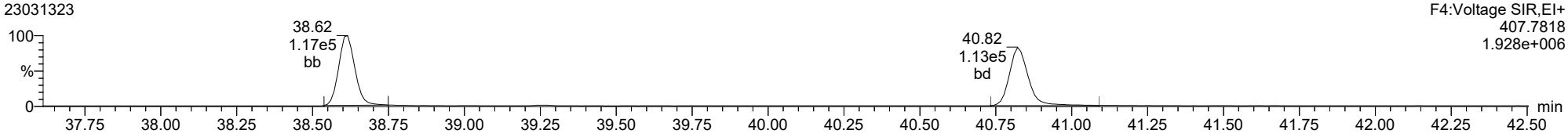

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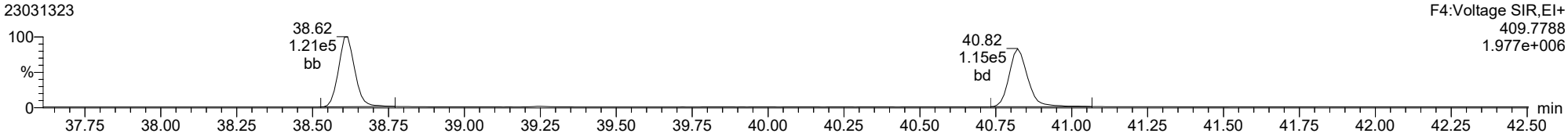
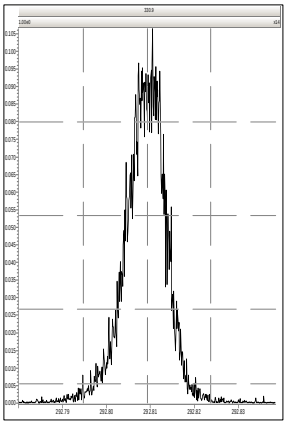
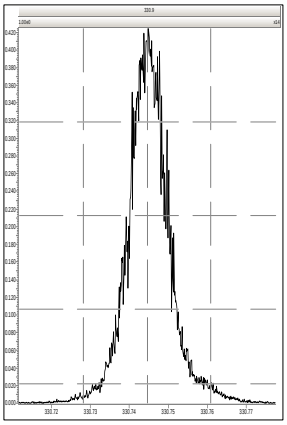


Printed: Tuesday, March 14, 2023 05:25:47 Pacific Daylight Time

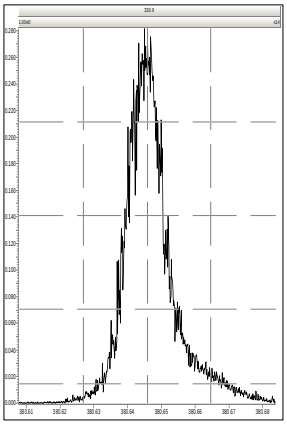
M 292.9824 R 13970



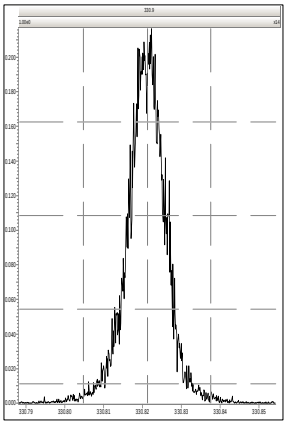
M 330.9792 R 12501



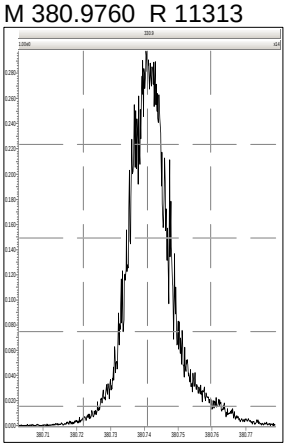
M 380.9760 R 10846



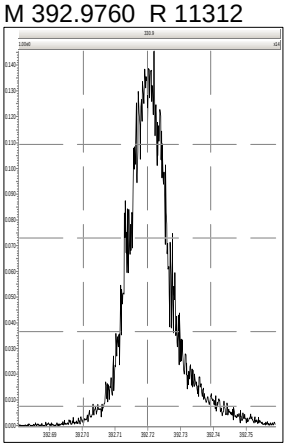
M 330.9792 R 15271



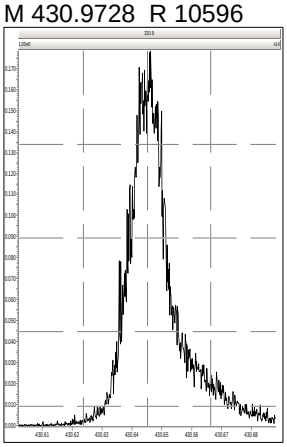
M 380.9760 R 11313



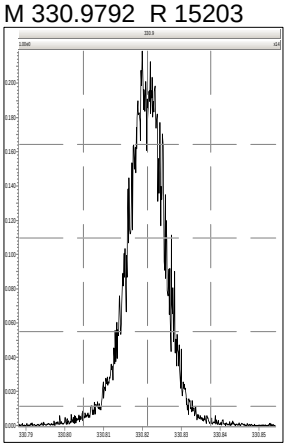
M 392.9760 R 11312



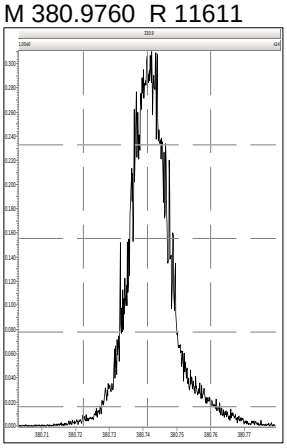
M 430.9728 R 10596



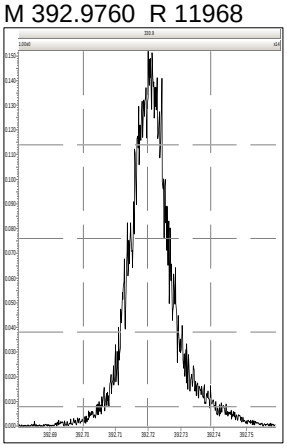
M 330.9792 R 15203



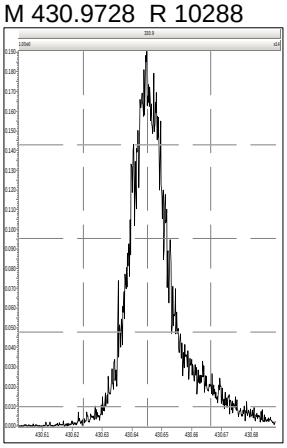
M 380.9760 R 11611



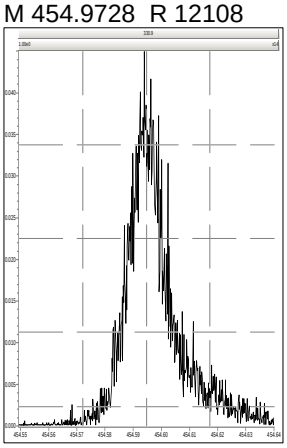
M 392.9760 R 11968



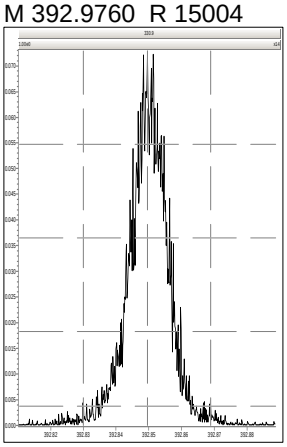
M 430.9728 R 10288



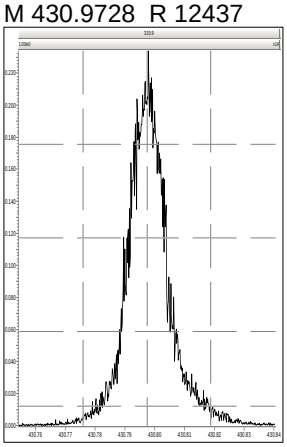
M 454.9728 R 12108



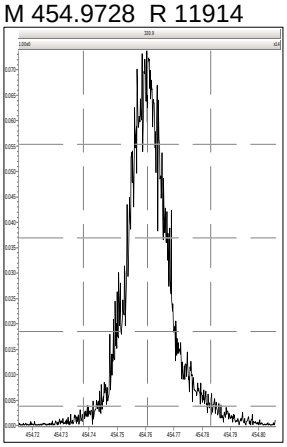
M 392.9760 R 15004



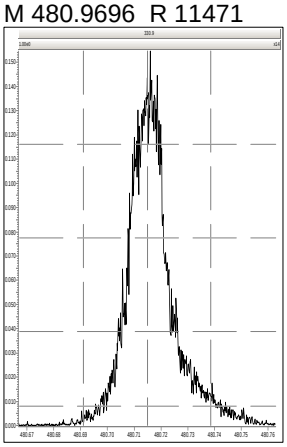
M 430.9728 R 12437



M 454.9728 R 11914

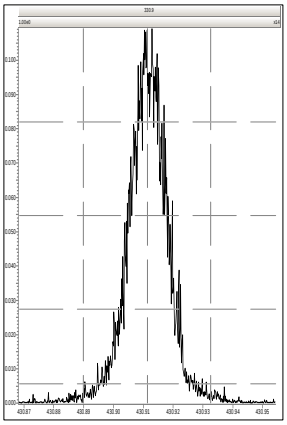


M 480.9696 R 11471

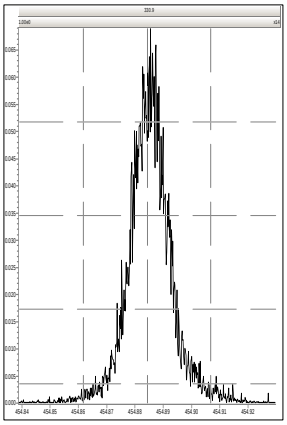


Printed: Tuesday, March 14, 2023 05:25:47 Pacific Daylight Time

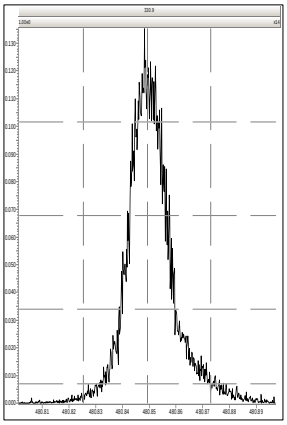
M 430.9728 R 14204



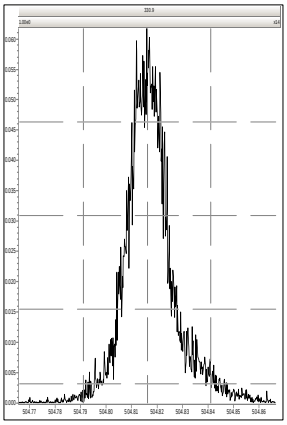
M 454.9728 R 14914



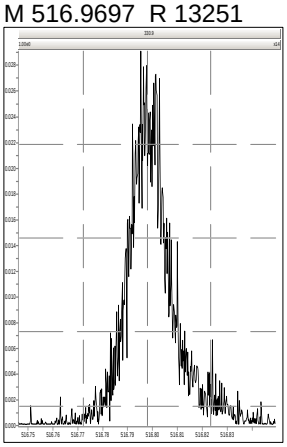
M 480.9696 R 11711

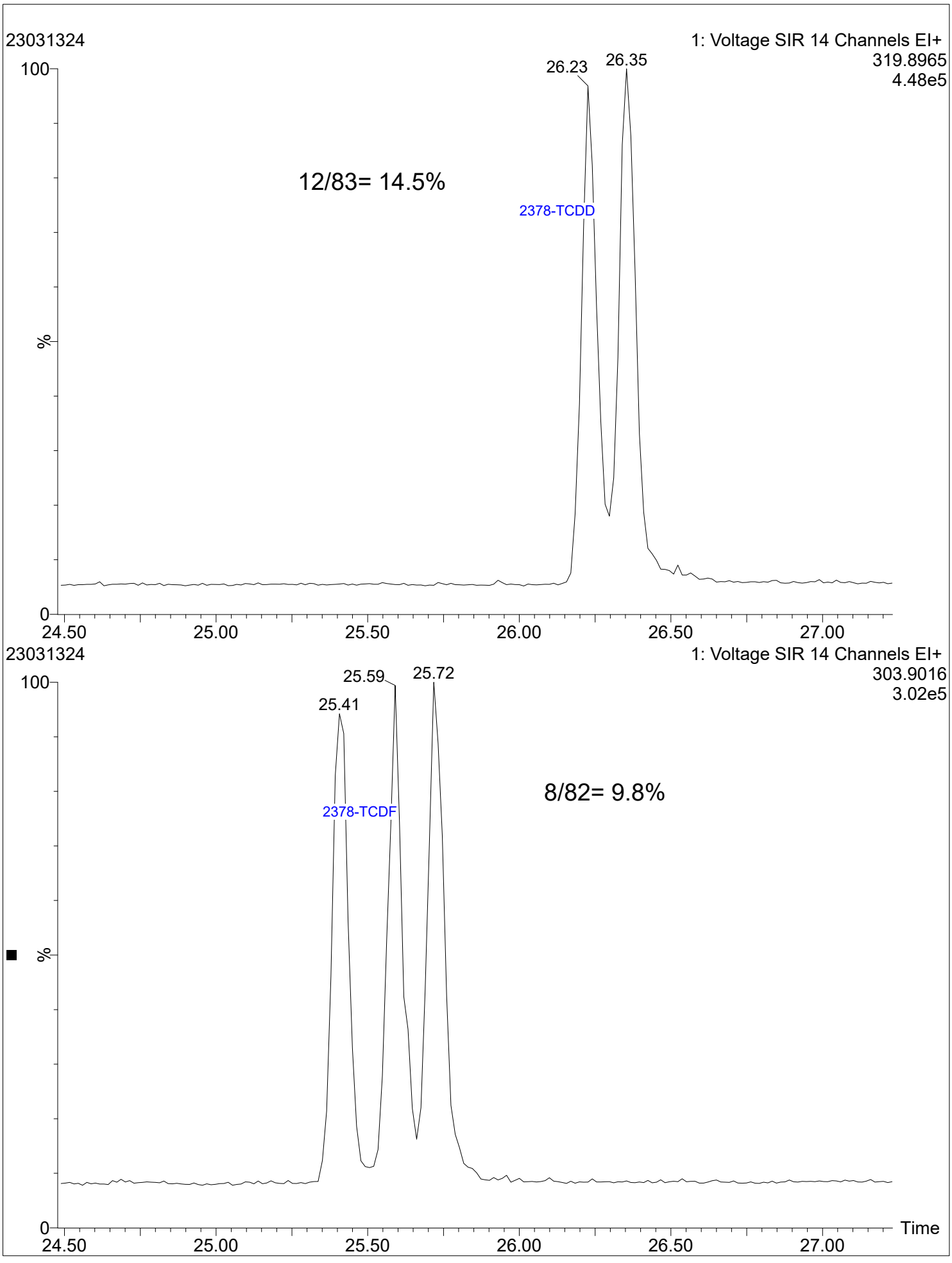


M 504.9696 R 13124



M 516.9697 R 13251




23031324
1: Voltage SIR 14 Channels EI+
319.8965
4.48e5
100
26.23
26.35
12/83= 14.5%
2378-TCDD
%
0
24.50
25.00
25.50
26.00
26.50
27.00
23031324
1: Voltage SIR 14 Channels EI+
303.9016
3.02e5
100
25.59
25.72
25.41
8/82= 9.8%
2378-TCDF
%
0
Time
24.50
25.00
25.50
26.00
26.50
27.00

Analytical Resources, LLC
Analytical Chemists and Consultants

CDD/CDF CHROMATOGRAPHIC RESOLUTION SUMMARY

EPA 1613B

Lab Name: Analytical Resources, LLC
SDG: 23A0418
Instrument .ID: AUTOSPEC01
Lab File ID: 23030303
Date Analyzed: 03/03/23
Time Analyzed: 10:39
Lab Sample ID: SLC0045-RES1
Sequence: SLC0045

Percent Valley Determination for Column: RTX-Dioxin2 ID: 0.25 (mm)

1278-TCDD/2378-TCDD: 8.8

3467-TCDF/2378-TCDF: 8.2

Quality Control (QC) Limits: ≤ 25%

Lab Sample ID	Sample Name	Lab File ID	Data Analyzed	Time Analyzed
SLC0045-ICV1	CS3W1	23030302	03/03/2023	09:51
SLC0045-RES1	ISCW1	23030303	03/03/2023	10:39
SLC0045-CAL1	CSLCW	23030304	03/03/2023	11:28
SLC0045-CAL2	CS1CW	23030305	03/03/2023	12:23
SLC0045-CAL3	CS2CW	23030306	03/03/2023	13:16
SLC0045-CAL4	CS3CW	23030307	03/03/2023	14:06
SLC0045-CAL5	CS4CW	23030308	03/03/2023	14:59
SLC0045-CAL6	CS5CW	23030309	03/03/2023	15:47
SLC0045-SCV1	ICVCW	23030310	03/03/2023	16:36
SLC0045-CCV1	CS3V4	23030311	03/03/2023	17:25
SLC0045-RES2	ISCV4	23030312	03/03/2023	18:18

Analytical Resources, LLC
Analytical Chemists and Consultants

CDD/CDF CHROMATOGRAPHIC RESOLUTION SUMMARY

EPA 1613B

Lab Name: Analytical Resources, LLC
SDG: 23A0418
Instrument .ID: AUTOSPEC01
Lab File ID: 23030312
Date Analyzed: 03/03/23
Time Analyzed: 18:18
Lab Sample ID: SLC0045-RES2
Sequence: SLC0045

Percent Valley Determination for Column: RTX-Dioxin2 ID: 0.25 (mm)

1278-TCDD/2378-TCDD: 12.9

3467-TCDF/2378-TCDF: 11.7

Quality Control (QC) Limits: ≤ 25%

Lab Sample ID	Sample Name	Lab File ID	Data Analyzed	Time Analyzed
SLC0045-ICV1	CS3W1	23030302	03/03/2023	09:51
SLC0045-RES1	ISCW1	23030303	03/03/2023	10:39
SLC0045-CAL1	CSLCW	23030304	03/03/2023	11:28
SLC0045-CAL2	CS1CW	23030305	03/03/2023	12:23
SLC0045-CAL3	CS2CW	23030306	03/03/2023	13:16
SLC0045-CAL4	CS3CW	23030307	03/03/2023	14:06
SLC0045-CAL5	CS4CW	23030308	03/03/2023	14:59
SLC0045-CAL6	CS5CW	23030309	03/03/2023	15:47
SLC0045-SCV1	ICVCW	23030310	03/03/2023	16:36
SLC0045-CCV1	CS3V4	23030311	03/03/2023	17:25
SLC0045-RES2	ISCV4	23030312	03/03/2023	18:18

Analytical Resources, LLC
Analytical Chemists and Consultants

CDD/CDF CHROMATOGRAPHIC RESOLUTION SUMMARY

EPA 1613B

Lab Name: Analytical Resources, LLC
SDG: 23A0418
Instrument .ID: AUTOSPEC01
Lab File ID: 23031303
Date Analyzed: 03/13/23
Time Analyzed: 11:27
Lab Sample ID: SLC0171-RES1
Sequence: SLC0171

Percent Valley Determination for Column: RTX-Dioxin2 ID: 0.25 (mm)

1278-TCDD/2378-TCDD: 17.2

3467-TCDF/2378-TCDF: 15.6

Quality Control (QC) Limits: ≤ 25%

Lab Sample ID	Sample Name	Lab File ID	Data Analyzed	Time Analyzed
SLC0171-ICV1	CS3Z1	23031302	03/13/2023	10:33
SLC0171-RES1	ISCZ1	23031303	03/13/2023	11:27
BLB0228-BLK1	Blank	23031304	03/13/2023	12:41
BLB0228-BS1	LCS	23031305	03/13/2023	13:29
BLB0228-SRM1	Reference	23031306	03/13/2023	14:30
23A0418-01	LDW23-IT1136	23031311	03/13/2023	18:37
23A0418-02	LDW23-IT1142	23031312	03/13/2023	19:26
23A0418-10	LDW23-IT1135	23031313	03/13/2023	20:15
SLC0171-CCV1	CS3Z2	23031315	03/13/2023	21:53
SLC0171-RES2	ISCZ2	23031316	03/13/2023	22:46
SLC0171-CCV2	CS3Z3	23031323	03/14/2023	04:32
SLC0171-RES3	ISCZ3	23031324	03/14/2023	05:25

Analytical Resources, LLC
Analytical Chemists and Consultants

CDD/CDF CHROMATOGRAPHIC RESOLUTION SUMMARY

EPA 1613B

Lab Name: Analytical Resources, LLC
SDG: 23A0418
Instrument .ID: AUTOSPEC01
Lab File ID: 23031316
Date Analyzed: 03/13/23
Time Analyzed: 22:46
Lab Sample ID: SLC0171-RES2
Sequence: SLC0171

Percent Valley Determination for Column: RTX-Dioxin2 ID: 0.25 (mm)

1278-TCDD/2378-TCDD: 14.5

3467-TCDF/2378-TCDF: 9

Quality Control (QC) Limits: ≤ 25%

Lab Sample ID	Sample Name	Lab File ID	Data Analyzed	Time Analyzed
SLC0171-ICV1	CS3Z1	23031302	03/13/2023	10:33
SLC0171-RES1	ISCZ1	23031303	03/13/2023	11:27
BLB0228-BLK1	Blank	23031304	03/13/2023	12:41
BLB0228-BS1	LCS	23031305	03/13/2023	13:29
BLB0228-SRM1	Reference	23031306	03/13/2023	14:30
23A0418-01	LDW23-IT1136	23031311	03/13/2023	18:37
23A0418-02	LDW23-IT1142	23031312	03/13/2023	19:26
23A0418-10	LDW23-IT1135	23031313	03/13/2023	20:15
SLC0171-CCV1	CS3Z2	23031315	03/13/2023	21:53
SLC0171-RES2	ISCZ2	23031316	03/13/2023	22:46
SLC0171-CCV2	CS3Z3	23031323	03/14/2023	04:32
SLC0171-RES3	ISCZ3	23031324	03/14/2023	05:25

Analytical Resources, LLC
Analytical Chemists and Consultants

CDD/CDF CHROMATOGRAPHIC RESOLUTION SUMMARY

EPA 1613B

Lab Name: Analytical Resources, LLC
SDG: 23A0418
Instrument .ID: AUTOSPEC01
Lab File ID: 23031324
Date Analyzed: 03/14/23
Time Analyzed: 05:25
Lab Sample ID: SLC0171-RES3
Sequence: SLC0171

Percent Valley Determination for Column: RTX-Dioxin2 ID: 0.25 (mm)

1278-TCDD/2378-TCDD: 14.5

3467-TCDF/2378-TCDF: 9.8

Quality Control (QC) Limits: ≤ 25%

Lab Sample ID	Sample Name	Lab File ID	Data Analyzed	Time Analyzed
SLC0171-ICV1	CS3Z1	23031302	03/13/2023	10:33
SLC0171-RES1	ISCZ1	23031303	03/13/2023	11:27
BLB0228-BLK1	Blank	23031304	03/13/2023	12:41
BLB0228-BS1	LCS	23031305	03/13/2023	13:29
BLB0228-SRM1	Reference	23031306	03/13/2023	14:30
23A0418-01	LDW23-IT1136	23031311	03/13/2023	18:37
23A0418-02	LDW23-IT1142	23031312	03/13/2023	19:26
23A0418-10	LDW23-IT1135	23031313	03/13/2023	20:15
SLC0171-CCV1	CS3Z2	23031315	03/13/2023	21:53
SLC0171-RES2	ISCZ2	23031316	03/13/2023	22:46
SLC0171-CCV2	CS3Z3	23031323	03/14/2023	04:32
SLC0171-RES3	ISCZ3	23031324	03/14/2023	05:25

Analytical Resources, LLC
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0045	Instrument:	AUTOSPEC01
		Calibration:	GC00015

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
CS3W1	SLC0045-ICV1	23030302	NA	03/03/23 09:51
ISCW1	SLC0045-RES1	23030303	NA	03/03/23 10:39
CSLCW	SLC0045-CAL1	23030304	NA	03/03/23 11:28
CS1CW	SLC0045-CAL2	23030305	NA	03/03/23 12:23
CS2CW	SLC0045-CAL3	23030306	NA	03/03/23 13:16
CS3CW	SLC0045-CAL4	23030307	NA	03/03/23 14:06
CS4CW	SLC0045-CAL5	23030308	NA	03/03/23 14:59
CS5CW	SLC0045-CAL6	23030309	NA	03/03/23 15:47
ICVCW	SLC0045-SCV1	23030310	NA	03/03/23 16:36
CS3V4	SLC0045-CCV1	23030311	NA	03/03/23 17:25
ISCV4	SLC0045-RES2	23030312	NA	03/03/23 18:18

ANALYSIS SEQUENCE

SLC0045

Instrument: AUTOSPEC01 HRGCMS Column ID: K2310
Calibration ID: GC00015 Tune File: FEB0923_1-5
EM Voltage: 350 Resolution check times : 9:51, 18:18

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Analyzed	File ID	Analyst	Comments
SLC0045-ICV1	CS3W1	QC		1	K009821		03/03/2023 09:51	23030302	PK	
SLC0045-RES1	ISCW1	QC		2	L002084		03/03/2023 10:39	23030303	PK	
SLC0045-CAL1	CSLCW	QC		3	I005460		03/03/2023 11:28	23030304	PK	
SLC0045-CAL2	CS1CW	QC		4	I005456		03/03/2023 12:23	23030305	PK	
SLC0045-CAL3	CS2CW	QC		5	I005457		03/03/2023 13:16	23030306	PK	
SLC0045-CAL4	CS3CW	QC		6	K009821		03/03/2023 14:06	23030307	PK	
SLC0045-CAL5	CS4CW	QC		7	I005458		03/03/2023 14:59	23030308	PK	
SLC0045-CAL6	CS5CW	QC		8	I005459		03/03/2023 15:47	23030309	PK	
SLC0045-SCV1	ICVCW	QC		9	H008219		03/03/2023 16:36	23030310	PK	
SLC0045-CCV1	CS3V4	QC		10	K009821		03/03/2023 17:25	23030311	PK	
SLC0045-RES2	ISCV4	QC		11	L002084		03/03/2023 18:18	23030312	PK	

Quantify Audit Report MassLynx MassLynx V4.1 SCN909

Dataset: T:\Autospec\Processed Data Batch\230303ICIH.qld
Last Altered: Monday, March 06, 2023 10:57:27 Pacific Standard Time
Printed: Monday, March 06, 2023 10:58:44 Pacific Standard Time

3/6/23 PK

Event	Details	Sample ID
Process Extract		
Process Integrate		
Process Calibrate		
Process Quantify		
Dataset Created		
Peak deleted	Sample:23030304, Compound:TD, RT:26.410	1
Peak deleted	Sample:23030304, Compound:OD, RT:44.990	1
Peak deleted	Sample:23030304, Compound:TF, RT:25.774	1
Pre modification peak	Sample:23030305, Compound:TF, RT:25.774	2
Peak modified	Sample:23030305, Compound:TF, RT:25.774	2
Pre modification peak	Sample:23030304, Compound:HPD, RT:40.261	1
Peak modified	Sample:23030304, Compound:HPD, RT:40.261	1
Peak deleted	Sample:23030308, Compound:PF, RT:32.328	5
Peak deleted	Sample:23030309, Compound:PF, RT:32.307	6
Peak deleted	Sample:23030309, Compound:HF, RT:33.220	6
Peak deleted	Sample:23030309, Compound:TD, RT:27.017	6
Peak deleted	Sample:23030309, Compound:PD, RT:31.995	6
Peak deleted	Sample:23030309, Compound:PD, RT:31.917	6
Peak deleted	Sample:23030308, Compound:HD, RT:34.000	5
Peak deleted	Sample:23030308, Compound:HPD, RT:39.225	5
Peak deleted	Sample:23030309, Compound:HPD, RT:39.214	6
Pre modification peak	Sample:23030305, Compound:OF, RT:45.237	2
Peak modified	Sample:23030305, Compound:OF, RT:45.237	2
Dataset Saved	Saved to 'T:\Autospec\Processed Data Batch\230303ICIH.qld'	

Analytical Resources, LLC
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0171	Instrument:	AUTOSPEC01
		Calibration:	GC00015

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
CS3Z1	SLC0171-ICV1	23031302	NA	03/13/23 10:33
ISCZ1	SLC0171-RES1	23031303	NA	03/13/23 11:27
Blank	BLB0228-BLK1	23031304	Solid	03/13/23 12:41
LCS	BLB0228-BS1	23031305	Solid	03/13/23 13:29
Reference	BLB0228-SRM1	23031306	Solid	03/13/23 14:30
LDW23-IT1136	23A0418-01	23031311	Solid	03/13/23 18:37
LDW23-IT1142	23A0418-02	23031312	Solid	03/13/23 19:26
LDW23-IT1135	23A0418-10	23031313	Solid	03/13/23 20:15
CS3Z2	SLC0171-CCV1	23031315	NA	03/13/23 21:53
ISCZ2	SLC0171-RES2	23031316	NA	03/13/23 22:46
CS3Z3	SLC0171-CCV2	23031323	NA	03/14/23 04:32
ISCZ3	SLC0171-RES3	23031324	NA	03/14/23 05:25

ANALYSIS SEQUENCE

SLC0171

Instrument: AUTOSPEC01 HRGCMS Column ID: K2310
Calibration ID: GC00015 Tune File: FEB0923_1-5
EM Voltage: 345 Resolution check times : 10:22, 22:46, 05:25

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Analyzed	File ID	Analyst	Comments
SLC0171-ICV1	CS3Z1	QC		1	K009821		03/13/2023 10:33	23031302	PK	
SLC0171-RES1	ISCZ1	QC		2	L002084		03/13/2023 11:27	23031303	PK	
BLB0228-BLK1	Blank	QC		3		K011414	03/13/2023 12:41	23031304	PK	
BLB0228-BS1	LCS	QC		4		K011414	03/13/2023 13:29	23031305	PK	
BLB0228-SRM1	Reference	QC		5		K011414	03/13/2023 14:30	23031306	PK	
BLB0228-DUP1	Duplicate	QC		6		K011414	03/13/2023 15:22	23031307	PK	
23A0417-01	LDW23-SS1127	1613B Dioxin	C 01	7		K011414	03/13/2023 16:10	23031308	PK	
23A0417-03	LDW23-SS1095	1613B Dioxin	C 01	8		K011414	03/13/2023 16:59	23031309	PK	
23A0417-05	LDW23-SS1089	1613B Dioxin	C 01	9		K011414	03/13/2023 17:48	23031310	PK	
23A0418-01	LDW23-IT1136	1613B Dioxin	C 01	10		K011414	03/13/2023 18:37	23031311	PK	
23A0418-02	LDW23-IT1142	1613B Dioxin	C 01	11		K011414	03/13/2023 19:26	23031312	PK	
23A0418-10	LDW23-IT1135	1613B Dioxin	C 01	12		K011414	03/13/2023 20:15	23031313	PK	
23A0419-02	LDW23-SS1045	1613B Dioxin	C 01	13		K011414	03/13/2023 21:04	23031314	PK	
SLC0171-CCV1	CS3Z2	QC		14	K009821		03/13/2023 21:53	23031315	PK	
SLC0171-RES2	ISCZ2	QC		15	L002084		03/13/2023 22:46	23031316	PK	
23A0419-04	LDW23-SS1135	1613B Dioxin	C 01	16		K011414	03/13/2023 23:38	23031317	PK	
23A0419-05	LDW23-SS1136	1613B Dioxin	C 01	17		K011414	03/14/2023 00:27	23031318	PK	
23A0419-08	LDW23-SS1142	1613B Dioxin	C 01	18		K011414	03/14/2023 01:16	23031319	PK	
23A0419-09	LDW23-SS1202	1613B Dioxin	C 01	19		K011414	03/14/2023 02:05	23031320	PK	
23A0420-01	LDW23-SC1045	1613B Dioxin	C 01	20		K011414	03/14/2023 02:54	23031321	PK	
23A0420-04	LDW23-IT1051	1613B Dioxin	C 01	21		K011414	03/14/2023 03:43	23031322	PK	
SLC0171-CCV2	CS3Z3	QC		22	K009821		03/14/2023 04:32	23031323	PK	

ANALYSIS SEQUENCE

SLC0171

Instrument: AUTOSPEC01 HRGCMS Column ID: K2310
Calibration ID: GC00015 Tune File: FEB0923_1-5
EM Voltage: 345 Resolution check times : 10:22, 22:46, 05:25

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Analyzed	File ID	Analyst	Comments
SLC0171-RES3	ISCZ3	QC		23	K003933		03/14/2023 05:25	23031324	PK	

Dataset: T:\Autospec\Processed Data Batch\230313D1.qld
Last Altered: Tuesday, March 14, 2023 09:54:11 Pacific Daylight Time
Printed: Tuesday, March 14, 2023 09:56:22 Pacific Daylight Time 3/14/23 pk

Event	Details	Sample ID
Process Extract		
Process Integrate		
Process Quantify		
Dataset Created		
Peak deleted	Sample:23031316, Compound:13C-123789-HxCDD, RT:36.354	15
Peak deleted	Sample:23031324, Compound:13C-123789-HxCDD, RT:36.343	23
Peak deleted	Sample:23031303, Compound:13C-1234-TCDD, RT:25.421	2
Peak deleted	Sample:23031304, Compound:TD, RT:26.254	3
Pre modification peak	Sample:23031304, Compound:OD, RT:44.828	3
Peak modified	Sample:23031304, Compound:OD, RT:44.828	3
Pre modification peak	Sample:23031306, Compound:PF, RT:29.780	5
Peak modified	Sample:23031306, Compound:PF, RT:29.780	5
Pre modification peak	Sample:23031306, Compound:PF, RT:31.117	5
Peak modified	Sample:23031306, Compound:PF, RT:31.117	5
Pre modification peak	Sample:23031308, Compound:HF, RT:35.741	7
Peak modified	Sample:23031308, Compound:HF, RT:35.741	7
Pre modification peak	Sample:23031309, Compound:PF, RT:29.769	8
Peak modified	Sample:23031309, Compound:PF, RT:29.769	8
Pre modification peak	Sample:23031310, Compound:HF, RT:35.708	9
Peak modified	Sample:23031310, Compound:HF, RT:35.708	9
Peak deleted	Sample:23031313, Compound:PF, RT:29.725	12
Peak deleted	Sample:23031313, Compound:TD, RT:26.226	12
Pre modification peak	Sample:23031313, Compound:HD, RT:35.841	12
Peak modified	Sample:23031313, Compound:HD, RT:35.841	12
Pre modification peak	Sample:23031317, Compound:HF, RT:35.685	16
Peak modified	Sample:23031317, Compound:HF, RT:35.685	16
Pre modification peak	Sample:23031321, Compound:HF, RT:35.696	20
Peak modified	Sample:23031321, Compound:HF, RT:35.696	20
Pre modification peak	Sample:23031322, Compound:HF, RT:35.763	21
Peak modified	Sample:23031322, Compound:HF, RT:35.763	21
Pre modification peak	Sample:23031322, Compound:HF, RT:36.743	21
Peak modified	Sample:23031322, Compound:HF, RT:36.743	21
Dataset Saved	Saved to 'T:\Autospec\Processed Data Batch\230313D1.qld'	
Peak deleted	Sample:23031305, Compound:PF, RT:32.109	4
Peak deleted	Sample:23031305, Compound:HF, RT:36.175	4
Peak deleted	Sample:23031306, Compound:TD, RT:26.368	5
Peak deleted	Sample:23031306, Compound:HPD, RT:40.632	5
Peak deleted	Sample:23031307, Compound:PD, RT:30.694	6
Peak deleted	Sample:23031307, Compound:HD, RT:36.811	6
Peak deleted	Sample:23031308, Compound:TF, RT:24.108	7
Peak deleted	Sample:23031308, Compound:HF, RT:35.195	7
Peak deleted	Sample:23031308, Compound:HF, RT:36.198	7
Peak added	Sample:23031308, Compound:PD, RT:28.666	7
Peak added	Sample:23031308, Compound:PD, RT:28.677	7
Peak deleted	Sample:23031308, Compound:HD, RT:36.799	7
Peak deleted	Sample:23031308, Compound:HPD, RT:40.621	7
Peak deleted	Sample:23031309, Compound:HPD, RT:40.632	8
Peak deleted	Sample:23031310, Compound:PP, RT:27.385	9
Peak deleted	Sample:23031310, Compound:PP, RT:26.919	9
Peak deleted	Sample:23031310, Compound:HPD, RT:40.643	9
Peak deleted	Sample:23031311, Compound:TF, RT:24.616	10
Peak deleted	Sample:23031312, Compound:TF, RT:27.497	11
Peak deleted	Sample:23031312, Compound:PP, RT:26.890	11
Pre modification peak	Sample:23031312, Compound:PD, RT:28.599	11
Peak modified	Sample:23031312, Compound:PD, RT:28.599	11

Dataset: T:\Autospec\Processed Data Batch\230313D1.qld
Last Altered: Tuesday, March 14, 2023 09:54:11 Pacific Daylight Time
Printed: Tuesday, March 14, 2023 09:56:22 Pacific Daylight Time

Event	Details	Sample ID
Pre modification peak	Sample:23031312, Compound:PD, RT:28.621	11
Peak modified	Sample:23031312, Compound:PD, RT:28.621	11
Peak deleted	Sample:23031312, Compound:HD, RT:36.787	11
Peak deleted	Sample:23031312, Compound:HPD, RT:40.620	11
Peak deleted	Sample:23031313, Compound:TD, RT:25.534	12
Pre modification peak	Sample:23031314, Compound:PF, RT:28.733	13
Peak modified	Sample:23031314, Compound:PF, RT:28.733	13
Pre modification peak	Sample:23031314, Compound:PF, RT:28.722	13
Peak modified	Sample:23031314, Compound:PF, RT:28.722	13
Peak deleted	Sample:23031314, Compound:PF, RT:30.048	13
Pre modification peak	Sample:23031314, Compound:PF, RT:29.390	13
Peak modified	Sample:23031314, Compound:PF, RT:29.390	13
Pre modification peak	Sample:23031314, Compound:PF, RT:29.402	13
Peak modified	Sample:23031314, Compound:PF, RT:29.402	13
Peak deleted	Sample:23031314, Compound:HD, RT:36.799	13
Peak deleted	Sample:23031317, Compound:TD, RT:25.181	16
Peak deleted	Sample:23031318, Compound:HF, RT:32.911	17
Peak deleted	Sample:23031318, Compound:HD, RT:36.777	17
Peak deleted	Sample:23031319, Compound:HPF, RT:40.576	18
Peak deleted	Sample:23031319, Compound:HPF, RT:38.783	18
Peak deleted	Sample:23031319, Compound:HD, RT:36.777	18
Pre modification peak	Sample:23031321, Compound:PD, RT:30.070	20
Peak modified	Sample:23031321, Compound:PD, RT:30.070	20
Peak deleted	Sample:23031322, Compound:PF, RT:29.179	21
Pre modification peak	Sample:23031322, Compound:PF, RT:28.699	21
Peak modified	Sample:23031322, Compound:PF, RT:28.699	21
Peak deleted	Sample:23031322, Compound:PF, RT:28.388	21
Pre modification peak	Sample:23031322, Compound:PF, RT:28.699	21
Peak modified	Sample:23031322, Compound:PF, RT:28.699	21
Peak deleted	Sample:23031322, Compound:HPD, RT:40.632	21
Peak added	Sample:23031323, Compound:PD, RT:28.600	22
Peak added	Sample:23031323, Compound:PD, RT:28.600	22
Dataset Saved	Saved to 'T:\Autospec\Processed Data Batch\230313D1.qld'	

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0045	Instrument:	AUTOSPEC01
Sample ID:	SLC0045-ICV1	Calibration:	GC00015
File ID:	23030302	Analyzed:	03/03/23 09:51

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	100.00	94.0	71 - 129	25.7745	25.76487	0.0096	N/A	
13C12-2,3,7,8-TCDD	100.00	102	82 - 118	26.4242	26.40287	0.0213	N/A	
13C12-1,2,3,7,8-PeCDF	100.00	92.2	76 - 124	29.9337	29.92235	0.0114	N/A	
13C12-2,3,4,7,8-PeCDF	100.00	87.6	77 - 123	31.2707	31.2611	0.0096	N/A	
13C12-1,2,3,7,8-PeCDD	100.00	84.3	62 - 138	31.5268	31.5192	0.0076	N/A	
13C12-1,2,3,4,7,8-HxCDF	100.00	84.0	76 - 124	34.8915	34.88393	0.0076	N/A	
13C12-1,2,3,6,7,8-HxCDF	100.00	74.6	70 - 130	35.0363	35.02318	0.0131	N/A	
13C12-2,3,4,6,7,8-HxCDF	100.00	88.7	73 - 127	35.8942	35.88653	0.0077	N/A	
13C12-1,2,3,7,8,9-HxCDF	100.00	99.9	74 - 126	36.9303	36.91718	0.0131	N/A	
13C12-1,2,3,4,7,8-HxCDD	100.00	93.5	85 - 115	36.0167	36.00728	0.0094	N/A	
13C12-1,2,3,6,7,8-HxCDD	100.00	86.9	85 - 115	36.1393	36.12053	0.0188	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	95.3	78 - 122	38.7685	38.7593	0.0092	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	100.00	98.7	77 - 123	41.008	40.99867	0.0093	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	100.00	105	72 - 128	40.2615	40.25773	0.0038	N/A	
13C12-OCDD	200.00	107	48 - 152	44.9993	44.98705	0.0122	N/A	
37Cl4-2,3,7,8-TCDD	10.000	90.5	0 - 200	26.4383	26.42402	0.0143	N/A	

* Values outside of QC limits

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0045	Instrument:	AUTOSPEC01
Sample ID:	SLC0045-SCV1	Calibration:	GC00015
File ID:	23030310	Analyzed:	03/03/23 16:36

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	100.00	96.9	0 - 200	25.7602	25.76487	-0.0047	N/A	
13C12-2,3,7,8-TCDD	100.00	96.6	0 - 200	26.3958	26.40287	-0.0071	N/A	
13C12-1,2,3,7,8-PeCDF	100.00	73.2	0 - 200	29.9225	29.92235	0.0001	N/A	
13C12-2,3,4,7,8-PeCDF	100.00	75.9	0 - 200	31.2593	31.2611	-0.0018	N/A	
13C12-1,2,3,7,8-PeCDD	100.00	76.6	0 - 200	31.5155	31.5192	-0.0037	N/A	
13C12-1,2,3,4,7,8-HxCDF	100.00	93.0	0 - 200	34.8802	34.88393	-0.0037	N/A	
13C12-1,2,3,6,7,8-HxCDF	100.00	98.0	0 - 200	35.014	35.02318	-0.0092	N/A	
13C12-2,3,4,6,7,8-HxCDF	100.00	93.4	0 - 200	35.8828	35.88653	-0.0037	N/A	
13C12-1,2,3,7,8,9-HxCDF	100.00	97.9	0 - 200	36.9078	36.91718	-0.0094	N/A	
13C12-1,2,3,4,7,8-HxCDD	100.00	95.9	0 - 200	36.0053	36.00728	-0.0020	N/A	
13C12-1,2,3,6,7,8-HxCDD	100.00	97.7	0 - 200	36.1168	36.12053	-0.0037	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	102	0 - 200	38.7573	38.7593	-0.0020	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	100.00	104	0 - 200	40.9967	40.99867	-0.0020	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	100.00	102	0 - 200	40.2502	40.25773	-0.0075	N/A	
13C12-OCDD	200.00	80.8	0 - 200	44.9807	44.98705	-0.0064	N/A	
37Cl4-2,3,7,8-TCDD	10.000	87.1	0 - 200	26.4242	26.42402	0.0002	N/A	

* Values outside of QC limits

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0045	Instrument:	AUTOSPEC01
Sample ID:	SLC0045-CCV1	Calibration:	GC00015
File ID:	23030311	Analyzed:	03/03/23 17:25

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	100.00	89.4	71 - 129	25.7602	25.76487	-0.0047	N/A	
13C12-2,3,7,8-TCDD	100.00	86.0	82 - 118	26.3958	26.40287	-0.0071	N/A	
13C12-1,2,3,7,8-PeCDF	100.00	92.6	76 - 124	29.9225	29.92235	0.0001	N/A	
13C12-2,3,4,7,8-PeCDF	100.00	91.6	77 - 123	31.2593	31.2611	-0.0018	N/A	
13C12-1,2,3,7,8-PeCDD	100.00	90.8	62 - 138	31.5157	31.5192	-0.0035	N/A	
13C12-1,2,3,4,7,8-HxCDF	100.00	95.2	76 - 124	34.8805	34.88393	-0.0034	N/A	
13C12-1,2,3,6,7,8-HxCDF	100.00	91.1	70 - 130	35.0253	35.02318	0.0021	N/A	
13C12-2,3,4,6,7,8-HxCDF	100.00	96.9	73 - 127	35.883	35.88653	-0.0035	N/A	
13C12-1,2,3,7,8,9-HxCDF	100.00	101	74 - 126	36.9193	36.91718	0.0021	N/A	
13C12-1,2,3,4,7,8-HxCDD	100.00	97.6	85 - 115	36.0057	36.00728	-0.0016	N/A	
13C12-1,2,3,6,7,8-HxCDD	100.00	98.4	85 - 115	36.117	36.12053	-0.0035	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	102	78 - 122	38.7577	38.7593	-0.0016	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	100.00	84.3	77 - 123	40.997	40.99867	-0.0017	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	100.00	92.0	72 - 128	40.2617	40.25773	0.0040	N/A	
13C12-OCDD	200.00	85.1	48 - 152	44.9903	44.98705	0.0032	N/A	
37Cl4-2,3,7,8-TCDD	10.000	75.4	0 - 200	26.424	26.42402	0.0000	N/A	

* Values outside of QC limits

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0171	Instrument:	AUTOSPEC01
Sample ID:	SLC0171-ICV1	Calibration:	GC00015
File ID:	23031302	Analyzed:	03/13/23 10:33

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	100.00	85.5	71 - 129	25.6048	25.76487	-0.1601	N/A	
13C12-2,3,7,8-TCDD	100.00	98.8	82 - 118	26.2405	26.40287	-0.1624	N/A	
13C12-1,2,3,7,8-PeCDF	100.00	90.1	76 - 124	29.758	29.92235	-0.1644	N/A	
13C12-2,3,4,7,8-PeCDF	100.00	96.7	77 - 123	31.095	31.2611	-0.1661	N/A	
13C12-1,2,3,7,8-PeCDD	100.00	103	62 - 138	31.3512	31.5192	-0.1680	N/A	
13C12-1,2,3,4,7,8-HxCDF	100.00	101	76 - 124	34.727	34.88393	-0.1569	N/A	
13C12-1,2,3,6,7,8-HxCDF	100.00	100	70 - 130	34.8718	35.02318	-0.1514	N/A	
13C12-2,3,4,6,7,8-HxCDF	100.00	88.6	73 - 127	35.741	35.88653	-0.1455	N/A	
13C12-1,2,3,7,8,9-HxCDF	100.00	95.2	74 - 126	36.7658	36.91718	-0.1514	N/A	
13C12-1,2,3,4,7,8-HxCDD	100.00	95.1	85 - 115	35.8523	36.00728	-0.1550	N/A	
13C12-1,2,3,6,7,8-HxCDD	100.00	104	85 - 115	35.9638	36.12053	-0.1567	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	87.2	78 - 122	38.6265	38.7593	-0.1328	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	100.00	87.0	77 - 123	40.8437	40.99867	-0.1550	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	100.00	93.2	72 - 128	40.1085	40.25773	-0.1492	N/A	
13C12-OCDD	200.00	95.2	48 - 152	44.8102	44.98705	-0.1769	N/A	
37Cl4-2,3,7,8-TCDD	10.000	88.1	0 - 200	26.2545	26.42402	-0.1695	N/A	

* Values outside of QC limits

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0171	Instrument:	AUTOSPEC01
Sample ID:	BLB0228-BLK1	Calibration:	GC00015
File ID:	23031304	Analyzed:	03/13/23 12:41

Surrogate Compound	Spike Level ng/kg wet	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	200.00	93.0	24 - 169	25.6048	25.76487	-0.1601	N/A	
13C12-2,3,7,8-TCDD	200.00	113	25 - 164	26.2405	26.40287	-0.1624	N/A	
13C12-1,2,3,7,8-PeCDF	200.00	97.1	24 - 185	29.7582	29.92235	-0.1642	N/A	
13C12-2,3,4,7,8-PeCDF	200.00	98.9	21 - 178	31.095	31.2611	-0.1661	N/A	
13C12-1,2,3,7,8-PeCDD	200.00	106	25 - 181	31.3512	31.5192	-0.1680	N/A	
13C12-1,2,3,4,7,8-HxCDF	200.00	109	26 - 152	34.7382	34.88393	-0.1457	N/A	
13C12-1,2,3,6,7,8-HxCDF	200.00	108	26 - 123	34.8718	35.02318	-0.1514	N/A	
13C12-2,3,4,6,7,8-HxCDF	200.00	106	28 - 136	35.741	35.88653	-0.1455	N/A	
13C12-1,2,3,7,8,9-HxCDF	200.00	104	29 - 147	36.7658	36.91718	-0.1514	N/A	
13C12-1,2,3,4,7,8-HxCDD	200.00	122	32 - 141	35.8635	36.00728	-0.1438	N/A	
13C12-1,2,3,6,7,8-HxCDD	200.00	120	28 - 130	35.975	36.12053	-0.1455	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	200.00	88.7	28 - 143	38.6265	38.7593	-0.1328	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	200.00	79.3	26 - 138	40.8437	40.99867	-0.1550	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	200.00	91.2	23 - 140	40.1083	40.25773	-0.1494	N/A	
13C12-OCDD	400.00	76.0	17 - 157	44.81	44.98705	-0.1771	N/A	
37Cl4-2,3,7,8-TCDD	80.000	93.2	35 - 197	26.2545	26.42402	-0.1695	N/A	

* Values outside of QC limits

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0171	Instrument:	AUTOSPEC01
Sample ID:	BLB0228-BS1	Calibration:	GC00015
File ID:	23031305	Analyzed:	03/13/23 13:29

Surrogate Compound	Spike Level ng/kg wet	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	200.00	87.4	24 - 169	25.5623	25.76487	-0.2026	N/A	
13C12-2,3,7,8-TCDD	200.00	96.1	25 - 164	26.198	26.40287	-0.2049	N/A	
13C12-1,2,3,7,8-PeCDF	200.00	82.4	24 - 185	29.7247	29.92235	-0.1977	N/A	
13C12-2,3,4,7,8-PeCDF	200.00	81.1	21 - 178	31.0615	31.2611	-0.1996	N/A	
13C12-1,2,3,7,8-PeCDD	200.00	83.5	25 - 181	31.3177	31.5192	-0.2015	N/A	
13C12-1,2,3,4,7,8-HxCDF	200.00	97.3	26 - 152	34.7047	34.88393	-0.1792	N/A	
13C12-1,2,3,6,7,8-HxCDF	200.00	102	26 - 123	34.8383	35.02318	-0.1849	N/A	
13C12-2,3,4,6,7,8-HxCDF	200.00	96.3	28 - 136	35.7073	35.88653	-0.1792	N/A	
13C12-1,2,3,7,8,9-HxCDF	200.00	96.4	29 - 147	36.7435	36.91718	-0.1737	N/A	
13C12-1,2,3,4,7,8-HxCDD	200.00	107	32 - 141	35.83	36.00728	-0.1773	N/A	
13C12-1,2,3,6,7,8-HxCDD	200.00	108	28 - 130	35.9413	36.12053	-0.1792	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	200.00	83.1	28 - 143	38.604	38.7593	-0.1553	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	200.00	76.6	26 - 138	40.8098	40.99867	-0.1889	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	200.00	87.4	23 - 140	40.0858	40.25773	-0.1719	N/A	
13C12-OCDD	400.00	71.8	17 - 157	44.7822	44.98705	-0.2049	N/A	
37Cl4-2,3,7,8-TCDD	80.000	76.1	35 - 197	26.2262	26.42402	-0.1978	N/A	

* Values outside of QC limits

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0171	Instrument:	AUTOSPEC01
Sample ID:	BLB0228-SRM1	Calibration:	GC00015
File ID:	23031306	Analyzed:	03/13/23 14:30

Surrogate Compound	Spike Level ng/kg wet	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	200.00	72.9	24 - 169	25.5907	25.76487	-0.1742	N/A	
13C12-2,3,7,8-TCDD	200.00	92.2	25 - 164	26.2263	26.40287	-0.1766	N/A	
13C12-1,2,3,7,8-PeCDF	200.00	87.6	24 - 185	29.758	29.92235	-0.1644	N/A	
13C12-2,3,4,7,8-PeCDF	200.00	98.4	21 - 178	31.0948	31.2611	-0.1663	N/A	
13C12-1,2,3,7,8-PeCDD	200.00	99.3	25 - 181	31.3512	31.5192	-0.1680	N/A	
13C12-1,2,3,4,7,8-HxCDF	200.00	91.5	26 - 152	34.738	34.88393	-0.1459	N/A	
13C12-1,2,3,6,7,8-HxCDF	200.00	86.6	26 - 123	34.8828	35.02318	-0.1404	N/A	
13C12-2,3,4,6,7,8-HxCDF	200.00	93.0	28 - 136	35.774	35.88653	-0.1125	N/A	
13C12-1,2,3,7,8,9-HxCDF	200.00	91.1	29 - 147	36.7657	36.91718	-0.1515	N/A	
13C12-1,2,3,4,7,8-HxCDD	200.00	98.3	32 - 141	35.8855	36.00728	-0.1218	N/A	
13C12-1,2,3,6,7,8-HxCDD	200.00	96.8	28 - 130	36.008	36.12053	-0.1125	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	200.00	58.6	28 - 143	38.6485	38.7593	-0.1108	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	200.00	83.7	26 - 138	40.8433	40.99867	-0.1554	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	200.00	94.8	23 - 140	40.108	40.25773	-0.1497	N/A	
13C12-OCDD	400.00	90.0	17 - 157	44.828	44.98705	-0.1591	N/A	
37Cl4-2,3,7,8-TCDD	80.000	76.3	35 - 197	26.2545	26.42402	-0.1695	N/A	

* Values outside of QC limits

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0171	Instrument:	AUTOSPEC01
Sample ID:	23A0418-01	Calibration:	GC00015
File ID:	23031311	Analyzed:	03/13/23 18:37

Surrogate Compound	Spike Level ng/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	198.98	57.0	24 - 169	25.5767	25.76487	-0.1882	N/A	
13C12-2,3,7,8-TCDD	198.98	82.5	25 - 164	26.2123	26.40287	-0.1906	N/A	
13C12-1,2,3,7,8-PeCDF	198.98	85.8	24 - 185	29.7358	29.92235	-0.1866	N/A	
13C12-2,3,4,7,8-PeCDF	198.98	90.7	21 - 178	31.0728	31.2611	-0.1883	N/A	
13C12-1,2,3,7,8-PeCDD	198.98	81.0	25 - 181	31.329	31.5192	-0.1902	N/A	
13C12-1,2,3,4,7,8-HxCDF	198.98	91.4	26 - 152	34.716	34.88393	-0.1679	N/A	
13C12-1,2,3,6,7,8-HxCDF	198.98	83.7	26 - 123	34.8498	35.02318	-0.1734	N/A	
13C12-2,3,4,6,7,8-HxCDF	198.98	90.3	28 - 136	35.7188	35.88653	-0.1677	N/A	
13C12-1,2,3,7,8,9-HxCDF	198.98	97.5	29 - 147	36.7548	36.91718	-0.1624	N/A	
13C12-1,2,3,4,7,8-HxCDD	198.98	92.8	32 - 141	35.8413	36.00728	-0.1660	N/A	
13C12-1,2,3,6,7,8-HxCDD	198.98	83.9	28 - 130	35.9528	36.12053	-0.1677	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	198.98	74.3	28 - 143	38.6155	38.7593	-0.1438	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	198.98	73.3	26 - 138	40.8215	40.99867	-0.1772	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	198.98	82.3	23 - 140	40.0973	40.25773	-0.1604	N/A	
13C12-OCDD	397.96	86.2	17 - 157	44.792	44.98705	-0.1951	N/A	
37Cl4-2,3,7,8-TCDD	79.592	67.1	35 - 197	26.2405	26.42402	-0.1835	N/A	

* Values outside of QC limits

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0171	Instrument:	AUTOSPEC01
Sample ID:	23A0418-02	Calibration:	GC00015
File ID:	23031312	Analyzed:	03/13/23 19:26

Surrogate Compound	Spike Level ng/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	199.17	78.2	24 - 169	25.5623	25.76487	-0.2026	N/A	
13C12-2,3,7,8-TCDD	199.17	109	25 - 164	26.212	26.40287	-0.1909	N/A	
13C12-1,2,3,7,8-PeCDF	199.17	95.4	24 - 185	29.7355	29.92235	-0.1869	N/A	
13C12-2,3,4,7,8-PeCDF	199.17	99.5	21 - 178	31.0612	31.2611	-0.1999	N/A	
13C12-1,2,3,7,8-PeCDD	199.17	87.6	25 - 181	31.3173	31.5192	-0.2019	N/A	
13C12-1,2,3,4,7,8-HxCDF	199.17	104	26 - 152	34.7043	34.88393	-0.1796	N/A	
13C12-1,2,3,6,7,8-HxCDF	199.17	94.7	26 - 123	34.8492	35.02318	-0.1740	N/A	
13C12-2,3,4,6,7,8-HxCDF	199.17	104	28 - 136	35.718	35.88653	-0.1685	N/A	
13C12-1,2,3,7,8,9-HxCDF	199.17	116	29 - 147	36.743	36.91718	-0.1742	N/A	
13C12-1,2,3,4,7,8-HxCDD	199.17	106	32 - 141	35.8407	36.00728	-0.1666	N/A	
13C12-1,2,3,6,7,8-HxCDD	199.17	97.9	28 - 130	35.952	36.12053	-0.1685	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	199.17	101	28 - 143	38.6147	38.7593	-0.1446	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	199.17	106	26 - 138	40.8205	40.99867	-0.1782	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	199.17	116	23 - 140	40.0963	40.25773	-0.1614	N/A	
13C12-OCDD	398.34	116	17 - 157	44.7908	44.98705	-0.1963	N/A	
37Cl4-2,3,7,8-TCDD	79.667	176	35 - 197	26.2262	26.42402	-0.1978	N/A	

* Values outside of QC limits

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0171	Instrument:	AUTOSPEC01
Sample ID:	23A0418-10	Calibration:	GC00015
File ID:	23031313	Analyzed:	03/13/23 20:15

Surrogate Compound	Spike Level ng/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	198.76	65.6	24 - 169	25.5625	25.76487	-0.2024	N/A	
13C12-2,3,7,8-TCDD	198.76	87.7	25 - 164	26.1982	26.40287	-0.2047	N/A	
13C12-1,2,3,7,8-PeCDF	198.76	88.9	24 - 185	29.7248	29.92235	-0.1976	N/A	
13C12-2,3,4,7,8-PeCDF	198.76	84.4	21 - 178	31.0618	31.2611	-0.1993	N/A	
13C12-1,2,3,7,8-PeCDD	198.76	66.2	25 - 181	31.318	31.5192	-0.2012	N/A	
13C12-1,2,3,4,7,8-HxCDF	198.76	96.1	26 - 152	34.705	34.88393	-0.1789	N/A	
13C12-1,2,3,6,7,8-HxCDF	198.76	93.7	26 - 123	34.8387	35.02318	-0.1845	N/A	
13C12-2,3,4,6,7,8-HxCDF	198.76	97.5	28 - 136	35.7077	35.88653	-0.1788	N/A	
13C12-1,2,3,7,8,9-HxCDF	198.76	106	29 - 147	36.7438	36.91718	-0.1734	N/A	
13C12-1,2,3,4,7,8-HxCDD	198.76	99.8	32 - 141	35.8303	36.00728	-0.1770	N/A	
13C12-1,2,3,6,7,8-HxCDD	198.76	94.8	28 - 130	35.9417	36.12053	-0.1788	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	198.76	90.0	28 - 143	38.6043	38.7593	-0.1550	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	198.76	88.0	26 - 138	40.8103	40.99867	-0.1884	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	198.76	95.6	23 - 140	40.0862	40.25773	-0.1715	N/A	
13C12-OCDD	397.53	98.9	17 - 157	44.7825	44.98705	-0.2046	N/A	
37Cl4-2,3,7,8-TCDD	79.505	67.7	35 - 197	26.2263	26.42402	-0.1977	N/A	

* Values outside of QC limits

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0171	Instrument:	AUTOSPEC01
Sample ID:	SLC0171-CCV1	Calibration:	GC00015
File ID:	23031315	Analyzed:	03/13/23 21:53

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	100.00	71.1	71 - 129	25.5623	25.76487	-0.2026	N/A	
13C12-2,3,7,8-TCDD	100.00	101	82 - 118	26.198	26.40287	-0.2049	N/A	
13C12-1,2,3,7,8-PeCDF	100.00	93.7	76 - 124	29.7247	29.92235	-0.1977	N/A	
13C12-2,3,4,7,8-PeCDF	100.00	99.9	77 - 123	31.0617	31.2611	-0.1994	N/A	
13C12-1,2,3,7,8-PeCDD	100.00	82.1	62 - 138	31.3178	31.5192	-0.2014	N/A	
13C12-1,2,3,4,7,8-HxCDF	100.00	96.9	76 - 124	34.7047	34.88393	-0.1792	N/A	
13C12-1,2,3,6,7,8-HxCDF	100.00	90.3	70 - 130	34.8385	35.02318	-0.1847	N/A	
13C12-2,3,4,6,7,8-HxCDF	100.00	95.6	73 - 127	35.7187	35.88653	-0.1678	N/A	
13C12-1,2,3,7,8,9-HxCDF	100.00	94.2	74 - 126	36.7435	36.91718	-0.1737	N/A	
13C12-1,2,3,4,7,8-HxCDD	100.00	97.5	85 - 115	35.83	36.00728	-0.1773	N/A	
13C12-1,2,3,6,7,8-HxCDD	100.00	87.7	85 - 115	35.9415	36.12053	-0.1790	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	79.9	78 - 122	38.604	38.7593	-0.1553	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	100.00	80.8	77 - 123	40.8212	40.99867	-0.1775	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	100.00	82.4	72 - 128	40.086	40.25773	-0.1717	N/A	
13C12-OCDD	200.00	89.7	48 - 152	44.7822	44.98705	-0.2049	N/A	
37Cl4-2,3,7,8-TCDD	10.000	82.2	0 - 200	26.2262	26.42402	-0.1978	N/A	

* Values outside of QC limits

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0171	Instrument:	AUTOSPEC01
Sample ID:	SLC0171-CCV2	Calibration:	GC00015
File ID:	23031323	Analyzed:	03/14/23 04:32

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	100.00	70.9	71 - 129	25.5483	25.76487	-0.2166	N/A	*
13C12-2,3,7,8-TCDD	100.00	99.8	82 - 118	26.184	26.40287	-0.2189	N/A	
13C12-1,2,3,7,8-PeCDF	100.00	88.3	76 - 124	29.7137	29.92235	-0.2087	N/A	
13C12-2,3,4,7,8-PeCDF	100.00	93.2	77 - 123	31.0505	31.2611	-0.2106	N/A	
13C12-1,2,3,7,8-PeCDD	100.00	76.7	62 - 138	31.3068	31.5192	-0.2124	N/A	
13C12-1,2,3,4,7,8-HxCDF	100.00	96.0	76 - 124	34.6938	34.88393	-0.1901	N/A	
13C12-1,2,3,6,7,8-HxCDF	100.00	86.0	70 - 130	34.8275	35.02318	-0.1957	N/A	
13C12-2,3,4,6,7,8-HxCDF	100.00	93.6	73 - 127	35.7077	35.88653	-0.1788	N/A	
13C12-1,2,3,7,8,9-HxCDF	100.00	98.3	74 - 126	36.7327	36.91718	-0.1845	N/A	
13C12-1,2,3,4,7,8-HxCDD	100.00	93.1	85 - 115	35.8192	36.00728	-0.1881	N/A	
13C12-1,2,3,6,7,8-HxCDD	100.00	87.2	85 - 115	35.9305	36.12053	-0.1900	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	87.0	78 - 122	38.5933	38.7593	-0.1660	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	100.00	92.1	77 - 123	40.8105	40.99867	-0.1882	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	100.00	94.6	72 - 128	40.0752	40.25773	-0.1825	N/A	
13C12-OCDD	200.00	89.1	48 - 152	44.774	44.98705	-0.2131	N/A	
37Cl4-2,3,7,8-TCDD	10.000	84.3	0 - 200	26.2123	26.42402	-0.2117	N/A	

* Values outside of QC limits

HOLDING TIME SUMMARY

Analysis: EPA 1613B

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW23-IT1136 23A0418-01	01/18/23 08:28	01/18/23 16:36	02/14/23 17:30	27	365	03/13/23 18:37	27	365	
LDW23-IT1142 23A0418-02	01/18/23 08:47	01/18/23 16:36	02/14/23 17:30	27	365	03/13/23 19:26	27	365	
LDW23-IT1135 23A0418-10	01/18/23 14:23	01/18/23 16:36	02/14/23 17:30	27	365	03/13/23 20:15	27	365	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

EPA 1613B

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Instrument: AUTOSPEC01

Analyte	MDL	RL	Units
2,3,7,8-TCDF	0.058	1.00	ng/kg
2,3,7,8-TCDD	0.150	1.00	ng/kg
1,2,3,7,8-PeCDF	0.240	1.00	ng/kg
2,3,4,7,8-PeCDF	0.220	1.00	ng/kg
1,2,3,7,8-PeCDD	0.170	1.00	ng/kg
1,2,3,4,7,8-HxCDF	0.280	1.00	ng/kg
1,2,3,6,7,8-HxCDF	0.200	1.00	ng/kg
2,3,4,6,7,8-HxCDF	0.170	1.00	ng/kg
1,2,3,7,8,9-HxCDF	0.190	1.00	ng/kg
1,2,3,4,7,8-HxCDD	0.170	1.00	ng/kg
1,2,3,6,7,8-HxCDD	0.180	1.00	ng/kg
1,2,3,7,8,9-HxCDD	0.220	1.00	ng/kg
1,2,3,4,6,7,8-HpCDF	0.210	1.00	ng/kg
1,2,3,4,7,8,9-HpCDF	0.240	1.00	ng/kg
1,2,3,4,6,7,8-HpCDD	0.560	2.50	ng/kg
OCDF	1.10	2.50	ng/kg
OCDD	4.60	10.0	ng/kg
Total TCDF		1.00	ng/kg
Total TCDD		1.00	ng/kg
Total PeCDF		1.00	ng/kg
Total PeCDD		1.00	ng/kg
Total HxCDF		1.00	ng/kg
Total HxCDD		1.00	ng/kg
Total HpCDF		1.00	ng/kg
Total HpCDD		1.00	ng/kg

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

CS3WT

Calibration and Verification Solution (EPA-1613CS3) combined with Window Defining and 2,3,7,8-TCDD Resolution Testing Congeners

PRODUCT CODE:	CS3WT
LOT NUMBER:	CS3WT0918
SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	10/24/2018
LAST TESTED: (mm/dd/yyyy)	10/29/2018
EXPIRY DATE: (mm/dd/yyyy)	10/29/2025
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

CS3WT is a solution/mixture of native and $^{13}C_{12}$-labelled chlorinated dibenzo-p-dioxins (PCDDs) and dibenzofurans (PCDFs). The components and their concentrations are given in Table A.

CS3WT was designed and prepared to be used as a HRMS calibration standard according to U.S. EPA Method 1613B.

It is to be used for calibration verification in place of EPA-1613CS3 (Lot: 13CS30918). It also contains the PCDD and PCDF window defining congeners for a DB-5 (or equivalent) capillary column as well as the TCDD isomers required to test and confirm the resolution of 2,3,7,8-TCDD.

The individual ^{13}C-labelled PCDDs and PCDFs all have chemical purities of >98% and isotopic purities of ≥99%. The 2,3,7,8-$^{37}Cl_4$-tetrachlorodibenzo-p-dioxin has a chemical purity of >98% and an isotopic (^{37}Cl) purity of ≥95%. The individual native 2,3,7,8-substituted PCDD and PCDF congeners all have chemical purities of >98%; the other congeners (window defining and resolution testing) should only be considered semi-quantitative.

This current lot of CS3WT is to be used with the 1613 calibration solutions having the following lot numbers:

PRODUCT CODE	LOT NUMBER
EPA-1613CS1	13CS10918
EPA-1613CS2	13CS20918
EPA-1613CS3	13CS30918
EPA-1613CS4	13CS40918
EPA-1613CS5	13CS50918
EPA-1613CSL	13CSL0918
EPA-1613CS0.5	13CS0.50918

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519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: HRGC/HRMS Data (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 3 for further details.
- Only the 2,3,7,8-substituted PCDDs and PCDFs should be used for quantitation. The other congeners (window defining and 2378-TCDD resolution testing) should be considered semi-quantitative (within ±20% of their design value). Impurities have been identified where possible.

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **CS3WT; Components and Concentrations (ng/ml, in nonane/4.5% toluene)**

QUANTITATIVE ANALYTES (ng/ml, ±5%)	
Native PCDDs & PCDFs:	
2,3,7,8-TCDD	10
2,3,7,8-TCDF	10
1,2,3,7,8-PeCDD	50
1,2,3,7,8-PeCDF	50
2,3,4,7,8-PeCDF	50
1,2,3,4,7,8-HxCDD	50
1,2,3,6,7,8-HxCDD	50
1,2,3,7,8,9-HxCDD	50
1,2,3,4,7,8-HxCDF	50
1,2,3,6,7,8-HxCDF	50
1,2,3,7,8,9-HxCDF	50
2,3,4,6,7,8-HxCDF	50
1,2,3,4,6,7,8-HpCDD *(WD)*	50
1,2,3,4,6,7,8-HpCDF *(WD)*	50
1,2,3,4,7,8,9-HpCDF *(WD)*	50
OCDD	100
OCDF	100
Labelled PCDDs & PCDFs:	
$^{13}C_{12}$-2,3,7,8-TCDD	100
$^{13}C_{12}$-2,3,7,8-TCDF	100
$^{13}C_{12}$-1,2,3,7,8-PeCDD	100
$^{13}C_{12}$-1,2,3,7,8-PeCDF	100
$^{13}C_{12}$-2,3,4,7,8-PeCDF	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	100
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	100
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	100
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	100
$^{13}C_{12}$-OCDD	200
Cleanup Standard:	
$^{37}Cl_4$-2,3,7,8-TCDD	10
Internal Standards:	
$^{13}C_{12}$-1,2,3,4-TCDD	100
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	100

SEMI-QUANTITATIVE ANALYTES (ng/ml, ±20%)	
Window Definers:*	
1,3,6,8-TCDD	10
1,2,8,9-TCDD	10
1,3,6,8-TCDF	10
1,2,8,9-TCDF	10
1,2,4,6,8/1,2,4,7,9-PeCDD	50
1,2,3,8,9-PeCDD	50
1,3,4,6,8-PeCDF	50
1,2,3,8,9-PeCDF	50
1,2,4,6,7,9-HxCDD	50
1,2,3,4,6,8-HxCDF	50
1,2,3,4,6,7,9-HpCDD	50
2378-TCDD Resolution Testing Isomers:	
1,2,3,4-TCDD	5
1,2,3,7/1,2,3,8-TCDD	5
1,2,3,9-TCDD	10

** 1,2,3,4,6,7-HxCDD (last eluting HxCDD) not included; coelutes with 1,2,3,7,8,9-HxCDD. Use 1,2,3,4,6,7,9-HpCDD to set window.*

** 1,2,3,4,8,9-HxCDF (last eluting HxCDF) not included; can interfere with 1,2,3,7,8,9-HxCDF. Use 1,2,3,4,6,7,8-HpCDF to set window.*

WD – Window Definer

Certified By: _____ **Date:** 10/30/2018
(mm/dd/yyyy)

B.G. Chittim, General Manager

Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**

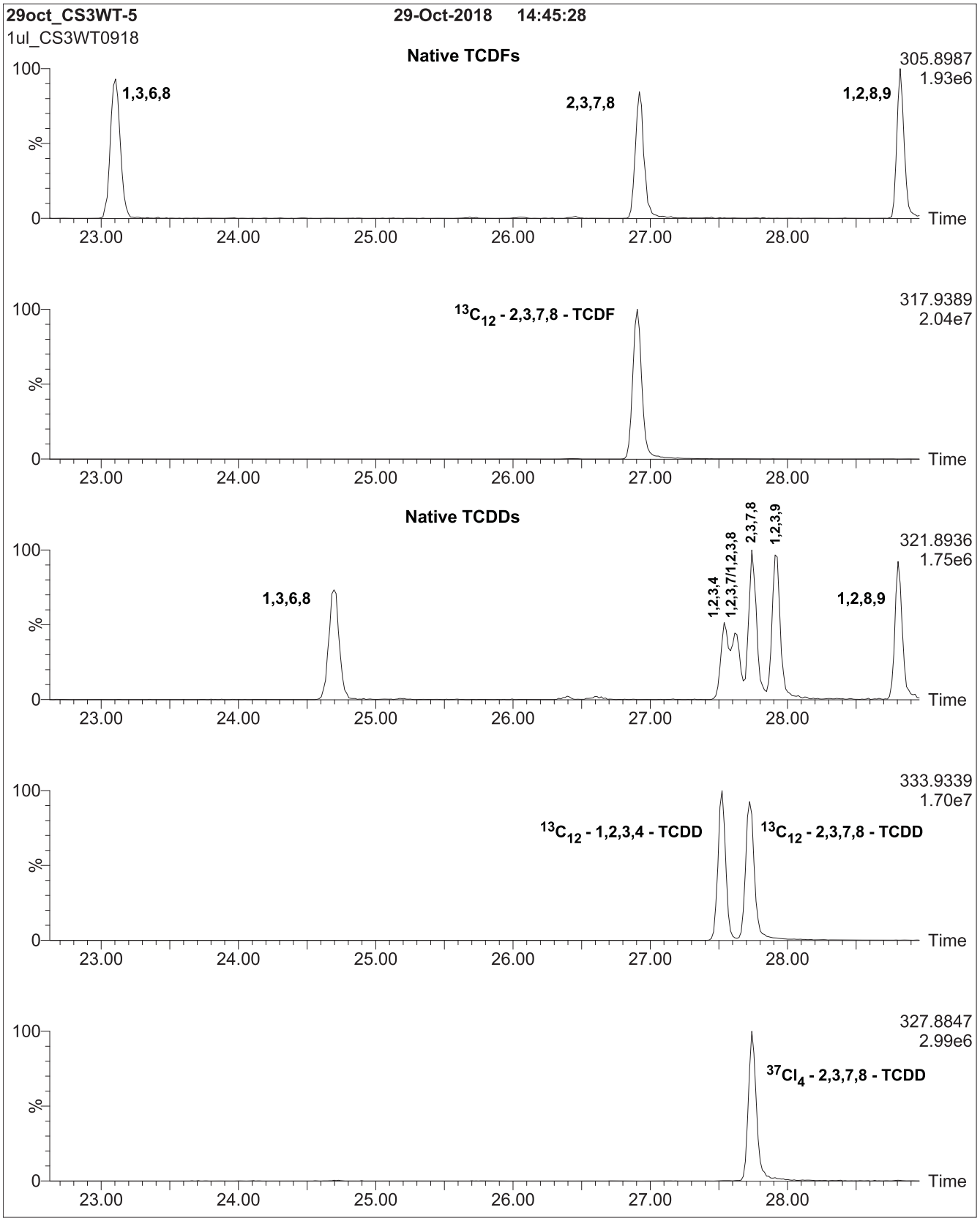


Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**

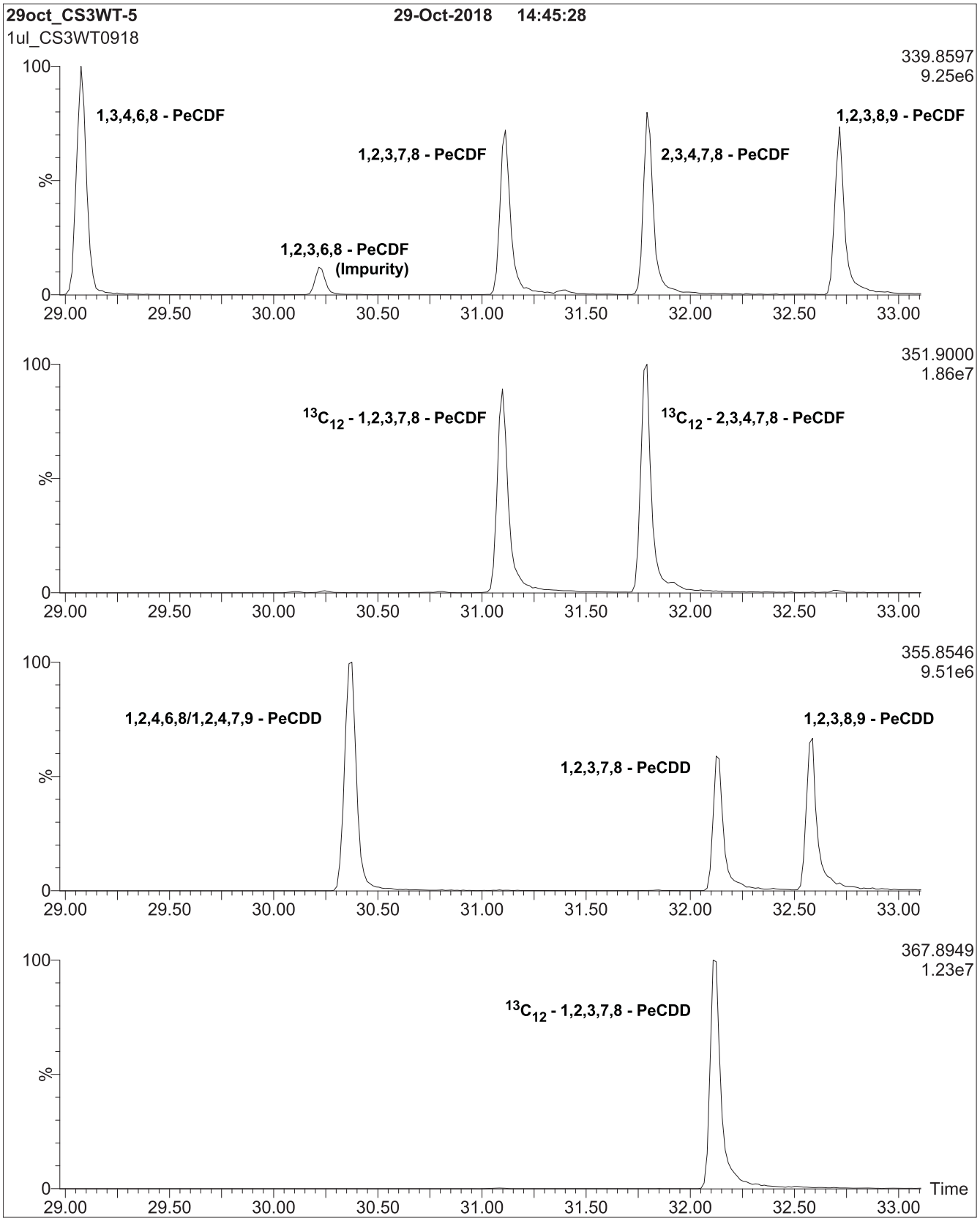


Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**

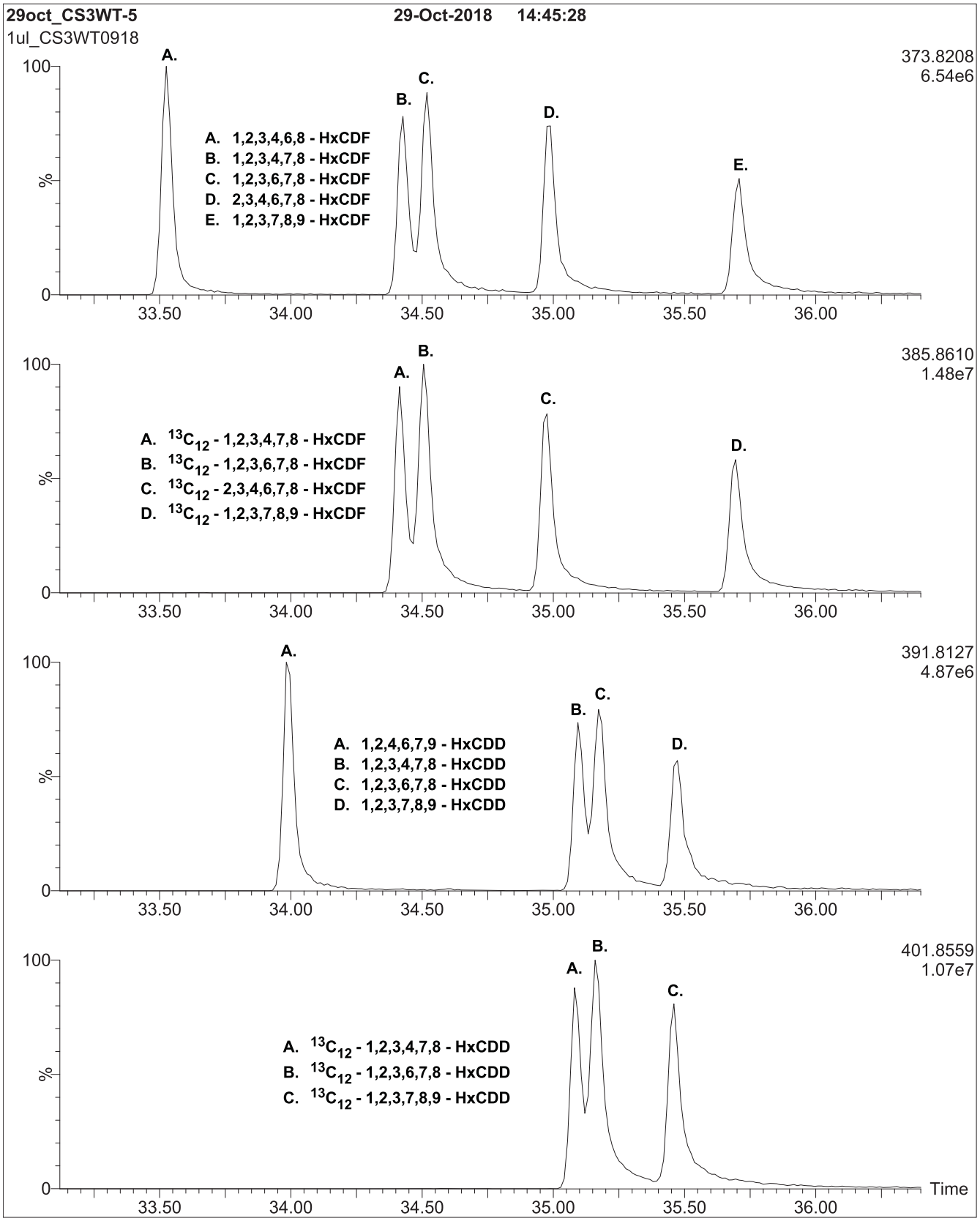


Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**

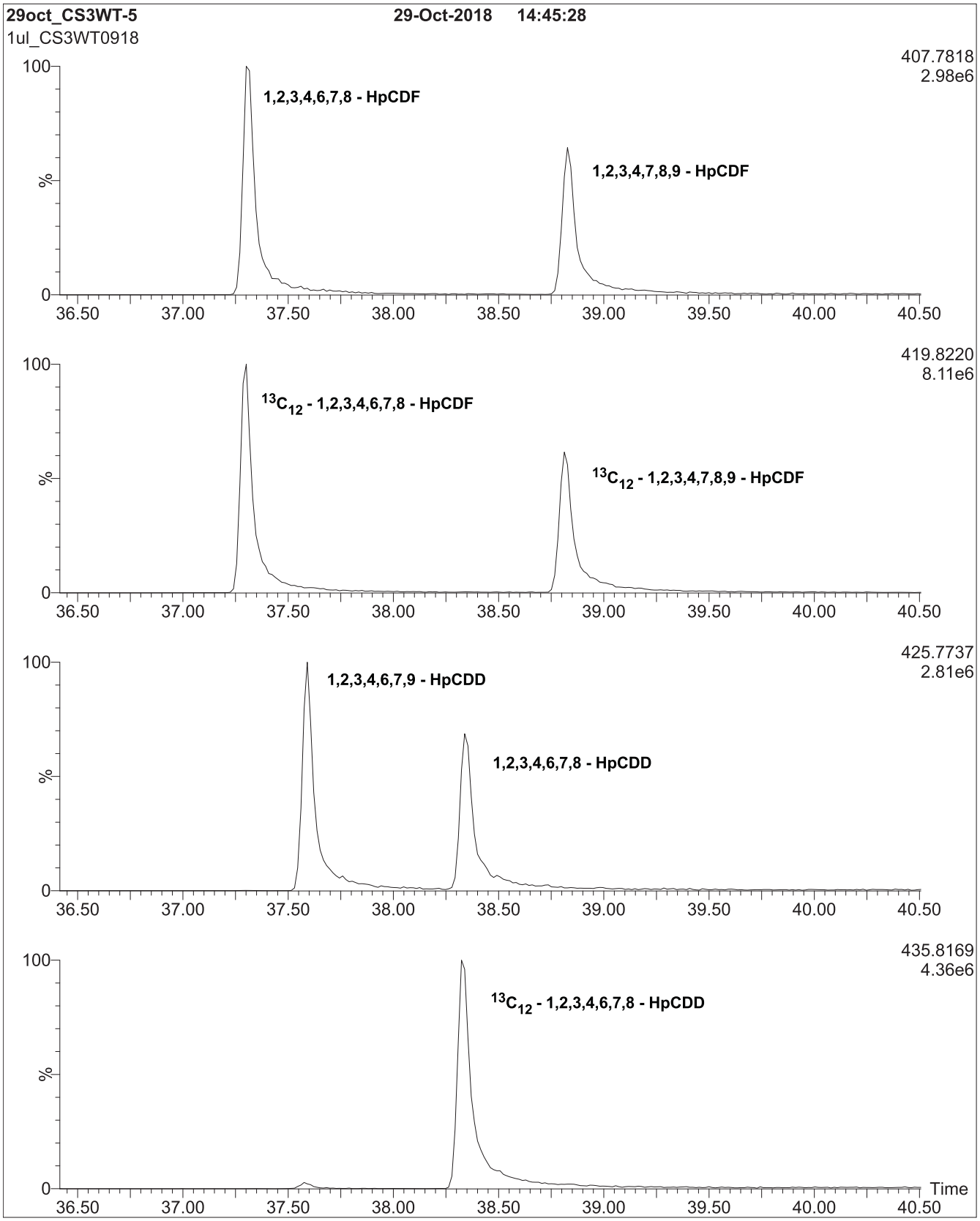
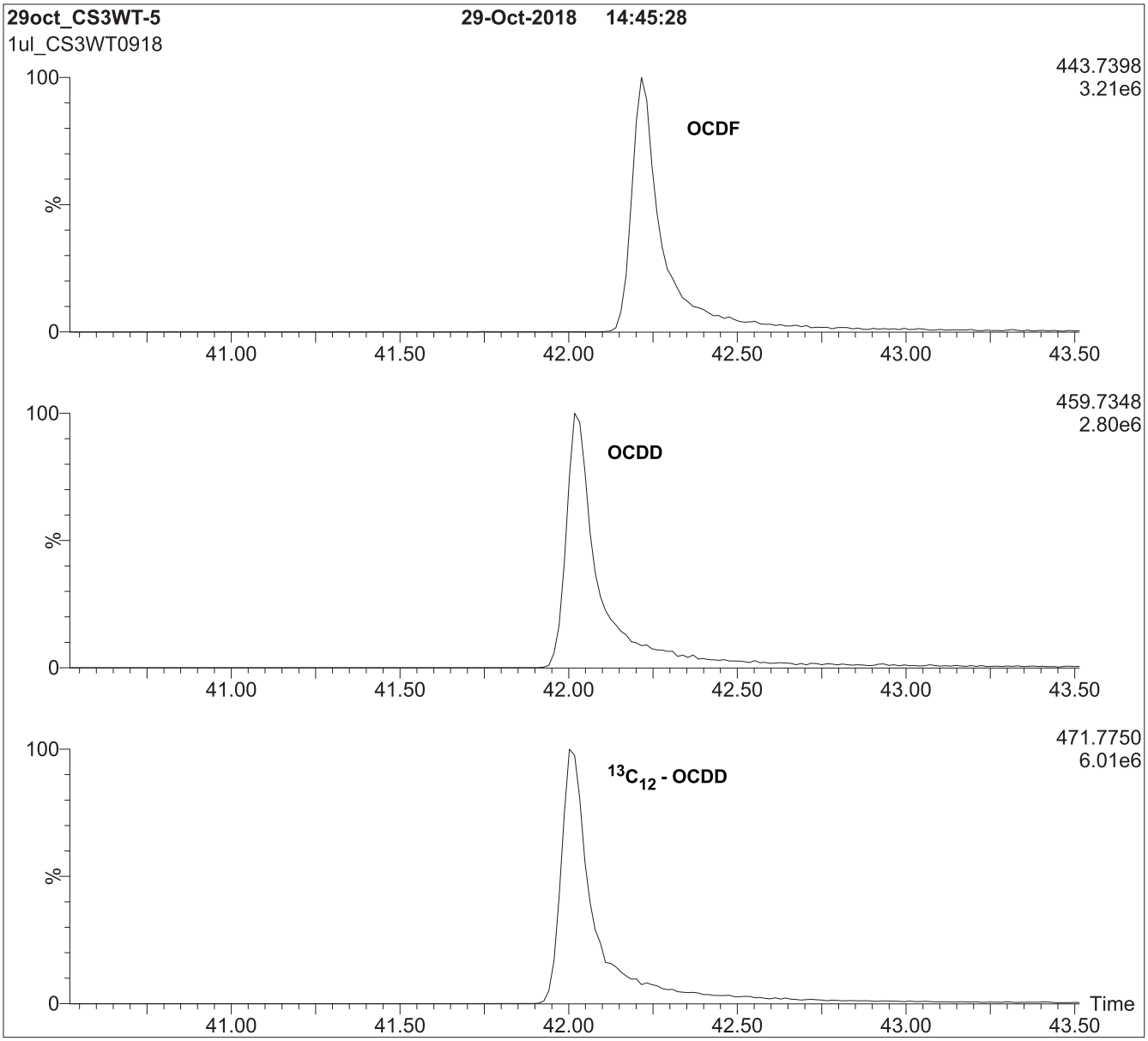


Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**



HRGC/HRMS:

Agilent 6890N (HRGC)
Autospec Ultima (HRMS)

Chromatographic Conditions:

Column: 60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W

Flow:	Constant at 1 ml/min	Oven:	150 °C (1 min)
Injector:	280 °C (Splitless Injection)		12 °C/min to 200 °C
Ionization:	EI+		3 °C/min to 235 °C
Detector:	280 °C		235 °C (8 min)
	SIR at 10,000 mass resolving power		8 °C/min to 310 °C
			310 °C (8 min)

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

EPA-1613CVS

U.S. EPA Method 1613 Calibration and Verification Solutions
plus Supplemental Calibration Solutions EPA-1613CSL & EPA-1613CS0.5

PRODUCT CODES:	EPA-1613CVS	**LOT NUMBERS:**	(see below)
	EPA-1613CS1		13CS11019
	EPA-1613CS2		13CS21019
	EPA-1613CS3		13CS31019
	EPA-1613CS4		13CS41019
	EPA-1613CS5		13CS51019

Note: EPA-1613CSL and EPA-1613CS0.5 are lower level extensions to this calibration set that must be ordered separately.

EPA-1613CS0.5	13CS0.51019
EPA-1613CSL	13CSL1019

SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	10/22/2019
LAST TESTED: (mm/dd/yyyy)	10/24/2019
EXPIRY DATE: (mm/dd/yyyy)	10/24/2026
RECOMMENDED STORAGE:	Store ampoules in a cool, dark place

I005456
1613 CS1 CAL STD
Expires 10/24/2026
Prepared By Joshua Rains 6/23/2020

DESCRIPTION:

EPA-1613CVS is a series of 5 calibration solutions containing native ($^{12}C_{12}$) and mass-labelled ($^{13}C_{12}$ and $^{37}Cl_4$) chlorinated dibenzo-p-dioxins (PCDDs) and dibenzofurans (PCDFs). The components of each solution, and their concentrations, are given in Table A.

They were designed for, and prepared to be used according to, U.S. EPA Method 1613 (Revision B). They are to be used as received.

EPA-1613CSL and EPA-1613CS0.5 are lower level extensions to EPA-1613CVS. Neither is required by the method, but either or both can be used to extend the calibration to lower levels.

The individual native PCDDs and PCDFs all have chemical purities of >98%. The individual ^{13}C-labelled PCDDs and PCDFs all have chemical purities of >98% and isotopic purities of ≥99%. The 2,3,7,8-$^{37}Cl_4$-Tetrachlorodibenzo-p-dioxin has a chemical purity of >98% and an isotopic (^{37}Cl) purity of ≥95%.

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519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations
Table B: 5-point HRGC/HRMS Calibration and RRF Summary
Table C: 7-point HRGC/HRMS Calibration and RRF Summary
Figure 1: HRGC/HRMS Data for EPA-1613CS3 (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 3 for further details.

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a series of standards for the identification and quantification of specific chemical compounds.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned values, and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analytes is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **EPA-1613CVS (with EPA-1613CSL and EPA-1613CS0.5); Components and Concentrations (ng/ml, ± 5% in nonane/toluene)**

Compound	Concentration (ng/ml)						
Native PCDDs and PCDFs:	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CSL**	**CS0.5**
2,3,7,8-TCDD	0.5	2	10	40	200	0.1	0.25
2,3,7,8-TCDF	0.5	2	10	40	200	0.1	0.25
1,2,3,7,8-PeCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8-PeCDF	2.5	10	50	200	1000	0.5	1.25
2,3,4,7,8-PeCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,6,7,8-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8,9-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,6,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8,9-HxCDF	2.5	10	50	200	1000	0.5	1.25
2,3,4,6,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,6,7,8-HpCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,6,7,8-HpCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8,9-HpCDF	2.5	10	50	200	1000	0.5	1.25
OCDD	5.0	20	100	400	2000	1.0	2.5
OCDF	5.0	20	100	400	2000	1.0	2.5
Labelled PCDDs and PCDFs:							
$^{13}C_{12}$-2,3,7,8-TCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,7,8-TCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8-PeCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8-PeCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,4,7,8-PeCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-OCDD	200	200	200	200	200	200	200
Cleanup Standard:							
$^{37}Cl_4$-2,3,7,8-TCDD	0.5	2	10	40	200	0.1	0.25
Internal Standards:							
$^{13}C_{12}$-1,2,3,4-TCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	100	100	100	100	100	100	100
Percent toluene (v/v)	3.6%	3.7%	4.2%	6.1%	16.2%	3.6%	3.6%

Certified By: _____ **Date:** 10/25/2019
(mm/dd/yyyy)
B.G. Chittim, General Manager

Table B: **EPA-1613CVS; 5-point HRGC/HRMS Calibration and RRF Summary**

Calibration RRF Summary				Calibration Standard				
Calibration Filename: 24oct_EPA1613CVS-CAL.QLD				CS1	CS2	CS3	CS4	CS5
Name	Mean	S. D.	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5
2,3,7,8-TCDF	0.93	0.013	1.4	0.92	0.95	0.93	0.92	0.95
1,2,3,7,8-PeCDF	0.93	0.015	1.6	0.92	0.92	0.93	0.93	0.95
2,3,4,7,8-PeCDF	1.04	0.019	1.8	1.03	1.02	1.05	1.05	1.07
1,2,3,4,7,8-HxCDF	0.96	0.035	3.7	0.94	0.92	0.98	0.99	1.00
1,2,3,6,7,8-HxCDF	0.93	0.013	1.4	0.92	0.94	0.94	0.91	0.94
2,3,4,6,7,8-HxCDF	0.96	0.022	2.3	0.95	0.94	0.97	0.97	0.99
1,2,3,7,8,9-HxCDF	0.89	0.021	2.4	0.87	0.88	0.90	0.90	0.92
1,2,3,4,6,7,8-HpCDF	0.91	0.011	1.2	0.90	0.90	0.90	0.92	0.92
1,2,3,4,7,8,9-HpCDF	0.91	0.010	1.1	0.90	0.90	0.92	0.91	0.92
OCDF	1.19	0.056	4.7	1.11	1.17	1.19	1.23	1.26
2,3,7,8-TCDD	1.05	0.023	2.2	1.01	1.06	1.05	1.05	1.07
1,2,3,7,8-PeCDD	0.97	0.018	1.9	0.95	0.95	0.98	0.97	0.99
1,2,3,4,7,8-HxCDD	1.00	0.019	1.9	1.01	1.00	1.00	0.96	1.01
1,2,3,6,7,8-HxCDD	0.98	0.032	3.2	0.93	0.98	0.99	1.01	1.01
1,2,3,7,8,9-HxCDD	0.97	0.016	1.6	0.95	0.96	0.98	0.99	0.98
1,2,3,4,6,7,8-HpCDD	1.01	0.025	2.5	1.01	0.97	1.02	1.03	1.04
OCDD	1.00	0.013	1.3	1.00	0.99	1.02	1.02	1.00
$^{13}C_{12}$-2,3,7,8-TCDF	1.57	0.047	3.0	1.52	1.55	1.55	1.57	1.65
$^{13}C_{12}$-1,2,3,7,8-PeCDF	1.21	0.078	6.5	1.13	1.20	1.17	1.20	1.34
$^{13}C_{12}$-2,3,4,7,8-PeCDF	1.17	0.081	6.9	1.09	1.15	1.13	1.17	1.31
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	1.33	0.020	1.5	1.35	1.33	1.33	1.32	1.30
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	1.51	0.034	2.2	1.47	1.48	1.53	1.53	1.54
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	1.38	0.012	0.9	1.38	1.38	1.40	1.37	1.36
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	1.19	0.014	1.2	1.18	1.16	1.20	1.19	1.20
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1.31	0.033	2.5	1.31	1.26	1.33	1.31	1.35
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	1.08	0.046	4.3	1.06	1.03	1.09	1.08	1.15
$^{13}C_{12}$-2,3,7,8-TCDD	1.13	0.036	3.2	1.10	1.11	1.11	1.13	1.19
$^{13}C_{12}$-1,2,3,7,8-PeCDD	0.79	0.047	5.9	0.74	0.78	0.75	0.79	0.86
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	0.87	0.027	3.1	0.85	0.83	0.89	0.88	0.89
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	1.04	0.010	1.0	1.05	1.05	1.04	1.05	1.03
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	0.81	0.017	2.1	0.81	0.80	0.80	0.81	0.84
$^{13}C_{12}$-OCDD	0.74	0.055	7.4	0.70	0.70	0.73	0.72	0.83
$^{13}C_{12}$-1,2,3,4-TCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00
$^{37}Cl_4$-2,3,7,8-TCDD	0.97	0.026	2.6	0.95	0.94	0.99	0.99	0.99

Table C: **EPA-1613CVS (with EPA-1613CSL and EPA-1613CS0.5); 7-point HRGC/HRMS Calibration and RRF Summary**

Calibration RRF Summary				Calibration Standard						
Calibration Filename: 24oct_EPA1613CVS-CAL.QLD				CSL	CS0.5	CS1	CS2	CS3	CS4	CS5
Name	Mean	S. D.	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5	RRF#6	RRF#7
2,3,7,8-TCDF	0.92	0.045	4.8	0.96	0.83	0.92	0.95	0.93	0.92	0.95
1,2,3,7,8-PeCDF	0.93	0.013	1.4	0.94	0.92	0.92	0.92	0.93	0.93	0.95
2,3,4,7,8-PeCDF	1.02	0.058	5.7	0.90	1.00	1.03	1.02	1.05	1.05	1.07
1,2,3,4,7,8-HxCDF	0.96	0.029	3.0	0.96	0.97	0.94	0.92	0.98	0.99	1.00
1,2,3,6,7,8-HxCDF	0.92	0.030	3.3	0.90	0.86	0.92	0.94	0.94	0.91	0.94
2,3,4,6,7,8-HxCDF	0.94	0.047	5.0	0.87	0.89	0.95	0.94	0.97	0.97	0.99
1,2,3,7,8,9-HxCDF	0.88	0.029	3.3	0.83	0.88	0.87	0.88	0.90	0.90	0.92
1,2,3,4,6,7,8-HpCDF	0.90	0.033	3.7	0.83	0.93	0.90	0.90	0.90	0.92	0.92
1,2,3,4,7,8,9-HpCDF	0.91	0.018	1.9	0.89	0.94	0.90	0.90	0.92	0.91	0.92
OCDF	1.18	0.052	4.4	1.15	1.14	1.11	1.17	1.19	1.23	1.26
2,3,7,8-TCDD	1.03	0.051	5.0	1.03	0.92	1.01	1.06	1.05	1.05	1.07
1,2,3,7,8-PeCDD	0.95	0.042	4.4	0.87	0.98	0.95	0.95	0.98	0.97	0.99
1,2,3,4,7,8-HxCDD	0.97	0.066	6.8	0.83	0.98	1.01	1.00	1.00	0.96	1.01
1,2,3,6,7,8-HxCDD	0.96	0.044	4.5	0.90	0.92	0.93	0.98	0.99	1.01	1.01
1,2,3,7,8,9-HxCDD	0.94	0.054	5.7	0.83	0.92	0.95	0.96	0.98	0.99	0.98
1,2,3,4,6,7,8-HpCDD	1.01	0.033	3.3	0.95	1.03	1.01	0.97	1.02	1.03	1.04
OCDD	1.00	0.023	2.3	0.95	1.00	1.00	0.99	1.02	1.02	1.00
$^{13}C_{12}$-2,3,7,8-TCDF	1.56	0.042	2.7	1.52	1.54	1.52	1.55	1.55	1.57	1.65
$^{13}C_{12}$-1,2,3,7,8-PeCDF	1.20	0.066	5.5	1.18	1.17	1.13	1.20	1.17	1.20	1.34
$^{13}C_{12}$-2,3,4,7,8-PeCDF	1.16	0.071	6.1	1.12	1.13	1.09	1.15	1.13	1.17	1.31
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	1.33	0.018	1.4	1.32	1.35	1.35	1.33	1.33	1.32	1.30
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	1.53	0.045	3.0	1.60	1.56	1.47	1.48	1.53	1.53	1.54
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	1.39	0.019	1.4	1.39	1.42	1.38	1.38	1.40	1.37	1.36
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	1.19	0.012	1.0	1.19	1.19	1.18	1.16	1.20	1.19	1.20
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1.31	0.028	2.2	1.30	1.33	1.31	1.26	1.33	1.31	1.35
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	1.07	0.045	4.2	1.02	1.08	1.06	1.03	1.09	1.08	1.15
$^{13}C_{12}$-2,3,7,8-TCDD	1.12	0.033	3.0	1.09	1.11	1.10	1.11	1.11	1.13	1.19
$^{13}C_{12}$-1,2,3,7,8-PeCDD	0.78	0.040	5.1	0.75	0.78	0.74	0.78	0.75	0.79	0.86
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	0.87	0.025	2.9	0.86	0.90	0.85	0.83	0.89	0.88	0.89
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	1.05	0.015	1.5	1.08	1.06	1.05	1.05	1.04	1.05	1.03
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	0.81	0.016	2.0	0.79	0.81	0.81	0.80	0.80	0.81	0.84
$^{13}C_{12}$-OCDD	0.73	0.046	6.3	0.71	0.72	0.70	0.70	0.73	0.72	0.83
$^{13}C_{12}$-1,2,3,4-TCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
$^{37}Cl_4$-2,3,7,8-TCDD	0.97	0.053	5.4	0.90	1.07	0.95	0.94	0.99	0.99	0.99

Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

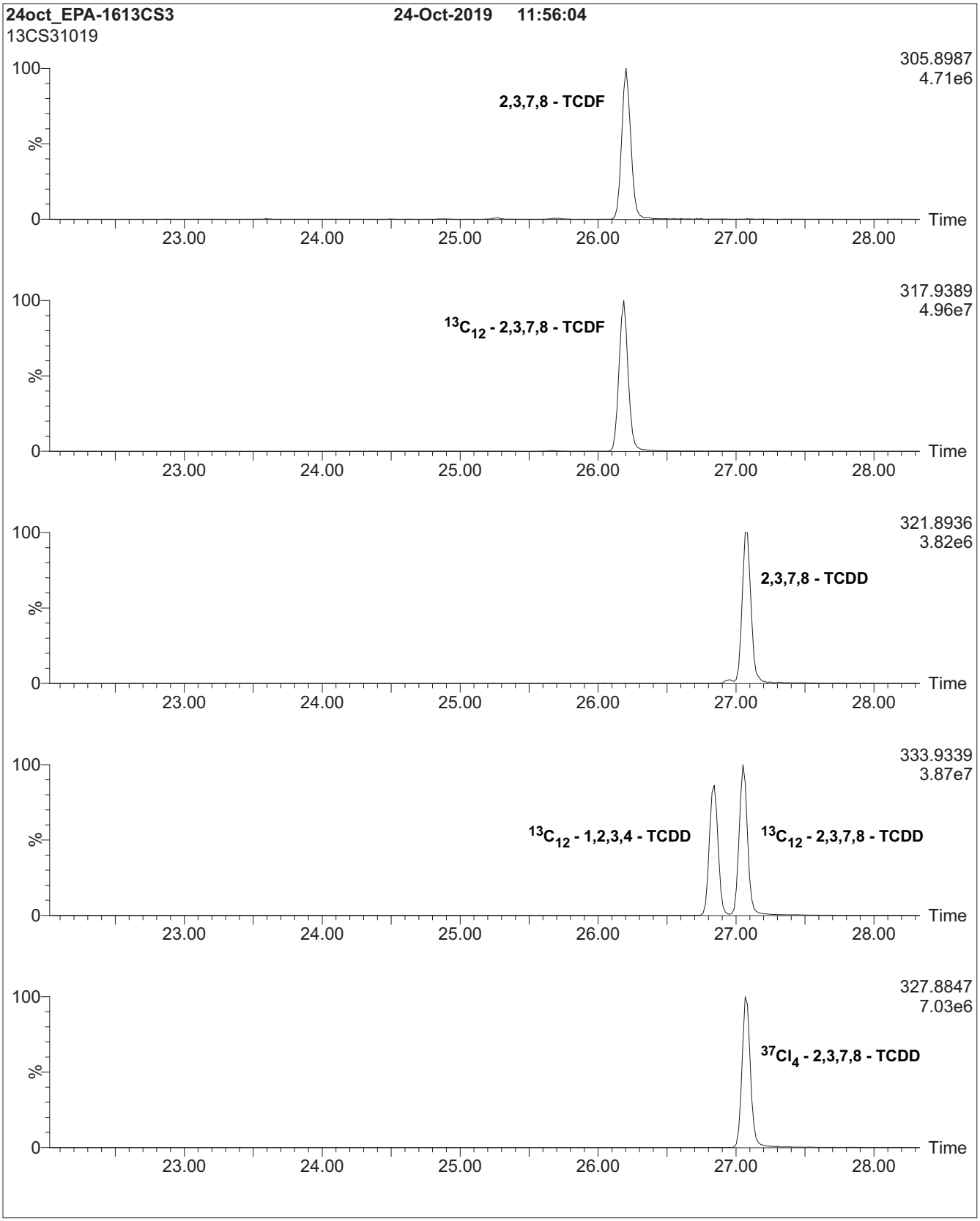


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

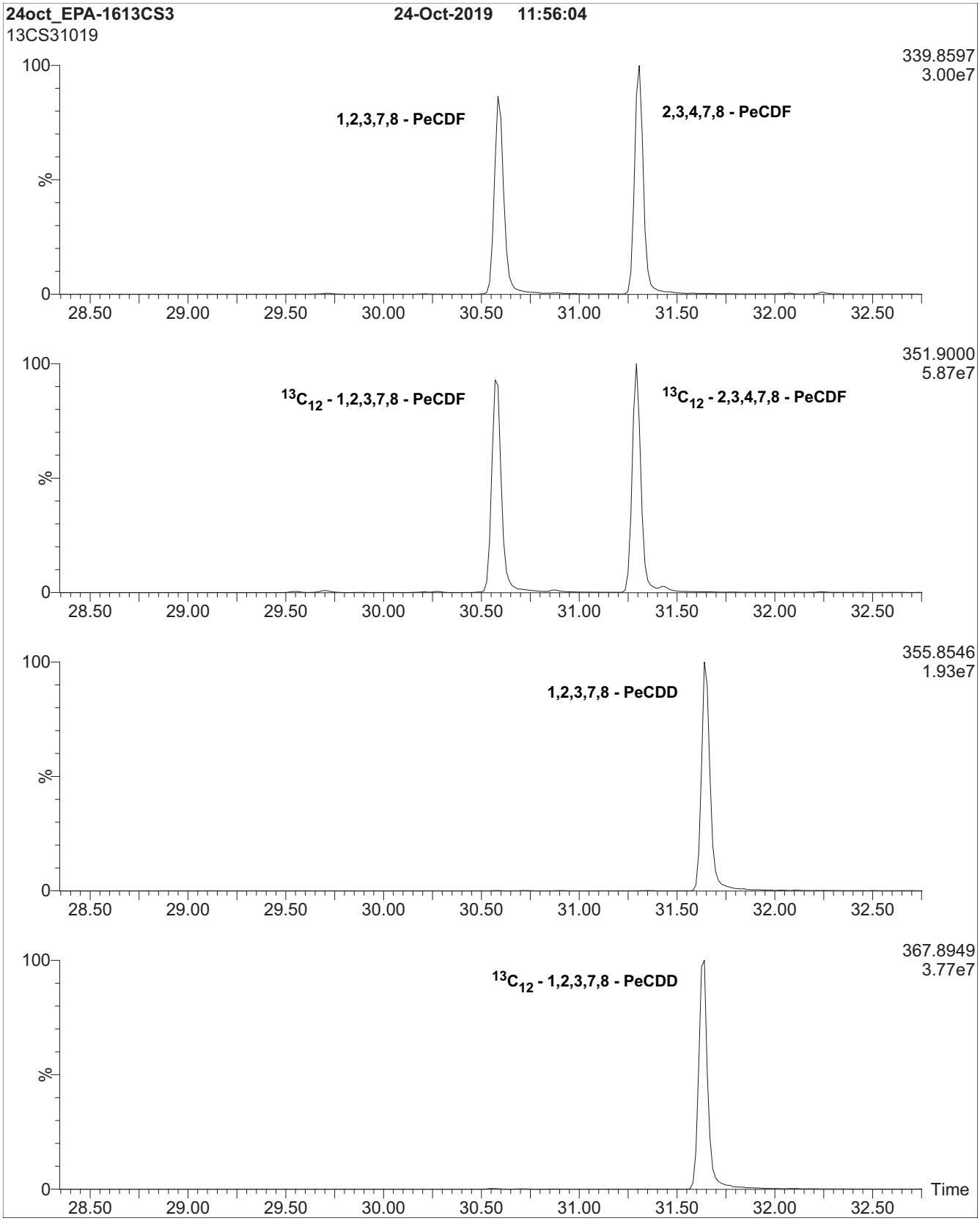


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

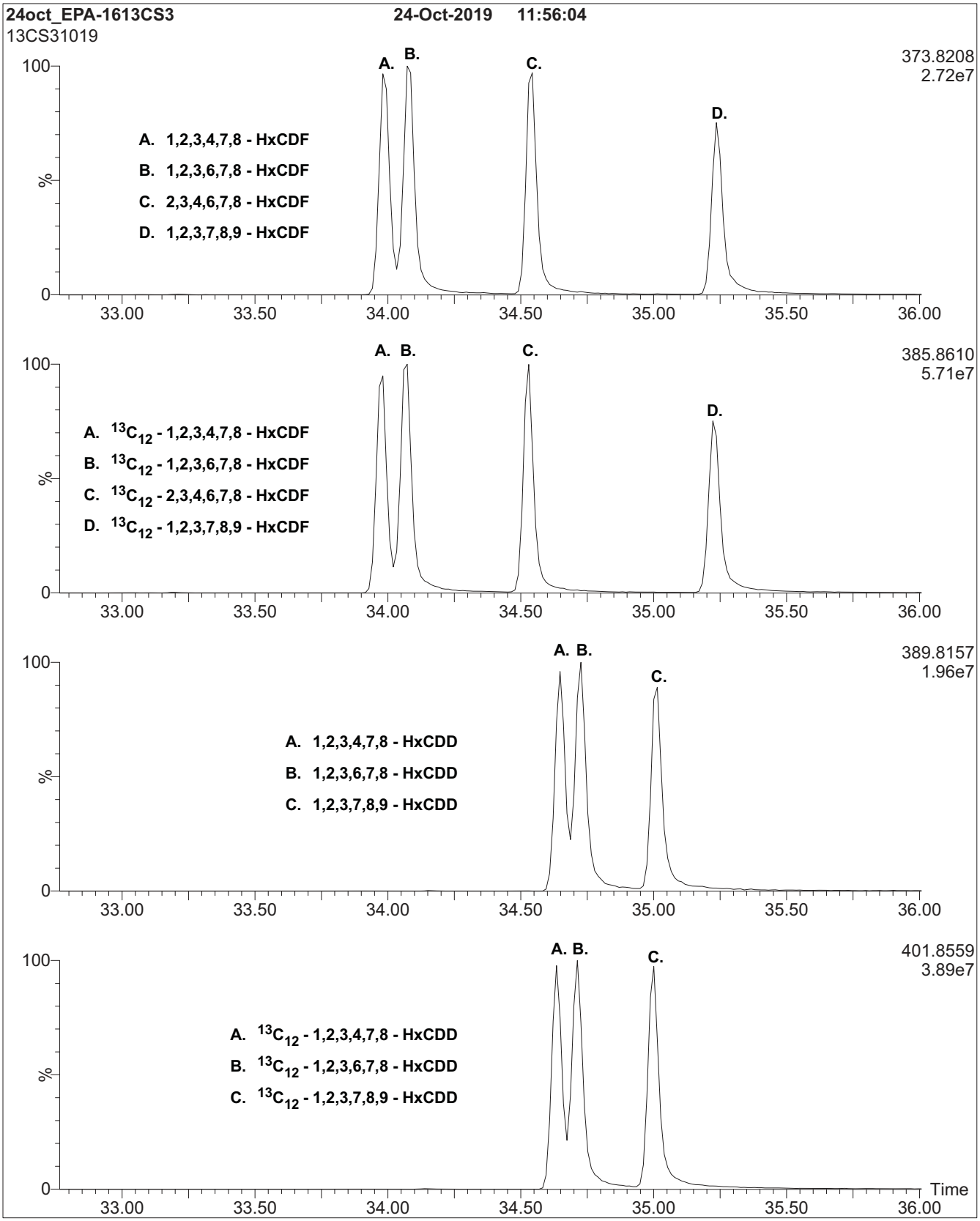


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

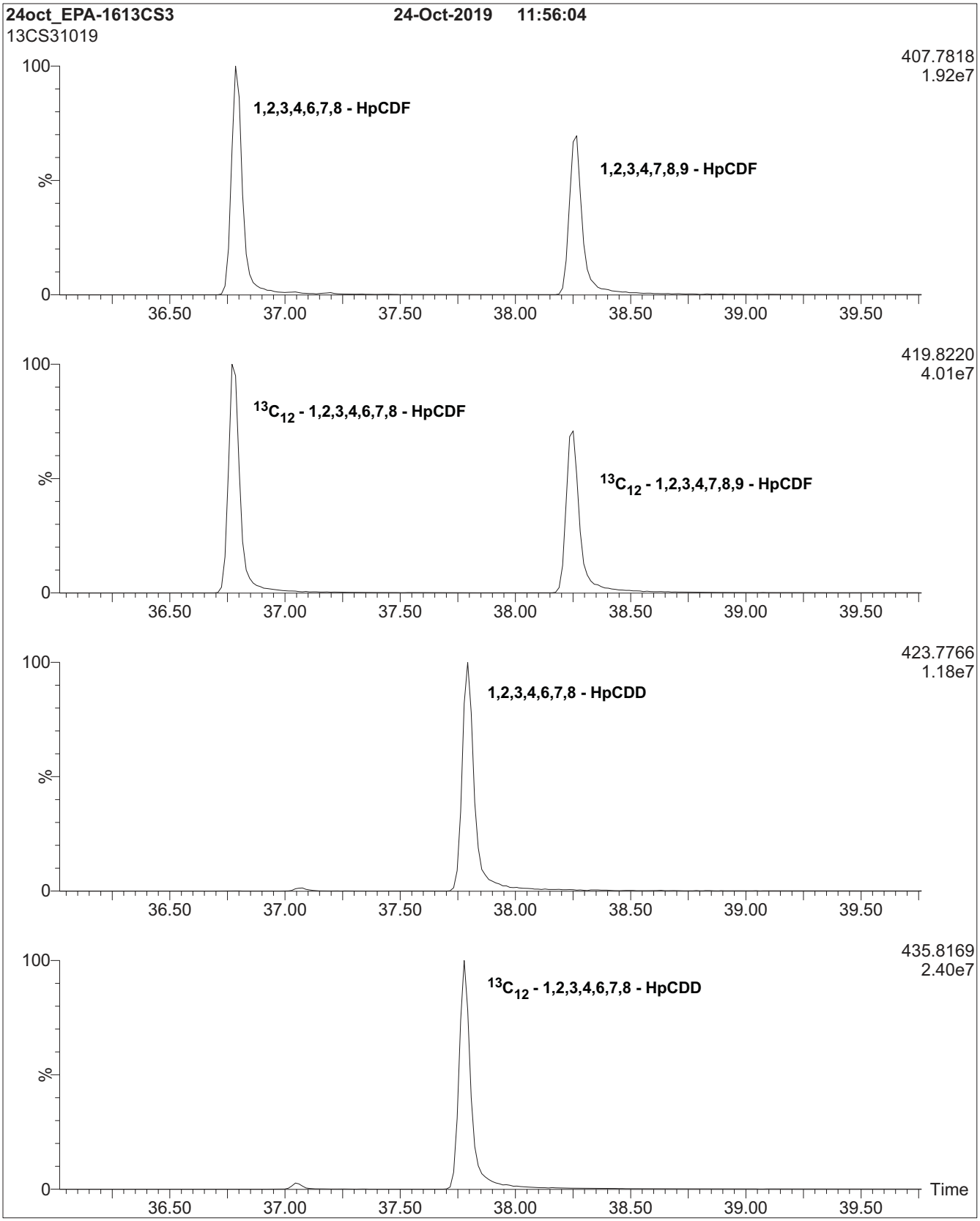
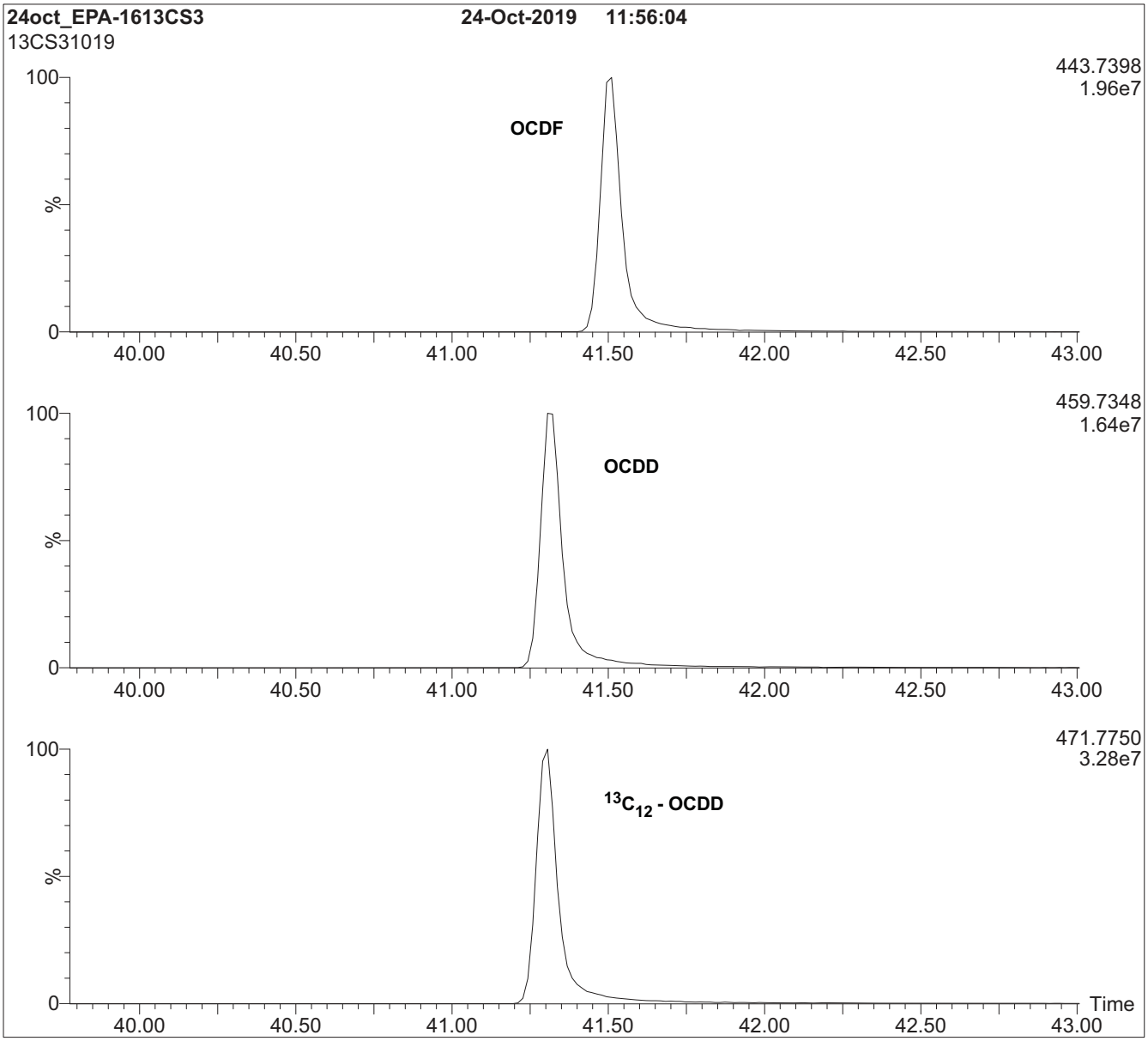


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**



HRGC/HRMS:

Agilent 6890N (HRGC)
Autospec Ultima (HRMS)

Chromatographic Conditions:

Column: 60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W

Flow: Constant at 1 ml/min
Injector: 280 °C (Splitless Injection)
Ionization: EI+
Detector: 280 °C
SIR at 10,000 mass resolving power

Oven: 150 °C (1 min)
12 °C/min to 200 °C
3 °C/min to 235 °C
235 °C (8 min)
8 °C/min to 310 °C
310 °C (8 min)

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

EPA-1613CVS

U.S. EPA Method 1613 Calibration and Verification Solutions
plus Supplemental Calibration Solutions EPA-1613CSL & EPA-1613CS0.5

PRODUCT CODES:	EPA-1613CVS	**LOT NUMBERS:**	(see below)
	EPA-1613CS1		13CS11019
	EPA-1613CS2		13CS21019
	EPA-1613CS3		13CS31019
	EPA-1613CS4		13CS41019
	EPA-1613CS5		13CS51019

Note: EPA-1613CSL and EPA-1613CS0.5 are lower level extensions to this calibration set that must be ordered separately.

EPA-1613CS0.5	13CS0.51019
EPA-1613CSL	13CSL1019

SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	10/22/2019
LAST TESTED: (mm/dd/yyyy)	10/24/2019
EXPIRY DATE: (mm/dd/yyyy)	10/24/2026
RECOMMENDED STORAGE:	Store ampoules in a cool, dark place

I005457
1613 CS2 CAL STD
Expires 10/24/2026
Prepared By Joshua Rains 6/23/2020

DESCRIPTION:

EPA-1613CVS is a series of 5 calibration solutions containing native ($^{12}C_{12}$) and mass-labelled ($^{13}C_{12}$ and $^{37}Cl_4$) chlorinated dibenzo-p-dioxins (PCDDs) and dibenzofurans (PCDFs). The components of each solution, and their concentrations, are given in Table A.

They were designed for, and prepared to be used according to, U.S. EPA Method 1613 (Revision B). They are to be used as received.

EPA-1613CSL and EPA-1613CS0.5 are lower level extensions to EPA-1613CVS. Neither is required by the method, but either or both can be used to extend the calibration to lower levels.

The individual native PCDDs and PCDFs all have chemical purities of >98%. The individual ^{13}C-labelled PCDDs and PCDFs all have chemical purities of >98% and isotopic purities of ≥99%. The 2,3,7,8-$^{37}Cl_4$-Tetrachlorodibenzo-p-dioxin has a chemical purity of >98% and an isotopic (^{37}Cl) purity of ≥95%.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations
Table B: 5-point HRGC/HRMS Calibration and RRF Summary
Table C: 7-point HRGC/HRMS Calibration and RRF Summary
Figure 1: HRGC/HRMS Data for EPA-1613CS3 (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 3 for further details.

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a series of standards for the identification and quantification of specific chemical compounds.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned values, and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analytes is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **EPA-1613CVS (with EPA-1613CSL and EPA-1613CS0.5); Components and Concentrations (ng/ml, ± 5% in nonane/toluene)**

Compound	Concentration (ng/ml)						
Native PCDDs and PCDFs:	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CSL**	**CS0.5**
2,3,7,8-TCDD	0.5	2	10	40	200	0.1	0.25
2,3,7,8-TCDF	0.5	2	10	40	200	0.1	0.25
1,2,3,7,8-PeCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8-PeCDF	2.5	10	50	200	1000	0.5	1.25
2,3,4,7,8-PeCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,6,7,8-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8,9-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,6,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8,9-HxCDF	2.5	10	50	200	1000	0.5	1.25
2,3,4,6,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,6,7,8-HpCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,6,7,8-HpCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8,9-HpCDF	2.5	10	50	200	1000	0.5	1.25
OCDD	5.0	20	100	400	2000	1.0	2.5
OCDF	5.0	20	100	400	2000	1.0	2.5
Labelled PCDDs and PCDFs:							
$^{13}C_{12}$-2,3,7,8-TCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,7,8-TCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8-PeCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8-PeCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,4,7,8-PeCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-OCDD	200	200	200	200	200	200	200
Cleanup Standard:							
$^{37}Cl_4$-2,3,7,8-TCDD	0.5	2	10	40	200	0.1	0.25
Internal Standards:							
$^{13}C_{12}$-1,2,3,4-TCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	100	100	100	100	100	100	100
Percent toluene (v/v)	3.6%	3.7%	4.2%	6.1%	16.2%	3.6%	3.6%

Certified By: _____ **Date:** 10/25/2019
(mm/dd/yyyy)
B.G. Chittim, General Manager

Table B: **EPA-1613CVS; 5-point HRGC/HRMS Calibration and RRF Summary**

Calibration RRF Summary				Calibration Standard				
Calibration Filename: 24oct_EPA1613CVS-CAL.QLD				CS1	CS2	CS3	CS4	CS5
Name	Mean	S. D.	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5
2,3,7,8-TCDF	0.93	0.013	1.4	0.92	0.95	0.93	0.92	0.95
1,2,3,7,8-PeCDF	0.93	0.015	1.6	0.92	0.92	0.93	0.93	0.95
2,3,4,7,8-PeCDF	1.04	0.019	1.8	1.03	1.02	1.05	1.05	1.07
1,2,3,4,7,8-HxCDF	0.96	0.035	3.7	0.94	0.92	0.98	0.99	1.00
1,2,3,6,7,8-HxCDF	0.93	0.013	1.4	0.92	0.94	0.94	0.91	0.94
2,3,4,6,7,8-HxCDF	0.96	0.022	2.3	0.95	0.94	0.97	0.97	0.99
1,2,3,7,8,9-HxCDF	0.89	0.021	2.4	0.87	0.88	0.90	0.90	0.92
1,2,3,4,6,7,8-HpCDF	0.91	0.011	1.2	0.90	0.90	0.90	0.92	0.92
1,2,3,4,7,8,9-HpCDF	0.91	0.010	1.1	0.90	0.90	0.92	0.91	0.92
OCDF	1.19	0.056	4.7	1.11	1.17	1.19	1.23	1.26
2,3,7,8-TCDD	1.05	0.023	2.2	1.01	1.06	1.05	1.05	1.07
1,2,3,7,8-PeCDD	0.97	0.018	1.9	0.95	0.95	0.98	0.97	0.99
1,2,3,4,7,8-HxCDD	1.00	0.019	1.9	1.01	1.00	1.00	0.96	1.01
1,2,3,6,7,8-HxCDD	0.98	0.032	3.2	0.93	0.98	0.99	1.01	1.01
1,2,3,7,8,9-HxCDD	0.97	0.016	1.6	0.95	0.96	0.98	0.99	0.98
1,2,3,4,6,7,8-HpCDD	1.01	0.025	2.5	1.01	0.97	1.02	1.03	1.04
OCDD	1.00	0.013	1.3	1.00	0.99	1.02	1.02	1.00
$^{13}C_{12}$-2,3,7,8-TCDF	1.57	0.047	3.0	1.52	1.55	1.55	1.57	1.65
$^{13}C_{12}$-1,2,3,7,8-PeCDF	1.21	0.078	6.5	1.13	1.20	1.17	1.20	1.34
$^{13}C_{12}$-2,3,4,7,8-PeCDF	1.17	0.081	6.9	1.09	1.15	1.13	1.17	1.31
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	1.33	0.020	1.5	1.35	1.33	1.33	1.32	1.30
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	1.51	0.034	2.2	1.47	1.48	1.53	1.53	1.54
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	1.38	0.012	0.9	1.38	1.38	1.40	1.37	1.36
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	1.19	0.014	1.2	1.18	1.16	1.20	1.19	1.20
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1.31	0.033	2.5	1.31	1.26	1.33	1.31	1.35
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	1.08	0.046	4.3	1.06	1.03	1.09	1.08	1.15
$^{13}C_{12}$-2,3,7,8-TCDD	1.13	0.036	3.2	1.10	1.11	1.11	1.13	1.19
$^{13}C_{12}$-1,2,3,7,8-PeCDD	0.79	0.047	5.9	0.74	0.78	0.75	0.79	0.86
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	0.87	0.027	3.1	0.85	0.83	0.89	0.88	0.89
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	1.04	0.010	1.0	1.05	1.05	1.04	1.05	1.03
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	0.81	0.017	2.1	0.81	0.80	0.80	0.81	0.84
$^{13}C_{12}$-OCDD	0.74	0.055	7.4	0.70	0.70	0.73	0.72	0.83
$^{13}C_{12}$-1,2,3,4-TCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00
$^{37}Cl_4$-2,3,7,8-TCDD	0.97	0.026	2.6	0.95	0.94	0.99	0.99	0.99

Table C: **EPA-1613CVS (with EPA-1613CSL and EPA-1613CS0.5); 7-point HRGC/HRMS Calibration and RRF Summary**

Calibration RRF Summary				Calibration Standard						
Calibration Filename: 24oct_EPA1613CVS-CAL.QLD				CSL	CS0.5	CS1	CS2	CS3	CS4	CS5
Name	Mean	S. D.	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5	RRF#6	RRF#7
2,3,7,8-TCDF	0.92	0.045	4.8	0.96	0.83	0.92	0.95	0.93	0.92	0.95
1,2,3,7,8-PeCDF	0.93	0.013	1.4	0.94	0.92	0.92	0.92	0.93	0.93	0.95
2,3,4,7,8-PeCDF	1.02	0.058	5.7	0.90	1.00	1.03	1.02	1.05	1.05	1.07
1,2,3,4,7,8-HxCDF	0.96	0.029	3.0	0.96	0.97	0.94	0.92	0.98	0.99	1.00
1,2,3,6,7,8-HxCDF	0.92	0.030	3.3	0.90	0.86	0.92	0.94	0.94	0.91	0.94
2,3,4,6,7,8-HxCDF	0.94	0.047	5.0	0.87	0.89	0.95	0.94	0.97	0.97	0.99
1,2,3,7,8,9-HxCDF	0.88	0.029	3.3	0.83	0.88	0.87	0.88	0.90	0.90	0.92
1,2,3,4,6,7,8-HpCDF	0.90	0.033	3.7	0.83	0.93	0.90	0.90	0.90	0.92	0.92
1,2,3,4,7,8,9-HpCDF	0.91	0.018	1.9	0.89	0.94	0.90	0.90	0.92	0.91	0.92
OCDF	1.18	0.052	4.4	1.15	1.14	1.11	1.17	1.19	1.23	1.26
2,3,7,8-TCDD	1.03	0.051	5.0	1.03	0.92	1.01	1.06	1.05	1.05	1.07
1,2,3,7,8-PeCDD	0.95	0.042	4.4	0.87	0.98	0.95	0.95	0.98	0.97	0.99
1,2,3,4,7,8-HxCDD	0.97	0.066	6.8	0.83	0.98	1.01	1.00	1.00	0.96	1.01
1,2,3,6,7,8-HxCDD	0.96	0.044	4.5	0.90	0.92	0.93	0.98	0.99	1.01	1.01
1,2,3,7,8,9-HxCDD	0.94	0.054	5.7	0.83	0.92	0.95	0.96	0.98	0.99	0.98
1,2,3,4,6,7,8-HpCDD	1.01	0.033	3.3	0.95	1.03	1.01	0.97	1.02	1.03	1.04
OCDD	1.00	0.023	2.3	0.95	1.00	1.00	0.99	1.02	1.02	1.00
$^{13}C_{12}$-2,3,7,8-TCDF	1.56	0.042	2.7	1.52	1.54	1.52	1.55	1.55	1.57	1.65
$^{13}C_{12}$-1,2,3,7,8-PeCDF	1.20	0.066	5.5	1.18	1.17	1.13	1.20	1.17	1.20	1.34
$^{13}C_{12}$-2,3,4,7,8-PeCDF	1.16	0.071	6.1	1.12	1.13	1.09	1.15	1.13	1.17	1.31
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	1.33	0.018	1.4	1.32	1.35	1.35	1.33	1.33	1.32	1.30
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	1.53	0.045	3.0	1.60	1.56	1.47	1.48	1.53	1.53	1.54
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	1.39	0.019	1.4	1.39	1.42	1.38	1.38	1.40	1.37	1.36
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	1.19	0.012	1.0	1.19	1.19	1.18	1.16	1.20	1.19	1.20
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1.31	0.028	2.2	1.30	1.33	1.31	1.26	1.33	1.31	1.35
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	1.07	0.045	4.2	1.02	1.08	1.06	1.03	1.09	1.08	1.15
$^{13}C_{12}$-2,3,7,8-TCDD	1.12	0.033	3.0	1.09	1.11	1.10	1.11	1.11	1.13	1.19
$^{13}C_{12}$-1,2,3,7,8-PeCDD	0.78	0.040	5.1	0.75	0.78	0.74	0.78	0.75	0.79	0.86
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	0.87	0.025	2.9	0.86	0.90	0.85	0.83	0.89	0.88	0.89
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	1.05	0.015	1.5	1.08	1.06	1.05	1.05	1.04	1.05	1.03
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	0.81	0.016	2.0	0.79	0.81	0.81	0.80	0.80	0.81	0.84
$^{13}C_{12}$-OCDD	0.73	0.046	6.3	0.71	0.72	0.70	0.70	0.73	0.72	0.83
$^{13}C_{12}$-1,2,3,4-TCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
$^{37}Cl_4$-2,3,7,8-TCDD	0.97	0.053	5.4	0.90	1.07	0.95	0.94	0.99	0.99	0.99

Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

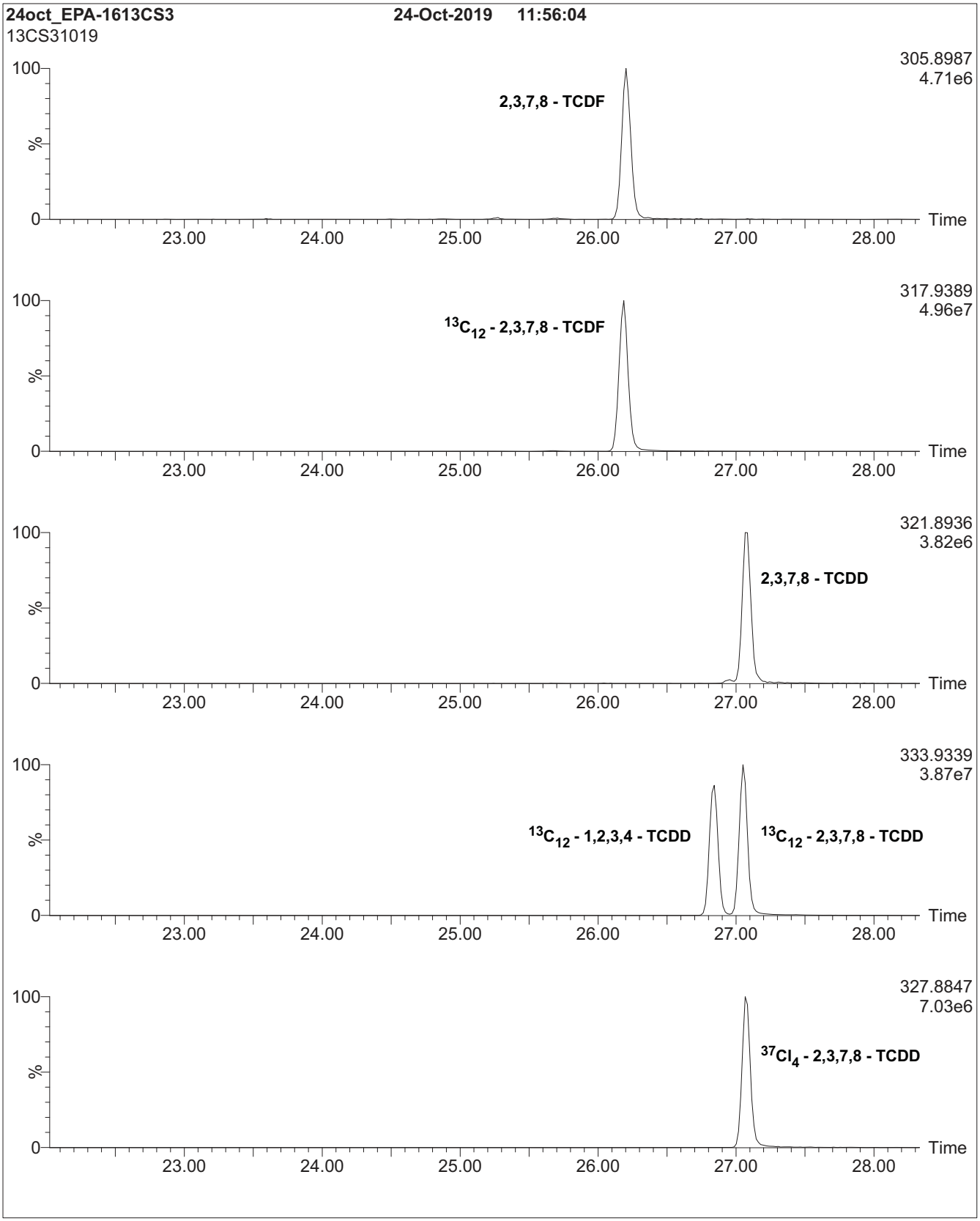


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

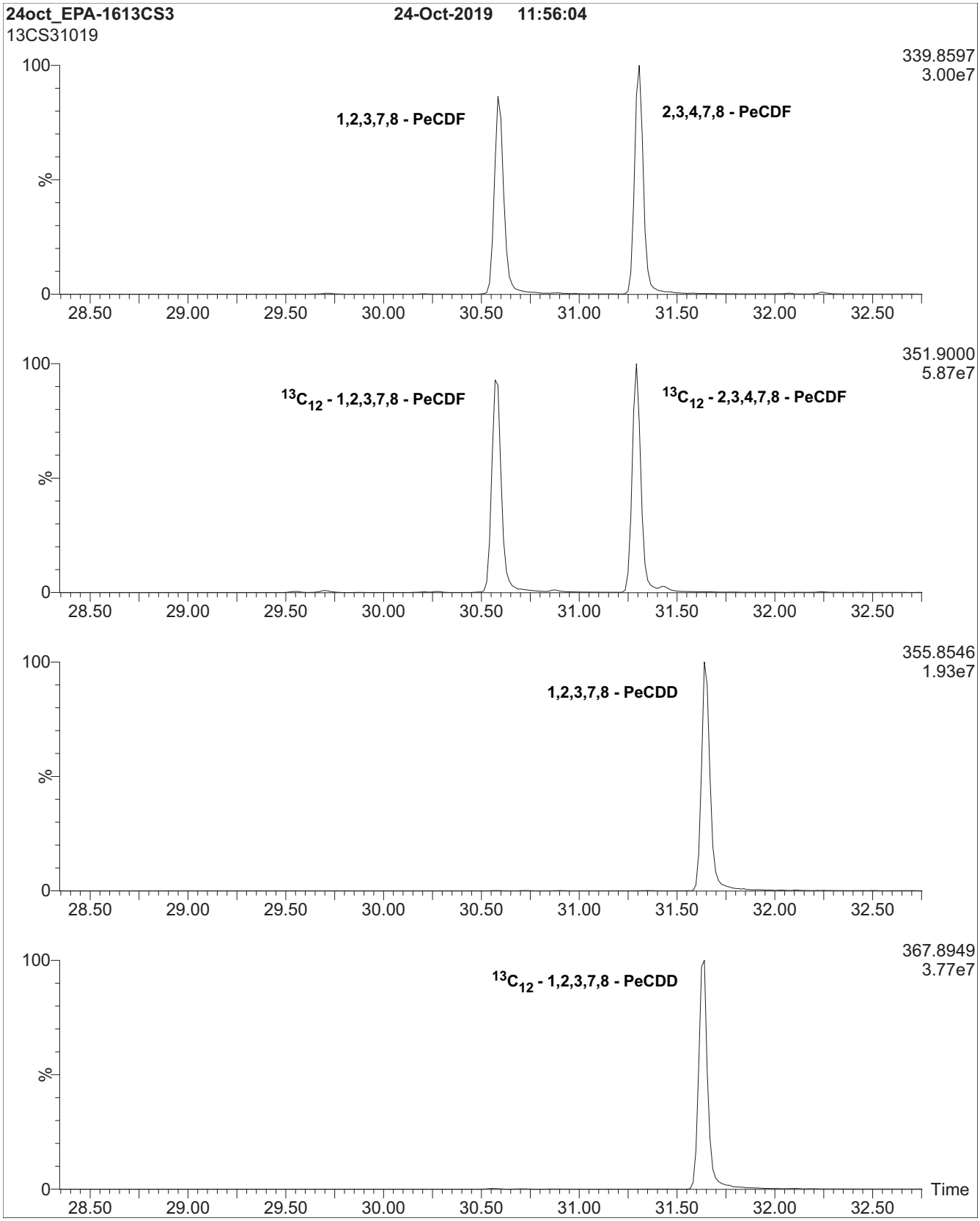


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

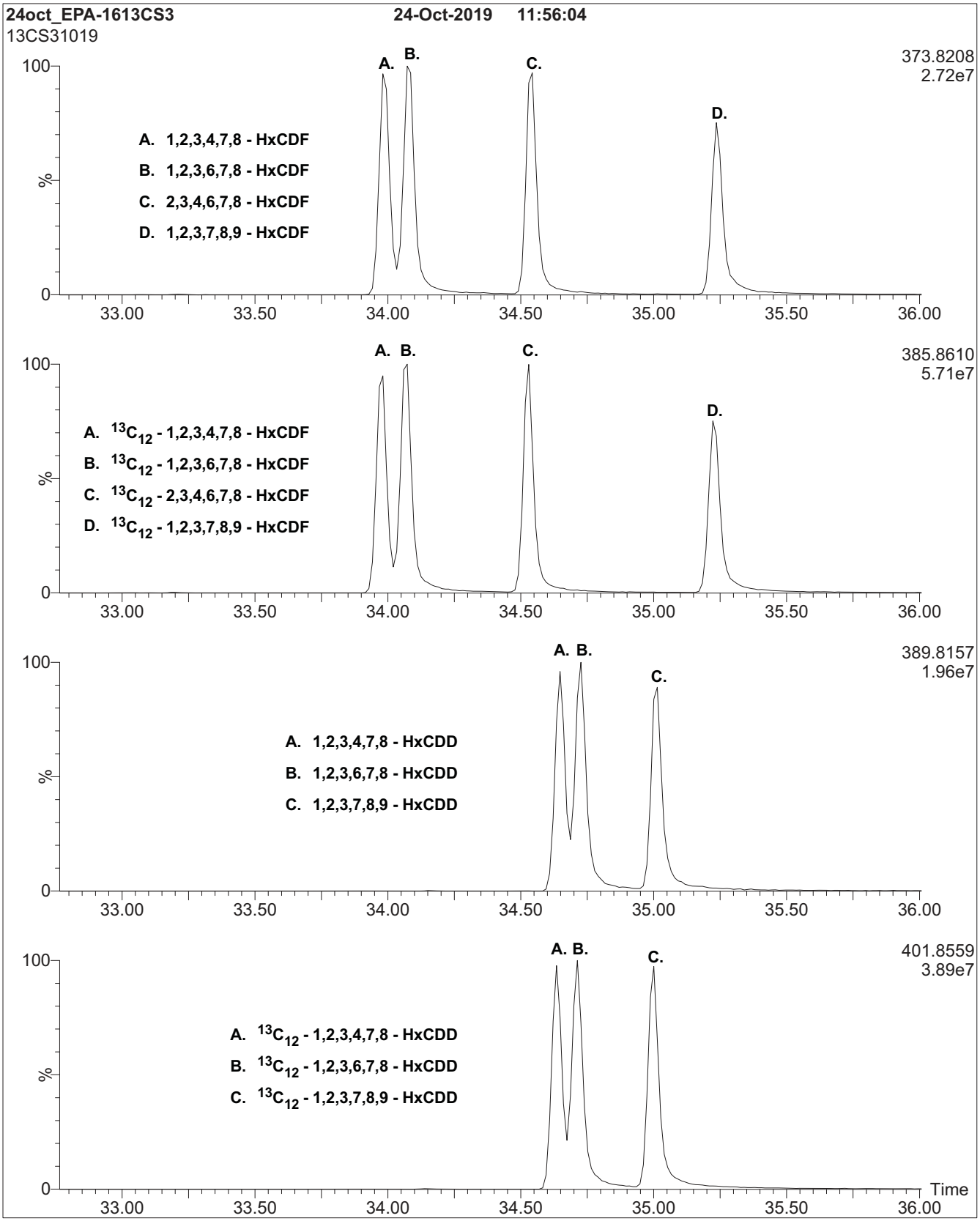


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

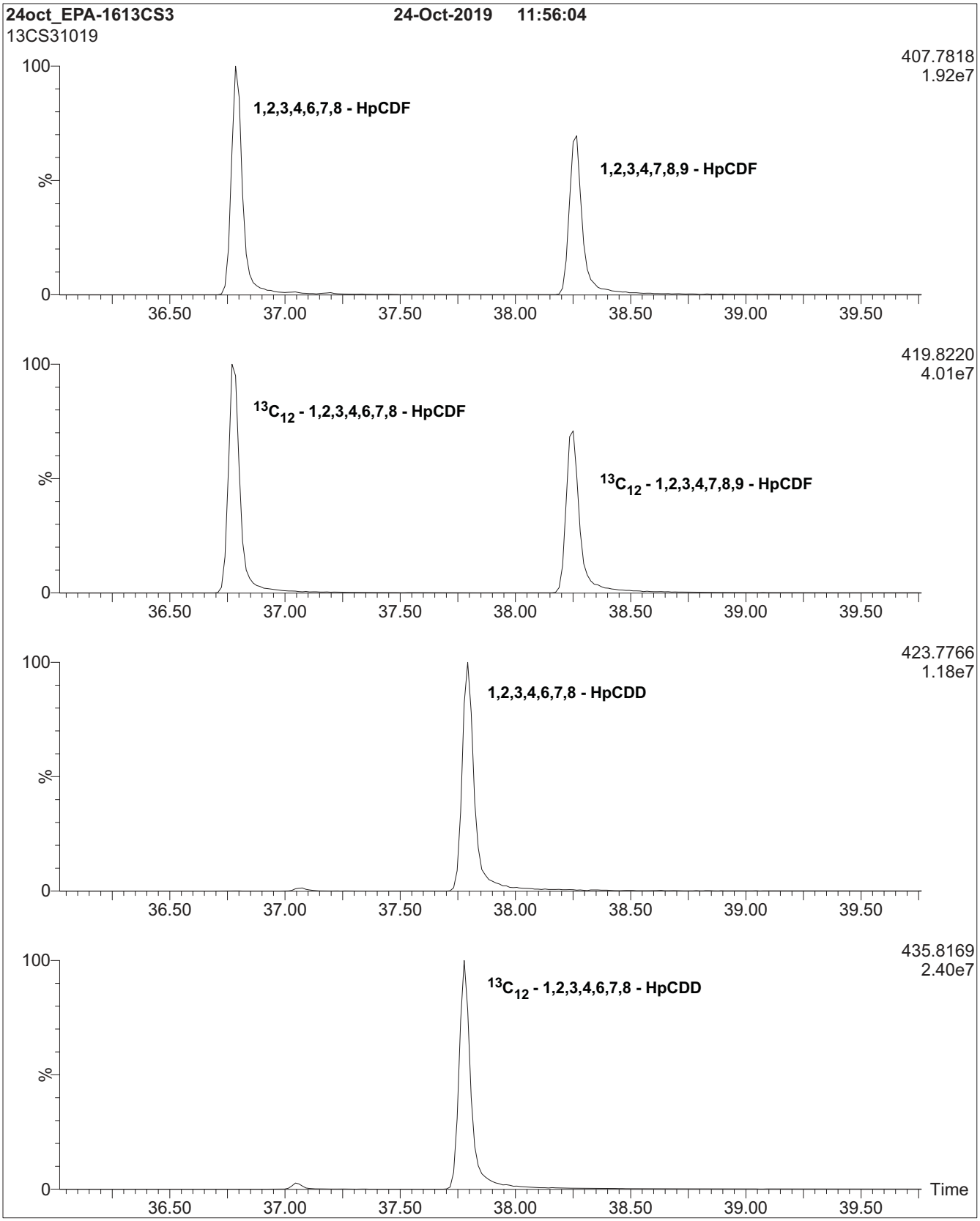
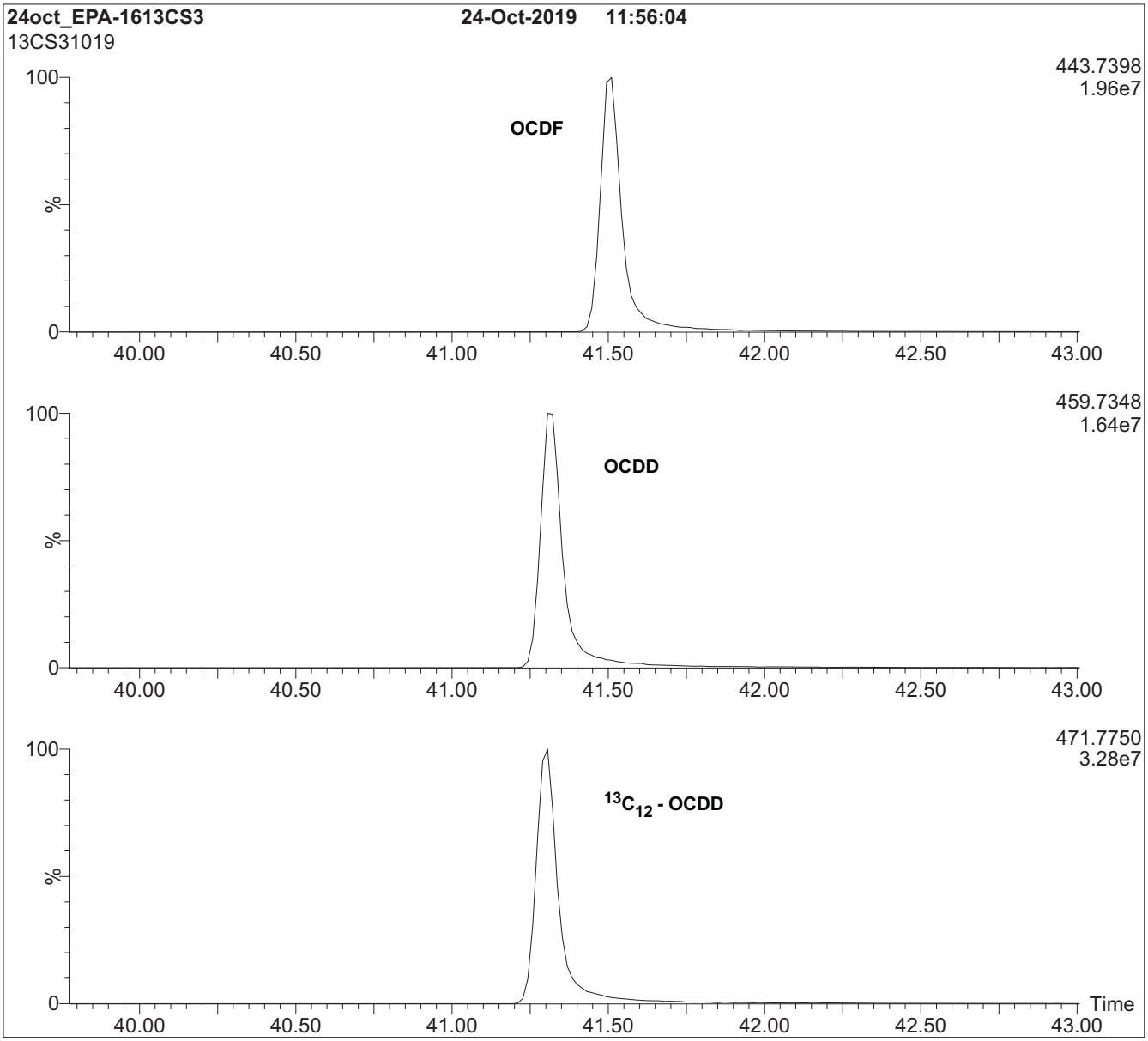


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**



HRGC/HRMS:

Agilent 6890N (HRGC)
Autospec Ultima (HRMS)

Chromatographic Conditions:

Column: 60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W

Flow: Constant at 1 ml/min
Injector: 280 °C (Splitless Injection)
Ionization: EI+
Detector: 280 °C
SIR at 10,000 mass resolving power

Oven: 150 °C (1 min)
12 °C/min to 200 °C
3 °C/min to 235 °C
235 °C (8 min)
8 °C/min to 310 °C
310 °C (8 min)

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

EPA-1613CVS

U.S. EPA Method 1613 Calibration and Verification Solutions
plus Supplemental Calibration Solutions EPA-1613CSL & EPA-1613CS0.5

PRODUCT CODES:	EPA-1613CVS	**LOT NUMBERS:**	(see below)
	EPA-1613CS1		13CS11019
	EPA-1613CS2		13CS21019
	EPA-1613CS3		13CS31019
	EPA-1613CS4		13CS41019
	EPA-1613CS5		13CS51019

Note: EPA-1613CSL and EPA-1613CS0.5 are lower level extensions to this calibration set that must be ordered separately.

EPA-1613CS0.5	13CS0.51019
EPA-1613CSL	13CSL1019

SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	10/22/2019
LAST TESTED: (mm/dd/yyyy)	10/24/2019
EXPIRY DATE: (mm/dd/yyyy)	10/24/2026
RECOMMENDED STORAGE:	Store ampoules in a cool, dark place

I005458
1613 CS4 CAL STD
Expires 10/24/2026
Prepared By Joshua Rains 6/23/2020

DESCRIPTION:

EPA-1613CVS is a series of 5 calibration solutions containing native ($^{12}C_{12}$) and mass-labelled ($^{13}C_{12}$ and $^{37}Cl_4$) chlorinated dibenzo-p-dioxins (PCDDs) and dibenzofurans (PCDFs). The components of each solution, and their concentrations, are given in Table A.

They were designed for, and prepared to be used according to, U.S. EPA Method 1613 (Revision B). They are to be used as received.

EPA-1613CSL and EPA-1613CS0.5 are lower level extensions to EPA-1613CVS. Neither is required by the method, but either or both can be used to extend the calibration to lower levels.

The individual native PCDDs and PCDFs all have chemical purities of >98%. The individual ^{13}C-labelled PCDDs and PCDFs all have chemical purities of >98% and isotopic purities of ≥99%. The 2,3,7,8-$^{37}Cl_4$-Tetrachlorodibenzo-p-dioxin has a chemical purity of >98% and an isotopic (^{37}Cl) purity of ≥95%.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations
Table B: 5-point HRGC/HRMS Calibration and RRF Summary
Table C: 7-point HRGC/HRMS Calibration and RRF Summary
Figure 1: HRGC/HRMS Data for EPA-1613CS3 (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 3 for further details.

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a series of standards for the identification and quantification of specific chemical compounds.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned values, and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analytes is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **EPA-1613CVS (with EPA-1613CSL and EPA-1613CS0.5); Components and Concentrations (ng/ml, ± 5% in nonane/toluene)**

Compound	Concentration (ng/ml)						
Native PCDDs and PCDFs:	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CSL**	**CS0.5**
2,3,7,8-TCDD	0.5	2	10	40	200	0.1	0.25
2,3,7,8-TCDF	0.5	2	10	40	200	0.1	0.25
1,2,3,7,8-PeCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8-PeCDF	2.5	10	50	200	1000	0.5	1.25
2,3,4,7,8-PeCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,6,7,8-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8,9-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,6,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8,9-HxCDF	2.5	10	50	200	1000	0.5	1.25
2,3,4,6,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,6,7,8-HpCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,6,7,8-HpCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8,9-HpCDF	2.5	10	50	200	1000	0.5	1.25
OCDD	5.0	20	100	400	2000	1.0	2.5
OCDF	5.0	20	100	400	2000	1.0	2.5
Labelled PCDDs and PCDFs:							
$^{13}C_{12}$-2,3,7,8-TCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,7,8-TCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8-PeCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8-PeCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,4,7,8-PeCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-OCDD	200	200	200	200	200	200	200
Cleanup Standard:							
$^{37}Cl_4$-2,3,7,8-TCDD	0.5	2	10	40	200	0.1	0.25
Internal Standards:							
$^{13}C_{12}$-1,2,3,4-TCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	100	100	100	100	100	100	100
Percent toluene (v/v)	3.6%	3.7%	4.2%	6.1%	16.2%	3.6%	3.6%

Certified By:  **Date:** 10/25/2019
(mm/dd/yyyy)

B.G. Chittim, General Manager

Table B: **EPA-1613CVS; 5-point HRGC/HRMS Calibration and RRF Summary**

Calibration RRF Summary				Calibration Standard				
Calibration Filename: 24oct_EPA1613CVS-CAL.QLD				CS1	CS2	CS3	CS4	CS5
Name	Mean	S. D.	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5
2,3,7,8-TCDF	0.93	0.013	1.4	0.92	0.95	0.93	0.92	0.95
1,2,3,7,8-PeCDF	0.93	0.015	1.6	0.92	0.92	0.93	0.93	0.95
2,3,4,7,8-PeCDF	1.04	0.019	1.8	1.03	1.02	1.05	1.05	1.07
1,2,3,4,7,8-HxCDF	0.96	0.035	3.7	0.94	0.92	0.98	0.99	1.00
1,2,3,6,7,8-HxCDF	0.93	0.013	1.4	0.92	0.94	0.94	0.91	0.94
2,3,4,6,7,8-HxCDF	0.96	0.022	2.3	0.95	0.94	0.97	0.97	0.99
1,2,3,7,8,9-HxCDF	0.89	0.021	2.4	0.87	0.88	0.90	0.90	0.92
1,2,3,4,6,7,8-HpCDF	0.91	0.011	1.2	0.90	0.90	0.90	0.92	0.92
1,2,3,4,7,8,9-HpCDF	0.91	0.010	1.1	0.90	0.90	0.92	0.91	0.92
OCDF	1.19	0.056	4.7	1.11	1.17	1.19	1.23	1.26
2,3,7,8-TCDD	1.05	0.023	2.2	1.01	1.06	1.05	1.05	1.07
1,2,3,7,8-PeCDD	0.97	0.018	1.9	0.95	0.95	0.98	0.97	0.99
1,2,3,4,7,8-HxCDD	1.00	0.019	1.9	1.01	1.00	1.00	0.96	1.01
1,2,3,6,7,8-HxCDD	0.98	0.032	3.2	0.93	0.98	0.99	1.01	1.01
1,2,3,7,8,9-HxCDD	0.97	0.016	1.6	0.95	0.96	0.98	0.99	0.98
1,2,3,4,6,7,8-HpCDD	1.01	0.025	2.5	1.01	0.97	1.02	1.03	1.04
OCDD	1.00	0.013	1.3	1.00	0.99	1.02	1.02	1.00
$^{13}C_{12}$-2,3,7,8-TCDF	1.57	0.047	3.0	1.52	1.55	1.55	1.57	1.65
$^{13}C_{12}$-1,2,3,7,8-PeCDF	1.21	0.078	6.5	1.13	1.20	1.17	1.20	1.34
$^{13}C_{12}$-2,3,4,7,8-PeCDF	1.17	0.081	6.9	1.09	1.15	1.13	1.17	1.31
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	1.33	0.020	1.5	1.35	1.33	1.33	1.32	1.30
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	1.51	0.034	2.2	1.47	1.48	1.53	1.53	1.54
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	1.38	0.012	0.9	1.38	1.38	1.40	1.37	1.36
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	1.19	0.014	1.2	1.18	1.16	1.20	1.19	1.20
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1.31	0.033	2.5	1.31	1.26	1.33	1.31	1.35
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	1.08	0.046	4.3	1.06	1.03	1.09	1.08	1.15
$^{13}C_{12}$-2,3,7,8-TCDD	1.13	0.036	3.2	1.10	1.11	1.11	1.13	1.19
$^{13}C_{12}$-1,2,3,7,8-PeCDD	0.79	0.047	5.9	0.74	0.78	0.75	0.79	0.86
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	0.87	0.027	3.1	0.85	0.83	0.89	0.88	0.89
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	1.04	0.010	1.0	1.05	1.05	1.04	1.05	1.03
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	0.81	0.017	2.1	0.81	0.80	0.80	0.81	0.84
$^{13}C_{12}$-OCDD	0.74	0.055	7.4	0.70	0.70	0.73	0.72	0.83
$^{13}C_{12}$-1,2,3,4-TCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00
$^{37}Cl_4$-2,3,7,8-TCDD	0.97	0.026	2.6	0.95	0.94	0.99	0.99	0.99

Table C: **EPA-1613CVS (with EPA-1613CSL and EPA-1613CS0.5); 7-point HRGC/HRMS Calibration and RRF Summary**

Calibration RRF Summary				Calibration Standard						
Calibration Filename: 24oct_EPA1613CVS-CAL.QLD				CSL	CS0.5	CS1	CS2	CS3	CS4	CS5
Name	Mean	S. D.	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5	RRF#6	RRF#7
2,3,7,8-TCDF	0.92	0.045	4.8	0.96	0.83	0.92	0.95	0.93	0.92	0.95
1,2,3,7,8-PeCDF	0.93	0.013	1.4	0.94	0.92	0.92	0.92	0.93	0.93	0.95
2,3,4,7,8-PeCDF	1.02	0.058	5.7	0.90	1.00	1.03	1.02	1.05	1.05	1.07
1,2,3,4,7,8-HxCDF	0.96	0.029	3.0	0.96	0.97	0.94	0.92	0.98	0.99	1.00
1,2,3,6,7,8-HxCDF	0.92	0.030	3.3	0.90	0.86	0.92	0.94	0.94	0.91	0.94
2,3,4,6,7,8-HxCDF	0.94	0.047	5.0	0.87	0.89	0.95	0.94	0.97	0.97	0.99
1,2,3,7,8,9-HxCDF	0.88	0.029	3.3	0.83	0.88	0.87	0.88	0.90	0.90	0.92
1,2,3,4,6,7,8-HpCDF	0.90	0.033	3.7	0.83	0.93	0.90	0.90	0.90	0.92	0.92
1,2,3,4,7,8,9-HpCDF	0.91	0.018	1.9	0.89	0.94	0.90	0.90	0.92	0.91	0.92
OCDF	1.18	0.052	4.4	1.15	1.14	1.11	1.17	1.19	1.23	1.26
2,3,7,8-TCDD	1.03	0.051	5.0	1.03	0.92	1.01	1.06	1.05	1.05	1.07
1,2,3,7,8-PeCDD	0.95	0.042	4.4	0.87	0.98	0.95	0.95	0.98	0.97	0.99
1,2,3,4,7,8-HxCDD	0.97	0.066	6.8	0.83	0.98	1.01	1.00	1.00	0.96	1.01
1,2,3,6,7,8-HxCDD	0.96	0.044	4.5	0.90	0.92	0.93	0.98	0.99	1.01	1.01
1,2,3,7,8,9-HxCDD	0.94	0.054	5.7	0.83	0.92	0.95	0.96	0.98	0.99	0.98
1,2,3,4,6,7,8-HpCDD	1.01	0.033	3.3	0.95	1.03	1.01	0.97	1.02	1.03	1.04
OCDD	1.00	0.023	2.3	0.95	1.00	1.00	0.99	1.02	1.02	1.00
$^{13}C_{12}$-2,3,7,8-TCDF	1.56	0.042	2.7	1.52	1.54	1.52	1.55	1.55	1.57	1.65
$^{13}C_{12}$-1,2,3,7,8-PeCDF	1.20	0.066	5.5	1.18	1.17	1.13	1.20	1.17	1.20	1.34
$^{13}C_{12}$-2,3,4,7,8-PeCDF	1.16	0.071	6.1	1.12	1.13	1.09	1.15	1.13	1.17	1.31
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	1.33	0.018	1.4	1.32	1.35	1.35	1.33	1.33	1.32	1.30
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	1.53	0.045	3.0	1.60	1.56	1.47	1.48	1.53	1.53	1.54
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	1.39	0.019	1.4	1.39	1.42	1.38	1.38	1.40	1.37	1.36
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	1.19	0.012	1.0	1.19	1.19	1.18	1.16	1.20	1.19	1.20
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1.31	0.028	2.2	1.30	1.33	1.31	1.26	1.33	1.31	1.35
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	1.07	0.045	4.2	1.02	1.08	1.06	1.03	1.09	1.08	1.15
$^{13}C_{12}$-2,3,7,8-TCDD	1.12	0.033	3.0	1.09	1.11	1.10	1.11	1.11	1.13	1.19
$^{13}C_{12}$-1,2,3,7,8-PeCDD	0.78	0.040	5.1	0.75	0.78	0.74	0.78	0.75	0.79	0.86
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	0.87	0.025	2.9	0.86	0.90	0.85	0.83	0.89	0.88	0.89
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	1.05	0.015	1.5	1.08	1.06	1.05	1.05	1.04	1.05	1.03
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	0.81	0.016	2.0	0.79	0.81	0.81	0.80	0.80	0.81	0.84
$^{13}C_{12}$-OCDD	0.73	0.046	6.3	0.71	0.72	0.70	0.70	0.73	0.72	0.83
$^{13}C_{12}$-1,2,3,4-TCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
$^{37}Cl_4$-2,3,7,8-TCDD	0.97	0.053	5.4	0.90	1.07	0.95	0.94	0.99	0.99	0.99

Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

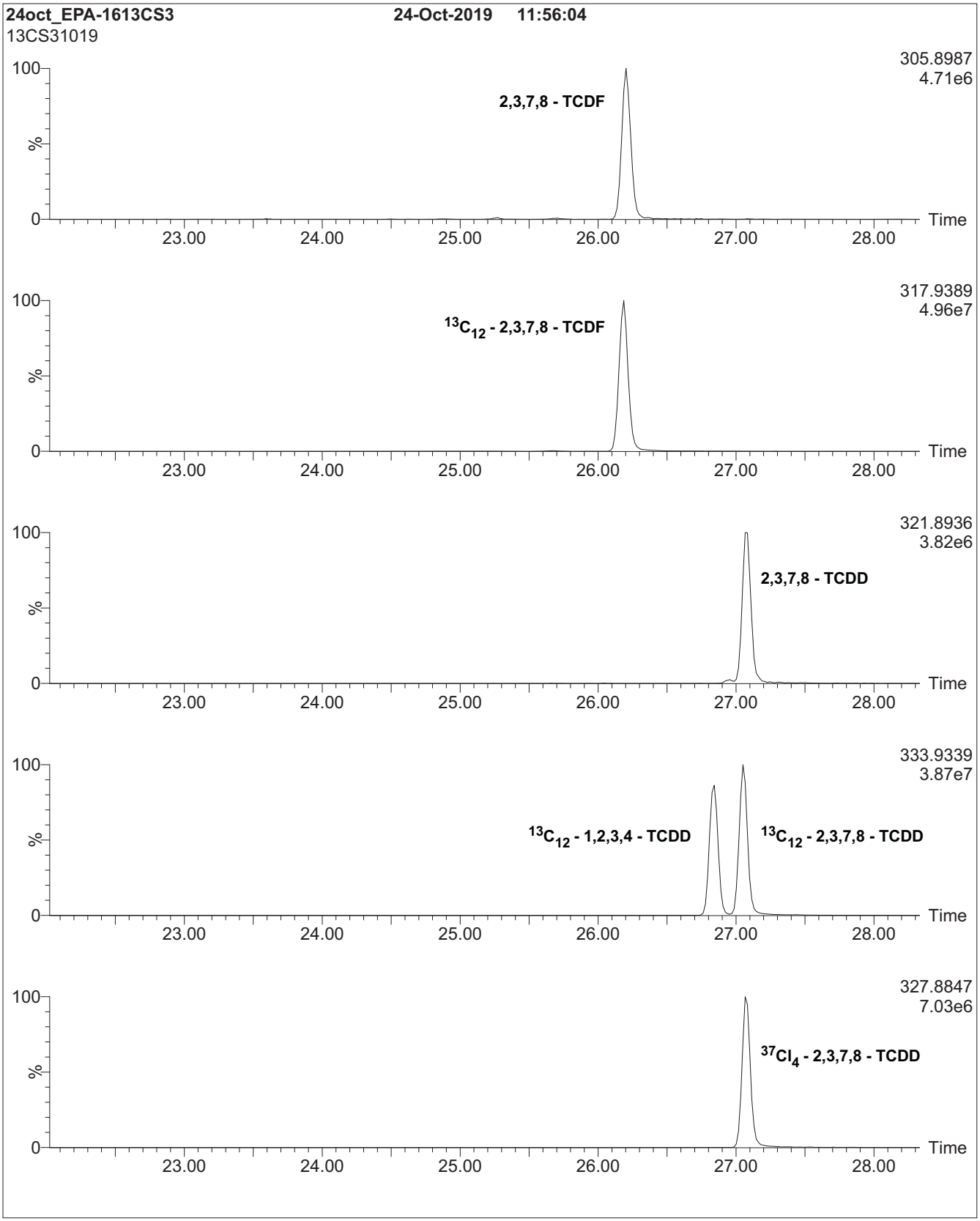


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

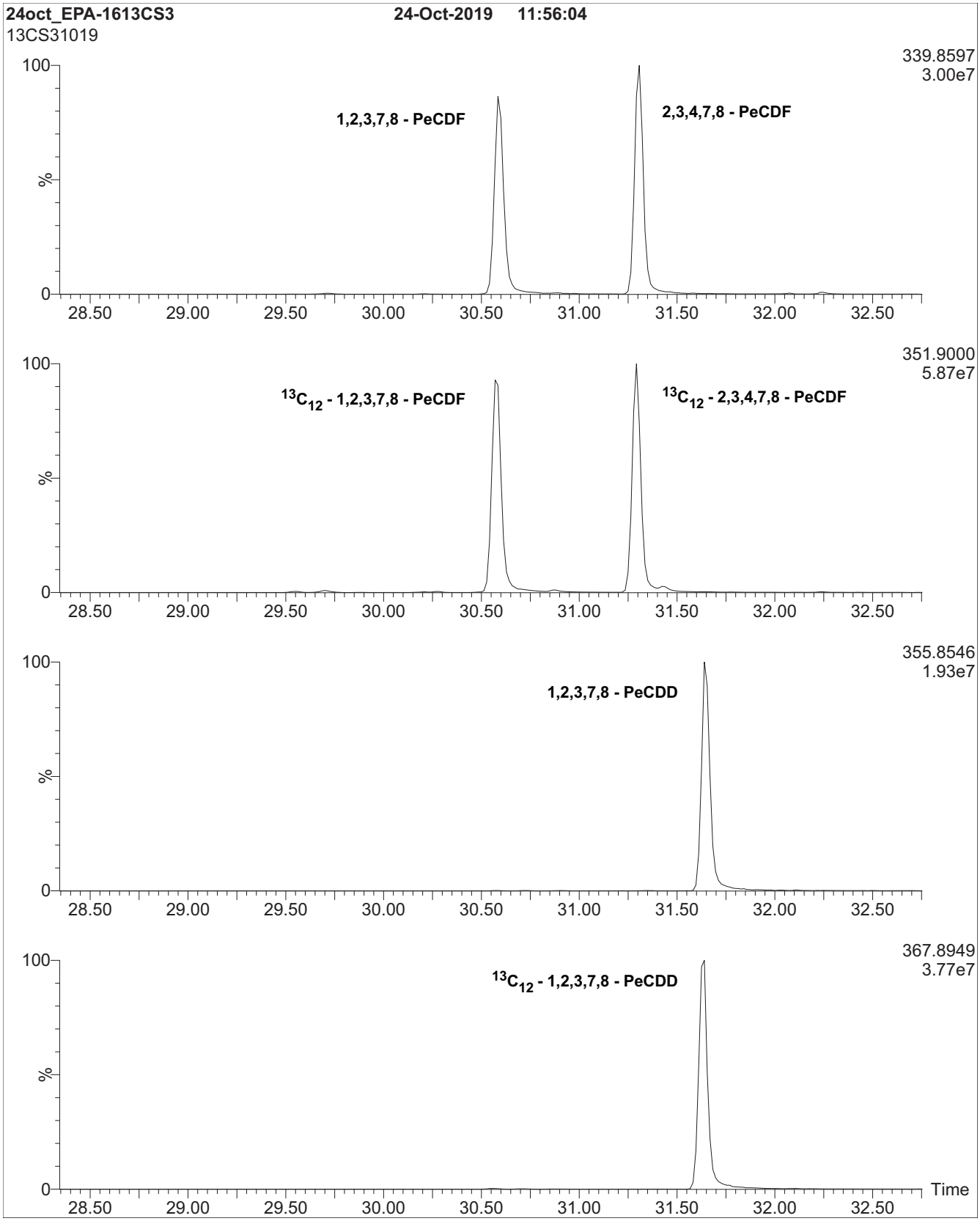


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

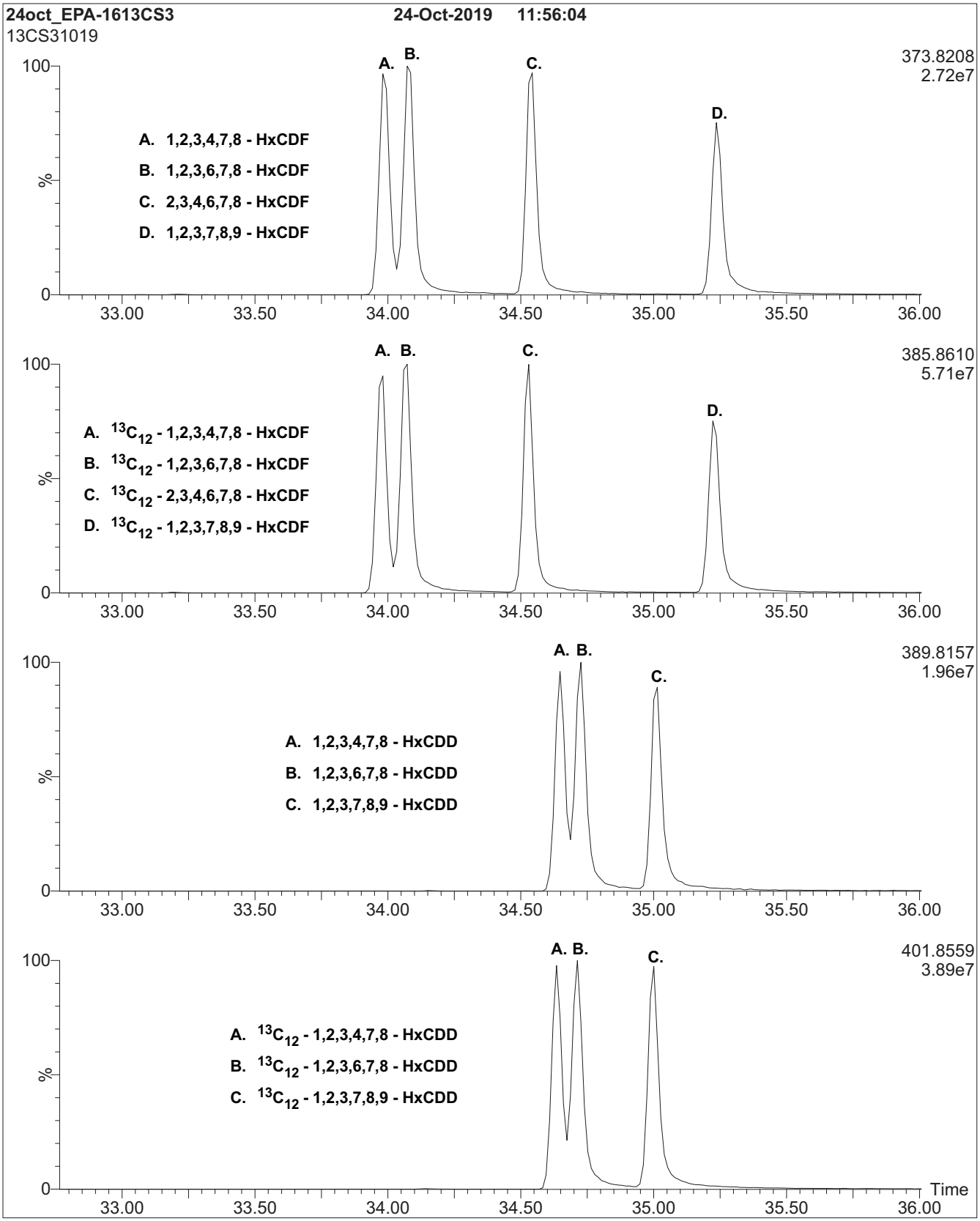


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

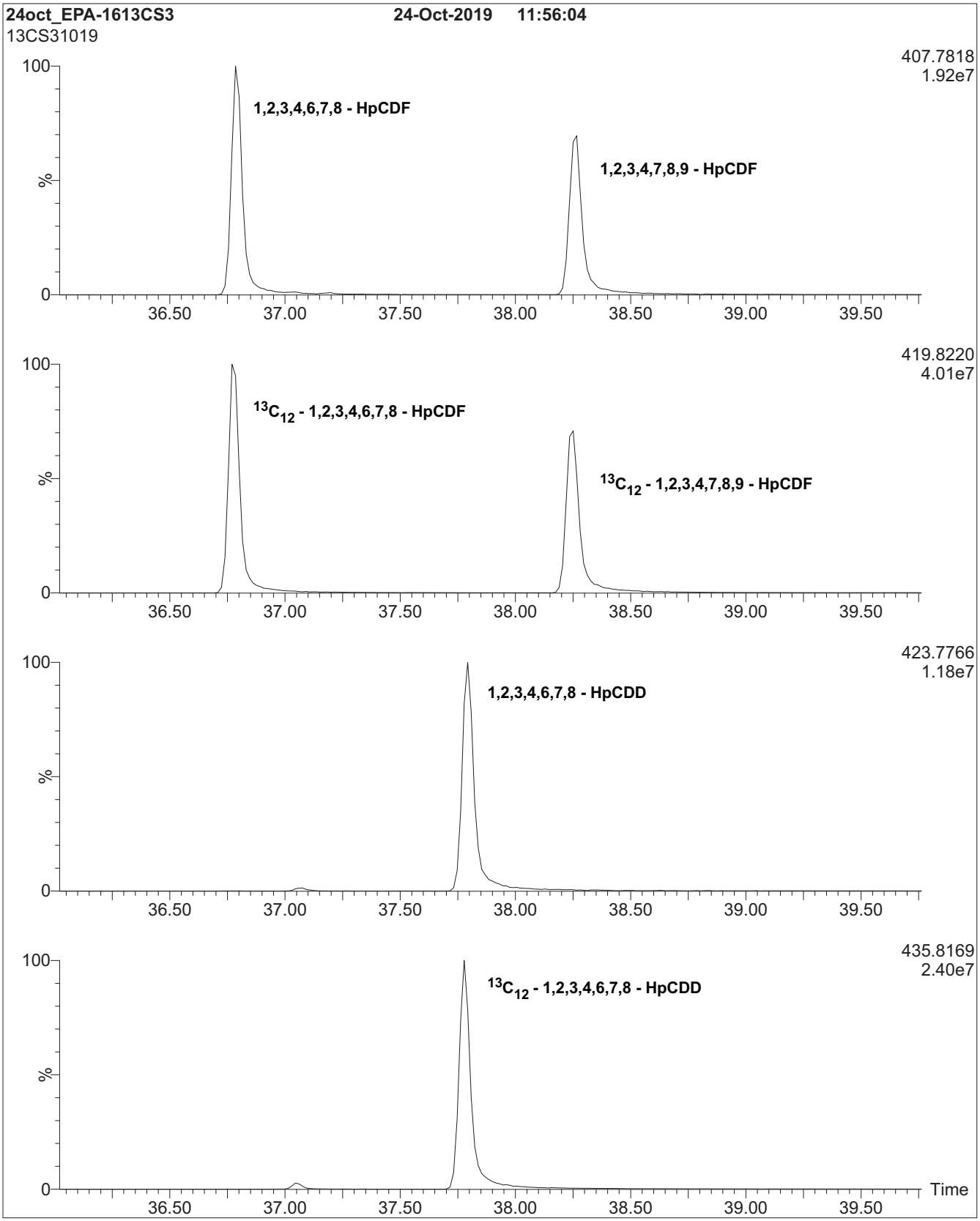
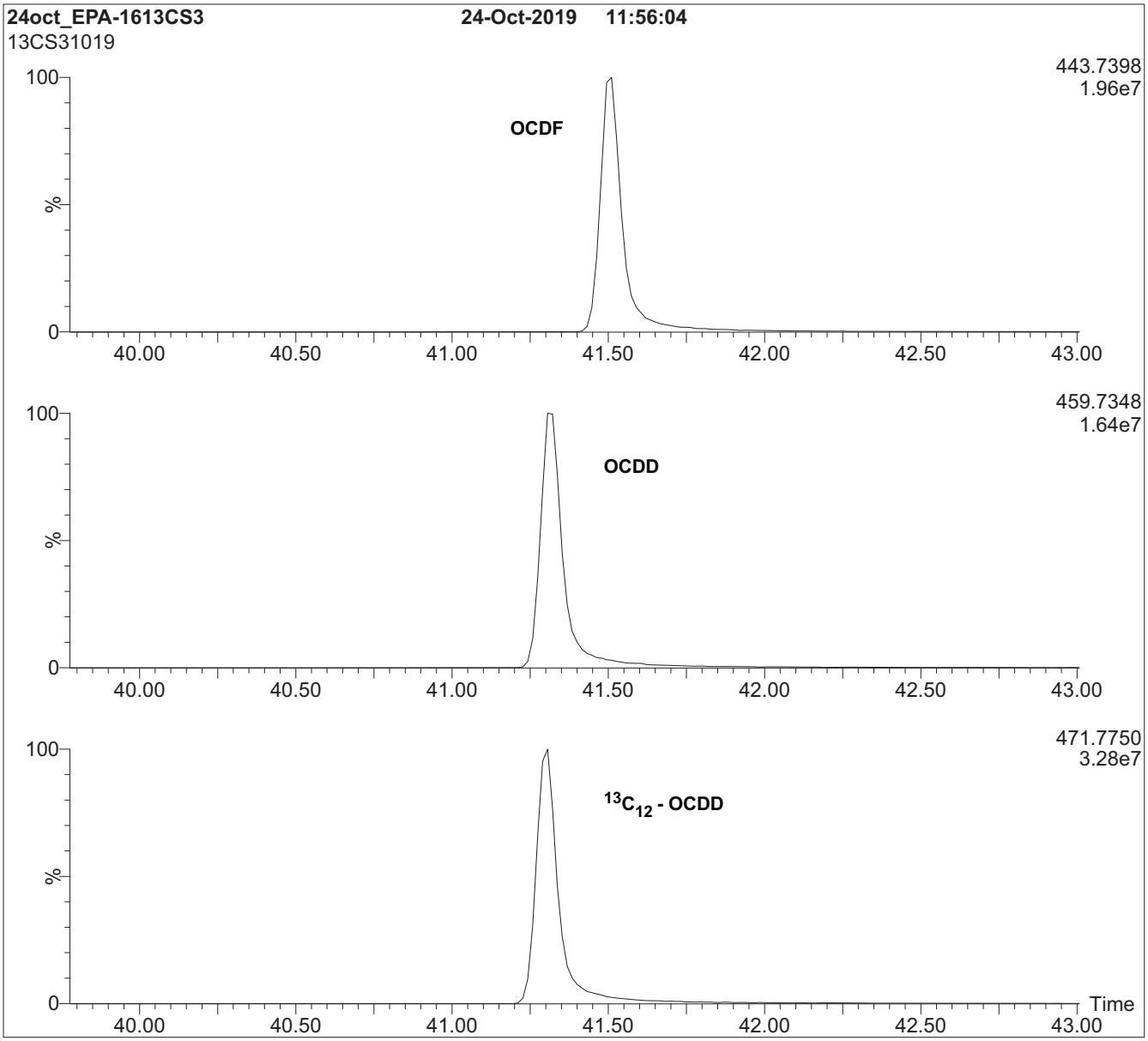


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**



HRGC/HRMS:

Agilent 6890N (HRGC)
Autospec Ultima (HRMS)

Chromatographic Conditions:

Column: 60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W

Flow: Constant at 1 ml/min
Injector: 280 °C (Splitless Injection)
Ionization: EI+
Detector: 280 °C
SIR at 10,000 mass resolving power

Oven: 150 °C (1 min)
12 °C/min to 200 °C
3 °C/min to 235 °C
235 °C (8 min)
8 °C/min to 310 °C
310 °C (8 min)

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

EPA-1613CVS

U.S. EPA Method 1613 Calibration and Verification Solutions
plus Supplemental Calibration Solutions EPA-1613CSL & EPA-1613CS0.5

PRODUCT CODES:	EPA-1613CVS	**LOT NUMBERS:**	(see below)
	EPA-1613CS1		13CS11019
	EPA-1613CS2		13CS21019
	EPA-1613CS3		13CS31019
	EPA-1613CS4		13CS41019
	EPA-1613CS5		13CS51019

Note: EPA-1613CSL and EPA-1613CS0.5 are lower level extensions to this calibration set that must be ordered separately.

EPA-1613CS0.5	13CS0.51019
EPA-1613CSL	13CSL1019

SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	10/22/2019
LAST TESTED: (mm/dd/yyyy)	10/24/2019
EXPIRY DATE: (mm/dd/yyyy)	10/24/2026
RECOMMENDED STORAGE:	Store ampoules in a cool, dark place

I005459
1613 CS5 CAL STD
Expires 10/24/2026
Prepared By Joshua Rains 6/23/2020

DESCRIPTION:

EPA-1613CVS is a series of 5 calibration solutions containing native ($^{12}C_{12}$) and mass-labelled ($^{13}C_{12}$ and $^{37}Cl_4$) chlorinated dibenzo-p-dioxins (PCDDs) and dibenzofurans (PCDFs). The components of each solution, and their concentrations, are given in Table A.

They were designed for, and prepared to be used according to, U.S. EPA Method 1613 (Revision B). They are to be used as received.

EPA-1613CSL and EPA-1613CS0.5 are lower level extensions to EPA-1613CVS. Neither is required by the method, but either or both can be used to extend the calibration to lower levels.

The individual native PCDDs and PCDFs all have chemical purities of >98%. The individual ^{13}C-labelled PCDDs and PCDFs all have chemical purities of >98% and isotopic purities of ≥99%. The 2,3,7,8-$^{37}Cl_4$-Tetrachlorodibenzo-p-dioxin has a chemical purity of >98% and an isotopic (^{37}Cl) purity of ≥95%.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations
Table B: 5-point HRGC/HRMS Calibration and RRF Summary
Table C: 7-point HRGC/HRMS Calibration and RRF Summary
Figure 1: HRGC/HRMS Data for EPA-1613CS3 (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 3 for further details.

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a series of standards for the identification and quantification of specific chemical compounds.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned values, and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analytes is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **EPA-1613CVS (with EPA-1613CSL and EPA-1613CS0.5); Components and Concentrations (ng/ml, ± 5% in nonane/toluene)**

Compound	Concentration (ng/ml)						
Native PCDDs and PCDFs:	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CSL**	**CS0.5**
2,3,7,8-TCDD	0.5	2	10	40	200	0.1	0.25
2,3,7,8-TCDF	0.5	2	10	40	200	0.1	0.25
1,2,3,7,8-PeCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8-PeCDF	2.5	10	50	200	1000	0.5	1.25
2,3,4,7,8-PeCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,6,7,8-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8,9-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,6,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8,9-HxCDF	2.5	10	50	200	1000	0.5	1.25
2,3,4,6,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,6,7,8-HpCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,6,7,8-HpCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8,9-HpCDF	2.5	10	50	200	1000	0.5	1.25
OCDD	5.0	20	100	400	2000	1.0	2.5
OCDF	5.0	20	100	400	2000	1.0	2.5
Labelled PCDDs and PCDFs:							
$^{13}C_{12}$-2,3,7,8-TCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,7,8-TCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8-PeCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8-PeCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,4,7,8-PeCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-OCDD	200	200	200	200	200	200	200
Cleanup Standard:							
$^{37}Cl_4$-2,3,7,8-TCDD	0.5	2	10	40	200	0.1	0.25
Internal Standards:							
$^{13}C_{12}$-1,2,3,4-TCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	100	100	100	100	100	100	100
Percent toluene (v/v)	3.6%	3.7%	4.2%	6.1%	16.2%	3.6%	3.6%

Certified By:  **Date:** 10/25/2019
(mm/dd/yyyy)

B.G. Chittim, General Manager

Table B: **EPA-1613CVS; 5-point HRGC/HRMS Calibration and RRF Summary**

Calibration RRF Summary				Calibration Standard				
Calibration Filename: 24oct_EPA1613CVS-CAL.QLD				CS1	CS2	CS3	CS4	CS5
Name	Mean	S. D.	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5
2,3,7,8-TCDF	0.93	0.013	1.4	0.92	0.95	0.93	0.92	0.95
1,2,3,7,8-PeCDF	0.93	0.015	1.6	0.92	0.92	0.93	0.93	0.95
2,3,4,7,8-PeCDF	1.04	0.019	1.8	1.03	1.02	1.05	1.05	1.07
1,2,3,4,7,8-HxCDF	0.96	0.035	3.7	0.94	0.92	0.98	0.99	1.00
1,2,3,6,7,8-HxCDF	0.93	0.013	1.4	0.92	0.94	0.94	0.91	0.94
2,3,4,6,7,8-HxCDF	0.96	0.022	2.3	0.95	0.94	0.97	0.97	0.99
1,2,3,7,8,9-HxCDF	0.89	0.021	2.4	0.87	0.88	0.90	0.90	0.92
1,2,3,4,6,7,8-HpCDF	0.91	0.011	1.2	0.90	0.90	0.90	0.92	0.92
1,2,3,4,7,8,9-HpCDF	0.91	0.010	1.1	0.90	0.90	0.92	0.91	0.92
OCDF	1.19	0.056	4.7	1.11	1.17	1.19	1.23	1.26
2,3,7,8-TCDD	1.05	0.023	2.2	1.01	1.06	1.05	1.05	1.07
1,2,3,7,8-PeCDD	0.97	0.018	1.9	0.95	0.95	0.98	0.97	0.99
1,2,3,4,7,8-HxCDD	1.00	0.019	1.9	1.01	1.00	1.00	0.96	1.01
1,2,3,6,7,8-HxCDD	0.98	0.032	3.2	0.93	0.98	0.99	1.01	1.01
1,2,3,7,8,9-HxCDD	0.97	0.016	1.6	0.95	0.96	0.98	0.99	0.98
1,2,3,4,6,7,8-HpCDD	1.01	0.025	2.5	1.01	0.97	1.02	1.03	1.04
OCDD	1.00	0.013	1.3	1.00	0.99	1.02	1.02	1.00
$^{13}C_{12}$-2,3,7,8-TCDF	1.57	0.047	3.0	1.52	1.55	1.55	1.57	1.65
$^{13}C_{12}$-1,2,3,7,8-PeCDF	1.21	0.078	6.5	1.13	1.20	1.17	1.20	1.34
$^{13}C_{12}$-2,3,4,7,8-PeCDF	1.17	0.081	6.9	1.09	1.15	1.13	1.17	1.31
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	1.33	0.020	1.5	1.35	1.33	1.33	1.32	1.30
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	1.51	0.034	2.2	1.47	1.48	1.53	1.53	1.54
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	1.38	0.012	0.9	1.38	1.38	1.40	1.37	1.36
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	1.19	0.014	1.2	1.18	1.16	1.20	1.19	1.20
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1.31	0.033	2.5	1.31	1.26	1.33	1.31	1.35
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	1.08	0.046	4.3	1.06	1.03	1.09	1.08	1.15
$^{13}C_{12}$-2,3,7,8-TCDD	1.13	0.036	3.2	1.10	1.11	1.11	1.13	1.19
$^{13}C_{12}$-1,2,3,7,8-PeCDD	0.79	0.047	5.9	0.74	0.78	0.75	0.79	0.86
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	0.87	0.027	3.1	0.85	0.83	0.89	0.88	0.89
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	1.04	0.010	1.0	1.05	1.05	1.04	1.05	1.03
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	0.81	0.017	2.1	0.81	0.80	0.80	0.81	0.84
$^{13}C_{12}$-OCDD	0.74	0.055	7.4	0.70	0.70	0.73	0.72	0.83
$^{13}C_{12}$-1,2,3,4-TCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00
$^{37}Cl_4$-2,3,7,8-TCDD	0.97	0.026	2.6	0.95	0.94	0.99	0.99	0.99

Table C: **EPA-1613CVS (with EPA-1613CSL and EPA-1613CS0.5); 7-point HRGC/HRMS Calibration and RRF Summary**

Calibration RRF Summary				Calibration Standard						
Calibration Filename: 24oct_EPA1613CVS-CAL.QLD				CSL	CS0.5	CS1	CS2	CS3	CS4	CS5
Name	Mean	S. D.	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5	RRF#6	RRF#7
2,3,7,8-TCDF	0.92	0.045	4.8	0.96	0.83	0.92	0.95	0.93	0.92	0.95
1,2,3,7,8-PeCDF	0.93	0.013	1.4	0.94	0.92	0.92	0.92	0.93	0.93	0.95
2,3,4,7,8-PeCDF	1.02	0.058	5.7	0.90	1.00	1.03	1.02	1.05	1.05	1.07
1,2,3,4,7,8-HxCDF	0.96	0.029	3.0	0.96	0.97	0.94	0.92	0.98	0.99	1.00
1,2,3,6,7,8-HxCDF	0.92	0.030	3.3	0.90	0.86	0.92	0.94	0.94	0.91	0.94
2,3,4,6,7,8-HxCDF	0.94	0.047	5.0	0.87	0.89	0.95	0.94	0.97	0.97	0.99
1,2,3,7,8,9-HxCDF	0.88	0.029	3.3	0.83	0.88	0.87	0.88	0.90	0.90	0.92
1,2,3,4,6,7,8-HpCDF	0.90	0.033	3.7	0.83	0.93	0.90	0.90	0.90	0.92	0.92
1,2,3,4,7,8,9-HpCDF	0.91	0.018	1.9	0.89	0.94	0.90	0.90	0.92	0.91	0.92
OCDF	1.18	0.052	4.4	1.15	1.14	1.11	1.17	1.19	1.23	1.26
2,3,7,8-TCDD	1.03	0.051	5.0	1.03	0.92	1.01	1.06	1.05	1.05	1.07
1,2,3,7,8-PeCDD	0.95	0.042	4.4	0.87	0.98	0.95	0.95	0.98	0.97	0.99
1,2,3,4,7,8-HxCDD	0.97	0.066	6.8	0.83	0.98	1.01	1.00	1.00	0.96	1.01
1,2,3,6,7,8-HxCDD	0.96	0.044	4.5	0.90	0.92	0.93	0.98	0.99	1.01	1.01
1,2,3,7,8,9-HxCDD	0.94	0.054	5.7	0.83	0.92	0.95	0.96	0.98	0.99	0.98
1,2,3,4,6,7,8-HpCDD	1.01	0.033	3.3	0.95	1.03	1.01	0.97	1.02	1.03	1.04
OCDD	1.00	0.023	2.3	0.95	1.00	1.00	0.99	1.02	1.02	1.00
$^{13}C_{12}$-2,3,7,8-TCDF	1.56	0.042	2.7	1.52	1.54	1.52	1.55	1.55	1.57	1.65
$^{13}C_{12}$-1,2,3,7,8-PeCDF	1.20	0.066	5.5	1.18	1.17	1.13	1.20	1.17	1.20	1.34
$^{13}C_{12}$-2,3,4,7,8-PeCDF	1.16	0.071	6.1	1.12	1.13	1.09	1.15	1.13	1.17	1.31
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	1.33	0.018	1.4	1.32	1.35	1.35	1.33	1.33	1.32	1.30
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	1.53	0.045	3.0	1.60	1.56	1.47	1.48	1.53	1.53	1.54
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	1.39	0.019	1.4	1.39	1.42	1.38	1.38	1.40	1.37	1.36
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	1.19	0.012	1.0	1.19	1.19	1.18	1.16	1.20	1.19	1.20
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1.31	0.028	2.2	1.30	1.33	1.31	1.26	1.33	1.31	1.35
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	1.07	0.045	4.2	1.02	1.08	1.06	1.03	1.09	1.08	1.15
$^{13}C_{12}$-2,3,7,8-TCDD	1.12	0.033	3.0	1.09	1.11	1.10	1.11	1.11	1.13	1.19
$^{13}C_{12}$-1,2,3,7,8-PeCDD	0.78	0.040	5.1	0.75	0.78	0.74	0.78	0.75	0.79	0.86
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	0.87	0.025	2.9	0.86	0.90	0.85	0.83	0.89	0.88	0.89
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	1.05	0.015	1.5	1.08	1.06	1.05	1.05	1.04	1.05	1.03
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	0.81	0.016	2.0	0.79	0.81	0.81	0.80	0.80	0.81	0.84
$^{13}C_{12}$-OCDD	0.73	0.046	6.3	0.71	0.72	0.70	0.70	0.73	0.72	0.83
$^{13}C_{12}$-1,2,3,4-TCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
$^{37}Cl_4$-2,3,7,8-TCDD	0.97	0.053	5.4	0.90	1.07	0.95	0.94	0.99	0.99	0.99

Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

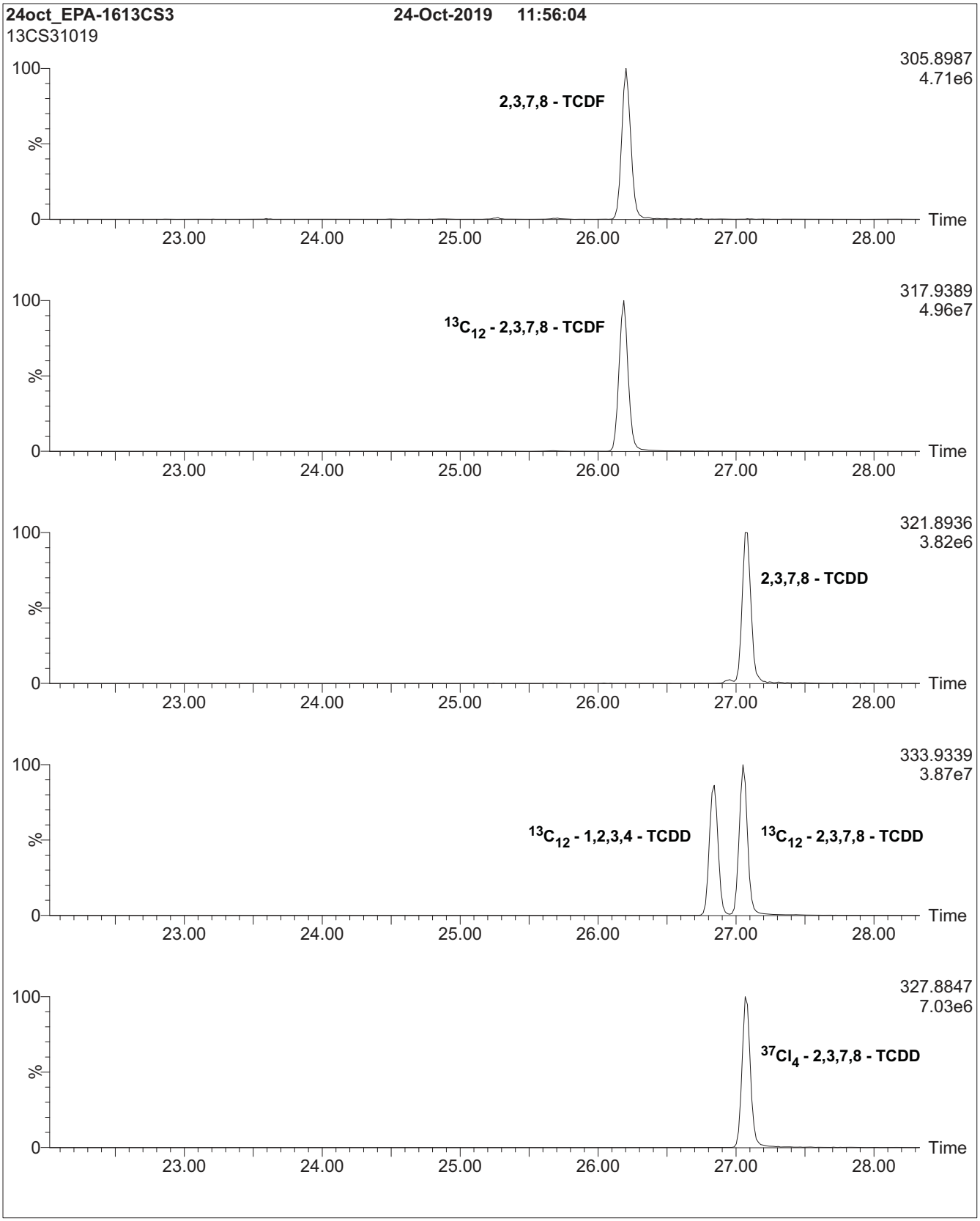


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

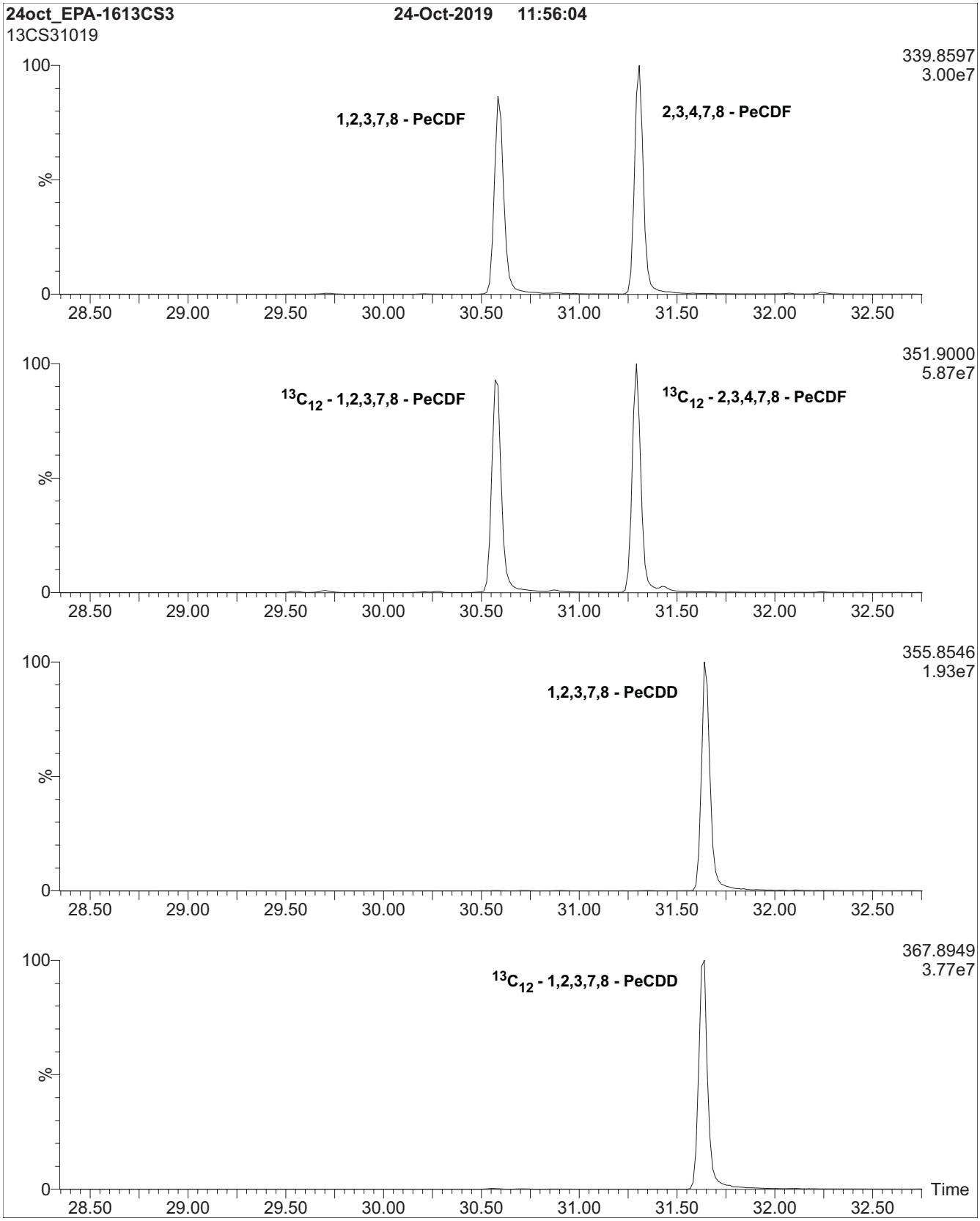


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

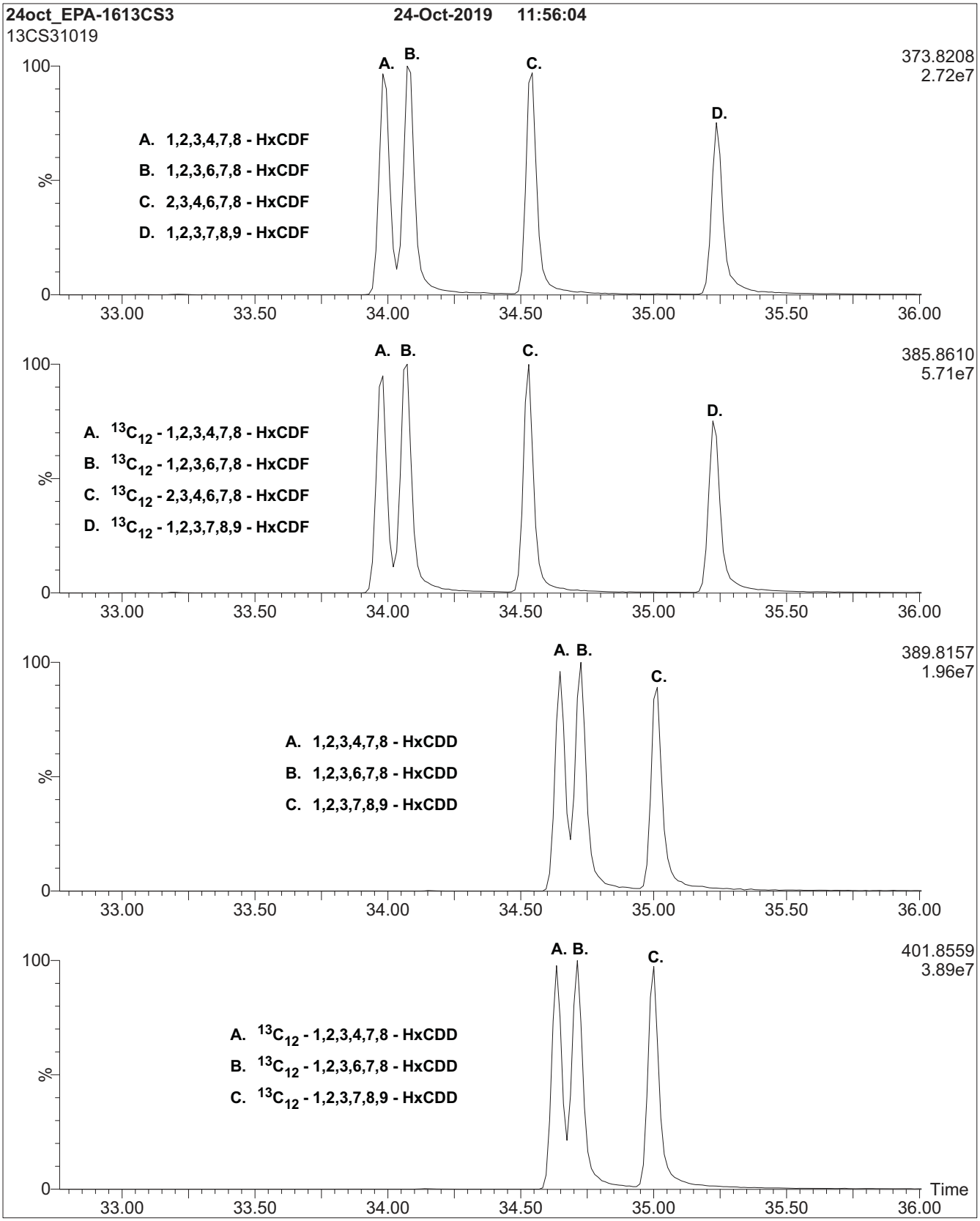


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

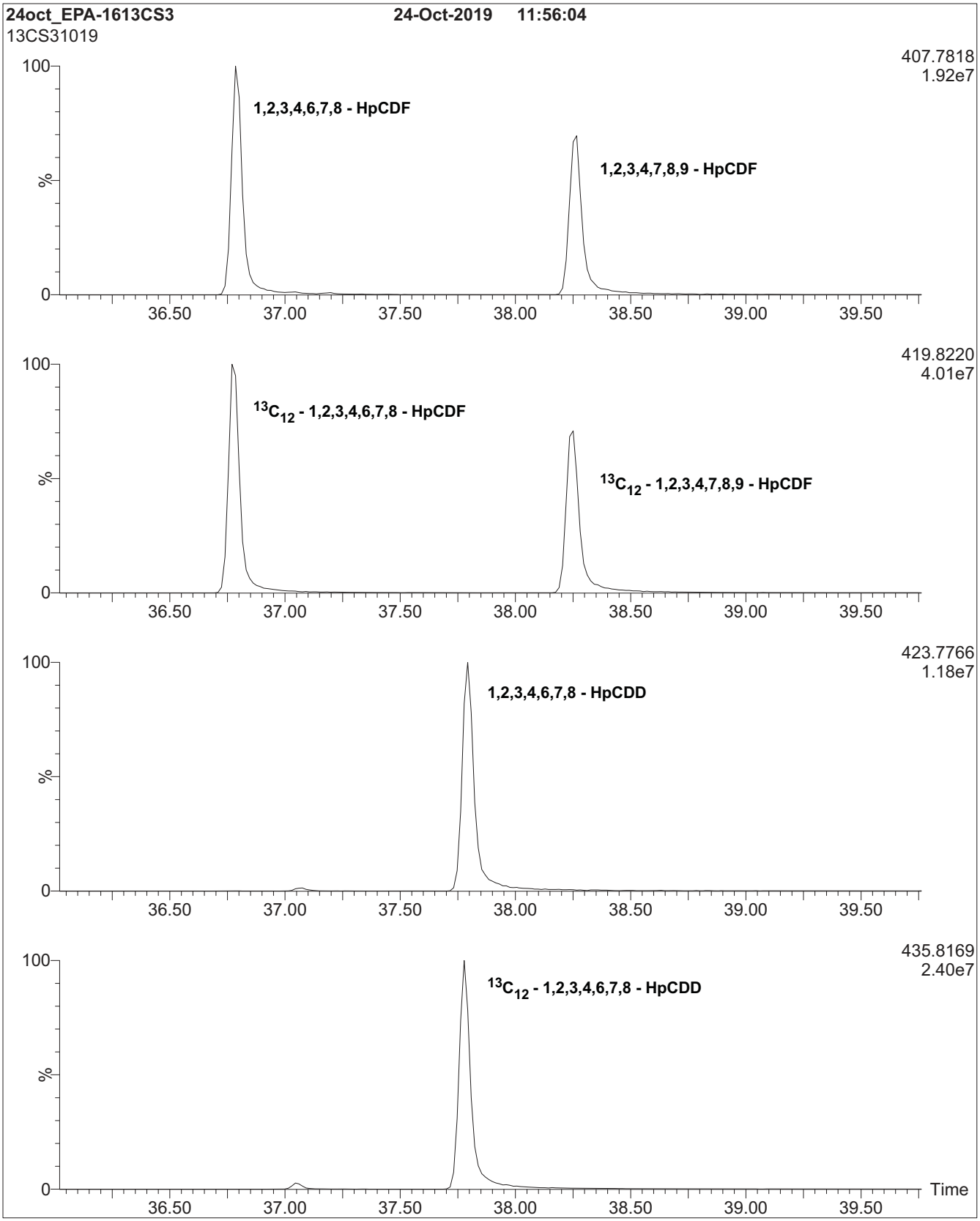
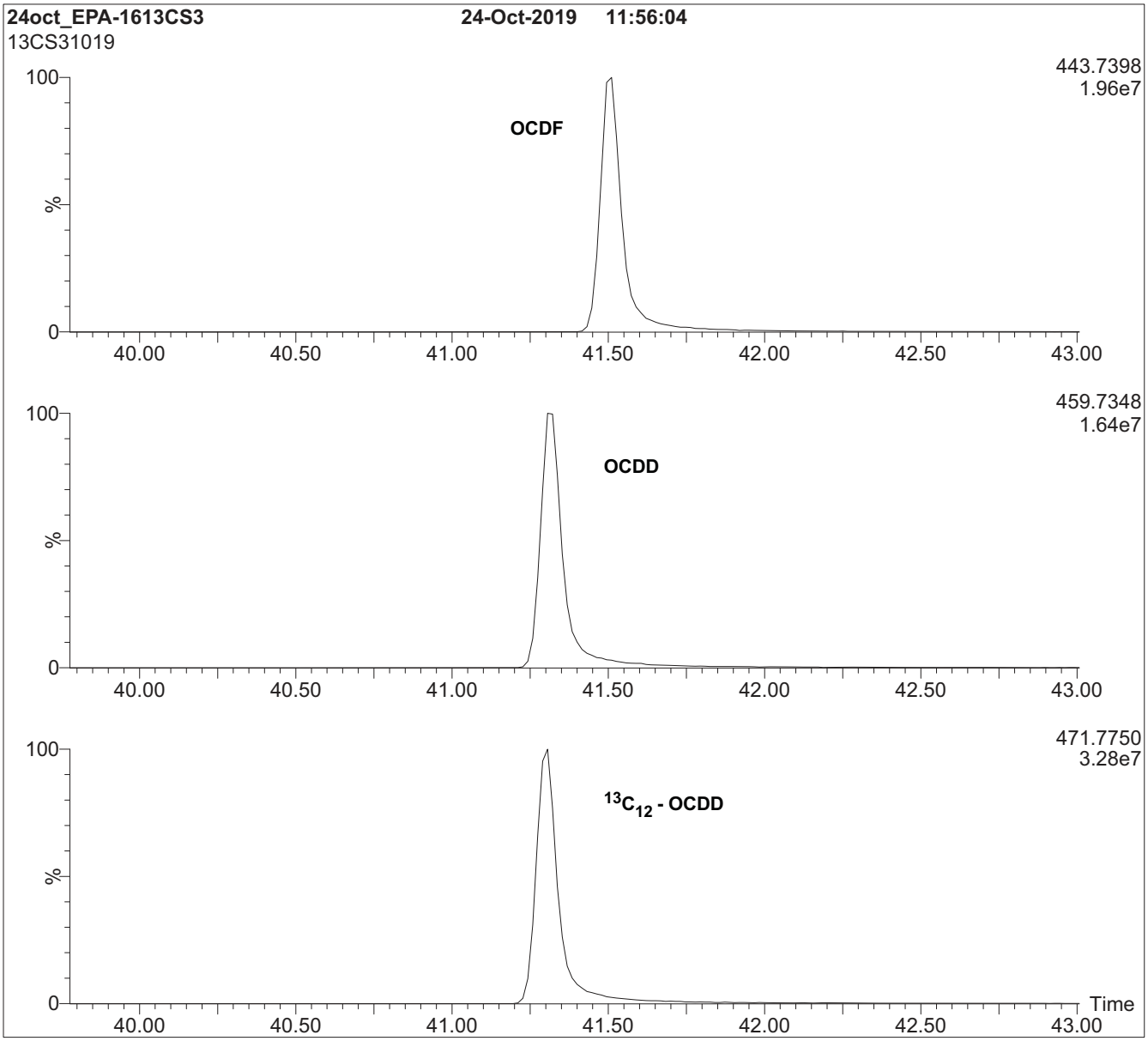


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**



HRGC/HRMS:

Agilent 6890N (HRGC)
Autospec Ultima (HRMS)

Chromatographic Conditions:

Column: 60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W

Flow:	Constant at 1 ml/min	Oven:	150 °C (1 min)
Injector:	280 °C (Splitless Injection)		12 °C/min to 200 °C
Ionization:	EI+		3 °C/min to 235 °C
Detector:	280 °C		235 °C (8 min)
	SIR at 10,000 mass resolving power		8 °C/min to 310 °C
			310 °C (8 min)

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

EPA-1613CVS

U.S. EPA Method 1613 Calibration and Verification Solutions
plus Supplemental Calibration Solutions EPA-1613CSL & EPA-1613CS0.5

PRODUCT CODES:	EPA-1613CVS	**LOT NUMBERS:**	(see below)
	EPA-1613CS1		13CS11019
	EPA-1613CS2		13CS21019
	EPA-1613CS3		13CS31019
	EPA-1613CS4		13CS41019
	EPA-1613CS5		13CS51019

Note: EPA-1613CSL and EPA-1613CS0.5 are lower level extensions to this calibration set that must be ordered separately.

EPA-1613CS0.5	13CS0.51019
EPA-1613CSL	13CSL1019

SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	10/22/2019
LAST TESTED: (mm/dd/yyyy)	10/24/2019
EXPIRY DATE: (mm/dd/yyyy)	10/24/2026
RECOMMENDED STORAGE:	Store ampoules in a cool, dark place

I005460
1613 CSL CAL STD
Expires 10/24/2026
Prepared By Joshua Rains 6/23/2020

DESCRIPTION:

EPA-1613CVS is a series of 5 calibration solutions containing native ($^{12}C_{12}$) and mass-labelled ($^{13}C_{12}$ and $^{37}Cl_4$) chlorinated dibenzo-p-dioxins (PCDDs) and dibenzofurans (PCDFs). The components of each solution, and their concentrations, are given in Table A.

They were designed for, and prepared to be used according to, U.S. EPA Method 1613 (Revision B). They are to be used as received.

EPA-1613CSL and EPA-1613CS0.5 are lower level extensions to EPA-1613CVS. Neither is required by the method, but either or both can be used to extend the calibration to lower levels.

The individual native PCDDs and PCDFs all have chemical purities of >98%. The individual ^{13}C-labelled PCDDs and PCDFs all have chemical purities of >98% and isotopic purities of ≥99%. The 2,3,7,8-$^{37}Cl_4$-Tetrachlorodibenzo-p-dioxin has a chemical purity of >98% and an isotopic (^{37}Cl) purity of ≥95%.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations
Table B: 5-point HRGC/HRMS Calibration and RRF Summary
Table C: 7-point HRGC/HRMS Calibration and RRF Summary
Figure 1: HRGC/HRMS Data for EPA-1613CS3 (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 3 for further details.

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a series of standards for the identification and quantification of specific chemical compounds.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned values, and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analytes is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **EPA-1613CVS (with EPA-1613CSL and EPA-1613CS0.5); Components and Concentrations (ng/ml, ± 5% in nonane/toluene)**

Compound	Concentration (ng/ml)						
Native PCDDs and PCDFs:	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CSL**	**CS0.5**
2,3,7,8-TCDD	0.5	2	10	40	200	0.1	0.25
2,3,7,8-TCDF	0.5	2	10	40	200	0.1	0.25
1,2,3,7,8-PeCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8-PeCDF	2.5	10	50	200	1000	0.5	1.25
2,3,4,7,8-PeCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,6,7,8-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8,9-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,6,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8,9-HxCDF	2.5	10	50	200	1000	0.5	1.25
2,3,4,6,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,6,7,8-HpCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,6,7,8-HpCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8,9-HpCDF	2.5	10	50	200	1000	0.5	1.25
OCDD	5.0	20	100	400	2000	1.0	2.5
OCDF	5.0	20	100	400	2000	1.0	2.5
Labelled PCDDs and PCDFs:							
$^{13}C_{12}$-2,3,7,8-TCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,7,8-TCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8-PeCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8-PeCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,4,7,8-PeCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-OCDD	200	200	200	200	200	200	200
Cleanup Standard:							
$^{37}Cl_4$-2,3,7,8-TCDD	0.5	2	10	40	200	0.1	0.25
Internal Standards:							
$^{13}C_{12}$-1,2,3,4-TCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	100	100	100	100	100	100	100
Percent toluene (v/v)	3.6%	3.7%	4.2%	6.1%	16.2%	3.6%	3.6%

Certified By: _____ **Date:** 10/25/2019
(mm/dd/yyyy)

B.G. Chittim, General Manager

Table B: **EPA-1613CVS; 5-point HRGC/HRMS Calibration and RRF Summary**

Calibration RRF Summary				Calibration Standard				
Calibration Filename: 24oct_EPA1613CVS-CAL.QLD				CS1	CS2	CS3	CS4	CS5
Name	Mean	S. D.	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5
2,3,7,8-TCDF	0.93	0.013	1.4	0.92	0.95	0.93	0.92	0.95
1,2,3,7,8-PeCDF	0.93	0.015	1.6	0.92	0.92	0.93	0.93	0.95
2,3,4,7,8-PeCDF	1.04	0.019	1.8	1.03	1.02	1.05	1.05	1.07
1,2,3,4,7,8-HxCDF	0.96	0.035	3.7	0.94	0.92	0.98	0.99	1.00
1,2,3,6,7,8-HxCDF	0.93	0.013	1.4	0.92	0.94	0.94	0.91	0.94
2,3,4,6,7,8-HxCDF	0.96	0.022	2.3	0.95	0.94	0.97	0.97	0.99
1,2,3,7,8,9-HxCDF	0.89	0.021	2.4	0.87	0.88	0.90	0.90	0.92
1,2,3,4,6,7,8-HpCDF	0.91	0.011	1.2	0.90	0.90	0.90	0.92	0.92
1,2,3,4,7,8,9-HpCDF	0.91	0.010	1.1	0.90	0.90	0.92	0.91	0.92
OCDF	1.19	0.056	4.7	1.11	1.17	1.19	1.23	1.26
2,3,7,8-TCDD	1.05	0.023	2.2	1.01	1.06	1.05	1.05	1.07
1,2,3,7,8-PeCDD	0.97	0.018	1.9	0.95	0.95	0.98	0.97	0.99
1,2,3,4,7,8-HxCDD	1.00	0.019	1.9	1.01	1.00	1.00	0.96	1.01
1,2,3,6,7,8-HxCDD	0.98	0.032	3.2	0.93	0.98	0.99	1.01	1.01
1,2,3,7,8,9-HxCDD	0.97	0.016	1.6	0.95	0.96	0.98	0.99	0.98
1,2,3,4,6,7,8-HpCDD	1.01	0.025	2.5	1.01	0.97	1.02	1.03	1.04
OCDD	1.00	0.013	1.3	1.00	0.99	1.02	1.02	1.00
$^{13}C_{12}$-2,3,7,8-TCDF	1.57	0.047	3.0	1.52	1.55	1.55	1.57	1.65
$^{13}C_{12}$-1,2,3,7,8-PeCDF	1.21	0.078	6.5	1.13	1.20	1.17	1.20	1.34
$^{13}C_{12}$-2,3,4,7,8-PeCDF	1.17	0.081	6.9	1.09	1.15	1.13	1.17	1.31
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	1.33	0.020	1.5	1.35	1.33	1.33	1.32	1.30
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	1.51	0.034	2.2	1.47	1.48	1.53	1.53	1.54
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	1.38	0.012	0.9	1.38	1.38	1.40	1.37	1.36
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	1.19	0.014	1.2	1.18	1.16	1.20	1.19	1.20
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1.31	0.033	2.5	1.31	1.26	1.33	1.31	1.35
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	1.08	0.046	4.3	1.06	1.03	1.09	1.08	1.15
$^{13}C_{12}$-2,3,7,8-TCDD	1.13	0.036	3.2	1.10	1.11	1.11	1.13	1.19
$^{13}C_{12}$-1,2,3,7,8-PeCDD	0.79	0.047	5.9	0.74	0.78	0.75	0.79	0.86
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	0.87	0.027	3.1	0.85	0.83	0.89	0.88	0.89
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	1.04	0.010	1.0	1.05	1.05	1.04	1.05	1.03
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	0.81	0.017	2.1	0.81	0.80	0.80	0.81	0.84
$^{13}C_{12}$-OCDD	0.74	0.055	7.4	0.70	0.70	0.73	0.72	0.83
$^{13}C_{12}$-1,2,3,4-TCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00
$^{37}Cl_4$-2,3,7,8-TCDD	0.97	0.026	2.6	0.95	0.94	0.99	0.99	0.99

Table C: **EPA-1613CVS (with EPA-1613CSL and EPA-1613CS0.5); 7-point HRGC/HRMS Calibration and RRF Summary**

Calibration RRF Summary				Calibration Standard						
Calibration Filename: 24oct_EPA1613CVS-CAL.QLD				CSL	CS0.5	CS1	CS2	CS3	CS4	CS5
Name	Mean	S. D.	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5	RRF#6	RRF#7
2,3,7,8-TCDF	0.92	0.045	4.8	0.96	0.83	0.92	0.95	0.93	0.92	0.95
1,2,3,7,8-PeCDF	0.93	0.013	1.4	0.94	0.92	0.92	0.92	0.93	0.93	0.95
2,3,4,7,8-PeCDF	1.02	0.058	5.7	0.90	1.00	1.03	1.02	1.05	1.05	1.07
1,2,3,4,7,8-HxCDF	0.96	0.029	3.0	0.96	0.97	0.94	0.92	0.98	0.99	1.00
1,2,3,6,7,8-HxCDF	0.92	0.030	3.3	0.90	0.86	0.92	0.94	0.94	0.91	0.94
2,3,4,6,7,8-HxCDF	0.94	0.047	5.0	0.87	0.89	0.95	0.94	0.97	0.97	0.99
1,2,3,7,8,9-HxCDF	0.88	0.029	3.3	0.83	0.88	0.87	0.88	0.90	0.90	0.92
1,2,3,4,6,7,8-HpCDF	0.90	0.033	3.7	0.83	0.93	0.90	0.90	0.90	0.92	0.92
1,2,3,4,7,8,9-HpCDF	0.91	0.018	1.9	0.89	0.94	0.90	0.90	0.92	0.91	0.92
OCDF	1.18	0.052	4.4	1.15	1.14	1.11	1.17	1.19	1.23	1.26
2,3,7,8-TCDD	1.03	0.051	5.0	1.03	0.92	1.01	1.06	1.05	1.05	1.07
1,2,3,7,8-PeCDD	0.95	0.042	4.4	0.87	0.98	0.95	0.95	0.98	0.97	0.99
1,2,3,4,7,8-HxCDD	0.97	0.066	6.8	0.83	0.98	1.01	1.00	1.00	0.96	1.01
1,2,3,6,7,8-HxCDD	0.96	0.044	4.5	0.90	0.92	0.93	0.98	0.99	1.01	1.01
1,2,3,7,8,9-HxCDD	0.94	0.054	5.7	0.83	0.92	0.95	0.96	0.98	0.99	0.98
1,2,3,4,6,7,8-HpCDD	1.01	0.033	3.3	0.95	1.03	1.01	0.97	1.02	1.03	1.04
OCDD	1.00	0.023	2.3	0.95	1.00	1.00	0.99	1.02	1.02	1.00
$^{13}C_{12}$-2,3,7,8-TCDF	1.56	0.042	2.7	1.52	1.54	1.52	1.55	1.55	1.57	1.65
$^{13}C_{12}$-1,2,3,7,8-PeCDF	1.20	0.066	5.5	1.18	1.17	1.13	1.20	1.17	1.20	1.34
$^{13}C_{12}$-2,3,4,7,8-PeCDF	1.16	0.071	6.1	1.12	1.13	1.09	1.15	1.13	1.17	1.31
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	1.33	0.018	1.4	1.32	1.35	1.35	1.33	1.33	1.32	1.30
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	1.53	0.045	3.0	1.60	1.56	1.47	1.48	1.53	1.53	1.54
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	1.39	0.019	1.4	1.39	1.42	1.38	1.38	1.40	1.37	1.36
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	1.19	0.012	1.0	1.19	1.19	1.18	1.16	1.20	1.19	1.20
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1.31	0.028	2.2	1.30	1.33	1.31	1.26	1.33	1.31	1.35
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	1.07	0.045	4.2	1.02	1.08	1.06	1.03	1.09	1.08	1.15
$^{13}C_{12}$-2,3,7,8-TCDD	1.12	0.033	3.0	1.09	1.11	1.10	1.11	1.11	1.13	1.19
$^{13}C_{12}$-1,2,3,7,8-PeCDD	0.78	0.040	5.1	0.75	0.78	0.74	0.78	0.75	0.79	0.86
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	0.87	0.025	2.9	0.86	0.90	0.85	0.83	0.89	0.88	0.89
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	1.05	0.015	1.5	1.08	1.06	1.05	1.05	1.04	1.05	1.03
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	0.81	0.016	2.0	0.79	0.81	0.81	0.80	0.80	0.81	0.84
$^{13}C_{12}$-OCDD	0.73	0.046	6.3	0.71	0.72	0.70	0.70	0.73	0.72	0.83
$^{13}C_{12}$-1,2,3,4-TCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
$^{37}Cl_4$-2,3,7,8-TCDD	0.97	0.053	5.4	0.90	1.07	0.95	0.94	0.99	0.99	0.99

Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

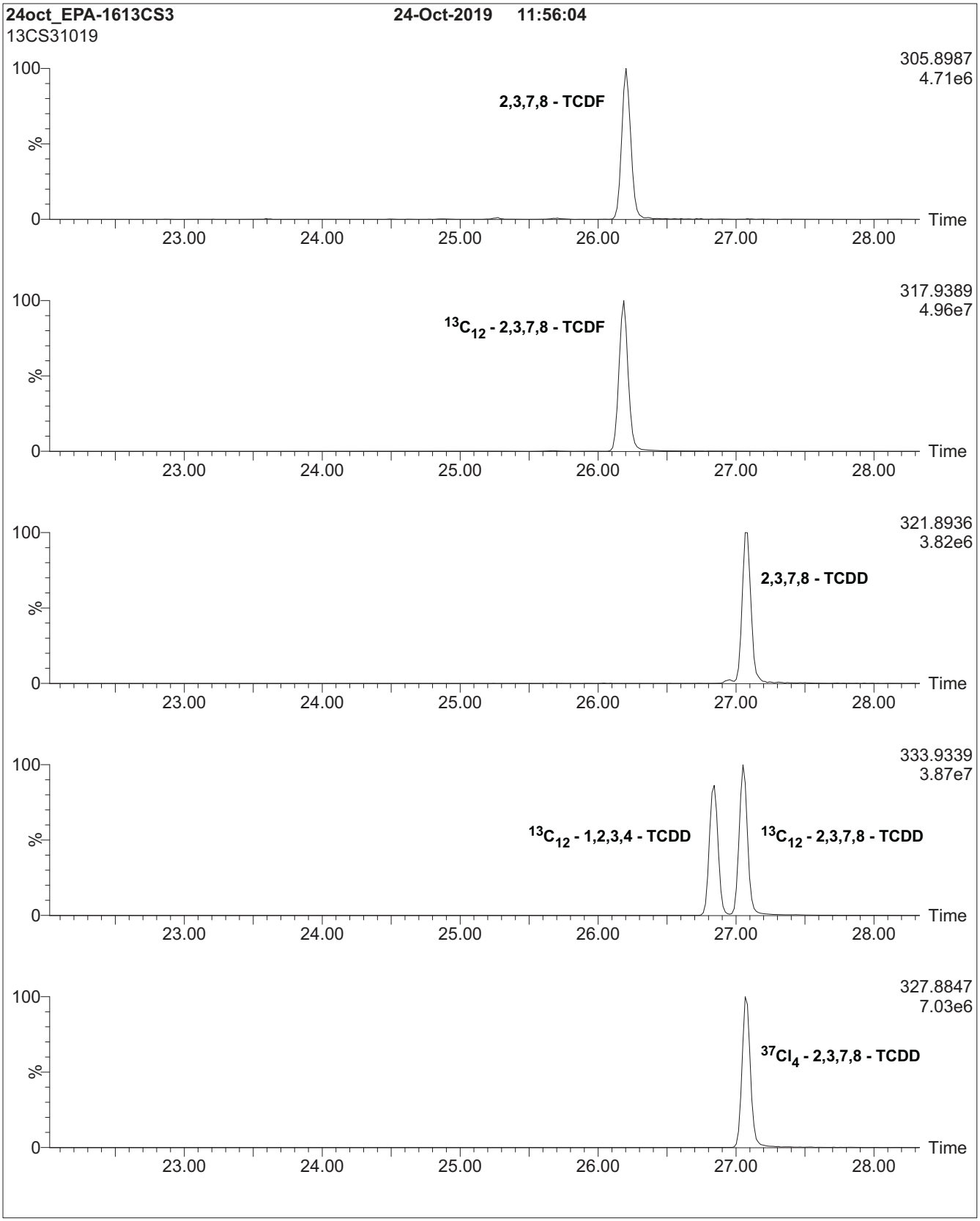


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

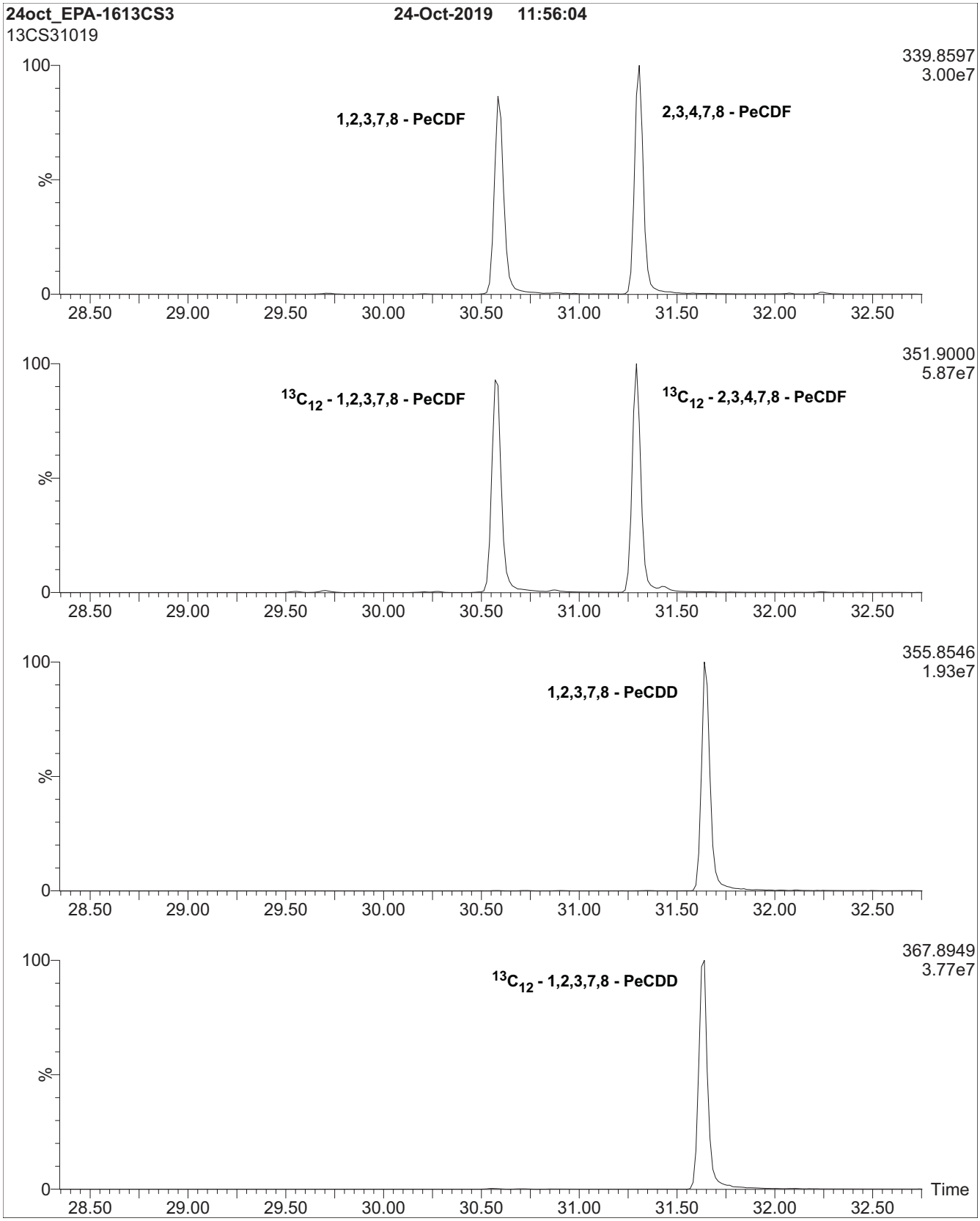


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

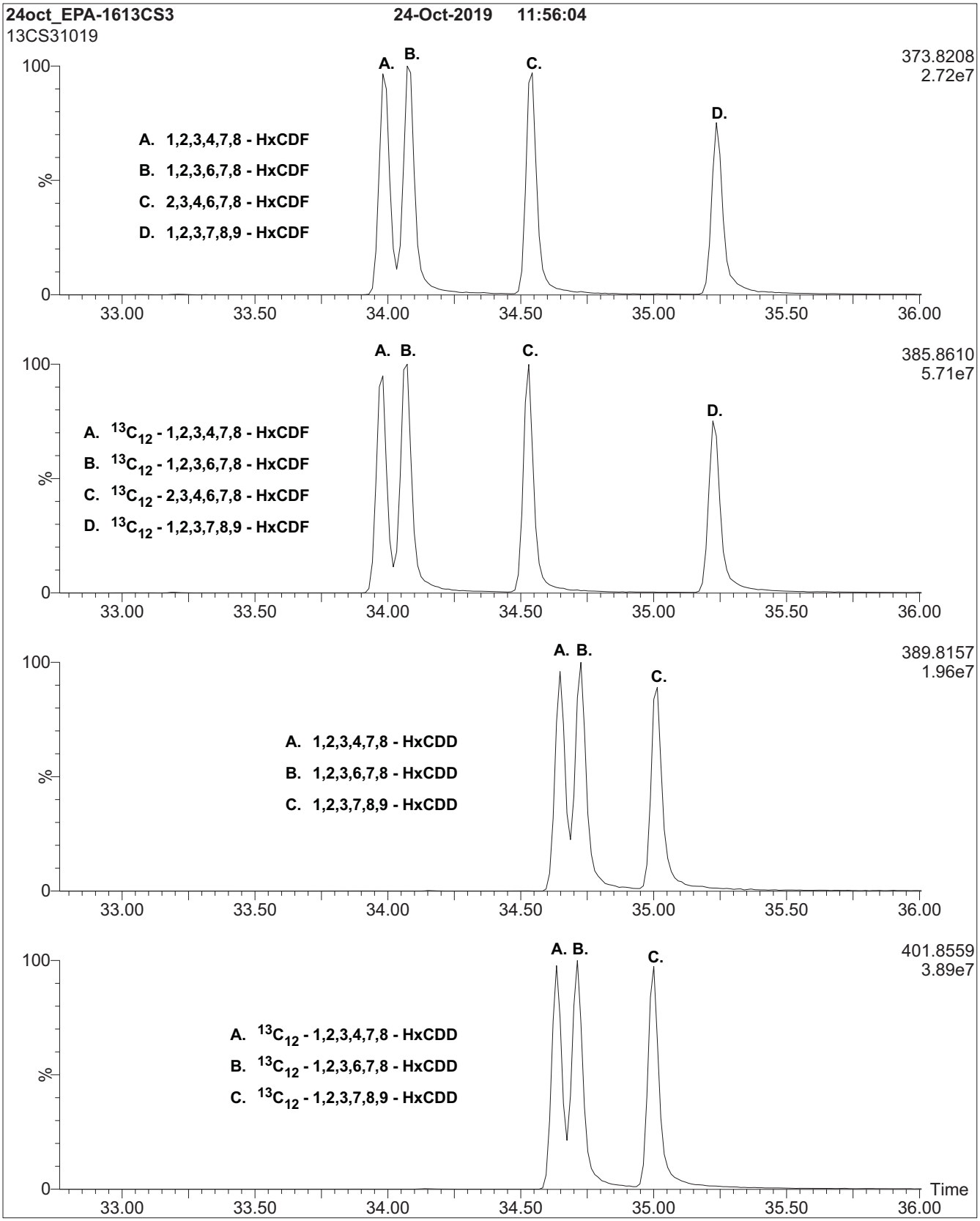


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

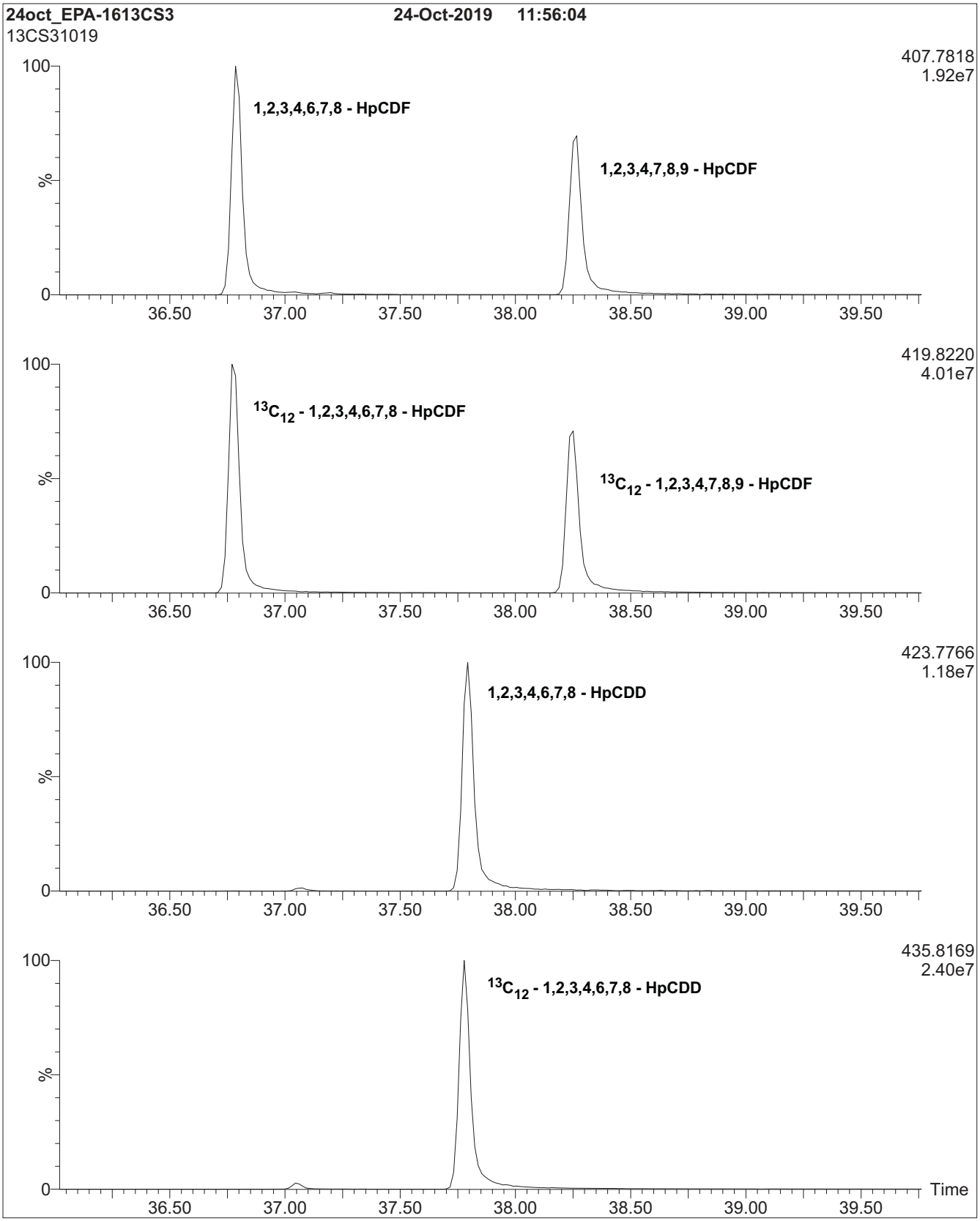
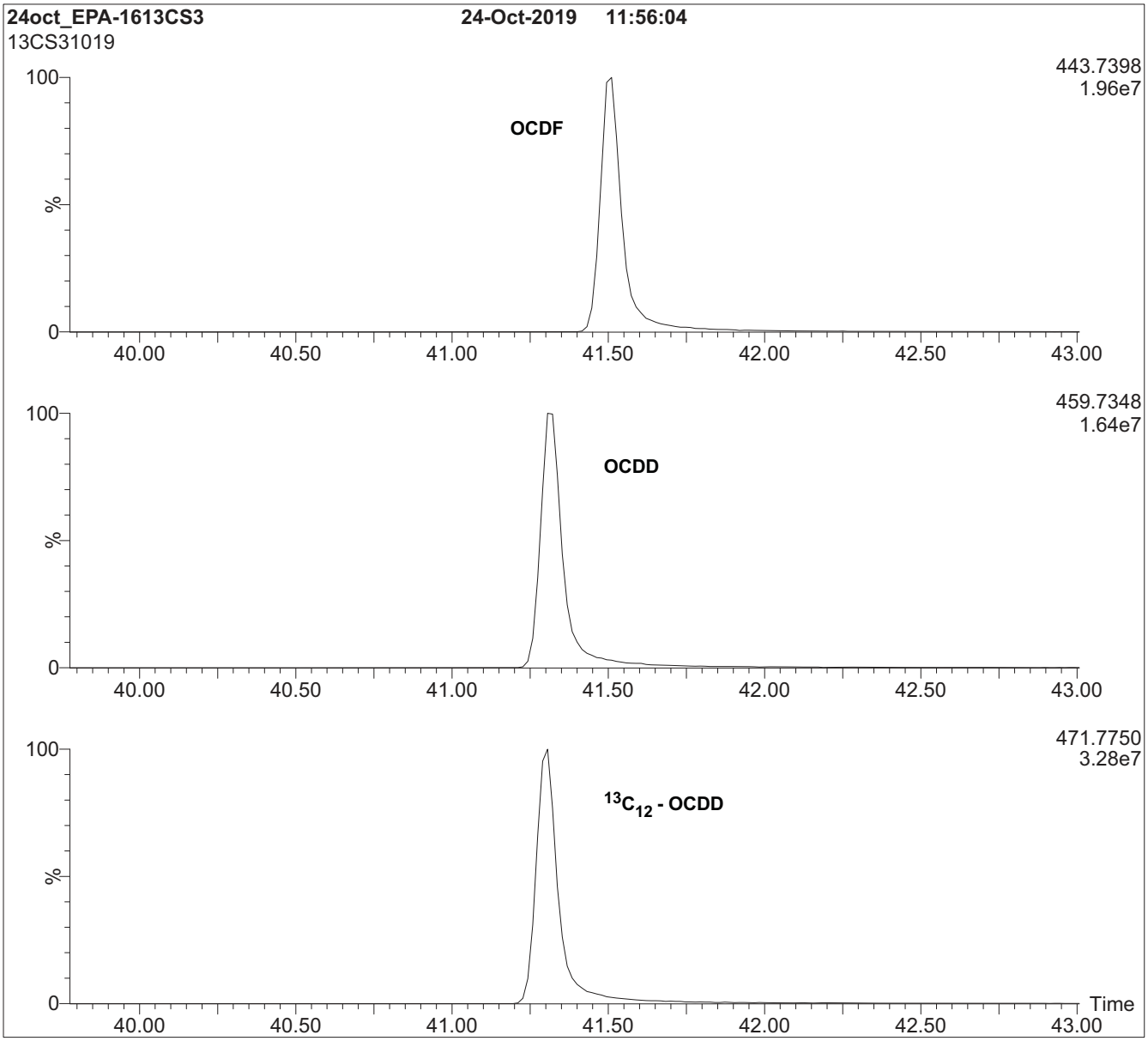


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**



HRGC/HRMS:

Agilent 6890N (HRGC)
Autospec Ultima (HRMS)

Chromatographic Conditions:

Column: 60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W

Flow: Constant at 1 ml/min
Injector: 280 °C (Splitless Injection)
Ionization: EI+
Detector: 280 °C
SIR at 10,000 mass resolving power

Oven: 150 °C (1 min)
12 °C/min to 200 °C
3 °C/min to 235 °C
235 °C (8 min)
8 °C/min to 310 °C
310 °C (8 min)

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

EPA-1613PAR

U.S. EPA Method 1613 Native PCDD/PCDF Precision and Recovery Stock Solution

PRODUCT CODE:	EPA-1613PAR
LOT NUMBER:	13PAR1021
SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	10/25/2021
LAST TESTED: (mm/dd/yyyy)	11/03/2021
EXPIRY DATE: (mm/dd/yyyy)	11/03/2028
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

J013397
Recd. JR
12/20/21

DESCRIPTION:

EPA-1613PAR is a solution/mixture of all the 2,3,7,8-substituted polychlorinated dibenzo-*p*-dioxins (PCDDs) and dibenzofurans (PCDFs). The components and their concentrations are given in Table A.

EPA-1613PAR was designed and prepared to be used according to U.S. EPA Method 1613, Revision B.

The individual PCDDs and PCDFs all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: HRGC/HRMS Data (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

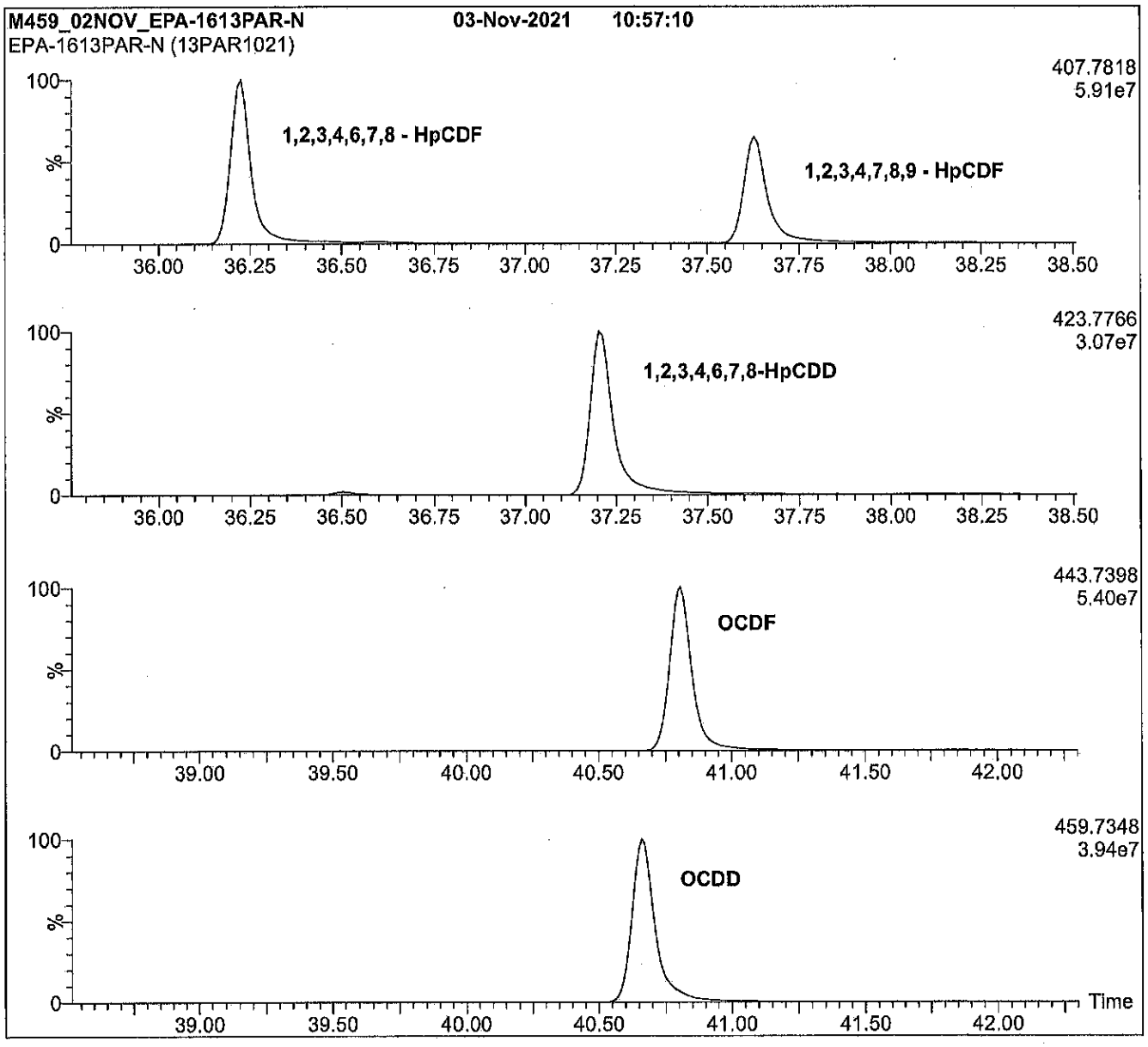
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Table A: **EPA-1613PAR; Components and Concentrations (ng/mL, ± 5% in nonane/2.4% toluene)**

Compound	Acronym	CAS #	Concentration (ng/mL)
PCDDs:			
2,3,7,8-Tetrachlorodibenzo-*p*-dioxin	2,3,7,8-TCDD	1746-01-6	40.0
1,2,3,7,8-Pentachlorodibenzo-*p*-dioxin	1,2,3,7,8-PeCDD	40321-76-4	200
1,2,3,4,7,8-Hexachlorodibenzo-*p*-dioxin	1,2,3,4,7,8-HxCDD	39227-28-6	200
1,2,3,6,7,8-Hexachlorodibenzo-*p*-dioxin	1,2,3,6,7,8-HxCDD	57653-85-7	200
1,2,3,7,8,9-Hexachlorodibenzo-*p*-dioxin	1,2,3,7,8,9-HxCDD	19408-74-3	200
1,2,3,4,6,7,8-Heptachlorodibenzo-*p*-dioxin	1,2,3,4,6,7,8-HpCDD	35822-46-9	200
Octachlorodibenzo-*p*-dioxin	OCDD	3268-87-9	400
PCDFs:			
2,3,7,8-Tetrachlorodibenzofuran	2,3,7,8-TCDF	51207-31-9	40.0
1,2,3,7,8-Pentachlorodibenzofuran	1,2,3,7,8-PeCDF	57117-41-6	200
2,3,4,7,8-Pentachlorodibenzofuran	2,3,4,7,8-PeCDF	57117-31-4	200
1,2,3,4,7,8-Hexachlorodibenzofuran	1,2,3,4,7,8-HxCDF	70648-26-9	200
1,2,3,6,7,8-Hexachlorodibenzofuran	1,2,3,6,7,8-HxCDF	57117-44-9	200
1,2,3,7,8,9-Hexachlorodibenzofuran	1,2,3,7,8,9-HxCDF	72918-21-9	200
2,3,4,6,7,8-Hexachlorodibenzofuran	2,3,4,6,7,8-HxCDF	60851-34-5	200
1,2,3,4,6,7,8-Heptachlorodibenzofuran	1,2,3,4,6,7,8-HpCDF	67562-39-4	200
1,2,3,4,7,8,9-Heptachlorodibenzofuran	1,2,3,4,7,8,9-HpCDF	55673-89-7	200
Octachlorodibenzofuran	OCDF	39001-02-0	400

Certified By: _____ **Date:** 11/05/2021
(mm/dd/yyyy)
B.G. Chittim, General Manager

Figure 1: **EPA-1613PAR; HRGC/HRMS Data (60 m DB-5 Column)**



Conditions for Figure 1:

Agilent 6890N HRGC
Autospec Ultima HRMS

Chromatographic Conditions:

Column:	60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W		
Flow:	Constant at 1.4 mL/min	Oven:	150°C (1 min)
Injector:	280°C (Splitless Injection)		12°C/min to 200°C
Ionization:	EI+		3°C/min to 235°C
Detector:	280°C		235°C (8 min)
	SIR at 10,000 mass resolving power		8°C/min to 310°C
			310°C (8 min)

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

EPA-1613PAR

U.S. EPA Method 1613 Native PCDD/PCDF Precision and Recovery Stock Solution

PRODUCT CODE:	EPA-1613PAR
LOT NUMBER:	13PAR1021
SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	10/25/2021
LAST TESTED: (mm/dd/yyyy)	11/03/2021
EXPIRY DATE: (mm/dd/yyyy)	11/03/2028
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

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12/20/21

DESCRIPTION:

EPA-1613PAR is a solution/mixture of all the 2,3,7,8-substituted polychlorinated dibenzo-*p*-dioxins (PCDDs) and dibenzofurans (PCDFs). The components and their concentrations are given in Table A.

EPA-1613PAR was designed and prepared to be used according to U.S. EPA Method 1613, Revision B.

The individual PCDDs and PCDFs all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: HRGC/HRMS Data (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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Table A: **EPA-1613PAR; Components and Concentrations (ng/mL, ± 5% in nonane/2.4% toluene)**

Compound	Acronym	CAS #	Concentration (ng/mL)
PCDDs:			
2,3,7,8-Tetrachlorodibenzo-*p*-dioxin	2,3,7,8-TCDD	1746-01-6	40.0
1,2,3,7,8-Pentachlorodibenzo-*p*-dioxin	1,2,3,7,8-PeCDD	40321-76-4	200
1,2,3,4,7,8-Hexachlorodibenzo-*p*-dioxin	1,2,3,4,7,8-HxCDD	39227-28-6	200
1,2,3,6,7,8-Hexachlorodibenzo-*p*-dioxin	1,2,3,6,7,8-HxCDD	57653-85-7	200
1,2,3,7,8,9-Hexachlorodibenzo-*p*-dioxin	1,2,3,7,8,9-HxCDD	19408-74-3	200
1,2,3,4,6,7,8-Heptachlorodibenzo-*p*-dioxin	1,2,3,4,6,7,8-HpCDD	35822-46-9	200
Octachlorodibenzo-*p*-dioxin	OCDD	3268-87-9	400
PCDFs:			
2,3,7,8-Tetrachlorodibenzofuran	2,3,7,8-TCDF	51207-31-9	40.0
1,2,3,7,8-Pentachlorodibenzofuran	1,2,3,7,8-PeCDF	57117-41-6	200
2,3,4,7,8-Pentachlorodibenzofuran	2,3,4,7,8-PeCDF	57117-31-4	200
1,2,3,4,7,8-Hexachlorodibenzofuran	1,2,3,4,7,8-HxCDF	70648-26-9	200
1,2,3,6,7,8-Hexachlorodibenzofuran	1,2,3,6,7,8-HxCDF	57117-44-9	200
1,2,3,7,8,9-Hexachlorodibenzofuran	1,2,3,7,8,9-HxCDF	72918-21-9	200
2,3,4,6,7,8-Hexachlorodibenzofuran	2,3,4,6,7,8-HxCDF	60851-34-5	200
1,2,3,4,6,7,8-Heptachlorodibenzofuran	1,2,3,4,6,7,8-HpCDF	67562-39-4	200
1,2,3,4,7,8,9-Heptachlorodibenzofuran	1,2,3,4,7,8,9-HpCDF	55673-89-7	200
Octachlorodibenzofuran	OCDF	39001-02-0	400

Certified By: _____ **Date:** 11/05/2021
(mm/dd/yyyy)
B.G. Chittim, General Manager

Figure 1: **EPA-1613PAR; HRGC/HRMS Data (60 m DB-5 Column)**

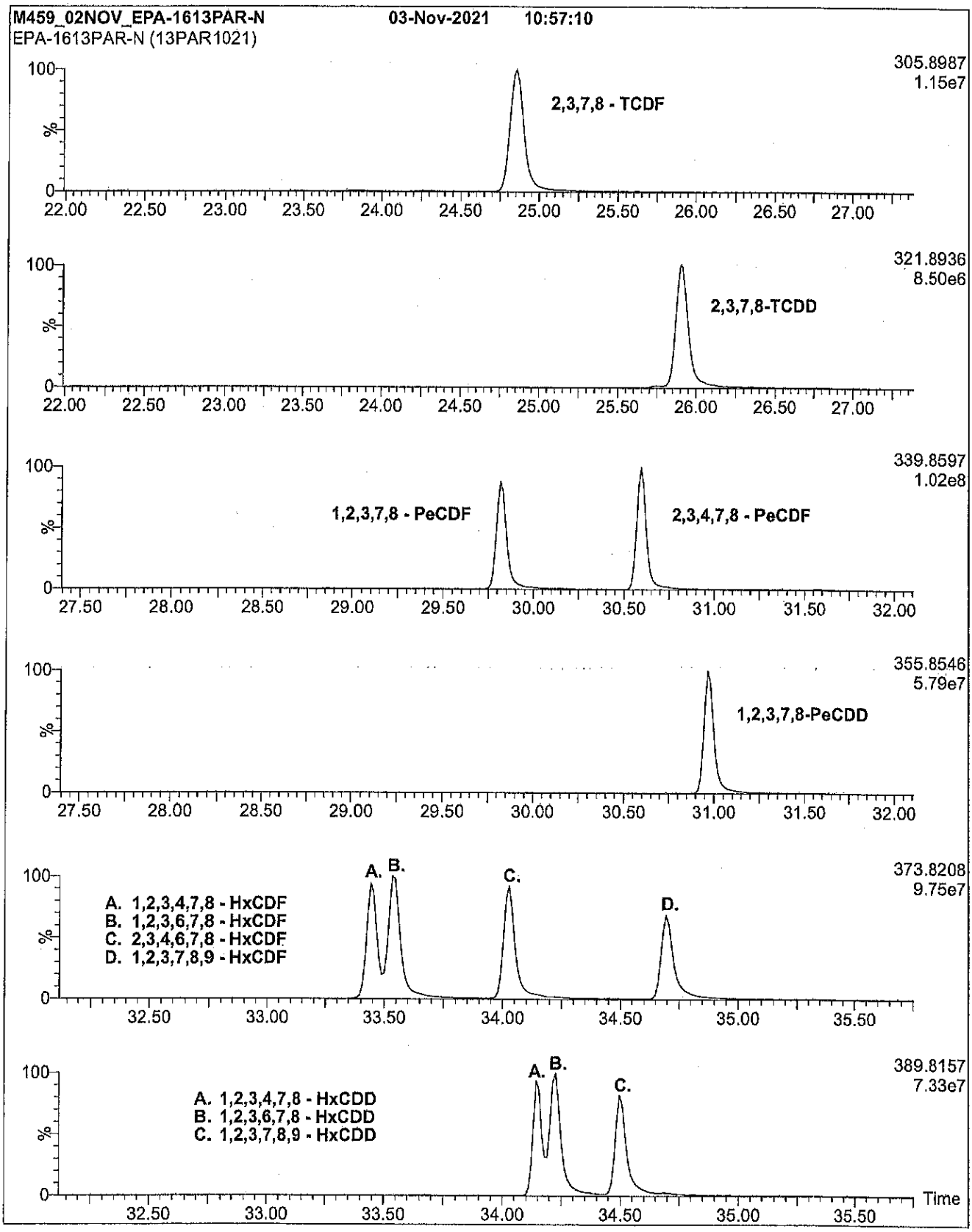
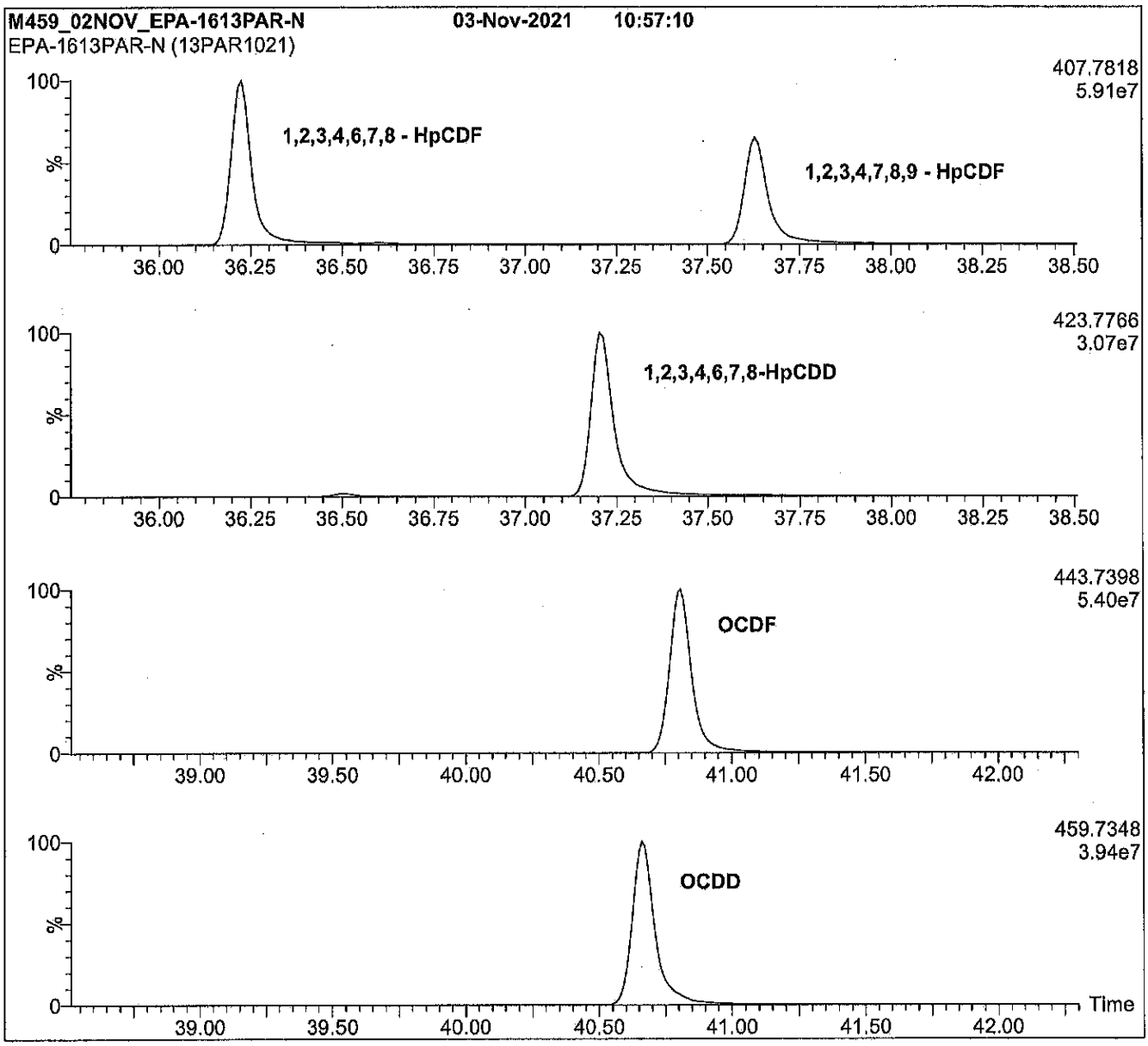


Figure 1: **EPA-1613PAR; HRGC/HRMS Data (60 m DB-5 Column)**



Conditions for Figure 1:

Agilent 6890N HRGC
Autospec Ultima HRMS

Chromatographic Conditions:

Column:	60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W		
Flow:	Constant at 1.4 mL/min	Oven:	150°C (1 min)
Injector:	280°C (Splitless Injection)		12°C/min to 200°C
Ionization:	EI+		3°C/min to 235°C
Detector:	280°C		235°C (8 min)
	SIR at 10,000 mass resolving power		8°C/min to 310°C
			310°C (8 min)

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

EPA-1613CSS

U.S. EPA Method 1613 Cleanup Standard Spiking Solution

PRODUCT CODE:	EPA-1613CSS
LOT NUMBER:	13CSS1021
SOLVENT(S):	Nonane
DATE PREPARED: (mm/dd/yyyy)	10/29/2021
LAST TESTED: (mm/dd/yyyy)	10/31/2021
EXPIRY DATE: (mm/dd/yyyy)	10/31/2028
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION: K003104

EPA-1613CSS contains 2,3,7,8-($^{37}Cl_4$)tetrachlorodibenzo-*p*-dioxin at the concentration given in Table A.

EPA-1613CSS was designed and prepared to be used according to U.S. EPA Method 1613, Revision B.

2,3,7,8-($^{37}Cl_4$)Tetrachlorodibenzo-*p*-dioxin has a chemical purity of >98% and an isotopic (^{37}Cl) purity of ≥95%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution
Figure 1: HRGC/HRMS Data (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 2 for further details.

Table A: **EPA-1613CSS; Components and Concentrations (ng/mL, ± 5% in nonane)**

Compound	Acronym	CAS #	Concentration (ng/mL)
2,3,7,8-($^{37}Cl_4$)Tetrachlorodibenzo-*p*-dioxin	$^{37}Cl_4$-2,3,7,8-TCDD	85508-50-5	40.0

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Certified By: _____ **Date:** 11/05/2021 (mm/dd/yyyy)
B.G. Chittim, General Manager

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INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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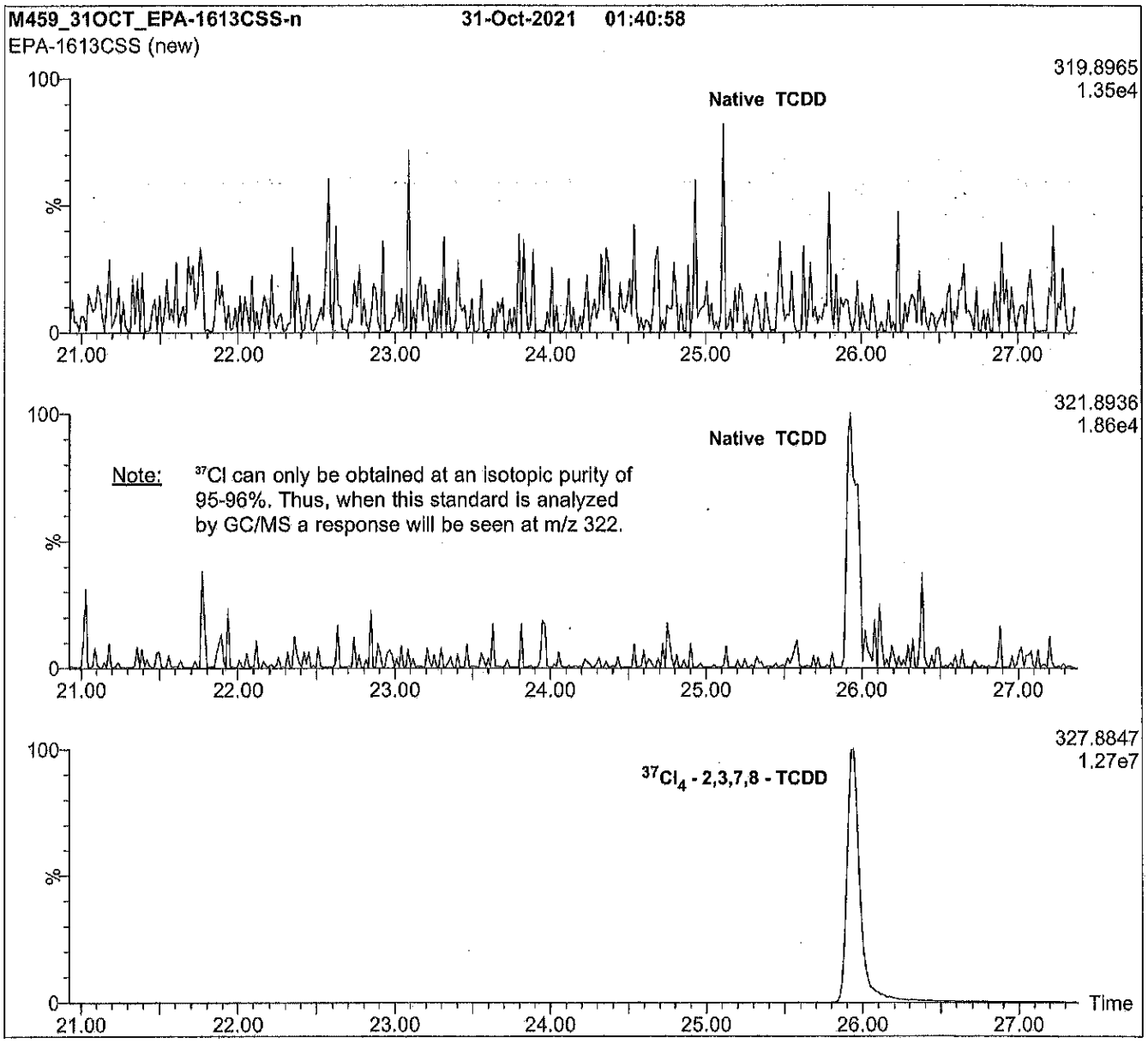
Figure 1: **EPA-1613CSS; HRGC/HRMS Data (60 m DB-5 Column)**



Conditions for Figure 1:

Agilent 6890N HRGC
Autospec Ultima HRMS

Chromatographic Conditions:

Column:	60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W		
Flow:	Constant at 1.4 mL/min	Oven:	150°C (1 min)
Injector:	280°C (Splitless Injection)		12°C/min to 200°C
Ionization:	EI+		3°C/min to 235°C
Detector:	280°C		235°C (8 min)
	SIR at 10,000 mass resolving power		8°C/min to 310°C
			310°C (8 min)

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

EPA-1613LCS

U.S. EPA Method 1613
Labelled Compound Stock Solution

PRODUCT CODE:	EPA-1613LCS
LOT NUMBER:	13LCS1021
SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	10/29/2021
LAST TESTED: (mm/dd/yyyy)	10/31/2021
EXPIRY DATE: (mm/dd/yyyy)	10/31/2028
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION: K3105

EPA-1613LCS is a solution/mixture of mass-labelled ($^{13}C_{12}$) polychlorinated dibenzo-*p*-dioxins (PCDDs) and dibenzofurans (PCDFs). The components and their concentrations are given in Table A.

EPA-1613LCS was designed and prepared to be used according to U.S. EPA Method 1613, Revision B.

The individual ^{13}C-labelled PCDDs and PCDFs all have chemical purities of >98% and isotopic purities of ≥99%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations
Figure 1: HRGC/HRMS Data (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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INTENDED USE:

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HANDLING:

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SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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Table A: **EPA-1613LCS; Components and Concentrations (ng/mL, ± 5% in nonane/3.2% toluene)**

Compound	Acronym	CAS #	Concentration (ng/mL)
Mass-Labelled PCDDs:			
2,3,7,8-Tetrachloro($^{13}C_{12}$)dibenzo-*p*-dioxin	$^{13}C_{12}$-2,3,7,8-TCDD	76523-40-5	100
1,2,3,7,8-Pentachloro($^{13}C_{12}$)dibenzo-*p*-dioxin	$^{13}C_{12}$-1,2,3,7,8-PeCDD	109719-79-1	100
1,2,3,4,7,8-Hexachloro($^{13}C_{12}$)dibenzo-*p*-dioxin	$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	109719-80-4	100
1,2,3,6,7,8-Hexachloro($^{13}C_{12}$)dibenzo-*p*-dioxin	$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	109719-81-5	100
1,2,3,4,6,7,8-Heptachloro($^{13}C_{12}$)dibenzo-*p*-dioxin	$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	109719-83-7	100
Octachloro($^{13}C_{12}$)dibenzo-*p*-dioxin	$^{13}C_{12}$-OCDD	114423-97-1	200
Mass-Labelled PCDFs:			
2,3,7,8-Tetrachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-2,3,7,8-TCDF	89059-46-1	100
1,2,3,7,8-Pentachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-1,2,3,7,8-PeCDF	109719-77-9	100
2,3,4,7,8-Pentachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-2,3,4,7,8-PeCDF	116843-02-8	100
1,2,3,4,7,8-Hexachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	114423-98-2	100
1,2,3,6,7,8-Hexachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	116843-03-9	100
1,2,3,7,8,9-Hexachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	116843-04-0	100
2,3,4,6,7,8-Hexachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	116843-05-1	100
1,2,3,4,6,7,8-Heptachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	109719-84-8	100
1,2,3,4,7,8,9-Heptachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	109719-94-0	100

Certified By: _____ **Date:** 11/05/2021
(mm/dd/yyyy)
B.G. Chittim, General Manager

Figure 1: **EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)**

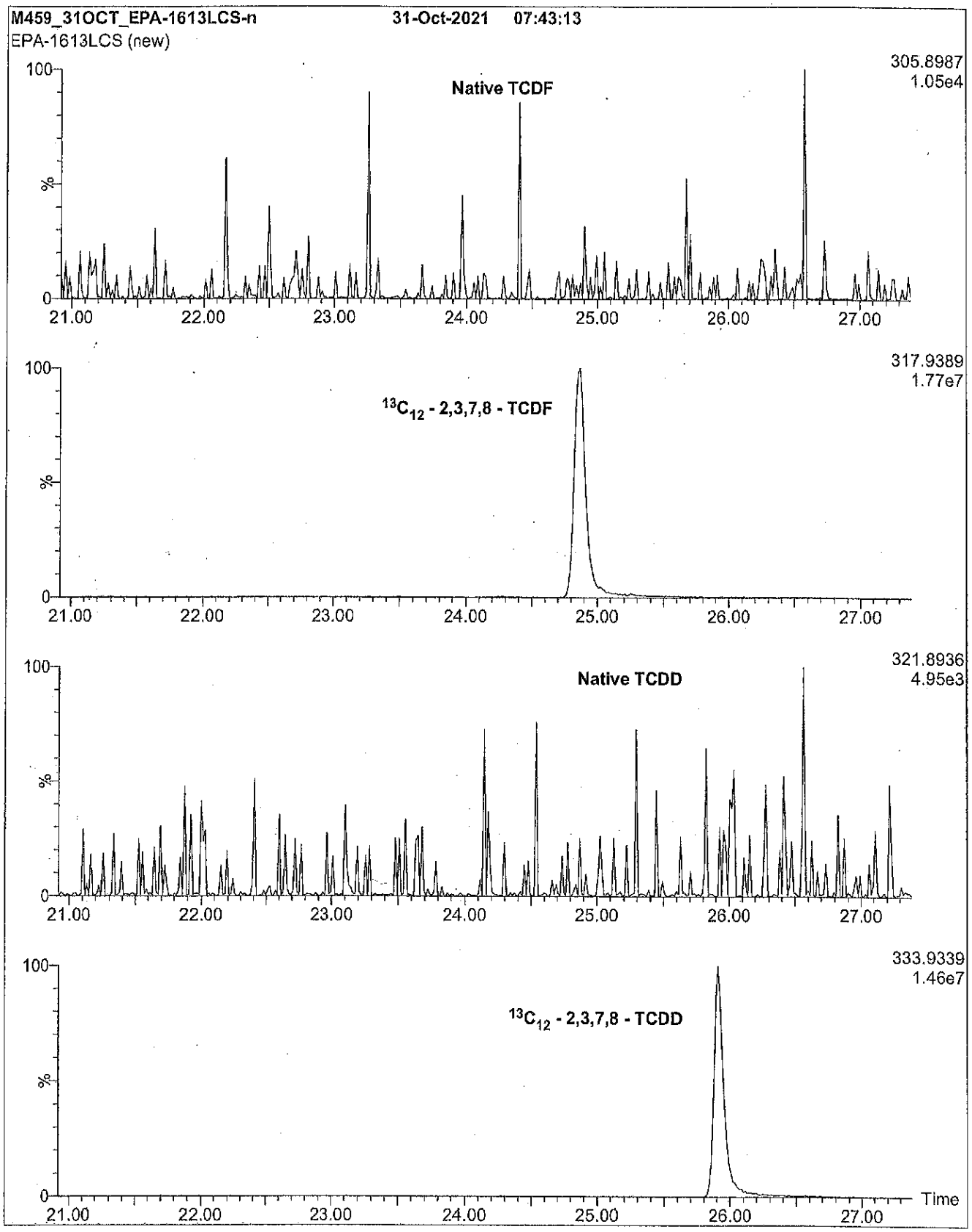


Figure 1: **EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)**

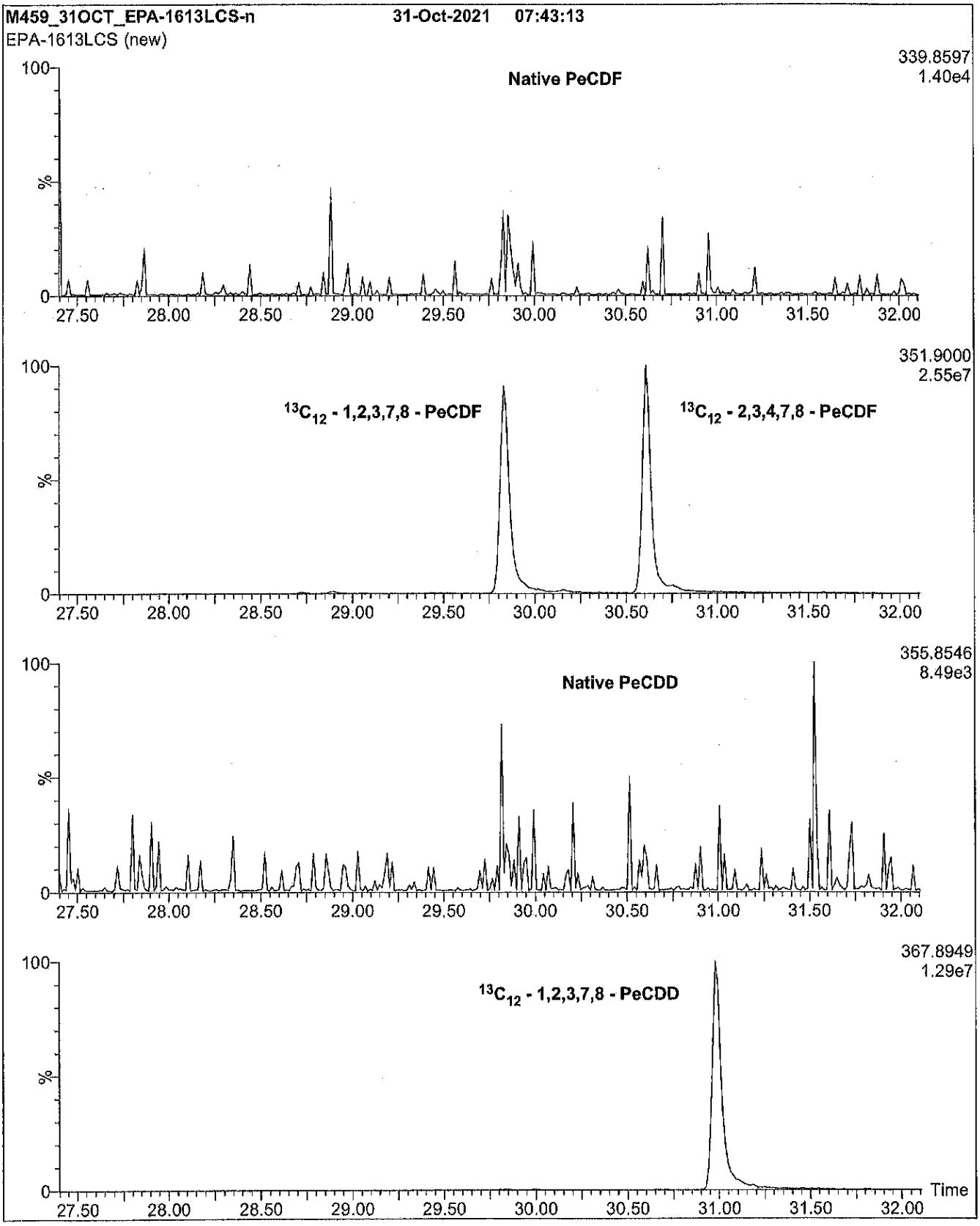


Figure 1: **EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)**

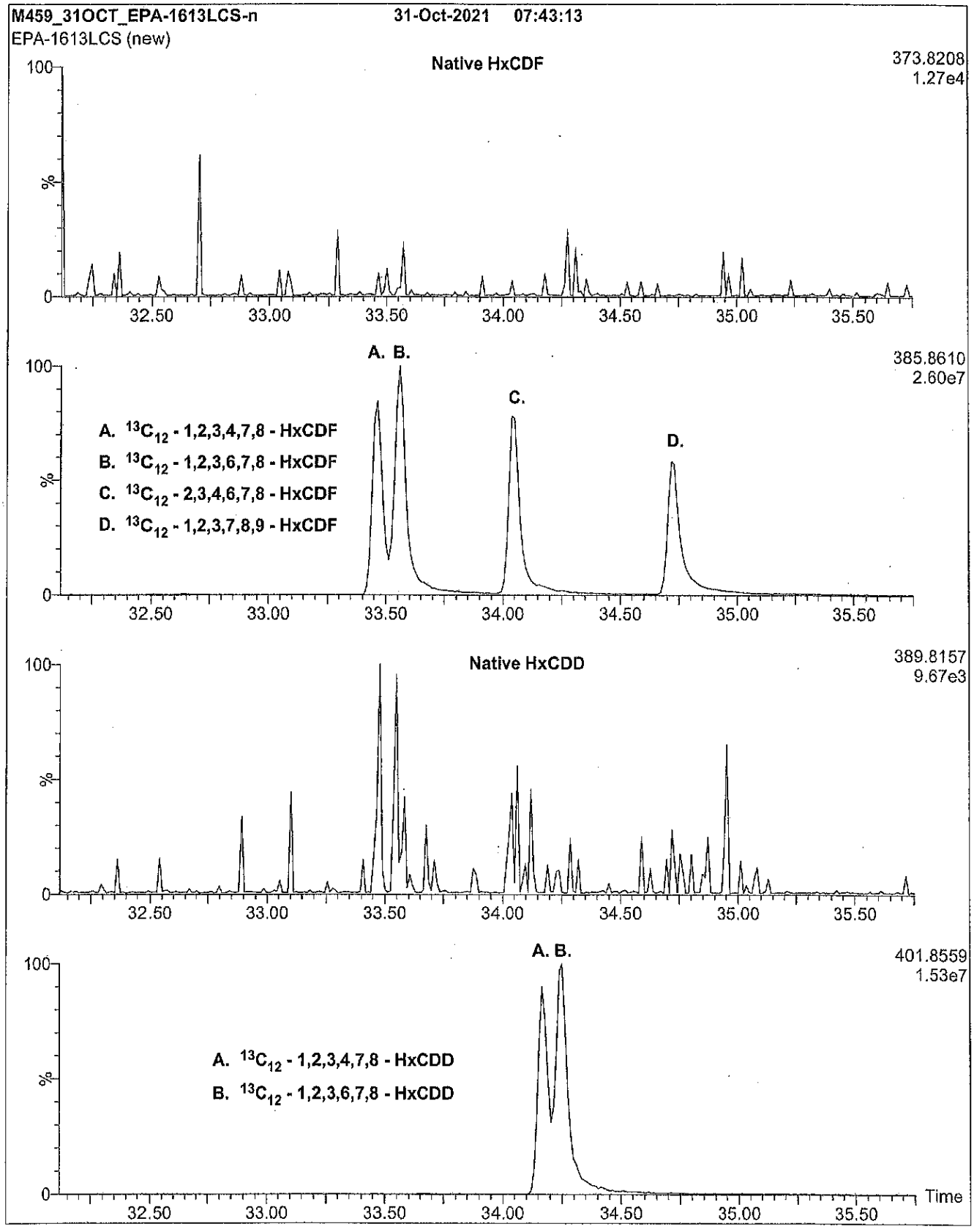


Figure 1: **EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)**

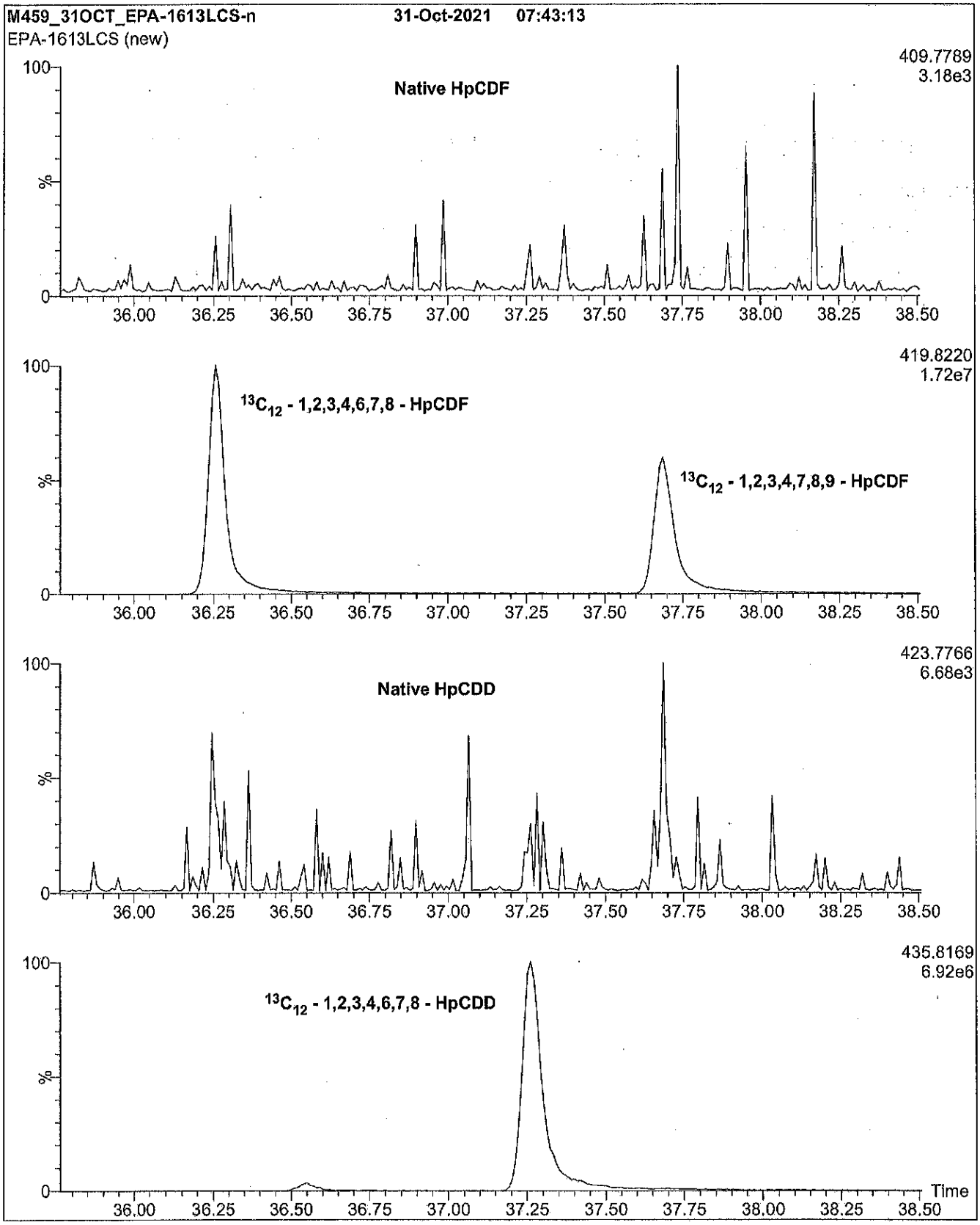
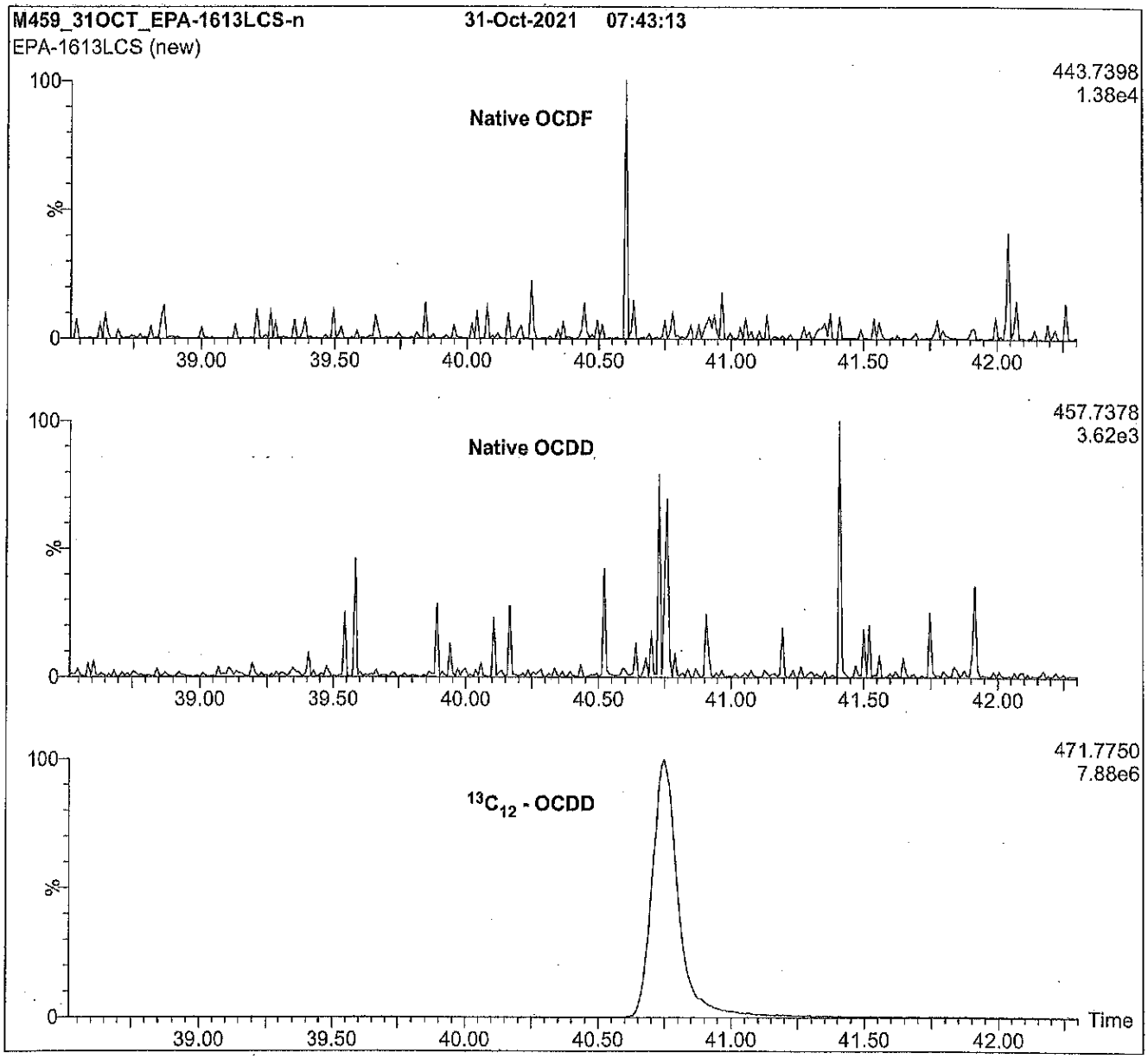


Figure 1: **EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)**



Conditions for Figure 1:

Agilent 6890N HRGC
Autospec Ultima HRMS

Chromatographic Conditions:

Column:	60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W		
Flow:	Constant at 1.4 mL/min	Oven:	150°C (1 min)
Injector:	280°C (Splitless Injection)		12°C/min to 200°C
Ionization:	EI+		3°C/min to 235°C
Detector:	280°C		235°C (8 min)
	SIR at 10,000 mass resolving power		8°C/min to 310°C
			310°C (8 min)

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

K9821

CS3WT

Calibration and Verification Solution (EPA-1613CS3) combined with Window Defining and 2,3,7,8-TCDD Resolution Testing Congeners

PRODUCT CODE:	CS3WT
LOT NUMBER:	CS3WT1021
SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	11/01/2021
LAST TESTED: (mm/dd/yyyy)	11/02/2021
EXPIRY DATE: (mm/dd/yyyy)	11/02/2028
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

CS3WT is a solution/mixture of native ($^{12}C_{12}$) and mass-labelled ($^{13}C_{12}$) polychlorinated dibenzo-*p*-dioxins (PCDDs) and dibenzofurans (PCDFs). The components and their concentrations are given in Tables A and B.

CS3WT is an HRGC/HRMS calibration solution that was designed and prepared to be used according to U.S. EPA Method 1613, Revision B, in place of EPA-1613CS3 (lot: 13CS31021). Additionally, it contains the PCDD and PCDF isomers required to set retention time windows as well as test and establish isomer specificity for 2,3,7,8-TCDD on a DB-5 (or equivalent) capillary column.

The individual ^{13}C-labelled PCDDs and PCDFs all have chemical purities of >98% and isotopic purities of ≥99%. The 2,3,7,8-($^{37}Cl_4$)tetrachlorodibenzo-*p*-dioxin has a chemical purity of >98% and an isotopic (^{37}Cl) purity of ≥95%. The individual native 2,3,7,8-substituted PCDD and PCDF congeners all have chemical purities of >98%; the other congeners (window defining and resolution testing) should only be considered semi-quantitative.

This current lot of CS3WT is to be used with the 1613 calibration solutions having the following lot numbers:

PRODUCT CODE	LOT NUMBER
EPA-1613CS1	13CS11021
EPA-1613CS2	13CS21021
EPA-1613CS3	13CS31021
EPA-1613CS4	13CS41021
EPA-1613CS5	13CS51021
EPA-1613CSL	13CSL1021
EPA-1613CS0.5	13CS0.51021

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Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Form#:13, Issued 2004-11-10
Revision#:9, Revised 2020-12-23

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) has been assigned to the quantitative components in this product. A maximum combined percent relative uncertainty of ±20% has been assigned to the semi-quantitative components in this product.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **CS3WT; Quantitative Components and Concentrations (ng/mL, ± 5%, in nonane/4.5% toluene)**

Compound		Acronym	CAS #	Concentration (ng/mL)
Native PCDDs:	**Designation[a]**			
2,3,7,8-Tetrachlorodibenzo-*p*-dioxin		2,3,7,8-TCDD	1746-01-6	10.0
1,2,3,7,8-Pentachlorodibenzo-*p*-dioxin		1,2,3,7,8-PeCDD	40321-76-4	50.0
1,2,3,4,7,8-Hexachlorodibenzo-*p*-dioxin		1,2,3,4,7,8-HxCDD	39227-28-6	50.0
1,2,3,6,7,8-Hexachlorodibenzo-*p*-dioxin		1,2,3,6,7,8-HxCDD	57653-85-7	50.0
1,2,3,7,8,9-Hexachlorodibenzo-*p*-dioxin	Last HxCDD[b]	1,2,3,7,8,9-HxCDD	19408-74-3	50.0
1,2,3,4,6,7,8-Heptachlorodibenzo-*p*-dioxin	Last HpCDD	1,2,3,4,6,7,8-HpCDD	35822-46-9	50.0
Octachlorodibenzo-*p*-dioxin		OCDD	3268-87-9	100
Native PCDFs:	**Designation[a]**			
2,3,7,8-Tetrachlorodibenzofuran		2,3,7,8-TCDF	51207-31-9	10.0
1,2,3,7,8-Pentachlorodibenzofuran		1,2,3,7,8-PeCDF	57117-41-6	50.0
2,3,4,7,8-Pentachlorodibenzofuran		2,3,4,7,8-PeCDF	57117-31-4	50.0
1,2,3,4,7,8-Hexachlorodibenzofuran		1,2,3,4,7,8-HxCDF	70648-26-9	50.0
1,2,3,6,7,8-Hexachlorodibenzofuran		1,2,3,6,7,8-HxCDF	57117-44-9	50.0
1,2,3,7,8,9-Hexachlorodibenzofuran		1,2,3,7,8,9-HxCDF	72918-21-9	50.0
2,3,4,6,7,8-Hexachlorodibenzofuran		2,3,4,6,7,8-HxCDF	60851-34-5	50.0
1,2,3,4,6,7,8-Heptachlorodibenzofuran	First HpCDF[c]	1,2,3,4,6,7,8-HpCDF	67562-39-4	50.0
1,2,3,4,7,8,9-Heptachlorodibenzofuran	Last HpCDF	1,2,3,4,7,8,9-HpCDF	55673-89-7	50.0
Octachlorodibenzofuran		OCDF	39001-02-0	100
Mass-Labelled PCDDs:				
2,3,7,8-Tetrachloro($^{13}C_{12}$)dibenzo-*p*-dioxin		$^{13}C_{12}$-2,3,7,8-TCDD	76523-40-5	100
1,2,3,7,8-Pentachloro($^{13}C_{12}$)dibenzo-*p*-dioxin		$^{13}C_{12}$-1,2,3,7,8-PeCDD	109719-79-1	100
1,2,3,4,7,8-Hexachloro($^{13}C_{12}$)dibenzo-*p*-dioxin		$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	109719-80-4	100
1,2,3,6,7,8-Hexachloro($^{13}C_{12}$)dibenzo-*p*-dioxin		$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	109719-81-5	100
1,2,3,4,6,7,8-Heptachloro($^{13}C_{12}$)dibenzo-*p*-dioxin		$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	109719-83-7	100
Octachloro($^{13}C_{12}$)dibenzo-*p*-dioxin		$^{13}C_{12}$-OCDD	114423-97-1	200
Mass-Labelled PCDFs:				
2,3,7,8-Tetrachloro($^{13}C_{12}$)dibenzofuran		$^{13}C_{12}$-2,3,7,8-TCDF	89059-46-1	100
1,2,3,7,8-Pentachloro($^{13}C_{12}$)dibenzofuran		$^{13}C_{12}$-1,2,3,7,8-PeCDF	109719-77-9	100
2,3,4,7,8-Pentachloro($^{13}C_{12}$)dibenzofuran		$^{13}C_{12}$-2,3,4,7,8-PeCDF	116843-02-8	100
1,2,3,4,7,8-Hexachloro($^{13}C_{12}$)dibenzofuran		$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	114423-98-2	100
1,2,3,6,7,8-Hexachloro($^{13}C_{12}$)dibenzofuran		$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	116843-03-9	100
1,2,3,7,8,9-Hexachloro($^{13}C_{12}$)dibenzofuran		$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	116843-04-0	100
2,3,4,6,7,8-Hexachloro($^{13}C_{12}$)dibenzofuran		$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	116843-05-1	100
1,2,3,4,6,7,8-Heptachloro($^{13}C_{12}$)dibenzofuran		$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	109719-84-8	100
1,2,3,4,7,8,9-Heptachloro($^{13}C_{12}$)dibenzofuran		$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	109719-94-0	100
Cleanup Standard:				
2,3,7,8-($^{37}Cl_4$)Tetrachlorodibenzo-*p*-dioxin		$^{37}Cl_4$-2,3,7,8-TCDD	85508-50-5	10.0
Internal Standards:				
1,2,3,4-Tetrachloro($^{13}C_{12}$)dibenzo-*p*-dioxin		$^{13}C_{12}$-1,2,3,4-TCDD	114423-99-3	100
1,2,3,7,8,9-Hexachloro($^{13}C_{12}$)dibenzo-*p*-dioxin		$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	109719-82-6	100

[a] First/Last eluting isomer for the specified homologue group (see Table B for additional Window Definers).
[b, c] – see Table B for footnote.

Table B: **CS3WT; Semi-Quantitative Components and Concentrations (ng/mL, ± 20%, in nonane/4.5% toluene)**

Compound		Acronym	CAS #	Concentration (ng/mL)
PCDD Window Definers:	**Designation[a]**			
1,3,6,8-Tetrachlorodibenzo-*p*-dioxin	First TCDD	1,3,6,8-TCDD	33423-92-6	10.0
1,2,8,9-Tetrachlorodibenzo-*p*-dioxin	Last TCDD	1,2,8,9-TCDD	62470-54-6	10.0
1,2,4,6,8-/1,2,4,7,9-Pentachlorodibenzo-*p*-dioxin	First PeCDD	1,2,4,6,8-PeCDD 1,2,4,7,9-PeCDD	71998-76-0 82291-37-0	50.0[d]
1,2,3,8,9-Pentachlorodibenzo-*p*-dioxin	Last PeCDD	1,2,3,8,9-PeCDD	71925-18-3	50.0
1,2,4,6,7,9-Hexachlorodibenzo-*p*-dioxin	First HxCDD	1,2,4,6,7,9-HxCDD	39227-62-8	50.0
1,2,3,4,6,7,9-Heptachlorodibenzo-*p*-dioxin	First HpCDD	1,2,3,4,6,7,9-HpCDD	58200-70-7	50.0
PCDF Window Definers:	**Designation[a]**			
1,3,6,8-Tetrachlorodibenzofuran	First TCDF	1,3,6,8-TCDF	71998-72-6	10.0
1,2,8,9-Tetrachlorodibenzofuran	Last TCDF	1,2,8,9-TCDF	70648-22-5	10.0
1,3,4,6,8-Pentachlorodibenzofuran	First PeCDF	1,3,4,6,8-PeCDF	83704-55-6	50.0
1,2,3,8,9-Pentachlorodibenzofuran	Last PeCDF	1,2,3,8,9-PeCDF	83704-54-5	50.0
1,2,3,4,6,8-Hexachlorodibenzofuran	First HxCDF	1,2,3,4,6,8-HxCDF	69698-60-8	50.0
2,3,7,8-TCDD Resolution Testing Isomers:				
1,2,3,4-Tetrachlorodibenzo-*p*-dioxin		1,2,3,4-TCDD	30746-58-8	5.00
1,2,3,7-/1,2,3,8-Tetrachlorodibenzo-*p*-dioxin		1,2,3,7-TCDD 1,2,3,8-TCDD	67028-18-6 53555-02-5	5.00[d]
1,2,3,9-Tetrachlorodibenzo-*p*-dioxin		1,2,3,9-TCDD	71669-26-6	10.0

[a] First/Last eluting isomer for the specified homologue group (see Table A for additional Window Definers).

[b] 1,2,3,4,6,7-HxCDD (last eluting HxCDD) not included; coelutes with 1,2,3,7,8,9-HxCDD on a 60 m DB-5 column. Use 1,2,3,7,8,9-HxCDD (see Table A) and 1,2,3,4,6,7,9-HpCDD to approximate the end of the HxCDD window.

[c] 1,2,3,4,8,9-HxCDF (last eluting HxCDF) not included; can interfere with 1,2,3,7,8,9-HxCDF on a 60 m DB-5 column. Use 1,2,3,4,6,7,8-HpCDF (see Table A) to approximate the end of the HxCDF window.

[d] Total concentration of isomers.

Certified By: _____ **Date:** 11/05/2021 (mm/dd/yyyy)

B.G. Chittim, General Manager

Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**

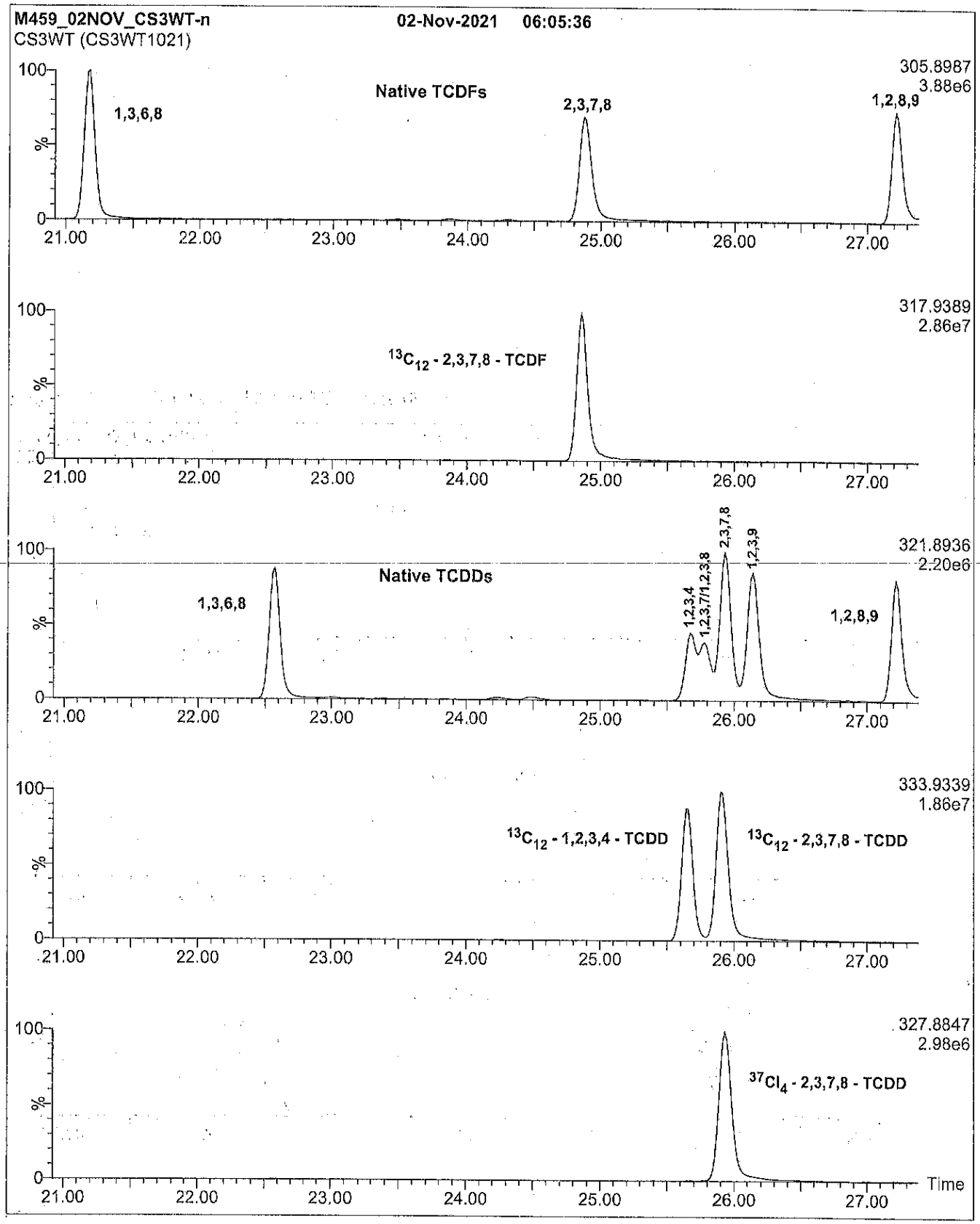


Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**

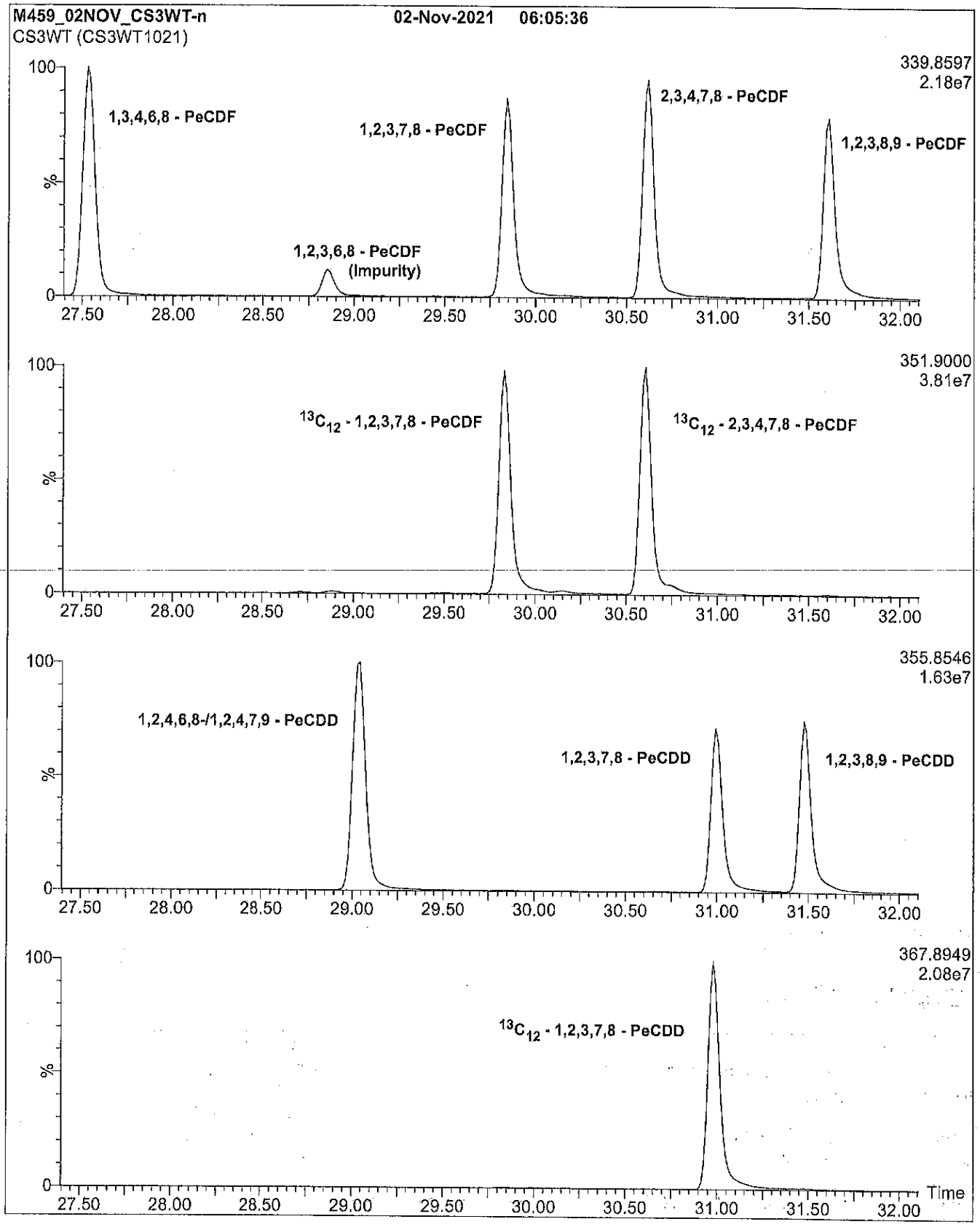


Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**

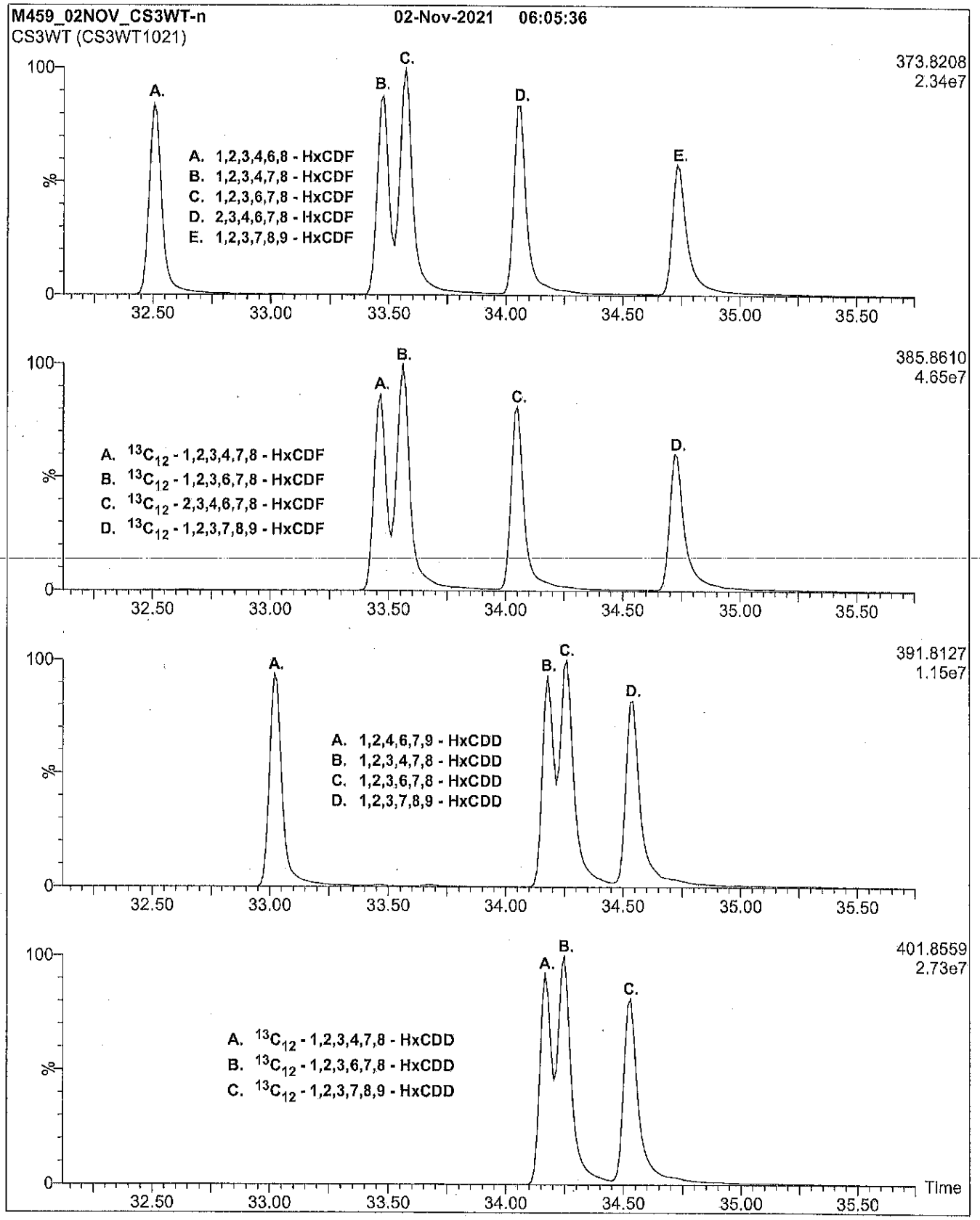


Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**

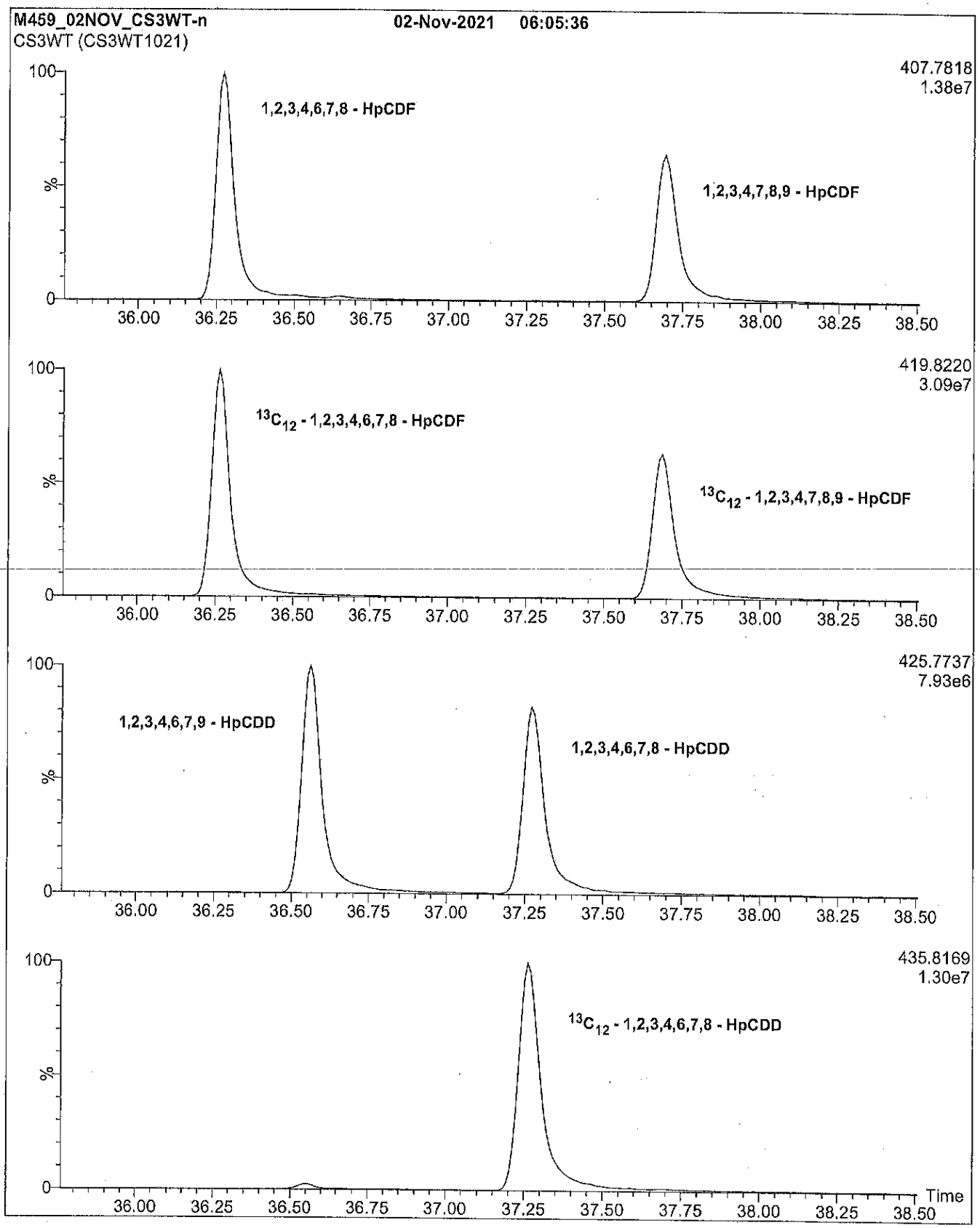
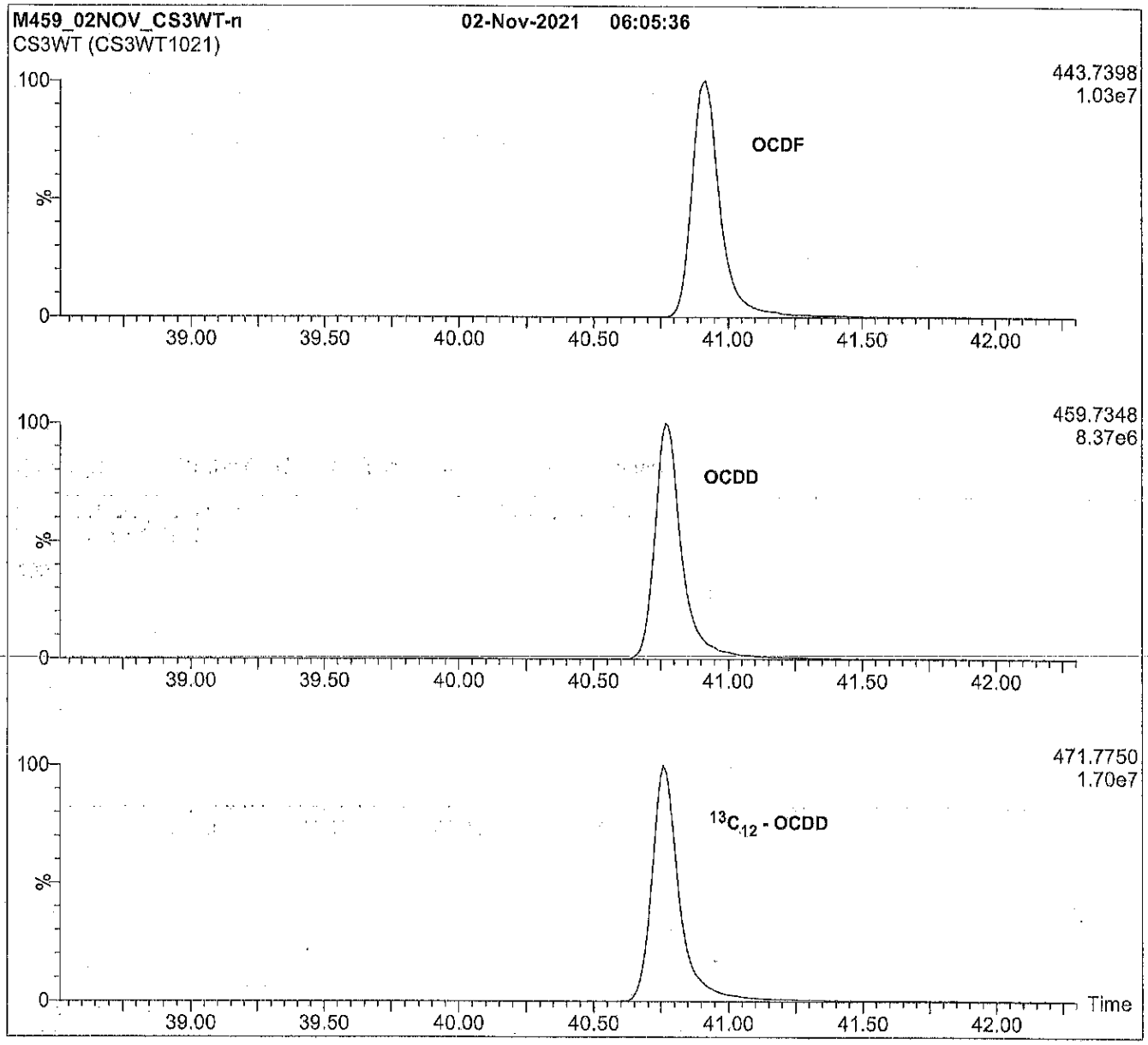


Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**



Conditions for Figure 1:

Agilent 6890N HRGC
Autospec Ultima HRMS

Chromatographic Conditions:

Column:	60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W		
Flow:	Constant at 1.4 mL/min	Oven:	150°C (1 min)
Injector:	280°C (Splitless Injection)		12°C/min to 200°C
Ionization:	EI+		3°C/min to 235°C
Detector:	280°C		235°C (8 min)
	SIR at 10,000 mass resolving power		8°C/min to 310°C
			310°C (8 min)

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

EPA-1613LCS

U.S. EPA Method 1613
Labelled Compound Stock Solution

PRODUCT CODE:	EPA-1613LCS
LOT NUMBER:	13LCS1021
SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	10/29/2021
LAST TESTED: (mm/dd/yyyy)	10/31/2021
EXPIRY DATE: (mm/dd/yyyy)	10/31/2028
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

K 9985 JK Reed 10/27/22

DESCRIPTION:

EPA-1613LCS is a solution/mixture of mass-labelled ($^{13}C_{12}$) polychlorinated dibenzo-*p*-dioxins (PCDDs) and dibenzofurans (PCDFs). The components and their concentrations are given in Table A.

EPA-1613LCS was designed and prepared to be used according to U.S. EPA Method 1613, Revision B.

The individual ^{13}C-labelled PCDDs and PCDFs all have chemical purities of >98% and isotopic purities of ≥99%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations
Figure 1: HRGC/HRMS Data (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots, x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **EPA-1613LCS; Components and Concentrations (ng/mL, ± 5% in nonane/3.2% toluene)**

Compound	Acronym	CAS #	Concentration (ng/mL)
Mass-Labelled PCDDs:			
2,3,7,8-Tetrachloro($^{13}C_{12}$)dibenzo-*p*-dioxin	$^{13}C_{12}$-2,3,7,8-TCDD	76523-40-5	100
1,2,3,7,8-Pentachloro($^{13}C_{12}$)dibenzo-*p*-dioxin	$^{13}C_{12}$-1,2,3,7,8-PeCDD	109719-79-1	100
1,2,3,4,7,8-Hexachloro($^{13}C_{12}$)dibenzo-*p*-dioxin	$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	109719-80-4	100
1,2,3,6,7,8-Hexachloro($^{13}C_{12}$)dibenzo-*p*-dioxin	$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	109719-81-5	100
1,2,3,4,6,7,8-Heptachloro($^{13}C_{12}$)dibenzo-*p*-dioxin	$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	109719-83-7	100
Octachloro($^{13}C_{12}$)dibenzo-*p*-dioxin	$^{13}C_{12}$-OCDD	114423-97-1	200
Mass-Labelled PCDFs:			
2,3,7,8-Tetrachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-2,3,7,8-TCDF	89059-46-1	100
1,2,3,7,8-Pentachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-1,2,3,7,8-PeCDF	109719-77-9	100
2,3,4,7,8-Pentachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-2,3,4,7,8-PeCDF	116843-02-8	100
1,2,3,4,7,8-Hexachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	114423-98-2	100
1,2,3,6,7,8-Hexachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	116843-03-9	100
1,2,3,7,8,9-Hexachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	116843-04-0	100
2,3,4,6,7,8-Hexachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	116843-05-1	100
1,2,3,4,6,7,8-Heptachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	109719-84-8	100
1,2,3,4,7,8,9-Heptachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	109719-94-0	100

Certified By: _____ **Date:** 11/05/2021
(mm/dd/yyyy)
B.G. Chittim, General Manager

Figure 1: **EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)**

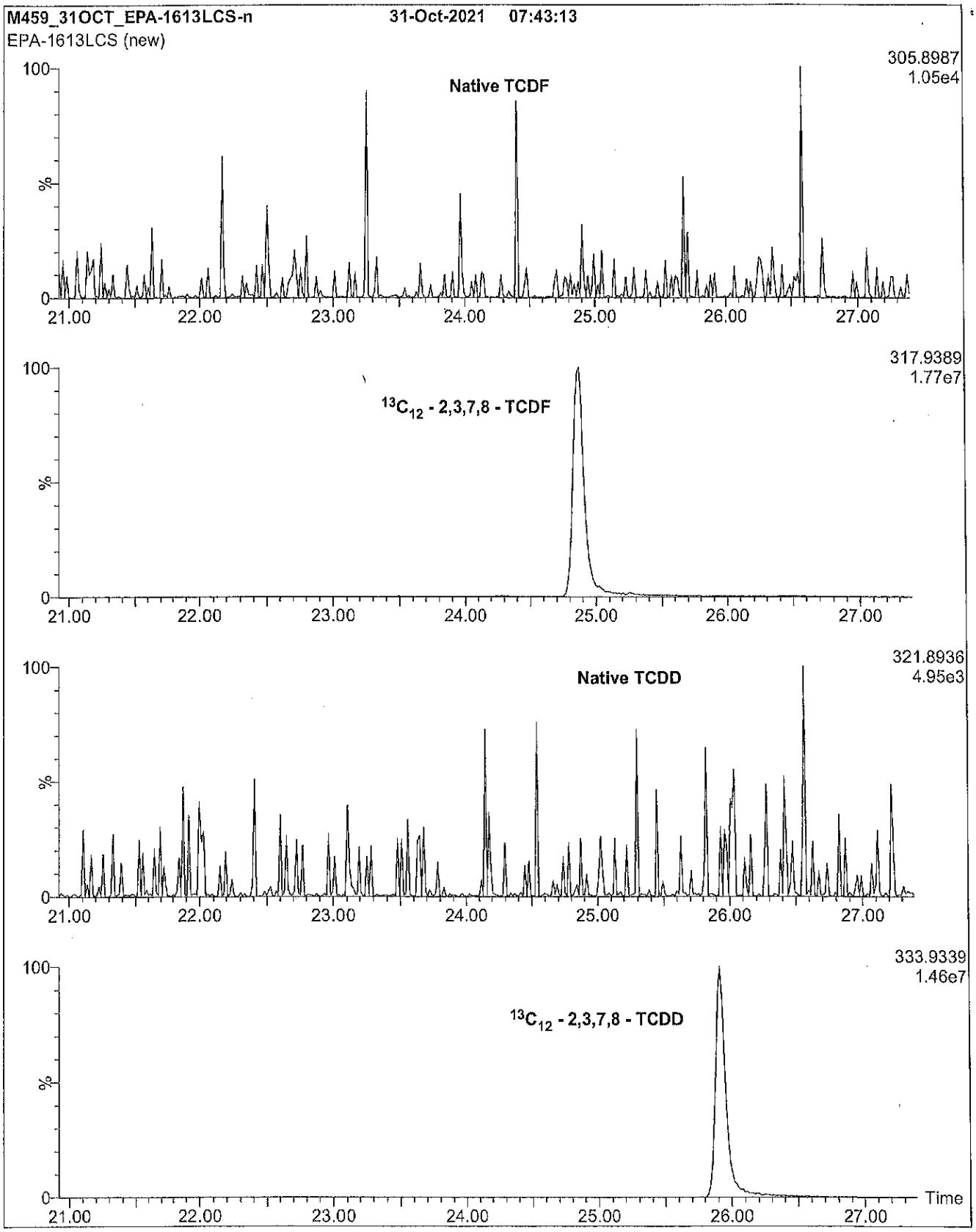


Figure 1: EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)

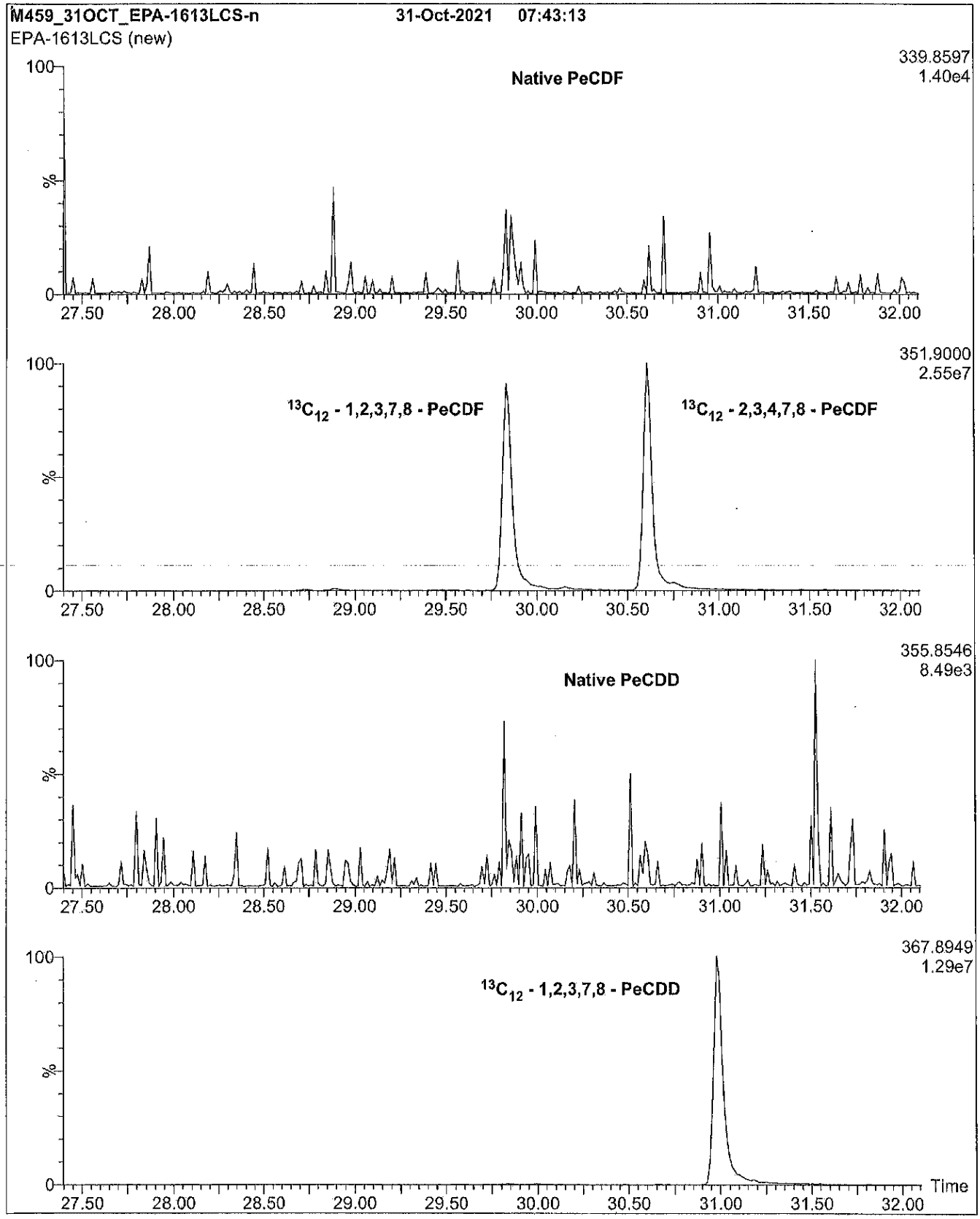


Figure 1: **EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)**

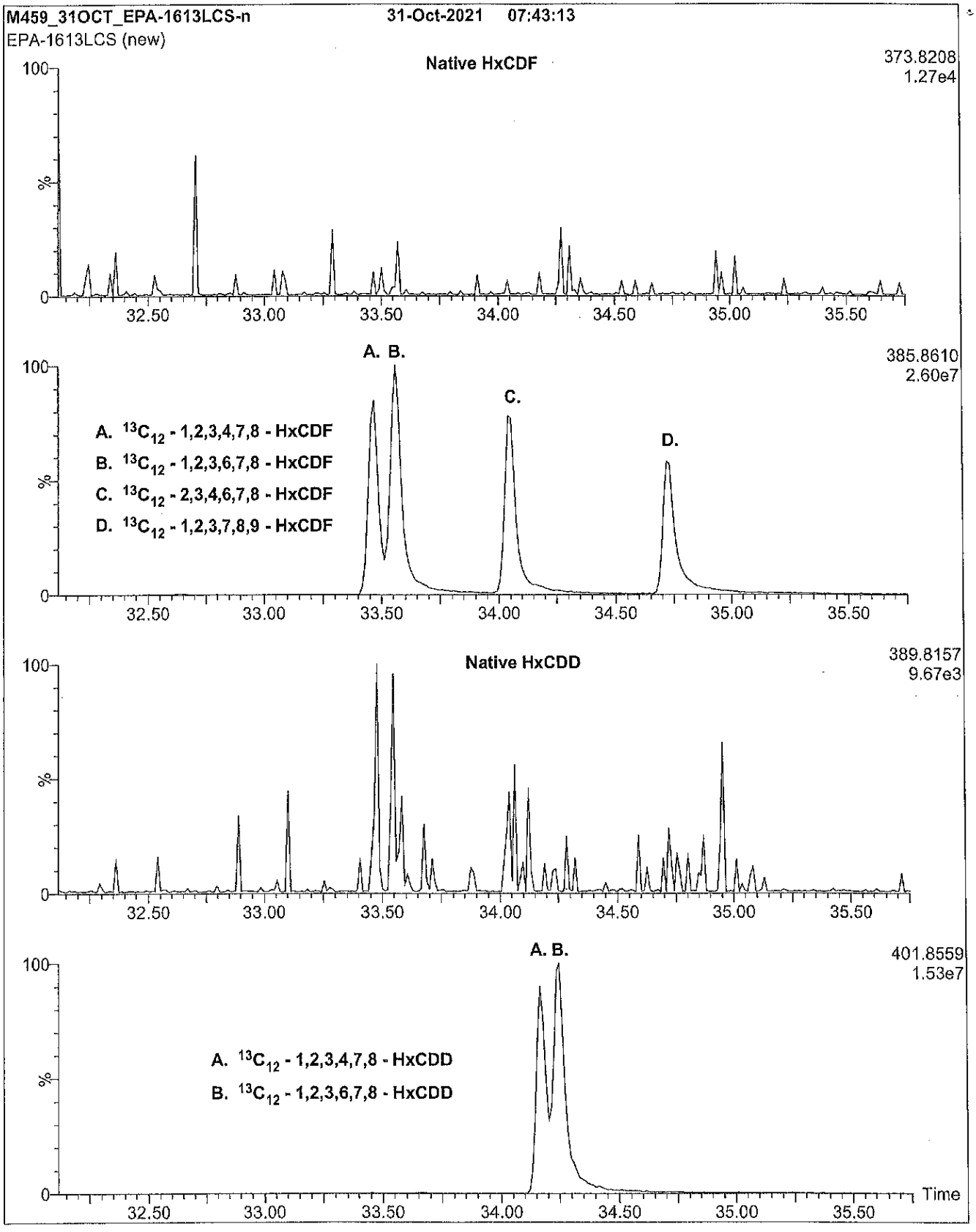


Figure 1: **EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)**

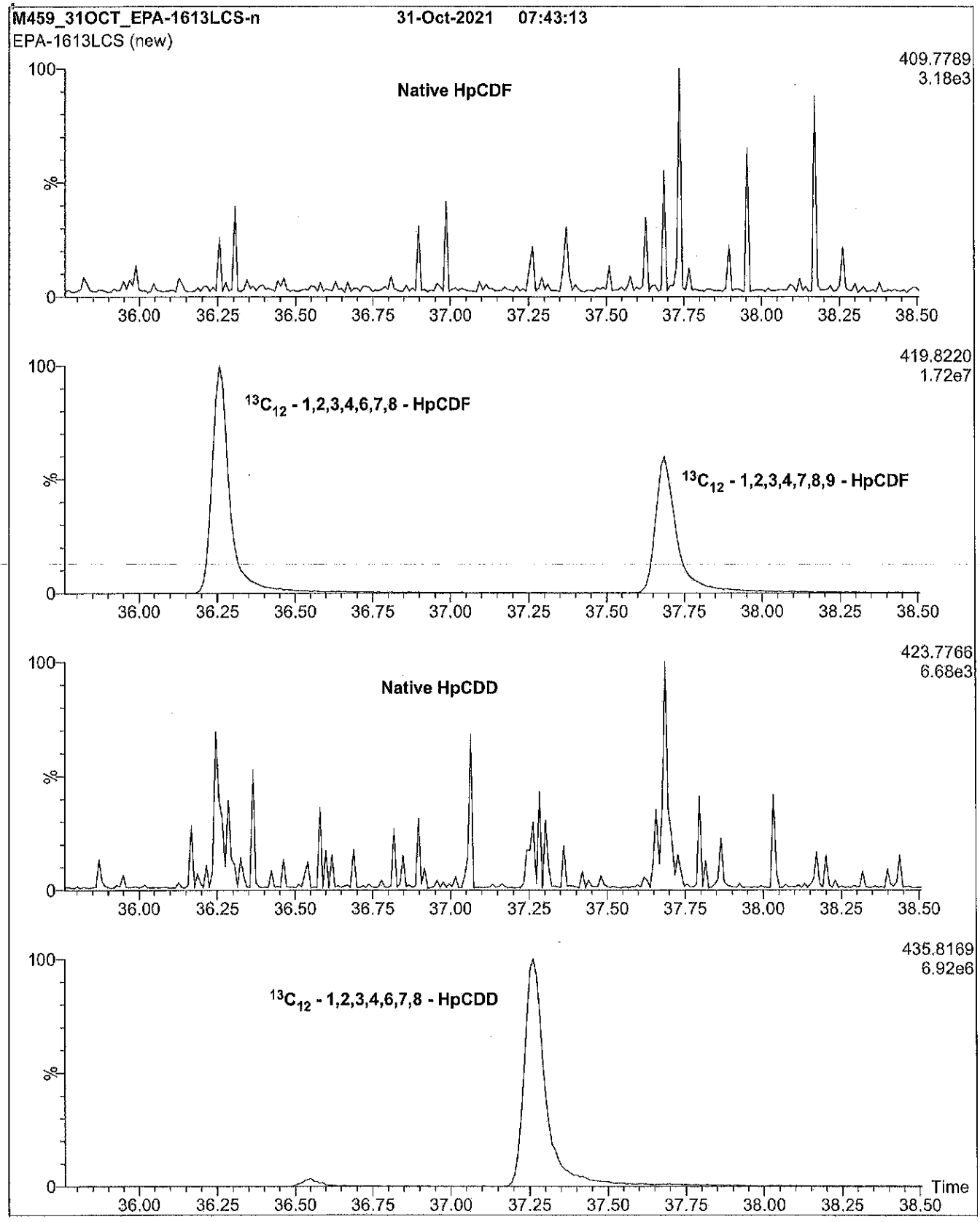
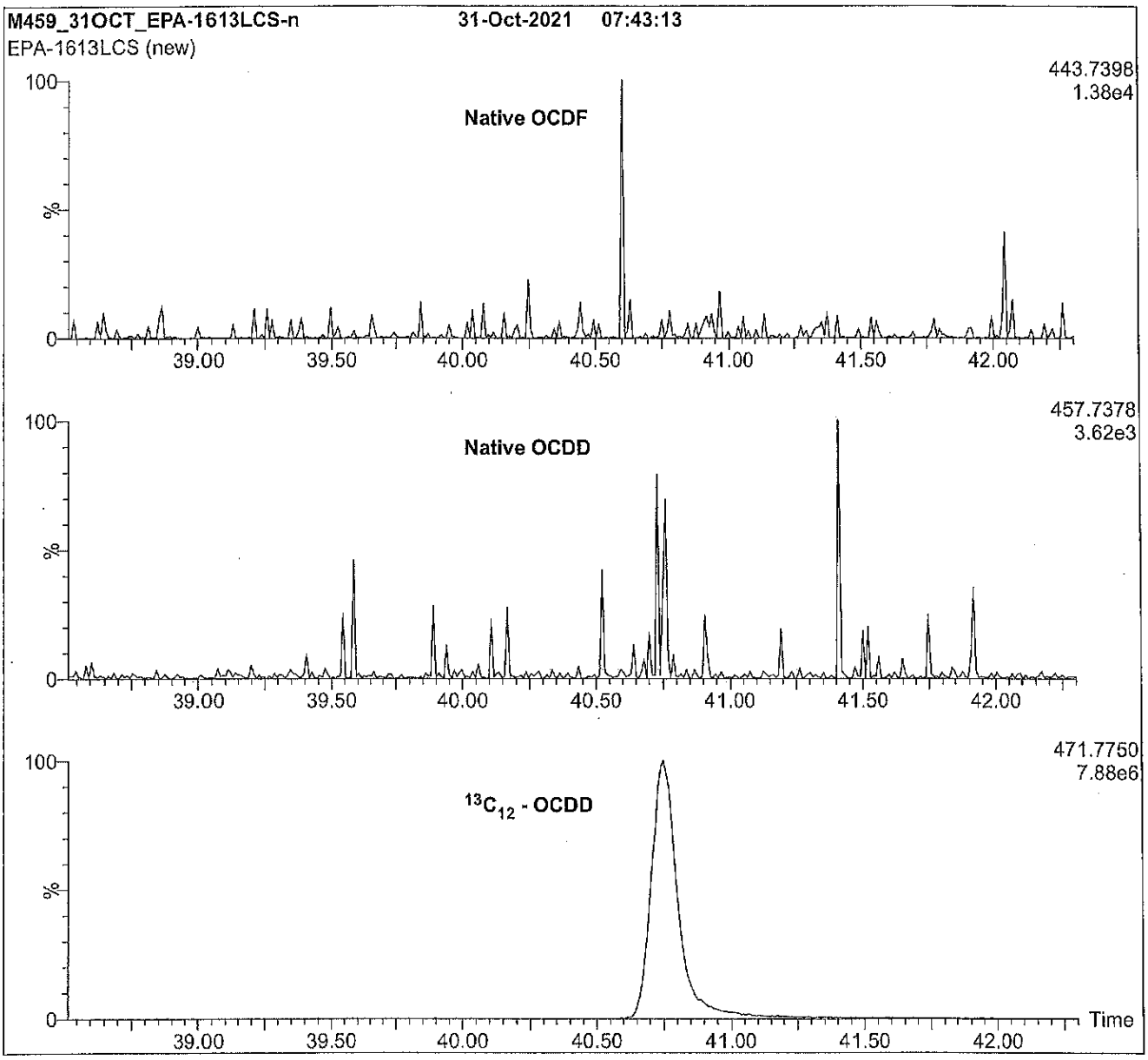


Figure 1: **EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)**



Conditions for Figure 1:

Agilent 6890N HRGC
Autospec Ultima HRMS

Chromatographic Conditions:

Column:	60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W		
Flow:	Constant at 1.4 mL/min	Oven:	150°C (1 min)
Injector:	280°C (Splitless Injection)		12°C/min to 200°C
Ionization:	EI+		3°C/min to 235°C
Detector:	280°C		235°C (8 min)
	SIR at 10,000 mass resolving power		8°C/min to 310°C
			310°C (8 min)

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

EPA-1613CSS

U.S. EPA Method 1613 Cleanup Standard Spiking Solution

PRODUCT CODE:	EPA-1613CSS
LOT NUMBER:	13CSS1021
SOLVENT(S):	Nonane
DATE PREPARED: (mm/dd/yyyy)	10/29/2021
LAST TESTED: (mm/dd/yyyy)	10/31/2021
EXPIRY DATE: (mm/dd/yyyy)	10/31/2028
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

K 9986
Recd. 10/27/22 JR

DESCRIPTION:

EPA-1613CSS contains 2,3,7,8-($^{37}Cl_4$)tetrachlorodibenzo-*p*-dioxin at the concentration given in Table A.

EPA-1613CSS was designed and prepared to be used according to U.S. EPA Method 1613, Revision B.

2,3,7,8-($^{37}Cl_4$)Tetrachlorodibenzo-*p*-dioxin has a chemical purity of >98% and an isotopic (^{37}Cl) purity of ≥95%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution
Figure 1: HRGC/HRMS Data (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 2 for further details.

Table A: **EPA-1613CSS; Components and Concentrations (ng/mL, ± 5% in nonane)**

Compound	Acronym	CAS #	Concentration (ng/mL)
2,3,7,8-($^{37}Cl_4$)Tetrachlorodibenzo-*p*-dioxin	$^{37}Cl_4$-2,3,7,8-TCDD	85508-50-5	40.0

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 11/05/2021 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

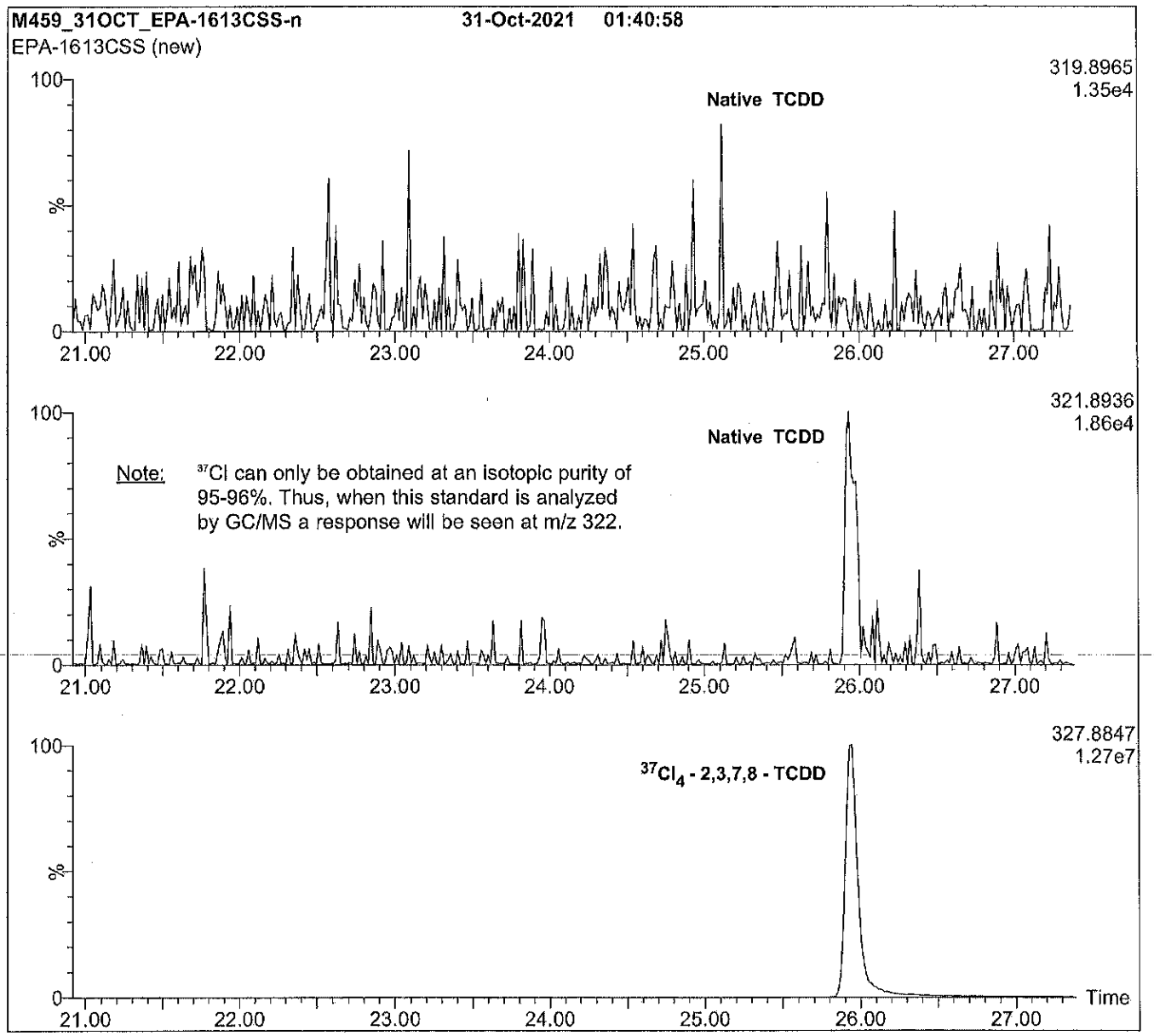
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **EPA-1613CSS; HRGC/HRMS Data (60 m DB-5 Column)**



Conditions for Figure 1:

Agilent 6890N HRGC
Autospec Ultima HRMS

Chromatographic Conditions:

Column:	60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W		
Flow:	Constant at 1.4 mL/min	Oven:	150°C (1 min)
Injector:	280°C (Splitless Injection)		12°C/min to 200°C
Ionization:	EI+		3°C/min to 235°C
Detector:	280°C		235°C (8 min)
	SIR at 10,000 mass resolving power		8°C/min to 310°C
			310°C (8 min)

Recipient Copy

CHAIN-OF-CUSTODY RECORD

COC No. 15600

Order Number: CB015015

Date Shipped: 1/31/2023

AirBill No(s): 633163298570

From: QATS LABORATORY
2700 CHANDLER AVENUE, BLDG. B
LAS VEGAS, NV 89120
PHONE: 1-702-895-8712

To: SUE DUNNIHOO
ANALYTICAL RESOURCES INC.
4611 S. 134TH PLACE SUITE 100
TUKWILA WA 98168
250-695-6207

Sample ID	Qty	Description/Remarks	→ Catalogue Number
PSRM0172 - L441373	1	PUGET SOUND SEDIMENT RM	PS-SRM
PSRM0173 - L441374	1	PUGET SOUND SEDIMENT RM	PS-SRM
PSRM0174 - ~~L441374~~ JS 2/1/23 L441375	1	PUGET SOUND SEDIMENT RM	PS-SRM

01/31/2023

PUGET SOUND SRM FOR THE DUWAMISH AOC5 PROJECT

Please use the enclosed Sample Preparation Instructions. If catalogue number(s) are listed at the top of the Sample Preparation Instructions use the Sample Preparation Instructions with catalogue number(s) matching the catalogue number(s) of each of the samples listed above.

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
[signature]	01/31/2023 (1400)	Jacob Shafter	02/06/23 1415
Custody Seal(s): Present/Absent	Remarks:		
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

Report No. 00, 9/11/2014

SMP Version 3.3

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Standard Record

Standard ID: L002084 **Printed: 3/2/2023 8:59:18AM**

Description:	Dioxin ISC Mix	Expires:	24-Feb-2024
Standard Type:	Other	Prepared:	24-Feb-2023
Solvent:	Nonane	Prepared By:	Peter Kepler
Final Volume (mls):	1	Department:	HRGCMS
Vials:	1	Last Edit:	24-Feb-2023 11:19 by PK
Vendor:	NA	Lot #:	1234
Vendor Catalog #:			

Comments

Stock: H9902: 2378-TCDF, 3467-TCDF, 2348-TCDF, 1278-TCDD, 2378-TCDD. each @ 1000 ng/mL

10 ul to 1 mL FV in Nonane. Final Conc = 10 ng/mL. Analytes and units not available in Element.

Analyte	CAS Number	Concentration	Units
2,3,7,8-TCDF	51207-31-9	10	ug/mL
2,3,7,8-TCDD	1746-01-6	10	ug/mL

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6020B UCT-KED

Total Metals

LDW23-IT1136

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-01 D	SDG:	23A0418
Sampled:	01/18/23 08:28	Prepared:	04/17/23 16:50	File ID:	XDT_m1230427A-109
% Solids:	81.57	Preparation:	SWN EPA 3050B	Analyzed:	04/28/23 02:28
Batch:	BLD0394	Sequence:	SLD0418	Initial/Final:	1.061 g Wet / 50 mL
Instrument:	ICPMS1			Calibration:	GD00078

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7440-38-2	Arsenic	2.53	20	0.04	0.23	

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Total Metals

LDW23-IT1142

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-02 D	SDG:	23A0418
Sampled:	01/18/23 08:47	Prepared:	04/17/23 16:50	File ID:	XDT_m1230427A-110
% Solids:	76.41	Preparation:	SWN EPA 3050B	Analyzed:	04/28/23 02:32
Batch:	BLD0394	Sequence:	SLD0418	Initial/Final:	1.08 g Wet / 50 mL
Instrument:	ICPMS1			Calibration:	GD00078

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7440-38-2	Arsenic	4.29	20	0.05	0.24	

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EPA 6020B UCT-KED

Total Metals

LDW23-IT1141

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-04 D	SDG:	23A0418
Sampled:	01/18/23 11:03	Prepared:	04/17/23 16:50	File ID:	XDT_m1230427A-111
% Solids:	62.77	Preparation:	SWN EPA 3050B	Analyzed:	04/28/23 02:37
Batch:	BLD0394	Sequence:	SLD0418	Initial/Final:	1.01 g Wet / 50 mL
Instrument:	ICPMS1			Calibration:	GD00078

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7440-38-2	Arsenic	7.78	20	0.06	0.32	

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Total Metals

LDW23-IT1133

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-05 D	SDG:	23A0418
Sampled:	01/18/23 11:13	Prepared:	04/17/23 16:50	File ID:	XDT_m1230427A-112
% Solids:	78.64	Preparation:	SWN EPA 3050B	Analyzed:	04/28/23 02:41
Batch:	BLD0394	Sequence:	SLD0418	Initial/Final:	1.047 g Wet / 50 mL
Instrument:	ICPMS1			Calibration:	GD00078

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7440-38-2	Arsenic	4.41	20	0.05	0.24	

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INORGANIC ANALYSIS DATA SHEET
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Total Metals

LDW23-IT1133-FD

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-06 D	SDG:	23A0418
Sampled:	01/18/23 11:13	Prepared:	04/17/23 16:50	File ID:	XDT_m1230427A-113
% Solids:	77.53	Preparation:	SWN EPA 3050B	Analyzed:	04/28/23 02:45
Batch:	BLD0394	Sequence:	SLD0418	Initial/Final:	1.035 g Wet / 50 mL
Instrument:	ICPMS1			Calibration:	GD00078

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7440-38-2	Arsenic	3.72	20	0.05	0.25	

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Total Metals

LDW23-IT1180

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-07 D	SDG:	23A0418
Sampled:	01/18/23 13:14	Prepared:	04/17/23 16:50	File ID:	XDT_m1230427A-123
% Solids:	80.45	Preparation:	SWN EPA 3050B	Analyzed:	04/28/23 03:35
Batch:	BLD0394	Sequence:	SLD0418	Initial/Final:	1.073 g Wet / 50 mL
Instrument:	ICPMS1			Calibration:	GD00078

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7440-38-2	Arsenic	6.10	20	0.04	0.23	

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Total Metals

LDW23-IT1218

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-08 D	SDG:	23A0418
Sampled:	01/18/23 13:42	Prepared:	04/17/23 16:50	File ID:	XDT_m1230427A-124
% Solids:	67.18	Preparation:	SWN EPA 3050B	Analyzed:	04/28/23 03:40
Batch:	BLD0394	Sequence:	SLD0418	Initial/Final:	1.057 g Wet / 50 mL
Instrument:	ICPMS1			Calibration:	GD00078

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7440-38-2	Arsenic	18.1	20	0.05	0.28	

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Total Metals

LDW23-IT1216

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-09 D	SDG:	23A0418
Sampled:	01/18/23 13:57	Prepared:	04/17/23 16:50	File ID:	XDT_m1230427A-125
% Solids:	80.44	Preparation:	SWN EPA 3050B	Analyzed:	04/28/23 03:44
Batch:	BLD0394	Sequence:	SLD0418	Initial/Final:	1.037 g Wet / 50 mL
Instrument:	ICPMS1			Calibration:	GD00078

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7440-38-2	Arsenic	6.96	20	0.05	0.24	

Analytical Resources, LLC
Analytical Chemists and Consultants

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INORGANIC ANALYSIS DATA SHEET
EPA 6020B UCT-KED

Total Metals

LDW23-IT1135

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-10 D	SDG:	23A0418
Sampled:	01/18/23 14:23	Prepared:	04/17/23 16:50	File ID:	XDT_m1230427A-126
% Solids:	71.89	Preparation:	SWN EPA 3050B	Analyzed:	04/28/23 03:48
Batch:	BLD0394	Sequence:	SLD0418	Initial/Final:	1.074 g Wet / 50 mL
Instrument:	ICPMS1			Calibration:	GD00078

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7440-38-2	Arsenic	2.46	20	0.05	0.26	

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Total Metals

LDW23-IT1140

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-11 D	SDG:	23A0418
Sampled:	01/18/23 14:47	Prepared:	04/17/23 16:50	File ID:	XDT_m1230427A-127
% Solids:	77.00	Preparation:	SWN EPA 3050B	Analyzed:	04/28/23 03:53
Batch:	BLD0394	Sequence:	SLD0418	Initial/Final:	1.051 g Wet / 50 mL
Instrument:	ICPMS1			Calibration:	GD00078

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7440-38-2	Arsenic	2.91	20	0.05	0.25	

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Analytical Chemists and Consultants

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INORGANIC ANALYSIS DATA SHEET
EPA 6020B UCT-KED

Total Metals

LDW23-IT1275

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-12 D	SDG:	23A0418
Sampled:	01/18/23 15:09	Prepared:	04/17/23 16:50	File ID:	XDT_m1230427A-128
% Solids:	80.87	Preparation:	SWN EPA 3050B	Analyzed:	04/28/23 03:57
Batch:	BLD0394	Sequence:	SLD0418	Initial/Final:	1.001 g Wet / 50 mL
Instrument:	ICPMS1			Calibration:	GD00078

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7440-38-2	Arsenic	4.34	20	0.05	0.25	

PREPARATION BATCH SUMMARY

EPA 6020B UCT-KED

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Batch:	BLD0394	Batch Matrix:	Solid	Preparation:	SWN EPA 3050B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-IT1136	23A0418-01	XDT_m1230427A-109	04/17/23 16:50	
LDW23-IT1142	23A0418-02	XDT_m1230427A-110	04/17/23 16:50	
LDW23-IT1141	23A0418-04	XDT_m1230427A-111	04/17/23 16:50	
LDW23-IT1133	23A0418-05	XDT_m1230427A-112	04/17/23 16:50	
LDW23-IT1133-FD	23A0418-06	XDT_m1230427A-113	04/17/23 16:50	
LDW23-IT1180	23A0418-07	XDT_m1230427A-123	04/17/23 16:50	
LDW23-IT1218	23A0418-08	XDT_m1230427A-124	04/17/23 16:50	
LDW23-IT1216	23A0418-09	XDT_m1230427A-125	04/17/23 16:50	
LDW23-IT1135	23A0418-10	XDT_m1230427A-126	04/17/23 16:50	
LDW23-IT1140	23A0418-11	XDT_m1230427A-127	04/17/23 16:50	
LDW23-IT1275	23A0418-12	XDT_m1230427A-128	04/17/23 16:50	
Blank	BLD0394-BLK1	XDT_m1230427A-069	04/14/23 16:50	
LCS	BLD0394-BS1	XDT_m1230427A-070	04/14/23 16:50	

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Digestion Log

Analyst: VAR **Date:** 4/17/23 **Time:** 1220-1820 **Balance ID:** BAL10
Matrix: Soil **Block ID:** 16 **Block Temp:** 90°C **Thermometer:** 20-4

ARI Sample ID	Btl #	pH<2	Prep Code: SWN Initial Wt (g) Vol (mL)	Prep Code: SWN Final Vol (mL)	Prep Code: Initial Wt (g) Vol (mL)	Prep Code: Final Vol (mL)	Comments
23A3326-01	D		1.037	50			
-02	↓		1.075				
-04	C		1.059				
-05	↓		1.058				
-08	D		1.042				
-09			1.036				
-10			1.091				
-11			1.025				
-12			1.056				
23A0418-01			1.061				
-02			1.080				
-04			1.010				
-05			1.047				
-06			1.035				
-07			1.073				
-08			1.057				
-09			1.037				
-10			1.074				
-11			1.051				
-12	↓		1.001				
BLD394-blk	—		—				23A3326-01
-bs	—		—				
-dup	—		1.038				
-MS	—		1.033				
-MSD	—		1.034	↓			↓
—	—	—	—	—	—	—	—

Chemical/Reagent ID:

HNO_3: L2678 **1:1 HNO_3:** L33605 **HCl:** ~~L1794~~ AB **H_2O_2:** K11056

Tube Lot#: 221017 **Boiling Chip Lot#:** — **(DoD Only)**

5061F
Version 007

11/8/22

Form I

METHOD BLANK DATA SHEET

EPA 6020B UCT-KED

Total Metals

Blank

Laboratory: Analytical Resources, LLC | SDG: 23A0418

Client: Anchor QEA, LLC | Project: AOC5 MR Phase 1

Batch: BLD0394 | Laboratory ID: BLD0394-BLK1 | Prepared: 04/14/23 16:50

Matrix: Solid | Preparation: SWN EPA 3050B | Analyzed: 04/27/23 23:22

Sequence: SLD0418 | Calibration: GD00078 | Instrument: ICPMS1

CAS NO.	Analyte	Concentration (mg/kg wet)	Dilution Factor	MDL	MRL	Q
7440-38-2	Arsenic-75a	ND	20	0.04	0.20	U

LCS / LCS DUPLICATE RECOVERY

EPA 6020B UCT-KED

Total Metals

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	04/27/23 23:27
Batch:	BLD0394	Laboratory ID:	BLD0394-BS1
Preparation:	SWN EPA 3050B	Sequence Name:	LCS
Initial/Final:	1 g / 50 mL		

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	Q	LCS % REC. #	QC LIMITS REC.
Arsenic-75a	25.0	23.5		94.0	80 - 120

* Indicates values outside of QC limits

Analytical Resources, LLC
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INITIAL CALIBRATION DATA

EPA 6020B UCT-KED

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GD00078	Instrument:	ICPMS1
Calibration Date:	04/27/2023 16:58		

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF
Arsenic-75a	0	0	0.2	365	10	312.7	20	314.3	50	308.26	100	305.08

INITIAL CALIBRATION DATA

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC

Instrument: ICPMS1

Calibration: GD00078

Calibration Date: 4/27/2023

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	COD Limit	Q
Arsenic-75a	267.5567	49.7	1.0000		0.998	

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ICP/MS - 01 SAMPLE RUN LOG

PE Nexlon ICP-MS Serial No. 85DN5032601

Analysis Date: 4/27/23 **Analyst:** MB **Sequence:** SLD0418 **Cal:** GD000078

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		SEQ-CAL1	L4687		
		-CAL2	L4627		
		-CAL3	L4628		
		-CAL4	L4629		
		-CAL5	L4624		
		-CAL6	L4630		
		-IBL1	—		
	✓	-ICV1	—		Std made noisy
		-ICV1	L3575		
		-ICB1	L4687		
		-CCV1	L4624		
		-CCB1	L4687		
	✓	-CRL1			Pb↑
	↓	-CRL1			Cu↑ / Repoured
		-CAL1			↓ / New Tube
	↓	-CAL1			
		-CCV2			Sc, In, Tb sl. noisy - %R+ Analytes OK
		-CCB2			
		-CRL1	L4627		
	✓	-IFA1	—		Cr^{53}↑ / Ni60 noisy
		-IFB1	L4689		↓
		-HCV1	L3671		Mo, Tl↑ - Mo, Tl < 100
		-HCV2	L3672		Tl, Pb↑ - Pb < 200
		-IBL2	—		(Sb↑)

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ICP/MS - 01 SAMPLE RUN LOG

PE Nexlon ICP-MS Serial No. 85DN5032601

Analysis Date: 4/27/23 **Analyst:** MB **Sequence:** ——— **Cal:** ———

All corrections made by analyst unless otherwise noted. MB 4/27/23

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		SEQ-IFA1	L4688		Cr^{53}↑
		-IBL3	—		
		-CCV3			
		-CCB3			
		BLDΦ232-BLK2	REN		Ag, Cd, Ni, RSb only
		-BS2			↓
		BLDΦ717-BLK2			Ag, Mn only
		-BS2			Sc, In sl. noisy- Y, Rst Analytes OK ↓
		23DΦ576-Φ1		10	Mn only
		23CΦ673-Φ1	SWN	50	Cr only
		23CΦ658-Φ2	REN	5	Ba only
		-Φ4		↓	↓
		23CΦ735-Φ1		10	Tl
		SEQ-IBL4			
		-CCV4			
		-CCB4			
	✓	C93-1 BOTTLE TEST			
	✓	C93-2 BOTTLE TEST			
	✓	23CΦ678-Φ8	REN		Tl only
	✓	-Φ9			↓
	✓	23CΦ732-Φ1			
	✓	23CΦ741-Φ1			Sc↑ - Not Needed ↓
		23CΦ699-Φ2			Mo only
		SEQ-IBL5			

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ICP/MS - 01 SAMPLE RUN LOG

PE Nexion ICP-MS Serial No. 85DN5032601

Analysis Date: 4/27/23 **Analyst:** MB **Sequence:** ——— **Cal:** ———

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		SEQ-CCV5			Tl↑
		-CCB5			
	√	-CAL1			Ba, Mn, Mo, Sb, Se, Tl Removed
		-CCV6			
		-CCB6			
		23AΦ295-Φ8	SWN	20	
		23CΦ774-Φ2			Sc↑/In noisy-%RE Analytes OK Cr NR
		-Φ3			
		-Φ4			
		-Φ1			/In noisy-%RE Analytes OK/Match Dup
		BLDΦ365-DUP1			
		-MS1			Sc, In, Tb sl. noisy-%R + Analytes OK
		-MSD1			Sc↑/Ag²%R↓
		-PS1			60.2L K7409/Sc↑
		SEQ-IBL7			
		-CCV7			
		-CCB7			
		BLDΦ394-BLK1	SWN	20	Cu>½RL - Samples>10x conc.
		-BS1			
		23CΦ774-Φ5			Sc↑ Cr NR
		-Φ6			
		-Φ7			
		-Φ8			
		-Φ9			

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ICP/MS - 01 SAMPLE RUN LOG

PE Nexion ICP-MS Serial No. 85DN5032601

Analysis Date: 4/27/23 **Analyst:** MB **Sequence:** _____ **Cal:** _____

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		23CΦ774-1Φ	SWN	20	Tb sl. noisy - %R Analytes OK
		↓ -11	↓	↓	Sc↑ Cr NR
		SEQ-IBL8			
		-CCV8			
		↓ -CCB8			
		23CΦ774-12	SWN	20	Sc↑ Cr NR
		-13			↓ ↓
		↓ -14			
		23AΦ326-Φ2			Sc↑ Cr NR
		↓ -Φ1			
		BLDΦ394-DUP1			
		-MS1			
		-MSD1			
		↓ -PS1	↓	↓	
		SEQ-IBL9			
		-CCV9			
		↓ -CCB9			
		BLDΦ659-BLK1	REN		
		↓ -BS1			
		BLDΦ754-BLK1			
		↓ -BS1	↓		Sc, In, Tb noisy - %Rs Analytes OK
		23AΦ326-Φ4	SWN	20	Sc↑ Cr NR
		-Φ5			↓ ↓
32A→ 23A		↓ -1Φ	↓	↓	

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ICP/MS - 01 SAMPLE RUN LOG

PE Nexlon ICP-MS Serial No. 85DN5032601

Analysis Date: 4/27/23 **Analyst:** MB **Sequence:** _____ **Cal:** _____

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		23AΦ326-11	SWN	20	Sc↑ Cr NR
		↓ -12	↓	↓	↓ ↓
		SEQ-IBLA			
		-CCVA			
		-CCBA			
		BLDΦ4ΦZ-BLK1	REN		
		↓ -BS1	↓		
		23AΦ326-Φ8	SWN	20	
		↓ -Φ9			
		23AΦ418-Φ1			
		-Φ2			
		-Φ4			
		-Φ5			
		↓ -Φ6	↓	↓	
		SEQ-IBLB			
		-CCVB			
		-CCBB			
	✓	-CAL1			
		-CCVC			
		↓ -CCBC			
		230Φ124-Φ2	REN	5	Zn only
		BLDΦ51Φ-DUP2	↓	↓	↓
		↓ -MS2	↓	↓	Zn %R↑ (126%)
		23AΦ418-Φ7	SWN	20	

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ICP/MS - 01 SAMPLE RUN LOG

PE Nexlon ICP-MS Serial No. 85DN5032601

Analysis Date: 4/27/23 **Analyst:** MB **Sequence:** — **Cal:** —

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		23AΦ418-Φ8	SWN	20	SCT - Not Needed
		-Φ9			
		-1Φ			
		-11			
		-12			
		SEQ-IBLA			
		-CCVA			
		-CCBA			
		230ΦΦ76-ΦIRE1	REN		Pb only
		230ΦΦΦ4-Φ2			
		-Φ4			
		230ΦΦΦ3-Φ4			
		-Φ6			
		-Φ8			
		-Φ2			
		BLAΦ4Φ2-DUP1			
		-MS1			
		SEQ-IBLE			
		-CCVE			
		-CCBE			
		230ΦΦΦ5-Φ2	REN		
		-Φ4			
		230ΦΦΦ6-Φ3			
		-Φ4			

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ICP/MS - 01 SAMPLE RUN LOG

PE Nexlon ICP-MS Serial No. 85DN5032601

Analysis Date: 4/27/23 **Analyst:** MS **Sequence:** _____ **Cal:** _____

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		230ΦΦ2Φ-Φ2	REN		
		230Φ162-Φ2	↓		
		-Φ4	↓		
		-Φ6	↓		
		230Φ182-Φ1	↓	20	
		SEQ-IBLF			(Cr53↑/Sc,In,Tb noisy)
		-CCVF			
		-CCBF			
		230Φ135-Φ4	REN		
		-Φ6	↓		Tb sl. noisy - %R & Analytes OK
		-Φ8	↓		
		-1Φ	↓		
		-12	↓		
		-14	↓		
		-16	↓		
		230Φ17Φ-Φ2	↓		
		-Φ4	↓		
		SEQ-IBLG			
		-CCVG	↑		
		-CCBG	↑		
	✓	-CAL1	↑		
		-CCVH	↑		
		-CCBH	↑		
		230ΦΦ81-Φ4RE1	REN		Pb only

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ICP/MS - 01 SAMPLE RUN LOG

PE Nexion ICP-MS Serial No. 85DN5032601

Analysis Date: 4/27/23 **Analyst:** MS **Sequence:** ——— **Cal:** ———

All corrections made by analyst unless otherwise noted. MS 4/27/23

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		230ΦΦ489-ΦIRE1	REN		Pb only
		230ΦΦ62-ΦIRE1			
		-Φ5RE1			
		-Φ7RE1			
		-Φ3RE1			
		BLDΦ754-DUP1			No Cu, Ni, Zn
		-MS1			
		-MSD1			
		SEQ. IBL I			
		-CCV I			Ge noisy / Ag, Cu, Ni, Zn↑
		-CCB I			
	✓	230Φ133-Φ1	REN		Zn↑
	✓	-Φ2			
	✓	-Φ3			
		230Φ135-Φ2			Sc↑ - Not Needed Cd only
		BLDΦ5Φ9-DUP1			
		-MS1			
		230Φ262-Φ1			Ag, Cd, Cr only
		BLDΦ717-DUP1			
		-MS1			
		SEQ-IBL J			
		-CCV J			Pb↑
		-CCB J			
		230Φ2Φ6-Φ1	REN		

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ICP/MS - 01 SAMPLE RUN LOG

PE Nexion ICP-MS Serial No. 85DN5032601

Analysis Date: 4/27/23 **Analyst:** MS **Sequence:** ——— **Cal:** ———

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		230Φ2Φ6-Φ3	REN		
		↓ -Φ5	↓	2	
		230Φ2Φ5-Φ1	↓		
		↓ -Φ3	↓		
		↓ -Φ5	↓		
		230Φ2Φ2-Φ1	↓		No Pb
		BLDΦ659-DUP1	↓		↓
		↓ -MS1	↓		↓
		SEQ-IBLK			
		↓ -CCVK			
		↓ -CCBK			
		230Φ151-Φ1	REN		
		230Φ211-Φ1	↑		No Pb
		↓ -Φ2	↓		↓
		230Φ214-Φ1	↓		
		↓ -Φ2	↓		
		230Φ216-Φ1	↓		
		↓ -Φ2	↓		
		↓ -Φ3	↓		
		↓ -Φ4	↓		
		SEQ-IBLL			
		↓ -CCVL			Pb↑
		↓ -CCBL			
		230Φ215-Φ1	REN	2	No Cu, Pb

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ICP/MS - 01 SAMPLE RUN LOG

PE Nexlon ICP-MS Serial No. 85DN5032601

Analysis Date: 4/27/23 **Analyst:** MB **Sequence:** ——— **Cal:** ———

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
	✓	23Dϕ248-ϕ1	REN		As↑↑
		SEQ-IBLM			(As↑)
RE1		23Cϕ654-ϕ1RE1	REN	10,000	Ni, Zn only
		↓ -ϕ1	↓	100	Ni, Zn↑ Ni, Zn NR / No Cu, Pb
		SEQ-IBLN+O			
	✓	BLOϕ394-BLK2	SWN	20	Cu > ½RL
		SEQ-CCVM			Cu^{63}, Pb↑
		-CCBM			
	✓	-CAL1			All but Cr Removed
		-CCVN			
		↓ -CCBN			
		23Cϕ774-ϕ2RE1	SWN	50	Cr only
		-ϕ3RE1			
		-ϕ4RE1			
		-ϕ5RE1			
		-ϕ6RE1			
	✓	↓ -ϕ1RE1			Sc↑
		BLOϕ365-DUP2			
		-MS2			
		-MSD2			Sc↑
	↓	↓ -PS2	↓	↓	60 mL K7409 / ↓
		SEQ-CCVO			
		↓ -CCBO			
	✓	↓ -CCVP			

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ICP/MS - 01 SAMPLE RUN LOG

PE Nexion ICP-MS Serial No. 85DN5032601

Analysis Date: 4/27/23 **Analyst:** MB **Sequence:** _____ **Cal:** _____

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
	✓	SEQ-CAL1			
		-CCVP			
		-CCBP			
A		23AΦ326-Φ2RE1	SWN	50	Cr only
		-Φ4RE1			
		-Φ5RE1			
		-11RE1			
		-12RE1			
		-Φ1RE1			
		BLDΦ394-DUP2			
		-MS2			
		-MSD2			
		-PS2			60 mL K7409
		SEQ-CCVQ			
		-CCBQ			
		23CΦ774-Φ7RE1	SWN	50	Cr only
		-Φ8RE1			
		-Φ9RE1			
		-11RE1			
		-12RE1			
		-13RE1			
		-Φ1RE1		100	
		BLDΦ365-DUP2			
		-MS2			

Analytical Resources, Incorporated
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ICP/MS - 01 SAMPLE RUN LOG

PE Nexlon ICP-MS Serial No. 85DN5032601

Analysis Date: 4/27/23 **Analyst:** MB **Sequence:** ——— **Cal:** ———

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		BLQ0365-MS02	SWN	100	Cr only
		SEQ-CCVR			
		↓ -CCBR			
		Rinse/DI			
				MB 4/27/23	

Performance Check Report

Sample ID: STD Performance Check
Sample Date/Time: Thursday, April 27, 2023 12:24:31
Sample Description:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\STD Performance Check.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\Default\STD Performance Check.053
MassCal File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Conditions File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Dual Detector Mode: Pulse
Acq. Dead Time (ns): 35
Current Dead Time (ns): 35
Torch Z position (mm): 0.00

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD	Mode
	Be	9.0	6556.9	6556.905	99.581	1.5	Standard
	In	114.9	83277.2	-433581.303	983.057	0.2	Standard
	U	238.1	93754.7	93754.664	1793.744	1.9	Standard
⌈	CeO	155.9	2845.6	0.023	0.000	1.8	Standard
| >	Ce	139.9	124548.5	124548.507	1542.105	1.2	Standard
⌊	Ce++	70.0	1081.4	0.009	0.000	3.7	Standard
	Bkgd	220.0	4.9	4.900	1.283	26.2	Standard

Current Conditions File Data

Current Value	Description
0.93	Nebulizer Gas Flow STD/KED [NEB]
1.20	Auxiliary Gas Flow
17.50	Plasma Gas Flow
-10.75	Deflector Voltage
1600.00	ICP RF Power
-1600.00	Analog Stage Voltage
950.00	Pulse Stage Voltage
0.00	Quadrupole Rod Offset STD [QRO]
-10.00	Cell Rod Offset STD [CRO]
14.00	Discriminator Threshold
-5.00	Cell Entrance/Exit Voltage STD
0.00	RPa
0.45	RPq
0.93	DRC Mode NEB
-7.50	DRC Mode QRO
-2.00	DRC Mode CRO
-5.00	DRC Mode Cell Entrance/Exit Voltage
0.60	Cell Gas A
0.00	Cell Gas B
200.00	Axial Field Voltage
-11.00	KED Mode CRO
-12.00	KED Mode QRO
-11.00	KED Mode Cell Entrance Voltage
-33.00	KED Mode Cell Exit Voltage
0.00	KED Cell Gas A
3.00	KED Cell Gas B
0.00	KED RPa
0.25	KED RPq
125.00	KED Mode Axial Field Voltage

Performance Check Report

Sample ID: STD Performance Check
Sample Date/Time: Thursday, April 27, 2023 12:33:52
Sample Description:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\STD Performance Check.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\Default\STD Performance Check.059
MassCal File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Conditions File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Dual Detector Mode: Pulse
Acq. Dead Time (ns): 35
Current Dead Time (ns): 35
Torch Z position (mm): 0.00

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD	Mode
	Be	9.0	6198.2	6198.211	96.905	1.6	Standard
	In	114.9	84308.5	84308.480	1123.207	1.3	Standard
	U	238.1	91250.0	91249.955	1383.393	1.5	Standard
⌈	CeO	155.9	2976.7	0.025	0.000	1.2	Standard
| >	Ce	139.9	120320.3	120320.269	1090.071	0.9	Standard
⌊	Ce++	70.0	1004.0	0.008	0.000	2.0	Standard
	Bkgd	220.0	1.7	1.700	0.558	32.8	Standard

Current Conditions File Data

Current Value	Description
0.93	Nebulizer Gas Flow STD/KED [NEB]
1.20	Auxiliary Gas Flow
17.50	Plasma Gas Flow
-10.75	Deflector Voltage
1600.00	ICP RF Power
-1600.00	Analog Stage Voltage
950.00	Pulse Stage Voltage
0.00	Quadrupole Rod Offset STD [QRO]
-10.00	Cell Rod Offset STD [CRO]
14.00	Discriminator Threshold
-5.00	Cell Entrance/Exit Voltage STD
0.00	RPa
0.45	RPq
0.93	DRC Mode NEB
-7.50	DRC Mode QRO
-2.00	DRC Mode CRO
-5.00	DRC Mode Cell Entrance/Exit Voltage
0.60	Cell Gas A
0.00	Cell Gas B
200.00	Axial Field Voltage
-11.00	KED Mode CRO
-12.00	KED Mode QRO
-11.00	KED Mode Cell Entrance Voltage
-33.00	KED Mode Cell Exit Voltage
0.00	KED Cell Gas A
3.00	KED Cell Gas B
0.00	KED RPa
0.25	KED RPq
125.00	KED Mode Axial Field Voltage

SmartTune Wizard - Summary

Optimization Summary

SmartTune file: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Wizard\SmartTune\ARISmartTuneDailyUCT.swz

Start Time: 4/27/2023 12:24:29 PM
End Time: 4/27/2023 12:35:57 PM

STD Performance Check - [Passed] Optimum value(s): N/A
Obtained Intensity (Be 9): 6556.90
Obtained Intensity (In 115): 83277.18
Obtained Intensity (U 238): 93754.66
Obtained Intensity (Bkgd 220): 4.90
Obtained Formula (Ce++ 70 / Ce 140): 0.009 (=1081.37 / 124548.51)
Obtained Formula (CeO 156 / Ce 140): 0.023 (=2845.55 / 124548.51)
Obtained RSD (Be 9): 0.0152
Obtained RSD (In 115): 0.0023
Obtained RSD (U 238): 0.0191

Torch Alignment - [Passed]

Vertical	Horizontal	Intensity
0.99 mm	0.55 mm	111257.56

Nebulizer Gas Flow STD/KED [NEB] - [Passed] Optimum value(s): 0.93
Obtained Intensity (In 115): 81526.97
Obtained Formula (CeO 156 / Ce 140): 0.0245 (=2959.31 / 120619.07)

Mass Calibration and Resolution - [Passed] Optimum value(s): N/A
Target/Obtained mass (7.016/7.025), Target/Obtained resolution (0.7/0.724)
Target/Obtained mass (23.985/24.025), Target/Obtained resolution (0.7/0.686)
Target/Obtained mass (114.904/114.925), Target/Obtained resolution (0.7/0.691)
Target/Obtained mass (238.05/238.075), Target/Obtained resolution (0.7/0.673)

QID STD/DRC - Optimum value(s): Correlation Coefficient = 0.993; Intercept = -15.46

KED Mode QID - Optimum value(s): Correlation Coefficient = 0.991; Intercept = -14.25

STD Performance Check - [Passed] Optimum value(s): N/A
Obtained Intensity (Be 9): 6198.21
Obtained Intensity (In 115): 84308.48
Obtained Intensity (U 238): 91249.95
Obtained Intensity (Bkgd 220): 1.70
Obtained Formula (Ce++ 70 / Ce 140): 0.008 (=1004.04 / 120320.27)
Obtained Formula (CeO 156 / Ce 140): 0.025 (=2976.71 / 120320.27)
Obtained RSD (Be 9): 0.0156
Obtained RSD (In 115): 0.0133
Obtained RSD (U 238): 0.0152

SmartTune Wizard - Details

Optimization Details

SmartTune file: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Wizard\SmartTune\ARISmartTuneDailyUCT.swz

Optimization Status

Start Time: 4/27/2023 12:24:29 PM

STD Performance Check
	Optimization Settings:
		Method: STD Performance Check.mth.
		Intensity Criterion: Be 9 > 2000
		Intensity Criterion: In 115 > 40000
		Intensity Criterion: U 238 > 30000
		Intensity Criterion: Bkgd 220 <= 5
		Formula Criterion: Ce++ 70 / Ce 140 <= 0.03
		Formula Criterion: CeO 156 / Ce 140 <= 0.025
		RSD Criterion: Be 9.0122 < 0.05
		RSD Criterion: In 114.904 < 0.05
		RSD Criterion: U 238.05 < 0.05

	Optimization Results:
	Initial Try
		Obtained Intensity (Be 9): 6556.90
		Obtained Intensity (In 115): 83277.18
		Obtained Intensity (U 238): 93754.66
		Obtained Intensity (Bkgd 220): 4.90
		Obtained Formula (Ce++ 70 / Ce 140): 0.009 (=1081.37 / 124548.51)
		Obtained Formula (CeO 156 / Ce 140): 0.023 (=2845.55 / 124548.51)
		Obtained RSD (Be 9): 0.0152
		Obtained RSD (In 115): 0.0023
		Obtained RSD (U 238): 0.0191

[Passed] Optimum value(s): N/A

Torch Alignment
	Optimization Settings:
		Method: Torch Alignment.mth.
		Intensity Criterion: In 115 Maximum

	Optimization Results:
		Vertical	Horizontal	Intensity
[Passed]	0.99 mm	0.55 mm	111257.56

Nebulizer Gas Flow STD/KED [NEB]
	Optimization Settings:
		Method: Optimize.mth.
			Initial Try - Start/End/Step: 0.89/0.96/0.01.
		Intensity Criterion: In 115 Maximum
		Formula Criterion: CeO 156 / Ce 140 <= 0.025

	Optimization Results:
	Initial Try

		Obtained Intensity (In 115): 81526.97
		Obtained Formula (CeO 156 / Ce 140): 0.0245 (=2959.31 / 120619.07)
[Passed] Optimum value(s): 0.93

Mass Calibration and Resolution
Optimization Settings:
Method: Tuning.mth.
MassCal File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Iterations: 6
Target accuracy (+/- amu): 0.05 for Mass Cal. and 0.03 for Resolution
Peak height (%) for Res. Opt.: 10

Optimization Results:
Initial Try
Target/Obtained mass (7.016/7.025), Target/Obtained resolution (0.7/0.724)
Target/Obtained mass (23.985/24.025), Target/Obtained resolution (0.7/0.686)
Target/Obtained mass (114.904/114.925), Target/Obtained resolution (0.7/0.691)
Target/Obtained mass (238.05/238.075), Target/Obtained resolution (0.7/0.673)
[Passed] Optimum value(s): N/A

QID STD/DRC
Optimization Settings:
Method: QID Calibration.mth.
Initial Try - Start/End/Step: -20/0/0.5.

Optimization Results:
Initial Try

Optimum value(s): Correlation Coefficient = 0.993; Intercept = -15.46

Analyte	Mass	Points	DAC	MaxIntensity
Li	7	41	-15.5	36542.7
Mg	24	41	-15.5	45400
In	115	41	-11.5	84489.1
Ce	140	41	-11.5	129403
Pb	208	41	-11.5	56925.2
U	238	41	-11.5	92816.5

KED Mode QID
Optimization Settings:
Method: QID Calibration.mth.
Initial Try - Start/End/Step: -20/0/0.5.

Optimization Results:
Initial Try

Optimum value(s): Correlation Coefficient = 0.991; Intercept = -14.25

Analyte	Mass	Points	DAC	MaxIntensity
Li	7	41	-14.5	24008.2
Mg	24	41	-14.5	53700.7
In	115	41	-12.5	119671
Ce	140	41	-11	114570
Pb	208	41	-10	52030.6
U	238	41	-10	118231

STD Performance Check
Optimization Settings:
Method: STD Performance Check.mth.
Intensity Criterion: Be 9 > 2000
Intensity Criterion: In 115 > 40000

```
            Intensity Criterion: U 238 > 30000
            Intensity Criterion: Bkgd 220 <= 5
            Formula Criterion: Ce++ 70 / Ce 140 <= 0.03
            Formula Criterion: CeO 156 / Ce 140 <= 0.025
            RSD Criterion: Be 9.0122 < 0.05
            RSD Criterion: In 114.904 < 0.05
            RSD Criterion: U 238.05 < 0.05

       Optimization Results:
       Initial Try
            Obtained Intensity (Be 9): 6198.21
            Obtained Intensity (In 115): 84308.48
            Obtained Intensity (U 238): 91249.95
            Obtained Intensity (Bkgd 220): 1.70
            Obtained Formula (Ce++ 70 / Ce 140): 0.008 (=1004.04 / 120320.27)
            Obtained Formula (CeO 156 / Ce 140): 0.025 (=2976.71 / 120320.27)
            Obtained RSD (Be 9): 0.0156
            Obtained RSD (In 115): 0.0133
            Obtained RSD (U 238): 0.0152

[Passed]  Optimum value(s): N/A

End Time: 4/27/2023 12:35:57 PM
```

SmartTune Wizard - Summary

Optimization Summary

SmartTune file: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Wizard\SmartTune\ARISmartTuneDual.swz

Start Time: 4/27/2023 12:43:09 PM
End Time: 4/27/2023 12:44:48 PM

Detector Voltages - [Passed]
Pulse Stage Voltage - [Passed] Optimum value(s): 1000
Analog Stage Voltage - [Passed] Optimum value(s): -1600
Pulse Stage Voltage (Fine-tune) - [Passed] Optimum value(s): 1000

SmartTune Wizard - Details

Optimization Details

SmartTune file: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Wizard\SmartTune\ARISmartTuneDual.swz

Optimization Status

Start Time: 4/27/2023 12:43:09 PM

Detector Voltages
	Pulse Stage Voltage Optimization Settings:
		Method: Pulse Stage Optimization.mth.
			Initial Try - Start/End/Step: 800/1300/50.
			Retry 1 - Start/End/Step: 800/1800/50.
		Optimization Criterion (Pulse 76): 0.1

	Analog Stage Voltage Optimization Settings:
		Method: Analog Stage Optimization.mth.
		Initial Try - Start/End: -1300/-1900.
		Retry 1 - Start/End: -1300/-2400.
		Optimization Criterion (Analog 80): Target Gain 10000

	Pulse Stage Voltage Results:
	Initial Try

		Intensity Obtained For Criterion (Pulse 76): 59924.42
[Passed] Optimum value(s): 1000
	Analog Stage Voltage Results:
	Initial Try
		Interim Gain Values: 9489.64 (-1600V)
		Analyte: Analog 80
		ACEM(volts): -1600
		Achieved Gain: 9489.64
		Achieved NMax: 1.31929e+009
		Conversion Factor: 0.0970217
		Passes: 1
		Points Collected: 31
		Points Used: 3
		Coefficient: 1
[Passed] Optimum value(s): -1600
	Pulse Stage Voltage (Fine-tune) Results:
	Initial Try

		Intensity Obtained For Criterion (Pulse 76): 60819.19
[Passed] Optimum value(s): 1000

End Time: 4/27/2023 12:44:48 PM

SmartTune Wizard - Summary

Optimization Summary

SmartTune file: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Wizard\SmartTune\ARISmartTuneDual.swz

Start Time: 4/27/2023 12:51:27 PM
End Time: 4/27/2023 12:58:56 PM

Dual Detector Calibration
Points Collected: 401
Calibration unsuccessful for some masses due to insufficient pulse/analog crossover points

SmartTune Wizard - Details

Optimization Details

SmartTune file: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Wizard\SmartTune\ARISmartTuneDual.swz

Optimization Status

Start Time: 4/27/2023 12:51:27 PM

Dual Detector Calibration
Optimization Settings:
Method: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\DualDetectorNew.mth.
Initial Try - Start/End/Step: -20/0/0.05.

Optimization Results:
Initial Try
Points Collected: 401
Calibration unsuccessful for some masses due to insufficient pulse/analog crossover points

End Time: 4/27/2023 12:58:56 PM

SmartTune Wizard - Summary

Optimization Summary

SmartTune file: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Wizard\SmartTune\ARISmartTuneDual.swz

Start Time: 4/27/2023 12:59:37 PM
End Time: 4/27/2023 1:07:07 PM

Dual Detector Calibration
Points Collected: 401
Calibration unsuccessful for some masses due to insufficient pulse/analog crossover points

SmartTune Wizard - Details

Optimization Details

SmartTune file: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Wizard\SmartTune\ARISmartTuneDual.swz

Optimization Status

Start Time: 4/27/2023 12:59:37 PM

Dual Detector Calibration
Optimization Settings:
Method: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\DualDetectorNew.mth.
Initial Try - Start/End/Step: -20/0/0.05.

Optimization Results:
Initial Try
Points Collected: 401
Calibration unsuccessful for some masses due to insufficient pulse/analog crossover points

End Time: 4/27/2023 1:07:07 PM

Performance Check Report

Sample ID: STD Performance Check
Sample Date/Time: Thursday, April 27, 2023 13:24:10
Sample Description:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\STD Performance Check.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\Default\STD Performance Check.069
MassCal File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Conditions File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Dual Detector Mode: Pulse
Acq. Dead Time (ns): 35
Current Dead Time (ns): 35
Torch Z position (mm): 0.00

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD	Mode
	Be	9.0	6057.6	6057.618	91.925	1.5	Standard
	In	114.9	93330.6	93330.635	903.868	1.0	Standard
	U	238.1	101853.9	101853.890	757.028	0.7	Standard
⎡	CeO	155.9	3189.6	0.024	0.000	1.1	Standard
⎢>	Ce	139.9	131488.2	131488.246	1048.687	0.8	Standard
⎣	Ce++	70.0	1070.6	0.008	0.000	2.9	Standard
	Bkgd	220.0	3.1	3.133	0.946	30.2	Standard

Current Conditions File Data

Current Value	Description
0.93	Nebulizer Gas Flow STD/KED [NEB]
1.20	Auxiliary Gas Flow
17.50	Plasma Gas Flow
-10.75	Deflector Voltage
1600.00	ICP RF Power
-1600.00	Analog Stage Voltage
1000.00	Pulse Stage Voltage
0.00	Quadrupole Rod Offset STD [QRO]
-10.00	Cell Rod Offset STD [CRO]
14.00	Discriminator Threshold
-5.00	Cell Entrance/Exit Voltage STD
0.00	RPa
0.45	RPq
0.93	DRC Mode NEB
-7.50	DRC Mode QRO
-2.00	DRC Mode CRO
-5.00	DRC Mode Cell Entrance/Exit Voltage
0.60	Cell Gas A
0.00	Cell Gas B
200.00	Axial Field Voltage
-11.00	KED Mode CRO
-12.00	KED Mode QRO
-11.00	KED Mode Cell Entrance Voltage
-33.00	KED Mode Cell Exit Voltage
0.00	KED Cell Gas A
3.00	KED Cell Gas B
0.00	KED RPa
0.25	KED RPq
125.00	KED Mode Axial Field Voltage

SmartTune Wizard - Summary

Optimization Summary

SmartTune file: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Wizard\SmartTune\ARISmartTuneDual.swz

Start Time: 4/27/2023 1:24:10 PM
End Time: 4/27/2023 1:26:14 PM

STD Performance Check - [Passed] Optimum value(s): N/A
Obtained Intensity (Be 9): 6057.62
Obtained Intensity (In 115): 93330.63
Obtained Intensity (U 238): 101853.89
Obtained Intensity (Bkgd 220): 3.13
Obtained Formula (Ce++ 70 / Ce 140): 0.008 (=1070.64 / 131488.25)
Obtained Formula (CeO 156 / Ce 140): 0.024 (=3189.62 / 131488.25)
Obtained RSD (Be 9): 0.0152
Obtained RSD (In 115): 0.0097
Obtained RSD (U 238): 0.0074

SmartTune Wizard - Details

Optimization Details

SmartTune file: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Wizard\SmartTune\ARISmartTuneDual.swz

Optimization Status

Start Time: 4/27/2023 1:24:10 PM

STD Performance Check

Optimization Settings:

Method: STD Performance Check.mth.
Intensity Criterion: Be 9 > 2000
Intensity Criterion: In 115 > 40000
Intensity Criterion: U 238 > 30000
Intensity Criterion: Bkgd 220 <= 10
Formula Criterion: Ce++ 70 / Ce 140 <= 0.03
Formula Criterion: CeO 156 / Ce 140 <= 0.025
RSD Criterion: Be 9.0122 < 0.05
RSD Criterion: In 114.904 < 0.05
RSD Criterion: U 238.05 < 0.05

Optimization Results:

Initial Try

Obtained Intensity (Be 9): 6057.62
Obtained Intensity (In 115): 93330.63
Obtained Intensity (U 238): 101853.89
Obtained Intensity (Bkgd 220): 3.13
Obtained Formula (Ce++ 70 / Ce 140): 0.008 (=1070.64 / 131488.25)
Obtained Formula (CeO 156 / Ce 140): 0.024 (=3189.62 / 131488.25)
Obtained RSD (Be 9): 0.0152
Obtained RSD (In 115): 0.0097
Obtained RSD (U 238): 0.0074

[Passed] Optimum value(s): N/A

End Time: 4/27/2023 1:26:14 PM

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL1
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 16:58:01
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L				26689	1	Standard
	Cl	**37**		ug/L				5423072	2	Standard
>	**Sc**	**45**		ug/L				511056	1	Standard
	Cr	**52**		ug/L				19523	1	Standard
	Cr	**53**		ug/L				207	3	Standard
	Mn	**55**		ug/L				581	1	Standard
>	**Ge**	**72**		ug/L				39672	0	KED
	Ni	**60**		ug/L				29	19	KED
	Ni	**62**		ug/L				7	66	KED
	Cu	**63**		ug/L				87	7	KED
	Cu	**65**		ug/L				44	19	KED
	Zn	**66**		ug/L				103	6	KED
	Zn	**67**		ug/L				20	42	KED
	As	**75**		ug/L				4	6	KED
	Se	**78**		ug/L				12	8	KED
	Y	**89**		ug/L				311168	3	Standard
	Kr	**83**		ug/L				55	19	Standard
>	**In-1**	**115**		ug/L				10463	2	KED
	Mo	**98**		ug/L				14	7	KED
	Cd	**111**		ug/L				3	75	KED
	Cd	**114**		ug/L				4	82	KED
>	**In**	**115**		ug/L				503680	0	Standard
	Ag	**107**		ug/L				29	32	Standard
	Sb	**121**		ug/L				200	4	Standard
	Sb	**123**		ug/L				145	8	Standard
	Ba	**135**		ug/L				96	25	Standard
	Ba	**137**		ug/L				175	21	Standard
>	**Tb**	**159**		ug/L				1211159	2	Standard
	Tl	**205**		ug/L				139	9	Standard
	Pb	**208**		ug/L				520	6	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL2
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 17:02:57
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26689	28097	1	Standard
	Cl	**37**		ug/L			5423072	5315354	3	Standard
⌈>	**Sc**	**45**		ug/L			511056	504023	0	Standard
|	**Cr**	**52**	**0.500**	ug/L	0.024	4	19523	30029	0	Standard
|	**Cr**	**53**	**0.500**	ug/L	0.049	9	207	1387	8	Standard
⌊	**Mn**	**55**	**0.500**	ug/L	0.006	1	581	16104	1	Standard
⌈>	**Ge**	**72**		ug/L			39672	39375	1	KED
|	**Ni**	**60**	**0.500**	ug/L	0.019	3	29	833	3	KED
|	**Ni**	**62**	**0.500**	ug/L	0.095	19	7	139	17	KED
|	**Cu**	**63**	**0.500**	ug/L	0.018	3	87	2440	5	KED
|	**Cu**	**65**	**0.500**	ug/L	0.032	6	44	1298	5	KED
|	**Zn**	**66**	**6.000**	ug/L	0.089	1	103	3865	0	KED
|	**Zn**	**67**	**6.000**	ug/L	0.452	7	20	597	5	KED
|	**As**	**75**	**0.200**	ug/L	0.029	14	4	73	13	KED
⌊	**Se**	**78**	**0.500**	ug/L	0.150	29	12	29	15	KED
	Y	**89**		ug/L			311168	305270	1	Standard
	Kr	**83**		ug/L			55	48	23	Standard
⌈>	**In-1**	**115**		ug/L			10463	9791	2	KED
|	**Mo**	**98**	**0.200**	ug/L	0.007	3	14	313	1	KED
|	**Cd**	**111**	**0.100**	ug/L	0.030	29	3	38	25	KED
⌊	**Cd**	**114**	**0.100**	ug/L	0.015	14	4	90	14	KED
⌈>	**In**	**115**		ug/L			503680	511394	1	Standard
|	**Ag**	**107**	**0.200**	ug/L	0.002	1	29	4136	1	Standard
|	**Sb**	**121**	**0.200**	ug/L	0.006	3	200	3416	3	Standard
|	**Sb**	**123**	**0.200**	ug/L	0.008	4	145	2633	5	Standard
|	**Ba**	**135**	**0.500**	ug/L	0.004	0	96	3256	0	Standard
⌊	**Ba**	**137**	**0.500**	ug/L	0.016	3	175	5850	1	Standard
⌈>	**Tb**	**159**		ug/L			1211159	1204706	0	Standard
|	**Tl**	**205**	**0.200**	ug/L	0.004	1	139	13029	2	Standard
⌊	**Pb**	**208**	**0.100**	ug/L	0.003	2	520	8818	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL3
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 17:07:52
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26689	30451	2	Standard
	Cl	**37**		ug/L			5423072	5547323	2	Standard
⌈>	**Sc**	**45**		ug/L			511056	514541	0	Standard
|	**Cr**	**52**	**9.999**	ug/L	0.037	0	19523	229719	0	Standard
|	**Cr**	**53**	**10.000**	ug/L	0.133	1	207	24152	0	Standard
⌊	**Mn**	**55**	**10.000**	ug/L	0.172	1	581	319100	1	Standard
⌈>	**Ge**	**72**		ug/L			39672	39475	2	KED
|	**Ni**	**60**	**10.001**	ug/L	0.358	3	29	16650	1	KED
|	**Ni**	**62**	**10.000**	ug/L	0.164	1	7	2676	2	KED
|	**Cu**	**63**	**10.000**	ug/L	0.080	0	87	47383	2	KED
|	**Cu**	**65**	**9.998**	ug/L	0.194	1	44	23141	2	KED
|	**Zn**	**66**	**9.925**	ug/L	0.311	3	103	6213	1	KED
|	**Zn**	**67**	**10.017**	ug/L	0.092	0	20	991	3	KED
|	**As**	**75**	**10.000**	ug/L	0.213	2	4	3127	1	KED
⌊	**Se**	**78**	**9.996**	ug/L	0.145	1	12	308	1	KED
	Y	**89**		ug/L			311168	305991	0	Standard
	Kr	**83**		ug/L			55	50	10	Standard
⌈>	**In-1**	**115**		ug/L			10463	10031	1	KED
|	**Mo**	**98**	**10.000**	ug/L	0.172	1	14	15221	0	KED
|	**Cd**	**111**	**10.000**	ug/L	0.328	3	3	3395	1	KED
⌊	**Cd**	**114**	**10.000**	ug/L	0.101	1	4	8603	1	KED
⌈>	**In**	**115**		ug/L			503680	506102	3	Standard
|	**Ag**	**107**	**10.000**	ug/L	0.107	1	29	206132	3	Standard
|	**Sb**	**121**	**10.000**	ug/L	0.277	2	200	166162	1	Standard
|	**Sb**	**123**	**10.000**	ug/L	0.239	2	145	129066	0	Standard
|	**Ba**	**135**	**10.000**	ug/L	0.169	1	96	63704	1	Standard
⌊	**Ba**	**137**	**10.002**	ug/L	0.394	3	175	119752	2	Standard
⌈>	**Tb**	**159**		ug/L			1211159	1217979	0	Standard
|	**Tl**	**205**	**10.000**	ug/L	0.081	0	139	638937	1	Standard
⌊	**Pb**	**208**	**10.000**	ug/L	0.094	0	520	838304	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL4
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 17:13:01
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26689	29505	0	Standard
	Cl	**37**		ug/L			5423072	5724399	2	Standard
⌈>	**Sc**	**45**		ug/L			511056	507150	0	Standard
|	**Cr**	**52**	**19.848**	ug/L	0.123	0	19523	418245	0	Standard
|	**Cr**	**53**	**20.030**	ug/L	0.155	0	207	47765	0	Standard
⌊	**Mn**	**55**	**19.911**	ug/L	0.171	0	581	614783	0	Standard
⌈>	**Ge**	**72**		ug/L			39672	39671	1	KED
|	**Ni**	**60**	**19.896**	ug/L	0.448	2	29	32606	2	KED
|	**Ni**	**62**	**19.829**	ug/L	0.410	2	7	5150	0	KED
|	**Cu**	**63**	**19.857**	ug/L	0.152	0	87	91859	1	KED
|	**Cu**	**65**	**20.006**	ug/L	0.250	1	44	46553	0	KED
|	**Zn**	**66**	**19.877**	ug/L	0.201	1	103	12190	2	KED
|	**Zn**	**67**	**20.191**	ug/L	0.855	4	20	2044	3	KED
|	**As**	**75**	**20.002**	ug/L	0.314	1	4	6286	0	KED
⌊	**Se**	**78**	**19.969**	ug/L	0.570	2	12	603	3	KED
	Y	**89**		ug/L			311168	305419	1	Standard
	Kr	**83**		ug/L			55	65	4	Standard
⌈>	**In-1**	**115**		ug/L			10463	9885	2	KED
|	**Mo**	**98**	**20.011**	ug/L	0.452	2	14	30066	0	KED
|	**Cd**	**111**	**20.036**	ug/L	0.618	3	3	6748	0	KED
⌊	**Cd**	**114**	**20.099**	ug/L	0.320	1	4	17378	0	KED
⌈>	**In**	**115**		ug/L			503680	501331	1	Standard
|	**Ag**	**107**	**19.996**	ug/L	0.288	1	29	407884	0	Standard
|	**Sb**	**121**	**19.979**	ug/L	0.121	0	200	327467	1	Standard
|	**Sb**	**123**	**19.947**	ug/L	0.182	0	145	252327	1	Standard
|	**Ba**	**135**	**19.986**	ug/L	0.191	0	96	125724	1	Standard
⌊	**Ba**	**137**	**19.901**	ug/L	0.256	1	175	231456	1	Standard
⌈>	**Tb**	**159**		ug/L			1211159	1261913	0	Standard
|	**Tl**	**205**	**19.864**	ug/L	0.066	0	139	1279865	0	Standard
⌊	**Pb**	**208**	**19.801**	ug/L	0.403	2	520	1653610	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL5
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 17:18:20
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26689	31534	1	Standard
	Cl	**37**		ug/L			5423072	5831050	2	Standard
⌈>	**Sc**	**45**		ug/L			511056	510162	2	Standard
|	**Cr**	**52**	**49.971**	ug/L	1.292	2	19523	1026584	2	Standard
|	**Cr**	**53**	**49.778**	ug/L	1.823	3	207	116436	1	Standard
⌊	**Mn**	**55**	**49.786**	ug/L	1.485	2	581	1512302	0	Standard
⌈>	**Ge**	**72**		ug/L			39672	38936	0	KED
|	**Ni**	**60**	**49.949**	ug/L	0.625	1	29	79891	0	KED
|	**Ni**	**62**	**50.111**	ug/L	0.265	0	7	12908	0	KED
|	**Cu**	**63**	**49.953**	ug/L	0.348	0	87	225595	0	KED
|	**Cu**	**65**	**50.140**	ug/L	0.537	1	44	116076	1	KED
|	**Zn**	**66**	**49.857**	ug/L	0.688	1	103	29462	0	KED
|	**Zn**	**67**	**49.937**	ug/L	1.354	2	20	4906	2	KED
|	**As**	**75**	**49.997**	ug/L	0.373	0	4	15413	0	KED
⌊	**Se**	**78**	**50.018**	ug/L	0.932	1	12	1467	1	KED
	Y	**89**		ug/L			311168	300093	0	Standard
	Kr	**83**		ug/L			55	60	6	Standard
⌈>	**In-1**	**115**		ug/L			10463	9646	1	KED
|	**Mo**	**98**	**50.243**	ug/L	0.123	0	14	75499	1	KED
|	**Cd**	**111**	**50.011**	ug/L	0.237	0	3	16456	1	KED
⌊	**Cd**	**114**	**50.050**	ug/L	0.486	0	4	42438	0	KED
⌈>	**In**	**115**		ug/L			503680	489650	1	Standard
|	**Ag**	**107**	**49.826**	ug/L	0.437	0	29	975741	2	Standard
|	**Sb**	**121**	**49.985**	ug/L	0.733	1	200	798834	2	Standard
|	**Sb**	**123**	**50.204**	ug/L	0.240	0	145	632954	1	Standard
|	**Ba**	**135**	**49.914**	ug/L	0.650	1	96	303930	2	Standard
⌊	**Ba**	**137**	**49.814**	ug/L	0.476	0	175	555352	2	Standard
⌈>	**Tb**	**159**		ug/L			1211159	1205617	1	Standard
|	**Tl**	**205**	**50.253**	ug/L	1.332	2	139	3172788	1	Standard
⌊	**Pb**	**208**	**50.199**	ug/L	1.140	2	520	4084988	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL6
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 17:25:19
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26689	29987	2	Standard
	Cl	**37**		ug/L			5423072	5871612	2	Standard
⌈>	**Sc**	**45**		ug/L			511056	510313	0	Standard
|	**Cr**	**52**	**99.240**	ug/L	1.079	1	19523	1971123	1	Standard
|	**Cr**	**53**	**99.723**	ug/L	1.310	1	207	231161	1	Standard
⌊	**Mn**	**55**	**99.651**	ug/L	0.637	0	581	2994194	1	Standard
⌈>	**Ge**	**72**		ug/L			39672	38267	0	KED
|	**Ni**	**60**	**99.806**	ug/L	2.507	2	29	155856	2	KED
|	**Ni**	**62**	**99.879**	ug/L	1.560	1	7	25177	1	KED
|	**Cu**	**63**	**99.697**	ug/L	0.925	0	87	438014	0	KED
|	**Cu**	**65**	**99.186**	ug/L	1.175	1	44	219680	1	KED
|	**Zn**	**66**	**99.393**	ug/L	1.046	1	103	56498	0	KED
|	**Zn**	**67**	**99.662**	ug/L	0.764	0	20	9498	0	KED
|	**As**	**75**	**100.161**	ug/L	0.535	0	4	30508	0	KED
⌊	**Se**	**78**	**99.594**	ug/L	0.876	0	12	2821	1	KED
	Y	**89**		ug/L			311168	302962	2	Standard
	Kr	**83**		ug/L			55	67	20	Standard
⌈>	**In-1**	**115**		ug/L			10463	9482	0	KED
|	**Mo**	**98**	**100.486**	ug/L	0.365	0	14	150861	0	KED
|	**Cd**	**111**	**99.305**	ug/L	0.903	0	3	31393	0	KED
⌊	**Cd**	**114**	**99.855**	ug/L	0.806	0	4	82831	0	KED
⌈>	**In**	**115**		ug/L			503680	481430	1	Standard
|	**Ag**	**107**	**99.660**	ug/L	0.647	0	29	1897335	1	Standard
|	**Sb**	**121**	**99.636**	ug/L	0.835	0	200	1546429	1	Standard
|	**Sb**	**123**	**99.584**	ug/L	1.506	1	145	1217417	1	Standard
|	**Ba**	**135**	**98.923**	ug/L	2.800	2	96	571731	4	Standard
⌊	**Ba**	**137**	**99.192**	ug/L	1.615	1	175	1058491	1	Standard
⌈>	**Tb**	**159**		ug/L			1211159	1189191	1	Standard
|	**Tl**	**205**	**99.451**	ug/L	1.381	1	139	6082930	0	Standard
⌊	**Pb**	**208**	**99.556**	ug/L	1.973	1	520	7874671	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBL1
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 17:32:59
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26689	26330	3	Standard
	Cl	**37**		ug/L			5423072	5540103	1	Standard
⌈>	**Sc**	**45**		ug/L			511056	502754	1	Standard
|	**Cr**	**52**	**-0.007**	ug/L	0.037	517	19523	19064	2	Standard
|	**Cr**	**53**	**-0.016**	ug/L	0.002	13	207	166	1	Standard
⌊	**Mn**	**55**	**0.001**	ug/L	0.000	62	581	587	1	Standard
⌈>	**Ge**	**72**		ug/L			39672	38828	1	KED
|	**Ni**	**60**	**0.002**	ug/L	0.004	259	29	31	21	KED
|	**Ni**	**62**	**0.003**	ug/L	0.024	775	7	8	74	KED
|	**Cu**	**63**	**-0.000**	ug/L	0.005	965	87	83	25	KED
|	**Cu**	**65**	**0.000**	ug/L	0.003	2074	44	43	15	KED
|	**Zn**	**66**	**0.015**	ug/L	0.016	107	103	109	8	KED
|	**Zn**	**67**	**-0.022**	ug/L	0.013	60	20	17	6	KED
|	**As**	**75**	**0.003**	ug/L	0.005	173	4	4	31	KED
⌊	**Se**	**78**	**0.110**	ug/L	0.107	97	12	15	19	KED
	Y	**89**		ug/L			311168	298740	1	Standard
	Kr	**83**		ug/L			55	57	22	Standard
⌈>	**In-1**	**115**		ug/L			10463	9777	0	KED
|	**Mo**	**98**	**0.013**	ug/L	0.004	31	14	32	19	KED
|	**Cd**	**111**	**0.004**	ug/L	0.006	170	3	4	48	KED
⌊	**Cd**	**114**	**0.001**	ug/L	0.004	374	4	5	66	KED
⌈>	**In**	**115**		ug/L			503680	493364	1	Standard
|	**Ag**	**107**	**0.004**	ug/L	0.000	3	29	105	2	Standard
|	**Sb**	**121**	**0.107**	ug/L	0.006	6	200	1894	3	Standard
|	**Sb**	**123**	**0.098**	ug/L	0.009	9	145	1363	6	Standard
|	**Ba**	**135**	**-0.002**	ug/L	0.004	229	96	84	29	Standard
⌊	**Ba**	**137**	**0.000**	ug/L	0.000	40	175	177	2	Standard
⌈>	**Tb**	**159**		ug/L			1211159	1185756	1	Standard
|	**Tl**	**205**	**0.006**	ug/L	0.000	2	139	517	1	Standard
⌊	**Pb**	**208**	**0.001**	ug/L	0.000	48	520	579	6	Standard

Sample Information

Sample Date/Time: Thursday, April 27, 2023 17:25:19
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.m
Mass Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Conditions File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

Calibration

Analyte	Mass	**r Corr Coef**	Slope	Std 1 Conc	Std 2 Conc	Std 3 Conc	Std 4 Conc	Std 5 Conc
C	13							
Cl	37							
Sc	45							
Cr	52	**0.9999**	0.039	0.50	10	20	50	100
Cr	53	**1.0000**	0.005	0.50	10	20	50	100
Mn	55	**1.0000**	0.059	0.50	10	20	50	100
Ge	72							
Ni	60	**1.0000**	0.041	0.50	10	20	50	100
Ni	62	**1.0000**	0.007	0.50	10	20	50	100
Cu	63	**1.0000**	0.115	0.50	10	20	50	100
Cu	65	**0.9999**	0.058	0.50	10	20	50	100
Zn	66	**0.9999**	0.015	6.00	10	20	50	100
Zn	67	**1.0000**	0.002	6.00	10	20	50	100
As	75	**1.0000**	0.008	0.20	10	20	50	100
Se	78	**1.0000**	0.001	0.50	10	20	50	100
Y	89							
Kr	83							
In-1	115							
Mo	98	**0.9999**	0.158	0.20	10	20	50	100
Cd	111	**0.9999**	0.033	0.10	10	20	50	100
Cd	114	**1.0000**	0.087	0.10	10	20	50	100
In	115							
Ag	107	**1.0000**	0.040	0.20	10	20	50	100
Sb	121	**1.0000**	0.032	0.20	10	20	50	100
Sb	123	**1.0000**	0.025	0.20	10	20	50	100
Ba	135	**0.9998**	0.012	0.50	10	20	50	100
Ba	137	**0.9999**	0.022	0.50	10	20	50	100
Tb	159							
Tl	205	**0.9999**	0.051	0.20	10	20	50	100
Pb	208	**1.0000**	0.067	0.10	10	20	50	100

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-ICV1
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 17:39:18

DEL

Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26689	31167	3	Standard
	Cl	37		ug/L			5423072	5831327	3	Standard
>	Sc	45		ug/L			511056	483577	10	Standard
	Cr	52	55.002	ug/L	4.804	8	19523	1037224	2	Standard
	Cr	53	55.392	ug/L	5.295	9	207	120941	1	Standard
	Mn	55	55.994	ug/L	4.851	8	581	1584840	2	Standard
>	Ge	72		ug/L			39672	38767	0	KED
	Ni	60	52.176	ug/L	0.417	0	29	82561	1	KED
	Ni	62	52.710	ug/L	0.544	1	7	13464	1	KED
	Cu	63	51.751	ug/L	1.021	1	87	230360	1	KED
	Cu	65	53.183	ug/L	1.134	2	44	119336	1	KED
	Zn	66	51.383	ug/L	0.515	1	103	29638	0	KED
	Zn	67	51.626	ug/L	1.035	2	20	4994	2	KED
	As	75	48.542	ug/L	0.890	1	4	14979	1	KED
	Se	78	79.058	ug/L	0.465	0	12	2271	0	KED
	Y	89		ug/L			311168	299073	10	Standard
	Kr	83		ug/L			55	66	16	Standard
>	In-1	115		ug/L			10463	10117	1	KED
	Mo	98	47.979	ug/L	0.566	1	14	76854	0	KED
	Cd	111	50.284	ug/L	0.626	1	3	16960	0	KED
	Cd	114	48.945	ug/L	1.365	2	4	43312	1	KED
>	In	115		ug/L			503680	470509	11	Standard
	Ag	107	55.476	ug/L	5.760	10	29	1024296	2	Standard
	Sb	121	54.495	ug/L	5.716	10	200	820365	2	Standard
	Sb	123	54.055	ug/L	5.371	9	145	641157	1	Standard
	Ba	135	56.639	ug/L	5.755	10	96	317478	1	Standard
	Ba	137	56.083	ug/L	5.424	9	175	580785	2	Standard
>	Tb	159		ug/L			1211159	1157854	11	Standard
	Tl	205	55.062	ug/L	5.568	10	139	3254696	1	Standard
	Pb	208	54.700	ug/L	6.512	11	520	4175916	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-ICV1
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 17:46:57
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26689	31593	1	Standard
	Cl	**37**		ug/L			5423072	5848553	2	Standard
⌈>	**Sc**	**45**		ug/L			511056	513162	2	Standard
|	**Cr**	**52**	**52.915**	ug/L	2.332	4	19523	1065402	2	Standard
|	**Cr**	**53**	**51.695**	ug/L	0.853	1	207	120571	1	Standard
⌊	**Mn**	**55**	**51.799**	ug/L	0.251	0	581	1565215	2	Standard
⌈>	**Ge**	**72**		ug/L			39672	39132	0	KED
|	**Ni**	**60**	**51.230**	ug/L	1.655	3	29	81823	3	KED
|	**Ni**	**62**	**51.169**	ug/L	0.617	1	7	13194	1	KED
|	**Cu**	**63**	**51.386**	ug/L	0.483	0	87	230900	0	KED
|	**Cu**	**65**	**52.122**	ug/L	0.513	0	44	118064	0	KED
|	**Zn**	**66**	**50.394**	ug/L	0.254	0	103	29343	0	KED
|	**Zn**	**67**	**50.223**	ug/L	0.828	1	20	4904	2	KED
|	**As**	**75**	**48.238**	ug/L	0.742	1	4	15026	1	KED
⌊	**Se**	**78**	**79.473**	ug/L	0.694	0	12	2304	0	KED
	Y	**89**		ug/L			311168	310712	3	Standard
	Kr	**83**		ug/L			55	55	3	Standard
⌈>	**In-1**	**115**		ug/L			10463	10017	0	KED
|	**Mo**	**98**	**48.586**	ug/L	0.883	1	14	77069	2	KED
|	**Cd**	**111**	**50.593**	ug/L	0.404	0	3	16898	1	KED
⌊	**Cd**	**114**	**49.505**	ug/L	0.830	1	4	43385	1	KED
⌈>	**In**	**115**		ug/L			503680	502834	1	Standard
|	**Ag**	**107**	**50.936**	ug/L	2.422	4	29	1012418	3	Standard
|	**Sb**	**121**	**50.031**	ug/L	1.820	3	200	810872	2	Standard
|	**Sb**	**123**	**49.354**	ug/L	0.952	1	145	630167	0	Standard
|	**Ba**	**135**	**52.460**	ug/L	1.610	3	96	316563	1	Standard
⌊	**Ba**	**137**	**50.542**	ug/L	1.202	2	175	563292	0	Standard
⌈>	**Tb**	**159**		ug/L			1211159	1219095	1	Standard
|	**Tl**	**205**	**51.432**	ug/L	1.160	2	139	3224779	1	Standard
⌊	**Pb**	**208**	**51.012**	ug/L	0.808	1	520	4136745	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-ICB1
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 17:54:35
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26689	26243	2	Standard
	Cl	**37**		ug/L			5423072	5614755	1	Standard
⌈>	**Sc**	**45**		ug/L			511056	505931	1	Standard
|	**Cr**	**52**	**-0.010**	ug/L	0.045	450	19523	19139	5	Standard
|	**Cr**	**53**	**-0.016**	ug/L	0.004	24	207	169	5	Standard
⌊	**Mn**	**55**	**-0.001**	ug/L	0.001	188	581	558	7	Standard
⌈>	**Ge**	**72**		ug/L			39672	39147	0	KED
|	**Ni**	**60**	**-0.001**	ug/L	0.004	316	29	26	24	KED
|	**Ni**	**62**	**-0.012**	ug/L	0.018	153	7	4	107	KED
|	**Cu**	**63**	**0.002**	ug/L	0.002	67	87	97	7	KED
|	**Cu**	**65**	**-0.001**	ug/L	0.002	258	44	41	12	KED
|	**Zn**	**66**	**-0.004**	ug/L	0.031	757	103	99	17	KED
|	**Zn**	**67**	**-0.049**	ug/L	0.020	40	20	15	12	KED
|	**As**	**75**	**0.003**	ug/L	0.003	126	4	4	22	KED
⌊	**Se**	**78**	**0.017**	ug/L	0.043	247	12	12	10	KED
	Y	**89**		ug/L			311168	308379	3	Standard
	Kr	**83**		ug/L			55	57	24	Standard
⌈>	**In-1**	**115**		ug/L			10463	9878	1	KED
|	**Mo**	**98**	**0.008**	ug/L	0.003	33	14	26	16	KED
|	**Cd**	**111**	**0.006**	ug/L	0.002	28	3	5	10	KED
⌊	**Cd**	**114**	**0.002**	ug/L	0.003	192	4	6	49	KED
⌈>	**In**	**115**		ug/L			503680	498215	2	Standard
|	**Ag**	**107**	**0.002**	ug/L	0.001	30	29	65	19	Standard
|	**Sb**	**121**	**0.033**	ug/L	0.001	3	200	727	3	Standard
|	**Sb**	**123**	**0.034**	ug/L	0.002	6	145	579	5	Standard
|	**Ba**	**135**	**-0.000**	ug/L	0.003	1375	96	94	19	Standard
⌊	**Ba**	**137**	**0.000**	ug/L	0.002	1252	175	175	13	Standard
⌈>	**Tb**	**159**		ug/L			1211159	1200308	1	Standard
|	**Tl**	**205**	**0.003**	ug/L	0.000	11	139	347	7	Standard
⌊	**Pb**	**208**	**0.001**	ug/L	0.000	45	520	582	6	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCV1
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 18:00:16
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26689	30332	2	Standard
	Cl	**37**		ug/L			5423072	5825479	1	Standard
⌈>	**Sc**	**45**		ug/L			511056	511595	1	Standard
|	**Cr**	**52**	**51.670**	ug/L	0.577	1	19523	1038130	1	Standard
|	**Cr**	**53**	**50.490**	ug/L	0.716	1	207	117425	2	Standard
⌊	**Mn**	**55**	**50.994**	ug/L	0.700	1	581	1536115	0	Standard
⌈>	**Ge**	**72**		ug/L			39672	39129	0	KED
|	**Ni**	**60**	**50.053**	ug/L	0.616	1	29	79937	0	KED
|	**Ni**	**62**	**50.454**	ug/L	1.902	3	7	13009	3	KED
|	**Cu**	**63**	**50.662**	ug/L	0.820	1	87	227630	1	KED
|	**Cu**	**65**	**51.110**	ug/L	0.630	1	44	115765	0	KED
|	**Zn**	**66**	**50.519**	ug/L	0.386	0	103	29414	0	KED
|	**Zn**	**67**	**51.089**	ug/L	0.998	1	20	4988	2	KED
|	**As**	**75**	**50.112**	ug/L	0.656	1	4	15609	1	KED
⌊	**Se**	**78**	**50.654**	ug/L	1.269	2	12	1473	2	KED
	Y	**89**		ug/L			311168	306600	1	Standard
	Kr	**83**		ug/L			55	52	12	Standard
⌈>	**In-1**	**115**		ug/L			10463	9815	1	KED
|	**Mo**	**98**	**49.060**	ug/L	1.312	2	14	76230	1	KED
|	**Cd**	**111**	**50.431**	ug/L	0.865	1	3	16502	0	KED
⌊	**Cd**	**114**	**49.130**	ug/L	1.527	3	4	42177	1	KED
⌈>	**In**	**115**		ug/L			503680	492187	1	Standard
|	**Ag**	**107**	**50.624**	ug/L	0.323	0	29	985308	1	Standard
|	**Sb**	**121**	**50.635**	ug/L	0.755	1	200	803592	2	Standard
|	**Sb**	**123**	**50.221**	ug/L	1.223	2	145	627664	1	Standard
|	**Ba**	**135**	**51.943**	ug/L	1.521	2	96	306827	1	Standard
⌊	**Ba**	**137**	**51.468**	ug/L	0.182	0	175	561615	1	Standard
⌈>	**Tb**	**159**		ug/L			1211159	1215164	1	Standard
|	**Tl**	**205**	**50.636**	ug/L	0.811	1	139	3164607	1	Standard
⌊	**Pb**	**208**	**50.478**	ug/L	0.592	1	520	4080083	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCB1
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 18:07:55
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26689	26416	2	Standard
	Cl	**37**		ug/L			5423072	5635681	2	Standard
⌈>	**Sc**	**45**		ug/L			511056	494535	1	Standard
|	**Cr**	**52**	**0.010**	ug/L	0.024	237	19523	19080	2	Standard
|	**Cr**	**53**	**-0.019**	ug/L	0.008	44	207	159	12	Standard
⌊	**Mn**	**55**	**0.000**	ug/L	0.001	364	581	572	4	Standard
⌈>	**Ge**	**72**		ug/L			39672	38936	1	KED
|	**Ni**	**60**	**0.002**	ug/L	0.003	145	29	31	13	KED
|	**Ni**	**62**	**0.003**	ug/L	0.011	375	7	8	35	KED
|	**Cu**	**63**	**0.002**	ug/L	0.004	238	87	93	19	KED
|	**Cu**	**65**	**0.005**	ug/L	0.006	115	44	54	23	KED
|	**Zn**	**66**	**-0.003**	ug/L	0.005	158	103	99	3	KED
|	**Zn**	**67**	**0.003**	ug/L	0.058	1675	20	20	28	KED
|	**As**	**75**	**-0.001**	ug/L	0.005	354	4	3	39	KED
⌊	**Se**	**78**	**0.147**	ug/L	0.112	76	12	16	20	KED
	Y	**89**		ug/L			311168	303467	2	Standard
	Kr	**83**		ug/L			55	53	9	Standard
⌈>	**In-1**	**115**		ug/L			10463	9813	0	KED
|	**Mo**	**98**	**0.004**	ug/L	0.005	120	14	19	37	KED
|	**Cd**	**111**	**0.010**	ug/L	0.006	58	3	6	31	KED
⌊	**Cd**	**114**	**-0.003**	ug/L	0.001	56	4	2	53	KED
⌈>	**In**	**115**		ug/L			503680	486011	2	Standard
|	**Ag**	**107**	**0.002**	ug/L	0.000	17	29	75	11	Standard
|	**Sb**	**121**	**0.055**	ug/L	0.004	8	200	1048	5	Standard
|	**Sb**	**123**	**0.055**	ug/L	0.003	4	145	821	1	Standard
|	**Ba**	**135**	**0.001**	ug/L	0.003	224	96	100	15	Standard
⌊	**Ba**	**137**	**0.002**	ug/L	0.002	117	175	188	14	Standard
⌈>	**Tb**	**159**		ug/L			1211159	1206299	2	Standard
|	**Tl**	**205**	**0.003**	ug/L	0.000	16	139	313	11	Standard
⌊	**Pb**	**208**	**0.000**	ug/L	0.000	45	520	532	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CRL1
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 18:12:50

DEL

Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26689	27116	2	Standard
	Cl	**37**		ug/L			5423072	5531788	1	Standard
⌈>	**Sc**	**45**		ug/L			511056	505858	2	Standard
|	**Cr**	**52**	**0.517**	ug/L	0.026	4	19523	29391	0	Standard
|	**Cr**	**53**	**0.509**	ug/L	0.011	2	207	1374	3	Standard
⌊	**Mn**	**55**	**0.541**	ug/L	0.007	1	581	16687	1	Standard
⌈>	**Ge**	**72**		ug/L			39672	38999	1	KED
|	**Ni**	**60**	**0.587**	ug/L	0.030	5	29	962	4	KED
|	**Ni**	**62**	**0.616**	ug/L	0.031	5	7	165	5	KED
|	**Cu**	**63**	**0.502**	ug/L	0.017	3	87	2334	3	KED
|	**Cu**	**65**	**0.554**	ug/L	0.032	5	44	1294	6	KED
|	**Zn**	**66**	**6.276**	ug/L	0.135	2	103	3731	2	KED
|	**Zn**	**67**	**5.761**	ug/L	0.231	4	20	578	4	KED
|	**As**	**75**	**0.195**	ug/L	0.006	3	4	64	3	KED
⌊	**Se**	**78**	**0.591**	ug/L	0.056	9	12	29	5	KED
	Y	**89**		ug/L			311168	305731	2	Standard
	Kr	**83**		ug/L			55	45	17	Standard
⌈>	**In-1**	**115**		ug/L			10463	9793	2	KED
|	**Mo**	**98**	**0.191**	ug/L	0.012	6	14	309	7	KED
|	**Cd**	**111**	**0.113**	ug/L	0.018	15	3	40	15	KED
⌊	**Cd**	**114**	**0.106**	ug/L	0.002	1	4	95	4	KED
⌈>	**In**	**115**		ug/L			503680	497663	1	Standard
|	**Ag**	**107**	**0.207**	ug/L	0.009	4	29	4094	5	Standard
|	**Sb**	**121**	**0.213**	ug/L	0.004	2	200	3612	0	Standard
|	**Sb**	**123**	**0.209**	ug/L	0.004	2	145	2785	1	Standard
|	**Ba**	**135**	**0.537**	ug/L	0.006	1	96	3304	1	Standard
⌊	**Ba**	**137**	**0.524**	ug/L	0.002	0	175	5950	0	Standard
⌈>	**Tb**	**159**		ug/L			1211159	1229830	0	Standard
|	**Tl**	**205**	**0.203**	ug/L	0.003	1	139	12957	1	Standard
⌊	**Pb**	**208**	**0.157**	ug/L	0.003	1	520	13342	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CRL1
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 18:18:31

DEL

Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26689	25907	2	Standard
	Cl	37		ug/L			5423072	5543137	1	Standard
>	Sc	45		ug/L			511056	510709	1	Standard
	Cr	52	0.519	ug/L	0.043	8	19523	29721	1	Standard
	Cr	53	0.483	ug/L	0.022	4	207	1327	2	Standard
	Mn	55	0.515	ug/L	0.007	1	581	16054	0	Standard
>	Ge	72		ug/L			39672	38610	1	KED
	Ni	60	0.504	ug/L	0.003	0	29	822	1	KED
	Ni	62	0.543	ug/L	0.059	10	7	145	9	KED
	Cu	63	1.504	ug/L	0.018	1	87	6750	0	KED
	Cu	65	1.555	ug/L	0.044	2	44	3515	2	KED
	Zn	66	6.374	ug/L	0.078	1	103	3749	1	KED
	Zn	67	5.717	ug/L	0.261	4	20	568	3	KED
	As	75	0.202	ug/L	0.009	4	4	66	4	KED
	Se	78	0.647	ug/L	0.162	25	12	30	15	KED
	Y	89		ug/L			311168	311146	1	Standard
	Kr	83		ug/L			55	52	14	Standard
>	In-1	115		ug/L			10463	9944	0	KED
	Mo	98	0.180	ug/L	0.004	2	14	296	2	KED
	Cd	111	0.099	ug/L	0.027	27	3	35	26	KED
	Cd	114	0.096	ug/L	0.016	16	4	88	15	KED
>	In	115		ug/L			503680	506227	0	Standard
	Ag	107	0.208	ug/L	0.005	2	29	4199	2	Standard
	Sb	121	0.203	ug/L	0.008	3	200	3515	3	Standard
	Sb	123	0.199	ug/L	0.004	2	145	2707	1	Standard
	Ba	135	0.504	ug/L	0.026	5	96	3158	4	Standard
	Ba	137	0.515	ug/L	0.002	0	175	5951	0	Standard
>	Tb	159		ug/L			1211159	1223254	1	Standard
	Tl	205	0.202	ug/L	0.004	2	139	12848	0	Standard
	Pb	208	0.102	ug/L	0.005	5	520	8784	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CRL1
Sample Dil Factor:
Comments:

DEL

Sample Date/Time: Thursday, April 27, 2023 18:25:02
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26689	26209	2	Standard
	Cl	37		ug/L			5423072	5486888	1	Standard
>	Sc	45		ug/L			511056	505597	1	Standard
	Cr	52	0.527	ug/L	0.052	9	19523	29565	1	Standard
	Cr	53	0.509	ug/L	0.015	2	207	1373	0	Standard
	Mn	55	0.521	ug/L	0.018	3	581	16062	1	Standard
>	Ge	72		ug/L			39672	39680	0	KED
	Ni	60	0.501	ug/L	0.013	2	29	840	3	KED
	Ni	62	0.585	ug/L	0.018	3	7	160	3	KED
	Cu	63	0.929	ug/L	0.006	0	87	4319	1	KED
	Cu	65	0.922	ug/L	0.010	1	44	2160	1	KED
	Zn	66	6.103	ug/L	0.160	2	103	3693	1	KED
	Zn	67	5.758	ug/L	0.356	6	20	587	5	KED
	As	75	0.196	ug/L	0.015	7	4	66	7	KED
	Se	78	0.411	ug/L	0.028	6	12	24	3	KED
	Y	89		ug/L			311168	310688	0	Standard
	Kr	83		ug/L			55	51	18	Standard
>	In-1	115		ug/L			10463	9960	1	KED
	Mo	98	0.206	ug/L	0.016	7	14	339	8	KED
	Cd	111	0.096	ug/L	0.002	2	3	34	1	KED
	Cd	114	0.099	ug/L	0.011	11	4	90	9	KED
>	In	115		ug/L			503680	505491	2	Standard
	Ag	107	0.203	ug/L	0.005	2	29	4095	2	Standard
	Sb	121	0.202	ug/L	0.008	4	200	3487	2	Standard
	Sb	123	0.191	ug/L	0.012	6	145	2599	3	Standard
	Ba	135	0.493	ug/L	0.017	3	96	3085	1	Standard
	Ba	137	0.510	ug/L	0.018	3	175	5885	1	Standard
>	Tb	159		ug/L			1211159	1220625	1	Standard
	Tl	205	0.200	ug/L	0.003	1	139	12674	0	Standard
	Pb	208	0.103	ug/L	0.003	2	520	8879	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL1
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 18:32:56
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L				25241	1	Standard
	Cl	**37**		ug/L				5384034	2	Standard
⌈>	**Sc**	**45**		ug/L				495146	0	Standard
|	**Cr**	**52**		ug/L				19255	1	Standard
|	**Cr**	**53**		ug/L				166	8	Standard
⌊	**Mn**	**55**		ug/L				514	3	Standard
⌈>	**Ge**	**72**		ug/L				38398	1	KED
|	**Ni**	**60**		ug/L				25	11	KED
|	**Ni**	**62**		ug/L				1		KED
|	**Cu**	**63**		ug/L				59	16	KED
|	**Cu**	**65**		ug/L				45	13	KED
|	**Zn**	**66**		ug/L				76	9	KED
|	**Zn**	**67**		ug/L				17	19	KED
|	**As**	**75**		ug/L				2	16	KED
⌊	**Se**	**78**		ug/L				14	6	KED
	Y	**89**		ug/L				301489	2	Standard
	Kr	**83**		ug/L				55	17	Standard
⌈>	**In-1**	**115**		ug/L				9770	4	KED
|	**Mo**	**98**		ug/L				8	49	KED
|	**Cd**	**111**		ug/L				4	32	KED
⌊	**Cd**	**114**		ug/L				4	72	KED
⌈>	**In**	**115**		ug/L				485826	1	Standard
|	**Ag**	**107**		ug/L				26	25	Standard
|	**Sb**	**121**		ug/L				201	9	Standard
|	**Sb**	**123**		ug/L				168	8	Standard
|	**Ba**	**135**		ug/L				84	7	Standard
⌊	**Ba**	**137**		ug/L				154	14	Standard
⌈>	**Tb**	**159**		ug/L				1205564	2	Standard
|	**Tl**	**205**		ug/L				157	14	Standard
⌊	**Pb**	**208**		ug/L				403	7	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCV2
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 18:37:52
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			25241	29934	2	Standard
	Cl	**37**		ug/L			5384034	5751963	2	Standard
⌈>	**Sc**	**45**		ug/L			495146	471964	6	Standard
|	**Cr**	**52**	**51.471**	ug/L	0.678	1	19255	954080	5	Standard
|	**Cr**	**53**	**51.301**	ug/L	0.844	1	166	109957	5	Standard
⌊	**Mn**	**55**	**51.622**	ug/L	0.780	1	514	1433964	5	Standard
⌈>	**Ge**	**72**		ug/L			38398	39341	0	KED
|	**Ni**	**60**	**50.070**	ug/L	0.113	0	25	80399	0	KED
|	**Ni**	**62**	**50.286**	ug/L	0.827	1	1	13030	1	KED
|	**Cu**	**63**	**50.551**	ug/L	0.496	0	59	228341	0	KED
|	**Cu**	**65**	**50.592**	ug/L	0.259	0	45	115220	0	KED
|	**Zn**	**66**	**50.959**	ug/L	0.982	1	76	29805	1	KED
|	**Zn**	**67**	**50.247**	ug/L	2.213	4	17	4930	4	KED
|	**As**	**75**	**49.887**	ug/L	0.089	0	2	15622	0	KED
⌊	**Se**	**78**	**50.106**	ug/L	0.456	0	14	1468	1	KED
	Y	**89**		ug/L			301489	284863	6	Standard
	Kr	**83**		ug/L			55	55	31	Standard
⌈>	**In-1**	**115**		ug/L			9770	9675	0	KED
|	**Mo**	**98**	**49.637**	ug/L	0.845	1	8	76041	1	KED
|	**Cd**	**111**	**50.873**	ug/L	0.610	1	4	16412	0	KED
⌊	**Cd**	**114**	**50.003**	ug/L	1.170	2	4	42322	1	KED
⌈>	**In**	**115**		ug/L			485826	460250	6	Standard
|	**Ag**	**107**	**51.143**	ug/L	1.522	2	26	929794	4	Standard
|	**Sb**	**121**	**50.788**	ug/L	1.499	2	201	752768	4	Standard
|	**Sb**	**123**	**50.646**	ug/L	0.811	1	168	591647	5	Standard
|	**Ba**	**135**	**51.903**	ug/L	0.609	1	84	286634	5	Standard
⌊	**Ba**	**137**	**51.489**	ug/L	1.427	2	154	524725	3	Standard
⌈>	**Tb**	**159**		ug/L			1205564	1139416	6	Standard
|	**Tl**	**205**	**51.282**	ug/L	1.474	2	157	3003885	5	Standard
⌊	**Pb**	**208**	**50.089**	ug/L	0.511	1	403	3795082	5	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCB2
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 18:45:31
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			25241	25406	2	Standard
	Cl	**37**		ug/L			5384034	5535654	2	Standard
⌈>	**Sc**	**45**		ug/L			495146	505044	1	Standard
|	**Cr**	**52**	**-0.040**	ug/L	0.010	25	19255	18863	2	Standard
|	**Cr**	**53**	**-0.002**	ug/L	0.004	208	166	165	3	Standard
⌊	**Mn**	**55**	**-0.001**	ug/L	0.002	182	514	499	9	Standard
⌈>	**Ge**	**72**		ug/L			38398	38844	1	KED
|	**Ni**	**60**	**0.006**	ug/L	0.007	107	25	35	29	KED
|	**Ni**	**62**	**0.010**	ug/L	0.017	174	1	4	98	KED
|	**Cu**	**63**	**0.011**	ug/L	0.013	116	59	108	51	KED
|	**Cu**	**65**	**-0.002**	ug/L	0.006	245	45	40	34	KED
|	**Zn**	**66**	**-0.005**	ug/L	0.012	246	76	74	9	KED
|	**Zn**	**67**	**-0.054**	ug/L	0.070	128	17	12	55	KED
|	**As**	**75**	**0.014**	ug/L	0.012	83	2	7	49	KED
⌊	**Se**	**78**	**0.017**	ug/L	0.077	445	14	15	13	KED
	Y	**89**		ug/L			301489	301508	2	Standard
	Kr	**83**		ug/L			55	46	22	Standard
⌈>	**In-1**	**115**		ug/L			9770	9862	2	KED
|	**Mo**	**98**	**0.007**	ug/L	0.001	14	8	19	5	KED
|	**Cd**	**111**	**-0.003**	ug/L	0.001	46	4	3	15	KED
⌊	**Cd**	**114**	**-0.001**	ug/L	0.002	331	4	3	55	KED
⌈>	**In**	**115**		ug/L			485826	500016	2	Standard
|	**Ag**	**107**	**0.002**	ug/L	0.001	68	26	63	40	Standard
|	**Sb**	**121**	**0.046**	ug/L	0.001	1	201	956	1	Standard
|	**Sb**	**123**	**0.043**	ug/L	0.003	6	168	720	6	Standard
|	**Ba**	**135**	**-0.004**	ug/L	0.000	12	84	64	5	Standard
⌊	**Ba**	**137**	**-0.002**	ug/L	0.002	113	154	140	16	Standard
⌈>	**Tb**	**159**		ug/L			1205564	1205667	1	Standard
|	**Tl**	**205**	**0.002**	ug/L	0.002	71	157	292	34	Standard
⌊	**Pb**	**208**	**0.001**	ug/L	0.001	122	403	496	24	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CRL1
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 18:51:11
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			25241	28184	2	Standard
	Cl	**37**		ug/L			5384034	5515602	2	Standard
⌈>	**Sc**	**45**		ug/L			495146	497022	2	Standard
|	**Cr**	**52**	**0.539**	ug/L	0.057	10	19255	29630	1	Standard
|	**Cr**	**53**	**0.525**	ug/L	0.016	3	166	1350	1	Standard
⌊	**Mn**	**55**	**0.561**	ug/L	0.013	2	514	16927	1	Standard
⌈>	**Ge**	**72**		ug/L			38398	39432	1	KED
|	**Ni**	**60**	**0.553**	ug/L	0.039	7	25	914	6	KED
|	**Ni**	**62**	**0.508**	ug/L	0.085	16	1	133	16	KED
|	**Cu**	**63**	**0.577**	ug/L	0.006	1	59	2671	2	KED
|	**Cu**	**65**	**0.569**	ug/L	0.014	2	45	1343	1	KED
|	**Zn**	**66**	**6.876**	ug/L	0.282	4	76	4098	3	KED
|	**Zn**	**67**	**6.010**	ug/L	0.356	5	17	606	4	KED
|	**As**	**75**	**0.200**	ug/L	0.004	2	2	65	3	KED
⌊	**Se**	**78**	**0.452**	ug/L	0.086	18	14	28	10	KED
	Y	**89**		ug/L			301489	298659	3	Standard
	Kr	**83**		ug/L			55	63	15	Standard
⌈>	**In-1**	**115**		ug/L			9770	9738	2	KED
|	**Mo**	**98**	**0.191**	ug/L	0.014	7	8	303	7	KED
|	**Cd**	**111**	**0.095**	ug/L	0.014	14	4	35	15	KED
⌊	**Cd**	**114**	**0.096**	ug/L	0.015	15	4	85	13	KED
⌈>	**In**	**115**		ug/L			485826	493674	3	Standard
|	**Ag**	**107**	**0.213**	ug/L	0.003	1	26	4187	2	Standard
|	**Sb**	**121**	**0.213**	ug/L	0.005	2	201	3587	2	Standard
|	**Sb**	**123**	**0.217**	ug/L	0.006	2	168	2883	1	Standard
|	**Ba**	**135**	**0.627**	ug/L	0.007	1	84	3797	2	Standard
⌊	**Ba**	**137**	**0.628**	ug/L	0.023	3	154	7021	2	Standard
⌈>	**Tb**	**159**		ug/L			1205564	1198167	0	Standard
|	**Tl**	**205**	**0.206**	ug/L	0.004	2	157	12862	2	Standard
⌊	**Pb**	**208**	**0.120**	ug/L	0.001	1	403	9998	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IFA1
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 18:56:27

DEL

Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			25241	117217	2	Standard
	Cl	37		ug/L			5384034	10906136	3	Standard
>	Sc	45		ug/L			495146	514166	1	Standard
	Cr	52	0.644	ug/L	0.013	2	19255	32749	2	Standard
	Cr	53	6.788	ug/L	0.221	3	166	16009	2	Standard
	Mn	55	0.165	ug/L	0.003	1	514	5514	1	Standard
>	Ge	72		ug/L			38398	38473	1	KED
	Ni	60	0.472	ug/L	0.562	119	25	774	116	KED
	Ni	62	0.193	ug/L	0.023	11	1	50	10	KED
	Cu	63	0.087	ug/L	0.006	7	59	445	5	KED
	Cu	65	0.089	ug/L	0.007	8	45	243	7	KED
	Zn	66	0.725	ug/L	0.007	0	76	490	2	KED
	Zn	67	0.591	ug/L	0.062	10	17	73	7	KED
	As	75	0.035	ug/L	0.006	16	2	13	12	KED
	Se	78	-0.113	ug/L	0.208	183	14	11	49	KED
	Y	89		ug/L			301489	318222	2	Standard
	Kr	83		ug/L			55	100	23	Standard
>	In-1	115		ug/L			9770	8999	3	KED
	Mo	98	408.052	ug/L	15.229	3	8	580913	0	KED
	Cd	111	0.094	ug/L	0.013	13	4	32	8	KED
	Cd	114	0.072	ug/L	0.016	21	4	60	16	KED
>	In	115		ug/L			485826	505355	1	Standard
	Ag	107	0.005	ug/L	0.001	13	26	135	9	Standard
	Sb	121	0.036	ug/L	0.004	11	201	796	6	Standard
	Sb	123	0.034	ug/L	0.001	3	168	607	2	Standard
	Ba	135	0.123	ug/L	0.007	6	84	834	3	Standard
	Ba	137	0.125	ug/L	0.001	0	154	1564	1	Standard
>	Tb	159		ug/L			1205564	1202347	1	Standard
	Tl	205	0.016	ug/L	0.001	6	157	1131	4	Standard
	Pb	208	0.043	ug/L	0.001	3	403	3819	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IFB1
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 19:01:23
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			25241	115144	3	Standard
	Cl	**37**		ug/L			5384034	10776592	2	Standard
⌈>	**Sc**	**45**		ug/L			495146	500749	3	Standard
|	**Cr**	**52**	**19.641**	ug/L	0.555	2	19255	398353	2	Standard
|	**Cr**	**53**	**25.230**	ug/L	0.459	1	166	57479	1	Standard
⌊	**Mn**	**55**	**19.058**	ug/L	0.359	1	514	562066	1	Standard
⌈>	**Ge**	**72**		ug/L			38398	36690	0	KED
|	**Ni**	**60**	**21.222**	ug/L	0.428	2	25	31795	2	KED
|	**Ni**	**62**	**21.427**	ug/L	0.521	2	1	5179	2	KED
|	**Cu**	**63**	**20.947**	ug/L	0.474	2	59	88281	2	KED
|	**Cu**	**65**	**20.866**	ug/L	0.295	1	45	44346	1	KED
|	**Zn**	**66**	**20.181**	ug/L	0.510	2	76	11053	2	KED
|	**Zn**	**67**	**18.362**	ug/L	0.387	2	17	1690	2	KED
|	**As**	**75**	**19.815**	ug/L	0.125	0	2	5788	0	KED
⌊	**Se**	**78**	**-0.012**	ug/L	0.109	946	14	13	21	KED
	Y	**89**		ug/L			301489	318876	2	Standard
	Kr	**83**		ug/L			55	107	15	Standard
⌈>	**In-1**	**115**		ug/L			9770	8799	2	KED
|	**Mo**	**98**	**417.029**	ug/L	10.464	2	8	580792	1	KED
|	**Cd**	**111**	**19.752**	ug/L	0.366	1	4	5796	0	KED
⌊	**Cd**	**114**	**19.659**	ug/L	0.477	2	4	15131	1	KED
⌈>	**In**	**115**		ug/L			485826	505923	3	Standard
|	**Ag**	**107**	**17.649**	ug/L	0.271	1	26	353011	2	Standard
|	**Sb**	**121**	**0.029**	ug/L	0.001	5	201	679	5	Standard
|	**Sb**	**123**	**0.027**	ug/L	0.002	7	168	522	5	Standard
|	**Ba**	**135**	**0.107**	ug/L	0.011	10	84	734	7	Standard
⌊	**Ba**	**137**	**0.091**	ug/L	0.006	6	154	1181	5	Standard
⌈>	**Tb**	**159**		ug/L			1205564	1171741	2	Standard
|	**Tl**	**205**	**0.009**	ug/L	0.000	4	157	696	1	Standard
⌊	**Pb**	**208**	**0.020**	ug/L	0.001	6	403	1968	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-HCV1
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 19:06:18
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			25241	32058	3	Standard
	Cl	**37**		ug/L			5384034	5526356	3	Standard
⌈>	**Sc**	**45**		ug/L			495146	476950	1	Standard
|	**Cr**	**52**	**199.398**	ug/L	9.474	4	19255	3682094	3	Standard
|	**Cr**	**53**	**193.344**	ug/L	6.847	3	166	418606	3	Standard
⌊	**Mn**	**55**	**200.497**	ug/L	10.095	5	514	5627306	3	Standard
⌈>	**Ge**	**72**		ug/L			38398	35782	0	KED
|	**Ni**	**60**	**202.266**	ug/L	3.794	1	25	295297	1	KED
|	**Ni**	**62**	**205.894**	ug/L	2.831	1	1	48515	0	KED
|	**Cu**	**63**	**200.992**	ug/L	2.522	1	59	825557	0	KED
|	**Cu**	**65**	**203.917**	ug/L	1.665	0	45	422279	1	KED
|	**Zn**	**66**	**197.632**	ug/L	1.380	0	76	104933	0	KED
|	**Zn**	**67**	**197.688**	ug/L	5.022	2	17	17594	1	KED
|	**As**	**75**	**202.711**	ug/L	2.287	1	2	57727	0	KED
⌊	**Se**	**78**	**192.406**	ug/L	4.077	2	14	5089	1	KED
	Y	**89**		ug/L			301489	299298	2	Standard
	Kr	**83**		ug/L			55	104	6	Standard
⌈>	**In-1**	**115**		ug/L			9770	8342	1	KED
|	**Mo**	**98**	**221.077**	ug/L	6.264	2	8	291889	1	KED
|	**Cd**	**111**	**208.837**	ug/L	3.885	1	4	58070	0	KED
⌊	**Cd**	**114**	**205.171**	ug/L	3.276	1	4	149705	0	KED
⌈>	**In**	**115**		ug/L			485826	470408	1	Standard
|	**Ag**	**107**	**195.056**	ug/L	6.333	3	26	3626903	1	Standard
|	**Sb**	**121**	**208.448**	ug/L	3.041	1	201	3160503	0	Standard
|	**Sb**	**123**	**208.555**	ug/L	4.495	2	168	2490506	0	Standard
|	**Ba**	**135**	**198.965**	ug/L	2.280	1	84	1123149	1	Standard
⌊	**Ba**	**137**	**192.015**	ug/L	8.204	4	154	2001576	3	Standard
⌈>	**Tb**	**159**		ug/L			1205564	1099837	2	Standard
|	**Tl**	**205**	**221.368**	ug/L	4.014	1	157	12520957	1	Standard
⌊	**Pb**	**208**	**220.394**	ug/L	7.264	3	403	16116629	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-HCV2
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 19:11:13
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			25241	33515	2	Standard
	Cl	**37**		ug/L			5384034	5467445	2	Standard
⌈>	**Sc**	**45**		ug/L			495146	470305	1	Standard
|	**Cr**	**52**	**309.883**	ug/L	6.343	2	19255	5635951	3	Standard
|	**Cr**	**53**	**298.477**	ug/L	0.838	0	166	637209	2	Standard
⌊	**Mn**	**55**	**302.171**	ug/L	5.273	1	514	8367470	3	Standard
⌈>	**Ge**	**72**		ug/L			38398	34565	0	KED
|	**Ni**	**60**	**301.446**	ug/L	3.829	1	25	425163	1	KED
|	**Ni**	**62**	**304.938**	ug/L	5.609	1	1	69413	1	KED
|	**Cu**	**63**	**297.325**	ug/L	2.975	1	59	1179710	0	KED
|	**Cu**	**65**	**296.409**	ug/L	2.939	0	45	592921	1	KED
|	**Zn**	**66**	**289.061**	ug/L	3.308	1	76	148234	1	KED
|	**Zn**	**67**	**286.457**	ug/L	7.130	2	17	24622	1	KED
|	**As**	**75**	**305.135**	ug/L	4.414	1	2	83937	0	KED
⌊	**Se**	**78**	**290.799**	ug/L	1.556	0	14	7423	0	KED
	Y	**89**		ug/L			301489	290622	4	Standard
	Kr	**83**		ug/L			55	246	22	Standard
⌈>	**In-1**	**115**		ug/L			9770	8458	0	KED
|	**Mo**	**98**	**318.874**	ug/L	3.022	0	8	427024	1	KED
|	**Cd**	**111**	**296.252**	ug/L	2.038	0	4	83541	0	KED
⌊	**Cd**	**114**	**293.773**	ug/L	2.050	0	4	217380	0	KED
⌈>	**In**	**115**		ug/L			485826	451081	1	Standard
|	**Ag**	**107**	**290.692**	ug/L	14.513	4	26	5182440	3	Standard
|	**Sb**	**121**	**305.181**	ug/L	4.599	1	201	4436953	0	Standard
|	**Sb**	**123**	**307.344**	ug/L	4.684	1	168	3519925	1	Standard
|	**Ba**	**135**	**283.169**	ug/L	5.786	2	84	1532660	1	Standard
⌊	**Ba**	**137**	**284.468**	ug/L	10.533	3	154	2843164	2	Standard
⌈>	**Tb**	**159**		ug/L			1205564	1027172	3	Standard
|	**Tl**	**205**	**344.783**	ug/L	17.413	5	157	18193384	1	Standard
⌊	**Pb**	**208**	**341.295**	ug/L	9.850	2	403	23302481	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBL2
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 19:18:52
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			25241	29179	3	Standard
	Cl	**37**		ug/L			5384034	5562719	3	Standard
⌈>	**Sc**	**45**		ug/L			495146	488426	1	Standard
|	**Cr**	**52**	**-0.061**	ug/L	0.022	35	19255	17839	3	Standard
|	**Cr**	**53**	**0.070**	ug/L	0.012	17	166	318	7	Standard
⌊	**Mn**	**55**	**0.015**	ug/L	0.001	3	514	926	2	Standard
⌈>	**Ge**	**72**		ug/L			38398	39004	1	KED
|	**Ni**	**60**	**0.007**	ug/L	0.000	6	25	36	0	KED
|	**Ni**	**62**	**0.057**	ug/L	0.046	80	1	16	69	KED
|	**Cu**	**63**	**0.014**	ug/L	0.007	49	59	125	24	KED
|	**Cu**	**65**	**0.012**	ug/L	0.006	49	45	72	18	KED
|	**Zn**	**66**	**0.018**	ug/L	0.042	231	76	87	26	KED
|	**Zn**	**67**	**0.036**	ug/L	0.016	44	17	20	9	KED
|	**As**	**75**	**0.013**	ug/L	0.002	16	2	6	10	KED
⌊	**Se**	**78**	**0.068**	ug/L	0.064	95	14	17	12	KED
	Y	**89**		ug/L			301489	296018	2	Standard
	Kr	**83**		ug/L			55	50	13	Standard
⌈>	**In-1**	**115**		ug/L			9770	9501	1	KED
|	**Mo**	**98**	**0.028**	ug/L	0.006	22	8	50	18	KED
|	**Cd**	**111**	**0.007**	ug/L	0.003	41	4	6	14	KED
⌊	**Cd**	**114**	**0.004**	ug/L	0.008	205	4	7	92	KED
⌈>	**In**	**115**		ug/L			485826	501094	0	Standard
|	**Ag**	**107**	**0.007**	ug/L	0.000	6	26	167	5	Standard
|	**Sb**	**121**	**0.218**	ug/L	0.007	3	201	3735	2	Standard
|	**Sb**	**123**	**0.206**	ug/L	0.001	0	168	2790	0	Standard
|	**Ba**	**135**	**0.016**	ug/L	0.002	13	84	182	7	Standard
⌊	**Ba**	**137**	**0.014**	ug/L	0.003	23	154	320	11	Standard
⌈>	**Tb**	**159**		ug/L			1205564	1197164	2	Standard
|	**Tl**	**205**	**0.017**	ug/L	0.001	5	157	1200	4	Standard
⌊	**Pb**	**208**	**0.006**	ug/L	0.001	12	403	845	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IFA1
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 19:25:42
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			25241	115956	3	Standard
	Cl	37		ug/L			5384034	10812775	3	Standard
>	Sc	45		ug/L			495146	503665	2	Standard
	Cr	52	0.584	ug/L	0.010	1	19255	30913	2	Standard
	Cr	53	5.854	ug/L	0.068	1	166	13545	1	Standard
	Mn	55	0.104	ug/L	0.003	2	514	3616	0	Standard
>	Ge	72		ug/L			38398	37252	0	KED
	Ni	60	0.122	ug/L	0.016	13	25	209	11	KED
	Ni	62	0.171	ug/L	0.009	5	1	43	4	KED
	Cu	63	0.044	ug/L	0.001	2	59	247	1	KED
	Cu	65	0.045	ug/L	0.004	9	45	140	5	KED
	Zn	66	0.274	ug/L	0.036	13	76	225	9	KED
	Zn	67	0.143	ug/L	0.097	68	17	29	29	KED
	As	75	0.035	ug/L	0.008	23	2	13	18	KED
	Se	78	-0.077	ug/L	0.011	14	14	12	2	KED
	Y	89		ug/L			301489	314104	3	Standard
	Kr	83		ug/L			55	116	7	Standard
>	In-1	115		ug/L			9770	8903	2	KED
	Mo	98	404.794	ug/L	14.755	3	8	570298	1	KED
	Cd	111	0.080	ug/L	0.016	19	4	27	15	KED
	Cd	114	0.073	ug/L	0.013	17	4	60	17	KED
>	In	115		ug/L			485826	497237	1	Standard
	Ag	107	0.006	ug/L	0.001	12	26	151	11	Standard
	Sb	121	0.101	ug/L	0.006	6	201	1821	6	Standard
	Sb	123	0.101	ug/L	0.006	6	168	1446	7	Standard
	Ba	135	0.107	ug/L	0.001	1	84	723	2	Standard
	Ba	137	0.102	ug/L	0.003	3	154	1280	3	Standard
>	Tb	159		ug/L			1205564	1182086	1	Standard
	Tl	205	0.021	ug/L	0.001	6	157	1408	4	Standard
	Pb	208	0.031	ug/L	0.001	4	403	2840	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBL3
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 19:30:37
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			25241	29638	1	Standard
	Cl	**37**		ug/L			5384034	5322644	2	Standard
⌈>	**Sc**	**45**		ug/L			495146	484991	1	Standard
|	**Cr**	**52**	**-0.082**	ug/L	0.036	44	19255	17325	3	Standard
|	**Cr**	**53**	**0.301**	ug/L	0.026	8	166	823	5	Standard
⌊	**Mn**	**55**	**0.012**	ug/L	0.001	5	514	833	1	Standard
⌈>	**Ge**	**72**		ug/L			38398	37291	0	KED
|	**Ni**	**60**	**0.007**	ug/L	0.007	102	25	34	30	KED
|	**Ni**	**62**	**0.013**	ug/L	0.009	69	1	5	43	KED
|	**Cu**	**63**	**0.012**	ug/L	0.004	32	59	109	15	KED
|	**Cu**	**65**	**0.004**	ug/L	0.008	218	45	51	32	KED
|	**Zn**	**66**	**0.022**	ug/L	0.009	42	76	86	7	KED
|	**Zn**	**67**	**-0.002**	ug/L	0.047	2926	17	16	26	KED
|	**As**	**75**	**0.002**	ug/L	0.002	74	2	3	15	KED
⌊	**Se**	**78**	**-0.062**	ug/L	0.045	73	14	12	9	KED
	Y	**89**		ug/L			301489	315351	1	Standard
	Kr	**83**		ug/L			55	40	16	Standard
⌈>	**In-1**	**115**		ug/L			9770	9347	1	KED
|	**Mo**	**98**	**0.029**	ug/L	0.003	11	8	50	9	KED
|	**Cd**	**111**	**0.005**	ug/L	0.005	109	4	5	28	KED
⌊	**Cd**	**114**	**0.004**	ug/L	0.005	139	4	6	57	KED
⌈>	**In**	**115**		ug/L			485826	526003	2	Standard
|	**Ag**	**107**	**0.002**	ug/L	0.000	23	26	62	11	Standard
|	**Sb**	**121**	**0.030**	ug/L	0.002	6	201	732	2	Standard
|	**Sb**	**123**	**0.028**	ug/L	0.004	15	168	555	11	Standard
|	**Ba**	**135**	**0.014**	ug/L	0.001	4	84	177	0	Standard
⌊	**Ba**	**137**	**0.018**	ug/L	0.002	10	154	382	3	Standard
⌈>	**Tb**	**159**		ug/L			1205564	1254159	1	Standard
|	**Tl**	**205**	**0.004**	ug/L	0.001	13	157	426	7	Standard
⌊	**Pb**	**208**	**0.003**	ug/L	0.000	7	403	700	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCV3
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 19:36:37
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			25241	31949	2	Standard
	Cl	**37**		ug/L			5384034	5669079	2	Standard
⎡>	**Sc**	**45**		ug/L			495146	504016	1	Standard
⎢	**Cr**	**52**	**50.346**	ug/L	1.038	2	19255	997328	1	Standard
⎢	**Cr**	**53**	**48.759**	ug/L	1.682	3	166	111668	2	Standard
⎣	**Mn**	**55**	**50.238**	ug/L	2.012	4	514	1490592	2	Standard
⎡>	**Ge**	**72**		ug/L			38398	37407	2	KED
⎢	**Ni**	**60**	**52.185**	ug/L	1.165	2	25	79641	0	KED
⎢	**Ni**	**62**	**52.275**	ug/L	0.275	0	1	12878	2	KED
⎢	**Cu**	**63**	**52.362**	ug/L	0.885	1	59	224930	3	KED
⎢	**Cu**	**65**	**53.199**	ug/L	1.041	1	45	115169	1	KED
⎢	**Zn**	**66**	**52.581**	ug/L	0.052	0	76	29241	2	KED
⎢	**Zn**	**67**	**52.372**	ug/L	1.469	2	17	4885	3	KED
⎢	**As**	**75**	**50.066**	ug/L	1.083	2	2	14902	0	KED
⎣	**Se**	**78**	**50.071**	ug/L	1.140	2	14	1395	3	KED
	Y	**89**		ug/L			301489	312808	3	Standard
	Kr	**83**		ug/L			55	49	26	Standard
⎡>	**In-1**	**115**		ug/L			9770	9150	0	KED
⎢	**Mo**	**98**	**51.161**	ug/L	0.707	1	8	74122	1	KED
⎢	**Cd**	**111**	**51.529**	ug/L	0.315	0	4	15722	0	KED
⎣	**Cd**	**114**	**51.733**	ug/L	0.601	1	4	41413	0	KED
⎡>	**In**	**115**		ug/L			485826	507580	3	Standard
⎢	**Ag**	**107**	**48.661**	ug/L	1.964	4	26	975821	1	Standard
⎢	**Sb**	**121**	**50.197**	ug/L	0.563	1	201	821432	3	Standard
⎢	**Sb**	**123**	**49.924**	ug/L	1.190	2	168	643388	2	Standard
⎢	**Ba**	**135**	**51.523**	ug/L	1.013	1	84	313782	1	Standard
⎣	**Ba**	**137**	**50.673**	ug/L	1.261	2	154	570024	3	Standard
⎡>	**Tb**	**159**		ug/L			1205564	1244359	0	Standard
⎢	**Tl**	**205**	**53.195**	ug/L	0.839	1	157	3404710	0	Standard
⎣	**Pb**	**208**	**52.805**	ug/L	0.762	1	403	4370976	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCB3
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 19:46:03
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			25241	27375	1	Standard
	Cl	**37**		ug/L			5384034	5510959	2	Standard
⌈>	**Sc**	**45**		ug/L			495146	495143	1	Standard
|	**Cr**	**52**	**-0.109**	ug/L	0.030	27	19255	17179	2	Standard
|	**Cr**	**53**	**0.083**	ug/L	0.010	11	166	352	5	Standard
⌊	**Mn**	**55**	**0.001**	ug/L	0.001	84	514	539	4	Standard
⌈>	**Ge**	**72**		ug/L			38398	38529	1	KED
|	**Ni**	**60**	**-0.003**	ug/L	0.004	118	25	20	30	KED
|	**Ni**	**62**	**0.015**	ug/L	0.007	49	1	5	33	KED
|	**Cu**	**63**	**0.007**	ug/L	0.002	29	59	88	10	KED
|	**Cu**	**65**	**-0.003**	ug/L	0.002	55	45	38	10	KED
|	**Zn**	**66**	**-0.009**	ug/L	0.018	197	76	71	13	KED
|	**Zn**	**67**	**-0.047**	ug/L	0.049	103	17	12	37	KED
|	**As**	**75**	**0.008**	ug/L	0.004	52	2	5	25	KED
⌊	**Se**	**78**	**-0.148**	ug/L	0.131	88	14	10	34	KED
	Y	**89**		ug/L			301489	304643	0	Standard
	Kr	**83**		ug/L			55	41	29	Standard
⌈>	**In-1**	**115**		ug/L			9770	9252	2	KED
|	**Mo**	**98**	**0.007**	ug/L	0.004	49	8	18	26	KED
|	**Cd**	**111**	**-0.000**	ug/L	0.001	503	4	4	13	KED
⌊	**Cd**	**114**	**0.002**	ug/L	0.004	213	4	5	61	KED
⌈>	**In**	**115**		ug/L			485826	505701	1	Standard
|	**Ag**	**107**	**0.002**	ug/L	0.000	5	26	67	4	Standard
|	**Sb**	**121**	**0.060**	ug/L	0.005	8	201	1195	8	Standard
|	**Sb**	**123**	**0.057**	ug/L	0.006	11	168	901	8	Standard
|	**Ba**	**135**	**-0.001**	ug/L	0.001	110	84	81	7	Standard
⌊	**Ba**	**137**	**-0.001**	ug/L	0.001	61	154	147	3	Standard
⌈>	**Tb**	**159**		ug/L			1205564	1238341	1	Standard
|	**Tl**	**205**	**0.003**	ug/L	0.001	16	157	375	10	Standard
⌊	**Pb**	**208**	**0.001**	ug/L	0.000	21	403	499	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0232-BLK2
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 19:52:16
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			25241	57786	3	Standard
	Cl	37		ug/L			5384034	5425428	4	Standard
>	Sc	45		ug/L			495146	509371	2	Standard
	Cr	52	0.082	ug/L	0.020	24	19255	21411	2	Standard
	Cr	53	0.190	ug/L	0.008	4	166	609	5	Standard
	Mn	55	0.055	ug/L	0.003	6	514	2168	6	Standard
>	Ge	72		ug/L			38398	38581	0	KED
	Ni	60	0.003	ug/L	0.006	204	25	30	33	KED
	Ni	62	0.022	ug/L	0.008	33	1	7	25	KED
	Cu	63	0.027	ug/L	0.002	7	59	178	4	KED
	Cu	65	0.023	ug/L	0.008	31	45	97	17	KED
	Zn	66	1.035	ug/L	0.047	4	76	668	3	KED
	Zn	67	0.886	ug/L	0.080	9	17	102	7	KED
	As	75	0.007	ug/L	0.009	124	2	5	54	KED
	Se	78	-0.076	ug/L	0.048	63	14	12	10	KED
	Y	89		ug/L			301489	314241	4	Standard
	Kr	83		ug/L			55	55	26	Standard
>	In-1	115		ug/L			9770	9604	0	KED
	Mo	98	0.021	ug/L	0.001	5	8	39	4	KED
	Cd	111	-0.007	ug/L	0.005	69	4	2	65	KED
	Cd	114	0.000	ug/L	0.001	3320	4	4	27	KED
>	In	115		ug/L			485826	515080	2	Standard
	Ag	107	0.001	ug/L	0.000	13	26	49	3	Standard
	Sb	121	0.030	ug/L	0.001	4	201	708	1	Standard
	Sb	123	0.029	ug/L	0.004	15	168	555	9	Standard
	Ba	135	0.033	ug/L	0.009	25	84	293	18	Standard
	Ba	137	0.041	ug/L	0.006	14	154	626	9	Standard
>	Tb	159		ug/L			1205564	1270390	3	Standard
	Tl	205	0.002	ug/L	0.000	22	157	291	7	Standard
	Pb	208	0.015	ug/L	0.000	0	403	1650	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0232-BS2
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 19:57:11
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			25241	59660	4	Standard
	Cl	37		ug/L			5384034	5573653	3	Standard
>	Sc	45		ug/L			495146	513251	1	Standard
	Cr	52	25.985	ug/L	0.194	0	19255	533882	0	Standard
	Cr	53	25.998	ug/L	0.278	1	166	60720	0	Standard
	Mn	55	25.938	ug/L	0.204	0	514	784178	1	Standard
>	Ge	72		ug/L			38398	38893	0	KED
	Ni	60	26.861	ug/L	0.324	1	25	42649	0	KED
	Ni	62	27.090	ug/L	0.180	0	1	6940	1	KED
	Cu	63	28.269	ug/L	0.280	0	59	126276	1	KED
	Cu	65	28.633	ug/L	0.683	2	45	64479	1	KED
	Zn	66	85.311	ug/L	1.818	2	76	49273	1	KED
	Zn	67	80.528	ug/L	2.040	2	17	7802	3	KED
	As	75	24.780	ug/L	0.462	1	2	7672	1	KED
	Se	78	76.032	ug/L	2.992	3	14	2195	3	KED
	Y	89		ug/L			301489	316803	2	Standard
	Kr	83		ug/L			55	63	6	Standard
>	In-1	115		ug/L			9770	9434	0	KED
	Mo	98	26.689	ug/L	0.434	1	8	39866	1	KED
	Cd	111	25.903	ug/L	0.416	1	4	8150	1	KED
	Cd	114	25.548	ug/L	0.422	1	4	21087	1	KED
>	In	115		ug/L			485826	522941	2	Standard
	Ag	107	25.463	ug/L	0.573	2	26	526410	0	Standard
	Sb	121	26.201	ug/L	0.542	2	201	441750	0	Standard
	Sb	123	26.153	ug/L	0.411	1	168	347368	1	Standard
	Ba	135	27.161	ug/L	0.677	2	84	170479	0	Standard
	Ba	137	26.481	ug/L	0.272	1	154	307056	1	Standard
>	Tb	159		ug/L			1205564	1250214	1	Standard
	Tl	205	27.054	ug/L	0.205	0	157	1739866	0	Standard
	Pb	208	27.476	ug/L	0.062	0	403	2285424	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0717-BLK2
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 20:02:06
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			25241	44781	0	Standard
	Cl	37		ug/L			5384034	5475261	3	Standard
>	Sc	45		ug/L			495146	506902	3	Standard
	Cr	52	0.011	ug/L	0.051	477	19255	19902	2	Standard
	Cr	53	0.100	ug/L	0.004	4	166	399	0	Standard
	Mn	55	0.041	ug/L	0.006	14	514	1742	13	Standard
>	Ge	72		ug/L			38398	39158	1	KED
	Ni	60	0.018	ug/L	0.006	34	25	53	16	KED
	Ni	62	0.027	ug/L	0.026	96	1	8	75	KED
	Cu	63	0.111	ug/L	0.016	14	59	557	12	KED
	Cu	65	0.088	ug/L	0.006	6	45	245	6	KED
	Zn	66	0.305	ug/L	0.046	15	76	254	10	KED
	Zn	67	0.225	ug/L	0.102	45	17	39	24	KED
	As	75	0.010	ug/L	0.010	108	2	5	53	KED
	Se	78	0.095	ug/L	0.152	160	14	17	23	KED
	Y	89		ug/L			301489	310458	2	Standard
	Kr	83		ug/L			55	60	13	Standard
>	In-1	115		ug/L			9770	9404	1	KED
	Mo	98	0.005	ug/L	0.003	50	8	16	24	KED
	Cd	111	-0.006	ug/L	0.008	138	4	2	94	KED
	Cd	114	0.000	ug/L	0.003	814	4	4	53	KED
>	In	115		ug/L			485826	506388	2	Standard
	Ag	107	0.007	ug/L	0.005	75	26	169	64	Standard
	Sb	121	0.014	ug/L	0.008	59	201	439	32	Standard
	Sb	123	0.013	ug/L	0.005	41	168	340	21	Standard
	Ba	135	0.050	ug/L	0.007	13	84	393	11	Standard
	Ba	137	0.051	ug/L	0.012	23	154	730	18	Standard
>	Tb	159		ug/L			1205564	1252426	1	Standard
	Tl	205	0.006	ug/L	0.007	116	157	565	83	Standard
	Pb	208	0.008	ug/L	0.008	90	403	1118	57	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0717-BS2
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 20:07:01
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			25241	45701	0	Standard
	Cl	**37**		ug/L			5384034	5779388	4	Standard
>	**Sc**	**45**		ug/L			495146	491400	6	Standard
	Cr	**52**	**27.063**	ug/L	1.695	6	19255	530142	1	Standard
	Cr	**53**	**26.776**	ug/L	0.913	3	166	59789	4	Standard
	Mn	**55**	**27.150**	ug/L	1.609	5	514	783860	2	Standard
>	**Ge**	**72**		ug/L			38398	38719	2	KED
	Ni	**60**	**26.149**	ug/L	0.220	0	25	41331	1	KED
	Ni	**62**	**26.716**	ug/L	0.879	3	1	6811	1	KED
	Cu	**63**	**26.679**	ug/L	0.806	3	59	118586	1	KED
	Cu	**65**	**26.585**	ug/L	0.617	2	45	59591	0	KED
	Zn	**66**	**84.866**	ug/L	2.531	2	76	48782	0	KED
	Zn	**67**	**80.119**	ug/L	1.356	1	17	7728	3	KED
	As	**75**	**25.432**	ug/L	0.807	3	2	7836	1	KED
	Se	**78**	**82.938**	ug/L	1.816	2	14	2381	0	KED
	Y	**89**		ug/L			301489	296406	9	Standard
	Kr	**83**		ug/L			55	58	4	Standard
>	**In-1**	**115**		ug/L			9770	9303	1	KED
	Mo	**98**	**0.090**	ug/L	0.017	18	8	141	19	KED
	Cd	**111**	**26.649**	ug/L	0.714	2	4	8266	1	KED
	Cd	**114**	**25.986**	ug/L	0.390	1	4	21149	1	KED
>	**In**	**115**		ug/L			485826	481349	7	Standard
	Ag	**107**	**25.966**	ug/L	1.421	5	26	492857	2	Standard
	Sb	**121**	**0.080**	ug/L	0.006	6	201	1430	3	Standard
	Sb	**123**	**0.073**	ug/L	0.005	7	168	1057	2	Standard
	Ba	**135**	**28.133**	ug/L	2.586	9	84	161810	1	Standard
	Ba	**137**	**28.122**	ug/L	2.332	8	154	298920	2	Standard
>	**Tb**	**159**		ug/L			1205564	1189858	6	Standard
	Tl	**205**	**27.657**	ug/L	2.006	7	157	1687530	0	Standard
	Pb	**208**	**27.887**	ug/L	1.978	7	403	2200813	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0576-01
Sample Dil Factor: 10
Comments:
Sample Date/Time: Thursday, April 27, 2023 20:12:38
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			25241	110826	1	Standard
	Cl	**37**		ug/L			5384034	5746628	4	Standard
⌈>	**Sc**	**45**		ug/L			495146	516321	0	Standard
|	**Cr**	**52**	**7.451**	ug/L	0.062	0	19255	168335	1	Standard
|	**Cr**	**53**	**7.423**	ug/L	0.130	1	166	17567	2	Standard
⌊	**Mn**	**55**	**16.916**	ug/L	0.284	1	514	514663	1	Standard
⌈>	**Ge**	**72**		ug/L			38398	38259	0	KED
|	**Ni**	**60**	**1.793**	ug/L	0.064	3	25	2824	2	KED
|	**Ni**	**62**	**1.981**	ug/L	0.066	3	1	500	2	KED
|	**Cu**	**63**	**0.406**	ug/L	0.014	3	59	1842	2	KED
|	**Cu**	**65**	**0.422**	ug/L	0.025	5	45	977	4	KED
|	**Zn**	**66**	**10.463**	ug/L	0.127	1	76	6011	0	KED
|	**Zn**	**67**	**9.802**	ug/L	0.259	2	17	949	3	KED
|	**As**	**75**	**0.053**	ug/L	0.003	5	2	19	5	KED
⌊	**Se**	**78**	**0.023**	ug/L	0.102	439	14	15	18	KED
	Y	**89**		ug/L			301489	311589	0	Standard
	Kr	**83**		ug/L			55	59	20	Standard
⌈>	**In-1**	**115**		ug/L			9770	9266	2	KED
|	**Mo**	**98**	**0.458**	ug/L	0.043	9	8	678	7	KED
|	**Cd**	**111**	**0.211**	ug/L	0.016	7	4	69	9	KED
⌊	**Cd**	**114**	**0.213**	ug/L	0.029	13	4	176	13	KED
⌈>	**In**	**115**		ug/L			485826	515800	2	Standard
|	**Ag**	**107**	**0.025**	ug/L	0.004	13	26	546	14	Standard
|	**Sb**	**121**	**0.055**	ug/L	0.001	1	201	1122	2	Standard
|	**Sb**	**123**	**0.055**	ug/L	0.002	3	168	904	1	Standard
|	**Ba**	**135**	**2.478**	ug/L	0.126	5	84	15419	3	Standard
⌊	**Ba**	**137**	**2.403**	ug/L	0.102	4	154	27621	2	Standard
⌈>	**Tb**	**159**		ug/L			1205564	1281494	2	Standard
|	**Tl**	**205**	**0.007**	ug/L	0.005	73	157	631	54	Standard
⌊	**Pb**	**208**	**0.023**	ug/L	0.005	21	403	2382	17	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0673-01
Sample Dil Factor: 50
Comments:
Sample Date/Time: Thursday, April 27, 2023 20:19:00
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			25241	60016	1	Standard
	Cl	**37**		ug/L			5384034	5661498	3	Standard
⌈>	**Sc**	**45**		ug/L			495146	549375	0	Standard
|	**Cr**	**52**	**9.338**	ug/L	0.273	2	19255	219042	2	Standard
|	**Cr**	**53**	**9.387**	ug/L	0.040	0	166	23586	0	Standard
⌊	**Mn**	**55**	**118.448**	ug/L	2.272	1	514	3830965	1	Standard
⌈>	**Ge**	**72**		ug/L			38398	38465	1	KED
|	**Ni**	**60**	**8.875**	ug/L	0.124	1	25	13953	0	KED
|	**Ni**	**62**	**8.763**	ug/L	0.169	1	1	2221	2	KED
|	**Cu**	**63**	**17.457**	ug/L	0.215	1	59	77137	1	KED
|	**Cu**	**65**	**17.659**	ug/L	0.228	1	45	39347	0	KED
|	**Zn**	**66**	**73.637**	ug/L	1.108	1	76	42073	0	KED
|	**Zn**	**67**	**69.322**	ug/L	3.272	4	17	6642	3	KED
|	**As**	**75**	**1.260**	ug/L	0.055	4	2	388	3	KED
⌊	**Se**	**78**	**0.177**	ug/L	0.072	40	14	20	11	KED
	Y	**89**		ug/L			301489	406780	2	Standard
	Kr	**83**		ug/L			55	88	31	Standard
⌈>	**In-1**	**115**		ug/L			9770	9460	2	KED
|	**Mo**	**98**	**0.492**	ug/L	0.016	3	8	744	2	KED
|	**Cd**	**111**	**0.072**	ug/L	0.014	19	4	26	15	KED
⌊	**Cd**	**114**	**0.081**	ug/L	0.021	26	4	71	27	KED
⌈>	**In**	**115**		ug/L			485826	516382	2	Standard
|	**Ag**	**107**	**0.034**	ug/L	0.003	7	26	728	7	Standard
|	**Sb**	**121**	**0.067**	ug/L	0.004	5	201	1332	7	Standard
|	**Sb**	**123**	**0.072**	ug/L	0.005	7	168	1120	4	Standard
|	**Ba**	**135**	**35.637**	ug/L	0.444	1	84	220885	1	Standard
⌊	**Ba**	**137**	**35.212**	ug/L	0.675	1	154	403127	2	Standard
⌈>	**Tb**	**159**		ug/L			1205564	1277177	0	Standard
|	**Tl**	**205**	**0.013**	ug/L	0.001	4	157	1038	4	Standard
⌊	**Pb**	**208**	**6.672**	ug/L	0.089	1	403	567227	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0658-02
Sample Dil Factor: 5
Comments:
Sample Date/Time: Thursday, April 27, 2023 20:23:55
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			25241	34891	5	Standard
	Cl	37		ug/L			5384034	7838901	3	Standard
>	Sc	45		ug/L			495146	513300	0	Standard
	Cr	52	0.273	ug/L	0.023	8	19255	25368	1	Standard
	Cr	53	4.059	ug/L	0.014	0	166	9626	1	Standard
	Mn	55	0.024	ug/L	0.003	14	514	1261	7	Standard
>	Ge	72		ug/L			38398	34565	2	KED
	Ni	60	0.035	ug/L	0.001	2	25	72	2	KED
	Ni	62	0.065	ug/L	0.014	21	1	16	17	KED
	Cu	63	0.369	ug/L	0.016	4	59	1518	1	KED
	Cu	65	0.378	ug/L	0.041	10	45	796	10	KED
	Zn	66	0.132	ug/L	0.027	20	76	135	8	KED
	Zn	67	0.487	ug/L	0.107	22	17	57	14	KED
	As	75	28.267	ug/L	0.349	1	2	7777	1	KED
	Se	78	3.924	ug/L	0.103	2	14	113	4	KED
	Y	89		ug/L			301489	305094	4	Standard
	Kr	83		ug/L			55	78	13	Standard
>	In-1	115		ug/L			9770	8037	1	KED
	Mo	98	26.519	ug/L	0.601	2	8	33745	1	KED
	Cd	111	0.004	ug/L	0.006	147	4	4	34	KED
	Cd	114	0.004	ug/L	0.007	172	4	6	78	KED
>	In	115		ug/L			485826	473657	3	Standard
	Ag	107	0.002	ug/L	0.000	23	26	56	10	Standard
	Sb	121	0.191	ug/L	0.004	2	201	3112	1	Standard
	Sb	123	0.194	ug/L	0.008	4	168	2494	3	Standard
	Ba	135	4.643	ug/L	0.086	1	84	26464	1	Standard
	Ba	137	4.589	ug/L	0.109	2	154	48296	0	Standard
>	Tb	159		ug/L			1205564	1223329	2	Standard
	Tl	205	0.002	ug/L	0.000	16	157	254	7	Standard
	Pb	208	0.003	ug/L	0.001	26	403	649	8	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0658-04
Sample Dil Factor: 5
Comments:
Sample Date/Time: Thursday, April 27, 2023 20:29:49
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			25241	32863	2	Standard
	Cl	37		ug/L			5384034	5440547	3	Standard
>	Sc	45		ug/L			495146	499635	1	Standard
	Cr	52	0.099	ug/L	0.029	29	19255	21335	3	Standard
	Cr	53	1.125	ug/L	0.041	3	166	2718	3	Standard
	Mn	55	0.065	ug/L	0.001	1	514	2431	2	Standard
>	Ge	72		ug/L			38398	36714	1	KED
	Ni	60	0.084	ug/L	0.010	11	25	150	10	KED
	Ni	62	0.135	ug/L	0.036	26	1	34	24	KED
	Cu	63	0.439	ug/L	0.013	2	59	1908	3	KED
	Cu	65	0.418	ug/L	0.022	5	45	931	4	KED
	Zn	66	0.241	ug/L	0.026	10	76	203	5	KED
	Zn	67	0.446	ug/L	0.129	28	17	57	21	KED
	As	75	39.752	ug/L	0.304	0	2	11617	0	KED
	Se	78	0.503	ug/L	0.143	28	14	27	14	KED
	Y	89		ug/L			301489	307791	1	Standard
	Kr	83		ug/L			55	74	14	Standard
>	In-1	115		ug/L			9770	8376	4	KED
	Mo	98	25.490	ug/L	1.069	4	8	33770	0	KED
	Cd	111	0.014	ug/L	0.007	49	4	7	21	KED
	Cd	114	0.008	ug/L	0.006	79	4	9	53	KED
>	In	115		ug/L			485826	505390	0	Standard
	Ag	107	-0.000	ug/L	0.000	199	26	24	25	Standard
	Sb	121	0.281	ug/L	0.008	2	201	4788	1	Standard
	Sb	123	0.285	ug/L	0.011	4	168	3835	4	Standard
	Ba	135	4.542	ug/L	0.141	3	84	27627	2	Standard
	Ba	137	4.487	ug/L	0.053	1	154	50410	0	Standard
>	Tb	159		ug/L			1205564	1234350	1	Standard
	Tl	205	0.001	ug/L	0.000	30	157	243	10	Standard
	Pb	208	0.004	ug/L	0.001	21	403	777	8	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0735-01
Sample Dil Factor: 10
Comments:
Sample Date/Time: Thursday, April 27, 2023 20:36:31
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			25241	155722	2	Standard
	Cl	**37**		ug/L			5384034	10820494	6	Standard
>	**Sc**	**45**		ug/L			495146	511684	2	Standard
	Cr	**52**	**16.919**	ug/L	0.372	2	19255	353397	1	Standard
	Cr	**53**	**26.088**	ug/L	0.764	2	166	60719	1	Standard
	Mn	**55**	**82.393**	ug/L	2.169	2	514	2481485	1	Standard
>	**Ge**	**72**		ug/L			38398	34004	1	KED
	Ni	**60**	**19.619**	ug/L	0.631	3	25	27234	1	KED
	Ni	**62**	**19.779**	ug/L	0.714	3	1	4429	3	KED
	Cu	**63**	**3.077**	ug/L	0.065	2	59	12059	0	KED
	Cu	**65**	**3.026**	ug/L	0.052	1	45	5993	1	KED
	Zn	**66**	**9.923**	ug/L	0.633	6	76	5067	4	KED
	Zn	**67**	**15.203**	ug/L	0.421	2	17	1299	1	KED
	As	**75**	**8.066**	ug/L	0.221	2	2	2185	2	KED
	Se	**78**	**0.207**	ug/L	0.135	65	14	18	17	KED
	Y	**89**		ug/L			301489	298366	2	Standard
	Kr	**83**		ug/L			55	125	4	Standard
>	**In-1**	**115**		ug/L			9770	8007	1	KED
	Mo	**98**	**1.484**	ug/L	0.087	5	8	1887	4	KED
	Cd	**111**	**0.024**	ug/L	0.014	57	4	10	37	KED
	Cd	**114**	**0.011**	ug/L	0.015	135	4	11	94	KED
>	**In**	**115**		ug/L			485826	433195	2	Standard
	Ag	**107**	**0.035**	ug/L	0.005	13	26	618	10	Standard
	Sb	**121**	**0.702**	ug/L	0.025	3	201	9983	1	Standard
	Sb	**123**	**0.698**	ug/L	0.017	2	168	7823	0	Standard
	Ba	**135**	**91.442**	ug/L	0.967	1	84	475387	2	Standard
	Ba	**137**	**89.940**	ug/L	2.797	3	154	863211	1	Standard
>	**Tb**	**159**		ug/L			1205564	1161310	2	Standard
	Tl	**205**	**0.001**	ug/L	0.001	49	157	240	16	Standard
	Pb	**208**	**0.369**	ug/L	0.014	3	403	28881	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBL4
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 20:41:36
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			25241	30604	1	Standard
	Cl	**37**		ug/L			5384034	5599512	1	Standard
⌈>	**Sc**	**45**		ug/L			495146	491859	2	Standard
|	**Cr**	**52**	**-0.052**	ug/L	0.007	13	19255	18144	2	Standard
|	**Cr**	**53**	**0.388**	ug/L	0.005	1	166	1031	1	Standard
⌊	**Mn**	**55**	**0.049**	ug/L	0.010	19	514	1933	14	Standard
⌈>	**Ge**	**72**		ug/L			38398	37214	1	KED
|	**Ni**	**60**	**0.104**	ug/L	0.016	15	25	181	11	KED
|	**Ni**	**62**	**0.127**	ug/L	0.055	43	1	33	41	KED
|	**Cu**	**63**	**0.051**	ug/L	0.004	7	59	276	4	KED
|	**Cu**	**65**	**0.035**	ug/L	0.009	25	45	119	15	KED
|	**Zn**	**66**	**0.679**	ug/L	0.033	4	76	448	3	KED
|	**Zn**	**67**	**0.646**	ug/L	0.209	32	17	76	23	KED
|	**As**	**75**	**0.005**	ug/L	0.006	122	2	4	40	KED
⌊	**Se**	**78**	**-0.203**	ug/L	0.049	24	14	8	15	KED
	Y	**89**		ug/L			301489	302642	2	Standard
	Kr	**83**		ug/L			55	66	14	Standard
⌈>	**In-1**	**115**		ug/L			9770	9036	0	KED
|	**Mo**	**98**	**0.001**	ug/L	0.003	199	8	9	41	KED
|	**Cd**	**111**	**-0.002**	ug/L	0.006	310	4	3	56	KED
⌊	**Cd**	**114**	**0.001**	ug/L	0.001	104	4	4	19	KED
⌈>	**In**	**115**		ug/L			485826	508408	0	Standard
|	**Ag**	**107**	**0.001**	ug/L	0.000	10	26	37	2	Standard
|	**Sb**	**121**	**-0.004**	ug/L	0.001	18	201	151	7	Standard
|	**Sb**	**123**	**-0.005**	ug/L	0.000	7	168	108	4	Standard
|	**Ba**	**135**	**0.036**	ug/L	0.011	30	84	306	21	Standard
⌊	**Ba**	**137**	**0.034**	ug/L	0.008	23	154	539	16	Standard
⌈>	**Tb**	**159**		ug/L			1205564	1215481	0	Standard
|	**Tl**	**205**	**0.001**	ug/L	0.000	21	157	249	6	Standard
⌊	**Pb**	**208**	**0.023**	ug/L	0.001	3	403	2236	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCV4
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 20:46:32
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			25241	31272	4	Standard
	Cl	**37**		ug/L			5384034	5650453	3	Standard
⌈>	**Sc**	**45**		ug/L			495146	486643	1	Standard
|	**Cr**	**52**	**49.978**	ug/L	0.305	0	19255	956131	1	Standard
|	**Cr**	**53**	**49.737**	ug/L	0.357	0	166	109997	1	Standard
⌊	**Mn**	**55**	**50.378**	ug/L	0.844	1	514	1443758	2	Standard
⌈>	**Ge**	**72**		ug/L			38398	37519	1	KED
|	**Ni**	**60**	**51.117**	ug/L	1.365	2	25	78250	0	KED
|	**Ni**	**62**	**52.315**	ug/L	2.449	4	1	12920	2	KED
|	**Cu**	**63**	**51.869**	ug/L	1.324	2	59	223378	0	KED
|	**Cu**	**65**	**51.979**	ug/L	1.067	2	45	112872	1	KED
|	**Zn**	**66**	**51.949**	ug/L	0.463	0	76	28973	1	KED
|	**Zn**	**67**	**50.755**	ug/L	0.375	0	17	4749	1	KED
|	**As**	**75**	**49.479**	ug/L	1.345	2	2	14772	0	KED
⌊	**Se**	**78**	**49.965**	ug/L	1.428	2	14	1396	1	KED
	Y	**89**		ug/L			301489	297416	3	Standard
	Kr	**83**		ug/L			55	54	17	Standard
⌈>	**In-1**	**115**		ug/L			9770	8987	1	KED
|	**Mo**	**98**	**50.644**	ug/L	0.462	0	8	72059	0	KED
|	**Cd**	**111**	**51.138**	ug/L	1.069	2	4	15322	0	KED
⌊	**Cd**	**114**	**50.467**	ug/L	1.383	2	4	39670	1	KED
⌈>	**In**	**115**		ug/L			485826	488192	2	Standard
|	**Ag**	**107**	**49.111**	ug/L	1.568	3	26	947651	0	Standard
|	**Sb**	**121**	**51.393**	ug/L	0.927	1	201	808753	0	Standard
|	**Sb**	**123**	**50.896**	ug/L	0.583	1	168	630982	1	Standard
|	**Ba**	**135**	**52.098**	ug/L	1.074	2	84	305217	1	Standard
⌊	**Ba**	**137**	**51.937**	ug/L	1.250	2	154	561927	1	Standard
⌈>	**Tb**	**159**		ug/L			1205564	1233782	1	Standard
|	**Tl**	**205**	**53.067**	ug/L	1.159	2	157	3367237	0	Standard
⌊	**Pb**	**208**	**52.265**	ug/L	1.238	2	403	4288822	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCB4
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 20:54:11
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			25241	26785	2	Standard
	Cl	**37**		ug/L			5384034	5555097	2	Standard
⌈>	**Sc**	**45**		ug/L			495146	483282	1	Standard
|	**Cr**	**52**	**-0.091**	ug/L	0.014	15	19255	17100	2	Standard
|	**Cr**	**53**	**0.083**	ug/L	0.010	11	166	344	5	Standard
⌊	**Mn**	**55**	**0.001**	ug/L	0.000	27	514	538	0	Standard
⌈>	**Ge**	**72**		ug/L			38398	38037	0	KED
|	**Ni**	**60**	**0.007**	ug/L	0.007	88	25	36	28	KED
|	**Ni**	**62**	**0.015**	ug/L	0.013	86	1	5	57	KED
|	**Cu**	**63**	**0.004**	ug/L	0.003	74	59	77	18	KED
|	**Cu**	**65**	**-0.003**	ug/L	0.001	47	45	38	8	KED
|	**Zn**	**66**	**-0.040**	ug/L	0.005	12	76	52	5	KED
|	**Zn**	**67**	**-0.018**	ug/L	0.020	107	17	15	12	KED
|	**As**	**75**	**0.004**	ug/L	0.006	128	2	4	40	KED
⌊	**Se**	**78**	**0.010**	ug/L	0.014	134	14	15	3	KED
	Y	**89**		ug/L			301489	291604	3	Standard
	Kr	**83**		ug/L			55	53	25	Standard
⌈>	**In-1**	**115**		ug/L			9770	9273	1	KED
|	**Mo**	**98**	**0.009**	ug/L	0.004	43	8	21	28	KED
|	**Cd**	**111**	**-0.004**	ug/L	0.005	121	4	2	57	KED
⌊	**Cd**	**114**	**0.002**	ug/L	0.002	119	4	5	34	KED
⌈>	**In**	**115**		ug/L			485826	496417	1	Standard
|	**Ag**	**107**	**0.002**	ug/L	0.000	21	26	60	13	Standard
|	**Sb**	**121**	**0.044**	ug/L	0.003	7	201	904	4	Standard
|	**Sb**	**123**	**0.039**	ug/L	0.003	6	168	660	4	Standard
|	**Ba**	**135**	**-0.001**	ug/L	0.001	65	84	78	5	Standard
⌊	**Ba**	**137**	**-0.000**	ug/L	0.001	384	154	153	8	Standard
⌈>	**Tb**	**159**		ug/L			1205564	1225241	1	Standard
|	**Tl**	**205**	**0.001**	ug/L	0.001	39	157	247	15	Standard
⌊	**Pb**	**208**	**0.001**	ug/L	0.000	30	403	467	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: C93-1 BOTTLE TEST
Sample Dil Factor:
Comments:

DEL

Sample Date/Time: Thursday, April 27, 2023 20:59:54
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			25241	351889	2	Standard
	Cl	**37**		ug/L			5384034	9074198	1	Standard
⌈>	**Sc**	**45**		ug/L			495146	551416	2	Standard
|	**Cr**	**52**	**1.215**	ug/L	0.073	5	19255	47248	1	Standard
|	**Cr**	**53**	**7.978**	ug/L	0.261	3	166	20138	1	Standard
⌊	**Mn**	**55**	**204.984**	ug/L	3.652	1	514	6652535	0	Standard
⌈>	**Ge**	**72**		ug/L			38398	34874	0	KED
|	**Ni**	**60**	**2.221**	ug/L	0.100	4	25	3183	4	KED
|	**Ni**	**62**	**2.464**	ug/L	0.087	3	1	567	3	KED
|	**Cu**	**63**	**14.785**	ug/L	0.372	2	59	59241	2	KED
|	**Cu**	**65**	**15.019**	ug/L	0.172	1	45	30350	1	KED
|	**Zn**	**66**	**97.590**	ug/L	1.930	1	76	50536	1	KED
|	**Zn**	**67**	**89.938**	ug/L	3.909	4	17	7811	4	KED
|	**As**	**75**	**1.389**	ug/L	0.086	6	2	388	5	KED
⌊	**Se**	**78**	**0.086**	ug/L	0.029	34	14	15	4	KED
	Y	**89**		ug/L			301489	291838	2	Standard
	Kr	**83**		ug/L			55	137	2	Standard
⌈>	**In-1**	**115**		ug/L			9770	8381	0	KED
|	**Mo**	**98**	**3.782**	ug/L	0.100	2	8	5025	2	KED
|	**Cd**	**111**	**0.136**	ug/L	0.042	30	4	41	27	KED
⌊	**Cd**	**114**	**0.123**	ug/L	0.015	12	4	93	11	KED
⌈>	**In**	**115**		ug/L			485826	450271	1	Standard
|	**Ag**	**107**	**0.008**	ug/L	0.001	9	26	166	7	Standard
|	**Sb**	**121**	**0.557**	ug/L	0.017	3	201	8267	3	Standard
|	**Sb**	**123**	**0.557**	ug/L	0.018	3	168	6527	4	Standard
|	**Ba**	**135**	**21.980**	ug/L	0.342	1	84	118830	0	Standard
⌊	**Ba**	**137**	**22.108**	ug/L	0.206	0	154	220768	1	Standard
⌈>	**Tb**	**159**		ug/L			1205564	1156043	1	Standard
|	**Tl**	**205**	**0.012**	ug/L	0.001	4	157	864	3	Standard
⌊	**Pb**	**208**	**0.864**	ug/L	0.017	1	403	66794	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: C93-2 BOTTLE TEST
Sample Dil Factor:
Comments:

DEL

Sample Date/Time: Thursday, April 27, 2023 21:05:59
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			25241	474407	2	Standard
	Cl	**37**		ug/L			5384034	7854616	4	Standard
⌈>	**Sc**	**45**		ug/L			495146	519223	2	Standard
|	**Cr**	**52**	**1.451**	ug/L	0.025	1	19255	49223	1	Standard
|	**Cr**	**53**	**4.317**	ug/L	0.130	3	166	10343	1	Standard
⌊	**Mn**	**55**	**161.943**	ug/L	2.508	1	514	4949352	0	Standard
⌈>	**Ge**	**72**		ug/L			38398	34657	1	KED
|	**Ni**	**60**	**1.916**	ug/L	0.010	0	25	2732	1	KED
|	**Ni**	**62**	**1.866**	ug/L	0.140	7	1	427	6	KED
|	**Cu**	**63**	**7.831**	ug/L	0.091	1	59	31206	1	KED
|	**Cu**	**65**	**7.923**	ug/L	0.212	2	45	15925	2	KED
|	**Zn**	**66**	**144.870**	ug/L	3.553	2	76	74496	0	KED
|	**Zn**	**67**	**133.867**	ug/L	0.846	0	17	11546	2	KED
|	**As**	**75**	**2.580**	ug/L	0.094	3	2	713	1	KED
⌊	**Se**	**78**	**0.026**	ug/L	0.029	114	14	14	3	KED
	Y	**89**		ug/L			301489	284463	4	Standard
	Kr	**83**		ug/L			55	69	20	Standard
⌈>	**In-1**	**115**		ug/L			9770	8132	6	KED
|	**Mo**	**98**	**4.919**	ug/L	0.250	5	8	6326	1	KED
|	**Cd**	**111**	**0.088**	ug/L	0.015	16	4	27	19	KED
⌊	**Cd**	**114**	**0.073**	ug/L	0.012	16	4	55	19	KED
⌈>	**In**	**115**		ug/L			485826	456807	2	Standard
|	**Ag**	**107**	**0.002**	ug/L	0.000	16	26	54	7	Standard
|	**Sb**	**121**	**0.141**	ug/L	0.002	1	201	2266	2	Standard
|	**Sb**	**123**	**0.138**	ug/L	0.003	1	168	1756	3	Standard
|	**Ba**	**135**	**21.576**	ug/L	0.296	1	84	118336	1	Standard
⌊	**Ba**	**137**	**21.151**	ug/L	0.024	0	154	214274	1	Standard
⌈>	**Tb**	**159**		ug/L			1205564	1130525	2	Standard
|	**Tl**	**205**	**0.005**	ug/L	0.000	3	157	455	4	Standard
⌊	**Pb**	**208**	**0.591**	ug/L	0.017	2	403	44833	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0678-08
Sample Dil Factor:
Comments:

DEL

Sample Date/Time: Thursday, April 27, 2023 21:11:17
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			25241	78906	1	Standard
	Cl	37		ug/L			5384034	6540716	3	Standard
>	Sc	45		ug/L			495146	577486	2	Standard
	Cr	52	0.416	ug/L	0.049	11	19255	31696	2	Standard
	Cr	53	1.229	ug/L	0.034	2	166	3415	3	Standard
	Mn	55	474.840	ug/L	11.606	2	514	16138128	1	Standard
>	Ge	72		ug/L			38398	34112	0	KED
	Ni	60	0.966	ug/L	0.020	2	25	1367	2	KED
	Ni	62	1.007	ug/L	0.119	11	1	227	11	KED
	Cu	63	0.542	ug/L	0.024	4	59	2176	4	KED
	Cu	65	0.553	ug/L	0.029	5	45	1130	4	KED
	Zn	66	4.426	ug/L	0.131	2	76	2306	3	KED
	Zn	67	8.073	ug/L	0.386	4	17	699	4	KED
	As	75	0.728	ug/L	0.051	7	2	200	7	KED
	Se	78	0.114	ug/L	0.113	99	14	16	17	KED
	Y	89		ug/L			301489	284873	1	Standard
	Kr	83		ug/L			55	85	3	Standard
>	In-1	115		ug/L			9770	8314	3	KED
	Mo	98	0.282	ug/L	0.031	10	8	378	10	KED
	Cd	111	0.016	ug/L	0.010	60	4	8	35	KED
	Cd	114	0.017	ug/L	0.005	31	4	16	25	KED
>	In	115		ug/L			485826	446101	1	Standard
	Ag	107	0.002	ug/L	0.001	41	26	67	25	Standard
	Sb	121	0.153	ug/L	0.002	1	201	2383	1	Standard
	Sb	123	0.155	ug/L	0.009	5	168	1910	4	Standard
	Ba	135	61.850	ug/L	1.197	1	84	331232	3	Standard
	Ba	137	60.491	ug/L	0.883	1	154	598132	0	Standard
>	Tb	159		ug/L			1205564	1133365	1	Standard
	Tl	205	0.002	ug/L	0.000	4	157	245	3	Standard
	Pb	208	0.345	ug/L	0.010	2	403	26402	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0678-09
Sample Dil Factor:
Comments:

DEL

Sample Date/Time: Thursday, April 27, 2023 21:16:12
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			25241	64134	2	Standard
	Cl	37		ug/L			5384034	6449073	3	Standard
>	Sc	45		ug/L			495146	582936	2	Standard
	Cr	52	0.252	ug/L	0.020	7	19255	28325	1	Standard
	Cr	53	1.072	ug/L	0.030	2	166	3029	2	Standard
	Mn	55	480.064	ug/L	19.130	3	514	16462516	1	Standard
>	Ge	72		ug/L			38398	33232	0	KED
	Ni	60	0.934	ug/L	0.018	1	25	1288	1	KED
	Ni	62	0.999	ug/L	0.072	7	1	220	7	KED
	Cu	63	0.427	ug/L	0.024	5	59	1682	5	KED
	Cu	65	0.423	ug/L	0.013	3	45	852	3	KED
	Zn	66	1.930	ug/L	0.144	7	76	1017	6	KED
	Zn	67	5.546	ug/L	0.413	7	17	473	7	KED
	As	75	0.538	ug/L	0.026	4	2	144	4	KED
	Se	78	0.242	ug/L	0.067	27	14	18	8	KED
	Y	89		ug/L			301489	285940	2	Standard
	Kr	83		ug/L			55	93	14	Standard
>	In-1	115		ug/L			9770	8148	0	KED
	Mo	98	0.142	ug/L	0.012	8	8	189	7	KED
	Cd	111	0.004	ug/L	0.009	239	4	4	52	KED
	Cd	114	0.004	ug/L	0.007	184	4	6	80	KED
>	In	115		ug/L			485826	443663	2	Standard
	Ag	107	0.001	ug/L	0.001	46	26	48	21	Standard
	Sb	121	0.183	ug/L	0.005	2	201	2803	3	Standard
	Sb	123	0.180	ug/L	0.009	5	168	2184	2	Standard
	Ba	135	62.916	ug/L	2.476	3	84	334906	2	Standard
	Ba	137	61.480	ug/L	1.384	2	154	604474	1	Standard
>	Tb	159		ug/L			1205564	1150068	1	Standard
	Tl	205	0.000	ug/L	0.000	56	157	168	5	Standard
	Pb	208	0.040	ug/L	0.001	3	403	3430	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0732-01
Sample Dil Factor:
Comments:

DEL

Sample Date/Time: Thursday, April 27, 2023 21:21:07
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			25241	52021	3	Standard
	Cl	**37**		ug/L			5384034	5041203	3	Standard
⌈>	**Sc**	**45**		ug/L			495146	457653	0	Standard
|	**Cr**	**52**	**0.351**	ug/L	0.032	9	19255	23980	1	Standard
|	**Cr**	**53**	**1.018**	ug/L	0.052	5	166	2268	5	Standard
⌊	**Mn**	**55**	**10.412**	ug/L	0.311	2	514	280953	2	Standard
⌈>	**Ge**	**72**		ug/L			38398	31030	0	KED
|	**Ni**	**60**	**0.749**	ug/L	0.041	5	25	968	4	KED
|	**Ni**	**62**	**0.803**	ug/L	0.016	2	1	165	1	KED
|	**Cu**	**63**	**1.321**	ug/L	0.028	2	59	4754	2	KED
|	**Cu**	**65**	**1.270**	ug/L	0.012	0	45	2317	0	KED
|	**Zn**	**66**	**2.113**	ug/L	0.047	2	76	1033	2	KED
|	**Zn**	**67**	**2.166**	ug/L	0.143	6	17	180	6	KED
|	**As**	**75**	**1.494**	ug/L	0.099	6	2	371	6	KED
⌊	**Se**	**78**	**0.567**	ug/L	0.161	28	14	25	14	KED
	Y	**89**		ug/L			301489	277800	2	Standard
	Kr	**83**		ug/L			55	64	22	Standard
⌈>	**In-1**	**115**		ug/L			9770	7568	1	KED
|	**Mo**	**98**	**11.782**	ug/L	0.098	0	8	14122	0	KED
|	**Cd**	**111**	**0.048**	ug/L	0.017	36	4	15	30	KED
⌊	**Cd**	**114**	**0.015**	ug/L	0.006	39	4	13	31	KED
⌈>	**In**	**115**		ug/L			485826	425662	3	Standard
|	**Ag**	**107**	**0.003**	ug/L	0.001	25	26	65	13	Standard
|	**Sb**	**121**	**0.765**	ug/L	0.023	2	201	10667	1	Standard
|	**Sb**	**123**	**0.757**	ug/L	0.032	4	168	8323	0	Standard
|	**Ba**	**135**	**8.079**	ug/L	0.245	3	84	41309	0	Standard
⌊	**Ba**	**137**	**8.021**	ug/L	0.213	2	154	75755	1	Standard
⌈>	**Tb**	**159**		ug/L			1205564	1137020	1	Standard
|	**Tl**	**205**	**0.062**	ug/L	0.001	1	157	3771	0	Standard
⌊	**Pb**	**208**	**0.177**	ug/L	0.004	2	403	13727	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0741-01
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 21:26:01

DEL

Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			25241	62364	3	Standard
Cl	37		ug/L			5384034	7903423	4	Standard
> Sc	45		ug/L			495146	628786	2	Standard
Cr	52	0.502	ug/L	0.023	4	19255	36617	2	Standard
Cr	53	1.880	ug/L	0.034	1	166	5576	2	Standard
Mn	55	2186.464	ug/L	24.559	1	514	80937426	2	Standard
> Ge	72		ug/L			38398	30558	0	KED
Ni	60	1.127	ug/L	0.021	1	25	1425	1	KED
Ni	62	1.078	ug/L	0.172	15	1	218	15	KED
Cu	63	0.514	ug/L	0.024	4	59	1850	4	KED
Cu	65	0.514	ug/L	0.017	3	45	944	2	KED
Zn	66	1.528	ug/L	0.063	4	76	753	3	KED
Zn	67	7.086	ug/L	0.611	8	17	551	8	KED
As	75	1.173	ug/L	0.041	3	2	287	3	KED
Se	78	0.125	ug/L	0.097	77	14	14	15	KED
Y	89		ug/L			301489	281292	2	Standard
Kr	83		ug/L			55	121	11	Standard
> In-1	115		ug/L			9770	7420	3	KED
Mo	98	0.111	ug/L	0.027	23	8	136	18	KED
Cd	111	0.008	ug/L	0.010	117	4	5	44	KED
Cd	114	0.000	ug/L	0.005	1867	4	3	92	KED
> In	115		ug/L			485826	419710	1	Standard
Ag	107	0.003	ug/L	0.001	24	26	76	17	Standard
Sb	121	0.098	ug/L	0.002	1	201	1504	1	Standard
Sb	123	0.099	ug/L	0.010	10	168	1200	9	Standard
Ba	135	97.879	ug/L	0.358	0	84	493076	1	Standard
Ba	137	95.010	ug/L	2.406	2	154	883675	1	Standard
> Tb	159		ug/L			1205564	1044391	0	Standard
Tl	205	-0.000	ug/L	0.000	201	157	133	3	Standard
Pb	208	0.422	ug/L	0.003	0	403	29678	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0699-02
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 21:31:25
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			25241	76887	2	Standard
	Cl	**37**		ug/L			5384034	4983068	3	Standard
>	**Sc**	**45**		ug/L			495146	446271	1	Standard
	Cr	**52**	**1.099**	ug/L	0.030	2	19255	36248	1	Standard
	Cr	**53**	**1.500**	ug/L	0.023	1	166	3188	2	Standard
	Mn	**55**	**1.266**	ug/L	0.013	1	514	33711	0	Standard
>	**Ge**	**72**		ug/L			38398	33314	1	KED
	Ni	**60**	**0.274**	ug/L	0.010	3	25	394	3	KED
	Ni	**62**	**0.374**	ug/L	0.045	12	1	83	12	KED
	Cu	**63**	**14.923**	ug/L	0.102	0	59	57115	0	KED
	Cu	**65**	**14.922**	ug/L	0.358	2	45	28799	1	KED
	Zn	**66**	**4.876**	ug/L	0.143	2	76	2474	1	KED
	Zn	**67**	**4.358**	ug/L	0.342	7	17	375	8	KED
	As	**75**	**0.070**	ug/L	0.015	21	2	21	19	KED
	Se	**78**	**0.190**	ug/L	0.068	36	14	17	10	KED
	Y	**89**		ug/L			301489	287922	2	Standard
	Kr	**83**		ug/L			55	59	5	Standard
>	**In-1**	**115**		ug/L			9770	7735	2	KED
	Mo	**98**	**0.677**	ug/L	0.030	4	8	835	2	KED
	Cd	**111**	**0.006**	ug/L	0.015	251	4	5	78	KED
	Cd	**114**	**-0.001**	ug/L	0.003	341	4	2	78	KED
>	**In**	**115**		ug/L			485826	451288	2	Standard
	Ag	**107**	**0.003**	ug/L	0.000	7	26	80	7	Standard
	Sb	**121**	**0.070**	ug/L	0.003	4	201	1201	4	Standard
	Sb	**123**	**0.072**	ug/L	0.007	10	168	981	9	Standard
	Ba	**135**	**0.291**	ug/L	0.003	0	84	1655	2	Standard
	Ba	**137**	**0.274**	ug/L	0.008	2	154	2882	0	Standard
>	**Tb**	**159**		ug/L			1205564	1197191	1	Standard
	Tl	**205**	**0.002**	ug/L	0.000	26	157	256	11	Standard
	Pb	**208**	**0.019**	ug/L	0.000	1	403	1941	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBL5
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 21:36:21
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			25241	30014	5	Standard
	Cl	**37**		ug/L			5384034	5191007	3	Standard
⌈>	**Sc**	**45**		ug/L			495146	457811	2	Standard
|	**Cr**	**52**	**-0.127**	ug/L	0.029	22	19255	15557	2	Standard
|	**Cr**	**53**	**0.068**	ug/L	0.015	22	166	295	12	Standard
⌊	**Mn**	**55**	**0.055**	ug/L	0.003	5	514	1960	2	Standard
⌈>	**Ge**	**72**		ug/L			38398	35634	3	KED
|	**Ni**	**60**	**0.119**	ug/L	0.010	8	25	196	6	KED
|	**Ni**	**62**	**0.158**	ug/L	0.018	11	1	38	7	KED
|	**Cu**	**63**	**0.054**	ug/L	0.003	6	59	277	6	KED
|	**Cu**	**65**	**0.043**	ug/L	0.004	8	45	130	3	KED
|	**Zn**	**66**	**0.683**	ug/L	0.030	4	76	431	3	KED
|	**Zn**	**67**	**0.751**	ug/L	0.149	19	17	82	17	KED
|	**As**	**75**	**0.006**	ug/L	0.005	80	2	4	32	KED
⌊	**Se**	**78**	**-0.057**	ug/L	0.060	105	14	12	12	KED
	Y	**89**		ug/L			301489	286127	2	Standard
	Kr	**83**		ug/L			55	71	14	Standard
⌈>	**In-1**	**115**		ug/L			9770	8359	3	KED
|	**Mo**	**98**	**-0.001**	ug/L	0.004	312	8	5	83	KED
|	**Cd**	**111**	**-0.001**	ug/L	0.007	666	4	3	56	KED
⌊	**Cd**	**114**	**0.002**	ug/L	0.004	250	4	4	63	KED
⌈>	**In**	**115**		ug/L			485826	486807	4	Standard
|	**Ag**	**107**	**0.001**	ug/L	0.001	162	26	41	58	Standard
|	**Sb**	**121**	**-0.006**	ug/L	0.001	20	201	104	19	Standard
|	**Sb**	**123**	**-0.007**	ug/L	0.001	14	168	84	11	Standard
|	**Ba**	**135**	**0.026**	ug/L	0.003	12	84	236	9	Standard
⌊	**Ba**	**137**	**0.029**	ug/L	0.001	4	154	465	3	Standard
⌈>	**Tb**	**159**		ug/L			1205564	1213468	1	Standard
|	**Tl**	**205**	**-0.000**	ug/L	0.000	217	157	146	19	Standard
⌊	**Pb**	**208**	**0.023**	ug/L	0.001	4	403	2245	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCV5
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 21:42:04
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			25241	30473	3	Standard
	Cl	**37**		ug/L			5384034	5289537	3	Standard
>	**Sc**	**45**		ug/L			495146	471381	1	Standard
	Cr	**52**	**47.744**	ug/L	1.037	2	19255	885798	3	Standard
	Cr	**53**	**48.007**	ug/L	0.803	1	166	102859	2	Standard
	Mn	**55**	**48.011**	ug/L	0.707	1	514	1332797	2	Standard
>	**Ge**	**72**		ug/L			38398	36242	0	KED
	Ni	**60**	**51.925**	ug/L	0.689	1	25	76805	0	KED
	Ni	**62**	**51.321**	ug/L	1.475	2	1	12250	2	KED
	Cu	**63**	**51.736**	ug/L	0.466	0	59	215293	1	KED
	Cu	**65**	**52.335**	ug/L	0.450	0	45	109796	0	KED
	Zn	**66**	**52.285**	ug/L	1.121	2	76	28172	2	KED
	Zn	**67**	**52.201**	ug/L	1.841	3	17	4718	3	KED
	As	**75**	**50.553**	ug/L	0.141	0	2	14584	0	KED
	Se	**78**	**49.083**	ug/L	1.150	2	14	1325	1	KED
	Y	**89**		ug/L			301489	288619	1	Standard
	Kr	**83**		ug/L			55	71	20	Standard
>	**In-1**	**115**		ug/L			9770	8451	1	KED
	Mo	**98**	**52.312**	ug/L	1.773	3	8	69978	1	KED
	Cd	**111**	**52.897**	ug/L	1.496	2	4	14903	1	KED
	Cd	**114**	**51.829**	ug/L	1.814	3	4	38310	2	KED
>	**In**	**115**		ug/L			485826	486068	1	Standard
	Ag	**107**	**47.228**	ug/L	0.750	1	26	907680	0	Standard
	Sb	**121**	**50.907**	ug/L	0.430	0	201	797776	0	Standard
	Sb	**123**	**51.107**	ug/L	0.250	0	168	630949	1	Standard
	Ba	**135**	**51.666**	ug/L	1.281	2	84	301395	1	Standard
	Ba	**137**	**51.098**	ug/L	0.810	1	154	550666	2	Standard
>	**Tb**	**159**		ug/L			1205564	1206401	1	Standard
	Tl	**205**	**55.612**	ug/L	0.787	1	157	3451516	2	Standard
	Pb	**208**	**54.940**	ug/L	0.762	1	403	4408829	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCB5
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 21:49:43
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			25241	28200	1	Standard
	Cl	**37**		ug/L			5384034	5295136	2	Standard
⌈>	**Sc**	**45**		ug/L			495146	458783	2	Standard
|	**Cr**	**52**	**-0.110**	ug/L	0.010	9	19255	15901	1	Standard
|	**Cr**	**53**	**0.015**	ug/L	0.005	34	166	184	3	Standard
⌊	**Mn**	**55**	**0.011**	ug/L	0.001	11	514	762	2	Standard
⌈>	**Ge**	**72**		ug/L			38398	36593	2	KED
|	**Ni**	**60**	**0.040**	ug/L	0.004	11	25	84	9	KED
|	**Ni**	**62**	**0.051**	ug/L	0.033	65	1	13	55	KED
|	**Cu**	**63**	**0.003**	ug/L	0.001	33	59	70	4	KED
|	**Cu**	**65**	**-0.000**	ug/L	0.001	407	45	42	5	KED
|	**Zn**	**66**	**-0.014**	ug/L	0.015	106	76	64	10	KED
|	**Zn**	**67**	**-0.040**	ug/L	0.029	72	17	12	22	KED
|	**As**	**75**	**0.008**	ug/L	0.009	108	2	5	51	KED
⌊	**Se**	**78**	**-0.028**	ug/L	0.084	303	14	13	19	KED
	Y	**89**		ug/L			301489	288022	3	Standard
	Kr	**83**		ug/L			55	74	10	Standard
⌈>	**In-1**	**115**		ug/L			9770	8928	2	KED
|	**Mo**	**98**	**0.008**	ug/L	0.008	93	8	19	54	KED
|	**Cd**	**111**	**-0.001**	ug/L	0.000	38	4	3	0	KED
⌊	**Cd**	**114**	**0.001**	ug/L	0.004	286	4	4	58	KED
⌈>	**In**	**115**		ug/L			485826	482240	1	Standard
|	**Ag**	**107**	**0.001**	ug/L	0.000	14	26	48	8	Standard
|	**Sb**	**121**	**0.041**	ug/L	0.001	2	201	837	0	Standard
|	**Sb**	**123**	**0.042**	ug/L	0.002	4	168	685	3	Standard
|	**Ba**	**135**	**0.002**	ug/L	0.002	135	84	93	12	Standard
⌊	**Ba**	**137**	**0.001**	ug/L	0.001	78	154	160	3	Standard
⌈>	**Tb**	**159**		ug/L			1205564	1201037	2	Standard
|	**Tl**	**205**	**0.001**	ug/L	0.000	33	157	241	10	Standard
⌊	**Pb**	**208**	**0.002**	ug/L	0.001	60	403	544	15	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL1
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 22:05:07
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L				26020	0	Standard
	Cl	**37**		ug/L				5354462	1	Standard
⌈>	**Sc**	**45**		ug/L				474891	0	Standard
|	**Cr**	**52**		ug/L				16718	3	Standard
⌊	**Cr**	**53**		ug/L				209	3	Standard
⌈>	**Ge**	**72**		ug/L				34387	7	KED
|	**Ni**	**60**		ug/L				146	16	KED
|	**Ni**	**62**		ug/L				34	24	KED
|	**Cu**	**63**		ug/L				114	3	KED
|	**Cu**	**65**		ug/L				56	5	KED
|	**Zn**	**66**		ug/L				76	25	KED
|	**Zn**	**67**		ug/L				13	34	KED
⌊	**As**	**75**		ug/L				6	11	KED
	Y	**89**		ug/L				289124	1	Standard
	Kr	**83**		ug/L				80	14	Standard
⌈>	**In-1**	**115**		ug/L				9102	0	KED
|	**Cd**	**111**		ug/L				3	68	KED
⌊	**Cd**	**114**		ug/L				3	76	KED
⌈>	**In**	**115**		ug/L				483935	2	Standard
⌊	**Ag**	**107**		ug/L				106	17	Standard
⌈>	**Tb**	**159**		ug/L				1215870	1	Standard
⌊	**Pb**	**208**		ug/L				593	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCV6
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 22:09:33
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26020	31248	0	Standard
	Cl	**37**		ug/L			5354462	5583700	2	Standard
⌈>	**Sc**	**45**		ug/L			474891	488894	1	Standard
|	**Cr**	**52**	**49.777**	ug/L	1.546	3	16718	954685	1	Standard
⌊	**Cr**	**53**	**49.292**	ug/L	0.800	1	209	109555	0	Standard
⌈>	**Ge**	**72**		ug/L			34387	37126	0	KED
|	**Ni**	**60**	**51.468**	ug/L	0.217	0	146	78119	0	KED
|	**Ni**	**62**	**50.924**	ug/L	0.950	1	34	12488	2	KED
|	**Cu**	**63**	**50.950**	ug/L	0.682	1	114	217244	1	KED
|	**Cu**	**65**	**51.166**	ug/L	0.194	0	56	109984	1	KED
|	**Zn**	**66**	**51.097**	ug/L	0.624	1	76	28213	1	KED
|	**Zn**	**67**	**51.231**	ug/L	1.534	2	13	4743	3	KED
⌊	**As**	**75**	**49.924**	ug/L	0.532	1	6	14757	0	KED
	Y	**89**		ug/L			289124	286806	0	Standard
	Kr	**83**		ug/L			80	56	19	Standard
⌈>	**In-1**	**115**		ug/L			9102	8510	1	KED
|	**Cd**	**111**	**52.471**	ug/L	1.586	3	3	14884	1	KED
⌊	**Cd**	**114**	**52.452**	ug/L	1.552	2	3	39038	1	KED
⌈>	**In**	**115**		ug/L			483935	488072	2	Standard
⌊	**Ag**	**107**	**48.040**	ug/L	1.494	3	106	926830	0	Standard
⌈>	**Tb**	**159**		ug/L			1215870	1222863	0	Standard
⌊	**Pb**	**208**	**53.075**	ug/L	0.864	1	593	4317825	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCB6
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 22:16:43
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26020	27098	1	Standard
	Cl	**37**		ug/L			5354462	5501217	3	Standard
⌈>	**Sc**	**45**		ug/L			474891	482710	1	Standard
|	**Cr**	**52**	**0.002**	ug/L	0.013	700	16718	17030	2	Standard
⌊	**Cr**	**53**	**-0.004**	ug/L	0.029	818	209	205	32	Standard
⌈>	**Ge**	**72**		ug/L			34387	37464	1	KED
|	**Ni**	**60**	**-0.015**	ug/L	0.010	63	146	135	11	KED
|	**Ni**	**62**	**-0.057**	ug/L	0.023	40	34	24	24	KED
|	**Cu**	**63**	**-0.004**	ug/L	0.012	308	114	107	50	KED
|	**Cu**	**65**	**-0.007**	ug/L	0.011	162	56	46	52	KED
|	**Zn**	**66**	**-0.049**	ug/L	0.022	45	76	55	23	KED
|	**Zn**	**67**	**-0.041**	ug/L	0.054	133	13	11	44	KED
⌊	**As**	**75**	**-0.003**	ug/L	0.008	253	6	6	38	KED
	Y	**89**		ug/L			289124	289893	1	Standard
	Kr	**83**		ug/L			80	54	16	Standard
⌈>	**In-1**	**115**		ug/L			9102	8925	3	KED
|	**Cd**	**111**	**0.010**	ug/L	0.006	62	3	6	31	KED
⌊	**Cd**	**114**	**0.001**	ug/L	0.002	122	3	4	22	KED
⌈>	**In**	**115**		ug/L			483935	480315	0	Standard
⌊	**Ag**	**107**	**0.020**	ug/L	0.016	80	106	490	63	Standard
⌈>	**Tb**	**159**		ug/L			1215870	1194010	2	Standard
⌊	**Pb**	**208**	**0.012**	ug/L	0.022	185	593	1535	115	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0295-08
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, April 27, 2023 22:22:56
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26020	55099	2	Standard
	Cl	**37**		ug/L			5354462	5300027	1	Standard
⌈>	**Sc**	**45**		ug/L			474891	554971	1	Standard
|	**Cr**	**52**	**9.139**	ug/L	0.198	2	16718	214934	0	Standard
⌊	**Cr**	**53**	**8.940**	ug/L	0.162	1	209	22755	0	Standard
⌈>	**Ge**	**72**		ug/L			34387	38049	0	KED
|	**Ni**	**60**	**7.108**	ug/L	0.062	0	146	11196	1	KED
|	**Ni**	**62**	**7.339**	ug/L	0.112	1	34	1877	1	KED
|	**Cu**	**63**	**9.924**	ug/L	0.186	1	114	43473	2	KED
|	**Cu**	**65**	**10.003**	ug/L	0.190	1	56	22086	1	KED
|	**Zn**	**66**	**24.139**	ug/L	0.118	0	76	13703	0	KED
|	**Zn**	**67**	**23.308**	ug/L	0.664	2	13	2219	3	KED
⌊	**As**	**75**	**3.794**	ug/L	0.139	3	6	1155	3	KED
	Y	**89**		ug/L			289124	455668	1	Standard
	Kr	**83**		ug/L			80	66	12	Standard
⌈>	**In-1**	**115**		ug/L			9102	9152	1	KED
|	**Cd**	**111**	**0.037**	ug/L	0.001	2	3	14	3	KED
⌊	**Cd**	**114**	**0.043**	ug/L	0.009	21	3	38	20	KED
⌈>	**In**	**115**		ug/L			483935	494943	3	Standard
⌊	**Ag**	**107**	**0.029**	ug/L	0.002	8	106	666	6	Standard
⌈>	**Tb**	**159**		ug/L			1215870	1254248	2	Standard
⌊	**Pb**	**208**	**9.220**	ug/L	0.154	1	593	769618	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0774-02
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, April 27, 2023 22:29:11
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			26020	59818	5	Standard
Cl	37		ug/L			5354462	5150680	3	Standard
> Sc	45		ug/L			474891	613581	6	Standard
Cr	52	13.651	ug/L	0.553	4	16718	343834	2	Standard
Cr	53	13.384	ug/L	0.731	5	209	37453	1	Standard
> Ge	72		ug/L			34387	36816	1	KED
Ni	60	14.766	ug/L	0.514	3	146	22332	2	KED
Ni	62	14.516	ug/L	0.158	1	34	3557	2	KED
Cu	63	28.468	ug/L	0.307	1	114	120424	0	KED
Cu	65	28.805	ug/L	0.297	1	56	61427	1	KED
Zn	66	60.858	ug/L	0.452	0	76	33306	1	KED
Zn	67	59.861	ug/L	1.224	2	13	5491	1	KED
As	75	6.370	ug/L	0.056	0	6	1873	0	KED
Y	89		ug/L			289124	570390	3	Standard
Kr	83		ug/L			80	93	10	Standard
> In-1	115		ug/L			9102	8841	1	KED
Cd	111	0.185	ug/L	0.007	3	3	57	2	KED
Cd	114	0.178	ug/L	0.027	14	3	141	13	KED
> In	115		ug/L			483935	462866	10	Standard
Ag	107	0.129	ug/L	0.011	8	106	2445	2	Standard
> Tb	159		ug/L			1215870	1161909	5	Standard
Pb	208	12.486	ug/L	0.739	5	593	963419	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0774-03
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, April 27, 2023 22:34:56
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			26020	60188	2	Standard
Cl	37		ug/L			5354462	5217808	2	Standard
Sc	45		ug/L			474891	633545	2	Standard
Cr	52	14.127	ug/L	0.225	1	16718	367254	3	Standard
Cr	53	14.144	ug/L	0.069	0	209	40947	2	Standard
Ge	72		ug/L			34387	36811	2	KED
Ni	60	15.795	ug/L	0.216	1	146	23874	1	KED
Ni	62	15.793	ug/L	0.077	0	34	3865	2	KED
Cu	63	33.069	ug/L	0.890	2	114	139798	0	KED
Cu	65	32.589	ug/L	0.594	1	56	69460	1	KED
Zn	66	63.271	ug/L	0.972	1	76	34611	1	KED
Zn	67	62.211	ug/L	0.554	0	13	5706	2	KED
As	75	6.789	ug/L	0.093	1	6	1995	1	KED
Y	89		ug/L			289124	587501	5	Standard
Kr	83		ug/L			80	101	1	Standard
In-1	115		ug/L			9102	8778	0	KED
Cd	111	0.203	ug/L	0.047	23	3	62	22	KED
Cd	114	0.191	ug/L	0.012	6	3	150	5	KED
In	115		ug/L			483935	481530	3	Standard
Ag	107	0.140	ug/L	0.011	7	106	2780	9	Standard
Tb	159		ug/L			1215870	1203948	2	Standard
Pb	208	13.728	ug/L	0.134	0	593	1099884	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0774-04
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, April 27, 2023 22:40:02
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			26020	66696	5	Standard
Cl	37		ug/L			5354462	5181847	2	Standard
> Sc	45		ug/L			474891	636324	1	Standard
Cr	52	14.556	ug/L	0.141	0	16718	379346	1	Standard
Cr	53	14.396	ug/L	0.157	1	209	41848	0	Standard
> Ge	72		ug/L			34387	37345	1	KED
Ni	60	14.609	ug/L	0.260	1	146	22420	2	KED
Ni	62	14.671	ug/L	0.423	2	34	3645	1	KED
Cu	63	38.371	ug/L	0.583	1	114	164607	1	KED
Cu	65	38.311	ug/L	1.092	2	56	82839	2	KED
Zn	66	71.381	ug/L	0.740	1	76	39609	0	KED
Zn	67	67.855	ug/L	1.471	2	13	6312	1	KED
As	75	7.763	ug/L	0.117	1	6	2314	0	KED
Y	89		ug/L			289124	579604	0	Standard
Kr	83		ug/L			80	97	7	Standard
> In-1	115		ug/L			9102	8703	2	KED
Cd	111	0.225	ug/L	0.015	6	3	68	3	KED
Cd	114	0.227	ug/L	0.052	22	3	176	21	KED
> In	115		ug/L			483935	486705	2	Standard
Ag	107	0.180	ug/L	0.010	5	106	3568	3	Standard
> Tb	159		ug/L			1215870	1236350	1	Standard
Pb	208	18.806	ug/L	0.400	2	593	1546872	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0774-01
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, April 27, 2023 22:44:28
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			26020	63424	4	Standard
Cl	37		ug/L			5354462	5124918	2	Standard
> Sc	45		ug/L			474891	613320	3	Standard
Cr	52	13.347	ug/L	0.215	1	16718	337103	4	Standard
Cr	53	13.137	ug/L	0.074	0	209	36832	3	Standard
> Ge	72		ug/L			34387	37540	0	KED
Ni	60	14.132	ug/L	0.141	0	146	21805	1	KED
Ni	62	14.272	ug/L	0.436	3	34	3566	3	KED
Cu	63	28.865	ug/L	0.454	1	114	124510	1	KED
Cu	65	29.262	ug/L	0.713	2	56	63627	2	KED
Zn	66	59.732	ug/L	0.751	1	76	33333	0	KED
Zn	67	59.071	ug/L	1.641	2	13	5526	2	KED
As	75	6.838	ug/L	0.095	1	6	2050	1	KED
Y	89		ug/L			289124	549543	5	Standard
Kr	83		ug/L			80	90	2	Standard
> In-1	115		ug/L			9102	7146	25	KED
Cd	111	0.225	ug/L	0.077	34	3	53	11	KED
Cd	114	0.244	ug/L	0.081	33	3	146	4	KED
> In	115		ug/L			483935	466975	5	Standard
Ag	107	0.154	ug/L	0.002	1	106	2945	5	Standard
> Tb	159		ug/L			1215870	1206526	2	Standard
Pb	208	12.270	ug/L	0.274	2	593	985604	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0365-DUP1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, April 27, 2023 22:48:53
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			26020	64094	1	Standard
Cl	37		ug/L			5354462	5051319	2	Standard
> Sc	45		ug/L			474891	620819	0	Standard
Cr	52	14.227	ug/L	0.259	1	16718	362218	1	Standard
Cr	53	13.980	ug/L	0.338	2	209	39659	2	Standard
> Ge	72		ug/L			34387	36725	0	KED
Ni	60	14.622	ug/L	0.298	2	146	22067	2	KED
Ni	62	14.580	ug/L	0.339	2	34	3562	1	KED
Cu	63	29.935	ug/L	0.090	0	114	126318	0	KED
Cu	65	30.214	ug/L	0.324	1	56	64272	1	KED
Zn	66	62.651	ug/L	2.091	3	76	34193	2	KED
Zn	67	61.809	ug/L	0.658	1	13	5656	0	KED
As	75	6.599	ug/L	0.136	2	6	1935	1	KED
Y	89		ug/L			289124	582555	0	Standard
Kr	83		ug/L			80	102	21	Standard
> In-1	115		ug/L			9102	8603	1	KED
Cd	111	0.198	ug/L	0.031	15	3	60	12	KED
Cd	114	0.210	ug/L	0.042	19	3	161	18	KED
> In	115		ug/L			483935	476901	3	Standard
Ag	107	0.126	ug/L	0.007	5	106	2485	4	Standard
> Tb	159		ug/L			1215870	1220840	0	Standard
Pb	208	12.800	ug/L	0.224	1	593	1039969	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0365-MS1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, April 27, 2023 22:53:19
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26020	59554	0	Standard
	Cl	37		ug/L			5354462	5039249	0	Standard
>	Sc	45		ug/L			474891	572945	6	Standard
	Cr	52	33.098	ug/L	1.741	5	16718	749198	2	Standard
	Cr	53	32.721	ug/L	1.591	4	209	85139	2	Standard
>	Ge	72		ug/L			34387	36355	0	KED
	Ni	60	39.045	ug/L	0.701	1	146	58072	1	KED
	Ni	62	40.015	ug/L	0.562	1	34	9617	1	KED
	Cu	63	53.975	ug/L	0.556	1	114	225370	1	KED
	Cu	65	53.175	ug/L	1.105	2	56	111923	1	KED
	Zn	66	137.561	ug/L	0.631	0	76	74239	0	KED
	Zn	67	131.587	ug/L	2.598	1	13	11904	1	KED
	As	75	30.459	ug/L	0.329	1	6	8819	1	KED
	Y	89		ug/L			289124	511256	4	Standard
	Kr	83		ug/L			80	105	15	Standard
>	In-1	115		ug/L			9102	8481	1	KED
	Cd	111	25.287	ug/L	0.512	2	3	7151	1	KED
	Cd	114	24.632	ug/L	1.069	4	3	18274	3	KED
>	In	115		ug/L			483935	449515	8	Standard
	Ag	107	21.692	ug/L	1.043	4	106	384723	4	Standard
>	Tb	159		ug/L			1215870	1136686	7	Standard
	Pb	208	39.330	ug/L	2.129	5	593	2966621	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0365-MSD1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, April 27, 2023 22:57:45
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			26020	55835	2	Standard
Cl	37		ug/L			5354462	5053592	2	Standard
> Sc	45		ug/L			474891	609940	1	Standard
Cr	52	32.465	ug/L	0.226	0	16718	784592	1	Standard
Cr	53	32.689	ug/L	0.190	0	209	90755	1	Standard
> Ge	72		ug/L			34387	36173	0	KED
Ni	60	40.167	ug/L	0.352	0	146	59436	0	KED
Ni	62	39.629	ug/L	1.135	2	34	9476	2	KED
Cu	63	53.956	ug/L	1.134	2	114	224143	1	KED
Cu	65	54.584	ug/L	0.671	1	56	114310	0	KED
Zn	66	140.471	ug/L	1.376	0	76	75425	0	KED
Zn	67	135.476	ug/L	1.463	1	13	12195	1	KED
As	75	30.482	ug/L	0.270	0	6	8781	0	KED
Y	89		ug/L			289124	558330	2	Standard
Kr	83		ug/L			80	114	8	Standard
> In-1	115		ug/L			9102	8495	0	KED
Cd	111	25.054	ug/L	0.369	1	3	7099	1	KED
Cd	114	24.568	ug/L	0.149	0	3	18262	0	KED
> In	115		ug/L			483935	480160	0	Standard
Ag	107	15.700	ug/L	0.101	0	106	298205	0	Standard
> Tb	159		ug/L			1215870	1199894	0	Standard
Pb	208	38.272	ug/L	0.253	0	593	3055196	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0365-PS1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, April 27, 2023 23:02:10
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26020	64295	1	Standard
	Cl	37		ug/L			5354462	5102524	3	Standard
>	Sc	45		ug/L			474891	605116	2	Standard
	Cr	52	32.761	ug/L	0.935	2	16718	784977	1	Standard
	Cr	53	32.681	ug/L	0.813	2	209	89977	0	Standard
>	Ge	72		ug/L			34387	35711	1	KED
	Ni	60	40.311	ug/L	0.839	2	146	58875	0	KED
	Ni	62	40.177	ug/L	0.865	2	34	9483	1	KED
	Cu	63	55.655	ug/L	0.652	1	114	228238	0	KED
	Cu	65	55.446	ug/L	1.161	2	56	114615	1	KED
	Zn	66	138.792	ug/L	0.957	0	76	73572	1	KED
	Zn	67	133.316	ug/L	5.004	3	13	11843	2	KED
	As	75	31.439	ug/L	0.639	2	6	8940	0	KED
	Y	89		ug/L			289124	545227	1	Standard
	Kr	83		ug/L			80	112	8	Standard
>	In-1	115		ug/L			9102	8257	0	KED
	Cd	111	25.383	ug/L	0.194	0	3	6990	0	KED
	Cd	114	25.526	ug/L	0.396	1	3	18440	0	KED
>	In	115		ug/L			483935	475572	0	Standard
	Ag	107	24.100	ug/L	0.143	0	106	453318	0	Standard
>	Tb	159		ug/L			1215870	1201378	1	Standard
	Pb	208	37.661	ug/L	0.928	2	593	3009665	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBL7
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 23:06:37
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26020	29555	1	Standard
	Cl	**37**		ug/L			5354462	5012101	4	Standard
⌈>	**Sc**	**45**		ug/L			474891	473315	0	Standard
|	**Cr**	**52**	**0.019**	ug/L	0.075	404	16718	16995	7	Standard
⌊	**Cr**	**53**	**0.010**	ug/L	0.060	576	209	230	54	Standard
⌈>	**Ge**	**72**		ug/L			34387	35740	0	KED
|	**Ni**	**60**	**-0.010**	ug/L	0.020	210	146	137	20	KED
|	**Ni**	**62**	**-0.060**	ug/L	0.020	33	34	22	21	KED
|	**Cu**	**63**	**-0.003**	ug/L	0.001	36	114	106	4	KED
|	**Cu**	**65**	**-0.001**	ug/L	0.001	53	56	55	1	KED
|	**Zn**	**66**	**0.164**	ug/L	0.021	12	76	166	6	KED
|	**Zn**	**67**	**0.143**	ug/L	0.100	69	13	27	32	KED
⌊	**As**	**75**	**-0.011**	ug/L	0.001	8	6	3	7	KED
	Y	**89**		ug/L			289124	278672	2	Standard
	Kr	**83**		ug/L			80	71	12	Standard
⌈>	**In-1**	**115**		ug/L			9102	6583	27	KED
|	**Cd**	**111**	**0.016**	ug/L	0.031	196	3	4	91	KED
⌊	**Cd**	**114**	**0.002**	ug/L	0.002	115	3	3	2	KED
⌈>	**In**	**115**		ug/L			483935	479155	2	Standard
⌊	**Ag**	**107**	**0.026**	ug/L	0.041	153	106	615	127	Standard
⌈>	**Tb**	**159**		ug/L			1215870	1175714	1	Standard
⌊	**Pb**	**208**	**0.042**	ug/L	0.066	156	593	3834	132	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCV7
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 23:11:03
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26020	30033	1	Standard
	Cl	**37**		ug/L			5354462	5406692	1	Standard
⌈>	**Sc**	**45**		ug/L			474891	480313	1	Standard
|	**Cr**	**52**	**49.908**	ug/L	0.325	0	16718	940739	1	Standard
⌊	**Cr**	**53**	**48.543**	ug/L	0.156	0	209	106018	0	Standard
⌈>	**Ge**	**72**		ug/L			34387	36149	2	KED
|	**Ni**	**60**	**51.323**	ug/L	1.546	3	146	75809	0	KED
|	**Ni**	**62**	**51.166**	ug/L	2.415	4	34	12207	2	KED
|	**Cu**	**63**	**51.730**	ug/L	0.612	1	114	214730	1	KED
|	**Cu**	**65**	**51.395**	ug/L	1.290	2	56	107521	1	KED
|	**Zn**	**66**	**51.008**	ug/L	1.987	3	76	27402	1	KED
|	**Zn**	**67**	**50.921**	ug/L	1.303	2	13	4589	3	KED
⌊	**As**	**75**	**50.056**	ug/L	1.029	2	6	14402	0	KED
	Y	**89**		ug/L			289124	284971	1	Standard
	Kr	**83**		ug/L			80	83	16	Standard
⌈>	**In-1**	**115**		ug/L			9102	8480	0	KED
|	**Cd**	**111**	**51.976**	ug/L	0.071	0	3	14697	0	KED
⌊	**Cd**	**114**	**49.833**	ug/L	0.253	0	3	36972	0	KED
⌈>	**In**	**115**		ug/L			483935	468623	0	Standard
⌊	**Ag**	**107**	**48.449**	ug/L	2.254	4	106	897735	4	Standard
⌈>	**Tb**	**159**		ug/L			1215870	1194156	0	Standard
⌊	**Pb**	**208**	**51.689**	ug/L	1.360	2	593	4106517	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCB7
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, April 27, 2023 23:18:13
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26020	27211	2	Standard
	Cl	**37**		ug/L			5354462	5263540	1	Standard
⌈>	**Sc**	**45**		ug/L			474891	471142	1	Standard
|	**Cr**	**52**	**0.019**	ug/L	0.054	281	16718	16923	4	Standard
⌊	**Cr**	**53**	**-0.015**	ug/L	0.019	126	209	174	22	Standard
⌈>	**Ge**	**72**		ug/L			34387	35349	2	KED
|	**Ni**	**60**	**-0.008**	ug/L	0.008	92	146	137	6	KED
|	**Ni**	**62**	**-0.042**	ug/L	0.029	67	34	26	25	KED
|	**Cu**	**63**	**-0.015**	ug/L	0.002	11	114	55	13	KED
|	**Cu**	**65**	**-0.014**	ug/L	0.006	39	56	29	37	KED
|	**Zn**	**66**	**-0.056**	ug/L	0.010	16	76	48	11	KED
|	**Zn**	**67**	**-0.033**	ug/L	0.024	73	13	11	16	KED
⌊	**As**	**75**	**-0.001**	ug/L	0.009	708	6	6	40	KED
	Y	**89**		ug/L			289124	282893	1	Standard
	Kr	**83**		ug/L			80	54	5	Standard
⌈>	**In-1**	**115**		ug/L			9102	8593	2	KED
|	**Cd**	**111**	**0.002**	ug/L	0.012	719	3	3	90	KED
⌊	**Cd**	**114**	**-0.003**	ug/L	0.002	90	3	1	116	KED
⌈>	**In**	**115**		ug/L			483935	483377	1	Standard
⌊	**Ag**	**107**	**0.013**	ug/L	0.011	88	106	354	63	Standard
⌈>	**Tb**	**159**		ug/L			1215870	1186069	0	Standard
⌊	**Pb**	**208**	**0.005**	ug/L	0.010	208	593	958	82	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0394-BLK1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, April 27, 2023 23:22:39
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26020	42023	1	Standard
	Cl	37		ug/L			5354462	5125459	1	Standard
⌈>	Sc	45		ug/L			474891	488422	1	Standard
|	Cr	52	0.026	ug/L	0.041	159	16718	17672	2	Standard
⌊	Cr	53	-0.030	ug/L	0.002	6	209	149	2	Standard
⌈>	Ge	72		ug/L			34387	35873	0	KED
|	Ni	60	-0.044	ug/L	0.003	7	146	87	5	KED
|	Ni	62	-0.100	ug/L	0.026	25	34	12	48	KED
|	Cu	63	0.291	ug/L	0.014	4	114	1318	3	KED
|	Cu	65	0.295	ug/L	0.022	7	56	671	7	KED
|	Zn	66	0.011	ug/L	0.039	367	76	85	23	KED
|	Zn	67	0.007	ug/L	0.021	280	13	15	12	KED
⌊	As	75	-0.010	ug/L	0.003	25	6	3	19	KED
	Y	89		ug/L			289124	279350	2	Standard
	Kr	83		ug/L			80	50	22	Standard
⌈>	In-1	115		ug/L			9102	8511	0	KED
|	Cd	111	0.004	ug/L	0.004	91	3	4	24	KED
⌊	Cd	114	0.003	ug/L	0.005	198	3	5	68	KED
⌈>	In	115		ug/L			483935	480748	1	Standard
⌊	Ag	107	0.001	ug/L	0.001	95	106	125	13	Standard
⌈>	Tb	159		ug/L			1215870	1193884	1	Standard
⌊	Pb	208	-0.002	ug/L	0.000	6	593	427	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0394-BS1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, April 27, 2023 23:27:04
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26020	34789	1	Standard
	Cl	37		ug/L			5354462	5267253	2	Standard
>	Sc	45		ug/L			474891	488381	0	Standard
	Cr	52	28.658	ug/L	0.332	1	16718	556548	1	Standard
	Cr	53	27.741	ug/L	0.527	1	209	61702	2	Standard
>	Ge	72		ug/L			34387	36533	1	KED
	Ni	60	25.198	ug/L	0.213	0	146	37715	1	KED
	Ni	62	25.858	ug/L	0.729	2	34	6257	2	KED
	Cu	63	26.321	ug/L	0.294	1	114	110507	1	KED
	Cu	65	26.763	ug/L	0.313	1	56	56637	1	KED
	Zn	66	77.529	ug/L	1.357	1	76	42084	2	KED
	Zn	67	74.181	ug/L	0.611	0	13	6750	1	KED
	As	75	23.499	ug/L	0.086	0	6	6839	0	KED
	Y	89		ug/L			289124	290550	0	Standard
	Kr	83		ug/L			80	67	19	Standard
>	In-1	115		ug/L			9102	8352	1	KED
	Cd	111	26.600	ug/L	0.232	0	3	7408	1	KED
	Cd	114	26.486	ug/L	0.366	1	3	19352	1	KED
>	In	115		ug/L			483935	480893	0	Standard
	Ag	107	28.010	ug/L	0.525	1	106	532678	0	Standard
>	Tb	159		ug/L			1215870	1213724	0	Standard
	Pb	208	28.735	ug/L	0.234	0	593	2320471	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0774-05
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, April 27, 2023 23:31:30
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			26020	62168	1	Standard
Cl	37		ug/L			5354462	5049185	2	Standard
> Sc	45		ug/L			474891	620918	2	Standard
Cr	52	12.854	ug/L	0.467	3	16718	329289	2	Standard
Cr	53	12.957	ug/L	0.159	1	209	36774	1	Standard
> Ge	72		ug/L			34387	36402	1	KED
Ni	60	14.073	ug/L	0.105	0	146	21057	1	KED
Ni	62	13.986	ug/L	0.292	2	34	3389	2	KED
Cu	63	30.915	ug/L	0.232	0	114	129296	0	KED
Cu	65	31.050	ug/L	0.443	1	56	65467	2	KED
Zn	66	58.128	ug/L	0.327	0	76	31456	0	KED
Zn	67	55.703	ug/L	1.272	2	13	5054	2	KED
As	75	6.656	ug/L	0.063	0	6	1935	1	KED
Y	89		ug/L			289124	570898	0	Standard
Kr	83		ug/L			80	109	10	Standard
> In-1	115		ug/L			9102	8442	2	KED
Cd	111	0.187	ug/L	0.013	7	3	55	4	KED
Cd	114	0.175	ug/L	0.008	4	3	132	3	KED
> In	115		ug/L			483935	469126	0	Standard
Ag	107	0.144	ug/L	0.005	3	106	2774	2	Standard
> Tb	159		ug/L			1215870	1185646	1	Standard
Pb	208	13.092	ug/L	0.315	2	593	1032863	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0774-06
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, April 27, 2023 23:35:55
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			26020	60242	0	Standard
Cl	37		ug/L			5354462	5078176	3	Standard
> Sc	45		ug/L			474891	621011	0	Standard
Cr	52	13.135	ug/L	0.029	0	16718	336205	0	Standard
Cr	53	13.006	ug/L	0.252	1	209	36928	2	Standard
> Ge	72		ug/L			34387	35268	1	KED
Ni	60	14.451	ug/L	0.330	2	146	20939	0	KED
Ni	62	14.642	ug/L	0.510	3	34	3435	2	KED
Cu	63	29.539	ug/L	0.784	2	114	119665	0	KED
Cu	65	29.456	ug/L	0.573	1	56	60161	1	KED
Zn	66	56.235	ug/L	0.707	1	76	29492	3	KED
Zn	67	55.201	ug/L	1.427	2	13	4851	1	KED
As	75	5.999	ug/L	0.222	3	6	1689	1	KED
Y	89		ug/L			289124	555563	1	Standard
Kr	83		ug/L			80	98	11	Standard
> In-1	115		ug/L			9102	8621	0	KED
Cd	111	0.233	ug/L	0.024	10	3	70	9	KED
Cd	114	0.235	ug/L	0.015	6	3	180	6	KED
> In	115		ug/L			483935	465337	1	Standard
Ag	107	0.119	ug/L	0.005	4	106	2283	2	Standard
> Tb	159		ug/L			1215870	1205291	1	Standard
Pb	208	11.285	ug/L	0.244	2	593	905191	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0774-07
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, April 27, 2023 23:40:21
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			26020	56584	1	Standard
Cl	37		ug/L			5354462	5016397	2	Standard
> Sc	45		ug/L			474891	634489	0	Standard
Cr	52	13.186	ug/L	0.361	2	16718	344762	2	Standard
Cr	53	12.932	ug/L	0.236	1	209	37516	2	Standard
> Ge	72		ug/L			34387	36484	1	KED
Ni	60	15.033	ug/L	0.254	1	146	22530	0	KED
Ni	62	14.538	ug/L	0.267	1	34	3530	3	KED
Cu	63	28.492	ug/L	0.648	2	114	119421	1	KED
Cu	65	29.174	ug/L	0.431	1	56	61643	0	KED
Zn	66	57.245	ug/L	1.089	1	76	31046	0	KED
Zn	67	55.639	ug/L	1.014	1	13	5059	0	KED
As	75	6.241	ug/L	0.133	2	6	1819	2	KED
Y	89		ug/L			289124	595462	1	Standard
Kr	83		ug/L			80	118	24	Standard
> In-1	115		ug/L			9102	8304	0	KED
Cd	111	0.186	ug/L	0.054	28	3	54	27	KED
Cd	114	0.180	ug/L	0.016	8	3	134	8	KED
> In	115		ug/L			483935	461005	2	Standard
Ag	107	0.132	ug/L	0.005	4	106	2503	5	Standard
> Tb	159		ug/L			1215870	1173626	1	Standard
Pb	208	11.327	ug/L	0.156	1	593	884760	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0774-08
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, April 27, 2023 23:44:46
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			26020	59244	0	Standard
Cl	37		ug/L			5354462	5040995	2	Standard
> Sc	45		ug/L			474891	607472	1	Standard
Cr	52	13.278	ug/L	0.396	2	16718	332177	2	Standard
Cr	53	13.135	ug/L	0.087	0	209	36474	0	Standard
> Ge	72		ug/L			34387	36028	1	KED
Ni	60	13.744	ug/L	0.191	1	146	20354	0	KED
Ni	62	13.744	ug/L	0.089	0	34	3297	1	KED
Cu	63	32.525	ug/L	0.790	2	114	134607	1	KED
Cu	65	32.863	ug/L	0.527	1	56	68560	0	KED
Zn	66	66.838	ug/L	1.123	1	76	35784	1	KED
Zn	67	63.446	ug/L	2.522	3	13	5693	2	KED
As	75	7.141	ug/L	0.212	2	6	2053	2	KED
Y	89		ug/L			289124	549241	2	Standard
Kr	83		ug/L			80	86	21	Standard
> In-1	115		ug/L			9102	8591	1	KED
Cd	111	0.258	ug/L	0.044	16	3	77	16	KED
Cd	114	0.225	ug/L	0.021	9	3	172	7	KED
> In	115		ug/L			483935	465228	3	Standard
Ag	107	0.147	ug/L	0.008	5	106	2809	3	Standard
> Tb	159		ug/L			1215870	1187637	2	Standard
Pb	208	15.694	ug/L	0.250	1	593	1240101	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0774-09
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, April 27, 2023 23:49:12
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			26020	58607	2	Standard
Cl	37		ug/L			5354462	4966328	2	Standard
> Sc	45		ug/L			474891	632037	2	Standard
Cr	52	14.991	ug/L	0.351	2	16718	387276	0	Standard
Cr	53	14.834	ug/L	0.114	0	209	42827	2	Standard
> Ge	72		ug/L			34387	35777	0	KED
Ni	60	18.025	ug/L	0.309	1	146	26463	1	KED
Ni	62	18.545	ug/L	0.243	1	34	4405	1	KED
Cu	63	28.986	ug/L	0.015	0	114	119161	0	KED
Cu	65	28.931	ug/L	0.152	0	56	59953	0	KED
Zn	66	56.372	ug/L	0.402	0	76	29986	0	KED
Zn	67	53.121	ug/L	1.900	3	13	4737	3	KED
As	75	5.824	ug/L	0.199	3	6	1664	3	KED
Y	89		ug/L			289124	611592	1	Standard
Kr	83		ug/L			80	123	10	Standard
> In-1	115		ug/L			9102	8561	1	KED
Cd	111	0.166	ug/L	0.003	1	3	50	2	KED
Cd	114	0.149	ug/L	0.018	12	3	114	10	KED
> In	115		ug/L			483935	461165	1	Standard
Ag	107	0.134	ug/L	0.005	4	106	2549	2	Standard
> Tb	159		ug/L			1215870	1179672	2	Standard
Pb	208	12.112	ug/L	0.391	3	593	950551	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0774-10
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, April 27, 2023 23:53:38
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26020	55053	2	Standard
	Cl	37		ug/L			5354462	4942631	3	Standard
>	Sc	45		ug/L			474891	593178	5	Standard
	Cr	52	14.412	ug/L	0.729	5	16718	349719	2	Standard
	Cr	53	14.196	ug/L	0.752	5	209	38396	1	Standard
>	Ge	72		ug/L			34387	35572	1	KED
	Ni	60	13.690	ug/L	0.335	2	146	20020	2	KED
	Ni	62	13.796	ug/L	0.185	1	34	3267	0	KED
	Cu	63	32.110	ug/L	0.597	1	114	131253	3	KED
	Cu	65	32.153	ug/L	0.032	0	56	66243	1	KED
	Zn	66	67.325	ug/L	0.595	0	76	35589	0	KED
	Zn	67	64.901	ug/L	2.443	3	13	5750	2	KED
	As	75	6.722	ug/L	0.263	3	6	1909	4	KED
	Y	89		ug/L			289124	566885	5	Standard
	Kr	83		ug/L			80	113	16	Standard
>	In-1	115		ug/L			9102	8235	1	KED
	Cd	111	0.274	ug/L	0.036	13	3	78	12	KED
	Cd	114	0.281	ug/L	0.035	12	3	205	11	KED
>	In	115		ug/L			483935	448693	5	Standard
	Ag	107	0.240	ug/L	0.002	0	106	4351	4	Standard
>	Tb	159		ug/L			1215870	1154559	6	Standard
	Pb	208	23.745	ug/L	1.282	5	593	1820256	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0774-11
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, April 27, 2023 23:58:03
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			26020	60011	0	Standard
Cl	37		ug/L			5354462	5027483	1	Standard
> Sc	45		ug/L			474891	604277	0	Standard
Cr	52	13.149	ug/L	0.305	2	16718	327441	1	Standard
Cr	53	13.211	ug/L	0.184	1	209	36493	1	Standard
> Ge	72		ug/L			34387	35294	2	KED
Ni	60	14.165	ug/L	0.207	1	146	20547	2	KED
Ni	62	14.520	ug/L	0.180	1	34	3410	2	KED
Cu	63	29.637	ug/L	0.182	0	114	120178	1	KED
Cu	65	29.537	ug/L	0.388	1	56	60390	3	KED
Zn	66	72.413	ug/L	0.639	0	76	37974	1	KED
Zn	67	69.878	ug/L	0.646	0	13	6144	2	KED
As	75	6.313	ug/L	0.199	3	6	1778	1	KED
Y	89		ug/L			289124	548659	4	Standard
Kr	83		ug/L			80	95	18	Standard
> In-1	115		ug/L			9102	8436	0	KED
Cd	111	0.160	ug/L	0.028	17	3	48	16	KED
Cd	114	0.155	ug/L	0.014	8	3	118	8	KED
> In	115		ug/L			483935	467072	1	Standard
Ag	107	0.140	ug/L	0.003	2	106	2680	1	Standard
> Tb	159		ug/L			1215870	1176563	2	Standard
Pb	208	12.325	ug/L	0.216	1	593	964931	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBL8
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 00:02:29
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26020	29535	4	Standard
	Cl	**37**		ug/L			5354462	4943850	2	Standard
⌈>	**Sc**	**45**		ug/L			474891	469911	1	Standard
|	**Cr**	**52**	**-0.026**	ug/L	0.009	32	16718	16065	1	Standard
⌊	**Cr**	**53**	**-0.031**	ug/L	0.005	17	209	141	9	Standard
⌈>	**Ge**	**72**		ug/L			34387	35624	2	KED
|	**Ni**	**60**	**-0.027**	ug/L	0.014	50	146	111	15	KED
|	**Ni**	**62**	**-0.054**	ug/L	0.024	45	34	23	24	KED
|	**Cu**	**63**	**-0.003**	ug/L	0.002	59	114	106	8	KED
|	**Cu**	**65**	**-0.003**	ug/L	0.001	27	56	53	3	KED
|	**Zn**	**66**	**0.124**	ug/L	0.027	22	76	144	7	KED
|	**Zn**	**67**	**0.044**	ug/L	0.040	91	13	18	21	KED
⌊	**As**	**75**	**-0.003**	ug/L	0.007	224	6	5	30	KED
	Y	**89**		ug/L			289124	283159	1	Standard
	Kr	**83**		ug/L			80	45	28	Standard
⌈>	**In-1**	**115**		ug/L			9102	8106	1	KED
|	**Cd**	**111**	**0.003**	ug/L	0.012	469	3	3	86	KED
⌊	**Cd**	**114**	**0.003**	ug/L	0.006	206	3	5	72	KED
⌈>	**In**	**115**		ug/L			483935	471303	0	Standard
⌊	**Ag**	**107**	**-0.003**	ug/L	0.001	20	106	50	20	Standard
⌈>	**Tb**	**159**		ug/L			1215870	1183491	2	Standard
⌊	**Pb**	**208**	**0.004**	ug/L	0.000	11	593	908	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCV8
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 00:06:55
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26020	29606	1	Standard
	Cl	**37**		ug/L			5354462	5415436	1	Standard
⎡>	**Sc**	**45**		ug/L			474891	478241	2	Standard
⎢	**Cr**	**52**	**49.398**	ug/L	1.510	3	16718	926876	1	Standard
⎣	**Cr**	**53**	**48.483**	ug/L	0.719	1	209	105416	1	Standard
⎡>	**Ge**	**72**		ug/L			34387	35839	2	KED
⎢	**Ni**	**60**	**49.635**	ug/L	0.901	1	146	72712	0	KED
⎢	**Ni**	**62**	**49.644**	ug/L	1.466	2	34	11750	2	KED
⎢	**Cu**	**63**	**51.325**	ug/L	0.844	1	114	211256	2	KED
⎢	**Cu**	**65**	**51.760**	ug/L	0.845	1	56	107388	1	KED
⎢	**Zn**	**66**	**51.012**	ug/L	1.294	2	76	27179	0	KED
⎢	**Zn**	**67**	**50.230**	ug/L	2.103	4	13	4486	2	KED
⎣	**As**	**75**	**49.197**	ug/L	0.986	2	6	14035	1	KED
	Y	**89**		ug/L			289124	282775	0	Standard
	Kr	**83**		ug/L			80	58	16	Standard
⎡>	**In-1**	**115**		ug/L			9102	8334	1	KED
⎢	**Cd**	**111**	**50.800**	ug/L	0.621	1	3	14115	0	KED
⎣	**Cd**	**114**	**50.246**	ug/L	1.138	2	3	36628	0	KED
⎡>	**In**	**115**		ug/L			483935	461352	2	Standard
⎣	**Ag**	**107**	**48.841**	ug/L	1.103	2	106	890851	1	Standard
⎡>	**Tb**	**159**		ug/L			1215870	1162639	1	Standard
⎣	**Pb**	**208**	**53.083**	ug/L	0.622	1	593	4105335	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCB8
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 00:14:05
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26020	26752	1	Standard
	Cl	**37**		ug/L			5354462	5177482	1	Standard
⎡>	**Sc**	**45**		ug/L			474891	472005	1	Standard
⎢	**Cr**	**52**	**0.018**	ug/L	0.005	27	16718	16941	1	Standard
⎣	**Cr**	**53**	**-0.033**	ug/L	0.003	8	209	136	3	Standard
⎡>	**Ge**	**72**		ug/L			34387	36189	0	KED
⎢	**Ni**	**60**	**-0.018**	ug/L	0.017	95	146	126	19	KED
⎢	**Ni**	**62**	**-0.034**	ug/L	0.021	62	34	28	17	KED
⎢	**Cu**	**63**	**-0.016**	ug/L	0.001	4	114	52	5	KED
⎢	**Cu**	**65**	**-0.011**	ug/L	0.001	8	56	36	5	KED
⎢	**Zn**	**66**	**-0.045**	ug/L	0.026	57	76	55	25	KED
⎢	**Zn**	**67**	**-0.015**	ug/L	0.064	417	13	13	42	KED
⎣	**As**	**75**	**-0.003**	ug/L	0.009	254	6	5	43	KED
	Y	**89**		ug/L			289124	274500	1	Standard
	Kr	**83**		ug/L			80	54	4	Standard
⎡>	**In-1**	**115**		ug/L			9102	8801	2	KED
⎢	**Cd**	**111**	**0.017**	ug/L	0.008	48	3	8	26	KED
⎣	**Cd**	**114**	**0.003**	ug/L	0.006	204	3	6	77	KED
⎡>	**In**	**115**		ug/L			483935	470068	3	Standard
⎣	**Ag**	**107**	**0.005**	ug/L	0.001	12	106	197	2	Standard
⎡>	**Tb**	**159**		ug/L			1215870	1165917	0	Standard
⎣	**Pb**	**208**	**-0.001**	ug/L	0.000	11	593	501	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0774-12
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 00:18:32
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			26020	54636	1	Standard
Cl	37		ug/L			5354462	5014401	2	Standard
> Sc	45		ug/L			474891	607772	1	Standard
Cr	52	13.545	ug/L	0.154	1	16718	338650	1	Standard
Cr	53	13.397	ug/L	0.147	1	209	37215	0	Standard
> Ge	72		ug/L			34387	35728	1	KED
Ni	60	14.146	ug/L	0.202	1	146	20771	1	KED
Ni	62	14.085	ug/L	0.142	1	34	3350	1	KED
Cu	63	32.095	ug/L	0.739	2	114	131727	1	KED
Cu	65	32.239	ug/L	0.588	1	56	66702	0	KED
Zn	66	73.070	ug/L	0.722	0	76	38790	1	KED
Zn	67	70.876	ug/L	2.477	3	13	6307	3	KED
As	75	7.062	ug/L	0.171	2	6	2014	1	KED
Y	89		ug/L			289124	551578	1	Standard
Kr	83		ug/L			80	114	1	Standard
> In-1	115		ug/L			9102	8539	3	KED
Cd	111	0.187	ug/L	0.056	29	3	56	24	KED
Cd	114	0.190	ug/L	0.034	17	3	145	14	KED
> In	115		ug/L			483935	467332	2	Standard
Ag	107	0.151	ug/L	0.001	0	106	2898	2	Standard
> Tb	159		ug/L			1215870	1186574	1	Standard
Pb	208	15.382	ug/L	0.284	1	593	1214421	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0774-13
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 00:22:58
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			26020	55870	1	Standard
Cl	37		ug/L			5354462	5015011	3	Standard
Sc	45		ug/L			474891	631512	1	Standard
Cr	52	13.713	ug/L	0.233	1	16718	355904	0	Standard
Cr	53	14.001	ug/L	0.123	0	209	40399	0	Standard
Ge	72		ug/L			34387	35976	1	KED
Ni	60	16.504	ug/L	0.020	0	146	24379	1	KED
Ni	62	16.391	ug/L	0.448	2	34	3919	2	KED
Cu	63	30.804	ug/L	0.355	1	114	127315	0	KED
Cu	65	30.345	ug/L	0.225	0	56	63228	1	KED
Zn	66	60.418	ug/L	1.015	1	76	32305	0	KED
Zn	67	58.026	ug/L	1.322	2	13	5202	1	KED
As	75	6.152	ug/L	0.192	3	6	1767	1	KED
Y	89		ug/L			289124	574026	0	Standard
Kr	83		ug/L			80	106	36	Standard
In-1	115		ug/L			9102	8078	1	KED
Cd	111	0.185	ug/L	0.038	20	3	53	19	KED
Cd	114	0.231	ug/L	0.035	15	3	166	13	KED
In	115		ug/L			483935	461686	0	Standard
Ag	107	0.156	ug/L	0.004	2	106	2939	1	Standard
Tb	159		ug/L			1215870	1170045	2	Standard
Pb	208	15.017	ug/L	0.419	2	593	1168901	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0774-14
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 00:27:24
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26020	52168	1	Standard
	Cl	37		ug/L			5354462	4949352	3	Standard
⌈>	Sc	45		ug/L			474891	590528	0	Standard
|	Cr	52	12.675	ug/L	0.234	1	16718	309213	1	Standard
⌊	Cr	53	12.569	ug/L	0.229	1	209	33942	1	Standard
⌈>	Ge	72		ug/L			34387	35965	0	KED
|	Ni	60	12.625	ug/L	0.215	1	146	18677	1	KED
|	Ni	62	12.943	ug/L	0.297	2	34	3101	2	KED
|	Cu	63	31.445	ug/L	0.310	0	114	129942	1	KED
|	Cu	65	31.236	ug/L	0.648	2	56	65060	1	KED
|	Zn	66	61.640	ug/L	0.250	0	76	32953	1	KED
|	Zn	67	58.078	ug/L	0.292	0	13	5206	0	KED
⌊	As	75	5.642	ug/L	0.060	1	6	1621	1	KED
	Y	89		ug/L			289124	532615	4	Standard
	Kr	83		ug/L			80	88	8	Standard
⌈>	In-1	115		ug/L			9102	8348	0	KED
|	Cd	111	0.195	ug/L	0.019	9	3	57	8	KED
⌊	Cd	114	0.171	ug/L	0.011	6	3	128	7	KED
⌈>	In	115		ug/L			483935	456932	3	Standard
⌊	Ag	107	0.126	ug/L	0.003	2	106	2384	3	Standard
⌈>	Tb	159		ug/L			1215870	1163134	1	Standard
⌊	Pb	208	13.204	ug/L	0.213	1	593	1022008	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0326-02
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 00:31:50
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			26020	60284	2	Standard
Cl	37		ug/L			5354462	4979729	2	Standard
> Sc	45		ug/L			474891	618471	1	Standard
Cr	52	15.598	ug/L	0.247	1	16718	393457	0	Standard
Cr	53	15.208	ug/L	0.171	1	209	42954	1	Standard
> Ge	72		ug/L			34387	35900	1	KED
Ni	60	15.161	ug/L	0.082	0	146	22359	0	KED
Ni	62	15.321	ug/L	0.638	4	34	3657	3	KED
Cu	63	38.720	ug/L	1.141	2	114	159651	2	KED
Cu	65	39.051	ug/L	0.900	2	56	81174	1	KED
Zn	66	70.722	ug/L	0.953	1	76	37724	0	KED
Zn	67	68.940	ug/L	1.835	2	13	6164	1	KED
As	75	6.960	ug/L	0.046	0	6	1995	1	KED
Y	89		ug/L			289124	557620	3	Standard
Kr	83		ug/L			80	101	3	Standard
> In-1	115		ug/L			9102	8242	3	KED
Cd	111	0.212	ug/L	0.033	15	3	61	13	KED
Cd	114	0.212	ug/L	0.034	15	3	156	15	KED
> In	115		ug/L			483935	468987	1	Standard
Ag	107	0.195	ug/L	0.005	2	106	3724	3	Standard
> Tb	159		ug/L			1215870	1184177	0	Standard
Pb	208	21.914	ug/L	0.115	0	593	1726688	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0326-01
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 00:36:15
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			26020	60993	3	Standard
Cl	37		ug/L			5354462	4932307	1	Standard
> Sc	45		ug/L			474891	607815	2	Standard
Cr	52	13.487	ug/L	0.172	1	16718	337244	1	Standard
Cr	53	13.202	ug/L	0.257	1	209	36672	0	Standard
> Ge	72		ug/L			34387	36361	1	KED
Ni	60	13.717	ug/L	0.231	1	146	20502	0	KED
Ni	62	13.549	ug/L	0.229	1	34	3281	2	KED
Cu	63	36.573	ug/L	0.479	1	114	152769	1	KED
Cu	65	36.892	ug/L	0.791	2	56	77672	1	KED
Zn	66	70.324	ug/L	2.020	2	76	37990	1	KED
Zn	67	69.078	ug/L	1.504	2	13	6257	2	KED
As	75	6.185	ug/L	0.046	0	6	1796	1	KED
Y	89		ug/L			289124	547994	0	Standard
Kr	83		ug/L			80	98	9	Standard
> In-1	115		ug/L			9102	8351	0	KED
Cd	111	0.215	ug/L	0.034	15	3	63	15	KED
Cd	114	0.205	ug/L	0.019	9	3	153	9	KED
> In	115		ug/L			483935	452765	2	Standard
Ag	107	0.148	ug/L	0.009	5	106	2741	4	Standard
> Tb	159		ug/L			1215870	1171547	3	Standard
Pb	208	16.446	ug/L	0.378	2	593	1281561	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0394-DUP1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 00:40:41
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26020	58674	0	Standard
	Cl	37		ug/L			5354462	4896318	1	Standard
>	Sc	45		ug/L			474891	610143	0	Standard
	Cr	52	14.056	ug/L	0.150	1	16718	351985	1	Standard
	Cr	53	14.170	ug/L	0.337	2	209	39503	2	Standard
>	Ge	72		ug/L			34387	35024	0	KED
	Ni	60	14.667	ug/L	0.682	4	146	21103	3	KED
	Ni	62	14.971	ug/L	0.520	3	34	3489	4	KED
	Cu	63	39.276	ug/L	0.309	0	114	158018	0	KED
	Cu	65	39.700	ug/L	0.538	1	56	80512	0	KED
	Zn	66	72.234	ug/L	1.988	2	76	37591	2	KED
	Zn	67	69.385	ug/L	2.358	3	13	6053	2	KED
	As	75	6.729	ug/L	0.120	1	6	1882	2	KED
	Y	89		ug/L			289124	555798	1	Standard
	Kr	83		ug/L			80	93	15	Standard
>	In-1	115		ug/L			9102	8250	1	KED
	Cd	111	0.205	ug/L	0.036	17	3	59	14	KED
	Cd	114	0.201	ug/L	0.008	3	3	148	3	KED
>	In	115		ug/L			483935	457175	1	Standard
	Ag	107	0.158	ug/L	0.011	6	106	2963	4	Standard
>	Tb	159		ug/L			1215870	1169613	1	Standard
	Pb	208	17.401	ug/L	0.356	2	593	1354118	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0394-MS1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 00:45:07
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			26020	48601	1	Standard
Cl	37		ug/L			5354462	4935993	1	Standard
> Sc	45		ug/L			474891	597632	0	Standard
Cr	52	33.122	ug/L	0.681	2	16718	783864	2	Standard
Cr	53	33.216	ug/L	0.263	0	209	90350	1	Standard
> Ge	72		ug/L			34387	35435	0	KED
Ni	60	39.350	ug/L	0.293	0	146	57043	0	KED
Ni	62	40.295	ug/L	1.947	4	34	9438	4	KED
Cu	63	63.349	ug/L	0.797	1	114	257791	0	KED
Cu	65	63.365	ug/L	0.413	0	56	129986	0	KED
Zn	66	148.326	ug/L	2.782	1	76	78015	1	KED
Zn	67	142.840	ug/L	3.177	2	13	12594	1	KED
As	75	31.071	ug/L	0.250	0	6	8768	0	KED
Y	89		ug/L			289124	547371	1	Standard
Kr	83		ug/L			80	101	19	Standard
> In-1	115		ug/L			9102	8061	1	KED
Cd	111	26.327	ug/L	0.355	1	3	7077	0	KED
Cd	114	26.084	ug/L	0.234	0	3	18397	0	KED
> In	115		ug/L			483935	462261	3	Standard
Ag	107	23.022	ug/L	0.722	3	106	420627	1	Standard
> Tb	159		ug/L			1215870	1183072	2	Standard
Pb	208	42.609	ug/L	1.288	3	593	3352146	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0394-MSD1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 00:49:33
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			26020	46411	1	Standard
Cl	37		ug/L			5354462	4981253	2	Standard
> Sc	45		ug/L			474891	598298	0	Standard
Cr	52	34.836	ug/L	0.644	1	16718	824193	1	Standard
Cr	53	34.703	ug/L	0.257	0	209	94484	0	Standard
> Ge	72		ug/L			34387	35533	1	KED
Ni	60	40.749	ug/L	1.101	2	146	59211	1	KED
Ni	62	39.650	ug/L	0.941	2	34	9312	1	KED
Cu	63	64.949	ug/L	0.527	0	114	265008	0	KED
Cu	65	64.378	ug/L	1.459	2	56	132398	0	KED
Zn	66	152.981	ug/L	3.840	2	76	80663	0	KED
Zn	67	145.607	ug/L	1.496	1	13	12873	1	KED
As	75	31.337	ug/L	0.488	1	6	8867	0	KED
Y	89		ug/L			289124	568588	1	Standard
Kr	83		ug/L			80	104	10	Standard
> In-1	115		ug/L			9102	8259	0	KED
Cd	111	26.051	ug/L	0.507	1	3	7175	1	KED
Cd	114	25.728	ug/L	0.643	2	3	18590	2	KED
> In	115		ug/L			483935	453656	3	Standard
Ag	107	23.491	ug/L	0.141	0	106	421515	3	Standard
> Tb	159		ug/L			1215870	1169841	0	Standard
Pb	208	43.771	ug/L	0.529	1	593	3406521	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0394-PS1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 00:53:59
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26020	62533	1	Standard
	Cl	**37**		ug/L			5354462	4934108	2	Standard
⌈>	**Sc**	**45**		ug/L			474891	590492	1	Standard
|	**Cr**	**52**	**33.483**	ug/L	0.351	1	16718	782677	1	Standard
⌊	**Cr**	**53**	**33.075**	ug/L	0.190	0	209	88887	1	Standard
⌈>	**Ge**	**72**		ug/L			34387	35069	1	KED
|	**Ni**	**60**	**39.626**	ug/L	0.227	0	146	56846	1	KED
|	**Ni**	**62**	**40.094**	ug/L	0.764	1	34	9294	1	KED
|	**Cu**	**63**	**62.824**	ug/L	0.956	1	114	253007	1	KED
|	**Cu**	**65**	**62.856**	ug/L	0.962	1	56	127594	0	KED
|	**Zn**	**66**	**149.962**	ug/L	3.216	2	76	78051	1	KED
|	**Zn**	**67**	**146.738**	ug/L	0.314	0	13	12803	1	KED
⌊	**As**	**75**	**30.752**	ug/L	0.586	1	6	8587	0	KED
	Y	**89**		ug/L			289124	541476	2	Standard
	Kr	**83**		ug/L			80	93	26	Standard
⌈>	**In-1**	**115**		ug/L			9102	8259	1	KED
|	**Cd**	**111**	**25.784**	ug/L	0.434	1	3	7102	1	KED
⌊	**Cd**	**114**	**25.494**	ug/L	0.358	1	3	18424	2	KED
⌈>	**In**	**115**		ug/L			483935	453140	4	Standard
⌊	**Ag**	**107**	**24.844**	ug/L	0.718	2	106	444930	2	Standard
⌈>	**Tb**	**159**		ug/L			1215870	1152721	1	Standard
⌊	**Pb**	**208**	**43.412**	ug/L	0.381	0	593	3329211	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBL9
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 00:58:26
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26020	28813	2	Standard
	Cl	**37**		ug/L			5354462	4934746	3	Standard
⌈>	**Sc**	**45**		ug/L			474891	462352	1	Standard
|	**Cr**	**52**	**0.002**	ug/L	0.006	248	16718	16319	0	Standard
⌊	**Cr**	**53**	**-0.040**	ug/L	0.002	5	209	120	2	Standard
⌈>	**Ge**	**72**		ug/L			34387	34406	1	KED
|	**Ni**	**60**	**-0.035**	ug/L	0.010	27	146	96	12	KED
|	**Ni**	**62**	**-0.067**	ug/L	0.016	24	34	19	20	KED
|	**Cu**	**63**	**-0.001**	ug/L	0.002	117	114	108	7	KED
|	**Cu**	**65**	**-0.004**	ug/L	0.005	130	56	48	21	KED
|	**Zn**	**66**	**0.154**	ug/L	0.027	17	76	154	7	KED
|	**Zn**	**67**	**0.148**	ug/L	0.056	37	13	26	18	KED
⌊	**As**	**75**	**-0.005**	ug/L	0.002	40	6	5	10	KED
	Y	**89**		ug/L			289124	280782	4	Standard
	Kr	**83**		ug/L			80	61	31	Standard
⌈>	**In-1**	**115**		ug/L			9102	8223	0	KED
|	**Cd**	**111**	**0.005**	ug/L	0.011	225	3	4	65	KED
⌊	**Cd**	**114**	**0.003**	ug/L	0.006	164	3	5	66	KED
⌈>	**In**	**115**		ug/L			483935	465580	1	Standard
⌊	**Ag**	**107**	**0.004**	ug/L	0.000	5	106	180	3	Standard
⌈>	**Tb**	**159**		ug/L			1215870	1152163	1	Standard
⌊	**Pb**	**208**	**0.006**	ug/L	0.001	12	593	1001	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCV9
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 01:02:52
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26020	29765	2	Standard
	Cl	**37**		ug/L			5354462	5423142	2	Standard
⌈>	**Sc**	**45**		ug/L			474891	475419	2	Standard
|	**Cr**	**52**	**49.583**	ug/L	1.303	2	16718	924780	0	Standard
⌊	**Cr**	**53**	**48.714**	ug/L	0.959	1	209	105276	0	Standard
⌈>	**Ge**	**72**		ug/L			34387	34948	1	KED
|	**Ni**	**60**	**51.474**	ug/L	0.216	0	146	73545	0	KED
|	**Ni**	**62**	**52.086**	ug/L	0.081	0	34	12023	1	KED
|	**Cu**	**63**	**52.037**	ug/L	0.165	0	114	208878	1	KED
|	**Cu**	**65**	**52.209**	ug/L	0.927	1	56	105640	2	KED
|	**Zn**	**66**	**51.929**	ug/L	0.738	1	76	26987	1	KED
|	**Zn**	**67**	**51.867**	ug/L	1.004	1	13	4518	0	KED
⌊	**As**	**75**	**50.014**	ug/L	0.252	0	6	13918	1	KED
	Y	**89**		ug/L			289124	278534	0	Standard
	Kr	**83**		ug/L			80	47	6	Standard
⌈>	**In-1**	**115**		ug/L			9102	8235	1	KED
|	**Cd**	**111**	**51.734**	ug/L	0.941	1	3	14205	1	KED
⌊	**Cd**	**114**	**50.276**	ug/L	1.178	2	3	36220	1	KED
⌈>	**In**	**115**		ug/L			483935	458655	3	Standard
⌊	**Ag**	**107**	**48.434**	ug/L	1.768	3	106	877862	0	Standard
⌈>	**Tb**	**159**		ug/L			1215870	1159096	0	Standard
⌊	**Pb**	**208**	**52.724**	ug/L	0.383	0	593	4065529	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCB9
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 01:10:03
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26020	27590	3	Standard
	Cl	**37**		ug/L			5354462	5166354	2	Standard
⌈>	**Sc**	**45**		ug/L			474891	465586	0	Standard
|	**Cr**	**52**	**0.004**	ug/L	0.032	758	16718	16465	3	Standard
⌊	**Cr**	**53**	**-0.038**	ug/L	0.004	11	209	124	7	Standard
⌈>	**Ge**	**72**		ug/L			34387	36189	1	KED
|	**Ni**	**60**	**-0.021**	ug/L	0.012	55	146	122	12	KED
|	**Ni**	**62**	**-0.061**	ug/L	0.029	47	34	22	30	KED
|	**Cu**	**63**	**-0.013**	ug/L	0.002	17	114	64	16	KED
|	**Cu**	**65**	**-0.014**	ug/L	0.006	43	56	31	40	KED
|	**Zn**	**66**	**-0.057**	ug/L	0.024	42	76	49	27	KED
|	**Zn**	**67**	**-0.072**	ug/L	0.064	89	13	8	70	KED
⌊	**As**	**75**	**-0.009**	ug/L	0.006	66	6	4	40	KED
	Y	**89**		ug/L			289124	273907	2	Standard
	Kr	**83**		ug/L			80	53	16	Standard
⌈>	**In-1**	**115**		ug/L			9102	8502	0	KED
|	**Cd**	**111**	**0.008**	ug/L	0.012	157	3	5	61	KED
⌊	**Cd**	**114**	**0.002**	ug/L	0.003	184	3	4	45	KED
⌈>	**In**	**115**		ug/L			483935	447992	3	Standard
⌊	**Ag**	**107**	**0.007**	ug/L	0.000	5	106	220	6	Standard
⌈>	**Tb**	**159**		ug/L			1215870	1142721	1	Standard
⌊	**Pb**	**208**	**-0.001**	ug/L	0.000	51	593	484	7	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0659-BLK1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 01:14:30
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26020	40979	1	Standard
	Cl	37		ug/L			5354462	5066161	2	Standard
⌈>	Sc	45		ug/L			474891	464373	1	Standard
|	Cr	52	0.084	ug/L	0.012	14	16718	17844	2	Standard
⌊	Cr	53	-0.011	ug/L	0.007	61	209	181	8	Standard
⌈>	Ge	72		ug/L			34387	35042	2	KED
|	Ni	60	-0.056	ug/L	0.005	9	146	68	12	KED
|	Ni	62	-0.085	ug/L	0.025	29	34	15	36	KED
|	Cu	63	0.013	ug/L	0.006	46	114	168	12	KED
|	Cu	65	0.011	ug/L	0.006	58	56	80	16	KED
|	Zn	66	0.237	ug/L	0.036	15	76	200	8	KED
|	Zn	67	0.230	ug/L	0.051	22	13	34	14	KED
⌊	As	75	-0.006	ug/L	0.001	21	6	4	10	KED
	Y	89		ug/L			289124	274892	2	Standard
	Kr	83		ug/L			80	49	13	Standard
⌈>	In-1	115		ug/L			9102	8384	2	KED
|	Cd	111	0.007	ug/L	0.004	61	3	5	21	KED
⌊	Cd	114	0.006	ug/L	0.004	75	3	7	40	KED
⌈>	In	115		ug/L			483935	455927	0	Standard
⌊	Ag	107	0.001	ug/L	0.001	127	106	120	22	Standard
⌈>	Tb	159		ug/L			1215870	1146225	3	Standard
⌊	Pb	208	0.002	ug/L	0.001	51	593	716	11	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0659-BS1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 01:18:56
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26020	43212	2	Standard
	Cl	37		ug/L			5354462	5169624	3	Standard
>	Sc	45		ug/L			474891	474979	1	Standard
	Cr	52	25.233	ug/L	0.185	0	16718	478548	1	Standard
	Cr	53	24.929	ug/L	0.430	1	209	53939	1	Standard
>	Ge	72		ug/L			34387	35892	0	KED
	Ni	60	26.021	ug/L	0.328	1	146	38258	1	KED
	Ni	62	25.879	ug/L	0.572	2	34	6153	1	KED
	Cu	63	27.042	ug/L	0.102	0	114	111533	1	KED
	Cu	65	27.004	ug/L	0.403	1	56	56148	2	KED
	Zn	66	84.393	ug/L	1.225	1	76	44999	2	KED
	Zn	67	78.237	ug/L	0.809	1	13	6993	0	KED
	As	75	24.720	ug/L	0.314	1	6	7068	1	KED
	Y	89		ug/L			289124	274758	3	Standard
	Kr	83		ug/L			80	65	6	Standard
>	In-1	115		ug/L			9102	8164	1	KED
	Cd	111	26.899	ug/L	0.228	0	3	7323	0	KED
	Cd	114	26.252	ug/L	0.503	1	3	18749	1	KED
>	In	115		ug/L			483935	453297	2	Standard
	Ag	107	25.561	ug/L	0.306	1	106	458197	1	Standard
>	Tb	159		ug/L			1215870	1151041	1	Standard
	Pb	208	26.523	ug/L	0.413	1	593	2030976	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0754-BLK1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 01:23:21
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26020	42999	1	Standard
	Cl	37		ug/L			5354462	5077607	1	Standard
⌈>	Sc	45		ug/L			474891	474587	1	Standard
|	Cr	52	0.049	ug/L	0.027	54	16718	17601	1	Standard
⌊	Cr	53	-0.015	ug/L	0.005	33	209	176	4	Standard
⌈>	Ge	72		ug/L			34387	35503	1	KED
|	Ni	60	-0.055	ug/L	0.009	16	146	71	17	KED
|	Ni	62	-0.097	ug/L	0.029	29	34	13	51	KED
|	Cu	63	0.035	ug/L	0.009	24	114	259	12	KED
|	Cu	65	0.034	ug/L	0.007	21	56	127	12	KED
|	Zn	66	0.126	ug/L	0.052	41	76	144	18	KED
|	Zn	67	0.125	ug/L	0.074	58	13	25	24	KED
⌊	As	75	-0.007	ug/L	0.008	117	6	4	47	KED
	Y	89		ug/L			289124	274227	0	Standard
	Kr	83		ug/L			80	48	35	Standard
⌈>	In-1	115		ug/L			9102	8200	3	KED
|	Cd	111	-0.002	ug/L	0.002	88	3	2	21	KED
⌊	Cd	114	0.001	ug/L	0.003	394	3	4	56	KED
⌈>	In	115		ug/L			483935	456331	1	Standard
⌊	Ag	107	0.004	ug/L	0.001	19	106	177	10	Standard
⌈>	Tb	159		ug/L			1215870	1149148	0	Standard
⌊	Pb	208	0.005	ug/L	0.000	4	593	959	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0754-BS1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 01:27:47
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26020	44082	1	Standard
	Cl	37		ug/L			5354462	5083497	0	Standard
>	Sc	45		ug/L			474891	449705	9	Standard
	Cr	52	27.763	ug/L	2.646	9	16718	494127	0	Standard
	Cr	53	27.346	ug/L	2.637	9	209	55672	0	Standard
>	Ge	72		ug/L			34387	35592	2	KED
	Ni	60	27.604	ug/L	0.289	1	146	40231	1	KED
	Ni	62	27.474	ug/L	0.902	3	34	6473	1	KED
	Cu	63	28.327	ug/L	0.755	2	114	115816	1	KED
	Cu	65	28.652	ug/L	0.233	0	56	59064	1	KED
	Zn	66	89.894	ug/L	2.720	3	76	47508	2	KED
	Zn	67	84.316	ug/L	2.064	2	13	7471	1	KED
	As	75	26.011	ug/L	0.495	1	6	7372	0	KED
	Y	89		ug/L			289124	263370	7	Standard
	Kr	83		ug/L			80	63	14	Standard
>	In-1	115		ug/L			9102	8256	0	KED
	Cd	111	27.231	ug/L	0.504	1	3	7498	1	KED
	Cd	114	27.029	ug/L	0.155	0	3	19525	0	KED
>	In	115		ug/L			483935	433018	8	Standard
	Ag	107	27.933	ug/L	2.709	9	106	475856	1	Standard
>	Tb	159		ug/L			1215870	1088144	9	Standard
	Pb	208	29.318	ug/L	2.332	7	593	2112388	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0326-04
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 01:32:13
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26020	59962	2	Standard
	Cl	37		ug/L			5354462	5017977	2	Standard
>	Sc	45		ug/L			474891	603860	1	Standard
	Cr	52	13.765	ug/L	0.193	1	16718	341535	0	Standard
	Cr	53	13.576	ug/L	0.176	1	209	37464	0	Standard
>	Ge	72		ug/L			34387	35179	0	KED
	Ni	60	14.767	ug/L	0.378	2	146	21343	2	KED
	Ni	62	14.484	ug/L	0.518	3	34	3390	2	KED
	Cu	63	30.148	ug/L	0.260	0	114	121855	0	KED
	Cu	65	30.334	ug/L	0.639	2	56	61803	1	KED
	Zn	66	61.331	ug/L	0.904	1	76	32070	1	KED
	Zn	67	59.524	ug/L	0.823	1	13	5218	1	KED
	As	75	7.181	ug/L	0.214	2	6	2016	2	KED
	Y	89		ug/L			289124	549424	2	Standard
	Kr	83		ug/L			80	102	3	Standard
>	In-1	115		ug/L			9102	8177	2	KED
	Cd	111	0.183	ug/L	0.013	6	3	53	7	KED
	Cd	114	0.143	ug/L	0.015	10	3	105	8	KED
>	In	115		ug/L			483935	453255	2	Standard
	Ag	107	0.118	ug/L	0.007	5	106	2215	3	Standard
>	Tb	159		ug/L			1215870	1144981	1	Standard
	Pb	208	10.765	ug/L	0.169	1	593	820266	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0326-05
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 01:36:39
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			26020	49769	2	Standard
Cl	37		ug/L			5354462	4898396	3	Standard
> Sc	45		ug/L			474891	614877	0	Standard
Cr	52	13.885	ug/L	0.294	2	16718	350639	1	Standard
Cr	53	14.136	ug/L	0.100	0	209	39712	0	Standard
> Ge	72		ug/L			34387	34776	2	KED
Ni	60	15.778	ug/L	0.395	2	146	22528	1	KED
Ni	62	16.120	ug/L	0.301	1	34	3726	0	KED
Cu	63	37.025	ug/L	0.956	2	114	147864	0	KED
Cu	65	36.352	ug/L	1.120	3	56	73180	1	KED
Zn	66	105.271	ug/L	2.813	2	76	54344	1	KED
Zn	67	103.096	ug/L	2.415	2	13	8922	0	KED
As	75	7.951	ug/L	0.118	1	6	2206	0	KED
Y	89		ug/L			289124	604384	2	Standard
Kr	83		ug/L			80	101	2	Standard
> In-1	115		ug/L			9102	7855	2	KED
Cd	111	0.356	ug/L	0.089	24	3	95	22	KED
Cd	114	0.357	ug/L	0.038	10	3	248	9	KED
> In	115		ug/L			483935	455229	0	Standard
Ag	107	0.332	ug/L	0.004	1	106	6077	1	Standard
> Tb	159		ug/L			1215870	1146764	2	Standard
Pb	208	24.559	ug/L	0.368	1	593	1873566	0	Standard

23A0326

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ~~32A0326~~ 10
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 01:41:05

MB 4/27/23

Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26020	55402	1	Standard
	Cl	37		ug/L			5354462	4953260	3	Standard
⌈>	Sc	45		ug/L			474891	590473	1	Standard
|	Cr	52	14.307	ug/L	0.299	2	16718	346325	1	Standard
⌊	Cr	53	14.183	ug/L	0.056	0	209	38265	1	Standard
⌈>	Ge	72		ug/L			34387	34815	1	KED
|	Ni	60	15.345	ug/L	0.239	1	146	21943	0	KED
|	Ni	62	15.467	ug/L	0.563	3	34	3580	2	KED
|	Cu	63	36.379	ug/L	1.232	3	114	145449	1	KED
|	Cu	65	36.235	ug/L	0.107	0	56	73056	1	KED
|	Zn	66	80.153	ug/L	1.036	1	76	41451	0	KED
|	Zn	67	75.807	ug/L	1.147	1	13	6574	3	KED
⌊	As	75	6.942	ug/L	0.069	1	6	1929	0	KED
	Y	89		ug/L			289124	554626	0	Standard
	Kr	83		ug/L			80	106	10	Standard
⌈>	In-1	115		ug/L			9102	7952	1	KED
|	Cd	111	0.174	ug/L	0.016	9	3	49	7	KED
⌊	Cd	114	0.189	ug/L	0.030	15	3	134	16	KED
⌈>	In	115		ug/L			483935	457900	1	Standard
⌊	Ag	107	0.124	ug/L	0.005	3	106	2353	3	Standard
⌈>	Tb	159		ug/L			1215870	1156337	0	Standard
⌊	Pb	208	13.842	ug/L	0.120	0	593	1065246	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0326-11
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 01:45:31
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			26020	54867	2	Standard
Cl	37		ug/L			5354462	4905422	2	Standard
> Sc	45		ug/L			474891	601505	0	Standard
Cr	52	13.625	ug/L	0.188	1	16718	337014	1	Standard
Cr	53	13.738	ug/L	0.164	1	209	37766	1	Standard
> Ge	72		ug/L			34387	35652	2	KED
Ni	60	14.091	ug/L	0.264	1	146	20643	0	KED
Ni	62	14.171	ug/L	0.610	4	34	3361	1	KED
Cu	63	30.760	ug/L	0.793	2	114	125952	0	KED
Cu	65	31.094	ug/L	0.793	2	56	64183	1	KED
Zn	66	66.082	ug/L	0.968	1	76	35009	1	KED
Zn	67	62.019	ug/L	2.043	3	13	5507	0	KED
As	75	5.870	ug/L	0.069	1	6	1671	1	KED
Y	89		ug/L			289124	549064	2	Standard
Kr	83		ug/L			80	107	7	Standard
> In-1	115		ug/L			9102	8052	3	KED
Cd	111	0.174	ug/L	0.033	18	3	49	16	KED
Cd	114	0.176	ug/L	0.007	3	3	127	7	KED
> In	115		ug/L			483935	457001	1	Standard
Ag	107	0.126	ug/L	0.005	4	106	2372	2	Standard
> Tb	159		ug/L			1215870	1166852	1	Standard
Pb	208	12.186	ug/L	0.150	1	593	946337	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0326-12
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 01:49:57
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			26020	52212	3	Standard
Cl	37		ug/L			5354462	4897302	2	Standard
Sc	45		ug/L			474891	609390	2	Standard
Cr	52	14.448	ug/L	0.112	0	16718	360721	1	Standard
Cr	53	14.451	ug/L	0.197	1	209	40225	1	Standard
Ge	72		ug/L			34387	35091	0	KED
Ni	60	15.115	ug/L	0.141	0	146	21788	0	KED
Ni	62	15.253	ug/L	0.449	2	34	3561	3	KED
Cu	63	38.911	ug/L	0.116	0	114	156855	1	KED
Cu	65	39.370	ug/L	0.689	1	56	79995	1	KED
Zn	66	104.697	ug/L	1.916	1	76	54559	2	KED
Zn	67	100.441	ug/L	0.511	0	13	8774	0	KED
As	75	8.206	ug/L	0.062	0	6	2298	1	KED
Y	89		ug/L			289124	570748	2	Standard
Kr	83		ug/L			80	97	9	Standard
In-1	115		ug/L			9102	8027	1	KED
Cd	111	0.309	ug/L	0.022	6	3	85	7	KED
Cd	114	0.265	ug/L	0.014	5	3	189	6	KED
In	115		ug/L			483935	459117	1	Standard
Ag	107	0.183	ug/L	0.003	1	106	3422	1	Standard
Tb	159		ug/L			1215870	1146645	0	Standard
Pb	208	20.027	ug/L	0.145	0	593	1528124	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBLA
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 01:54:25
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26020	28798	3	Standard
	Cl	**37**		ug/L			5354462	4875184	2	Standard
⌈>	**Sc**	**45**		ug/L			474891	467610	1	Standard
|	**Cr**	**52**	**-0.045**	ug/L	0.034	75	16718	15647	2	Standard
⌊	**Cr**	**53**	**-0.037**	ug/L	0.003	8	209	127	6	Standard
⌈>	**Ge**	**72**		ug/L			34387	34862	0	KED
|	**Ni**	**60**	**-0.027**	ug/L	0.007	24	146	109	8	KED
|	**Ni**	**62**	**-0.066**	ug/L	0.017	26	34	20	19	KED
|	**Cu**	**63**	**0.001**	ug/L	0.007	679	114	120	23	KED
|	**Cu**	**65**	**-0.005**	ug/L	0.004	82	56	46	18	KED
|	**Zn**	**66**	**0.125**	ug/L	0.025	19	76	141	8	KED
|	**Zn**	**67**	**0.130**	ug/L	0.011	8	13	25	4	KED
⌊	**As**	**75**	**-0.011**	ug/L	0.005	45	6	3	42	KED
	Y	**89**		ug/L			289124	275583	3	Standard
	Kr	**83**		ug/L			80	64	10	Standard
⌈>	**In-1**	**115**		ug/L			9102	8162	0	KED
|	**Cd**	**111**	**0.008**	ug/L	0.004	47	3	5	20	KED
⌊	**Cd**	**114**	**-0.004**	ug/L	0.002	34	3	0	298	KED
⌈>	**In**	**115**		ug/L			483935	460987	2	Standard
⌊	**Ag**	**107**	**-0.003**	ug/L	0.000	17	106	51	16	Standard
⌈>	**Tb**	**159**		ug/L			1215870	1150231	0	Standard
⌊	**Pb**	**208**	**0.005**	ug/L	0.000	5	593	928	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVA
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 01:58:51
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26020	29291	2	Standard
	Cl	**37**		ug/L			5354462	5364509	1	Standard
⎡>	**Sc**	**45**		ug/L			474891	472851	2	Standard
⎢	**Cr**	**52**	**48.224**	ug/L	1.444	2	16718	895011	1	Standard
⎣	**Cr**	**53**	**47.968**	ug/L	0.539	1	209	103126	1	Standard
⎡>	**Ge**	**72**		ug/L			34387	34891	1	KED
⎢	**Ni**	**60**	**50.691**	ug/L	0.548	1	146	72306	0	KED
⎢	**Ni**	**62**	**50.981**	ug/L	1.179	2	34	11747	1	KED
⎢	**Cu**	**63**	**51.734**	ug/L	1.103	2	114	207277	0	KED
⎢	**Cu**	**65**	**51.291**	ug/L	0.823	1	56	103599	0	KED
⎢	**Zn**	**66**	**51.903**	ug/L	0.919	1	76	26927	0	KED
⎢	**Zn**	**67**	**50.982**	ug/L	1.312	2	13	4434	2	KED
⎣	**As**	**75**	**50.023**	ug/L	0.316	0	6	13896	0	KED
	Y	**89**		ug/L			289124	277247	3	Standard
	Kr	**83**		ug/L			80	55	15	Standard
⎡>	**In-1**	**115**		ug/L			9102	8240	1	KED
⎢	**Cd**	**111**	**50.681**	ug/L	0.961	1	3	13922	0	KED
⎣	**Cd**	**114**	**49.679**	ug/L	0.919	1	3	35809	1	KED
⎡>	**In**	**115**		ug/L			483935	447325	1	Standard
⎣	**Ag**	**107**	**49.328**	ug/L	0.636	1	106	872527	0	Standard
⎡>	**Tb**	**159**		ug/L			1215870	1169179	0	Standard
⎣	**Pb**	**208**	**52.023**	ug/L	1.040	1	593	4046176	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBA
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 02:06:02
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26020	26904	2	Standard
	Cl	**37**		ug/L			5354462	5188028	3	Standard
⌈>	**Sc**	**45**		ug/L			474891	460114	0	Standard
|	**Cr**	**52**	**0.016**	ug/L	0.015	92	16718	16479	2	Standard
⌊	**Cr**	**53**	**-0.046**	ug/L	0.009	20	209	107	18	Standard
⌈>	**Ge**	**72**		ug/L			34387	35147	1	KED
|	**Ni**	**60**	**-0.027**	ug/L	0.008	30	146	111	8	KED
|	**Ni**	**62**	**-0.055**	ug/L	0.025	45	34	22	25	KED
|	**Cu**	**63**	**-0.017**	ug/L	0.002	14	114	48	19	KED
|	**Cu**	**65**	**-0.011**	ug/L	0.002	14	56	36	10	KED
|	**Zn**	**66**	**-0.061**	ug/L	0.017	27	76	46	20	KED
|	**Zn**	**67**	**-0.047**	ug/L	0.027	57	13	10	21	KED
⌊	**As**	**75**	**-0.003**	ug/L	0.008	227	6	5	40	KED
	Y	**89**		ug/L			289124	270190	0	Standard
	Kr	**83**		ug/L			80	50	22	Standard
⌈>	**In-1**	**115**		ug/L			9102	8388	2	KED
|	**Cd**	**111**	**-0.001**	ug/L	0.007	477	3	2	66	KED
⌊	**Cd**	**114**	**0.006**	ug/L	0.005	89	3	8	50	KED
⌈>	**In**	**115**		ug/L			483935	445981	1	Standard
⌊	**Ag**	**107**	**0.005**	ug/L	0.001	28	106	190	15	Standard
⌈>	**Tb**	**159**		ug/L			1215870	1146541	0	Standard
⌊	**Pb**	**208**	**-0.001**	ug/L	0.000	39	593	474	6	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0402-BLK1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 02:10:28
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26020	45875	1	Standard
	Cl	37		ug/L			5354462	5072646	1	Standard
⌈>	Sc	45		ug/L			474891	473838	1	Standard
|	Cr	52	0.122	ug/L	0.035	28	16718	18898	2	Standard
⌊	Cr	53	0.051	ug/L	0.019	37	209	318	12	Standard
⌈>	Ge	72		ug/L			34387	34863	1	KED
|	Ni	60	-0.045	ug/L	0.011	25	146	84	20	KED
|	Ni	62	-0.077	ug/L	0.026	33	34	17	34	KED
|	Cu	63	0.044	ug/L	0.007	16	114	290	8	KED
|	Cu	65	0.043	ug/L	0.008	18	56	144	12	KED
|	Zn	66	0.324	ug/L	0.050	15	76	245	11	KED
|	Zn	67	0.268	ug/L	0.125	46	13	37	29	KED
⌊	As	75	-0.002	ug/L	0.003	164	6	5	16	KED
	Y	89		ug/L			289124	279899	3	Standard
	Kr	83		ug/L			80	48	37	Standard
⌈>	In-1	115		ug/L			9102	8219	1	KED
|	Cd	111	0.004	ug/L	0.007	205	3	4	48	KED
⌊	Cd	114	-0.005	ug/L	0.000	3	3	0	44	KED
⌈>	In	115		ug/L			483935	461447	1	Standard
⌊	Ag	107	0.005	ug/L	0.009	157	106	202	79	Standard
⌈>	Tb	159		ug/L			1215870	1165962	1	Standard
⌊	Pb	208	0.006	ug/L	0.008	134	593	1046	61	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0402-BS1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 02:14:54
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26020	44029	1	Standard
	Cl	37		ug/L			5354462	5135797	2	Standard
>	Sc	45		ug/L			474891	466034	1	Standard
	Cr	52	26.345	ug/L	0.253	0	16718	489496	0	Standard
	Cr	53	25.916	ug/L	0.345	1	209	55007	0	Standard
>	Ge	72		ug/L			34387	35387	1	KED
	Ni	60	26.888	ug/L	0.196	0	146	38972	1	KED
	Ni	62	27.299	ug/L	0.732	2	34	6396	1	KED
	Cu	63	28.492	ug/L	0.942	3	114	115853	3	KED
	Cu	65	28.214	ug/L	1.034	3	56	57835	4	KED
	Zn	66	83.678	ug/L	0.627	0	76	43985	1	KED
	Zn	67	78.236	ug/L	0.525	0	13	6894	1	KED
	As	75	25.168	ug/L	0.202	0	6	7094	0	KED
	Y	89		ug/L			289124	273775	1	Standard
	Kr	83		ug/L			80	65	19	Standard
>	In-1	115		ug/L			9102	8381	2	KED
	Cd	111	26.070	ug/L	0.674	2	3	7285	0	KED
	Cd	114	26.034	ug/L	0.712	2	3	19085	0	KED
>	In	115		ug/L			483935	452742	1	Standard
	Ag	107	26.038	ug/L	0.800	3	106	466084	1	Standard
>	Tb	159		ug/L			1215870	1162549	2	Standard
	Pb	208	26.815	ug/L	0.625	2	593	2073553	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0326-08
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 02:19:20
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26020	47937	2	Standard
	Cl	**37**		ug/L			5354462	5071870	1	Standard
⌈>	**Sc**	**45**		ug/L			474891	551937	2	Standard
|	**Cr**	**52**	**12.123**	ug/L	0.246	2	16718	277233	2	Standard
⌊	**Cr**	**53**	**12.053**	ug/L	0.216	1	209	30425	1	Standard
⌈>	**Ge**	**72**		ug/L			34387	35559	2	KED
|	**Ni**	**60**	**9.909**	ug/L	0.363	3	146	14521	2	KED
|	**Ni**	**62**	**10.279**	ug/L	0.181	1	34	2442	1	KED
|	**Cu**	**63**	**20.759**	ug/L	0.491	2	114	84828	1	KED
|	**Cu**	**65**	**21.013**	ug/L	0.508	2	56	43282	0	KED
|	**Zn**	**66**	**44.029**	ug/L	0.618	1	76	23290	0	KED
|	**Zn**	**67**	**42.450**	ug/L	1.453	3	13	3764	1	KED
⌊	**As**	**75**	**4.859**	ug/L	0.080	1	6	1381	2	KED
	Y	**89**		ug/L			289124	472370	2	Standard
	Kr	**83**		ug/L			80	80	23	Standard
⌈>	**In-1**	**115**		ug/L			9102	8185	1	KED
|	**Cd**	**111**	**0.064**	ug/L	0.011	17	3	20	14	KED
⌊	**Cd**	**114**	**0.051**	ug/L	0.008	15	3	40	15	KED
⌈>	**In**	**115**		ug/L			483935	458600	3	Standard
⌊	**Ag**	**107**	**0.084**	ug/L	0.008	9	106	1614	7	Standard
⌈>	**Tb**	**159**		ug/L			1215870	1177226	0	Standard
⌊	**Pb**	**208**	**26.366**	ug/L	0.212	0	593	2065172	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0326-09
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 02:23:46
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26020	55289	2	Standard
	Cl	**37**		ug/L			5354462	4984510	2	Standard
⌈>	**Sc**	**45**		ug/L			474891	592167	2	Standard
|	**Cr**	**52**	**15.662**	ug/L	0.261	1	16718	378161	0	Standard
⌊	**Cr**	**53**	**15.430**	ug/L	0.212	1	209	41717	0	Standard
⌈>	**Ge**	**72**		ug/L			34387	35590	1	KED
|	**Ni**	**60**	**13.129**	ug/L	0.218	1	146	19217	2	KED
|	**Ni**	**62**	**13.272**	ug/L	0.363	2	34	3146	1	KED
|	**Cu**	**63**	**25.739**	ug/L	0.364	1	114	105265	0	KED
|	**Cu**	**65**	**26.073**	ug/L	0.169	0	56	53756	1	KED
|	**Zn**	**66**	**67.543**	ug/L	1.090	1	76	35725	1	KED
|	**Zn**	**67**	**63.242**	ug/L	2.374	3	13	5607	2	KED
⌊	**As**	**75**	**6.245**	ug/L	0.176	2	6	1775	2	KED
	Y	**89**		ug/L			289124	536746	0	Standard
	Kr	**83**		ug/L			80	91	18	Standard
⌈>	**In-1**	**115**		ug/L			9102	8280	2	KED
|	**Cd**	**111**	**0.431**	ug/L	0.088	20	3	121	17	KED
⌊	**Cd**	**114**	**0.414**	ug/L	0.042	10	3	302	8	KED
⌈>	**In**	**115**		ug/L			483935	464614	3	Standard
⌊	**Ag**	**107**	**0.170**	ug/L	0.011	6	106	3225	2	Standard
⌈>	**Tb**	**159**		ug/L			1215870	1192905	1	Standard
⌊	**Pb**	**208**	**38.163**	ug/L	0.246	0	593	3028666	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0418-01
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 02:28:12
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26020	42765	3	Standard
	Cl	**37**		ug/L			5354462	4973160	3	Standard
⌈>	**Sc**	**45**		ug/L			474891	529878	2	Standard
|	**Cr**	**52**	**8.520**	ug/L	0.183	2	16718	192586	1	Standard
⌊	**Cr**	**53**	**8.549**	ug/L	0.373	4	209	20781	3	Standard
⌈>	**Ge**	**72**		ug/L			34387	36104	0	KED
|	**Ni**	**60**	**7.704**	ug/L	0.134	1	146	11501	1	KED
|	**Ni**	**62**	**7.916**	ug/L	0.192	2	34	1918	2	KED
|	**Cu**	**63**	**11.960**	ug/L	0.363	3	114	49679	2	KED
|	**Cu**	**65**	**11.944**	ug/L	0.286	2	56	25011	2	KED
|	**Zn**	**66**	**27.346**	ug/L	0.296	1	76	14721	1	KED
|	**Zn**	**67**	**25.960**	ug/L	0.792	3	13	2344	3	KED
⌊	**As**	**75**	**2.186**	ug/L	0.008	0	6	634	0	KED
	Y	**89**		ug/L			289124	444957	4	Standard
	Kr	**83**		ug/L			80	85	8	Standard
⌈>	**In-1**	**115**		ug/L			9102	8357	5	KED
|	**Cd**	**111**	**0.042**	ug/L	0.008	19	3	14	13	KED
⌊	**Cd**	**114**	**0.024**	ug/L	0.007	27	3	21	27	KED
⌈>	**In**	**115**		ug/L			483935	455054	3	Standard
⌊	**Ag**	**107**	**0.036**	ug/L	0.002	5	106	749	8	Standard
⌈>	**Tb**	**159**		ug/L			1215870	1162098	1	Standard
⌊	**Pb**	**208**	**2.460**	ug/L	0.003	0	593	190698	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0418-02
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 02:32:37
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26020	45771	1	Standard
	Cl	**37**		ug/L			5354462	5076346	0	Standard
⌈>	**Sc**	**45**		ug/L			474891	531285	2	Standard
|	**Cr**	**52**	**9.959**	ug/L	0.171	1	16718	222534	1	Standard
⌊	**Cr**	**53**	**9.939**	ug/L	0.355	3	209	24182	0	Standard
⌈>	**Ge**	**72**		ug/L			34387	34997	1	KED
|	**Ni**	**60**	**10.371**	ug/L	0.200	1	146	14958	2	KED
|	**Ni**	**62**	**10.727**	ug/L	0.407	3	34	2508	5	KED
|	**Cu**	**63**	**31.667**	ug/L	0.635	2	114	127307	1	KED
|	**Cu**	**65**	**31.372**	ug/L	0.459	1	56	63578	0	KED
|	**Zn**	**66**	**56.618**	ug/L	1.285	2	76	29453	1	KED
|	**Zn**	**67**	**52.731**	ug/L	2.224	4	13	4598	2	KED
⌊	**As**	**75**	**3.544**	ug/L	0.003	0	6	993	1	KED
	Y	**89**		ug/L			289124	458899	1	Standard
	Kr	**83**		ug/L			80	82	8	Standard
⌈>	**In-1**	**115**		ug/L			9102	8213	0	KED
|	**Cd**	**111**	**0.069**	ug/L	0.016	23	3	21	19	KED
⌊	**Cd**	**114**	**0.050**	ug/L	0.006	11	3	39	10	KED
⌈>	**In**	**115**		ug/L			483935	456388	1	Standard
⌊	**Ag**	**107**	**0.062**	ug/L	0.004	6	106	1212	4	Standard
⌈>	**Tb**	**159**		ug/L			1215870	1155946	0	Standard
⌊	**Pb**	**208**	**15.378**	ug/L	0.042	0	593	1183021	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0418-04
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 02:37:03
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26020	49049	3	Standard
	Cl	**37**		ug/L			5354462	4988445	2	Standard
⌈>	**Sc**	**45**		ug/L			474891	558898	0	Standard
|	**Cr**	**52**	**11.705**	ug/L	0.125	1	16718	271773	0	Standard
⌊	**Cr**	**53**	**11.500**	ug/L	0.134	1	209	29415	1	Standard
⌈>	**Ge**	**72**		ug/L			34387	35795	2	KED
|	**Ni**	**60**	**11.969**	ug/L	0.345	2	146	17626	0	KED
|	**Ni**	**62**	**12.279**	ug/L	0.228	1	34	2931	3	KED
|	**Cu**	**63**	**23.350**	ug/L	0.775	3	114	96016	1	KED
|	**Cu**	**65**	**23.075**	ug/L	0.356	1	56	47847	1	KED
|	**Zn**	**66**	**84.378**	ug/L	1.281	1	76	44862	2	KED
|	**Zn**	**67**	**80.441**	ug/L	1.381	1	13	7169	0	KED
⌊	**As**	**75**	**4.931**	ug/L	0.141	2	6	1410	0	KED
	Y	**89**		ug/L			289124	489819	1	Standard
	Kr	**83**		ug/L			80	83	8	Standard
⌈>	**In-1**	**115**		ug/L			9102	8303	1	KED
|	**Cd**	**111**	**0.081**	ug/L	0.036	43	3	25	39	KED
⌊	**Cd**	**114**	**0.084**	ug/L	0.002	2	3	64	4	KED
⌈>	**In**	**115**		ug/L			483935	466016	2	Standard
⌊	**Ag**	**107**	**0.071**	ug/L	0.002	2	106	1412	3	Standard
⌈>	**Tb**	**159**		ug/L			1215870	1165812	2	Standard
⌊	**Pb**	**208**	**11.779**	ug/L	0.284	2	593	913679	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0418-05
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 02:41:29
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26020	48514	1	Standard
	Cl	**37**		ug/L			5354462	5024698	1	Standard
⌈>	**Sc**	**45**		ug/L			474891	535364	1	Standard
|	**Cr**	**52**	**11.852**	ug/L	0.034	0	16718	263379	1	Standard
⌊	**Cr**	**53**	**11.651**	ug/L	0.138	1	209	28538	1	Standard
⌈>	**Ge**	**72**		ug/L			34387	34992	0	KED
|	**Ni**	**60**	**11.689**	ug/L	0.057	0	146	16838	0	KED
|	**Ni**	**62**	**11.483**	ug/L	0.195	1	34	2681	1	KED
|	**Cu**	**63**	**27.568**	ug/L	0.438	1	114	110844	1	KED
|	**Cu**	**65**	**27.730**	ug/L	0.284	1	56	56204	0	KED
|	**Zn**	**66**	**70.399**	ug/L	1.105	1	76	36608	2	KED
|	**Zn**	**67**	**68.008**	ug/L	2.111	3	13	5928	3	KED
⌊	**As**	**75**	**3.627**	ug/L	0.199	5	6	1016	4	KED
	Y	**89**		ug/L			289124	475686	2	Standard
	Kr	**83**		ug/L			80	74	9	Standard
⌈>	**In-1**	**115**		ug/L			9102	8408	1	KED
|	**Cd**	**111**	**0.102**	ug/L	0.023	22	3	31	21	KED
⌊	**Cd**	**114**	**0.096**	ug/L	0.018	18	3	74	17	KED
⌈>	**In**	**115**		ug/L			483935	464964	0	Standard
⌊	**Ag**	**107**	**0.103**	ug/L	0.002	2	106	1995	2	Standard
⌈>	**Tb**	**159**		ug/L			1215870	1168236	1	Standard
⌊	**Pb**	**208**	**42.428**	ug/L	0.797	1	593	3297243	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0418-06
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 02:45:55
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26020	51471	2	Standard
	Cl	**37**		ug/L			5354462	5022993	2	Standard
⌈>	**Sc**	**45**		ug/L			474891	533089	1	Standard
|	**Cr**	**52**	**15.592**	ug/L	0.350	2	16718	339030	0	Standard
⌊	**Cr**	**53**	**15.654**	ug/L	0.628	4	209	38093	2	Standard
⌈>	**Ge**	**72**		ug/L			34387	35324	1	KED
|	**Ni**	**60**	**11.385**	ug/L	0.276	2	146	16554	0	KED
|	**Ni**	**62**	**11.525**	ug/L	0.462	4	34	2715	2	KED
|	**Cu**	**63**	**25.630**	ug/L	0.285	1	114	104031	0	KED
|	**Cu**	**65**	**25.747**	ug/L	0.496	1	56	52675	0	KED
|	**Zn**	**66**	**59.711**	ug/L	0.774	1	76	31353	1	KED
|	**Zn**	**67**	**55.778**	ug/L	1.457	2	13	4910	1	KED
⌊	**As**	**75**	**2.984**	ug/L	0.050	1	6	845	1	KED
	Y	**89**		ug/L			289124	424137	0	Standard
	Kr	**83**		ug/L			80	65	4	Standard
⌈>	**In-1**	**115**		ug/L			9102	8323	3	KED
|	**Cd**	**111**	**0.121**	ug/L	0.027	22	3	36	22	KED
⌊	**Cd**	**114**	**0.126**	ug/L	0.013	10	3	95	6	KED
⌈>	**In**	**115**		ug/L			483935	463903	2	Standard
⌊	**Ag**	**107**	**0.091**	ug/L	0.004	4	106	1761	1	Standard
⌈>	**Tb**	**159**		ug/L			1215870	1182176	1	Standard
⌊	**Pb**	**208**	**39.890**	ug/L	0.559	1	593	3136852	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBLB
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 02:50:21
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26020	27712	2	Standard
	Cl	**37**		ug/L			5354462	4894544	1	Standard
⌈>	**Sc**	**45**		ug/L			474891	451342	1	Standard
|	**Cr**	**52**	**0.006**	ug/L	0.017	293	16718	15985	1	Standard
⌊	**Cr**	**53**	**-0.041**	ug/L	0.004	10	209	114	8	Standard
⌈>	**Ge**	**72**		ug/L			34387	35281	0	KED
|	**Ni**	**60**	**-0.030**	ug/L	0.001	3	146	106	1	KED
|	**Ni**	**62**	**-0.086**	ug/L	0.005	5	34	15	6	KED
|	**Cu**	**63**	**-0.004**	ug/L	0.003	79	114	101	11	KED
|	**Cu**	**65**	**-0.003**	ug/L	0.004	132	56	51	16	KED
|	**Zn**	**66**	**0.133**	ug/L	0.019	14	76	147	6	KED
|	**Zn**	**67**	**0.184**	ug/L	0.058	31	13	30	16	KED
⌊	**As**	**75**	**-0.007**	ug/L	0.006	88	6	4	36	KED
	Y	**89**		ug/L			289124	269353	2	Standard
	Kr	**83**		ug/L			80	53	25	Standard
⌈>	**In-1**	**115**		ug/L			9102	8408	0	KED
|	**Cd**	**111**	**0.012**	ug/L	0.010	82	3	6	42	KED
⌊	**Cd**	**114**	**0.008**	ug/L	0.009	121	3	9	73	KED
⌈>	**In**	**115**		ug/L			483935	444619	0	Standard
⌊	**Ag**	**107**	**-0.003**	ug/L	0.001	24	106	48	25	Standard
⌈>	**Tb**	**159**		ug/L			1215870	1122441	1	Standard
⌊	**Pb**	**208**	**0.005**	ug/L	0.000	5	593	940	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVB
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 02:54:48
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26020	29140	2	Standard
	Cl	**37**		ug/L			5354462	5347339	1	Standard
⌈>	**Sc**	**45**		ug/L			474891	465488	1	Standard
|	**Cr**	**52**	**49.253**	ug/L	0.326	0	16718	899890	1	Standard
⌊	**Cr**	**53**	**48.449**	ug/L	0.592	1	209	102538	1	Standard
⌈>	**Ge**	**72**		ug/L			34387	35562	1	KED
|	**Ni**	**60**	**49.703**	ug/L	2.722	5	146	72235	4	KED
|	**Ni**	**62**	**49.078**	ug/L	1.675	3	34	11527	2	KED
|	**Cu**	**63**	**50.300**	ug/L	2.320	4	114	205371	3	KED
|	**Cu**	**65**	**51.234**	ug/L	2.562	5	56	105450	3	KED
|	**Zn**	**66**	**49.750**	ug/L	2.713	5	76	26302	4	KED
|	**Zn**	**67**	**51.039**	ug/L	2.233	4	13	4523	3	KED
⌊	**As**	**75**	**48.249**	ug/L	2.480	5	6	13656	3	KED
	Y	**89**		ug/L			289124	274074	1	Standard
	Kr	**83**		ug/L			80	58	19	Standard
⌈>	**In-1**	**115**		ug/L			9102	8303	0	KED
|	**Cd**	**111**	**50.601**	ug/L	0.678	1	3	14010	1	KED
⌊	**Cd**	**114**	**50.849**	ug/L	0.664	1	3	36939	1	KED
⌈>	**In**	**115**		ug/L			483935	442236	1	Standard
⌊	**Ag**	**107**	**48.673**	ug/L	0.987	2	106	851100	0	Standard
⌈>	**Tb**	**159**		ug/L			1215870	1135430	2	Standard
⌊	**Pb**	**208**	**52.464**	ug/L	1.591	3	593	3961205	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBB
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 03:01:58
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26020	26938	0	Standard
	Cl	**37**		ug/L			5354462	5194250	1	Standard
⌈>	**Sc**	**45**		ug/L			474891	458058	1	Standard
|	**Cr**	**52**	**0.006**	ug/L	0.028	447	16718	16232	2	Standard
⌊	**Cr**	**53**	**-0.047**	ug/L	0.003	6	209	104	5	Standard
⌈>	**Ge**	**72**		ug/L			34387	35101	0	KED
|	**Ni**	**60**	**-0.034**	ug/L	0.007	19	146	99	9	KED
|	**Ni**	**62**	**-0.066**	ug/L	0.027	40	34	20	30	KED
|	**Cu**	**63**	**-0.015**	ug/L	0.003	19	114	55	21	KED
|	**Cu**	**65**	**-0.018**	ug/L	0.003	16	56	21	28	KED
|	**Zn**	**66**	**-0.073**	ug/L	0.004	5	76	40	4	KED
|	**Zn**	**67**	**-0.076**	ug/L	0.021	28	13	7	25	KED
⌊	**As**	**75**	**0.001**	ug/L	0.006	449	6	6	22	KED
	Y	**89**		ug/L			289124	267450	2	Standard
	Kr	**83**		ug/L			80	50	19	Standard
⌈>	**In-1**	**115**		ug/L			9102	8486	1	KED
|	**Cd**	**111**	**0.002**	ug/L	0.000	9	3	3	0	KED
⌊	**Cd**	**114**	**-0.001**	ug/L	0.005	559	3	2	135	KED
⌈>	**In**	**115**		ug/L			483935	455822	2	Standard
⌊	**Ag**	**107**	**0.005**	ug/L	0.001	25	106	183	11	Standard
⌈>	**Tb**	**159**		ug/L			1215870	1123140	0	Standard
⌊	**Pb**	**208**	**-0.001**	ug/L	0.001	42	593	459	8	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 03:06:24
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L				26724	1	Standard
	Cl	**37**		ug/L				5151969	1	Standard
⌈>	**Sc**	**45**		ug/L				453223	2	Standard
|	**Cr**	**52**		ug/L				16290	1	Standard
⌊	**Cr**	**53**		ug/L				110	3	Standard
⌈>	**Ge**	**72**		ug/L				35046	0	KED
|	**Ni**	**60**		ug/L				104	12	KED
|	**Ni**	**62**		ug/L				17	16	KED
|	**Cu**	**63**		ug/L				50	32	KED
|	**Cu**	**65**		ug/L				24	7	KED
|	**Zn**	**66**		ug/L				45	19	KED
|	**Zn**	**67**		ug/L				5	57	KED
⌊	**As**	**75**		ug/L				4	14	KED
	Y	**89**		ug/L				264383	3	Standard
	Kr	**83**		ug/L				57	15	Standard
⌈>	**In-1**	**115**		ug/L				8211	0	KED
|	**Cd**	**111**		ug/L				8	53	KED
⌊	**Cd**	**114**		ug/L				5	67	KED
⌈>	**In**	**115**		ug/L				441019	1	Standard
⌊	**Ag**	**107**		ug/L				84	22	Standard
⌈>	**Tb**	**159**		ug/L				1096960	2	Standard
⌊	**Pb**	**208**		ug/L				408	6	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVC
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 03:10:51
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26724	29490	2	Standard
	Cl	**37**		ug/L			5151969	5472504	2	Standard
⌈>	**Sc**	**45**		ug/L			453223	467679	0	Standard
|	**Cr**	**52**	**49.357**	ug/L	0.705	1	16290	906342	1	Standard
⌊	**Cr**	**53**	**48.874**	ug/L	1.105	2	110	103830	1	Standard
⌈>	**Ge**	**72**		ug/L			35046	34753	1	KED
|	**Ni**	**60**	**51.397**	ug/L	1.848	3	104	72956	2	KED
|	**Ni**	**62**	**51.377**	ug/L	1.067	2	17	11773	0	KED
|	**Cu**	**63**	**50.799**	ug/L	1.591	3	50	202659	2	KED
|	**Cu**	**65**	**51.522**	ug/L	0.510	0	24	103627	0	KED
|	**Zn**	**66**	**51.595**	ug/L	0.969	1	45	26629	1	KED
|	**Zn**	**67**	**50.703**	ug/L	1.970	3	5	4384	3	KED
⌊	**As**	**75**	**50.273**	ug/L	1.404	2	4	13905	1	KED
	Y	**89**		ug/L			264383	278710	2	Standard
	Kr	**83**		ug/L			57	50	28	Standard
⌈>	**In-1**	**115**		ug/L			8211	7991	1	KED
|	**Cd**	**111**	**50.671**	ug/L	1.064	2	8	13508	2	KED
⌊	**Cd**	**114**	**50.626**	ug/L	0.090	0	5	35398	0	KED
⌈>	**In**	**115**		ug/L			441019	441687	2	Standard
⌊	**Ag**	**107**	**49.958**	ug/L	1.694	3	84	872191	1	Standard
⌈>	**Tb**	**159**		ug/L			1096960	1139751	1	Standard
⌊	**Pb**	**208**	**52.707**	ug/L	1.412	2	408	3995140	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBC
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 03:18:01
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26724	27230	2	Standard
	Cl	**37**		ug/L			5151969	5276386	0	Standard
⌈>	**Sc**	**45**		ug/L			453223	464883	0	Standard
|	**Cr**	**52**	**-0.014**	ug/L	0.021	151	16290	16463	2	Standard
⌊	**Cr**	**53**	**-0.007**	ug/L	0.005	71	110	99	10	Standard
⌈>	**Ge**	**72**		ug/L			35046	34551	2	KED
|	**Ni**	**60**	**0.013**	ug/L	0.011	83	104	121	14	KED
|	**Ni**	**62**	**0.029**	ug/L	0.009	31	17	24	9	KED
|	**Cu**	**63**	**0.000**	ug/L	0.003	1551	50	50	21	KED
|	**Cu**	**65**	**-0.000**	ug/L	0.001	622	24	24	9	KED
|	**Zn**	**66**	**0.000**	ug/L	0.007	7767	45	44	6	KED
|	**Zn**	**67**	**0.023**	ug/L	0.021	91	5	7	25	KED
⌊	**As**	**75**	**0.004**	ug/L	0.005	108	4	6	19	KED
	Y	**89**		ug/L			264383	274511	1	Standard
	Kr	**83**		ug/L			57	58	6	Standard
⌈>	**In-1**	**115**		ug/L			8211	8418	1	KED
|	**Cd**	**111**	**-0.012**	ug/L	0.014	116	8	5	75	KED
⌊	**Cd**	**114**	**-0.000**	ug/L	0.002	2739	5	5	34	KED
⌈>	**In**	**115**		ug/L			441019	459027	1	Standard
⌊	**Ag**	**107**	**0.006**	ug/L	0.000	5	84	205	4	Standard
⌈>	**Tb**	**159**		ug/L			1096960	1145283	1	Standard
⌊	**Pb**	**208**	**0.001**	ug/L	0.000	44	408	482	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0124-02
Sample Dil Factor: 5
Comments:
Sample Date/Time: Friday, April 28, 2023 03:22:28
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26724	38423	2	Standard
	Cl	**37**		ug/L			5151969	5466503	2	Standard
⌈>	**Sc**	**45**		ug/L			453223	446220	5	Standard
|	**Cr**	**52**	**1.144**	ug/L	0.084	7	16290	35673	2	Standard
⌊	**Cr**	**53**	**1.144**	ug/L	0.024	2	110	2426	6	Standard
⌈>	**Ge**	**72**		ug/L			35046	35433	1	KED
|	**Ni**	**60**	**0.208**	ug/L	0.032	15	104	405	10	KED
|	**Ni**	**62**	**0.239**	ug/L	0.052	21	17	73	15	KED
|	**Cu**	**63**	**5.264**	ug/L	0.042	0	50	21463	1	KED
|	**Cu**	**65**	**5.273**	ug/L	0.090	1	24	10836	2	KED
|	**Zn**	**66**	**47.133**	ug/L	1.919	4	45	24799	2	KED
|	**Zn**	**67**	**43.562**	ug/L	0.949	2	5	3841	2	KED
⌊	**As**	**75**	**0.215**	ug/L	0.028	12	4	65	10	KED
	Y	**89**		ug/L			264383	259708	5	Standard
	Kr	**83**		ug/L			57	54	32	Standard
⌈>	**In-1**	**115**		ug/L			8211	8229	0	KED
|	**Cd**	**111**	**-0.016**	ug/L	0.009	56	8	3	66	KED
⌊	**Cd**	**114**	**0.002**	ug/L	0.002	129	5	6	26	KED
⌈>	**In**	**115**		ug/L			441019	436584	3	Standard
⌊	**Ag**	**107**	**0.006**	ug/L	0.002	41	84	182	23	Standard
⌈>	**Tb**	**159**		ug/L			1096960	1103223	2	Standard
⌊	**Pb**	**208**	**0.006**	ug/L	0.001	9	408	881	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0510-DUP2
Sample Dil Factor: 5
Comments:
Sample Date/Time: Friday, April 28, 2023 03:26:54
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26724	39355	1	Standard
	Cl	**37**		ug/L			5151969	5490228	3	Standard
⌈>	**Sc**	**45**		ug/L			453223	472467	1	Standard
|	**Cr**	**52**	**1.056**	ug/L	0.034	3	16290	36212	0	Standard
⌊	**Cr**	**53**	**1.063**	ug/L	0.038	3	110	2393	2	Standard
⌈>	**Ge**	**72**		ug/L			35046	35151	1	KED
|	**Ni**	**60**	**0.180**	ug/L	0.007	3	104	363	3	KED
|	**Ni**	**62**	**0.230**	ug/L	0.028	12	17	71	10	KED
|	**Cu**	**63**	**5.109**	ug/L	0.027	0	50	20667	0	KED
|	**Cu**	**65**	**5.162**	ug/L	0.044	0	24	10525	1	KED
|	**Zn**	**66**	**44.675**	ug/L	0.837	1	45	23332	2	KED
|	**Zn**	**67**	**41.889**	ug/L	2.173	5	5	3663	4	KED
⌊	**As**	**75**	**0.187**	ug/L	0.023	12	4	57	11	KED
	Y	**89**		ug/L			264383	274976	1	Standard
	Kr	**83**		ug/L			57	52	13	Standard
⌈>	**In-1**	**115**		ug/L			8211	8057	0	KED
|	**Cd**	**111**	**-0.005**	ug/L	0.004	68	8	6	14	KED
⌊	**Cd**	**114**	**-0.006**	ug/L	0.003	45	5	1	151	KED
⌈>	**In**	**115**		ug/L			441019	459931	0	Standard
⌊	**Ag**	**107**	**0.002**	ug/L	0.000	7	84	132	1	Standard
⌈>	**Tb**	**159**		ug/L			1096960	1156435	1	Standard
⌊	**Pb**	**208**	**0.005**	ug/L	0.001	18	408	799	7	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0510-MS2
Sample Dil Factor: 5
Comments:
Sample Date/Time: Friday, April 28, 2023 03:31:20
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26724	39443	0	Standard
	Cl	37		ug/L			5151969	5559199	3	Standard
⌈>	Sc	45		ug/L			453223	464997	1	Standard
|	Cr	52	6.703	ug/L	0.274	4	16290	136777	2	Standard
⌊	Cr	53	6.762	ug/L	0.207	3	110	14379	1	Standard
⌈>	Ge	72		ug/L			35046	34781	0	KED
|	Ni	60	5.957	ug/L	0.073	1	104	8557	1	KED
|	Ni	62	6.193	ug/L	0.203	3	17	1436	3	KED
|	Cu	63	11.447	ug/L	0.177	1	50	45751	1	KED
|	Cu	65	11.612	ug/L	0.242	2	24	23395	2	KED
|	Zn	66	67.354	ug/L	0.811	1	45	34783	1	KED
|	Zn	67	62.957	ug/L	0.499	0	5	5448	0	KED
⌊	As	75	5.913	ug/L	0.032	0	4	1641	0	KED
	Y	89		ug/L			264383	272554	0	Standard
	Kr	83		ug/L			57	44	9	Standard
⌈>	In-1	115		ug/L			8211	8075	2	KED
|	Cd	111	5.836	ug/L	0.378	6	8	1577	4	KED
⌊	Cd	114	5.856	ug/L	0.368	6	5	4137	4	KED
⌈>	In	115		ug/L			441019	450680	2	Standard
⌊	Ag	107	5.437	ug/L	0.144	2	84	96942	0	Standard
⌈>	Tb	159		ug/L			1096960	1130933	0	Standard
⌊	Pb	208	5.876	ug/L	0.075	1	408	442433	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0418-07
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 03:35:39
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26724	43421	2	Standard
	Cl	**37**		ug/L			5151969	5276954	1	Standard
⌈>	**Sc**	**45**		ug/L			453223	542956	2	Standard
|	**Cr**	**52**	**13.815**	ug/L	0.293	2	16290	308478	0	Standard
⌊	**Cr**	**53**	**13.613**	ug/L	0.402	2	110	33661	0	Standard
⌈>	**Ge**	**72**		ug/L			35046	34836	1	KED
|	**Ni**	**60**	**17.092**	ug/L	0.280	1	104	24394	1	KED
|	**Ni**	**62**	**17.321**	ug/L	0.861	4	17	3989	3	KED
|	**Cu**	**63**	**33.208**	ug/L	0.162	0	50	132847	1	KED
|	**Cu**	**65**	**33.335**	ug/L	0.788	2	24	67211	1	KED
|	**Zn**	**66**	**109.695**	ug/L	1.218	1	45	56705	0	KED
|	**Zn**	**67**	**100.160**	ug/L	2.264	2	5	8676	1	KED
⌊	**As**	**75**	**5.263**	ug/L	0.136	2	4	1464	3	KED
	Y	**89**		ug/L			264383	469146	1	Standard
	Kr	**83**		ug/L			57	67	11	Standard
⌈>	**In-1**	**115**		ug/L			8211	8110	2	KED
|	**Cd**	**111**	**0.083**	ug/L	0.029	35	8	30	25	KED
⌊	**Cd**	**114**	**0.105**	ug/L	0.018	17	5	79	16	KED
⌈>	**In**	**115**		ug/L			441019	454928	1	Standard
⌊	**Ag**	**107**	**0.050**	ug/L	0.004	8	84	993	7	Standard
⌈>	**Tb**	**159**		ug/L			1096960	1139678	0	Standard
⌊	**Pb**	**208**	**23.344**	ug/L	0.465	1	408	1770193	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0418-08
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 03:40:05
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26724	49597	2	Standard
	Cl	37		ug/L			5151969	5196412	2	Standard
>	Sc	45		ug/L			453223	590129	1	Standard
	Cr	52	21.980	ug/L	0.391	1	16290	521049	1	Standard
	Cr	53	21.927	ug/L	0.385	1	110	58858	0	Standard
>	Ge	72		ug/L			35046	34438	0	KED
	Ni	60	22.111	ug/L	0.661	2	104	31170	2	KED
	Ni	62	22.258	ug/L	0.479	2	17	5065	1	KED
	Cu	63	48.214	ug/L	0.881	1	50	190633	1	KED
	Cu	65	47.365	ug/L	0.320	0	24	94415	1	KED
	Zn	66	427.693	ug/L	3.194	0	45	218449	0	KED
	Zn	67	402.872	ug/L	9.224	2	5	34485	1	KED
	As	75	12.874	ug/L	0.105	0	4	3533	1	KED
	Y	89		ug/L			264383	541930	1	Standard
	Kr	83		ug/L			57	88	18	Standard
>	In-1	115		ug/L			8211	8208	1	KED
	Cd	111	0.620	ug/L	0.082	13	8	177	11	KED
	Cd	114	0.658	ug/L	0.078	11	5	478	12	KED
>	In	115		ug/L			441019	457981	2	Standard
	Ag	107	0.422	ug/L	0.013	3	84	7720	1	Standard
>	Tb	159		ug/L			1096960	1158647	0	Standard
	Pb	208	49.602	ug/L	0.891	1	408	3823474	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0418-09
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 03:44:31
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26724	53033	3	Standard
	Cl	**37**		ug/L			5151969	5065662	2	Standard
⌈>	**Sc**	**45**		ug/L			453223	542719	1	Standard
|	**Cr**	**52**	**8.705**	ug/L	0.079	0	16290	201559	0	Standard
⌊	**Cr**	**53**	**8.738**	ug/L	0.123	1	110	21651	0	Standard
⌈>	**Ge**	**72**		ug/L			35046	34451	1	KED
|	**Ni**	**60**	**9.965**	ug/L	0.172	1	104	14107	0	KED
|	**Ni**	**62**	**9.773**	ug/L	0.576	5	17	2234	5	KED
|	**Cu**	**63**	**15.433**	ug/L	0.228	1	50	61080	1	KED
|	**Cu**	**65**	**15.431**	ug/L	0.219	1	24	30786	1	KED
|	**Zn**	**66**	**50.956**	ug/L	1.166	2	45	26074	2	KED
|	**Zn**	**67**	**48.156**	ug/L	1.224	2	5	4128	1	KED
⌊	**As**	**75**	**5.804**	ug/L	0.064	1	4	1596	0	KED
	Y	**89**		ug/L			264383	452388	1	Standard
	Kr	**83**		ug/L			57	78	5	Standard
⌈>	**In-1**	**115**		ug/L			8211	8038	2	KED
|	**Cd**	**111**	**0.040**	ug/L	0.005	11	8	18	7	KED
⌊	**Cd**	**114**	**0.028**	ug/L	0.015	51	5	25	42	KED
⌈>	**In**	**115**		ug/L			441019	456542	4	Standard
⌊	**Ag**	**107**	**0.037**	ug/L	0.002	6	84	760	2	Standard
⌈>	**Tb**	**159**		ug/L			1096960	1173995	0	Standard
⌊	**Pb**	**208**	**4.042**	ug/L	0.062	1	408	316070	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0418-10
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 03:48:57
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26724	44959	3	Standard
	Cl	**37**		ug/L			5151969	4972065	1	Standard
⌈>	**Sc**	**45**		ug/L			453223	523563	1	Standard
|	**Cr**	**52**	**9.785**	ug/L	0.165	1	16290	216245	2	Standard
⌊	**Cr**	**53**	**9.998**	ug/L	0.111	1	110	23880	0	Standard
⌈>	**Ge**	**72**		ug/L			35046	34558	0	KED
|	**Ni**	**60**	**9.085**	ug/L	0.141	1	104	12912	0	KED
|	**Ni**	**62**	**9.303**	ug/L	0.191	2	17	2134	2	KED
|	**Cu**	**63**	**14.445**	ug/L	0.192	1	50	57351	1	KED
|	**Cu**	**65**	**14.425**	ug/L	0.140	0	24	28870	1	KED
|	**Zn**	**66**	**31.677**	ug/L	0.247	0	45	16277	1	KED
|	**Zn**	**67**	**30.320**	ug/L	0.275	0	5	2609	0	KED
⌊	**As**	**75**	**1.900**	ug/L	0.102	5	4	527	5	KED
	Y	**89**		ug/L			264383	459360	0	Standard
	Kr	**83**		ug/L			57	75	8	Standard
⌈>	**In-1**	**115**		ug/L			8211	8015	4	KED
|	**Cd**	**111**	**0.013**	ug/L	0.015	113	8	11	30	KED
⌊	**Cd**	**114**	**0.034**	ug/L	0.008	22	5	28	15	KED
⌈>	**In**	**115**		ug/L			441019	463699	3	Standard
⌊	**Ag**	**107**	**0.040**	ug/L	0.003	8	84	814	4	Standard
⌈>	**Tb**	**159**		ug/L			1096960	1169387	0	Standard
⌊	**Pb**	**208**	**2.140**	ug/L	0.014	0	408	166899	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0418-11
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 03:53:23
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26724	54013	1	Standard
	Cl	**37**		ug/L			5151969	4944114	2	Standard
⌈>	**Sc**	**45**		ug/L			453223	523371	1	Standard
|	**Cr**	**52**	**11.119**	ug/L	0.160	1	16290	243033	0	Standard
⌊	**Cr**	**53**	**11.094**	ug/L	0.224	2	110	26471	0	Standard
⌈>	**Ge**	**72**		ug/L			35046	34694	1	KED
|	**Ni**	**60**	**8.359**	ug/L	0.259	3	104	11932	1	KED
|	**Ni**	**62**	**7.882**	ug/L	0.387	4	17	1817	3	KED
|	**Cu**	**63**	**16.960**	ug/L	0.539	3	50	67567	1	KED
|	**Cu**	**65**	**17.172**	ug/L	0.302	1	24	34492	0	KED
|	**Zn**	**66**	**41.142**	ug/L	0.984	2	45	21204	0	KED
|	**Zn**	**67**	**39.796**	ug/L	0.305	0	5	3437	1	KED
⌊	**As**	**75**	**2.358**	ug/L	0.019	0	4	656	1	KED
	Y	**89**		ug/L			264383	440438	1	Standard
	Kr	**83**		ug/L			57	74	25	Standard
⌈>	**In-1**	**115**		ug/L			8211	8025	1	KED
|	**Cd**	**111**	**0.048**	ug/L	0.008	17	8	20	9	KED
⌊	**Cd**	**114**	**0.072**	ug/L	0.006	8	5	55	7	KED
⌈>	**In**	**115**		ug/L			441019	452239	1	Standard
⌊	**Ag**	**107**	**0.074**	ug/L	0.005	6	84	1412	5	Standard
⌈>	**Tb**	**159**		ug/L			1096960	1157893	1	Standard
⌊	**Pb**	**208**	**9.547**	ug/L	0.086	0	408	735720	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0418-12
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 03:57:49
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26724	49323	1	Standard
	Cl	**37**		ug/L			5151969	4975031	2	Standard
⌈>	**Sc**	**45**		ug/L			453223	522366	1	Standard
|	**Cr**	**52**	**11.246**	ug/L	0.027	0	16290	245152	1	Standard
⌊	**Cr**	**53**	**11.144**	ug/L	0.174	1	110	26545	1	Standard
⌈>	**Ge**	**72**		ug/L			35046	33950	2	KED
|	**Ni**	**60**	**5.359**	ug/L	0.124	2	104	7522	2	KED
|	**Ni**	**62**	**5.731**	ug/L	0.141	2	17	1299	4	KED
|	**Cu**	**63**	**26.673**	ug/L	0.852	3	50	103943	1	KED
|	**Cu**	**65**	**26.341**	ug/L	0.729	2	24	51750	1	KED
|	**Zn**	**66**	**28.790**	ug/L	0.140	0	45	14536	2	KED
|	**Zn**	**67**	**27.316**	ug/L	0.917	3	5	2309	1	KED
⌊	**As**	**75**	**3.510**	ug/L	0.093	2	4	952	0	KED
	Y	**89**		ug/L			264383	419189	1	Standard
	Kr	**83**		ug/L			57	76	6	Standard
⌈>	**In-1**	**115**		ug/L			8211	8089	2	KED
|	**Cd**	**111**	**0.009**	ug/L	0.015	165	8	10	36	KED
⌊	**Cd**	**114**	**0.033**	ug/L	0.007	20	5	28	16	KED
⌈>	**In**	**115**		ug/L			441019	444771	2	Standard
⌊	**Ag**	**107**	**0.027**	ug/L	0.002	7	84	553	5	Standard
⌈>	**Tb**	**159**		ug/L			1096960	1174496	0	Standard
⌊	**Pb**	**208**	**6.179**	ug/L	0.015	0	408	483165	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBLD
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 04:02:15
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26724	27936	1	Standard
	Cl	**37**		ug/L			5151969	4849616	2	Standard
⌈>	**Sc**	**45**		ug/L			453223	450715	0	Standard
|	**Cr**	**52**	**-0.031**	ug/L	0.015	48	16290	15662	1	Standard
⌊	**Cr**	**53**	**0.008**	ug/L	0.012	149	110	126	19	Standard
⌈>	**Ge**	**72**		ug/L			35046	33446	1	KED
|	**Ni**	**60**	**-0.007**	ug/L	0.020	268	104	89	31	KED
|	**Ni**	**62**	**-0.028**	ug/L	0.027	96	17	10	53	KED
|	**Cu**	**63**	**0.013**	ug/L	0.001	6	50	97	3	KED
|	**Cu**	**65**	**0.018**	ug/L	0.007	37	24	57	21	KED
|	**Zn**	**66**	**0.232**	ug/L	0.011	4	45	158	2	KED
|	**Zn**	**67**	**0.171**	ug/L	0.081	47	5	19	33	KED
⌊	**As**	**75**	**0.001**	ug/L	0.012	815	4	5	60	KED
	Y	**89**		ug/L			264383	262945	0	Standard
	Kr	**83**		ug/L			57	48	18	Standard
⌈>	**In-1**	**115**		ug/L			8211	7697	2	KED
|	**Cd**	**111**	**-0.017**	ug/L	0.005	32	8	3	41	KED
⌊	**Cd**	**114**	**-0.000**	ug/L	0.004	1155	5	4	45	KED
⌈>	**In**	**115**		ug/L			441019	439046	4	Standard
⌊	**Ag**	**107**	**-0.002**	ug/L	0.000	19	84	47	10	Standard
⌈>	**Tb**	**159**		ug/L			1096960	1096711	1	Standard
⌊	**Pb**	**208**	**0.011**	ug/L	0.008	75	408	1212	49	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVD
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 04:06:42
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26724	28398	1	Standard
	Cl	**37**		ug/L			5151969	5362388	2	Standard
⌈>	**Sc**	**45**		ug/L			453223	454194	1	Standard
|	**Cr**	**52**	**49.819**	ug/L	0.180	0	16290	888289	1	Standard
⌊	**Cr**	**53**	**49.410**	ug/L	0.997	2	110	101933	0	Standard
⌈>	**Ge**	**72**		ug/L			35046	34289	2	KED
|	**Ni**	**60**	**49.925**	ug/L	3.362	6	104	69879	4	KED
|	**Ni**	**62**	**50.599**	ug/L	3.304	6	17	11433	4	KED
|	**Cu**	**63**	**50.552**	ug/L	3.144	6	50	198852	4	KED
|	**Cu**	**65**	**50.455**	ug/L	1.014	2	24	100108	0	KED
|	**Zn**	**66**	**49.746**	ug/L	1.977	3	45	25323	1	KED
|	**Zn**	**67**	**50.913**	ug/L	2.648	5	5	4341	3	KED
⌊	**As**	**75**	**48.850**	ug/L	2.563	5	4	13325	3	KED
	Y	**89**		ug/L			264383	269910	2	Standard
	Kr	**83**		ug/L			57	61	23	Standard
⌈>	**In-1**	**115**		ug/L			8211	7899	0	KED
|	**Cd**	**111**	**51.112**	ug/L	0.491	0	8	13467	0	KED
⌊	**Cd**	**114**	**50.400**	ug/L	0.620	1	5	34833	0	KED
⌈>	**In**	**115**		ug/L			441019	432441	1	Standard
⌊	**Ag**	**107**	**49.864**	ug/L	0.577	1	84	852685	0	Standard
⌈>	**Tb**	**159**		ug/L			1096960	1112317	1	Standard
⌊	**Pb**	**208**	**52.502**	ug/L	0.378	0	408	3885221	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBD
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 04:13:52
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26724	26737	2	Standard
	Cl	**37**		ug/L			5151969	5109675	2	Standard
⌈>	**Sc**	**45**		ug/L			453223	461211	1	Standard
|	**Cr**	**52**	**-0.029**	ug/L	0.013	44	16290	16066	1	Standard
⌊	**Cr**	**53**	**-0.005**	ug/L	0.004	80	110	103	6	Standard
⌈>	**Ge**	**72**		ug/L			35046	34794	1	KED
|	**Ni**	**60**	**-0.046**	ug/L	0.001	1	104	38	5	KED
|	**Ni**	**62**	**-0.033**	ug/L	0.013	39	17	10	28	KED
|	**Cu**	**63**	**-0.002**	ug/L	0.003	184	50	43	29	KED
|	**Cu**	**65**	**-0.002**	ug/L	0.004	221	24	20	36	KED
|	**Zn**	**66**	**-0.029**	ug/L	0.014	47	45	29	22	KED
|	**Zn**	**67**	**0.001**	ug/L	0.059	9420	5	5	88	KED
⌊	**As**	**75**	**0.000**	ug/L	0.006	3835	4	4	31	KED
	Y	**89**		ug/L			264383	269121	0	Standard
	Kr	**83**		ug/L			57	55	16	Standard
⌈>	**In-1**	**115**		ug/L			8211	8268	2	KED
|	**Cd**	**111**	**-0.011**	ug/L	0.002	23	8	5	10	KED
⌊	**Cd**	**114**	**-0.003**	ug/L	0.003	105	5	3	58	KED
⌈>	**In**	**115**		ug/L			441019	445278	0	Standard
⌊	**Ag**	**107**	**0.004**	ug/L	0.001	22	84	153	9	Standard
⌈>	**Tb**	**159**		ug/L			1096960	1133295	1	Standard
⌊	**Pb**	**208**	**-0.001**	ug/L	0.000	20	408	320	7	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0076-01RE1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 04:18:18
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26724	40898	0	Standard
	Cl	**37**		ug/L			5151969	5045402	3	Standard
⌈>	**Sc**	**45**		ug/L			453223	474341	2	Standard
|	**Cr**	**52**	**0.179**	ug/L	0.029	16	16290	20305	0	Standard
⌊	**Cr**	**53**	**0.182**	ug/L	0.003	1	110	507	1	Standard
⌈>	**Ge**	**72**		ug/L			35046	34922	0	KED
|	**Ni**	**60**	**0.035**	ug/L	0.014	39	104	154	13	KED
|	**Ni**	**62**	**0.039**	ug/L	0.052	133	17	26	44	KED
|	**Cu**	**63**	**11.738**	ug/L	0.095	0	50	47106	0	KED
|	**Cu**	**65**	**11.678**	ug/L	0.151	1	24	23623	1	KED
|	**Zn**	**66**	**6.505**	ug/L	0.014	0	45	3413	0	KED
|	**Zn**	**67**	**5.868**	ug/L	0.346	5	5	514	5	KED
⌊	**As**	**75**	**0.009**	ug/L	0.005	63	4	7	20	KED
	Y	**89**		ug/L			264383	274475	2	Standard
	Kr	**83**		ug/L			57	45	4	Standard
⌈>	**In-1**	**115**		ug/L			8211	8122	1	KED
|	**Cd**	**111**	**-0.004**	ug/L	0.009	215	8	6	34	KED
⌊	**Cd**	**114**	**0.001**	ug/L	0.002	132	5	6	20	KED
⌈>	**In**	**115**		ug/L			441019	450203	0	Standard
⌊	**Ag**	**107**	**0.003**	ug/L	0.001	27	84	145	10	Standard
⌈>	**Tb**	**159**		ug/L			1096960	1148419	1	Standard
⌊	**Pb**	**208**	**0.420**	ug/L	0.012	2	408	32475	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0004-02
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 04:23:08
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26724	51686	0	Standard
	Cl	**37**		ug/L			5151969	5793454	2	Standard
⌈>	**Sc**	**45**		ug/L			453223	496329	2	Standard
|	**Cr**	**52**	**0.468**	ug/L	0.025	5	16290	26773	0	Standard
⌊	**Cr**	**53**	**1.577**	ug/L	0.045	2	110	3671	2	Standard
⌈>	**Ge**	**72**		ug/L			35046	33841	1	KED
|	**Ni**	**60**	**0.747**	ug/L	0.050	6	104	1132	5	KED
|	**Ni**	**62**	**0.741**	ug/L	0.065	8	17	182	6	KED
|	**Cu**	**63**	**1.330**	ug/L	0.020	1	50	5216	2	KED
|	**Cu**	**65**	**1.407**	ug/L	0.087	6	24	2779	5	KED
|	**Zn**	**66**	**4.764**	ug/L	0.115	2	45	2433	1	KED
|	**Zn**	**67**	**4.695**	ug/L	0.351	7	5	400	8	KED
⌊	**As**	**75**	**0.636**	ug/L	0.050	7	4	176	8	KED
	Y	**89**		ug/L			264383	281365	2	Standard
	Kr	**83**		ug/L			57	41	30	Standard
⌈>	**In-1**	**115**		ug/L			8211	7890	3	KED
|	**Cd**	**111**	**-0.011**	ug/L	0.009	77	8	5	47	KED
⌊	**Cd**	**114**	**0.002**	ug/L	0.008	324	5	7	79	KED
⌈>	**In**	**115**		ug/L			441019	436615	3	Standard
⌊	**Ag**	**107**	**0.002**	ug/L	0.000	18	84	119	2	Standard
⌈>	**Tb**	**159**		ug/L			1096960	1147775	0	Standard
⌊	**Pb**	**208**	**0.143**	ug/L	0.002	1	408	11331	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0004-04
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 04:27:34
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26724	52990	2	Standard
	Cl	**37**		ug/L			5151969	6929736	0	Standard
⌈>	**Sc**	**45**		ug/L			453223	487499	1	Standard
|	**Cr**	**52**	**0.463**	ug/L	0.008	1	16290	26223	1	Standard
⌊	**Cr**	**53**	**2.805**	ug/L	0.041	1	110	6323	1	Standard
⌈>	**Ge**	**72**		ug/L			35046	32564	0	KED
|	**Ni**	**60**	**0.719**	ug/L	0.035	4	104	1052	5	KED
|	**Ni**	**62**	**0.696**	ug/L	0.080	11	17	165	10	KED
|	**Cu**	**63**	**0.716**	ug/L	0.009	1	50	2722	1	KED
|	**Cu**	**65**	**0.696**	ug/L	0.026	3	24	1335	3	KED
|	**Zn**	**66**	**6.401**	ug/L	0.358	5	45	3131	4	KED
|	**Zn**	**67**	**6.335**	ug/L	0.528	8	5	518	8	KED
⌊	**As**	**75**	**0.567**	ug/L	0.039	6	4	151	6	KED
	Y	**89**		ug/L			264383	272193	1	Standard
	Kr	**83**		ug/L			57	57	6	Standard
⌈>	**In-1**	**115**		ug/L			8211	7547	2	KED
|	**Cd**	**111**	**-0.004**	ug/L	0.010	254	8	6	37	KED
⌊	**Cd**	**114**	**-0.001**	ug/L	0.006	727	5	4	84	KED
⌈>	**In**	**115**		ug/L			441019	439178	0	Standard
⌊	**Ag**	**107**	**-0.000**	ug/L	0.001	499	84	81	12	Standard
⌈>	**Tb**	**159**		ug/L			1096960	1133575	2	Standard
⌊	**Pb**	**208**	**0.055**	ug/L	0.002	3	408	4578	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0003-04
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 04:31:54
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26724	46927	1	Standard
	Cl	37		ug/L			5151969	5240521	2	Standard
>	Sc	45		ug/L			453223	477465	0	Standard
	Cr	52	1.153	ug/L	0.028	2	16290	38380	1	Standard
	Cr	53	1.338	ug/L	0.011	0	110	3015	1	Standard
>	Ge	72		ug/L			35046	34242	0	KED
	Ni	60	1.855	ug/L	0.033	1	104	2692	1	KED
	Ni	62	2.004	ug/L	0.063	3	17	469	3	KED
	Cu	63	57.947	ug/L	0.622	1	50	227810	0	KED
	Cu	65	58.761	ug/L	0.426	0	24	116454	0	KED
	Zn	66	48.589	ug/L	1.446	2	45	24715	3	KED
	Zn	67	45.469	ug/L	0.693	1	5	3875	1	KED
	As	75	0.422	ug/L	0.022	5	4	119	5	KED
	Y	89		ug/L			264383	273068	1	Standard
	Kr	83		ug/L			57	46	18	Standard
>	In-1	115		ug/L			8211	7960	1	KED
	Cd	111	-0.005	ug/L	0.010	200	8	6	37	KED
	Cd	114	0.013	ug/L	0.010	77	5	14	47	KED
>	In	115		ug/L			441019	453661	1	Standard
	Ag	107	0.000	ug/L	0.001	178	84	95	17	Standard
>	Tb	159		ug/L			1096960	1158134	0	Standard
	Pb	208	0.095	ug/L	0.001	1	408	7767	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0003-06
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 04:36:20
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26724	47956	1	Standard
	Cl	37		ug/L			5151969	5080531	2	Standard
>	Sc	45		ug/L			453223	470606	2	Standard
	Cr	52	1.155	ug/L	0.047	4	16290	37842	0	Standard
	Cr	53	1.334	ug/L	0.019	1	110	2964	3	Standard
>	Ge	72		ug/L			35046	33626	0	KED
	Ni	60	2.312	ug/L	0.054	2	104	3272	3	KED
	Ni	62	2.527	ug/L	0.076	2	17	576	2	KED
	Cu	63	87.939	ug/L	2.570	2	50	339465	2	KED
	Cu	65	87.224	ug/L	0.980	1	24	169753	1	KED
	Zn	66	77.964	ug/L	0.781	1	45	38921	1	KED
	Zn	67	70.686	ug/L	1.369	1	5	5912	1	KED
	As	75	1.263	ug/L	0.050	3	4	342	4	KED
	Y	89		ug/L			264383	280637	0	Standard
	Kr	83		ug/L			57	39	5	Standard
>	In-1	115		ug/L			8211	7896	1	KED
	Cd	111	-0.005	ug/L	0.004	74	8	6	14	KED
	Cd	114	0.010	ug/L	0.008	80	5	12	45	KED
>	In	115		ug/L			441019	452247	0	Standard
	Ag	107	0.002	ug/L	0.001	48	84	128	16	Standard
>	Tb	159		ug/L			1096960	1165527	2	Standard
	Pb	208	0.074	ug/L	0.004	5	408	6164	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0003-08
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 04:40:45
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26724	48934	1	Standard
	Cl	37		ug/L			5151969	5339107	3	Standard
⌈>	Sc	45		ug/L			453223	474971	1	Standard
|	Cr	52	0.939	ug/L	0.017	1	16290	34251	0	Standard
⌊	Cr	53	0.993	ug/L	0.017	1	110	2256	3	Standard
⌈>	Ge	72		ug/L			35046	34291	1	KED
|	Ni	60	1.580	ug/L	0.066	4	104	2311	3	KED
|	Ni	62	1.719	ug/L	0.096	5	17	405	5	KED
|	Cu	63	58.052	ug/L	0.674	1	50	228558	1	KED
|	Cu	65	58.916	ug/L	1.512	2	24	116915	1	KED
|	Zn	66	27.774	ug/L	0.672	2	45	14164	1	KED
|	Zn	67	26.421	ug/L	0.717	2	5	2257	2	KED
⌊	As	75	0.408	ug/L	0.002	0	4	116	0	KED
	Y	89		ug/L			264383	269853	1	Standard
	Kr	83		ug/L			57	46	10	Standard
⌈>	In-1	115		ug/L			8211	7964	1	KED
|	Cd	111	0.065	ug/L	0.040	61	8	25	42	KED
⌊	Cd	114	0.090	ug/L	0.033	36	5	68	32	KED
⌈>	In	115		ug/L			441019	447527	1	Standard
⌊	Ag	107	-0.000	ug/L	0.001	535	84	81	22	Standard
⌈>	Tb	159		ug/L			1096960	1139548	2	Standard
⌊	Pb	208	0.016	ug/L	0.001	8	408	1639	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0003-02
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 04:45:11
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26724	48424	2	Standard
	Cl	37		ug/L			5151969	5407440	1	Standard
>	Sc	45		ug/L			453223	480629	0	Standard
	Cr	52	1.201	ug/L	0.030	2	16290	39530	2	Standard
	Cr	53	1.323	ug/L	0.037	2	110	3003	2	Standard
>	Ge	72		ug/L			35046	33981	1	KED
	Ni	60	1.995	ug/L	0.022	1	104	2867	2	KED
	Ni	62	1.992	ug/L	0.157	7	17	463	9	KED
	Cu	63	60.831	ug/L	1.498	2	50	237340	3	KED
	Cu	65	61.498	ug/L	1.535	2	24	120942	2	KED
	Zn	66	50.662	ug/L	0.789	1	45	25571	2	KED
	Zn	67	47.360	ug/L	0.307	0	5	4005	2	KED
	As	75	0.469	ug/L	0.026	5	4	131	4	KED
	Y	89		ug/L			264383	271078	1	Standard
	Kr	83		ug/L			57	46	16	Standard
>	In-1	115		ug/L			8211	8042	3	KED
	Cd	111	-0.012	ug/L	0.004	33	8	4	20	KED
	Cd	114	0.005	ug/L	0.012	242	5	8	97	KED
>	In	115		ug/L			441019	452672	0	Standard
	Ag	107	0.000	ug/L	0.000	57	84	93	3	Standard
>	Tb	159		ug/L			1096960	1155513	0	Standard
	Pb	208	0.106	ug/L	0.001	1	408	8595	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0402-DUP1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 04:49:31
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26724	47478	2	Standard
	Cl	37		ug/L			5151969	5465949	2	Standard
⌈>	Sc	45		ug/L			453223	483625	0	Standard
|	Cr	52	1.288	ug/L	0.050	3	16290	41388	2	Standard
⌊	Cr	53	1.412	ug/L	0.073	5	110	3216	4	Standard
⌈>	Ge	72		ug/L			35046	34577	1	KED
|	Ni	60	1.854	ug/L	0.043	2	104	2718	2	KED
|	Ni	62	2.023	ug/L	0.057	2	17	478	1	KED
|	Cu	63	61.275	ug/L	0.808	1	50	243232	1	KED
|	Cu	65	60.258	ug/L	0.635	1	24	120577	0	KED
|	Zn	66	49.298	ug/L	1.708	3	45	25312	2	KED
|	Zn	67	46.039	ug/L	2.028	4	5	3963	5	KED
⌊	As	75	0.441	ug/L	0.007	1	4	126	2	KED
	Y	89		ug/L			264383	272220	3	Standard
	Kr	83		ug/L			57	43	22	Standard
⌈>	In-1	115		ug/L			8211	7832	3	KED
|	Cd	111	0.008	ug/L	0.003	35	8	9	5	KED
⌊	Cd	114	0.010	ug/L	0.009	97	5	11	56	KED
⌈>	In	115		ug/L			441019	453108	2	Standard
⌊	Ag	107	0.001	ug/L	0.001	167	84	96	18	Standard
⌈>	Tb	159		ug/L			1096960	1154266	0	Standard
⌊	Pb	208	0.108	ug/L	0.002	1	408	8758	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0402-MS1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 04:54:21
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26724	47835	0	Standard
	Cl	37		ug/L			5151969	5571366	2	Standard
⌈>	Sc	45		ug/L			453223	477780	1	Standard
|	Cr	52	25.580	ug/L	0.757	2	16290	488018	1	Standard
⌊	Cr	53	25.632	ug/L	0.248	0	110	55688	1	Standard
⌈>	Ge	72		ug/L			35046	34009	1	KED
|	Ni	60	28.605	ug/L	0.295	1	104	39791	0	KED
|	Ni	62	28.857	ug/L	0.731	2	17	6479	2	KED
|	Cu	63	87.350	ug/L	0.661	0	50	341049	1	KED
|	Cu	65	86.223	ug/L	0.914	1	24	169707	1	KED
|	Zn	66	131.780	ug/L	1.361	1	45	66497	0	KED
|	Zn	67	119.613	ug/L	0.504	0	5	10115	0	KED
⌊	As	75	25.703	ug/L	0.307	1	4	6961	0	KED
	Y	89		ug/L			264383	275434	2	Standard
	Kr	83		ug/L			57	45	19	Standard
⌈>	In-1	115		ug/L			8211	7794	3	KED
|	Cd	111	26.082	ug/L	1.186	4	8	6778	1	KED
⌊	Cd	114	25.568	ug/L	0.950	3	5	17425	0	KED
⌈>	In	115		ug/L			441019	452453	0	Standard
⌊	Ag	107	24.820	ug/L	0.351	1	84	444153	1	Standard
⌈>	Tb	159		ug/L			1096960	1154443	1	Standard
⌊	Pb	208	26.962	ug/L	0.529	1	408	2070578	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBLE
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 04:58:47
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26724	28735	0	Standard
	Cl	**37**		ug/L			5151969	5627366	2	Standard
⌈>	**Sc**	**45**		ug/L			453223	444057	3	Standard
|	**Cr**	**52**	**-0.032**	ug/L	0.004	11	16290	15408	2	Standard
⌊	**Cr**	**53**	**0.019**	ug/L	0.007	37	110	147	6	Standard
⌈>	**Ge**	**72**		ug/L			35046	33129	1	KED
|	**Ni**	**60**	**-0.013**	ug/L	0.009	72	104	80	16	KED
|	**Ni**	**62**	**-0.019**	ug/L	0.014	73	17	12	22	KED
|	**Cu**	**63**	**0.018**	ug/L	0.001	5	50	115	3	KED
|	**Cu**	**65**	**0.024**	ug/L	0.004	18	24	68	11	KED
|	**Zn**	**66**	**0.182**	ug/L	0.036	20	45	132	13	KED
|	**Zn**	**67**	**0.197**	ug/L	0.016	8	5	21	5	KED
⌊	**As**	**75**	**-0.003**	ug/L	0.002	61	4	3	12	KED
	Y	**89**		ug/L			264383	266560	3	Standard
	Kr	**83**		ug/L			57	39	10	Standard
⌈>	**In-1**	**115**		ug/L			8211	7474	1	KED
|	**Cd**	**111**	**-0.016**	ug/L	0.008	50	8	3	56	KED
⌊	**Cd**	**114**	**0.004**	ug/L	0.003	74	5	7	24	KED
⌈>	**In**	**115**		ug/L			441019	441152	0	Standard
⌊	**Ag**	**107**	**0.003**	ug/L	0.001	26	84	138	9	Standard
⌈>	**Tb**	**159**		ug/L			1096960	1132360	2	Standard
⌊	**Pb**	**208**	**0.006**	ug/L	0.000	3	408	892	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVE
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 05:03:13
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26724	29357	2	Standard
	Cl	**37**		ug/L			5151969	5672751	2	Standard
⌈>	**Sc**	**45**		ug/L			453223	460804	0	Standard
|	**Cr**	**52**	**50.032**	ug/L	0.274	0	16290	905030	0	Standard
⌊	**Cr**	**53**	**48.384**	ug/L	0.947	1	110	101282	1	Standard
⌈>	**Ge**	**72**		ug/L			35046	33813	2	KED
|	**Ni**	**60**	**51.580**	ug/L	0.726	1	104	71250	1	KED
|	**Ni**	**62**	**52.671**	ug/L	0.580	1	17	11744	1	KED
|	**Cu**	**63**	**51.441**	ug/L	1.070	2	50	199655	0	KED
|	**Cu**	**65**	**51.741**	ug/L	0.176	0	24	101261	2	KED
|	**Zn**	**66**	**51.010**	ug/L	1.060	2	45	25613	0	KED
|	**Zn**	**67**	**51.505**	ug/L	1.196	2	5	4332	0	KED
⌊	**As**	**75**	**50.041**	ug/L	1.120	2	4	13467	0	KED
	Y	**89**		ug/L			264383	272750	0	Standard
	Kr	**83**		ug/L			57	44	8	Standard
⌈>	**In-1**	**115**		ug/L			8211	7865	2	KED
|	**Cd**	**111**	**51.413**	ug/L	1.279	2	8	13483	0	KED
⌊	**Cd**	**114**	**50.414**	ug/L	1.260	2	5	34679	0	KED
⌈>	**In**	**115**		ug/L			441019	445575	2	Standard
⌊	**Ag**	**107**	**48.900**	ug/L	0.663	1	84	861478	1	Standard
⌈>	**Tb**	**159**		ug/L			1096960	1144812	0	Standard
⌊	**Pb**	**208**	**51.760**	ug/L	1.752	3	408	3942104	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBE
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 05:10:23
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26724	26104	3	Standard
	Cl	**37**		ug/L			5151969	5639187	2	Standard
⌈>	**Sc**	**45**		ug/L			453223	448332	2	Standard
|	**Cr**	**52**	**-0.025**	ug/L	0.012	48	16290	15687	2	Standard
⌊	**Cr**	**53**	**0.004**	ug/L	0.001	38	110	117	4	Standard
⌈>	**Ge**	**72**		ug/L			35046	33966	0	KED
|	**Ni**	**60**	**-0.045**	ug/L	0.003	6	104	38	10	KED
|	**Ni**	**62**	**-0.046**	ug/L	0.018	39	17	6	56	KED
|	**Cu**	**63**	**-0.001**	ug/L	0.002	185	50	45	15	KED
|	**Cu**	**65**	**0.001**	ug/L	0.003	443	24	25	24	KED
|	**Zn**	**66**	**-0.044**	ug/L	0.006	14	45	21	13	KED
|	**Zn**	**67**	**-0.005**	ug/L	0.047	866	5	5	78	KED
⌊	**As**	**75**	**-0.001**	ug/L	0.004	321	4	4	22	KED
	Y	**89**		ug/L			264383	260386	4	Standard
	Kr	**83**		ug/L			57	43	17	Standard
⌈>	**In-1**	**115**		ug/L			8211	8065	1	KED
|	**Cd**	**111**	**-0.011**	ug/L	0.002	20	8	5	10	KED
⌊	**Cd**	**114**	**0.002**	ug/L	0.001	64	5	6	15	KED
⌈>	**In**	**115**		ug/L			441019	436923	2	Standard
⌊	**Ag**	**107**	**0.006**	ug/L	0.000	7	84	186	4	Standard
⌈>	**Tb**	**159**		ug/L			1096960	1110321	1	Standard
⌊	**Pb**	**208**	**-0.001**	ug/L	0.000	23	408	315	8	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0005-02
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 05:14:50
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26724	55673	1	Standard
	Cl	37		ug/L			5151969	7590899	3	Standard
⌈>	Sc	45		ug/L			453223	495597	1	Standard
|	Cr	52	8.269	ug/L	0.110	1	16290	175731	1	Standard
⌊	Cr	53	11.313	ug/L	0.109	0	110	25562	0	Standard
⌈>	Ge	72		ug/L			35046	32312	1	KED
|	Ni	60	2.230	ug/L	0.122	5	104	3034	4	KED
|	Ni	62	2.079	ug/L	0.205	9	17	458	8	KED
|	Cu	63	12.649	ug/L	0.191	1	50	46962	1	KED
|	Cu	65	12.834	ug/L	0.179	1	24	24020	2	KED
|	Zn	66	36.470	ug/L	0.711	1	45	17514	1	KED
|	Zn	67	34.758	ug/L	0.770	2	5	2797	3	KED
⌊	As	75	1.264	ug/L	0.075	5	4	329	4	KED
	Y	89		ug/L			264383	273096	0	Standard
	Kr	83		ug/L			57	38	34	Standard
⌈>	In-1	115		ug/L			8211	7637	2	KED
|	Cd	111	0.012	ug/L	0.016	126	8	10	35	KED
⌊	Cd	114	0.037	ug/L	0.013	35	5	29	31	KED
⌈>	In	115		ug/L			441019	435406	1	Standard
⌊	Ag	107	0.007	ug/L	0.001	8	84	209	3	Standard
⌈>	Tb	159		ug/L			1096960	1132379	1	Standard
⌊	Pb	208	0.570	ug/L	0.007	1	408	43342	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0005-04
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 05:19:16
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26724	56028	1	Standard
	Cl	37		ug/L			5151969	7997560	2	Standard
>	Sc	45		ug/L			453223	487585	0	Standard
	Cr	52	4.013	ug/L	0.073	1	16290	92923	0	Standard
	Cr	53	8.147	ug/L	0.150	1	110	18144	1	Standard
>	Ge	72		ug/L			35046	32113	0	KED
	Ni	60	14.669	ug/L	0.095	0	104	19315	0	KED
	Ni	62	14.488	ug/L	0.202	1	17	3080	1	KED
	Cu	63	9.766	ug/L	0.107	1	50	36045	1	KED
	Cu	65	9.809	ug/L	0.219	2	24	18250	2	KED
	Zn	66	13.618	ug/L	0.197	1	45	6525	1	KED
	Zn	67	14.922	ug/L	0.354	2	5	1196	2	KED
	As	75	0.377	ug/L	0.006	1	4	100	1	KED
	Y	89		ug/L			264383	269563	0	Standard
	Kr	83		ug/L			57	43	2	Standard
>	In-1	115		ug/L			8211	7622	0	KED
	Cd	111	0.002	ug/L	0.002	103	8	8	6	KED
	Cd	114	0.018	ug/L	0.014	77	5	16	54	KED
>	In	115		ug/L			441019	428873	1	Standard
	Ag	107	0.004	ug/L	0.001	29	84	146	14	Standard
>	Tb	159		ug/L			1096960	1123620	1	Standard
	Pb	208	0.478	ug/L	0.005	1	408	36111	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0006-03
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 05:23:35
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26724	54788	1	Standard
	Cl	37		ug/L			5151969	7095519	1	Standard
>	Sc	45		ug/L			453223	483205	2	Standard
	Cr	52	10.499	ug/L	0.258	2	16290	212807	0	Standard
	Cr	53	13.490	ug/L	0.490	3	110	29684	1	Standard
>	Ge	72		ug/L			35046	32318	0	KED
	Ni	60	5.257	ug/L	0.093	1	104	7027	1	KED
	Ni	62	5.138	ug/L	0.255	4	17	1109	4	KED
	Cu	63	12.693	ug/L	0.297	2	50	47133	2	KED
	Cu	65	12.851	ug/L	0.404	3	24	24054	2	KED
	Zn	66	38.995	ug/L	0.363	0	45	18729	1	KED
	Zn	67	37.422	ug/L	0.178	0	5	3011	0	KED
	As	75	1.317	ug/L	0.071	5	4	343	5	KED
	Y	89		ug/L			264383	268579	2	Standard
	Kr	83		ug/L			57	44	4	Standard
>	In-1	115		ug/L			8211	7665	2	KED
	Cd	111	0.018	ug/L	0.019	105	8	12	40	KED
	Cd	114	0.022	ug/L	0.014	60	5	20	45	KED
>	In	115		ug/L			441019	437379	2	Standard
	Ag	107	0.004	ug/L	0.001	20	84	150	10	Standard
>	Tb	159		ug/L			1096960	1125797	1	Standard
	Pb	208	0.455	ug/L	0.003	0	408	34520	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0006-04
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 05:28:01
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26724	54698	3	Standard
	Cl	37		ug/L			5151969	7127461	2	Standard
>	Sc	45		ug/L			453223	484839	2	Standard
	Cr	52	10.856	ug/L	0.383	3	16290	220166	1	Standard
	Cr	53	14.537	ug/L	0.200	1	110	32100	1	Standard
>	Ge	72		ug/L			35046	32492	0	KED
	Ni	60	6.053	ug/L	0.117	1	104	8121	1	KED
	Ni	62	6.458	ug/L	0.118	1	17	1398	1	KED
	Cu	63	13.283	ug/L	0.030	0	50	49587	0	KED
	Cu	65	13.246	ug/L	0.072	0	24	24928	0	KED
	Zn	66	42.630	ug/L	0.714	1	45	20580	1	KED
	Zn	67	42.089	ug/L	1.834	4	5	3404	4	KED
	As	75	1.366	ug/L	0.071	5	4	357	5	KED
	Y	89		ug/L			264383	269409	1	Standard
	Kr	83		ug/L			57	55	26	Standard
>	In-1	115		ug/L			8211	7642	1	KED
	Cd	111	0.012	ug/L	0.012	96	8	10	28	KED
	Cd	114	0.020	ug/L	0.019	98	5	18	71	KED
>	In	115		ug/L			441019	432428	1	Standard
	Ag	107	0.003	ug/L	0.002	49	84	139	19	Standard
>	Tb	159		ug/L			1096960	1139318	1	Standard
	Pb	208	0.485	ug/L	0.005	1	408	37139	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0020-02
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 05:32:21
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26724	44572	2	Standard
	Cl	**37**		ug/L			5151969	5754319	3	Standard
⌈>	**Sc**	**45**		ug/L			453223	514824	1	Standard
|	**Cr**	**52**	**0.210**	ug/L	0.034	16	16290	22661	1	Standard
⌊	**Cr**	**53**	**0.899**	ug/L	0.007	0	110	2227	2	Standard
⌈>	**Ge**	**72**		ug/L			35046	33580	1	KED
|	**Ni**	**60**	**0.884**	ug/L	0.021	2	104	1311	2	KED
|	**Ni**	**62**	**0.952**	ug/L	0.093	9	17	227	7	KED
|	**Cu**	**63**	**1.695**	ug/L	0.044	2	50	6579	1	KED
|	**Cu**	**65**	**1.696**	ug/L	0.040	2	24	3318	1	KED
|	**Zn**	**66**	**8.186**	ug/L	0.272	3	45	4118	3	KED
|	**Zn**	**67**	**8.259**	ug/L	0.342	4	5	694	3	KED
⌊	**As**	**75**	**3.585**	ug/L	0.127	3	4	963	4	KED
	Y	**89**		ug/L			264383	285153	2	Standard
	Kr	**83**		ug/L			57	45	19	Standard
⌈>	**In-1**	**115**		ug/L			8211	7857	1	KED
|	**Cd**	**111**	**-0.008**	ug/L	0.007	90	8	5	33	KED
⌊	**Cd**	**114**	**0.001**	ug/L	0.002	148	5	6	18	KED
⌈>	**In**	**115**		ug/L			441019	448740	1	Standard
⌊	**Ag**	**107**	**-0.001**	ug/L	0.000	19	84	67	4	Standard
⌈>	**Tb**	**159**		ug/L			1096960	1135698	1	Standard
⌊	**Pb**	**208**	**0.021**	ug/L	0.001	3	408	2027	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0162-02
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 05:36:41
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26724	57968	1	Standard
	Cl	37		ug/L			5151969	8042294	3	Standard
>	Sc	45		ug/L			453223	495239	1	Standard
	Cr	52	5.232	ug/L	0.098	1	16290	117637	1	Standard
	Cr	53	8.737	ug/L	0.140	1	110	19758	2	Standard
>	Ge	72		ug/L			35046	32193	0	KED
	Ni	60	2.491	ug/L	0.052	2	104	3368	2	KED
	Ni	62	2.599	ug/L	0.224	8	17	567	9	KED
	Cu	63	15.685	ug/L	0.340	2	50	58012	2	KED
	Cu	65	16.252	ug/L	0.048	0	24	30298	0	KED
	Zn	66	36.502	ug/L	0.270	0	45	17466	1	KED
	Zn	67	36.095	ug/L	0.708	1	5	2893	2	KED
	As	75	1.629	ug/L	0.059	3	4	421	3	KED
	Y	89		ug/L			264383	272545	2	Standard
	Kr	83		ug/L			57	51	13	Standard
>	In-1	115		ug/L			8211	7497	2	KED
	Cd	111	0.025	ug/L	0.011	44	8	13	17	KED
	Cd	114	0.024	ug/L	0.012	51	5	20	40	KED
>	In	115		ug/L			441019	430879	0	Standard
	Ag	107	0.006	ug/L	0.001	22	84	189	12	Standard
>	Tb	159		ug/L			1096960	1137120	1	Standard
	Pb	208	0.677	ug/L	0.012	1	408	51628	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0162-04
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 05:41:07
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26724	59440	3	Standard
	Cl	37		ug/L			5151969	8285639	2	Standard
⌈>	Sc	45		ug/L			453223	496290	1	Standard
|	Cr	52	5.854	ug/L	0.030	0	16290	129803	1	Standard
⌊	Cr	53	10.450	ug/L	0.083	0	110	23659	2	Standard
⌈>	Ge	72		ug/L			35046	32174	1	KED
|	Ni	60	2.437	ug/L	0.018	0	104	3294	1	KED
|	Ni	62	2.689	ug/L	0.128	4	17	586	4	KED
|	Cu	63	16.297	ug/L	0.170	1	50	60230	0	KED
|	Cu	65	16.232	ug/L	0.214	1	24	30240	0	KED
|	Zn	66	44.805	ug/L	0.542	1	45	21417	1	KED
|	Zn	67	42.705	ug/L	0.472	1	5	3420	1	KED
⌊	As	75	1.621	ug/L	0.035	2	4	419	2	KED
	Y	89		ug/L			264383	264749	1	Standard
	Kr	83		ug/L			57	48	4	Standard
⌈>	In-1	115		ug/L			8211	7295	1	KED
|	Cd	111	0.047	ug/L	0.013	27	8	18	16	KED
⌊	Cd	114	0.031	ug/L	0.015	47	5	24	38	KED
⌈>	In	115		ug/L			441019	426842	2	Standard
⌊	Ag	107	0.006	ug/L	0.001	10	84	189	6	Standard
⌈>	Tb	159		ug/L			1096960	1112877	0	Standard
⌊	Pb	208	0.780	ug/L	0.002	0	408	58127	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0162-06
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 05:45:33
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26724	58384	2	Standard
	Cl	**37**		ug/L			5151969	8247946	1	Standard
⌈>	**Sc**	**45**		ug/L			453223	505191	1	Standard
|	**Cr**	**52**	**5.353**	ug/L	0.023	0	16290	122378	0	Standard
⌊	**Cr**	**53**	**10.107**	ug/L	0.175	1	110	23293	1	Standard
⌈>	**Ge**	**72**		ug/L			35046	31912	0	KED
|	**Ni**	**60**	**3.706**	ug/L	0.076	2	104	4920	1	KED
|	**Ni**	**62**	**3.869**	ug/L	0.193	4	17	829	4	KED
|	**Cu**	**63**	**17.439**	ug/L	0.153	0	50	63924	0	KED
|	**Cu**	**65**	**17.175**	ug/L	0.127	0	24	31738	1	KED
|	**Zn**	**66**	**38.532**	ug/L	0.666	1	45	18274	1	KED
|	**Zn**	**67**	**37.401**	ug/L	1.146	3	5	2971	3	KED
⌊	**As**	**75**	**1.609**	ug/L	0.040	2	4	413	2	KED
	Y	**89**		ug/L			264383	266809	1	Standard
	Kr	**83**		ug/L			57	45	20	Standard
⌈>	**In-1**	**115**		ug/L			8211	7396	1	KED
|	**Cd**	**111**	**0.029**	ug/L	0.030	100	8	14	48	KED
⌊	**Cd**	**114**	**0.032**	ug/L	0.010	31	5	25	27	KED
⌈>	**In**	**115**		ug/L			441019	431470	1	Standard
⌊	**Ag**	**107**	**0.006**	ug/L	0.003	43	84	181	25	Standard
⌈>	**Tb**	**159**		ug/L			1096960	1138489	0	Standard
⌊	**Pb**	**208**	**0.720**	ug/L	0.009	1	408	54969	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0182-01
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 05:49:53
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26724	70104	2	Standard
	Cl	37		ug/L			5151969	5615906	1	Standard
>	Sc	45		ug/L			453223	467243	1	Standard
	Cr	52	86.810	ug/L	1.050	1	16290	1579818	1	Standard
	Cr	53	86.686	ug/L	0.708	0	110	183914	0	Standard
>	Ge	72		ug/L			35046	34244	0	KED
	Ni	60	0.649	ug/L	0.054	8	104	1008	7	KED
	Ni	62	0.740	ug/L	0.099	13	17	184	11	KED
	Cu	63	1.464	ug/L	0.058	3	50	5806	4	KED
	Cu	65	1.515	ug/L	0.065	4	24	3027	4	KED
	Zn	66	87.431	ug/L	1.560	1	45	44443	2	KED
	Zn	67	78.733	ug/L	2.244	2	5	6706	2	KED
	As	75	0.088	ug/L	0.023	26	4	28	21	KED
	Y	89		ug/L			264383	270455	1	Standard
	Kr	83		ug/L			57	42	14	Standard
>	In-1	115		ug/L			8211	7868	0	KED
	Cd	111	0.562	ug/L	0.053	9	8	155	8	KED
	Cd	114	0.552	ug/L	0.031	5	5	385	5	KED
>	In	115		ug/L			441019	453653	0	Standard
	Ag	107	0.082	ug/L	0.006	6	84	1555	6	Standard
>	Tb	159		ug/L			1096960	1154919	1	Standard
	Pb	208	0.064	ug/L	0.002	3	408	5322	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBLF
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 05:54:14
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26724	27520	1	Standard
	Cl	37		ug/L			5151969	5594911	3	Standard
>	Sc	45		ug/L			453223	419541	13	Standard
	Cr	52	0.025	ug/L	0.105	422	16290	15336	4	Standard
	Cr	53	0.531	ug/L	0.095	17	110	1096	1	Standard
>	Ge	72		ug/L			35046	32787	1	KED
	Ni	60	-0.015	ug/L	0.008	51	104	76	14	KED
	Ni	62	-0.036	ug/L	0.006	16	17	8	12	KED
	Cu	63	0.022	ug/L	0.003	12	50	132	9	KED
	Cu	65	0.017	ug/L	0.004	25	24	55	16	KED
	Zn	66	0.244	ug/L	0.098	40	45	160	28	KED
	Zn	67	0.207	ug/L	0.072	34	5	22	27	KED
	As	75	-0.007	ug/L	0.002	30	4	2	20	KED
	Y	89		ug/L			264383	243011	11	Standard
	Kr	83		ug/L			57	45	25	Standard
>	In-1	115		ug/L			8211	7720	2	KED
	Cd	111	-0.017	ug/L	0.002	11	8	3	15	KED
	Cd	114	0.002	ug/L	0.003	158	5	6	34	KED
>	In	115		ug/L			441019	415908	13	Standard
	Ag	107	-0.003	ug/L	0.001	53	84	36	48	Standard
>	Tb	159		ug/L			1096960	1046961	13	Standard
	Pb	208	0.006	ug/L	0.002	31	408	828	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVF
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 05:58:40
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26724	28075	1	Standard
	Cl	**37**		ug/L			5151969	5694480	2	Standard
⌈>	**Sc**	**45**		ug/L			453223	456874	1	Standard
|	**Cr**	**52**	**49.969**	ug/L	1.107	2	16290	896054	1	Standard
⌊	**Cr**	**53**	**49.690**	ug/L	0.742	1	110	103131	1	Standard
⌈>	**Ge**	**72**		ug/L			35046	33353	1	KED
|	**Ni**	**60**	**51.299**	ug/L	1.401	2	104	69885	0	KED
|	**Ni**	**62**	**52.138**	ug/L	0.077	0	17	11468	1	KED
|	**Cu**	**63**	**52.196**	ug/L	0.753	1	50	199846	0	KED
|	**Cu**	**65**	**52.317**	ug/L	1.803	3	24	100950	1	KED
|	**Zn**	**66**	**52.889**	ug/L	2.050	3	45	26187	2	KED
|	**Zn**	**67**	**51.461**	ug/L	1.400	2	5	4269	0	KED
⌊	**As**	**75**	**50.563**	ug/L	1.311	2	4	13421	0	KED
	Y	**89**		ug/L			264383	266216	2	Standard
	Kr	**83**		ug/L			57	57	10	Standard
⌈>	**In-1**	**115**		ug/L			8211	7662	2	KED
|	**Cd**	**111**	**52.794**	ug/L	2.039	3	8	13484	1	KED
⌊	**Cd**	**114**	**52.827**	ug/L	1.703	3	5	35398	1	KED
⌈>	**In**	**115**		ug/L			441019	435183	2	Standard
⌊	**Ag**	**107**	**49.160**	ug/L	0.939	1	84	845799	0	Standard
⌈>	**Tb**	**159**		ug/L			1096960	1116804	0	Standard
⌊	**Pb**	**208**	**54.586**	ug/L	0.583	1	408	4055465	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBF
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 06:05:50
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26724	26208	2	Standard
	Cl	**37**		ug/L			5151969	5636720	3	Standard
⌈>	**Sc**	**45**		ug/L			453223	450586	2	Standard
|	**Cr**	**52**	**-0.029**	ug/L	0.031	104	16290	15682	1	Standard
⌊	**Cr**	**53**	**0.136**	ug/L	0.004	3	110	388	3	Standard
⌈>	**Ge**	**72**		ug/L			35046	33485	1	KED
|	**Ni**	**60**	**-0.057**	ug/L	0.001	2	104	20	9	KED
|	**Ni**	**62**	**-0.054**	ug/L	0.005	8	17	5	21	KED
|	**Cu**	**63**	**-0.001**	ug/L	0.002	186	50	44	17	KED
|	**Cu**	**65**	**-0.002**	ug/L	0.004	233	24	20	37	KED
|	**Zn**	**66**	**-0.026**	ug/L	0.026	98	45	29	41	KED
|	**Zn**	**67**	**-0.012**	ug/L	0.026	207	5	4	49	KED
⌊	**As**	**75**	**0.001**	ug/L	0.002	305	4	4	14	KED
	Y	**89**		ug/L			264383	266469	1	Standard
	Kr	**83**		ug/L			57	51	9	Standard
⌈>	**In-1**	**115**		ug/L			8211	7883	0	KED
|	**Cd**	**111**	**-0.013**	ug/L	0.008	63	8	4	49	KED
⌊	**Cd**	**114**	**0.003**	ug/L	0.003	88	5	7	25	KED
⌈>	**In**	**115**		ug/L			441019	446411	1	Standard
⌊	**Ag**	**107**	**0.004**	ug/L	0.000	10	84	150	3	Standard
⌈>	**Tb**	**159**		ug/L			1096960	1126708	1	Standard
⌊	**Pb**	**208**	**-0.001**	ug/L	0.000	33	408	335	7	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0135-04
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 06:10:17
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26724	45758	4	Standard
	Cl	37		ug/L			5151969	5291893	3	Standard
⌈>	Sc	45		ug/L			453223	559644	1	Standard
|	Cr	52	0.205	ug/L	0.017	8	16290	24527	1	Standard
⌊	Cr	53	0.995	ug/L	0.023	2	110	2664	2	Standard
⌈>	Ge	72		ug/L			35046	33482	0	KED
|	Ni	60	0.595	ug/L	0.048	8	104	912	6	KED
|	Ni	62	0.539	ug/L	0.100	18	17	135	16	KED
|	Cu	63	0.718	ug/L	0.021	2	50	2808	2	KED
|	Cu	65	0.719	ug/L	0.018	2	24	1417	1	KED
|	Zn	66	2.111	ug/L	0.147	6	45	1091	7	KED
|	Zn	67	2.346	ug/L	0.119	5	5	200	4	KED
⌊	As	75	0.672	ug/L	0.035	5	4	183	4	KED
	Y	89		ug/L			264383	280465	1	Standard
	Kr	83		ug/L			57	44	16	Standard
⌈>	In-1	115		ug/L			8211	7838	2	KED
|	Cd	111	0.033	ug/L	0.043	130	8	16	68	KED
⌊	Cd	114	0.064	ug/L	0.070	109	5	49	98	KED
⌈>	In	115		ug/L			441019	454288	1	Standard
⌊	Ag	107	0.002	ug/L	0.001	35	84	120	8	Standard
⌈>	Tb	159		ug/L			1096960	1158380	0	Standard
⌊	Pb	208	0.047	ug/L	0.002	3	408	4074	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0135-06
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 06:14:42
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26724	46330	3	Standard
	Cl	37		ug/L			5151969	5129311	2	Standard
>	Sc	45		ug/L			453223	520085	6	Standard
	Cr	52	0.481	ug/L	0.107	22	16290	28257	2	Standard
	Cr	53	1.257	ug/L	0.089	7	110	3085	2	Standard
>	Ge	72		ug/L			35046	33126	1	KED
	Ni	60	0.260	ug/L	0.004	1	104	450	1	KED
	Ni	62	0.316	ug/L	0.044	14	17	85	11	KED
	Cu	63	0.429	ug/L	0.001	0	50	1680	1	KED
	Cu	65	0.424	ug/L	0.029	6	24	836	6	KED
	Zn	66	1.938	ug/L	0.037	1	45	994	0	KED
	Zn	67	2.218	ug/L	0.347	15	5	187	14	KED
	As	75	0.667	ug/L	0.028	4	4	180	2	KED
	Y	89		ug/L			264383	251746	9	Standard
	Kr	83		ug/L			57	48	21	Standard
>	In-1	115		ug/L			8211	7726	4	KED
	Cd	111	-0.014	ug/L	0.009	67	8	4	53	KED
	Cd	114	0.002	ug/L	0.012	495	5	6	112	KED
>	In	115		ug/L			441019	402311	9	Standard
	Ag	107	-0.001	ug/L	0.001	57	84	60	9	Standard
>	Tb	159		ug/L			1096960	1047316	7	Standard
	Pb	208	0.020	ug/L	0.002	11	408	1810	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0135-08
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 06:19:08
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26724	47426	1	Standard
	Cl	37		ug/L			5151969	5094431	1	Standard
⌈>	Sc	45		ug/L			453223	550045	1	Standard
|	Cr	52	0.194	ug/L	0.014	7	16290	23876	2	Standard
⌊	Cr	53	0.945	ug/L	0.013	1	110	2493	1	Standard
⌈>	Ge	72		ug/L			35046	32723	0	KED
|	Ni	60	0.340	ug/L	0.008	2	104	551	1	KED
|	Ni	62	0.353	ug/L	0.080	22	17	92	18	KED
|	Cu	63	0.481	ug/L	0.025	5	50	1854	5	KED
|	Cu	65	0.492	ug/L	0.019	3	24	954	3	KED
|	Zn	66	2.203	ug/L	0.014	0	45	1111	0	KED
|	Zn	67	2.339	ug/L	0.067	2	5	195	3	KED
⌊	As	75	0.917	ug/L	0.055	6	4	243	5	KED
	Y	89		ug/L			264383	273775	0	Standard
	Kr	83		ug/L			57	43	6	Standard
⌈>	In-1	115		ug/L			8211	7520	1	KED
|	Cd	111	-0.014	ug/L	0.006	45	8	4	35	KED
⌊	Cd	114	0.004	ug/L	0.005	129	5	7	40	KED
⌈>	In	115		ug/L			441019	446013	1	Standard
⌊	Ag	107	-0.001	ug/L	0.001	89	84	70	18	Standard
⌈>	Tb	159		ug/L			1096960	1157010	1	Standard
⌊	Pb	208	0.026	ug/L	0.001	2	408	2401	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0135-10
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 06:23:34
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26724	48318	4	Standard
	Cl	37		ug/L			5151969	5103771	2	Standard
>	Sc	45		ug/L			453223	556871	2	Standard
	Cr	52	0.112	ug/L	0.035	31	16290	22409	1	Standard
	Cr	53	0.950	ug/L	0.023	2	110	2538	3	Standard
>	Ge	72		ug/L			35046	33373	1	KED
	Ni	60	0.324	ug/L	0.024	7	104	539	5	KED
	Ni	62	0.368	ug/L	0.020	5	17	97	4	KED
	Cu	63	0.445	ug/L	0.015	3	50	1753	2	KED
	Cu	65	0.431	ug/L	0.028	6	24	856	6	KED
	Zn	66	2.860	ug/L	0.117	4	45	1457	2	KED
	Zn	67	2.957	ug/L	0.351	11	5	250	12	KED
	As	75	0.623	ug/L	0.046	7	4	170	5	KED
	Y	89		ug/L			264383	274145	1	Standard
	Kr	83		ug/L			57	40	17	Standard
>	In-1	115		ug/L			8211	7652	1	KED
	Cd	111	-0.000	ug/L	0.010	3237	8	7	33	KED
	Cd	114	0.002	ug/L	0.005	226	5	6	50	KED
>	In	115		ug/L			441019	451327	1	Standard
	Ag	107	-0.002	ug/L	0.000	22	84	51	16	Standard
>	Tb	159		ug/L			1096960	1151557	1	Standard
	Pb	208	0.027	ug/L	0.000	0	408	2521	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0135-12
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 06:28:00
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26724	45980	4	Standard
	Cl	37		ug/L			5151969	5026915	2	Standard
>	Sc	45		ug/L			453223	550880	1	Standard
	Cr	52	0.066	ug/L	0.011	17	16290	21194	2	Standard
	Cr	53	0.921	ug/L	0.018	1	110	2437	1	Standard
>	Ge	72		ug/L			35046	33012	2	KED
	Ni	60	0.406	ug/L	0.012	2	104	645	4	KED
	Ni	62	0.385	ug/L	0.042	10	17	100	7	KED
	Cu	63	0.427	ug/L	0.003	0	50	1667	1	KED
	Cu	65	0.405	ug/L	0.016	4	24	796	5	KED
	Zn	66	2.059	ug/L	0.083	4	45	1050	3	KED
	Zn	67	2.325	ug/L	0.148	6	5	196	6	KED
	As	75	0.490	ug/L	0.071	14	4	133	14	KED
	Y	89		ug/L			264383	273769	2	Standard
	Kr	83		ug/L			57	45	4	Standard
>	In-1	115		ug/L			8211	7867	1	KED
	Cd	111	-0.017	ug/L	0.004	25	8	3	31	KED
	Cd	114	-0.001	ug/L	0.007	596	5	4	117	KED
>	In	115		ug/L			441019	435133	1	Standard
	Ag	107	-0.002	ug/L	0.000	11	84	40	11	Standard
>	Tb	159		ug/L			1096960	1151228	1	Standard
	Pb	208	0.023	ug/L	0.001	2	408	2189	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0135-14
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 06:32:26
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26724	53796	3	Standard
	Cl	37		ug/L			5151969	5465727	2	Standard
>	Sc	45		ug/L			453223	538143	1	Standard
	Cr	52	0.115	ug/L	0.032	27	16290	21720	1	Standard
	Cr	53	0.901	ug/L	0.043	4	110	2332	5	Standard
>	Ge	72		ug/L			35046	33204	1	KED
	Ni	60	0.991	ug/L	0.047	4	104	1440	3	KED
	Ni	62	0.974	ug/L	0.019	1	17	229	0	KED
	Cu	63	1.893	ug/L	0.011	0	50	7264	1	KED
	Cu	65	1.898	ug/L	0.024	1	24	3669	0	KED
	Zn	66	3.907	ug/L	0.162	4	45	1965	3	KED
	Zn	67	4.500	ug/L	0.316	7	5	376	5	KED
	As	75	0.475	ug/L	0.019	3	4	130	5	KED
	Y	89		ug/L			264383	276199	0	Standard
	Kr	83		ug/L			57	48	47	Standard
>	In-1	115		ug/L			8211	7618	2	KED
	Cd	111	-0.004	ug/L	0.004	103	8	6	14	KED
	Cd	114	0.007	ug/L	0.009	133	5	9	63	KED
>	In	115		ug/L			441019	444154	1	Standard
	Ag	107	-0.001	ug/L	0.001	86	84	64	26	Standard
>	Tb	159		ug/L			1096960	1150870	0	Standard
	Pb	208	0.053	ug/L	0.002	4	408	4476	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0135-16
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 06:36:45
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26724	46219	4	Standard
	Cl	37		ug/L			5151969	5118073	3	Standard
>	Sc	45		ug/L			453223	550872	1	Standard
	Cr	52	0.090	ug/L	0.021	23	16290	21706	2	Standard
	Cr	53	0.909	ug/L	0.020	2	110	2408	2	Standard
>	Ge	72		ug/L			35046	32894	1	KED
	Ni	60	0.332	ug/L	0.017	5	104	542	3	KED
	Ni	62	0.339	ug/L	0.035	10	17	90	8	KED
	Cu	63	0.529	ug/L	0.009	1	50	2044	2	KED
	Cu	65	0.505	ug/L	0.016	3	24	984	2	KED
	Zn	66	1.845	ug/L	0.146	7	45	942	8	KED
	Zn	67	2.147	ug/L	0.200	9	5	180	9	KED
	As	75	0.604	ug/L	0.043	7	4	162	5	KED
	Y	89		ug/L			264383	270097	1	Standard
	Kr	83		ug/L			57	48	19	Standard
>	In-1	115		ug/L			8211	7532	1	KED
	Cd	111	-0.006	ug/L	0.013	212	8	6	50	KED
	Cd	114	0.003	ug/L	0.003	98	5	6	25	KED
>	In	115		ug/L			441019	443155	2	Standard
	Ag	107	-0.001	ug/L	0.001	47	84	58	18	Standard
>	Tb	159		ug/L			1096960	1152843	2	Standard
	Pb	208	0.085	ug/L	0.004	4	408	6970	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0170-02
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 06:41:35
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26724	51591	1	Standard
	Cl	**37**		ug/L			5151969	7385261	3	Standard
⌈>	**Sc**	**45**		ug/L			453223	489992	5	Standard
|	**Cr**	**52**	**0.205**	ug/L	0.032	15	16290	21459	3	Standard
⌊	**Cr**	**53**	**3.991**	ug/L	0.232	5	110	8975	2	Standard
⌈>	**Ge**	**72**		ug/L			35046	32000	0	KED
|	**Ni**	**60**	**0.670**	ug/L	0.031	4	104	970	3	KED
|	**Ni**	**62**	**0.640**	ug/L	0.060	9	17	151	8	KED
|	**Cu**	**63**	**0.755**	ug/L	0.014	1	50	2819	2	KED
|	**Cu**	**65**	**0.772**	ug/L	0.020	2	24	1452	2	KED
|	**Zn**	**66**	**4.516**	ug/L	0.217	4	45	2183	4	KED
|	**Zn**	**67**	**4.829**	ug/L	0.275	5	5	389	5	KED
⌊	**As**	**75**	**0.651**	ug/L	0.012	1	4	170	2	KED
	Y	**89**		ug/L			264383	252448	7	Standard
	Kr	**83**		ug/L			57	48	13	Standard
⌈>	**In-1**	**115**		ug/L			8211	7472	0	KED
|	**Cd**	**111**	**-0.005**	ug/L	0.008	177	8	6	31	KED
⌊	**Cd**	**114**	**0.002**	ug/L	0.002	78	5	6	18	KED
⌈>	**In**	**115**		ug/L			441019	400364	7	Standard
⌊	**Ag**	**107**	**-0.002**	ug/L	0.000	11	84	48	8	Standard
⌈>	**Tb**	**159**		ug/L			1096960	1073060	8	Standard
⌊	**Pb**	**208**	**0.053**	ug/L	0.004	8	408	4166	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0170-04
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 06:46:01
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26724	50697	0	Standard
	Cl	**37**		ug/L			5151969	5947249	2	Standard
⌈>	**Sc**	**45**		ug/L			453223	497923	0	Standard
|	**Cr**	**52**	**0.521**	ug/L	0.033	6	16290	27895	2	Standard
⌊	**Cr**	**53**	**1.766**	ug/L	0.024	1	110	4112	1	Standard
⌈>	**Ge**	**72**		ug/L			35046	32775	0	KED
|	**Ni**	**60**	**0.846**	ug/L	0.086	10	104	1227	8	KED
|	**Ni**	**62**	**0.938**	ug/L	0.077	8	17	219	7	KED
|	**Cu**	**63**	**3.118**	ug/L	0.079	2	50	11776	1	KED
|	**Cu**	**65**	**3.251**	ug/L	0.011	0	24	6188	0	KED
|	**Zn**	**66**	**10.735**	ug/L	0.333	3	45	5258	2	KED
|	**Zn**	**67**	**10.057**	ug/L	0.428	4	5	824	5	KED
⌊	**As**	**75**	**0.652**	ug/L	0.046	7	4	174	6	KED
	Y	**89**		ug/L			264383	275555	0	Standard
	Kr	**83**		ug/L			57	36	31	Standard
⌈>	**In-1**	**115**		ug/L			8211	7743	2	KED
|	**Cd**	**111**	**0.020**	ug/L	0.005	24	8	13	8	KED
⌊	**Cd**	**114**	**0.015**	ug/L	0.003	21	5	15	12	KED
⌈>	**In**	**115**		ug/L			441019	444651	2	Standard
⌊	**Ag**	**107**	**-0.001**	ug/L	0.001	65	84	59	30	Standard
⌈>	**Tb**	**159**		ug/L			1096960	1165479	1	Standard
⌊	**Pb**	**208**	**0.330**	ug/L	0.001	0	408	26002	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBLG
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 06:50:27
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26724	28102	1	Standard
	Cl	**37**		ug/L			5151969	5428643	2	Standard
⌈>	**Sc**	**45**		ug/L			453223	462383	0	Standard
|	**Cr**	**52**	**-0.013**	ug/L	0.020	155	16290	16391	1	Standard
⌊	**Cr**	**53**	**0.224**	ug/L	0.009	4	110	582	3	Standard
⌈>	**Ge**	**72**		ug/L			35046	33311	0	KED
|	**Ni**	**60**	**-0.055**	ug/L	0.006	11	104	24	33	KED
|	**Ni**	**62**	**-0.060**	ug/L	0.000	0	17	3	0	KED
|	**Cu**	**63**	**0.020**	ug/L	0.006	32	50	124	19	KED
|	**Cu**	**65**	**0.026**	ug/L	0.002	8	24	73	5	KED
|	**Zn**	**66**	**0.019**	ug/L	0.019	102	45	52	18	KED
|	**Zn**	**67**	**0.034**	ug/L	0.093	272	5	8	93	KED
⌊	**As**	**75**	**-0.004**	ug/L	0.009	234	4	3	65	KED
	Y	**89**		ug/L			264383	269695	2	Standard
	Kr	**83**		ug/L			57	50	20	Standard
⌈>	**In-1**	**115**		ug/L			8211	7755	3	KED
|	**Cd**	**111**	**-0.018**	ug/L	0.002	13	8	3	17	KED
⌊	**Cd**	**114**	**-0.002**	ug/L	0.003	136	5	3	55	KED
⌈>	**In**	**115**		ug/L			441019	445374	2	Standard
⌊	**Ag**	**107**	**-0.003**	ug/L	0.000	14	84	34	22	Standard
⌈>	**Tb**	**159**		ug/L			1096960	1134139	1	Standard
⌊	**Pb**	**208**	**0.001**	ug/L	0.001	96	408	488	12	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVG
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 06:54:54
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26724	28410	2	Standard
	Cl	**37**		ug/L			5151969	5601757	3	Standard
⌈>	**Sc**	**45**		ug/L			453223	461132	1	Standard
|	**Cr**	**52**	**49.252**	ug/L	0.921	1	16290	891638	0	Standard
⌊	**Cr**	**53**	**48.937**	ug/L	0.436	0	110	102519	1	Standard
⌈>	**Ge**	**72**		ug/L			35046	33443	0	KED
|	**Ni**	**60**	**52.317**	ug/L	0.311	0	104	71486	0	KED
|	**Ni**	**62**	**52.843**	ug/L	0.492	0	17	11654	0	KED
|	**Cu**	**63**	**53.503**	ug/L	0.753	1	50	205437	1	KED
|	**Cu**	**65**	**53.751**	ug/L	0.608	1	24	104047	1	KED
|	**Zn**	**66**	**53.400**	ug/L	0.547	1	45	26526	1	KED
|	**Zn**	**67**	**52.447**	ug/L	1.749	3	5	4364	2	KED
⌊	**As**	**75**	**51.424**	ug/L	0.424	0	4	13691	0	KED
	Y	**89**		ug/L			264383	268199	1	Standard
	Kr	**83**		ug/L			57	53	11	Standard
⌈>	**In-1**	**115**		ug/L			8211	7701	2	KED
|	**Cd**	**111**	**52.311**	ug/L	1.429	2	8	13431	0	KED
⌊	**Cd**	**114**	**51.426**	ug/L	1.039	2	5	34638	0	KED
⌈>	**In**	**115**		ug/L			441019	444742	1	Standard
⌊	**Ag**	**107**	**48.940**	ug/L	1.576	3	84	860635	2	Standard
⌈>	**Tb**	**159**		ug/L			1096960	1147445	1	Standard
⌊	**Pb**	**208**	**54.160**	ug/L	0.369	0	408	4134140	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBG
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 07:02:04
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26724	26939	5	Standard
	Cl	**37**		ug/L			5151969	5455098	2	Standard
⌈>	**Sc**	**45**		ug/L			453223	460899	1	Standard
|	**Cr**	**52**	**-0.016**	ug/L	0.009	54	16290	16279	0	Standard
⌊	**Cr**	**53**	**0.105**	ug/L	0.028	26	110	331	17	Standard
⌈>	**Ge**	**72**		ug/L			35046	34621	0	KED
|	**Ni**	**60**	**-0.064**	ug/L	0.003	5	104	12	39	KED
|	**Ni**	**62**	**-0.052**	ug/L	0.000	0	17	5	0	KED
|	**Cu**	**63**	**0.000**	ug/L	0.002	1086	50	50	13	KED
|	**Cu**	**65**	**-0.002**	ug/L	0.002	98	24	19	24	KED
|	**Zn**	**66**	**-0.027**	ug/L	0.017	60	45	30	28	KED
|	**Zn**	**67**	**-0.044**	ug/L	0.022	50	5	1	100	KED
⌊	**As**	**75**	**-0.003**	ug/L	0.005	168	4	3	38	KED
	Y	**89**		ug/L			264383	273658	2	Standard
	Kr	**83**		ug/L			57	39	5	Standard
⌈>	**In-1**	**115**		ug/L			8211	8278	1	KED
|	**Cd**	**111**	**-0.012**	ug/L	0.005	42	8	5	28	KED
⌊	**Cd**	**114**	**-0.001**	ug/L	0.004	428	5	4	59	KED
⌈>	**In**	**115**		ug/L			441019	462299	1	Standard
⌊	**Ag**	**107**	**0.013**	ug/L	0.014	102	84	335	76	Standard
⌈>	**Tb**	**159**		ug/L			1096960	1168373	0	Standard
⌊	**Pb**	**208**	**0.008**	ug/L	0.016	199	408	1059	117	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 07:06:30
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L				27642	4	Standard
	Cl	**37**		ug/L				5444164	1	Standard
⎡>	**Sc**	**45**		ug/L				458454	3	Standard
⎢	**Cr**	**52**		ug/L				15942	2	Standard
⎣	**Cr**	**53**		ug/L				279	10	Standard
⎡>	**Ge**	**72**		ug/L				33055	0	KED
⎢	**Ni**	**60**		ug/L				65	24	KED
⎢	**Ni**	**62**		ug/L				13	28	KED
⎢	**Cu**	**63**		ug/L				48	5	KED
⎢	**Cu**	**65**		ug/L				27	30	KED
⎢	**Zn**	**66**		ug/L				33	26	KED
⎢	**Zn**	**67**		ug/L				4	24	KED
⎣	**As**	**75**		ug/L				4	21	KED
	Y	**89**		ug/L				263626	1	Standard
	Kr	**83**		ug/L				46	14	Standard
⎡>	**In-1**	**115**		ug/L				7645	3	KED
⎢	**Cd**	**111**		ug/L				3	45	KED
⎣	**Cd**	**114**		ug/L				6	64	KED
⎡>	**In**	**115**		ug/L				437453	3	Standard
⎣	**Ag**	**107**		ug/L				109	55	Standard
⎡>	**Tb**	**159**		ug/L				1136980	1	Standard
⎣	**Pb**	**208**		ug/L				605	58	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVH
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 07:10:56
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	28086	3	Standard
	Cl	**37**		ug/L			5444164	5572198	2	Standard
⌈>	**Sc**	**45**		ug/L			458454	457903	0	Standard
|	**Cr**	**52**	**50.616**	ug/L	0.639	1	15942	909102	1	Standard
⌊	**Cr**	**53**	**49.174**	ug/L	0.198	0	279	102463	0	Standard
⌈>	**Ge**	**72**		ug/L			33055	33593	0	KED
|	**Ni**	**60**	**52.189**	ug/L	0.948	1	65	71599	1	KED
|	**Ni**	**62**	**52.649**	ug/L	0.852	1	13	11661	1	KED
|	**Cu**	**63**	**52.645**	ug/L	0.749	1	48	203060	1	KED
|	**Cu**	**65**	**52.748**	ug/L	0.343	0	27	102566	0	KED
|	**Zn**	**66**	**53.278**	ug/L	0.529	0	33	26574	0	KED
|	**Zn**	**67**	**52.333**	ug/L	0.317	0	4	4374	0	KED
⌊	**As**	**75**	**51.318**	ug/L	0.097	0	4	13725	0	KED
	Y	**89**		ug/L			263626	270416	2	Standard
	Kr	**83**		ug/L			46	59	32	Standard
⌈>	**In-1**	**115**		ug/L			7645	7847	1	KED
|	**Cd**	**111**	**51.836**	ug/L	0.695	1	3	13562	0	KED
⌊	**Cd**	**114**	**51.517**	ug/L	1.113	2	6	35367	1	KED
⌈>	**In**	**115**		ug/L			437453	434409	0	Standard
⌊	**Ag**	**107**	**49.306**	ug/L	0.400	0	109	847100	1	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1128082	2	Standard
⌊	**Pb**	**208**	**54.336**	ug/L	1.547	2	605	4077180	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBH
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 07:18:06
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	27217	2	Standard
	Cl	**37**		ug/L			5444164	5502187	2	Standard
⌈>	**Sc**	**45**		ug/L			458454	456463	0	Standard
|	**Cr**	**52**	**0.018**	ug/L	0.012	68	15942	16190	1	Standard
⌊	**Cr**	**53**	**-0.026**	ug/L	0.005	18	279	223	4	Standard
⌈>	**Ge**	**72**		ug/L			33055	34354	1	KED
|	**Ni**	**60**	**-0.011**	ug/L	0.030	273	65	52	79	KED
|	**Ni**	**62**	**-0.025**	ug/L	0.020	79	13	8	49	KED
|	**Cu**	**63**	**0.013**	ug/L	0.028	205	48	104	105	KED
|	**Cu**	**65**	**0.009**	ug/L	0.020	216	27	47	84	KED
|	**Zn**	**66**	**-0.003**	ug/L	0.021	792	33	33	31	KED
|	**Zn**	**67**	**0.013**	ug/L	0.067	511	4	5	100	KED
⌊	**As**	**75**	**0.017**	ug/L	0.025	151	4	9	74	KED
	Y	**89**		ug/L			263626	265671	3	Standard
	Kr	**83**		ug/L			46	53	9	Standard
⌈>	**In-1**	**115**		ug/L			7645	8016	1	KED
|	**Cd**	**111**	**0.009**	ug/L	0.003	37	3	5	16	KED
⌊	**Cd**	**114**	**0.001**	ug/L	0.010	781	6	7	92	KED
⌈>	**In**	**115**		ug/L			437453	442083	2	Standard
⌊	**Ag**	**107**	**0.005**	ug/L	0.001	21	109	190	7	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1126486	1	Standard
⌊	**Pb**	**208**	**-0.004**	ug/L	0.000	4	605	313	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0081-04RE1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 07:22:33
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	47775	2	Standard
	Cl	**37**		ug/L			5444164	5651285	2	Standard
⌈>	**Sc**	**45**		ug/L			458454	476626	1	Standard
|	**Cr**	**52**	**0.345**	ug/L	0.032	9	15942	22908	1	Standard
⌊	**Cr**	**53**	**1.003**	ug/L	0.027	2	279	2460	1	Standard
⌈>	**Ge**	**72**		ug/L			33055	33161	1	KED
|	**Ni**	**60**	**0.339**	ug/L	0.027	7	65	524	6	KED
|	**Ni**	**62**	**0.433**	ug/L	0.042	9	13	108	7	KED
|	**Cu**	**63**	**3.151**	ug/L	0.065	2	48	12043	1	KED
|	**Cu**	**65**	**3.064**	ug/L	0.090	2	27	5907	1	KED
|	**Zn**	**66**	**28.127**	ug/L	0.189	0	33	13864	0	KED
|	**Zn**	**67**	**25.922**	ug/L	1.011	3	4	2141	4	KED
⌊	**As**	**75**	**3.404**	ug/L	0.062	1	4	903	2	KED
	Y	**89**		ug/L			263626	270242	4	Standard
	Kr	**83**		ug/L			46	40	33	Standard
⌈>	**In-1**	**115**		ug/L			7645	7564	2	KED
|	**Cd**	**111**	**0.067**	ug/L	0.008	11	3	20	9	KED
⌊	**Cd**	**114**	**0.071**	ug/L	0.017	23	6	53	22	KED
⌈>	**In**	**115**		ug/L			437453	438509	2	Standard
⌊	**Ag**	**107**	**0.005**	ug/L	0.001	12	109	191	8	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1138740	0	Standard
⌊	**Pb**	**208**	**0.277**	ug/L	0.003	1	605	21563	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0089-01RE1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 07:27:22
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	62040	2	Standard
	Cl	**37**		ug/L			5444164	8983706	5	Standard
⌈>	**Sc**	**45**		ug/L			458454	533580	0	Standard
|	**Cr**	**52**	**0.742**	ug/L	0.013	1	15942	33800	0	Standard
⌊	**Cr**	**53**	**6.745**	ug/L	0.128	1	279	16659	2	Standard
⌈>	**Ge**	**72**		ug/L			33055	31830	2	KED
|	**Ni**	**60**	**2.183**	ug/L	0.029	1	65	2898	1	KED
|	**Ni**	**62**	**2.085**	ug/L	0.149	7	13	450	4	KED
|	**Cu**	**63**	**15.088**	ug/L	0.178	1	48	55165	1	KED
|	**Cu**	**65**	**15.321**	ug/L	0.208	1	27	28241	0	KED
|	**Zn**	**66**	**87.219**	ug/L	1.623	1	33	41189	0	KED
|	**Zn**	**67**	**80.426**	ug/L	1.738	2	4	6365	2	KED
⌊	**As**	**75**	**1.352**	ug/L	0.066	4	4	346	3	KED
	Y	**89**		ug/L			263626	284194	0	Standard
	Kr	**83**		ug/L			46	43	4	Standard
⌈>	**In-1**	**115**		ug/L			7645	7484	2	KED
|	**Cd**	**111**	**0.065**	ug/L	0.019	28	3	19	23	KED
⌊	**Cd**	**114**	**0.052**	ug/L	0.016	30	6	40	26	KED
⌈>	**In**	**115**		ug/L			437453	434665	0	Standard
⌊	**Ag**	**107**	**0.046**	ug/L	0.002	5	109	892	4	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1136319	1	Standard
⌊	**Pb**	**208**	**0.692**	ug/L	0.010	1	605	52881	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0062-01RE1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 07:32:12
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	50715	2	Standard
	Cl	**37**		ug/L			5444164	5297783	1	Standard
⌈>	**Sc**	**45**		ug/L			458454	514255	2	Standard
|	**Cr**	**52**	**0.208**	ug/L	0.011	5	15942	22002	1	Standard
⌊	**Cr**	**53**	**0.882**	ug/L	0.028	3	279	2371	0	Standard
⌈>	**Ge**	**72**		ug/L			33055	33477	0	KED
|	**Ni**	**60**	**0.057**	ug/L	0.011	19	65	143	10	KED
|	**Ni**	**62**	**0.016**	ug/L	0.018	107	13	17	22	KED
|	**Cu**	**63**	**0.142**	ug/L	0.012	8	48	594	8	KED
|	**Cu**	**65**	**0.150**	ug/L	0.020	13	27	318	11	KED
|	**Zn**	**66**	**1.018**	ug/L	0.078	7	33	539	7	KED
|	**Zn**	**67**	**1.060**	ug/L	0.272	25	4	92	24	KED
⌊	**As**	**75**	**0.208**	ug/L	0.017	8	4	60	7	KED
	Y	**89**		ug/L			263626	275566	2	Standard
	Kr	**83**		ug/L			46	48	6	Standard
⌈>	**In-1**	**115**		ug/L			7645	8023	2	KED
|	**Cd**	**111**	**0.003**	ug/L	0.008	251	3	4	48	KED
⌊	**Cd**	**114**	**0.004**	ug/L	0.005	142	6	9	41	KED
⌈>	**In**	**115**		ug/L			437453	448326	0	Standard
⌊	**Ag**	**107**	**-0.003**	ug/L	0.000	16	109	64	12	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1180887	1	Standard
⌊	**Pb**	**208**	**0.020**	ug/L	0.001	4	605	2206	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0062-05RE1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 07:36:38
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	47838	1	Standard
	Cl	**37**		ug/L			5444164	5135506	2	Standard
⌈>	**Sc**	**45**		ug/L			458454	527090	2	Standard
|	**Cr**	**52**	**0.250**	ug/L	0.014	5	15942	23406	1	Standard
⌊	**Cr**	**53**	**0.706**	ug/L	0.023	3	279	2009	1	Standard
⌈>	**Ge**	**72**		ug/L			33055	33070	0	KED
|	**Ni**	**60**	**0.112**	ug/L	0.029	25	65	217	18	KED
|	**Ni**	**62**	**0.099**	ug/L	0.026	26	13	35	16	KED
|	**Cu**	**63**	**0.265**	ug/L	0.011	3	48	1056	4	KED
|	**Cu**	**65**	**0.241**	ug/L	0.019	7	27	489	8	KED
|	**Zn**	**66**	**0.513**	ug/L	0.081	15	33	285	14	KED
|	**Zn**	**67**	**0.594**	ug/L	0.113	18	4	53	17	KED
⌊	**As**	**75**	**0.461**	ug/L	0.025	5	4	126	5	KED
	Y	**89**		ug/L			263626	272609	1	Standard
	Kr	**83**		ug/L			46	50	14	Standard
⌈>	**In-1**	**115**		ug/L			7645	7639	1	KED
|	**Cd**	**111**	**0.004**	ug/L	0.011	291	3	4	66	KED
⌊	**Cd**	**114**	**-0.002**	ug/L	0.006	253	6	4	84	KED
⌈>	**In**	**115**		ug/L			437453	449705	1	Standard
⌊	**Ag**	**107**	**-0.001**	ug/L	0.003	229	109	86	70	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1168798	1	Standard
⌊	**Pb**	**208**	**0.054**	ug/L	0.004	7	605	4833	8	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0062-07RE1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 07:41:04
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	44416	2	Standard
	Cl	**37**		ug/L			5444164	5340160	2	Standard
⌈>	**Sc**	**45**		ug/L			458454	464655	1	Standard
|	**Cr**	**52**	**0.119**	ug/L	0.004	3	15942	18290	1	Standard
⌊	**Cr**	**53**	**0.239**	ug/L	0.012	5	279	787	2	Standard
⌈>	**Ge**	**72**		ug/L			33055	33629	0	KED
|	**Ni**	**60**	**0.137**	ug/L	0.014	9	65	254	6	KED
|	**Ni**	**62**	**0.125**	ug/L	0.046	36	13	41	24	KED
|	**Cu**	**63**	**0.415**	ug/L	0.012	3	48	1650	2	KED
|	**Cu**	**65**	**0.461**	ug/L	0.051	11	27	925	11	KED
|	**Zn**	**66**	**0.240**	ug/L	0.064	26	33	153	20	KED
|	**Zn**	**67**	**0.394**	ug/L	0.183	46	4	37	40	KED
⌊	**As**	**75**	**0.004**	ug/L	0.005	119	4	5	22	KED
	Y	**89**		ug/L			263626	269197	0	Standard
	Kr	**83**		ug/L			46	57	15	Standard
⌈>	**In-1**	**115**		ug/L			7645	7854	3	KED
|	**Cd**	**111**	**0.007**	ug/L	0.011	152	3	5	54	KED
⌊	**Cd**	**114**	**-0.003**	ug/L	0.004	132	6	4	70	KED
⌈>	**In**	**115**		ug/L			437453	450662	0	Standard
⌊	**Ag**	**107**	**-0.004**	ug/L	0.000	10	109	45	15	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1144557	2	Standard
⌊	**Pb**	**208**	**0.001**	ug/L	0.000	6	605	678	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0062-03RE1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 07:45:30
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27642	49968	3	Standard
	Cl	37		ug/L			5444164	5156154	3	Standard
⌈>	Sc	45		ug/L			458454	527004	1	Standard
|	Cr	52	0.224	ug/L	0.023	10	15942	22872	1	Standard
⌊	Cr	53	0.541	ug/L	0.005	0	279	1615	0	Standard
⌈>	Ge	72		ug/L			33055	33384	0	KED
|	Ni	60	0.120	ug/L	0.001	0	65	229	0	KED
|	Ni	62	0.129	ug/L	0.041	31	13	42	21	KED
|	Cu	63	0.267	ug/L	0.010	3	48	1071	3	KED
|	Cu	65	0.268	ug/L	0.006	2	27	546	2	KED
|	Zn	66	0.444	ug/L	0.005	1	33	253	0	KED
|	Zn	67	0.665	ug/L	0.096	14	4	59	13	KED
⌊	As	75	0.491	ug/L	0.024	4	4	135	4	KED
	Y	89		ug/L			263626	278012	2	Standard
	Kr	83		ug/L			46	48	11	Standard
⌈>	In-1	115		ug/L			7645	7827	2	KED
|	Cd	111	0.011	ug/L	0.003	24	3	6	9	KED
⌊	Cd	114	0.008	ug/L	0.007	89	6	11	41	KED
⌈>	In	115		ug/L			437453	455796	2	Standard
⌊	Ag	107	-0.004	ug/L	0.001	22	109	46	31	Standard
⌈>	Tb	159		ug/L			1136980	1167706	1	Standard
⌊	Pb	208	0.051	ug/L	0.001	1	605	4583	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0754-DUP1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 07:49:55
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27642	49176	3	Standard
	Cl	37		ug/L			5444164	5101734	3	Standard
⌈>	Sc	45		ug/L			458454	526641	3	Standard
|	Cr	52	0.140	ug/L	0.032	22	15942	21136	3	Standard
⌊	Cr	53	0.447	ug/L	0.011	2	279	1387	1	Standard
⌈>	Ge	72		ug/L			33055	33861	0	KED
|	Ni	60	0.125	ug/L	0.007	5	65	240	3	KED
|	Ni	62	0.147	ug/L	0.061	41	13	46	28	KED
|	Cu	63	0.262	ug/L	0.014	5	48	1068	5	KED
|	Cu	65	0.260	ug/L	0.013	4	27	537	4	KED
|	Zn	66	0.914	ug/L	0.071	7	33	493	7	KED
|	Zn	67	1.048	ug/L	0.196	18	4	92	17	KED
⌊	As	75	0.456	ug/L	0.037	8	4	127	7	KED
	Y	89		ug/L			263626	269411	1	Standard
	Kr	83		ug/L			46	49	16	Standard
⌈>	In-1	115		ug/L			7645	7846	2	KED
|	Cd	111	0.003	ug/L	0.005	134	3	4	26	KED
⌊	Cd	114	-0.007	ug/L	0.005	72	6	1	236	KED
⌈>	In	115		ug/L			437453	449389	1	Standard
⌊	Ag	107	-0.003	ug/L	0.001	19	109	52	22	Standard
⌈>	Tb	159		ug/L			1136980	1165640	1	Standard
⌊	Pb	208	0.055	ug/L	0.002	3	605	4900	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0754-MS1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 07:54:16
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27642	49571	0	Standard
	Cl	37		ug/L			5444164	5164483	1	Standard
>	Sc	45		ug/L			458454	528812	1	Standard
	Cr	52	22.894	ug/L	0.225	0	15942	484953	2	Standard
	Cr	53	22.998	ug/L	0.148	0	279	55510	1	Standard
>	Ge	72		ug/L			33055	33917	0	KED
	Ni	60	27.256	ug/L	0.387	1	65	37782	0	KED
	Ni	62	27.282	ug/L	0.688	2	13	6107	1	KED
	Cu	63	27.894	ug/L	0.419	1	48	108639	0	KED
	Cu	65	28.255	ug/L	0.445	1	27	55478	0	KED
	Zn	66	85.868	ug/L	0.857	0	33	43218	0	KED
	Zn	67	79.691	ug/L	1.362	1	4	6722	1	KED
	As	75	26.197	ug/L	0.094	0	4	7076	0	KED
	Y	89		ug/L			263626	273779	3	Standard
	Kr	83		ug/L			46	43	15	Standard
>	In-1	115		ug/L			7645	7704	2	KED
	Cd	111	27.014	ug/L	0.693	2	3	6939	0	KED
	Cd	114	26.709	ug/L	0.828	3	6	18000	1	KED
>	In	115		ug/L			437453	448494	1	Standard
	Ag	107	25.515	ug/L	0.526	2	109	452588	2	Standard
>	Tb	159		ug/L			1136980	1170013	1	Standard
	Pb	208	27.641	ug/L	0.347	1	605	2151517	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0754-MSD1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 07:59:06
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27642	47881	1	Standard
	Cl	37		ug/L			5444164	5155281	3	Standard
⌈>	Sc	45		ug/L			458454	521080	1	Standard
|	Cr	52	22.984	ug/L	0.289	1	15942	479591	0	Standard
⌊	Cr	53	23.012	ug/L	0.674	2	279	54722	2	Standard
⌈>	Ge	72		ug/L			33055	33929	1	KED
|	Ni	60	27.624	ug/L	0.427	1	65	38303	0	KED
|	Ni	62	27.734	ug/L	1.084	3	13	6209	2	KED
|	Cu	63	28.334	ug/L	0.242	0	48	110395	0	KED
|	Cu	65	27.901	ug/L	0.455	1	27	54811	2	KED
|	Zn	66	83.284	ug/L	1.892	2	33	41931	1	KED
|	Zn	67	79.933	ug/L	0.184	0	4	6745	1	KED
⌊	As	75	26.558	ug/L	0.105	0	4	7176	0	KED
	Y	89		ug/L			263626	274141	0	Standard
	Kr	83		ug/L			46	57	13	Standard
⌈>	In-1	115		ug/L			7645	7821	2	KED
|	Cd	111	26.881	ug/L	1.115	4	3	7007	2	KED
⌊	Cd	114	26.506	ug/L	1.117	4	6	18128	2	KED
⌈>	In	115		ug/L			437453	452311	0	Standard
⌊	Ag	107	25.663	ug/L	0.457	1	109	459112	1	Standard
⌈>	Tb	159		ug/L			1136980	1165357	0	Standard
⌊	Pb	208	27.645	ug/L	0.276	0	605	2143552	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBLI
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 08:03:32
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	28364	3	Standard
	Cl	**37**		ug/L			5444164	5374223	2	Standard
⌈>	**Sc**	**45**		ug/L			458454	448922	0	Standard
|	**Cr**	**52**	**0.038**	ug/L	0.014	36	15942	16267	1	Standard
⌊	**Cr**	**53**	**0.006**	ug/L	0.003	44	279	286	1	Standard
⌈>	**Ge**	**72**		ug/L			33055	33440	0	KED
|	**Ni**	**60**	**-0.028**	ug/L	0.000	0	65	28	0	KED
|	**Ni**	**62**	**-0.035**	ug/L	0.013	36	13	6	45	KED
|	**Cu**	**63**	**0.020**	ug/L	0.004	18	48	125	10	KED
|	**Cu**	**65**	**0.020**	ug/L	0.007	34	27	67	19	KED
|	**Zn**	**66**	**0.043**	ug/L	0.020	46	33	55	18	KED
|	**Zn**	**67**	**0.114**	ug/L	0.075	65	4	13	43	KED
⌊	**As**	**75**	**-0.006**	ug/L	0.004	66	4	3	31	KED
	Y	**89**		ug/L			263626	260194	0	Standard
	Kr	**83**		ug/L			46	45	4	Standard
⌈>	**In-1**	**115**		ug/L			7645	7614	1	KED
|	**Cd**	**111**	**0.011**	ug/L	0.013	117	3	6	55	KED
⌊	**Cd**	**114**	**0.002**	ug/L	0.003	155	6	7	25	KED
⌈>	**In**	**115**		ug/L			437453	434617	1	Standard
⌊	**Ag**	**107**	**0.003**	ug/L	0.001	44	109	157	12	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1131323	1	Standard
⌊	**Pb**	**208**	**0.001**	ug/L	0.000	62	605	643	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVI
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 08:07:59
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	28908	3	Standard
	Cl	**37**		ug/L			5444164	5563079	1	Standard
>	**Sc**	**45**		ug/L			458454	468208	1	Standard
	Cr	**52**	**48.947**	ug/L	0.439	0	15942	899361	1	Standard
	Cr	**53**	**48.418**	ug/L	1.559	3	279	103137	2	Standard
>	**Ge**	**72**		ug/L			33055	31130	13	KED
	Ni	**60**	**57.280**	ug/L	7.641	13	65	71948	1	KED
	Ni	**62**	**57.960**	ug/L	9.285	16	13	11725	1	KED
	Cu	**63**	**58.269**	ug/L	7.730	13	48	205798	1	KED
	Cu	**65**	**57.814**	ug/L	8.502	14	27	102804	1	KED
	Zn	**66**	**56.939**	ug/L	7.128	12	33	26023	2	KED
	Zn	**67**	**58.128**	ug/L	7.337	12	4	4450	1	KED
	As	**75**	**55.706**	ug/L	7.949	14	4	13629	0	KED
	Y	**89**		ug/L			263626	269414	0	Standard
	Kr	**83**		ug/L			46	64	6	Standard
>	**In-1**	**115**		ug/L			7645	7694	0	KED
	Cd	**111**	**53.496**	ug/L	0.166	0	3	13725	1	KED
	Cd	**114**	**52.652**	ug/L	0.902	1	6	35444	1	KED
>	**In**	**115**		ug/L			437453	442536	0	Standard
	Ag	**107**	**48.283**	ug/L	0.867	1	109	845031	1	Standard
>	**Tb**	**159**		ug/L			1136980	1142922	1	Standard
	Pb	**208**	**54.748**	ug/L	1.354	2	605	4161893	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBI
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 08:15:09
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	26864	3	Standard
	Cl	**37**		ug/L			5444164	5428699	2	Standard
⌈>	**Sc**	**45**		ug/L			458454	453900	0	Standard
|	**Cr**	**52**	**0.029**	ug/L	0.004	12	15942	16285	0	Standard
⌊	**Cr**	**53**	**-0.014**	ug/L	0.008	55	279	246	5	Standard
⌈>	**Ge**	**72**		ug/L			33055	33913	0	KED
|	**Ni**	**60**	**-0.030**	ug/L	0.007	22	65	26	34	KED
|	**Ni**	**62**	**-0.039**	ug/L	0.008	21	13	5	33	KED
|	**Cu**	**63**	**-0.001**	ug/L	0.003	526	48	47	28	KED
|	**Cu**	**65**	**-0.005**	ug/L	0.002	38	27	19	20	KED
|	**Zn**	**66**	**-0.029**	ug/L	0.019	64	33	19	47	KED
|	**Zn**	**67**	**-0.039**	ug/L	0.013	33	4	1	86	KED
⌊	**As**	**75**	**-0.000**	ug/L	0.007	1540	4	4	43	KED
	Y	**89**		ug/L			263626	261506	1	Standard
	Kr	**83**		ug/L			46	47	8	Standard
⌈>	**In-1**	**115**		ug/L			7645	8012	2	KED
|	**Cd**	**111**	**0.014**	ug/L	0.005	35	3	6	20	KED
⌊	**Cd**	**114**	**-0.005**	ug/L	0.001	29	6	3	35	KED
⌈>	**In**	**115**		ug/L			437453	437556	1	Standard
⌊	**Ag**	**107**	**0.009**	ug/L	0.005	55	109	269	31	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1110788	2	Standard
⌊	**Pb**	**208**	**0.000**	ug/L	0.006	1669	605	613	75	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0133-01
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 08:19:35

DEL

Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	58659	2	Standard
	Cl	**37**		ug/L			5444164	5636374	2	Standard
⌈>	**Sc**	**45**		ug/L			458454	477842	1	Standard
|	**Cr**	**52**	**0.990**	ug/L	0.075	7	15942	34839	3	Standard
⌊	**Cr**	**53**	**1.351**	ug/L	0.025	1	279	3219	1	Standard
⌈>	**Ge**	**72**		ug/L			33055	33365	0	KED
|	**Ni**	**60**	**0.762**	ug/L	0.020	2	65	1103	3	KED
|	**Ni**	**62**	**0.832**	ug/L	0.071	8	13	196	8	KED
|	**Cu**	**63**	**21.095**	ug/L	0.498	2	48	80837	1	KED
|	**Cu**	**65**	**21.168**	ug/L	0.148	0	27	40897	1	KED
|	**Zn**	**66**	**279.934**	ug/L	3.815	1	33	138535	1	KED
|	**Zn**	**67**	**258.175**	ug/L	5.700	2	4	21412	1	KED
⌊	**As**	**75**	**7.588**	ug/L	0.132	1	4	2019	1	KED
	Y	**89**		ug/L			263626	269906	1	Standard
	Kr	**83**		ug/L			46	41	13	Standard
⌈>	**In-1**	**115**		ug/L			7645	7901	1	KED
|	**Cd**	**111**	**0.147**	ug/L	0.025	17	3	41	14	KED
⌊	**Cd**	**114**	**0.118**	ug/L	0.026	22	6	87	18	KED
⌈>	**In**	**115**		ug/L			437453	455655	2	Standard
⌊	**Ag**	**107**	**0.009**	ug/L	0.000	3	109	283	2	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1157879	1	Standard
⌊	**Pb**	**208**	**1.129**	ug/L	0.017	1	605	87532	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0133-02
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 08:24:01

DEL

Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	48375	2	Standard
	Cl	**37**		ug/L			5444164	5413995	2	Standard
⌈>	**Sc**	**45**		ug/L			458454	461415	2	Standard
|	**Cr**	**52**	**0.402**	ug/L	0.016	4	15942	23184	2	Standard
⌊	**Cr**	**53**	**0.364**	ug/L	0.012	3	279	1042	3	Standard
⌈>	**Ge**	**72**		ug/L			33055	34114	2	KED
|	**Ni**	**60**	**0.328**	ug/L	0.011	3	65	523	4	KED
|	**Ni**	**62**	**0.320**	ug/L	0.040	12	13	86	12	KED
|	**Cu**	**63**	**3.717**	ug/L	0.068	1	48	14601	0	KED
|	**Cu**	**65**	**3.741**	ug/L	0.083	2	27	7411	0	KED
|	**Zn**	**66**	**29.332**	ug/L	1.049	3	33	14866	2	KED
|	**Zn**	**67**	**27.330**	ug/L	0.665	2	4	2321	2	KED
⌊	**As**	**75**	**2.583**	ug/L	0.057	2	4	706	3	KED
	Y	**89**		ug/L			263626	268088	1	Standard
	Kr	**83**		ug/L			46	44	29	Standard
⌈>	**In-1**	**115**		ug/L			7645	7943	0	KED
|	**Cd**	**111**	**0.038**	ug/L	0.010	25	3	13	18	KED
⌊	**Cd**	**114**	**0.012**	ug/L	0.007	57	6	14	31	KED
⌈>	**In**	**115**		ug/L			437453	443135	0	Standard
⌊	**Ag**	**107**	**0.002**	ug/L	0.001	48	109	150	12	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1141276	0	Standard
⌊	**Pb**	**208**	**0.285**	ug/L	0.002	0	605	22263	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0133-03
Sample Dil Factor:
Comments: DEL
Sample Date/Time: Friday, April 28, 2023 08:28:27
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	48385	2	Standard
	Cl	**37**		ug/L			5444164	5400581	2	Standard
⌈>	**Sc**	**45**		ug/L			458454	469692	3	Standard
|	**Cr**	**52**	**1.249**	ug/L	0.067	5	15942	38922	3	Standard
⌊	**Cr**	**53**	**1.321**	ug/L	0.045	3	279	3100	4	Standard
⌈>	**Ge**	**72**		ug/L			33055	33766	0	KED
|	**Ni**	**60**	**2.187**	ug/L	0.084	3	65	3080	3	KED
|	**Ni**	**62**	**2.131**	ug/L	0.102	4	13	488	5	KED
|	**Cu**	**63**	**10.712**	ug/L	0.025	0	48	41568	0	KED
|	**Cu**	**65**	**10.687**	ug/L	0.242	2	27	20908	1	KED
|	**Zn**	**66**	**175.862**	ug/L	0.830	0	33	88093	1	KED
|	**Zn**	**67**	**161.912**	ug/L	4.999	3	4	13591	2	KED
⌊	**As**	**75**	**0.520**	ug/L	0.047	9	4	144	9	KED
	Y	**89**		ug/L			263626	266655	2	Standard
	Kr	**83**		ug/L			46	41	2	Standard
⌈>	**In-1**	**115**		ug/L			7645	7916	3	KED
|	**Cd**	**111**	**0.205**	ug/L	0.036	17	3	57	15	KED
⌊	**Cd**	**114**	**0.206**	ug/L	0.045	21	6	148	18	KED
⌈>	**In**	**115**		ug/L			437453	445865	2	Standard
⌊	**Ag**	**107**	**0.040**	ug/L	0.054	132	109	831	115	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1136881	2	Standard
⌊	**Pb**	**208**	**2.422**	ug/L	0.069	2	605	183692	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0135-02
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 08:33:17
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			27642	50849	3	Standard
Cl	37		ug/L			5444164	5229310	3	Standard
> Sc	45		ug/L			458454	574071	1	Standard
Cr	52	0.184	ug/L	0.023	12	15942	24021	1	Standard
Cr	53	0.830	ug/L	0.017	2	279	2511	0	Standard
> Ge	72		ug/L			33055	33143	0	KED
Ni	60	0.241	ug/L	0.029	12	65	391	9	KED
Ni	62	0.221	ug/L	0.050	22	13	62	16	KED
Cu	63	0.582	ug/L	0.032	5	48	2264	5	KED
Cu	65	0.588	ug/L	0.022	3	27	1156	3	KED
Zn	66	1.623	ug/L	0.136	8	33	831	7	KED
Zn	67	1.812	ug/L	0.200	11	4	153	10	KED
As	75	0.738	ug/L	0.019	2	4	199	2	KED
Y	89		ug/L			263626	281569	0	Standard
Kr	83		ug/L			46	44	20	Standard
> In-1	115		ug/L			7645	7687	1	KED
Cd	111	0.010	ug/L	0.004	38	3	5	16	KED
Cd	114	0.006	ug/L	0.004	70	6	10	25	KED
> In	115		ug/L			437453	440740	0	Standard
Ag	107	-0.003	ug/L	0.000	4	109	66	2	Standard
> Tb	159		ug/L			1136980	1185265	1	Standard
Pb	208	0.056	ug/L	0.001	2	605	5075	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0509-DUP1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 08:37:43
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			27642	54626	3	Standard
Cl	37		ug/L			5444164	5191755	3	Standard
> Sc	45		ug/L			458454	575706	2	Standard
Cr	52	0.178	ug/L	0.041	22	15942	23953	2	Standard
Cr	53	0.828	ug/L	0.011	1	279	2513	2	Standard
> Ge	72		ug/L			33055	32797	1	KED
Ni	60	0.199	ug/L	0.002	0	65	331	0	KED
Ni	62	0.257	ug/L	0.078	30	13	69	23	KED
Cu	63	0.387	ug/L	0.008	2	48	1505	1	KED
Cu	65	0.382	ug/L	0.019	4	27	753	4	KED
Zn	66	1.201	ug/L	0.081	6	33	617	5	KED
Zn	67	1.388	ug/L	0.247	17	4	117	16	KED
As	75	0.738	ug/L	0.027	3	4	197	2	KED
Y	89		ug/L			263626	275073	2	Standard
Kr	83		ug/L			46	46	21	Standard
> In-1	115		ug/L			7645	7514	1	KED
Cd	111	0.017	ug/L	0.006	34	3	7	19	KED
Cd	114	0.003	ug/L	0.007	193	6	8	51	KED
> In	115		ug/L			437453	451989	2	Standard
Ag	107	-0.003	ug/L	0.000	13	109	62	13	Standard
> Tb	159		ug/L			1136980	1162738	0	Standard
Pb	208	0.037	ug/L	0.000	1	605	3467	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0509-MS1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 08:42:03
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	52290	2	Standard
	Cl	**37**		ug/L			5444164	5169347	2	Standard
⌈>	**Sc**	**45**		ug/L			458454	567248	0	Standard
|	**Cr**	**52**	**21.768**	ug/L	0.417	1	15942	495596	2	Standard
⌊	**Cr**	**53**	**21.885**	ug/L	0.321	1	279	56678	0	Standard
⌈>	**Ge**	**72**		ug/L			33055	33430	1	KED
|	**Ni**	**60**	**27.860**	ug/L	0.469	1	65	38063	1	KED
|	**Ni**	**62**	**27.435**	ug/L	0.296	1	13	6053	1	KED
|	**Cu**	**63**	**28.421**	ug/L	0.443	1	48	109109	1	KED
|	**Cu**	**65**	**28.508**	ug/L	0.588	2	27	55168	0	KED
|	**Zn**	**66**	**86.611**	ug/L	2.255	2	33	42962	1	KED
|	**Zn**	**67**	**81.284**	ug/L	2.199	2	4	6757	1	KED
⌊	**As**	**75**	**26.929**	ug/L	0.251	0	4	7168	0	KED
	Y	**89**		ug/L			263626	272871	2	Standard
	Kr	**83**		ug/L			46	49	6	Standard
⌈>	**In-1**	**115**		ug/L			7645	7747	3	KED
|	**Cd**	**111**	**26.823**	ug/L	1.226	4	3	6922	0	KED
⌊	**Cd**	**114**	**26.703**	ug/L	1.575	5	6	18077	2	KED
⌈>	**In**	**115**		ug/L			437453	454894	2	Standard
⌊	**Ag**	**107**	**24.869**	ug/L	0.742	2	109	447262	1	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1175241	0	Standard
⌊	**Pb**	**208**	**27.735**	ug/L	0.077	0	605	2168776	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0262-01
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 08:47:53
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27642	51698	3	Standard
	Cl	37		ug/L			5444164	5892871	4	Standard
⌈>	Sc	45		ug/L			458454	554847	2	Standard
|	Cr	52	0.120	ug/L	0.029	24	15942	21841	1	Standard
⌊	Cr	53	1.526	ug/L	0.030	1	279	4179	1	Standard
⌈>	Ge	72		ug/L			33055	32389	1	KED
|	Ni	60	3.225	ug/L	0.025	0	65	4326	0	KED
|	Ni	62	3.160	ug/L	0.102	3	13	687	1	KED
|	Cu	63	0.524	ug/L	0.032	6	48	1994	6	KED
|	Cu	65	0.522	ug/L	0.034	6	27	1004	5	KED
|	Zn	66	4.908	ug/L	0.033	0	33	2390	0	KED
|	Zn	67	5.675	ug/L	0.474	8	4	460	7	KED
⌊	As	75	0.600	ug/L	0.033	5	4	159	4	KED
	Y	89		ug/L			263626	274458	1	Standard
	Kr	83		ug/L			46	45	18	Standard
⌈>	In-1	115		ug/L			7645	7629	1	KED
|	Cd	111	0.036	ug/L	0.007	18	3	12	13	KED
⌊	Cd	114	0.034	ug/L	0.014	41	6	28	32	KED
⌈>	In	115		ug/L			437453	430318	1	Standard
⌊	Ag	107	0.000	ug/L	0.001	289	109	115	18	Standard
⌈>	Tb	159		ug/L			1136980	1153004	2	Standard
⌊	Pb	208	0.030	ug/L	0.001	2	605	2946	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0717-DUP1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 08:52:18
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27642	50065	2	Standard
	Cl	37		ug/L			5444164	5906216	3	Standard
⌈>	Sc	45		ug/L			458454	544666	2	Standard
|	Cr	52	0.028	ug/L	0.009	31	15942	19524	1	Standard
⌊	Cr	53	1.420	ug/L	0.076	5	279	3839	3	Standard
⌈>	Ge	72		ug/L			33055	31632	2	KED
|	Ni	60	3.028	ug/L	0.072	2	65	3968	0	KED
|	Ni	62	3.232	ug/L	0.118	3	13	686	2	KED
|	Cu	63	0.504	ug/L	0.036	7	48	1874	4	KED
|	Cu	65	0.472	ug/L	0.043	9	27	890	8	KED
|	Zn	66	2.444	ug/L	0.127	5	33	1177	3	KED
|	Zn	67	3.708	ug/L	0.175	4	4	295	6	KED
⌊	As	75	0.612	ug/L	0.031	5	4	158	3	KED
	Y	89		ug/L			263626	278212	2	Standard
	Kr	83		ug/L			46	50	19	Standard
⌈>	In-1	115		ug/L			7645	7352	1	KED
|	Cd	111	0.034	ug/L	0.007	20	3	11	14	KED
⌊	Cd	114	0.015	ug/L	0.014	97	6	15	60	KED
⌈>	In	115		ug/L			437453	442091	1	Standard
⌊	Ag	107	-0.002	ug/L	0.000	26	109	79	8	Standard
⌈>	Tb	159		ug/L			1136980	1157345	1	Standard
⌊	Pb	208	0.022	ug/L	0.000	1	605	2308	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0717-MS1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 08:57:09
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	48203	2	Standard
	Cl	**37**		ug/L			5444164	5890598	4	Standard
⌈>	**Sc**	**45**		ug/L			458454	541501	1	Standard
|	**Cr**	**52**	**19.881**	ug/L	0.107	0	15942	433700	1	Standard
⌊	**Cr**	**53**	**20.945**	ug/L	0.470	2	279	51806	3	Standard
⌈>	**Ge**	**72**		ug/L			33055	31242	1	KED
|	**Ni**	**60**	**29.323**	ug/L	0.315	1	65	37438	0	KED
|	**Ni**	**62**	**29.310**	ug/L	0.864	2	13	6044	3	KED
|	**Cu**	**63**	**26.218**	ug/L	0.083	0	48	94073	1	KED
|	**Cu**	**65**	**26.427**	ug/L	0.266	1	27	47799	0	KED
|	**Zn**	**66**	**81.916**	ug/L	0.540	0	33	37983	1	KED
|	**Zn**	**67**	**78.430**	ug/L	2.501	3	4	6093	2	KED
⌊	**As**	**75**	**26.303**	ug/L	0.296	1	4	6544	2	KED
	Y	**89**		ug/L			263626	266970	1	Standard
	Kr	**83**		ug/L			46	62	28	Standard
⌈>	**In-1**	**115**		ug/L			7645	7372	2	KED
|	**Cd**	**111**	**25.262**	ug/L	0.391	1	3	6209	1	KED
⌊	**Cd**	**114**	**25.556**	ug/L	0.431	1	6	16482	1	KED
⌈>	**In**	**115**		ug/L			437453	434019	1	Standard
⌊	**Ag**	**107**	**22.733**	ug/L	0.105	0	109	390290	2	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1139513	1	Standard
⌊	**Pb**	**208**	**26.395**	ug/L	0.387	1	605	2001109	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBLJ
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 09:01:36
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	27849	3	Standard
	Cl	**37**		ug/L			5444164	5313982	2	Standard
⌈>	**Sc**	**45**		ug/L			458454	440679	1	Standard
|	**Cr**	**52**	**0.033**	ug/L	0.010	29	15942	15888	1	Standard
⌊	**Cr**	**53**	**0.057**	ug/L	0.006	10	279	381	2	Standard
⌈>	**Ge**	**72**		ug/L			33055	34094	2	KED
|	**Ni**	**60**	**-0.028**	ug/L	0.009	33	65	28	43	KED
|	**Ni**	**62**	**-0.042**	ug/L	0.009	22	13	5	43	KED
|	**Cu**	**63**	**0.024**	ug/L	0.001	2	48	142	2	KED
|	**Cu**	**65**	**0.022**	ug/L	0.008	36	27	73	21	KED
|	**Zn**	**66**	**0.048**	ug/L	0.026	54	33	59	24	KED
|	**Zn**	**67**	**0.021**	ug/L	0.048	224	4	6	62	KED
⌊	**As**	**75**	**-0.002**	ug/L	0.006	349	4	4	33	KED
	Y	**89**		ug/L			263626	265319	4	Standard
	Kr	**83**		ug/L			46	45	42	Standard
⌈>	**In-1**	**115**		ug/L			7645	7763	2	KED
|	**Cd**	**111**	**0.002**	ug/L	0.015	620	3	3	100	KED
⌊	**Cd**	**114**	**0.004**	ug/L	0.009	213	6	9	69	KED
⌈>	**In**	**115**		ug/L			437453	450614	0	Standard
⌊	**Ag**	**107**	**0.000**	ug/L	0.001	309	109	117	11	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1127531	4	Standard
⌊	**Pb**	**208**	**0.000**	ug/L	0.000	144	605	619	5	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVJ
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 09:06:02
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	29075	5	Standard
	Cl	**37**		ug/L			5444164	5592610	4	Standard
⌈>	**Sc**	**45**		ug/L			458454	458554	2	Standard
|	**Cr**	**52**	**49.433**	ug/L	1.107	2	15942	889170	1	Standard
⌊	**Cr**	**53**	**48.789**	ug/L	0.737	1	279	101791	2	Standard
⌈>	**Ge**	**72**		ug/L			33055	32696	2	KED
|	**Ni**	**60**	**53.563**	ug/L	1.896	3	65	71471	0	KED
|	**Ni**	**62**	**53.323**	ug/L	2.183	4	13	11487	1	KED
|	**Cu**	**63**	**54.006**	ug/L	1.467	2	48	202641	0	KED
|	**Cu**	**65**	**54.204**	ug/L	2.340	4	27	102504	1	KED
|	**Zn**	**66**	**53.342**	ug/L	2.740	5	33	25872	2	KED
|	**Zn**	**67**	**52.711**	ug/L	2.387	4	4	4284	2	KED
⌊	**As**	**75**	**51.817**	ug/L	1.615	3	4	13480	1	KED
	Y	**89**		ug/L			263626	266807	1	Standard
	Kr	**83**		ug/L			46	52	17	Standard
⌈>	**In-1**	**115**		ug/L			7645	7514	0	KED
|	**Cd**	**111**	**54.284**	ug/L	1.168	2	3	13599	1	KED
⌊	**Cd**	**114**	**53.784**	ug/L	1.145	2	6	35360	2	KED
⌈>	**In**	**115**		ug/L			437453	451563	1	Standard
⌊	**Ag**	**107**	**47.489**	ug/L	1.702	3	109	848163	4	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1151162	0	Standard
⌊	**Pb**	**208**	**55.759**	ug/L	0.837	1	605	4270110	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBJ
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 09:13:12
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	27340	2	Standard
	Cl	**37**		ug/L			5444164	5549969	2	Standard
⌈>	**Sc**	**45**		ug/L			458454	456059	0	Standard
|	**Cr**	**52**	**-0.008**	ug/L	0.023	286	15942	15721	2	Standard
⌊	**Cr**	**53**	**-0.028**	ug/L	0.008	29	279	220	7	Standard
⌈>	**Ge**	**72**		ug/L			33055	33863	0	KED
|	**Ni**	**60**	**-0.034**	ug/L	0.006	16	65	20	39	KED
|	**Ni**	**62**	**-0.053**	ug/L	0.005	9	13	2	43	KED
|	**Cu**	**63**	**0.001**	ug/L	0.003	307	48	53	18	KED
|	**Cu**	**65**	**-0.002**	ug/L	0.003	148	27	24	27	KED
|	**Zn**	**66**	**-0.024**	ug/L	0.012	47	33	22	26	KED
|	**Zn**	**67**	**0.021**	ug/L	0.013	60	4	6	17	KED
⌊	**As**	**75**	**0.000**	ug/L	0.006	3845	4	4	36	KED
	Y	**89**		ug/L			263626	262920	3	Standard
	Kr	**83**		ug/L			46	47	4	Standard
⌈>	**In-1**	**115**		ug/L			7645	7966	2	KED
|	**Cd**	**111**	**0.020**	ug/L	0.004	20	3	8	11	KED
⌊	**Cd**	**114**	**0.009**	ug/L	0.009	100	6	12	48	KED
⌈>	**In**	**115**		ug/L			437453	456600	1	Standard
⌊	**Ag**	**107**	**0.005**	ug/L	0.002	38	109	205	18	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1140147	2	Standard
⌊	**Pb**	**208**	**-0.003**	ug/L	0.000	8	605	350	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0206-01
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 09:17:38
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27642	59608	5	Standard
	Cl	37		ug/L			5444164	7627636	1	Standard
>	Sc	45		ug/L			458454	523934	0	Standard
	Cr	52	8.669	ug/L	0.127	1	15942	193262	1	Standard
	Cr	53	10.900	ug/L	0.216	1	279	26233	1	Standard
>	Ge	72		ug/L			33055	32803	1	KED
	Ni	60	5.977	ug/L	0.119	1	65	8063	1	KED
	Ni	62	6.299	ug/L	0.346	5	13	1374	4	KED
	Cu	63	33.322	ug/L	0.662	1	48	125504	1	KED
	Cu	65	33.983	ug/L	0.215	0	27	64538	1	KED
	Zn	66	125.707	ug/L	2.761	2	33	61188	3	KED
	Zn	67	118.307	ug/L	1.072	0	4	9649	1	KED
	As	75	2.292	ug/L	0.019	0	4	603	2	KED
	Y	89		ug/L			263626	296158	3	Standard
	Kr	83		ug/L			46	60	11	Standard
>	In-1	115		ug/L			7645	7535	0	KED
	Cd	111	0.176	ug/L	0.046	26	3	47	25	KED
	Cd	114	0.200	ug/L	0.010	5	6	138	4	KED
>	In	115		ug/L			437453	439173	0	Standard
	Ag	107	0.041	ug/L	0.002	5	109	815	4	Standard
>	Tb	159		ug/L			1136980	1168876	1	Standard
	Pb	208	21.398	ug/L	0.334	1	605	1664109	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0206-03
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 09:22:03
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27642	52376	2	Standard
	Cl	37		ug/L			5444164	7670624	2	Standard
>	Sc	45		ug/L			458454	508776	0	Standard
	Cr	52	3.576	ug/L	0.106	2	15942	87812	2	Standard
	Cr	53	6.480	ug/L	0.230	3	279	15273	4	Standard
>	Ge	72		ug/L			33055	32992	1	KED
	Ni	60	5.724	ug/L	0.105	1	65	7771	2	KED
	Ni	62	5.963	ug/L	0.221	3	13	1309	5	KED
	Cu	63	9.811	ug/L	0.275	2	48	37214	4	KED
	Cu	65	9.780	ug/L	0.273	2	27	18697	2	KED
	Zn	66	15.226	ug/L	0.261	1	33	7481	1	KED
	Zn	67	16.428	ug/L	0.737	4	4	1351	5	KED
	As	75	0.569	ug/L	0.060	10	4	153	9	KED
	Y	89		ug/L			263626	274154	1	Standard
	Kr	83		ug/L			46	52	12	Standard
>	In-1	115		ug/L			7645	7396	2	KED
	Cd	111	0.035	ug/L	0.024	67	3	11	49	KED
	Cd	114	0.030	ug/L	0.014	45	6	25	35	KED
>	In	115		ug/L			437453	448439	3	Standard
	Ag	107	0.008	ug/L	0.000	3	109	252	2	Standard
>	Tb	159		ug/L			1136980	1168273	1	Standard
	Pb	208	1.849	ug/L	0.032	1	605	144288	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0206-05
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, April 28, 2023 09:26:29
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	48722	3	Standard
	Cl	**37**		ug/L			5444164	6581514	2	Standard
⌈>	**Sc**	**45**		ug/L			458454	497441	1	Standard
|	**Cr**	**52**	**5.252**	ug/L	0.102	1	15942	117957	1	Standard
⌊	**Cr**	**53**	**6.912**	ug/L	0.071	1	279	15907	2	Standard
⌈>	**Ge**	**72**		ug/L			33055	33033	0	KED
|	**Ni**	**60**	**6.252**	ug/L	0.140	2	65	8490	1	KED
|	**Ni**	**62**	**6.220**	ug/L	0.208	3	13	1367	3	KED
|	**Cu**	**63**	**20.244**	ug/L	0.189	0	48	76812	1	KED
|	**Cu**	**65**	**19.813**	ug/L	0.418	2	27	37901	2	KED
|	**Zn**	**66**	**84.258**	ug/L	0.596	0	33	41306	0	KED
|	**Zn**	**67**	**79.791**	ug/L	1.675	2	4	6555	1	KED
⌊	**As**	**75**	**1.376**	ug/L	0.021	1	4	366	1	KED
	Y	**89**		ug/L			263626	284049	1	Standard
	Kr	**83**		ug/L			46	50	28	Standard
⌈>	**In-1**	**115**		ug/L			7645	7535	2	KED
|	**Cd**	**111**	**0.142**	ug/L	0.025	17	3	38	16	KED
⌊	**Cd**	**114**	**0.103**	ug/L	0.017	16	6	74	14	KED
⌈>	**In**	**115**		ug/L			437453	452547	2	Standard
⌊	**Ag**	**107**	**0.019**	ug/L	0.003	15	109	457	9	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1163049	1	Standard
⌊	**Pb**	**208**	**14.972**	ug/L	0.341	2	605	1158757	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0205-01
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 09:31:18
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27642	57098	1	Standard
	Cl	37		ug/L			5444164	7689540	3	Standard
⌈>	Sc	45		ug/L			458454	514288	0	Standard
|	Cr	52	7.051	ug/L	0.229	3	15942	157608	2	Standard
⌊	Cr	53	9.529	ug/L	0.238	2	279	22553	2	Standard
⌈>	Ge	72		ug/L			33055	32478	1	KED
|	Ni	60	4.263	ug/L	0.059	1	65	5712	0	KED
|	Ni	62	4.278	ug/L	0.201	4	13	928	5	KED
|	Cu	63	20.249	ug/L	0.363	1	48	75532	1	KED
|	Cu	65	20.276	ug/L	0.288	1	27	38135	2	KED
|	Zn	66	64.864	ug/L	1.366	2	33	31267	1	KED
|	Zn	67	61.636	ug/L	0.970	1	4	4979	1	KED
⌊	As	75	1.838	ug/L	0.124	6	4	479	5	KED
	Y	89		ug/L			263626	276137	4	Standard
	Kr	83		ug/L			46	43	13	Standard
⌈>	In-1	115		ug/L			7645	7617	4	KED
|	Cd	111	0.083	ug/L	0.006	7	3	24	2	KED
⌊	Cd	114	0.058	ug/L	0.018	30	6	45	28	KED
⌈>	In	115		ug/L			437453	434000	1	Standard
⌊	Ag	107	0.021	ug/L	0.001	2	109	466	2	Standard
⌈>	Tb	159		ug/L			1136980	1156688	1	Standard
⌊	Pb	208	4.882	ug/L	0.123	2	605	376147	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0205-03
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 09:35:43
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27642	54503	2	Standard
	Cl	37		ug/L			5444164	7576570	2	Standard
>	Sc	45		ug/L			458454	510028	0	Standard
	Cr	52	6.035	ug/L	0.061	1	15942	136341	0	Standard
	Cr	53	8.761	ug/L	0.067	0	279	20587	0	Standard
>	Ge	72		ug/L			33055	32363	1	KED
	Ni	60	3.344	ug/L	0.045	1	65	4479	0	KED
	Ni	62	3.457	ug/L	0.043	1	13	750	1	KED
	Cu	63	14.018	ug/L	0.118	0	48	52122	0	KED
	Cu	65	14.173	ug/L	0.196	1	27	26570	2	KED
	Zn	66	44.124	ug/L	0.274	0	33	21207	0	KED
	Zn	67	41.673	ug/L	1.003	2	4	3356	2	KED
	As	75	1.546	ug/L	0.055	3	4	402	4	KED
	Y	89		ug/L			263626	276876	0	Standard
	Kr	83		ug/L			46	33	12	Standard
>	In-1	115		ug/L			7645	7200	2	KED
	Cd	111	0.034	ug/L	0.003	9	3	11	4	KED
	Cd	114	0.028	ug/L	0.028	100	6	23	74	KED
>	In	115		ug/L			437453	439455	2	Standard
	Ag	107	0.009	ug/L	0.001	12	109	270	4	Standard
>	Tb	159		ug/L			1136980	1170770	1	Standard
	Pb	208	2.029	ug/L	0.029	1	605	158639	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0205-05
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 09:40:08
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27642	57939	2	Standard
	Cl	37		ug/L			5444164	7825750	4	Standard
>	Sc	45		ug/L			458454	516964	2	Standard
	Cr	52	7.227	ug/L	0.122	1	15942	161910	1	Standard
	Cr	53	10.049	ug/L	0.147	1	279	23885	1	Standard
>	Ge	72		ug/L			33055	32155	1	KED
	Ni	60	4.256	ug/L	0.186	4	65	5646	3	KED
	Ni	62	4.141	ug/L	0.168	4	13	890	2	KED
	Cu	63	20.271	ug/L	0.447	2	48	74852	0	KED
	Cu	65	20.212	ug/L	0.562	2	27	37625	1	KED
	Zn	66	62.555	ug/L	2.073	3	33	29850	1	KED
	Zn	67	58.946	ug/L	1.211	2	4	4714	0	KED
	As	75	1.874	ug/L	0.043	2	4	484	3	KED
	Y	89		ug/L			263626	284285	0	Standard
	Kr	83		ug/L			46	47	28	Standard
>	In-1	115		ug/L			7645	7489	2	KED
	Cd	111	0.050	ug/L	0.019	38	3	15	31	KED
	Cd	114	0.067	ug/L	0.031	45	6	50	40	KED
>	In	115		ug/L			437453	440706	1	Standard
	Ag	107	0.017	ug/L	0.001	8	109	406	4	Standard
>	Tb	159		ug/L			1136980	1159950	0	Standard
	Pb	208	4.835	ug/L	0.060	1	605	373640	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0202-01
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 09:44:57
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27642	49507	1	Standard
	Cl	37		ug/L			5444164	5952695	2	Standard
⌈>	Sc	45		ug/L			458454	483574	3	Standard
|	Cr	52	0.273	ug/L	0.048	17	15942	21894	1	Standard
⌊	Cr	53	0.823	ug/L	0.014	1	279	2099	1	Standard
⌈>	Ge	72		ug/L			33055	33901	0	KED
|	Ni	60	0.742	ug/L	0.029	3	65	1093	3	KED
|	Ni	62	0.829	ug/L	0.081	9	13	199	9	KED
|	Cu	63	30.469	ug/L	0.472	1	48	118618	1	KED
|	Cu	65	30.775	ug/L	0.455	1	27	60398	1	KED
|	Zn	66	89.064	ug/L	0.983	1	33	44807	1	KED
|	Zn	67	81.937	ug/L	2.336	2	4	6908	2	KED
⌊	As	75	0.458	ug/L	0.013	2	4	128	2	KED
	Y	89		ug/L			263626	278525	2	Standard
	Kr	83		ug/L			46	43	22	Standard
⌈>	In-1	115		ug/L			7645	8012	3	KED
|	Cd	111	0.121	ug/L	0.006	5	3	35	7	KED
⌊	Cd	114	0.100	ug/L	0.010	9	6	76	11	KED
⌈>	In	115		ug/L			437453	451734	3	Standard
⌊	Ag	107	0.000	ug/L	0.000	91	109	120	6	Standard
⌈>	Tb	159		ug/L			1136980	1174620	1	Standard
⌊	Pb	208	0.175	ug/L	0.005	2	605	14259	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0659-DUP1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 09:49:22
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27642	50323	2	Standard
	Cl	37		ug/L			5444164	6001725	3	Standard
>	Sc	45		ug/L			458454	472453	2	Standard
	Cr	52	0.289	ug/L	0.011	3	15942	21687	2	Standard
	Cr	53	0.700	ug/L	0.005	0	279	1787	1	Standard
>	Ge	72		ug/L			33055	34372	0	KED
	Ni	60	0.762	ug/L	0.038	5	65	1136	4	KED
	Ni	62	0.842	ug/L	0.058	6	13	205	6	KED
	Cu	63	31.667	ug/L	0.590	1	48	124989	1	KED
	Cu	65	31.874	ug/L	0.245	0	27	63426	0	KED
	Zn	66	92.410	ug/L	1.416	1	33	47135	1	KED
	Zn	67	84.950	ug/L	2.521	2	4	7262	3	KED
	As	75	0.458	ug/L	0.033	7	4	130	7	KED
	Y	89		ug/L			263626	267633	5	Standard
	Kr	83		ug/L			46	54	14	Standard
>	In-1	115		ug/L			7645	7903	0	KED
	Cd	111	0.118	ug/L	0.011	9	3	34	8	KED
	Cd	114	0.092	ug/L	0.016	17	6	69	14	KED
>	In	115		ug/L			437453	460059	2	Standard
	Ag	107	0.000	ug/L	0.001	6456	109	115	17	Standard
>	Tb	159		ug/L			1136980	1161893	2	Standard
	Pb	208	0.179	ug/L	0.007	3	605	14467	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0659-MS1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 09:54:12
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27642	48103	3	Standard
	Cl	37		ug/L			5444164	6045641	2	Standard
⌈>	Sc	45		ug/L			458454	473185	1	Standard
|	Cr	52	25.171	ug/L	0.418	1	15942	475414	1	Standard
⌊	Cr	53	25.235	ug/L	0.239	0	279	54471	1	Standard
⌈>	Ge	72		ug/L			33055	34238	4	KED
|	Ni	60	27.141	ug/L	1.100	4	65	37939	0	KED
|	Ni	62	27.198	ug/L	0.738	2	13	6142	1	KED
|	Cu	63	56.779	ug/L	1.618	2	48	223022	1	KED
|	Cu	65	56.565	ug/L	1.574	2	27	112012	1	KED
|	Zn	66	166.109	ug/L	5.734	3	33	84286	0	KED
|	Zn	67	156.999	ug/L	7.399	4	4	13347	1	KED
⌊	As	75	25.560	ug/L	0.907	3	4	6962	0	KED
	Y	89		ug/L			263626	275405	0	Standard
	Kr	83		ug/L			46	55	7	Standard
⌈>	In-1	115		ug/L			7645	8014	1	KED
|	Cd	111	25.600	ug/L	0.802	3	3	6842	2	KED
⌊	Cd	114	25.710	ug/L	0.272	1	6	18031	1	KED
⌈>	In	115		ug/L			437453	460121	1	Standard
⌊	Ag	107	24.642	ug/L	0.383	1	109	448377	0	Standard
⌈>	Tb	159		ug/L			1136980	1177650	1	Standard
⌊	Pb	208	27.252	ug/L	0.407	1	605	2135227	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBLK
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 09:58:39
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	29328	2	Standard
	Cl	**37**		ug/L			5444164	5919104	3	Standard
⌈>	**Sc**	**45**		ug/L			458454	449694	1	Standard
|	**Cr**	**52**	**0.044**	ug/L	0.030	68	15942	16400	2	Standard
⌊	**Cr**	**53**	**0.214**	ug/L	0.013	6	279	709	2	Standard
⌈>	**Ge**	**72**		ug/L			33055	33559	2	KED
|	**Ni**	**60**	**-0.033**	ug/L	0.004	11	65	20	27	KED
|	**Ni**	**62**	**-0.033**	ug/L	0.004	13	13	6	15	KED
|	**Cu**	**63**	**0.018**	ug/L	0.002	8	48	118	4	KED
|	**Cu**	**65**	**0.025**	ug/L	0.001	5	27	76	3	KED
|	**Zn**	**66**	**0.031**	ug/L	0.029	94	33	49	29	KED
|	**Zn**	**67**	**0.105**	ug/L	0.065	62	4	13	42	KED
⌊	**As**	**75**	**-0.002**	ug/L	0.004	296	4	4	29	KED
	Y	**89**		ug/L			263626	264674	2	Standard
	Kr	**83**		ug/L			46	44	9	Standard
⌈>	**In-1**	**115**		ug/L			7645	7675	2	KED
|	**Cd**	**111**	**0.010**	ug/L	0.010	98	3	5	44	KED
⌊	**Cd**	**114**	**-0.002**	ug/L	0.002	91	6	5	23	KED
⌈>	**In**	**115**		ug/L			437453	447823	2	Standard
⌊	**Ag**	**107**	**-0.000**	ug/L	0.001	274	109	106	19	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1135724	1	Standard
⌊	**Pb**	**208**	**0.000**	ug/L	0.001	193	605	634	8	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVK
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 10:03:05
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	28881	3	Standard
	Cl	**37**		ug/L			5444164	5837037	2	Standard
⌈>	**Sc**	**45**		ug/L			458454	461826	0	Standard
|	**Cr**	**52**	**50.357**	ug/L	0.592	1	15942	912234	0	Standard
⌊	**Cr**	**53**	**49.556**	ug/L	0.827	1	279	104135	1	Standard
⌈>	**Ge**	**72**		ug/L			33055	33716	0	KED
|	**Ni**	**60**	**52.616**	ug/L	0.237	0	65	72448	0	KED
|	**Ni**	**62**	**51.994**	ug/L	0.725	1	13	11558	0	KED
|	**Cu**	**63**	**53.087**	ug/L	1.060	1	48	205514	2	KED
|	**Cu**	**65**	**52.885**	ug/L	0.528	0	27	103205	0	KED
|	**Zn**	**66**	**53.382**	ug/L	0.423	0	33	26722	0	KED
|	**Zn**	**67**	**51.405**	ug/L	1.907	3	4	4311	3	KED
⌊	**As**	**75**	**51.341**	ug/L	0.525	1	4	13780	0	KED
	Y	**89**		ug/L			263626	267856	1	Standard
	Kr	**83**		ug/L			46	47	10	Standard
⌈>	**In-1**	**115**		ug/L			7645	7800	2	KED
|	**Cd**	**111**	**53.213**	ug/L	1.127	2	3	13835	0	KED
⌊	**Cd**	**114**	**52.289**	ug/L	1.215	2	6	35674	1	KED
⌈>	**In**	**115**		ug/L			437453	443145	0	Standard
⌊	**Ag**	**107**	**48.628**	ug/L	0.177	0	109	852247	1	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1157037	0	Standard
⌊	**Pb**	**208**	**54.283**	ug/L	0.939	1	605	4178201	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBK
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 10:10:15
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	28033	2	Standard
	Cl	**37**		ug/L			5444164	5779277	3	Standard
⌈>	**Sc**	**45**		ug/L			458454	455680	1	Standard
|	**Cr**	**52**	**-0.006**	ug/L	0.007	106	15942	15734	1	Standard
⌊	**Cr**	**53**	**0.063**	ug/L	0.013	20	279	407	6	Standard
⌈>	**Ge**	**72**		ug/L			33055	33367	3	KED
|	**Ni**	**60**	**-0.037**	ug/L	0.002	4	65	15	12	KED
|	**Ni**	**62**	**-0.026**	ug/L	0.015	55	13	8	35	KED
|	**Cu**	**63**	**-0.001**	ug/L	0.004	277	48	43	30	KED
|	**Cu**	**65**	**-0.004**	ug/L	0.003	84	27	20	28	KED
|	**Zn**	**66**	**-0.016**	ug/L	0.013	80	33	26	23	KED
|	**Zn**	**67**	**0.023**	ug/L	0.027	118	4	6	34	KED
⌊	**As**	**75**	**-0.001**	ug/L	0.004	291	4	4	22	KED
	Y	**89**		ug/L			263626	257297	4	Standard
	Kr	**83**		ug/L			46	47	17	Standard
⌈>	**In-1**	**115**		ug/L			7645	7939	0	KED
|	**Cd**	**111**	**0.007**	ug/L	0.002	31	3	5	10	KED
⌊	**Cd**	**114**	**-0.003**	ug/L	0.006	171	6	4	95	KED
⌈>	**In**	**115**		ug/L			437453	439459	3	Standard
⌊	**Ag**	**107**	**0.005**	ug/L	0.001	22	109	191	6	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1117786	3	Standard
⌊	**Pb**	**208**	**-0.003**	ug/L	0.000	3	605	348	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0151-01
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 10:14:42
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	76728	5	Standard
	Cl	**37**		ug/L			5444164	6337434	3	Standard
⌈>	**Sc**	**45**		ug/L			458454	506281	0	Standard
|	**Cr**	**52**	**3.066**	ug/L	0.045	1	15942	77435	1	Standard
⌊	**Cr**	**53**	**3.902**	ug/L	0.023	0	279	9273	0	Standard
⌈>	**Ge**	**72**		ug/L			33055	33725	3	KED
|	**Ni**	**60**	**2.911**	ug/L	0.124	4	65	4068	1	KED
|	**Ni**	**62**	**2.998**	ug/L	0.149	4	13	679	2	KED
|	**Cu**	**63**	**19.288**	ug/L	0.634	3	48	74666	0	KED
|	**Cu**	**65**	**19.166**	ug/L	0.547	2	27	37408	0	KED
|	**Zn**	**66**	**259.132**	ug/L	7.475	2	33	129545	0	KED
|	**Zn**	**67**	**241.515**	ug/L	4.545	1	4	20242	2	KED
⌊	**As**	**75**	**0.824**	ug/L	0.043	5	4	225	1	KED
	Y	**89**		ug/L			263626	285745	1	Standard
	Kr	**83**		ug/L			46	48	40	Standard
⌈>	**In-1**	**115**		ug/L			7645	7931	3	KED
|	**Cd**	**111**	**0.570**	ug/L	0.019	3	3	153	0	KED
⌊	**Cd**	**114**	**0.576**	ug/L	0.026	4	6	406	7	KED
⌈>	**In**	**115**		ug/L			437453	458660	1	Standard
⌊	**Ag**	**107**	**0.019**	ug/L	0.003	15	109	450	10	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1158814	0	Standard
⌊	**Pb**	**208**	**4.660**	ug/L	0.045	0	605	359789	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0211-01
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 10:19:03
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27642	51714	3	Standard
	Cl	37		ug/L			5444164	5609268	3	Standard
⌈>	Sc	45		ug/L			458454	481830	1	Standard
|	Cr	52	0.517	ug/L	0.042	8	15942	26346	2	Standard
⌊	Cr	53	0.738	ug/L	0.024	3	279	1907	1	Standard
⌈>	Ge	72		ug/L			33055	34473	2	KED
|	Ni	60	0.339	ug/L	0.021	6	65	545	5	KED
|	Ni	62	0.274	ug/L	0.036	13	13	76	11	KED
|	Cu	63	2.479	ug/L	0.030	1	48	9860	1	KED
|	Cu	65	2.413	ug/L	0.030	1	27	4841	1	KED
|	Zn	66	76.492	ug/L	0.843	1	33	39132	1	KED
|	Zn	67	69.613	ug/L	0.402	0	4	5968	2	KED
⌊	As	75	0.163	ug/L	0.027	16	4	49	13	KED
	Y	89		ug/L			263626	277040	3	Standard
	Kr	83		ug/L			46	40	18	Standard
⌈>	In-1	115		ug/L			7645	8045	1	KED
|	Cd	111	0.021	ug/L	0.012	58	3	8	37	KED
⌊	Cd	114	0.026	ug/L	0.017	65	6	24	46	KED
⌈>	In	115		ug/L			437453	452700	3	Standard
⌊	Ag	107	0.001	ug/L	0.001	54	109	137	9	Standard
⌈>	Tb	159		ug/L			1136980	1163850	1	Standard
⌊	Pb	208	1.065	ug/L	0.022	2	605	83086	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0211-02
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 10:23:30
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27642	51785	2	Standard
	Cl	37		ug/L			5444164	5649761	1	Standard
⌈>	Sc	45		ug/L			458454	483282	1	Standard
|	Cr	52	0.321	ug/L	0.017	5	15942	22777	2	Standard
⌊	Cr	53	0.370	ug/L	0.004	1	279	1105	2	Standard
⌈>	Ge	72		ug/L			33055	34449	1	KED
|	Ni	60	0.216	ug/L	0.029	13	65	372	12	KED
|	Ni	62	0.255	ug/L	0.022	8	13	72	7	KED
|	Cu	63	2.230	ug/L	0.012	0	48	8870	1	KED
|	Cu	65	2.183	ug/L	0.021	0	27	4380	0	KED
|	Zn	66	50.608	ug/L	0.308	0	33	25886	1	KED
|	Zn	67	46.208	ug/L	0.593	1	4	3960	0	KED
⌊	As	75	0.163	ug/L	0.023	14	4	49	13	KED
	Y	89		ug/L			263626	278686	2	Standard
	Kr	83		ug/L			46	53	5	Standard
⌈>	In-1	115		ug/L			7645	8072	1	KED
|	Cd	111	0.023	ug/L	0.018	77	3	9	50	KED
⌊	Cd	114	0.012	ug/L	0.006	49	6	15	29	KED
⌈>	In	115		ug/L			437453	458245	1	Standard
⌊	Ag	107	-0.001	ug/L	0.000	9	109	99	1	Standard
⌈>	Tb	159		ug/L			1136980	1182221	2	Standard
⌊	Pb	208	0.230	ug/L	0.005	2	605	18748	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0214-01
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 10:28:21
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	49665	3	Standard
	Cl	**37**		ug/L			5444164	5648430	4	Standard
⌈>	**Sc**	**45**		ug/L			458454	469678	3	Standard
|	**Cr**	**52**	**0.591**	ug/L	0.025	4	15942	27026	1	Standard
⌊	**Cr**	**53**	**0.613**	ug/L	0.017	2	279	1594	5	Standard
⌈>	**Ge**	**72**		ug/L			33055	34232	0	KED
|	**Ni**	**60**	**0.138**	ug/L	0.018	12	65	260	9	KED
|	**Ni**	**62**	**0.144**	ug/L	0.025	17	13	46	12	KED
|	**Cu**	**63**	**1.382**	ug/L	0.043	3	48	5479	3	KED
|	**Cu**	**65**	**1.403**	ug/L	0.033	2	27	2808	2	KED
|	**Zn**	**66**	**26.733**	ug/L	0.299	1	33	13605	1	KED
|	**Zn**	**67**	**25.487**	ug/L	0.846	3	4	2172	2	KED
⌊	**As**	**75**	**0.082**	ug/L	0.002	2	4	26	2	KED
	Y	**89**		ug/L			263626	271430	4	Standard
	Kr	**83**		ug/L			46	39	28	Standard
⌈>	**In-1**	**115**		ug/L			7645	7996	2	KED
|	**Cd**	**111**	**0.031**	ug/L	0.018	58	3	11	44	KED
⌊	**Cd**	**114**	**0.018**	ug/L	0.006	31	6	19	22	KED
⌈>	**In**	**115**		ug/L			437453	454546	2	Standard
⌊	**Ag**	**107**	**-0.003**	ug/L	0.000	6	109	64	5	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1134808	1	Standard
⌊	**Pb**	**208**	**0.198**	ug/L	0.005	2	605	15529	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0214-02
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 10:32:47
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27642	49979	3	Standard
	Cl	37		ug/L			5444164	5617998	3	Standard
⌈>	Sc	45		ug/L			458454	487646	1	Standard
|	Cr	52	0.454	ug/L	0.035	7	15942	25493	3	Standard
⌊	Cr	53	0.478	ug/L	0.025	5	279	1355	4	Standard
⌈>	Ge	72		ug/L			33055	34488	0	KED
|	Ni	60	0.166	ug/L	0.012	7	65	301	5	KED
|	Ni	62	0.185	ug/L	0.064	34	13	56	25	KED
|	Cu	63	1.350	ug/L	0.027	1	48	5395	1	KED
|	Cu	65	1.307	ug/L	0.058	4	27	2636	3	KED
|	Zn	66	17.184	ug/L	0.358	2	33	8823	1	KED
|	Zn	67	16.699	ug/L	0.609	3	4	1436	4	KED
⌊	As	75	0.059	ug/L	0.006	9	4	21	7	KED
	Y	89		ug/L			263626	283316	0	Standard
	Kr	83		ug/L			46	45	11	Standard
⌈>	In-1	115		ug/L			7645	8024	3	KED
|	Cd	111	0.013	ug/L	0.023	170	3	6	87	KED
⌊	Cd	114	0.009	ug/L	0.001	9	6	12	7	KED
⌈>	In	115		ug/L			437453	472154	3	Standard
⌊	Ag	107	-0.003	ug/L	0.001	21	109	66	20	Standard
⌈>	Tb	159		ug/L			1136980	1189107	1	Standard
⌊	Pb	208	0.350	ug/L	0.002	0	605	28314	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0216-01
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 10:37:08
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	50951	3	Standard
	Cl	**37**		ug/L			5444164	42464996	5	Standard
⌈>	**Sc**	**45**		ug/L			458454	503460	3	Standard
|	**Cr**	**52**	**0.809**	ug/L	0.042	5	15942	33188	2	Standard
⌊	**Cr**	**53**	**44.513**	ug/L	0.325	0	279	101993	3	Standard
⌈>	**Ge**	**72**		ug/L			33055	26053	11	KED
|	**Ni**	**60**	**1.657**	ug/L	0.127	7	65	1802	4	KED
|	**Ni**	**62**	**1.666**	ug/L	0.356	21	13	292	8	KED
|	**Cu**	**63**	**0.215**	ug/L	0.007	3	48	680	12	KED
|	**Cu**	**65**	**0.210**	ug/L	0.008	3	27	338	8	KED
|	**Zn**	**66**	**4.854**	ug/L	0.551	11	33	1885	1	KED
|	**Zn**	**67**	**8.278**	ug/L	0.875	10	4	535	3	KED
⌊	**As**	**75**	**0.144**	ug/L	0.050	34	4	32	19	KED
	Y	**89**		ug/L			263626	236567	4	Standard
	Kr	**83**		ug/L			46	147	14	Standard
⌈>	**In-1**	**115**		ug/L			7645	6604	2	KED
|	**Cd**	**111**	**0.102**	ug/L	0.029	28	3	25	22	KED
⌊	**Cd**	**114**	**0.083**	ug/L	0.019	23	6	53	20	KED
⌈>	**In**	**115**		ug/L			437453	329745	1	Standard
⌊	**Ag**	**107**	**-0.001**	ug/L	0.001	92	109	74	11	Standard
⌈>	**Tb**	**159**		ug/L			1136980	966312	0	Standard
⌊	**Pb**	**208**	**0.042**	ug/L	0.001	3	605	3243	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0216-02
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 10:44:20
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27642	54143	2	Standard
	Cl	37		ug/L			5444164	6827464	1	Standard
>	Sc	45		ug/L			458454	509590	1	Standard
	Cr	52	0.784	ug/L	0.034	4	15942	33112	0	Standard
	Cr	53	3.590	ug/L	0.038	1	279	8611	0	Standard
>	Ge	72		ug/L			33055	35168	1	KED
	Ni	60	0.212	ug/L	0.020	9	65	373	8	KED
	Ni	62	0.240	ug/L	0.017	7	13	70	7	KED
	Cu	63	2.598	ug/L	0.077	2	48	10539	1	KED
	Cu	65	2.548	ug/L	0.046	1	27	5215	1	KED
	Zn	66	3.129	ug/L	0.176	5	33	1666	4	KED
	Zn	67	5.923	ug/L	0.360	6	4	522	6	KED
	As	75	2.522	ug/L	0.047	1	4	710	0	KED
	Y	89		ug/L			263626	283522	1	Standard
	Kr	83		ug/L			46	52	12	Standard
>	In-1	115		ug/L			7645	7973	3	KED
	Cd	111	0.013	ug/L	0.006	44	3	6	24	KED
	Cd	114	0.006	ug/L	0.008	125	6	10	46	KED
>	In	115		ug/L			437453	462915	1	Standard
	Ag	107	-0.004	ug/L	0.000	8	109	43	15	Standard
>	Tb	159		ug/L			1136980	1193712	0	Standard
	Pb	208	0.231	ug/L	0.007	3	605	18966	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0216-03
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 10:48:47
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27642	51782	2	Standard
	Cl	37		ug/L			5444164	5908336	2	Standard
>	Sc	45		ug/L			458454	504093	1	Standard
	Cr	52	0.356	ug/L	0.031	8	15942	24430	1	Standard
	Cr	53	1.504	ug/L	0.065	4	279	3746	3	Standard
>	Ge	72		ug/L			33055	35048	2	KED
	Ni	60	0.451	ug/L	0.005	1	65	714	2	KED
	Ni	62	0.416	ug/L	0.124	29	13	110	23	KED
	Cu	63	3.519	ug/L	0.051	1	48	14207	0	KED
	Cu	65	3.586	ug/L	0.031	0	27	7302	2	KED
	Zn	66	51.412	ug/L	1.976	3	33	26739	1	KED
	Zn	67	53.984	ug/L	0.806	1	4	4707	2	KED
	As	75	0.410	ug/L	0.013	3	4	119	5	KED
	Y	89		ug/L			263626	290437	1	Standard
	Kr	83		ug/L			46	48	32	Standard
>	In-1	115		ug/L			7645	7961	3	KED
	Cd	111	0.043	ug/L	0.010	22	3	14	16	KED
	Cd	114	0.027	ug/L	0.027	101	6	24	72	KED
>	In	115		ug/L			437453	474699	2	Standard
	Ag	107	-0.003	ug/L	0.001	19	109	54	25	Standard
>	Tb	159		ug/L			1136980	1225867	0	Standard
	Pb	208	0.973	ug/L	0.012	1	605	79969	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0216-04
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 10:53:14
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27642	49633	2	Standard
	Cl	37		ug/L			5444164	5846058	2	Standard
>	Sc	45		ug/L			458454	495858	2	Standard
	Cr	52	0.285	ug/L	0.031	11	15942	22678	0	Standard
	Cr	53	0.998	ug/L	0.014	1	279	2546	1	Standard
>	Ge	72		ug/L			33055	34817	0	KED
	Ni	60	0.667	ug/L	0.064	9	65	1017	9	KED
	Ni	62	0.603	ug/L	0.041	6	13	153	5	KED
	Cu	63	0.940	ug/L	0.041	4	48	3810	4	KED
	Cu	65	0.972	ug/L	0.043	4	27	1988	4	KED
	Zn	66	30.648	ug/L	0.264	0	33	15858	0	KED
	Zn	67	41.803	ug/L	0.322	0	4	3622	0	KED
	As	75	0.088	ug/L	0.013	14	4	29	11	KED
	Y	89		ug/L			263626	285701	2	Standard
	Kr	83		ug/L			46	58	35	Standard
>	In-1	115		ug/L			7645	7876	0	KED
	Cd	111	0.073	ug/L	0.008	10	3	22	8	KED
	Cd	114	0.062	ug/L	0.004	6	6	49	4	KED
>	In	115		ug/L			437453	472393	1	Standard
	Ag	107	0.000	ug/L	0.000	374	109	120	4	Standard
>	Tb	159		ug/L			1136980	1187787	1	Standard
	Pb	208	4.029	ug/L	0.097	2	605	318885	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBLL
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 10:57:41
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	31544	2	Standard
	Cl	**37**		ug/L			5444164	5784626	3	Standard
⌈>	**Sc**	**45**		ug/L			458454	477975	1	Standard
|	**Cr**	**52**	**-0.001**	ug/L	0.016	1561	15942	16600	1	Standard
⌊	**Cr**	**53**	**0.238**	ug/L	0.011	4	279	807	2	Standard
⌈>	**Ge**	**72**		ug/L			33055	34560	1	KED
|	**Ni**	**60**	**-0.032**	ug/L	0.006	17	65	22	36	KED
|	**Ni**	**62**	**-0.039**	ug/L	0.017	43	13	5	66	KED
|	**Cu**	**63**	**0.017**	ug/L	0.003	19	48	120	12	KED
|	**Cu**	**65**	**0.017**	ug/L	0.006	34	27	63	17	KED
|	**Zn**	**66**	**0.050**	ug/L	0.008	16	33	60	8	KED
|	**Zn**	**67**	**0.101**	ug/L	0.045	44	4	13	28	KED
⌊	**As**	**75**	**-0.009**	ug/L	0.004	49	4	2	52	KED
	Y	**89**		ug/L			263626	274297	1	Standard
	Kr	**83**		ug/L			46	39	24	Standard
⌈>	**In-1**	**115**		ug/L			7645	7846	1	KED
|	**Cd**	**111**	**0.008**	ug/L	0.006	71	3	5	26	KED
⌊	**Cd**	**114**	**-0.008**	ug/L	0.002	19	6	1	90	KED
⌈>	**In**	**115**		ug/L			437453	466007	2	Standard
⌊	**Ag**	**107**	**-0.005**	ug/L	0.000	10	109	26	36	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1163822	0	Standard
⌊	**Pb**	**208**	**0.000**	ug/L	0.002	488	605	653	25	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVL
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 11:02:07
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	30712	2	Standard
	Cl	**37**		ug/L			5444164	5728917	2	Standard
⌈>	**Sc**	**45**		ug/L			458454	483340	1	Standard
|	**Cr**	**52**	**49.970**	ug/L	0.577	1	15942	947631	2	Standard
⌊	**Cr**	**53**	**49.162**	ug/L	0.195	0	279	108127	0	Standard
⌈>	**Ge**	**72**		ug/L			33055	34350	1	KED
|	**Ni**	**60**	**53.470**	ug/L	0.272	0	65	75005	0	KED
|	**Ni**	**62**	**51.200**	ug/L	0.893	1	13	11595	1	KED
|	**Cu**	**63**	**53.378**	ug/L	1.115	2	48	210482	0	KED
|	**Cu**	**65**	**54.781**	ug/L	0.508	0	27	108915	1	KED
|	**Zn**	**66**	**52.840**	ug/L	1.954	3	33	26940	2	KED
|	**Zn**	**67**	**52.845**	ug/L	0.755	1	4	4515	0	KED
⌊	**As**	**75**	**51.350**	ug/L	0.768	1	4	14041	0	KED
	Y	**89**		ug/L			263626	281016	1	Standard
	Kr	**83**		ug/L			46	48	12	Standard
⌈>	**In-1**	**115**		ug/L			7645	7854	1	KED
|	**Cd**	**111**	**52.339**	ug/L	0.875	1	3	13705	0	KED
⌊	**Cd**	**114**	**52.140**	ug/L	1.486	2	6	35824	1	KED
⌈>	**In**	**115**		ug/L			437453	461895	0	Standard
⌊	**Ag**	**107**	**47.826**	ug/L	0.662	1	109	873670	1	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1185506	2	Standard
⌊	**Pb**	**208**	**55.570**	ug/L	1.222	2	605	4381108	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBL
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 11:09:17
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	30136	2	Standard
	Cl	**37**		ug/L			5444164	5693760	3	Standard
⌈>	**Sc**	**45**		ug/L			458454	477568	1	Standard
|	**Cr**	**52**	**-0.014**	ug/L	0.036	262	15942	16347	3	Standard
⌊	**Cr**	**53**	**0.074**	ug/L	0.010	13	279	451	4	Standard
⌈>	**Ge**	**72**		ug/L			33055	35157	2	KED
|	**Ni**	**60**	**-0.035**	ug/L	0.001	1	65	19	5	KED
|	**Ni**	**62**	**-0.042**	ug/L	0.025	58	13	5	108	KED
|	**Cu**	**63**	**-0.001**	ug/L	0.003	261	48	47	20	KED
|	**Cu**	**65**	**-0.005**	ug/L	0.003	70	27	20	32	KED
|	**Zn**	**66**	**0.002**	ug/L	0.027	1245	33	36	37	KED
|	**Zn**	**67**	**0.019**	ug/L	0.035	184	4	6	45	KED
⌊	**As**	**75**	**0.001**	ug/L	0.007	549	4	5	36	KED
	Y	**89**		ug/L			263626	279570	1	Standard
	Kr	**83**		ug/L			46	62	6	Standard
⌈>	**In-1**	**115**		ug/L			7645	8503	0	KED
|	**Cd**	**111**	**0.004**	ug/L	0.003	77	3	4	20	KED
⌊	**Cd**	**114**	**0.002**	ug/L	0.008	321	6	8	66	KED
⌈>	**In**	**115**		ug/L			437453	467643	1	Standard
⌊	**Ag**	**107**	**0.005**	ug/L	0.001	18	109	215	7	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1167315	2	Standard
⌊	**Pb**	**208**	**-0.003**	ug/L	0.000	7	605	394	6	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0215-01
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, April 28, 2023 11:16:47
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27642	46196	1	Standard
	Cl	37		ug/L			5444164	8284309	2	Standard
⌈>	Sc	45		ug/L			458454	505527	0	Standard
|	Cr	52	51.308	ug/L	0.740	1	15942	1017200	2	Standard
⌊	Cr	53	54.313	ug/L	0.920	1	279	124920	2	Standard
⌈>	Ge	72		ug/L			33055	34231	1	KED
|	Ni	60	2.056	ug/L	0.009	0	65	2939	1	KED
|	Ni	62	2.067	ug/L	0.103	4	13	480	6	KED
|	Cu	63	11.240	ug/L	0.213	1	48	44211	1	KED
|	Cu	65	11.273	ug/L	0.174	1	27	22354	0	KED
|	Zn	66	33.294	ug/L	0.997	2	33	16930	1	KED
|	Zn	67	30.314	ug/L	0.071	0	4	2583	1	KED
⌊	As	75	0.119	ug/L	0.006	4	4	37	3	KED
	Y	89		ug/L			263626	285225	2	Standard
	Kr	83		ug/L			46	50	36	Standard
⌈>	In-1	115		ug/L			7645	8109	1	KED
|	Cd	111	0.791	ug/L	0.046	5	3	217	5	KED
⌊	Cd	114	0.774	ug/L	0.058	7	6	555	7	KED
⌈>	In	115		ug/L			437453	461198	2	Standard
⌊	Ag	107	0.018	ug/L	0.001	8	109	446	6	Standard
⌈>	Tb	159		ug/L			1136980	1197132	0	Standard
⌊	Pb	208	0.249	ug/L	0.003	1	605	20490	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0248-01
Sample Dil Factor:
Comments:

DEL

Sample Date/Time: Friday, April 28, 2023 11:21:07
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	107240	8	Standard
	Cl	**37**		ug/L			5444164	10027694	6	Standard
⌈>	**Sc**	**45**		ug/L			458454	447521	4	Standard
|	**Cr**	**52**	**1.216**	ug/L	0.025	2	15942	36530	4	Standard
⌊	**Cr**	**53**	**6.095**	ug/L	0.158	2	279	12645	3	Standard
⌈>	**Ge**	**72**		ug/L			33055	24956	1	KED
|	**Ni**	**60**	**13.877**	ug/L	0.100	0	65	14180	1	KED
|	**Ni**	**62**	**13.765**	ug/L	0.271	1	13	2272	1	KED
|	**Cu**	**63**	**1.217**	ug/L	0.041	3	48	3521	2	KED
|	**Cu**	**65**	**1.258**	ug/L	0.056	4	27	1838	4	KED
|	**Zn**	**66**	**14.676**	ug/L	0.523	3	33	5455	2	KED
|	**Zn**	**67**	**16.902**	ug/L	0.853	5	4	1051	4	KED
⌊	**As**	**75**	**5056.515**	ug/L	70.621	1	4	1004202	0	KED
	Y	**89**		ug/L			263626	244825	1	Standard
	Kr	**83**		ug/L			46	130	5	Standard
⌈>	**In-1**	**115**		ug/L			7645	5770	1	KED
|	**Cd**	**111**	**0.175**	ug/L	0.063	36	3	36	34	KED
⌊	**Cd**	**114**	**0.107**	ug/L	0.024	22	6	58	21	KED
⌈>	**In**	**115**		ug/L			437453	342939	2	Standard
⌊	**Ag**	**107**	**0.004**	ug/L	0.001	22	109	135	6	Standard
⌈>	**Tb**	**159**		ug/L			1136980	975969	2	Standard
⌊	**Pb**	**208**	**0.046**	ug/L	0.001	1	605	3495	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBLM
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 11:25:27
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	31568	4	Standard
	Cl	**37**		ug/L			5444164	5881618	5	Standard
⌈>	**Sc**	**45**		ug/L			458454	470623	1	Standard
|	**Cr**	**52**	**-0.057**	ug/L	0.030	52	15942	15321	3	Standard
⌊	**Cr**	**53**	**0.185**	ug/L	0.016	8	279	680	2	Standard
⌈>	**Ge**	**72**		ug/L			33055	34607	1	KED
|	**Ni**	**60**	**-0.031**	ug/L	0.008	26	65	24	47	KED
|	**Ni**	**62**	**-0.034**	ug/L	0.005	14	13	6	15	KED
|	**Cu**	**63**	**0.020**	ug/L	0.004	22	48	130	14	KED
|	**Cu**	**65**	**0.022**	ug/L	0.003	12	27	73	6	KED
|	**Zn**	**66**	**0.060**	ug/L	0.008	13	33	66	7	KED
|	**Zn**	**67**	**0.050**	ug/L	0.052	105	4	8	49	KED
⌊	**As**	**75**	**0.228**	ug/L	0.050	22	4	67	18	KED
	Y	**89**		ug/L			263626	296872	1	Standard
	Kr	**83**		ug/L			46	41	20	Standard
⌈>	**In-1**	**115**		ug/L			7645	7356	2	KED
|	**Cd**	**111**	**-0.001**	ug/L	0.008	859	3	2	66	KED
⌊	**Cd**	**114**	**-0.010**	ug/L	0.000	1	6	0	41	KED
⌈>	**In**	**115**		ug/L			437453	477042	1	Standard
⌊	**Ag**	**107**	**-0.005**	ug/L	0.000	8	109	33	23	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1225773	1	Standard
⌊	**Pb**	**208**	**-0.000**	ug/L	0.000	169	605	638	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0654-01 RE1
Sample Dil Factor: 10000
Comments:
Sample Date/Time: Friday, April 28, 2023 11:29:59

MB 4/27/23

Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27642	38755	4	Standard
	Cl	37		ug/L			5444164	5766458	3	Standard
>	Sc	45		ug/L			458454	460830	0	Standard
	Cr	52	-0.048	ug/L	0.013	27	15942	15172	1	Standard
	Cr	53	0.089	ug/L	0.022	25	279	467	9	Standard
>	Ge	72		ug/L			33055	34765	0	KED
	Ni	60	12.127	ug/L	0.172	1	65	17270	1	KED
	Ni	62	11.887	ug/L	0.173	1	13	2736	1	KED
	Cu	63	0.010	ug/L	0.004	39	48	92	17	KED
	Cu	65	0.008	ug/L	0.004	43	27	46	15	KED
	Zn	66	73.551	ug/L	0.805	1	33	37953	1	KED
	Zn	67	67.324	ug/L	0.673	1	4	5822	1	KED
	As	75	0.011	ug/L	0.007	61	4	7	24	KED
	Y	89		ug/L			263626	289040	1	Standard
	Kr	83		ug/L			46	44	25	Standard
>	In-1	115		ug/L			7645	7504	0	KED
	Cd	111	0.009	ug/L	0.005	49	3	5	20	KED
	Cd	114	-0.002	ug/L	0.006	308	6	4	81	KED
>	In	115		ug/L			437453	470304	2	Standard
	Ag	107	-0.005	ug/L	0.000	4	109	29	16	Standard
>	Tb	159		ug/L			1136980	1197455	1	Standard
	Pb	208	0.001	ug/L	0.000	37	605	695	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0654-01
Sample Dil Factor: 100
Comments:
Sample Date/Time: Friday, April 28, 2023 11:35:49
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27642	96247	4	Standard
	Cl	37		ug/L			5444164	5499665	4	Standard
>	Sc	45		ug/L			458454	445938	2	Standard
	Cr	52	0.747	ug/L	0.040	5	15942	28352	4	Standard
	Cr	53	0.739	ug/L	0.027	3	279	1767	3	Standard
>	Ge	72		ug/L			33055	32582	1	KED
	Ni	60	1198.905	ug/L	24.441	2	65	1593757	1	KED
	Ni	62	1211.720	ug/L	25.753	2	13	259972	0	KED
	Cu	63	0.656	ug/L	0.036	5	48	2500	4	KED
	Cu	65	0.704	ug/L	0.020	2	27	1354	3	KED
	Zn	66	7295.255	ug/L	246.372	3	33	3523830	2	KED
	Zn	67	6460.455	ug/L	94.872	1	4	523122	0	KED
	As	75	0.019	ug/L	0.004	18	4	9	8	KED
	Y	89		ug/L			263626	280069	4	Standard
	Kr	83		ug/L			46	78	8	Standard
>	In-1	115		ug/L			7645	7374	2	KED
	Cd	111	0.029	ug/L	0.007	23	3	10	14	KED
	Cd	114	0.022	ug/L	0.008	36	6	20	24	KED
>	In	115		ug/L			437453	448096	2	Standard
	Ag	107	0.002	ug/L	0.001	33	109	144	5	Standard
>	Tb	159		ug/L			1136980	1163718	1	Standard
	Pb	208	0.265	ug/L	0.003	1	605	21162	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBLN
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 11:43:40
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	30233	4	Standard
	Cl	**37**		ug/L			5444164	5848317	3	Standard
⌈>	**Sc**	**45**		ug/L			458454	455471	1	Standard
|	**Cr**	**52**	**-0.068**	ug/L	0.003	4	15942	14643	1	Standard
⌊	**Cr**	**53**	**-0.012**	ug/L	0.006	49	279	252	3	Standard
⌈>	**Ge**	**72**		ug/L			33055	33987	1	KED
|	**Ni**	**60**	**-0.023**	ug/L	0.007	28	65	35	26	KED
|	**Ni**	**62**	**-0.039**	ug/L	0.008	20	13	5	33	KED
|	**Cu**	**63**	**0.019**	ug/L	0.004	19	48	125	13	KED
|	**Cu**	**65**	**0.023**	ug/L	0.016	67	27	74	43	KED
|	**Zn**	**66**	**0.088**	ug/L	0.028	31	33	78	16	KED
|	**Zn**	**67**	**0.067**	ug/L	0.048	72	4	10	39	KED
⌊	**As**	**75**	**0.001**	ug/L	0.001	182	4	4	5	KED
	Y	**89**		ug/L			263626	280518	2	Standard
	Kr	**83**		ug/L			46	36	14	Standard
⌈>	**In-1**	**115**		ug/L			7645	7775	0	KED
|	**Cd**	**111**	**0.008**	ug/L	0.011	126	3	5	50	KED
⌊	**Cd**	**114**	**-0.008**	ug/L	0.002	22	6	0	143	KED
⌈>	**In**	**115**		ug/L			437453	462544	2	Standard
⌊	**Ag**	**107**	**-0.005**	ug/L	0.000	5	109	33	12	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1167530	2	Standard
⌊	**Pb**	**208**	**0.000**	ug/L	0.001	313	605	640	7	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBLO
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 11:50:24
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	30351	1	Standard
	Cl	**37**		ug/L			5444164	5896945	3	Standard
⌈>	**Sc**	**45**		ug/L			458454	466622	1	Standard
|	**Cr**	**52**	**-0.059**	ug/L	0.020	34	15942	15164	2	Standard
⌊	**Cr**	**53**	**-0.022**	ug/L	0.005	21	279	237	5	Standard
⌈>	**Ge**	**72**		ug/L			33055	33428	0	KED
|	**Ni**	**60**	**-0.031**	ug/L	0.006	18	65	24	32	KED
|	**Ni**	**62**	**-0.027**	ug/L	0.010	36	13	8	26	KED
|	**Cu**	**63**	**0.027**	ug/L	0.002	7	48	152	4	KED
|	**Cu**	**65**	**0.016**	ug/L	0.005	29	27	58	15	KED
|	**Zn**	**66**	**0.058**	ug/L	0.021	36	33	62	16	KED
|	**Zn**	**67**	**0.068**	ug/L	0.036	52	4	10	28	KED
⌊	**As**	**75**	**-0.005**	ug/L	0.005	96	4	3	37	KED
	Y	**89**		ug/L			263626	290666	1	Standard
	Kr	**83**		ug/L			46	41	39	Standard
⌈>	**In-1**	**115**		ug/L			7645	7423	2	KED
|	**Cd**	**111**	**0.002**	ug/L	0.006	354	3	3	41	KED
⌊	**Cd**	**114**	**-0.007**	ug/L	0.003	42	6	1	109	KED
⌈>	**In**	**115**		ug/L			437453	469149	2	Standard
⌊	**Ag**	**107**	**-0.005**	ug/L	0.000	3	109	30	10	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1202261	0	Standard
⌊	**Pb**	**208**	**-0.000**	ug/L	0.000	48	605	602	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0394-BLK2
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, April 28, 2023 11:55:14

DEL

Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	41926	2	Standard
	Cl	**37**		ug/L			5444164	5910138	3	Standard
⌈>	**Sc**	**45**		ug/L			458454	476533	2	Standard
|	**Cr**	**52**	**-0.069**	ug/L	0.031	45	15942	15296	1	Standard
⌊	**Cr**	**53**	**-0.026**	ug/L	0.012	44	279	233	11	Standard
⌈>	**Ge**	**72**		ug/L			33055	34576	0	KED
|	**Ni**	**60**	**-0.038**	ug/L	0.006	14	65	14	52	KED
|	**Ni**	**62**	**-0.047**	ug/L	0.015	30	13	3	86	KED
|	**Cu**	**63**	**0.301**	ug/L	0.010	3	48	1247	2	KED
|	**Cu**	**65**	**0.300**	ug/L	0.013	4	27	629	5	KED
|	**Zn**	**66**	**0.189**	ug/L	0.024	12	33	132	10	KED
|	**Zn**	**67**	**0.168**	ug/L	0.040	23	4	19	17	KED
⌊	**As**	**75**	**0.001**	ug/L	0.006	573	4	5	30	KED
	Y	**89**		ug/L			263626	298752	1	Standard
	Kr	**83**		ug/L			46	55	24	Standard
⌈>	**In-1**	**115**		ug/L			7645	7852	1	KED
|	**Cd**	**111**	**0.005**	ug/L	0.009	202	3	4	53	KED
⌊	**Cd**	**114**	**-0.006**	ug/L	0.003	54	6	2	96	KED
⌈>	**In**	**115**		ug/L			437453	480704	0	Standard
⌊	**Ag**	**107**	**-0.005**	ug/L	0.000	6	109	29	20	Standard
⌈>	**Tb**	**159**		ug/L			1136980	1215403	0	Standard
⌊	**Pb**	**208**	**-0.002**	ug/L	0.000	12	605	480	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVM
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 11:59:40
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27642	29748	3	Standard
	Cl	37		ug/L			5444164	5544468	3	Standard
>	Sc	45		ug/L			458454	471963	2	Standard
	Cr	52	48.063	ug/L	0.806	1	15942	890435	1	Standard
	Cr	53	47.548	ug/L	0.700	1	279	102106	0	Standard
>	Ge	72		ug/L			33055	33617	1	KED
	Ni	60	54.520	ug/L	0.500	0	65	74845	1	KED
	Ni	62	54.253	ug/L	1.008	1	13	12026	2	KED
	Cu	63	55.226	ug/L	0.738	1	48	213143	0	KED
	Cu	65	54.698	ug/L	0.818	1	27	106420	0	KED
	Zn	66	54.177	ug/L	1.148	2	33	27039	2	KED
	Zn	67	52.963	ug/L	1.201	2	4	4429	1	KED
	As	75	51.433	ug/L	0.563	1	4	13764	1	KED
	Y	89		ug/L			263626	296548	2	Standard
	Kr	83		ug/L			46	57	26	Standard
>	In-1	115		ug/L			7645	7420	0	KED
	Cd	111	54.938	ug/L	0.395	0	3	13592	0	KED
	Cd	114	54.220	ug/L	0.808	1	6	35198	1	KED
>	In	115		ug/L			437453	480588	2	Standard
	Ag	107	46.918	ug/L	1.195	2	109	891516	1	Standard
>	Tb	159		ug/L			1136980	1207200	1	Standard
	Pb	208	59.998	ug/L	0.749	1	605	4818191	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBM
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 12:06:50
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723B.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27642	29535	2	Standard
	Cl	**37**		ug/L			5444164	5504155	2	Standard
⎡>	**Sc**	**45**		ug/L			458454	444874	4	Standard
⎢	**Cr**	**52**	**-0.050**	ug/L	0.058	116	15942	14585	2	Standard
⎣	**Cr**	**53**	**-0.033**	ug/L	0.014	40	279	203	11	Standard
⎡>	**Ge**	**72**		ug/L			33055	34055	0	KED
⎢	**Ni**	**60**	**-0.042**	ug/L	0.005	11	65	9	72	KED
⎢	**Ni**	**62**	**-0.050**	ug/L	0.018	35	13	3	124	KED
⎢	**Cu**	**63**	**0.003**	ug/L	0.001	46	48	60	7	KED
⎢	**Cu**	**65**	**-0.003**	ug/L	0.004	146	27	23	32	KED
⎢	**Zn**	**66**	**0.004**	ug/L	0.019	442	33	36	26	KED
⎢	**Zn**	**67**	**0.006**	ug/L	0.034	583	4	5	57	KED
⎣	**As**	**75**	**0.004**	ug/L	0.005	131	4	5	22	KED
	Y	**89**		ug/L			263626	277251	3	Standard
	Kr	**83**		ug/L			46	43	30	Standard
⎡>	**In-1**	**115**		ug/L			7645	7706	1	KED
⎢	**Cd**	**111**	**0.013**	ug/L	0.003	25	3	6	14	KED
⎣	**Cd**	**114**	**-0.000**	ug/L	0.004	2867	6	6	48	KED
⎡>	**In**	**115**		ug/L			437453	464495	6	Standard
⎣	**Ag**	**107**	**0.004**	ug/L	0.001	23	109	185	4	Standard
⎡>	**Tb**	**159**		ug/L			1136980	1150372	4	Standard
⎣	**Pb**	**208**	**-0.002**	ug/L	0.000	15	605	446	9	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 12:14:29
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L				28891	1	Standard
	Cl	**37**		ug/L				6767002	0	Standard
⌈>	**Sc**	**45**		ug/L				503319	4	Standard
|	**Cr**	**52**		ug/L				16327	3	Standard
⌊	**Cr**	**53**		ug/L				222	8	Standard
	Y	**89**		ug/L				315437	1	Standard
	Kr	**83**		ug/L				57	18	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVN
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 12:15:56
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			28891	29061	1	Standard
	Cl	**37**		ug/L			6767002	6954292	1	Standard
>	**Sc**	**45**		ug/L			503319	515659	2	Standard
	Cr	**52**	**48.290**	ug/L	0.697	1	16327	976167	1	Standard
	Cr	**53**	**48.169**	ug/L	0.842	1	222	112930	2	Standard
	Y	**89**		ug/L			315437	317932	0	Standard
	Kr	**83**		ug/L			57	57	19	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBN
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 12:20:07
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			28891	29901	4	Standard
	Cl	**37**		ug/L			6767002	7132894	0	Standard
>	**Sc**	**45**		ug/L			503319	523133	1	Standard
	Cr	**52**	**0.004**	ug/L	0.026	674	16327	17045	2	Standard
	Cr	**53**	**-0.009**	ug/L	0.002	24	222	209	2	Standard
	Y	**89**		ug/L			315437	322304	1	Standard
	Kr	**83**		ug/L			57	45	35	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0774-02RE1
Sample Dil Factor: 50
Comments:
Sample Date/Time: Friday, April 28, 2023 12:24:29
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			28891	43539	2	Standard
	Cl	**37**		ug/L			6767002	7170421	0	Standard
>	**Sc**	**45**		ug/L			503319	628167	0	Standard
	Cr	**52**	**5.935**	ug/L	0.044	0	16327	164052	0	Standard
	Cr	**53**	**5.961**	ug/L	0.076	1	222	17271	1	Standard
	Y	**89**		ug/L			315437	470921	3	Standard
	Kr	**83**		ug/L			57	74	16	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0774-03RE1
Sample Dil Factor: 50
Comments:
Sample Date/Time: Friday, April 28, 2023 12:25:57
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			28891	42227	1	Standard
	Cl	**37**		ug/L			6767002	7109210	1	Standard
⌈>	**Sc**	**45**		ug/L			503319	619013	2	Standard
|	**Cr**	**52**	**6.827**	ug/L	0.237	3	16327	182857	0	Standard
⌊	**Cr**	**53**	**6.762**	ug/L	0.123	1	222	19265	1	Standard
	Y	**89**		ug/L			315437	490167	0	Standard
	Kr	**83**		ug/L			57	68	27	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0774-04RE1
Sample Dil Factor: 50
Comments:
Sample Date/Time: Friday, April 28, 2023 12:27:25
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			28891	46375	2	Standard
	Cl	**37**		ug/L			6767002	7011567	1	Standard
>	**Sc**	**45**		ug/L			503319	615828	0	Standard
	Cr	**52**	**6.818**	ug/L	0.070	1	16327	181770	0	Standard
	Cr	**53**	**6.788**	ug/L	0.054	0	222	19244	1	Standard
	Y	**89**		ug/L			315437	475332	1	Standard
	Kr	**83**		ug/L			57	62	17	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0774-05RE1
Sample Dil Factor: 50
Comments:
Sample Date/Time: Friday, April 28, 2023 12:28:52
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			28891	44895	3	Standard
	Cl	**37**		ug/L			6767002	6972211	0	Standard
⌈>	**Sc**	**45**		ug/L			503319	620479	2	Standard
|	**Cr**	**52**	**6.039**	ug/L	0.105	1	16327	164486	1	Standard
⌊	**Cr**	**53**	**6.025**	ug/L	0.174	2	222	17235	2	Standard
	Y	**89**		ug/L			315437	474937	1	Standard
	Kr	**83**		ug/L			57	62	12	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0774-06RE1
Sample Dil Factor: 50
Comments:
Sample Date/Time: Friday, April 28, 2023 12:30:20
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			28891	44001	2	Standard
	Cl	**37**		ug/L			6767002	6997321	0	Standard
>	**Sc**	**45**		ug/L			503319	614839	1	Standard
	Cr	**52**	**6.094**	ug/L	0.179	2	16327	164303	1	Standard
	Cr	**53**	**5.943**	ug/L	0.155	2	222	16852	1	Standard
	Y	**89**		ug/L			315437	476373	1	Standard
	Kr	**83**		ug/L			57	57	23	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0774-01RE1
Sample Dil Factor: 50
Comments:
Sample Date/Time: Friday, April 28, 2023 12:31:47

DEL

Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			28891	45080	1	Standard
	Cl	**37**		ug/L			6767002	6979431	0	Standard
>	**Sc**	**45**		ug/L			503319	630116	0	Standard
	Cr	**52**	**5.922**	ug/L	0.085	1	16327	164237	0	Standard
	Cr	**53**	**5.964**	ug/L	0.162	2	222	17332	2	Standard
	Y	**89**		ug/L			315437	471040	2	Standard
	Kr	**83**		ug/L			57	71	27	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0365-DUP2
Sample Dil Factor: 50
DEL
Comments:
Sample Date/Time: Friday, April 28, 2023 12:33:14
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			28891	45462	2	Standard
	Cl	**37**		ug/L			6767002	7006980	1	Standard
⌈>	**Sc**	**45**		ug/L			503319	619361	1	Standard
|	**Cr**	**52**	**6.642**	ug/L	0.139	2	16327	178590	1	Standard
⌊	**Cr**	**53**	**6.508**	ug/L	0.098	1	222	18566	2	Standard
	Y	**89**		ug/L			315437	474550	2	Standard
	Kr	**83**		ug/L			57	76	10	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0365-MS2
Sample Dil Factor: 50
Comments:
Sample Date/Time: Friday, April 28, 2023 12:34:41

DEL

Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			28891	43126	1	Standard
	Cl	**37**		ug/L			6767002	6951285	0	Standard
>	**Sc**	**45**		ug/L			503319	624699	0	Standard
	Cr	**52**	**15.065**	ug/L	0.139	0	16327	382948	1	Standard
	Cr	**53**	**14.732**	ug/L	0.313	2	222	42036	1	Standard
	Y	**89**		ug/L			315437	466197	1	Standard
	Kr	**83**		ug/L			57	76	29	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0365-MSD2
Sample Dil Factor: 50
Comments:
Sample Date/Time: Friday, April 28, 2023 12:36:08

DEL

Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			28891	41008	2	Standard
	Cl	**37**		ug/L			6767002	7068704	0	Standard
>	**Sc**	**45**		ug/L			503319	635016	1	Standard
	Cr	**52**	**15.022**	ug/L	0.330	2	16327	388176	1	Standard
	Cr	**53**	**14.600**	ug/L	0.178	1	222	42349	0	Standard
	Y	**89**		ug/L			315437	469575	0	Standard
	Kr	**83**		ug/L			57	71	14	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0365-PS2
Sample Dil Factor: 50
Comments:
Sample Date/Time: Friday, April 28, 2023 12:37:36

DEL

Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			28891	47443	3	Standard
	Cl	**37**		ug/L			6767002	7115779	1	Standard
>	**Sc**	**45**		ug/L			503319	629591	1	Standard
	Cr	**52**	**28.157**	ug/L	1.095	3	16327	703374	2	Standard
	Cr	**53**	**27.778**	ug/L	0.450	1	222	79649	2	Standard
	Y	**89**		ug/L			315437	480416	3	Standard
	Kr	**83**		ug/L			57	74	9	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVO
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 12:40:08
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			28891	30642	1	Standard
	Cl	**37**		ug/L			6767002	7284902	1	Standard
>	**Sc**	**45**		ug/L			503319	561347	1	Standard
	Cr	**52**	**48.695**	ug/L	1.253	2	16327	1071391	1	Standard
	Cr	**53**	**47.717**	ug/L	1.683	3	222	121768	2	Standard
	Y	**89**		ug/L			315437	338544	2	Standard
	Kr	**83**		ug/L			57	60	22	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBO
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 12:44:19
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			28891	30901	1	Standard
	Cl	**37**		ug/L			6767002	7220129	0	Standard
>	**Sc**	**45**		ug/L			503319	552789	1	Standard
	Cr	**52**	**0.017**	ug/L	0.041	241	16327	18287	3	Standard
	Cr	**53**	**0.013**	ug/L	0.017	134	222	277	16	Standard
	Y	**89**		ug/L			315437	325757	2	Standard
	Kr	**83**		ug/L			57	53	34	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVP
Sample Dil Factor:
Comments:

DEL

Sample Date/Time: Friday, April 28, 2023 12:45:49
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			28891	30531	2	Standard
	Cl	**37**		ug/L			6767002	7420876	0	Standard
>	**Sc**	**45**		ug/L			503319	568935	2	Standard
	Cr	**52**	**48.327**	ug/L	0.910	1	16327	1077742	2	Standard
	Cr	**53**	**47.973**	ug/L	1.076	2	222	124076	2	Standard
	Y	**89**		ug/L			315437	337514	1	Standard
	Kr	**83**		ug/L			57	60	30	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 12:50:01
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L				30904	2	Standard
	Cl	**37**		ug/L				7372498	0	Standard
⌈>	**Sc**	**45**		ug/L				563792	1	Standard
|	**Cr**	**52**		ug/L				18264	1	Standard
⌊	**Cr**	**53**		ug/L				231	3	Standard
	Y	**89**		ug/L				328331	0	Standard
	Kr	**83**		ug/L				58	15	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVP
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 12:51:29
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	30866	1	Standard
	Cl	**37**		ug/L			7372498	7516620	0	Standard
⌈>	**Sc**	**45**		ug/L			563792	571030	3	Standard
|	**Cr**	**52**	**48.459**	ug/L	0.564	1	18264	1084557	2	Standard
⌊	**Cr**	**53**	**47.731**	ug/L	1.002	2	231	123865	2	Standard
	Y	**89**		ug/L			328331	345136	4	Standard
	Kr	**83**		ug/L			58	69	8	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBP
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 12:55:40
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	32058	1	Standard
	Cl	**37**		ug/L			7372498	7488004	0	Standard
⌈>	**Sc**	**45**		ug/L			563792	571446	0	Standard
|	**Cr**	**52**	**0.007**	ug/L	0.009	118	18264	18672	0	Standard
⌊	**Cr**	**53**	**-0.017**	ug/L	0.004	22	231	189	5	Standard
	Y	**89**		ug/L			328331	341473	1	Standard
	Kr	**83**		ug/L			58	57	15	Standard

23A0326

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ~~23C0326~~-02RE1

Sample Dil Factor: 50

Comments:

Sample Date/Time: Friday, April 28, 2023 12:57:59

MB 4/27/23

Number of Replicates: 3

Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth

Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun

Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac

Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	48189	2	Standard
	Cl	**37**		ug/L			7372498	7391414	1	Standard
>	**Sc**	**45**		ug/L			563792	649129	0	Standard
	Cr	**52**	**7.097**	ug/L	0.092	1	18264	198550	0	Standard
	Cr	**53**	**7.134**	ug/L	0.031	0	231	21282	0	Standard
	Y	**89**		ug/L			328331	476111	1	Standard
	Kr	**83**		ug/L			58	82	13	Standard

23A0326

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ~~23C0326~~-04RE1
Sample Dil Factor: 50
Comments:
Sample Date/Time: Friday, April 28, 2023 12:59:26

MB 4/27/23

Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	46746	2	Standard
	Cl	**37**		ug/L			7372498	7400893	0	Standard
>	**Sc**	**45**		ug/L			563792	660190	0	Standard
	Cr	**52**	**6.173**	ug/L	0.159	2	18264	178406	1	Standard
	Cr	**53**	**6.053**	ug/L	0.137	2	231	18404	1	Standard
	Y	**89**		ug/L			328331	478356	0	Standard
	Kr	**83**		ug/L			58	70	9	Standard

23A0326

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ~~23C0326~~-05RE1

Sample Dil Factor: 50

Comments:

Sample Date/Time: Friday, April 28, 2023 13:00:53

MB 4/27/23

Number of Replicates: 3

Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth

Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun

Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac

Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	42154	3	Standard
	Cl	**37**		ug/L			7372498	7296514	1	Standard
>	**Sc**	**45**		ug/L			563792	657273	0	Standard
	Cr	**52**	**6.295**	ug/L	0.048	0	18264	180755	1	Standard
	Cr	**53**	**6.208**	ug/L	0.091	1	231	18784	0	Standard
	Y	**89**		ug/L			328331	493519	2	Standard
	Kr	**83**		ug/L			58	88	8	Standard

23A0326

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ~~23C0326~~-11RE1
Sample Dil Factor: 50
Comments:
Sample Date/Time: Friday, April 28, 2023 13:02:20

MB 4/27/23

Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	44109	1	Standard
	Cl	**37**		ug/L			7372498	7251435	1	Standard
⌈>	**Sc**	**45**		ug/L			563792	645289	2	Standard
|	**Cr**	**52**	**6.119**	ug/L	0.096	1	18264	173032	1	Standard
⌊	**Cr**	**53**	**6.066**	ug/L	0.111	1	231	18023	1	Standard
	Y	**89**		ug/L			328331	468437	2	Standard
	Kr	**83**		ug/L			58	53	16	Standard

23A0326

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ~~23C0326~~-12RE1

Sample Dil Factor: 50

Comments:

Sample Date/Time: Friday, April 28, 2023 13:03:47

MB 4/27/23

Number of Replicates: 3

Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth

Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun

Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac

Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	44137	1	Standard
	Cl	**37**		ug/L			7372498	7168495	0	Standard
>	**Sc**	**45**		ug/L			563792	653272	2	Standard
	Cr	**52**	**6.729**	ug/L	0.162	2	18264	190512	0	Standard
	Cr	**53**	**6.677**	ug/L	0.061	0	231	20061	1	Standard
	Y	**89**		ug/L			328331	488584	1	Standard
	Kr	**83**		ug/L			58	71	5	Standard

23A0326

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ~~23C0326~~-01RE1
Sample Dil Factor: 50
Comments:
Sample Date/Time: Friday, April 28, 2023 13:05:14

MB 4/27/23

Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	47332	0	Standard
	Cl	**37**		ug/L			7372498	7228541	1	Standard
>	**Sc**	**45**		ug/L			563792	640968	0	Standard
	Cr	**52**	**5.951**	ug/L	0.103	1	18264	167758	2	Standard
	Cr	**53**	**6.009**	ug/L	0.099	1	231	17742	0	Standard
	Y	**89**		ug/L			328331	461971	1	Standard
	Kr	**83**		ug/L			58	66	27	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0394-DUP2
Sample Dil Factor: 50
Comments:
Sample Date/Time: Friday, April 28, 2023 13:06:41
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	47155	0	Standard
	Cl	**37**		ug/L			7372498	7207408	0	Standard
>	**Sc**	**45**		ug/L			563792	651649	3	Standard
	Cr	**52**	**6.522**	ug/L	0.038	0	18264	184861	3	Standard
	Cr	**53**	**6.502**	ug/L	0.137	2	231	19484	1	Standard
	Y	**89**		ug/L			328331	477008	1	Standard
	Kr	**83**		ug/L			58	68	20	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0394-MS2
Sample Dil Factor: 50
Comments:
Sample Date/Time: Friday, April 28, 2023 13:08:08
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	44067	0	Standard
	Cl	**37**		ug/L			7372498	7289752	0	Standard
⌈>	**Sc**	**45**		ug/L			563792	636339	0	Standard
|	**Cr**	**52**	**15.444**	ug/L	0.405	2	18264	399312	1	Standard
⌊	**Cr**	**53**	**15.545**	ug/L	0.337	2	231	45147	1	Standard
	Y	**89**		ug/L			328331	474933	0	Standard
	Kr	**83**		ug/L			58	73	7	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0394-MSD2
Sample Dil Factor: 50
Comments:
Sample Date/Time: Friday, April 28, 2023 13:09:35
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	42593	1	Standard
	Cl	**37**		ug/L			7372498	7199938	0	Standard
⌈>	**Sc**	**45**		ug/L			563792	657057	2	Standard
|	**Cr**	**52**	**15.853**	ug/L	0.392	2	18264	422574	0	Standard
⌊	**Cr**	**53**	**15.519**	ug/L	0.513	3	231	46523	1	Standard
	Y	**89**		ug/L			328331	478053	2	Standard
	Kr	**83**		ug/L			58	74	16	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0394-PS2
Sample Dil Factor: 50
Comments:
Sample Date/Time: Friday, April 28, 2023 13:11:02
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	50508	1	Standard
	Cl	**37**		ug/L			7372498	7163838	0	Standard
⎡>	**Sc**	**45**		ug/L			563792	636970	1	Standard
⎢	**Cr**	**52**	**28.960**	ug/L	0.439	1	18264	731507	1	Standard
⎣	**Cr**	**53**	**27.946**	ug/L	0.323	1	231	81037	0	Standard
	Y	**89**		ug/L			328331	470740	0	Standard
	Kr	**83**		ug/L			58	78	22	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVQ
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 13:13:34
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	31523	0	Standard
	Cl	**37**		ug/L			7372498	7383903	1	Standard
⌈>	**Sc**	**45**		ug/L			563792	591400	2	Standard
|	**Cr**	**52**	**47.206**	ug/L	0.632	1	18264	1094945	2	Standard
⌊	**Cr**	**53**	**47.217**	ug/L	0.051	0	231	126968	2	Standard
	Y	**89**		ug/L			328331	345527	2	Standard
	Kr	**83**		ug/L			58	64	12	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBQ
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 13:19:09
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	31674	1	Standard
	Cl	**37**		ug/L			7372498	7339488	1	Standard
⌈>	**Sc**	**45**		ug/L			563792	563527	0	Standard
|	**Cr**	**52**	**0.019**	ug/L	0.010	54	18264	18672	1	Standard
⌊	**Cr**	**53**	**-0.010**	ug/L	0.006	64	231	206	7	Standard
	Y	**89**		ug/L			328331	325589	0	Standard
	Kr	**83**		ug/L			58	49	19	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0774-07RE1
Sample Dil Factor: 50
Comments:
Sample Date/Time: Friday, April 28, 2023 13:23:41
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	45687	0	Standard
	Cl	**37**		ug/L			7372498	7421887	0	Standard
⌈>	**Sc**	**45**		ug/L			563792	679172	1	Standard
|	**Cr**	**52**	**6.159**	ug/L	0.080	1	18264	183185	0	Standard
⌊	**Cr**	**53**	**6.296**	ug/L	0.078	1	231	19681	0	Standard
	Y	**89**		ug/L			328331	512362	1	Standard
	Kr	**83**		ug/L			58	67	11	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0774-08RE1
Sample Dil Factor: 50
Comments:
Sample Date/Time: Friday, April 28, 2023 13:25:09
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	48275	4	Standard
	Cl	**37**		ug/L			7372498	7386328	1	Standard
⌈>	**Sc**	**45**		ug/L			563792	663423	2	Standard
|	**Cr**	**52**	**6.076**	ug/L	0.061	1	18264	176857	3	Standard
⌊	**Cr**	**53**	**6.104**	ug/L	0.136	2	231	18643	1	Standard
	Y	**89**		ug/L			328331	472749	2	Standard
	Kr	**83**		ug/L			58	66	13	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0774-09RE1
Sample Dil Factor: 50
Comments:
Sample Date/Time: Friday, April 28, 2023 13:26:36
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	47604	2	Standard
	Cl	**37**		ug/L			7372498	7317135	1	Standard
⌈>	**Sc**	**45**		ug/L			563792	687012	0	Standard
|	**Cr**	**52**	**7.067**	ug/L	0.060	0	18264	209351	0	Standard
⌊	**Cr**	**53**	**7.004**	ug/L	0.079	1	231	22117	1	Standard
	Y	**89**		ug/L			328331	515249	2	Standard
	Kr	**83**		ug/L			58	91	10	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0774-11RE1
Sample Dil Factor: 50
Comments:
Sample Date/Time: Friday, April 28, 2023 13:28:03
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	46884	2	Standard
	Cl	**37**		ug/L			7372498	7272790	0	Standard
>	**Sc**	**45**		ug/L			563792	665206	1	Standard
	Cr	**52**	**6.245**	ug/L	0.005	0	18264	181643	1	Standard
	Cr	**53**	**6.175**	ug/L	0.098	1	231	18911	0	Standard
	Y	**89**		ug/L			328331	485504	2	Standard
	Kr	**83**		ug/L			58	61	9	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0774-12RE1
Sample Dil Factor: 50
Comments:
Sample Date/Time: Friday, April 28, 2023 13:29:30
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	47155	0	Standard
	Cl	**37**		ug/L			7372498	7280398	0	Standard
⌈>	**Sc**	**45**		ug/L			563792	658214	2	Standard
|	**Cr**	**52**	**6.242**	ug/L	0.152	2	18264	179609	1	Standard
⌊	**Cr**	**53**	**6.200**	ug/L	0.133	2	231	18784	0	Standard
	Y	**89**		ug/L			328331	480773	0	Standard
	Kr	**83**		ug/L			58	67	5	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0774-13RE1
Sample Dil Factor: 50
Comments:
Sample Date/Time: Friday, April 28, 2023 13:30:57
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	45155	1	Standard
	Cl	**37**		ug/L			7372498	7262895	1	Standard
>	**Sc**	**45**		ug/L			563792	665430	1	Standard
	Cr	**52**	**6.674**	ug/L	0.037	0	18264	192702	2	Standard
	Cr	**53**	**6.614**	ug/L	0.175	2	231	20244	2	Standard
	Y	**89**		ug/L			328331	494194	0	Standard
	Kr	**83**		ug/L			58	71	6	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0774-01RE1
Sample Dil Factor: 100
Comments:
Sample Date/Time: Friday, April 28, 2023 13:34:04
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	40783	1	Standard
	Cl	**37**		ug/L			7372498	7273053	0	Standard
⌈>	**Sc**	**45**		ug/L			563792	637301	0	Standard
|	**Cr**	**52**	**3.057**	ug/L	0.082	2	18264	95719	1	Standard
⌊	**Cr**	**53**	**3.108**	ug/L	0.013	0	231	9249	1	Standard
	Y	**89**		ug/L			328331	408333	0	Standard
	Kr	**83**		ug/L			58	73	11	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0365-DUP2
Sample Dil Factor: 100
Comments:
Sample Date/Time: Friday, April 28, 2023 13:35:31
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	41383	3	Standard
	Cl	**37**		ug/L			7372498	7314571	0	Standard
⌈>	**Sc**	**45**		ug/L			563792	649469	0	Standard
|	**Cr**	**52**	**3.459**	ug/L	0.082	2	18264	107617	1	Standard
⌊	**Cr**	**53**	**3.424**	ug/L	0.020	0	231	10359	0	Standard
	Y	**89**		ug/L			328331	420128	1	Standard
	Kr	**83**		ug/L			58	75	6	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0365-MS2
Sample Dil Factor: 100
Comments:
Sample Date/Time: Friday, April 28, 2023 13:36:58
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	39720	2	Standard
	Cl	**37**		ug/L			7372498	7243009	0	Standard
⌈>	**Sc**	**45**		ug/L			563792	623609	4	Standard
|	**Cr**	**52**	**7.959**	ug/L	0.175	2	18264	211447	4	Standard
⌊	**Cr**	**53**	**7.811**	ug/L	0.139	1	231	22351	3	Standard
	Y	**89**		ug/L			328331	400584	2	Standard
	Kr	**83**		ug/L			58	70	7	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0365-MSD2
Sample Dil Factor: 100
Comments:
Sample Date/Time: Friday, April 28, 2023 13:38:25
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	38290	2	Standard
	Cl	**37**		ug/L			7372498	7235013	0	Standard
>	**Sc**	**45**		ug/L			563792	620143	1	Standard
	Cr	**52**	**8.157**	ug/L	0.070	0	18264	215014	0	Standard
	Cr	**53**	**8.187**	ug/L	0.112	1	231	23293	1	Standard
	Y	**89**		ug/L			328331	414819	0	Standard
	Kr	**83**		ug/L			58	56	23	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVR
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 13:40:57
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	32070	1	Standard
	Cl	**37**		ug/L			7372498	7536936	0	Standard
>	**Sc**	**45**		ug/L			563792	588958	1	Standard
	Cr	**52**	**49.621**	ug/L	0.733	1	18264	1145093	0	Standard
	Cr	**53**	**49.145**	ug/L	0.909	1	231	131563	0	Standard
	Y	**89**		ug/L			328331	343419	2	Standard
	Kr	**83**		ug/L			58	62	9	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBR
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 13:45:08
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	31474	3	Standard
	Cl	**37**		ug/L			7372498	7403997	1	Standard
>	**Sc**	**45**		ug/L			563792	586878	2	Standard
	Cr	**52**	**0.019**	ug/L	0.017	86	18264	19447	1	Standard
	Cr	**53**	**-0.016**	ug/L	0.004	25	231	197	3	Standard
	Y	**89**		ug/L			328331	329282	2	Standard
	Kr	**83**		ug/L			58	50	5	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: RINSE
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 13:47:15
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	37745	1	Standard
	Cl	**37**		ug/L			7372498	7615414	0	Standard
>	**Sc**	**45**		ug/L			563792	656201	1	Standard
	Cr	**52**	**0.076**	ug/L	0.012	16	18264	23175	1	Standard
	Cr	**53**	**-0.009**	ug/L	0.003	34	231	241	3	Standard
	Y	**89**		ug/L			328331	390404	3	Standard
	Kr	**83**		ug/L			58	54	14	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: RINSE
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 13:48:42
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	38687	2	Standard
	Cl	**37**		ug/L			7372498	7860200	0	Standard
>	**Sc**	**45**		ug/L			563792	701238	2	Standard
	Cr	**52**	**0.052**	ug/L	0.029	55	18264	24109	1	Standard
	Cr	**53**	**-0.013**	ug/L	0.001	9	231	246	3	Standard
	Y	**89**		ug/L			328331	419056	3	Standard
	Kr	**83**		ug/L			58	65	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: DI
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 13:50:10
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	36093	2	Standard
	Cl	**37**		ug/L			7372498	7939870	0	Standard
>	**Sc**	**45**		ug/L			563792	2492	15	Standard
	Cr	**52**	**218.908**	ug/L	34.416	15	18264	20760	1	Standard
	Cr	**53**	**19.116**	ug/L	1.730	9	231	215	7	Standard
	Y	**89**		ug/L			328331	405	30	Standard
	Kr	**83**		ug/L			58	58	30	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: DI
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, April 28, 2023 13:51:37
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\042723C.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			30904	35778	0	Standard
	Cl	**37**		ug/L			7372498	8188939	0	Standard
>	**Sc**	**45**		ug/L			563792	1354	34	Standard
	Cr	**52**	**437.820**	ug/L	123.598	28	18264	21427	0	Standard
	Cr	**53**	**37.425**	ug/L	13.029	34	231	212	8	Standard
	Y	**89**		ug/L			328331	333	83	Standard
	Kr	**83**		ug/L			58	61	18	Standard

Analytical Resources, LLC
Analytical Chemists and Consultants

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: ICPMS1
Calibration: GD00078
Control Limt: +/- 10.00%
Sequence: SLD0418

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SLD0418-ICV1	Arsenic-75a	50.000	48.2	96.5	ug/L	PA 6020B UCT-KE
SLD0418-CCV1	Arsenic-75a	50.000	50.1	100	ug/L	PA 6020B UCT-KE
SLD0418-CCV2	Arsenic-75a	50.000	49.9	99.8	ug/L	PA 6020B UCT-KE
SLD0418-CCV3	Arsenic-75a	50.000	50.1	100	ug/L	PA 6020B UCT-KE
SLD0418-CCV4	Arsenic-75a	50.000	49.5	99.0	ug/L	PA 6020B UCT-KE
SLD0418-CCV5	Arsenic-75a	50.000	50.6	101	ug/L	PA 6020B UCT-KE
SLD0418-CCV6	Arsenic-75a	50.000	49.9	99.8	ug/L	PA 6020B UCT-KE
SLD0418-CCV7	Arsenic-75a	50.000	50.1	100	ug/L	PA 6020B UCT-KE
SLD0418-CCV8	Arsenic-75a	50.000	49.2	98.4	ug/L	PA 6020B UCT-KE
SLD0418-CCV9	Arsenic-75a	50.000	50.0	100	ug/L	PA 6020B UCT-KE
SLD0418-CCVA	Arsenic-75a	50.000	50.0	100	ug/L	PA 6020B UCT-KE
SLD0418-CCVB	Arsenic-75a	50.000	48.2	96.5	ug/L	PA 6020B UCT-KE
SLD0418-CCVC	Arsenic-75a	50.000	50.3	101	ug/L	PA 6020B UCT-KE
SLD0418-CCVD	Arsenic-75a	50.000	48.9	97.7	ug/L	PA 6020B UCT-KE
SLD0418-CCVE	Arsenic-75a	50.000	50.0	100	ug/L	PA 6020B UCT-KE
SLD0418-CCVF	Arsenic-75a	50.000	50.6	101	ug/L	PA 6020B UCT-KE
SLD0418-CCVG	Arsenic-75a	50.000	51.4	103	ug/L	PA 6020B UCT-KE
SLD0418-CCVH	Arsenic-75a	50.000	51.3	103	ug/L	PA 6020B UCT-KE
SLD0418-CCVI	Arsenic-75a	50.000	55.7	111	ug/L	PA 6020B UCT-KE
SLD0418-CCVJ	Arsenic-75a	50.000	51.8	104	ug/L	PA 6020B UCT-KE
SLD0418-CCVK	Arsenic-75a	50.000	51.3	103	ug/L	PA 6020B UCT-KE
SLD0418-CCVL	Arsenic-75a	50.000	51.4	103	ug/L	PA 6020B UCT-KE
SLD0418-CCVM	Arsenic-75a	50.000	51.4	103	ug/L	PA 6020B UCT-KE

* Values outside of QC limits

INSTRUMENT BLANKS
EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Instrument ID: ICPMS1
Sequence: SLD0418

SDG: 23A0418
Project: AOC5 MR Phase 1
Calibration: GD00078
Date Analyzed: 04/27/23 17:32

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SLD0418-IBL1	Arsenic-75a	0.00300	0.0373	0.200	ug/L	
SLD0418-ICB1	Arsenic-75a	0.00300	0.0373	0.200	ug/L	
SLD0418-CCB1	Arsenic-75a	-0.00100	0.0373	0.200	ug/L	
SLD0418-CCB2	Arsenic-75a	0.0140	0.0373	0.200	ug/L	
SLD0418-IBL2	Arsenic-75a	0.0130	0.0373	0.200	ug/L	
SLD0418-IBL3	Arsenic-75a	0.00200	0.0373	0.200	ug/L	
SLD0418-CCB3	Arsenic-75a	0.00800	0.0373	0.200	ug/L	
SLD0418-IBL4	Arsenic-75a	0.00500	0.0373	0.200	ug/L	
SLD0418-CCB4	Arsenic-75a	0.00400	0.0373	0.200	ug/L	
SLD0418-IBL5	Arsenic-75a	0.00600	0.0373	0.200	ug/L	
SLD0418-CCB5	Arsenic-75a	0.00800	0.0373	0.200	ug/L	
SLD0418-CCB6	Arsenic-75a	-0.00300	0.0373	0.200	ug/L	
SLD0418-IBL7	Arsenic-75a	-0.0110	0.0373	0.200	ug/L	
SLD0418-CCB7	Arsenic-75a	-0.00100	0.0373	0.200	ug/L	
SLD0418-IBL8	Arsenic-75a	-0.00300	0.0373	0.200	ug/L	
SLD0418-CCB8	Arsenic-75a	-0.00300	0.0373	0.200	ug/L	
SLD0418-IBL9	Arsenic-75a	-0.00500	0.0373	0.200	ug/L	
SLD0418-CCB9	Arsenic-75a	-0.00900	0.0373	0.200	ug/L	
SLD0418-IBLA	Arsenic-75a	-0.0110	0.0373	0.200	ug/L	
SLD0418-CCBA	Arsenic-75a	-0.00300	0.0373	0.200	ug/L	
SLD0418-IBLB	Arsenic-75a	-0.00700	0.0373	0.200	ug/L	
SLD0418-CCBB	Arsenic-75a	0.00100	0.0373	0.200	ug/L	
SLD0418-CCBC	Arsenic-75a	0.00400	0.0373	0.200	ug/L	
SLD0418-IBLD	Arsenic-75a	0.00100	0.0373	0.200	ug/L	
SLD0418-CCBD	Arsenic-75a	0.00	0.0373	0.200	ug/L	
SLD0418-IBLE	Arsenic-75a	-0.00300	0.0373	0.200	ug/L	
SLD0418-CCBE	Arsenic-75a	-0.00100	0.0373	0.200	ug/L	
SLD0418-IBLF	Arsenic-75a	-0.00700	0.0373	0.200	ug/L	
SLD0418-CCBF	Arsenic-75a	0.00100	0.0373	0.200	ug/L	
SLD0418-IBLG	Arsenic-75a	-0.00400	0.0373	0.200	ug/L	
SLD0418-CCBG	Arsenic-75a	-0.00300	0.0373	0.200	ug/L	
SLD0418-CCBH	Arsenic-75a	0.0170	0.0373	0.200	ug/L	
SLD0418-IBLI	Arsenic-75a	-0.00600	0.0373	0.200	ug/L	
SLD0418-CCBI	Arsenic-75a	0.00	0.0373	0.200	ug/L	
SLD0418-IBLJ	Arsenic-75a	-0.00200	0.0373	0.200	ug/L	

INSTRUMENT BLANKS
EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: ICPMS1
Calibration: GD00078
Sequence: SLD0418
Date Analyzed: 04/28/23 09:13

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SLD0418-CCBJ	Arsenic-75a	0.00	0.0373	0.200	ug/L	
SLD0418-IBLK	Arsenic-75a	-0.00200	0.0373	0.200	ug/L	
SLD0418-CCBK	Arsenic-75a	-0.00100	0.0373	0.200	ug/L	
SLD0418-IBLL	Arsenic-75a	-0.00900	0.0373	0.200	ug/L	
SLD0418-CCBL	Arsenic-75a	0.00100	0.0373	0.200	ug/L	
SLD0418-IBLM	Arsenic-75a	0.228	0.0373	0.200	ug/L	
SLD0418-IBLN	Arsenic-75a	0.00100	0.0373	0.200	ug/L	
SLD0418-IBLO	Arsenic-75a	-0.00500	0.0373	0.200	ug/L	
SLD0418-CCBM	Arsenic-75a	0.00400	0.0373	0.200	ug/L	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020B UCT-KED

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLD0418	Instrument:	ICPMS1
		Calibration:	GD00078

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
CAL 0	SLD0418-CAL1	XDT_m1230427A-003	NA	04/27/23 16:58
CAL 1 - LOW CHECK	SLD0418-CAL2	XDT_m1230427A-004	NA	04/27/23 17:02
CAL 2	SLD0418-CAL3	XDT_m1230427A-005	NA	04/27/23 17:07
CAL 3	SLD0418-CAL4	XDT_m1230427A-006	NA	04/27/23 17:13
CAL 4	SLD0418-CAL5	XDT_m1230427A-007	NA	04/27/23 17:18
CAL 5	SLD0418-CAL6	XDT_m1230427A-008	NA	04/27/23 17:25
RINSE	SLD0418-IBL1	XDT_m1230427A-009	NA	04/27/23 17:32
Initial Cal Check	SLD0418-ICV1	XDT_m1230427A-012	NA	04/27/23 17:46
Initial Cal Blank	SLD0418-ICB1	XDT_m1230427A-013	NA	04/27/23 17:54
Calibration Check	SLD0418-CCV1	XDT_m1230427A-014	NA	04/27/23 18:00
Calibration Blank	SLD0418-CCB1	XDT_m1230427A-015	NA	04/27/23 18:07
Calibration Check	SLD0418-CCV2	XDT_m1230427A-020	NA	04/27/23 18:37
Calibration Blank	SLD0418-CCB2	XDT_m1230427A-021	NA	04/27/23 18:45
Instrument RL Check	SLD0418-CRL1	XDT_m1230427A-022	NA	04/27/23 18:51
Interference Check B	SLD0418-IFB1	XDT_m1230427A-024	NA	04/27/23 19:01
LR200	SLD0418-HCV1	XDT_m1230427A-025	NA	04/27/23 19:06
LR300	SLD0418-HCV2	XDT_m1230427A-026	NA	04/27/23 19:11
Instrument Blank	SLD0418-IBL2	XDT_m1230427A-027	NA	04/27/23 19:18
Interference Check A	SLD0418-IFA1	XDT_m1230427A-028	NA	04/27/23 19:25
Instrument Blank	SLD0418-IBL3	XDT_m1230427A-029	NA	04/27/23 19:30
Calibration Check	SLD0418-CCV3	XDT_m1230427A-030	NA	04/27/23 19:36
Calibration Blank	SLD0418-CCB3	XDT_m1230427A-031	NA	04/27/23 19:46
Instrument Blank	SLD0418-IBL4	XDT_m1230427A-041	NA	04/27/23 20:41
Calibration Check	SLD0418-CCV4	XDT_m1230427A-042	NA	04/27/23 20:46
Calibration Blank	SLD0418-CCB4	XDT_m1230427A-043	NA	04/27/23 20:54
Instrument Blank	SLD0418-IBL5	XDT_m1230427A-051	NA	04/27/23 21:36
Calibration Check	SLD0418-CCV5	XDT_m1230427A-052	NA	04/27/23 21:42
Calibration Blank	SLD0418-CCB5	XDT_m1230427A-053	NA	04/27/23 21:49
Calibration Check	SLD0418-CCV6	XDT_m1230427A-055	NA	04/27/23 22:09

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Sequence: SLD0418
SDG: 23A0418
Project: AOC5 MR Phase 1
Instrument: ICPMS1
Calibration: GD00078

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Calibration Blank	SLD0418-CCB6	XDT_m1230427A-056	NA	04/27/23 22:16
ZZZZZ	23A0295-08	XDT_m1230427A-057	Solid	04/27/23 22:22
ZZZZZ	23C0774-02	XDT_m1230427A-058	Solid	04/27/23 22:29
ZZZZZ	23C0774-02	XDT_m1230427A-058	Solid	04/27/23 22:29
ZZZZZ	23C0774-02	XDT_m1230427A-058	Solid	04/27/23 22:29
ZZZZZ	23C0774-02	XDT_m1230427A-058	Solid	04/27/23 22:29
ZZZZZ	23C0774-03	XDT_m1230427A-059	Solid	04/27/23 22:34
ZZZZZ	23C0774-03	XDT_m1230427A-059	Solid	04/27/23 22:34
ZZZZZ	23C0774-03	XDT_m1230427A-059	Solid	04/27/23 22:34
ZZZZZ	23C0774-03	XDT_m1230427A-059	Solid	04/27/23 22:34
ZZZZZ	23C0774-04	XDT_m1230427A-060	Solid	04/27/23 22:40
ZZZZZ	23C0774-04	XDT_m1230427A-060	Solid	04/27/23 22:40
ZZZZZ	23C0774-04	XDT_m1230427A-060	Solid	04/27/23 22:40
ZZZZZ	23C0774-04	XDT_m1230427A-060	Solid	04/27/23 22:40
ZZZZZ	23C0774-01	XDT_m1230427A-061	Solid	04/27/23 22:44
ZZZZZ	23C0774-01	XDT_m1230427A-061	Solid	04/27/23 22:44
ZZZZZ	23C0774-01	XDT_m1230427A-061	Solid	04/27/23 22:44
ZZZZZ	23C0774-01	XDT_m1230427A-061	Solid	04/27/23 22:44
ZZZZZ	BLD0365-DUP1	XDT_m1230427A-062	Solid	04/27/23 22:48
ZZZZZ	BLD0365-MS1	XDT_m1230427A-063	Solid	04/27/23 22:53
ZZZZZ	BLD0365-MSD1	XDT_m1230427A-064	Solid	04/27/23 22:57
Instrument Blank	SLD0418-IBL7	XDT_m1230427A-066	NA	04/27/23 23:06
Calibration Check	SLD0418-CCV7	XDT_m1230427A-067	NA	04/27/23 23:11
Calibration Blank	SLD0418-CCB7	XDT_m1230427A-068	NA	04/27/23 23:18
Blank	BLD0394-BLK1	XDT_m1230427A-069	Solid	04/27/23 23:22
LCS	BLD0394-BS1	XDT_m1230427A-070	Solid	04/27/23 23:27
ZZZZZ	23C0774-05	XDT_m1230427A-071	Solid	04/27/23 23:31
ZZZZZ	23C0774-05	XDT_m1230427A-071	Solid	04/27/23 23:31
ZZZZZ	23C0774-05	XDT_m1230427A-071	Solid	04/27/23 23:31

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLD0418
Instrument: ICPMS1
Calibration: GD00078

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	23C0774-05	XDT_m1230427A-071	Solid	04/27/23 23:31
ZZZZZ	23C0774-06	XDT_m1230427A-072	Solid	04/27/23 23:35
ZZZZZ	23C0774-06	XDT_m1230427A-072	Solid	04/27/23 23:35
ZZZZZ	23C0774-06	XDT_m1230427A-072	Solid	04/27/23 23:35
ZZZZZ	23C0774-06	XDT_m1230427A-072	Solid	04/27/23 23:35
ZZZZZ	23C0774-07	XDT_m1230427A-073	Solid	04/27/23 23:40
ZZZZZ	23C0774-07	XDT_m1230427A-073	Solid	04/27/23 23:40
ZZZZZ	23C0774-07	XDT_m1230427A-073	Solid	04/27/23 23:40
ZZZZZ	23C0774-07	XDT_m1230427A-073	Solid	04/27/23 23:40
ZZZZZ	23C0774-08	XDT_m1230427A-074	Solid	04/27/23 23:44
ZZZZZ	23C0774-08	XDT_m1230427A-074	Solid	04/27/23 23:44
ZZZZZ	23C0774-08	XDT_m1230427A-074	Solid	04/27/23 23:44
ZZZZZ	23C0774-08	XDT_m1230427A-074	Solid	04/27/23 23:44
ZZZZZ	23C0774-09	XDT_m1230427A-075	Solid	04/27/23 23:49
ZZZZZ	23C0774-09	XDT_m1230427A-075	Solid	04/27/23 23:49
ZZZZZ	23C0774-09	XDT_m1230427A-075	Solid	04/27/23 23:49
ZZZZZ	23C0774-09	XDT_m1230427A-075	Solid	04/27/23 23:49
ZZZZZ	23C0774-10	XDT_m1230427A-076	Solid	04/27/23 23:53
ZZZZZ	23C0774-10	XDT_m1230427A-076	Solid	04/27/23 23:53
ZZZZZ	23C0774-10	XDT_m1230427A-076	Solid	04/27/23 23:53
ZZZZZ	23C0774-10	XDT_m1230427A-076	Solid	04/27/23 23:53
ZZZZZ	23C0774-11	XDT_m1230427A-077	Solid	04/27/23 23:58
ZZZZZ	23C0774-11	XDT_m1230427A-077	Solid	04/27/23 23:58
ZZZZZ	23C0774-11	XDT_m1230427A-077	Solid	04/27/23 23:58
ZZZZZ	23C0774-11	XDT_m1230427A-077	Solid	04/27/23 23:58
Instrument Blank	SLD0418-IBL8	XDT_m1230427A-078	NA	04/28/23 00:02
Calibration Check	SLD0418-CCV8	XDT_m1230427A-079	NA	04/28/23 00:06
Calibration Blank	SLD0418-CCB8	XDT_m1230427A-080	NA	04/28/23 00:14
ZZZZZ	23C0774-12	XDT_m1230427A-081	Solid	04/28/23 00:18

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLD0418
Instrument: ICPMS1
Calibration: GD00078

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	23C0774-12	XDT_m1230427A-081	Solid	04/28/23 00:18
ZZZZZ	23C0774-12	XDT_m1230427A-081	Solid	04/28/23 00:18
ZZZZZ	23C0774-12	XDT_m1230427A-081	Solid	04/28/23 00:18
ZZZZZ	23C0774-13	XDT_m1230427A-082	Solid	04/28/23 00:22
ZZZZZ	23C0774-13	XDT_m1230427A-082	Solid	04/28/23 00:22
ZZZZZ	23C0774-13	XDT_m1230427A-082	Solid	04/28/23 00:22
ZZZZZ	23C0774-13	XDT_m1230427A-082	Solid	04/28/23 00:22
ZZZZZ	23C0774-14	XDT_m1230427A-083	Solid	04/28/23 00:27
ZZZZZ	23C0774-14	XDT_m1230427A-083	Solid	04/28/23 00:27
ZZZZZ	23C0774-14	XDT_m1230427A-083	Solid	04/28/23 00:27
ZZZZZ	23C0774-14	XDT_m1230427A-083	Solid	04/28/23 00:27
ZZZZZ	23A0326-02	XDT_m1230427A-084	Solid	04/28/23 00:31
ZZZZZ	23A0326-02	XDT_m1230427A-084	Solid	04/28/23 00:31
ZZZZZ	23A0326-02	XDT_m1230427A-084	Solid	04/28/23 00:31
ZZZZZ	23A0326-02	XDT_m1230427A-084	Solid	04/28/23 00:31
ZZZZZ	23A0326-01	XDT_m1230427A-085	Solid	04/28/23 00:36
ZZZZZ	23A0326-01	XDT_m1230427A-085	Solid	04/28/23 00:36
ZZZZZ	23A0326-01	XDT_m1230427A-085	Solid	04/28/23 00:36
ZZZZZ	23A0326-01	XDT_m1230427A-085	Solid	04/28/23 00:36
Instrument Blank	SLD0418-IBL9	XDT_m1230427A-090	NA	04/28/23 00:58
Calibration Check	SLD0418-CCV9	XDT_m1230427A-091	NA	04/28/23 01:02
Calibration Blank	SLD0418-CCB9	XDT_m1230427A-092	NA	04/28/23 01:10
ZZZZZ	23A0326-04	XDT_m1230427A-097	Solid	04/28/23 01:32
ZZZZZ	23A0326-04	XDT_m1230427A-097	Solid	04/28/23 01:32
ZZZZZ	23A0326-04	XDT_m1230427A-097	Solid	04/28/23 01:32
ZZZZZ	23A0326-04	XDT_m1230427A-097	Solid	04/28/23 01:32
ZZZZZ	23A0326-05	XDT_m1230427A-098	Solid	04/28/23 01:36
ZZZZZ	23A0326-05	XDT_m1230427A-098	Solid	04/28/23 01:36
ZZZZZ	23A0326-05	XDT_m1230427A-098	Solid	04/28/23 01:36

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Sequence: SLD0418

SDG: 23A0418
Project: AOC5 MR Phase 1
Instrument: ICPMS1
Calibration: GD00078

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	23A0326-05	XDT_m1230427A-098	Solid	04/28/23 01:36
ZZZZZ	23A0326-10	XDT_m1230427A-099	Solid	04/28/23 01:41
ZZZZZ	23A0326-10	XDT_m1230427A-099	Solid	04/28/23 01:41
ZZZZZ	23A0326-10	XDT_m1230427A-099	Solid	04/28/23 01:41
ZZZZZ	23A0326-10	XDT_m1230427A-099	Solid	04/28/23 01:41
ZZZZZ	23A0326-11	XDT_m1230427A-100	Solid	04/28/23 01:45
ZZZZZ	23A0326-11	XDT_m1230427A-100	Solid	04/28/23 01:45
ZZZZZ	23A0326-11	XDT_m1230427A-100	Solid	04/28/23 01:45
ZZZZZ	23A0326-11	XDT_m1230427A-100	Solid	04/28/23 01:45
ZZZZZ	23A0326-12	XDT_m1230427A-101	Solid	04/28/23 01:49
ZZZZZ	23A0326-12	XDT_m1230427A-101	Solid	04/28/23 01:49
ZZZZZ	23A0326-12	XDT_m1230427A-101	Solid	04/28/23 01:49
ZZZZZ	23A0326-12	XDT_m1230427A-101	Solid	04/28/23 01:49
Instrument Blank	SLD0418-IBLA	XDT_m1230427A-102	NA	04/28/23 01:54
Calibration Check	SLD0418-CCVA	XDT_m1230427A-103	NA	04/28/23 01:58
Calibration Blank	SLD0418-CCBA	XDT_m1230427A-104	NA	04/28/23 02:06
ZZZZZ	23A0326-08	XDT_m1230427A-107	Solid	04/28/23 02:19
ZZZZZ	23A0326-09	XDT_m1230427A-108	Solid	04/28/23 02:23
LDW23-IT1136	23A0418-01	XDT_m1230427A-109	Solid	04/28/23 02:28
LDW23-IT1142	23A0418-02	XDT_m1230427A-110	Solid	04/28/23 02:32
LDW23-IT1141	23A0418-04	XDT_m1230427A-111	Solid	04/28/23 02:37
LDW23-IT1133	23A0418-05	XDT_m1230427A-112	Solid	04/28/23 02:41
LDW23-IT1133-FD	23A0418-06	XDT_m1230427A-113	Solid	04/28/23 02:45
Instrument Blank	SLD0418-IBLB	XDT_m1230427A-114	NA	04/28/23 02:50
Calibration Check	SLD0418-CCVB	XDT_m1230427A-115	NA	04/28/23 02:54
Calibration Blank	SLD0418-CCBB	XDT_m1230427A-116	NA	04/28/23 03:01
Calibration Check	SLD0418-CCVC	XDT_m1230427A-118	NA	04/28/23 03:10
Calibration Blank	SLD0418-CCBC	XDT_m1230427A-119	NA	04/28/23 03:18
LDW23-IT1180	23A0418-07	XDT_m1230427A-123	Solid	04/28/23 03:35

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Sequence: SLD0418

SDG: 23A0418
Project: AOC5 MR Phase 1
Instrument: ICPMS1
Calibration: GD00078

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
LDW23-IT1218	23A0418-08	XDT_m1230427A-124	Solid	04/28/23 03:40
LDW23-IT1216	23A0418-09	XDT_m1230427A-125	Solid	04/28/23 03:44
LDW23-IT1135	23A0418-10	XDT_m1230427A-126	Solid	04/28/23 03:48
LDW23-IT1140	23A0418-11	XDT_m1230427A-127	Solid	04/28/23 03:53
LDW23-IT1275	23A0418-12	XDT_m1230427A-128	Solid	04/28/23 03:57
Instrument Blank	SLD0418-IBLD	XDT_m1230427A-129	NA	04/28/23 04:02
Calibration Check	SLD0418-CCVD	XDT_m1230427A-130	NA	04/28/23 04:06
Calibration Blank	SLD0418-CCBD	XDT_m1230427A-131	NA	04/28/23 04:13
Instrument Blank	SLD0418-IBLE	XDT_m1230427A-141	NA	04/28/23 04:58
Calibration Check	SLD0418-CCVE	XDT_m1230427A-142	NA	04/28/23 05:03
Calibration Blank	SLD0418-CCBE	XDT_m1230427A-143	NA	04/28/23 05:10
Instrument Blank	SLD0418-IBLF	XDT_m1230427A-153	NA	04/28/23 05:54
Calibration Check	SLD0418-CCVF	XDT_m1230427A-154	NA	04/28/23 05:58
Calibration Blank	SLD0418-CCBF	XDT_m1230427A-155	NA	04/28/23 06:05
Instrument Blank	SLD0418-IBLG	XDT_m1230427A-165	NA	04/28/23 06:50
Calibration Check	SLD0418-CCVG	XDT_m1230427A-166	NA	04/28/23 06:54
Calibration Blank	SLD0418-CCBG	XDT_m1230427A-167	NA	04/28/23 07:02
Calibration Check	SLD0418-CCVH	XDT_m1230427A-169	NA	04/28/23 07:10
Calibration Blank	SLD0418-CCBH	XDT_m1230427A-170	NA	04/28/23 07:18
Instrument Blank	SLD0418-IBLI	XDT_m1230427A-180	NA	04/28/23 08:03
Calibration Check	SLD0418-CCVI	XDT_m1230427A-181	NA	04/28/23 08:07
Calibration Blank	SLD0418-CCBI	XDT_m1230427A-182	NA	04/28/23 08:15
Instrument Blank	SLD0418-IBLJ	XDT_m1230427A-192	NA	04/28/23 09:01
Calibration Check	SLD0418-CCVJ	XDT_m1230427A-193	NA	04/28/23 09:06
Calibration Blank	SLD0418-CCBJ	XDT_m1230427A-194	NA	04/28/23 09:13
Instrument Blank	SLD0418-IBLK	XDT_m1230427A-204	NA	04/28/23 09:58
Calibration Check	SLD0418-CCVK	XDT_m1230427A-205	NA	04/28/23 10:03
Calibration Blank	SLD0418-CCBK	XDT_m1230427A-206	NA	04/28/23 10:10
Instrument Blank	SLD0418-IBLL	XDT_m1230427A-216	NA	04/28/23 10:57

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020B UCT-KED

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLD0418	Instrument:	ICPMS1
		Calibration:	GD00078

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Calibration Check	SLD0418-CCVL	XDT_m1230427A-217	NA	04/28/23 11:02
Calibration Blank	SLD0418-CCBL	XDT_m1230427A-218	NA	04/28/23 11:09
Instrument Blank	SLD0418-IBLM	XDT_m1230427A-221	NA	04/28/23 11:25
Instrument Blank	SLD0418-IBLN	XDT_m1230427A-224	NA	04/28/23 11:43
Instrument Blank	SLD0418-IBLO	XDT_m1230427A-225	NA	04/28/23 11:50
Calibration Check	SLD0418-CCVM	XDT_m1230427A-227	NA	04/28/23 11:59
Calibration Blank	SLD0418-CCBM	XDT_m1230427A-228	NA	04/28/23 12:06

ICP INTERFERENCE CHECK SAMPLE

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: ICPMS1
Calibration: GD00078
Sequence: SLD0418
Standard ID: L004688

Lab Sample ID	Analyte	True	Found	%R	Units
SLD0418-IFA1	Arsenic-75a	0	0.0350		ug/L

* Indicates %R outside of QC limits

NOTE: True value and %R are populated only for analytes found in the interference check standards, and will be seen only if those analytes were requested.

ICP INTERFERENCE CHECK SAMPLE

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: ICPMS1
Calibration: GD00078
Sequence: SLD0418
Standard ID: L004688

Lab Sample ID	Analyte	True	Found	%R	Units
SLD0418-IFB1	Arsenic-75a	20.000	19.815	99.1	ug/L

* Indicates %R outside of QC limits
NOTE: True value and %R are populated only for analytes found in the interference check standards, and will be seen only if those analytes were requested.

DETECTION LEVEL STANDARD
EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: ICPMS1
Calibration: GD00078
Sequence: SLD0418
Lab Sample ID: SLD0418-CRL1

Analyte	True	Found	%R	Units	QC Limts
Arsenic-75a	0.20000	0.200	100	ug/L	50 - 150

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

HIGH-CONCENTRATION CALIBRATION VERIFICATION

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GD00078
Laboratory ID: SLD0418-HCV1
Sequence: SLD0418
Standard ID: L003671

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Arsenic-75a	200.00	203	1.4	10.00

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

HIGH-CONCENTRATION CALIBRATION VERIFICATION

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GD00078
Laboratory ID: SLD0418-HCV2
Sequence: SLD0418
Standard ID: L003672

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Arsenic-75a	300.00	305	1.7	10.00

* Values outside of QC limits

HOLDING TIME SUMMARY

Analysis: EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW23-IT1136 23A0418-01	01/18/23 08:28	01/18/23 16:36	04/17/23 16:50	89	180	04/28/23 02:28	100	180	
LDW23-IT1142 23A0418-02	01/18/23 08:47	01/18/23 16:36	04/17/23 16:50	89	180	04/28/23 02:32	100	180	
LDW23-IT1141 23A0418-04	01/18/23 11:03	01/18/23 16:36	04/17/23 16:50	89	180	04/28/23 02:37	100	180	
LDW23-IT1133 23A0418-05	01/18/23 11:13	01/18/23 16:36	04/17/23 16:50	89	180	04/28/23 02:41	100	180	
LDW23-IT1133-FD 23A0418-06	01/18/23 11:13	01/18/23 16:36	04/17/23 16:50	89	180	04/28/23 02:45	100	180	
LDW23-IT1180 23A0418-07	01/18/23 13:14	01/18/23 16:36	04/17/23 16:50	89	180	04/28/23 03:35	100	180	
LDW23-IT1218 23A0418-08	01/18/23 13:42	01/18/23 16:36	04/17/23 16:50	89	180	04/28/23 03:40	100	180	
LDW23-IT1216 23A0418-09	01/18/23 13:57	01/18/23 16:36	04/17/23 16:50	89	180	04/28/23 03:44	100	180	
LDW23-IT1135 23A0418-10	01/18/23 14:23	01/18/23 16:36	04/17/23 16:50	89	180	04/28/23 03:48	100	180	
LDW23-IT1140 23A0418-11	01/18/23 14:47	01/18/23 16:36	04/17/23 16:50	89	180	04/28/23 03:53	100	180	
LDW23-IT1275 23A0418-12	01/18/23 15:09	01/18/23 16:36	04/17/23 16:50	89	180	04/28/23 03:57	100	180	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Instrument: ICPMS1

Analyte	MDL	RL	Units
Arsenic-75a	0.04	0.20	mg/kg

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGCU10
Lot Number:	P2-CU682108
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Copper
Starting Material:	Cu Metal
Starting Material Lot#:	2095
Starting Material Purity:	99.9996%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10013 ± 30 µg/mL

Density: 1.032 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **9977 ± 50 µg/mL**
ICP Assay NIST SRM 3114 Lot Number: 121207

Assay Method #2 **10024 ± 26 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **10007 ± 46 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.007542	M	Eu	<	0.000942	O	Na		0.001434	M	Se	<	0.016971	M	Zn	<	0.005657
O	Al	<	0.000609	O	Fe		0.008700	M	Nb	<	0.000942	O	Si		0.003052	M	Zr	<	0.000942
M	As	<	0.010371	M	Ga	<	0.000942	M	Nd	<	0.000942	M	Sm	<	0.000942				
M	Au	<	0.001885	M	Gd	<	0.000942	M	Ni		0.003781	M	Sn	<	0.005657				
O	B		0.003663	M	Ge	<	0.005657	M	Os	<	0.000942	M	Sr	<	0.000942				
M	Ba		0.004253	M	Hf	<	0.000942	O	P	<	0.031668	M	Ta	<	0.000942				
M	Be	<	0.000942	O	Hg	<	0.007064	M	Pb		0.005789	M	Tb	<	0.000942				
M	Bi	<	0.000942	M	Ho	<	0.000942	M	Pd	<	0.000942	M	Te	<	0.004714				
O	Ca		0.002304	M	In	<	0.000942	M	Pr	<	0.000942	M	Th	<	0.000942				
M	Cd	<	0.000942	M	Ir	<	0.000942	M	Pt	<	0.000942	O	Ti	<	0.002801				
M	Ce	<	0.000942	O	K		0.000763	M	Rb	<	0.000942	M	Tl	<	0.000942				
M	Co		0.001890	M	La	<	0.000942	M	Re	<	0.000942	M	Tm	<	0.000942				
M	Cr	<	0.005657	O	Li	<	0.000243	i	Rh	<		M	U	<	0.000942				
M	Cs	<	0.000942	M	Lu	<	0.000942	M	Ru	<	0.039588	M	V	<	0.003771				
s	Cu	<		O	Mg		0.000320	O	S		0.007174	M	W	<	0.005657				
M	Dy	<	0.000942	O	Mn		0.000793	M	Sb	<	0.001885	M	Y	<	0.000942				
M	Er	<	0.000942	M	Mo	<	0.005657	M	Sc	<	0.000942	M	Yb	<	0.000942				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 63.55 +2 6 $Cu(H_2O)_6^{2+}$

Chemical Compatibility -Stable in HCl, HNO_3, H_2SO_4, HF, H_3PO_4. Avoid basic media. Stable with most metals and inorganic anions in acidic media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO_3 / LDPE container.

Cu Containing Samples (Preparation and Solution) -Metal (soluble in HNO_3); Oxides (Soluble in HCl); Ores (Dissolve in HCl / HNO_3).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 63 amu	10 ppt	n/a	40Ar23Na 47Ti16O, 14N12C37Cl, 16O12C35Cl, 23Na40Ca
ICP-OES 219.958 nm	0.01/.002 µg/mL	1	Th, Ta, Nb, U, Hf
ICP-OES 224.700 nm	0.01/.001 µg/mL	1	Pb, Ir, Ni, W
ICP-OES 324.754 nm	0.06/.001 µg/mL		Nb, U, Th, Mo, Hf

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 24, 2019

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **August 24, 2023**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Manager, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

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Christiansburg, VA 24073 USA
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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGPB10
Lot Number:	S2-PB713228
Matrix:	0.5% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Lead
Starting Material:	Lead Nitrate
Starting Material Lot#:	2343
Starting Material Purity:	99.9995%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10042 ± 31 µg/mL

Density: 1.015 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10024 ± 41 µg/mL**
ICP Assay NIST SRM 3128 Lot Number: 101026

Assay Method #2 **10054 ± 32 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000310	M	Eu	<	0.000310	M	Na		0.001470	M	Se	<	0.009100	O	Zn		0.006155
O	Al		0.017098	O	Fe		0.002496	M	Nb	<	0.000310	O	Si		0.003761	O	Zr	<	0.001700
M	As	<	0.003100	M	Ga	<	0.000310	M	Nd	<	0.000310	M	Sm	<	0.000310				
M	Au	<	0.000910	M	Gd	<	0.000310	O	Ni		0.001709	M	Sn	<	0.001300				
O	B	<	0.005600	M	Ge	<	0.002200	M	Os	<	0.000310	O	Sr		0.000444				
O	Ba		0.007865	M	Hf	<	0.000310	O	P	<	0.038000	M	Ta	<	0.000310				
O	Be	<	0.000320	M	Hg	<	0.002200	s	Pb	<		M	Tb	<	0.000610				
M	Bi	<	0.028000	M	Ho	<	0.000310	M	Pd	<	0.000610	M	Te	<	0.000310				
O	Ca		0.019834	M	In	<	0.000310	M	Pr	<	0.000310	M	Th	<	0.000310				
O	Cd	<	0.000630	M	Ir	<	0.000310	M	Pt	<	0.000910	O	Ti		0.005129				
M	Ce		0.004787	O	K		0.008207	M	Rb	<	0.006700	M	Tl	<	0.016000				
M	Co	<	0.000610	M	La	<	0.001900	M	Re	<	0.000310	M	Tm	<	0.000310				
O	Cr	<	0.001500	O	Li	<	0.000110	O	Rh	<	0.007700	M	U	<	0.000310				
M	Cs	<	0.006100	M	Lu	<	0.000310	M	Ru	<	0.001300	M	V	<	0.001600				
M	Cu	<	0.001600	O	Mg		0.003317	O	S	<	0.052000	M	W	<	0.000910				
M	Dy	<	0.000310	O	Mn	<	0.001600	O	Sb	<	0.015000	M	Y	<	0.000310				
M	Er	<	0.000310	M	Mo	<	0.000610	O	Sc	<	0.000630	M	Yb	<	0.000310				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 207.20 +2 6 $Pb(H_2O)_6^{+2}$

Chemical Compatibility - Soluble in HCl, HF and HNO_3. Avoid H_2SO_4. Stable with most metals and inorganic anions forming insoluble carbonate, borate, sulfate, sulfite, sulfide, phosphate, oxalate, chromate, tannate, iodate, and cyanide in neutral aqueous media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO_3 / LDPE container.

Pb Containing Samples (Preparation and Solution) -Metal (Best dissolved in 1:1 H_2O / HNO_3); Oxides (The many different Pb oxides are soluble in HNO_3 with the exception of PbO_2 which is soluble in HCl or HF); Ores and Alloys (Best attacked using 1:1 H_2O / HNO_3); Organic Matrices (Dry ash and dissolve in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 208 amu	5 ppt	n/a	192Pt16O, 192Os16O
ICP-OES 168.215 nm	0.03 / 0.003 µg/mL	1	Co
ICP-OES 217.000 nm	0.09 / 0.03 µg/mL	1	W, Ir, Hf, Sb, Th
ICP-OES 220.353 nm	0.04 / 0.006 µg/mL	1	Bi, Nb

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 10, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **January 10, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

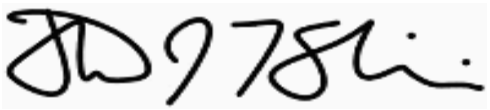
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certificate of Analysis

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F: 540-585-3012
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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGZN10
Lot Number:	S2-ZN711249
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Zinc
Starting Material:	Zinc Metal
Starting Material Lot#:	2349
Starting Material Purity:	99.9988%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 9992 ± 30 µg/mL

Density: 1.029 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **9981 ± 56 µg/mL**
ICP Assay NIST SRM 3168a Lot Number: 120629

Assay Method #2 **9987 ± 32 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **10002 ± 32 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.002000	M	Eu	<	0.000500	O	Na		0.008713	M	Se	<	0.048000	s	Zn	<
O	Al	<	0.011000	O	Fe		0.015467	M	Nb	<	0.000500	O	Si		0.007842	M	Zr	< 0.000500
O	As	<	0.012000	M	Ga	<	0.004900	M	Nd	<	0.000500	M	Sm	<	0.000500			
M	Au	<	0.006500	M	Gd	<	0.000500	O	Ni		0.003049	M	Sn		0.002614			
O	B	<	0.019000	M	Ge	<	0.009100	M	Os	<	0.000500	M	Sr	<	0.000500			
M	Ba	<	0.000500	M	Hf	<	0.000500	O	P	<	0.059000	M	Ta	<	0.000500			
O	Be	<	0.000230	O	Hg	<	0.003800	M	Pb		0.016774	M	Tb	<	0.000500			
M	Bi	<	0.002400	M	Ho	<	0.000500	M	Pd	<	0.001000	M	Te	<	0.017000			
O	Ca		0.052283	M	In	<	0.003500	M	Pr	<	0.000500	M	Th	<	0.000500			
O	Cd		0.000588	M	Ir	<	0.001000	M	Pt	<	0.000500	M	Ti	<	0.002000			
M	Ce	<	0.000500	O	K		0.017209	M	Rb	<	0.002500	M	Tl	<	0.000500			
M	Co		0.000653	M	La	<	0.000500	M	Re	<	0.000500	M	Tm	<	0.000500			
O	Cr		0.001089	O	Li	<	0.000230	M	Rh	<	0.000500	M	U	<	0.000500			
M	Cs	<	0.000500	M	Lu	<	0.000500	M	Ru	<	0.005000	M	V	<	0.000500			
O	Cu		0.001938	O	Mg		0.000871	O	S	<	0.048000	M	W	<	0.001000			
M	Dy	<	0.000500	O	Mn		0.000172	M	Sb	<	0.004300	M	Y	<	0.000500			
M	Er	<	0.000500	M	Mo	<	0.001500	O	Sc	<	0.000900	M	Yb	<	0.000500			

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 65.39 +2 4 Zn(OH)(aq)1+
Chemical Compatibility -Stable in HCl, HNO3, H2SO4 ,HF, H3PO4. Avoid basic media forming insoluble carbonate and hydroxide. Stable with most metals and inorganic anions in acidic media.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.
Zn Containing Samples (Preparation and Solution) -Metal (soluble in HNO3); Oxides (Soluble in HCl); Ores (Dissolve in HCl / HNO3); Organic based (dry ash at 4500C and dissolve ash in HCl) (sulfuric/peroxide acid digestion)
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 66 amu	7 ppt	N/A	50Ti16O,50Cr16O, 50V16O, 34S16O2, 32S16O18O, 32S17O2, 33S16O17O, 32S34S, 33S2
ICP-OES 202.548 nm	0.004/0.0002 µg/mL	1	Nb, Cu, Co, Hf
ICP-OES 206.200 nm	0.006/0.0006 µg/mL	1	Sb, Ta, Bi, Os
ICP-OES 213.856 nm	0.002/0.0004 µg/mL	1	Ni, Cu, V

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 22, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 22, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

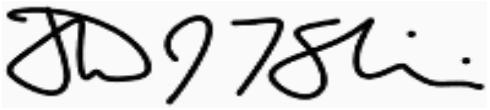
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSE10
Lot Number:	S2-SE711004
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Selenium
Starting Material:	Se Metal
Starting Material Lot#:	1962
Starting Material Purity:	99.9991%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 9955 ± 61 µg/mL

Density: 1.035 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **9955 ± 50 µg/mL**
ICP Assay NIST SRM 3149 Lot Number: 100901

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.002242	M	Eu	<	0.000373	O	Na		0.013654	s	Se	<		O	Zn		0.002374
M	Al		0.004450	M	Fe		0.008478	O	Nb	<	0.002975	O	Si		0.006249	M	Zr	<	0.001868
O	As	<	0.022040	M	Ga	<	0.000373	M	Nd	<	0.000373	M	Sm	<	0.000373				
M	Au	<	0.000373	M	Gd	<	0.000373	O	Ni		0.001843	M	Sn		0.000847				
O	B	<	0.007714	M	Ge	<	0.002616	M	Os	<	0.000373	M	Sr	<	0.001121				
M	Ba	<	0.001495	M	Hf	<	0.000373	O	P	<	0.022040	M	Ta	<	0.000373				
M	Be	<	0.001495	M	Hg	<	0.002240	M	Pb		0.006358	M	Tb	<	0.006353				
M	Bi	<	0.000373	M	Ho	<	0.000373	M	Pd	<	0.000373	M	Te	<	0.012707				
O	Ca		0.006530	M	In	<	0.000373	M	Pr	<	0.001495	M	Th	<	0.002990				
M	Cd		0.001165	M	Ir	<	0.000373	M	Pt	<	0.000373	M	Ti	<	0.003363				
M	Ce	<	0.000373	O	K		0.001999	M	Rb	<	0.001868	M	Tl		0.008584				
M	Co	<	0.000373	M	La	<	0.001121	M	Re	<	0.000373	M	Tm	<	0.000373				
M	Cr		0.002861	O	Li		0.000062	M	Rh	<	0.000373	M	U	<	0.000373				
M	Cs	<	0.001121	M	Lu	<	0.000373	M	Ru	<	0.001493	M	V	<	0.000747				
M	Cu	<	0.000747	O	Mg		0.001156	O	S		0.024591	M	W	<	0.002242				
M	Dy	<	0.000373	M	Mn	<	0.000373	M	Sb	<	0.002242	M	Y	<	0.000373				
M	Er	<	0.000373	O	Mo	<	0.003195	M	Sc	<	0.001121	M	Yb	<	0.000373				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 78.96 +4 6 H_2SeO_3

Chemical Compatibility -Soluble in HCl, HNO_3,H_3PO_4, H_2SO_4 and HF aqueous matrices and water. It is stable with most inorganic anions but many cationic metals form the insoluble selenites under pH neutral conditions. When fluorinated and/or under acidic conditions precipitation is typically not a problem at moderate to low concentrations.

Stability - 2-100 ppb levels stable for months alone or mixed with other elements at equivalent levels in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO_3 / LDPE container.

Se Containing Samples (Preparation and Solution) -Metal (soluble in HNO_3); Oxides (readily soluble in water); Minerals and alloys (acid digestion with HNO_3or HNO_3 / HF); Organic Matrices (acid digestion with hot concentrated H_2SO_4 accompanied by the careful dropwise addition of H_2O_2 until clear).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 82 amu	200 ppt	N/A	12C35Cl2
ICP-OES 196.026 nm	0.08/0.006 µg/mL	1	Fe
ICP-OES 203.985 nm	0.2/0.05 µg/mL	1	Sb, Ir, Cr, Ta
ICP-OES 206.279 nm	0.3/0.16 µg/mL	1	Cr, Pt

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 17, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 17, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Supervisor, Product Documentation

Certificate Approved By:

Michael Booth
Director, Technical

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certificate of Analysis

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F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGMO10
Lot Number:	S2-MO706255
Matrix:	H2O tr. NH4OH
Value / Analyte(s):	10 000 µg/mL ea: Molybdenum
Starting Material:	Ammonium Molybdate
Starting Material Lot#:	2361
Starting Material Purity:	99.9893%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10026 ± 47 µg/mL

Density: 1.011 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10032 ± 68 µg/mL**
ICP Assay NIST SRM 3134 Lot Number: 130418

Assay Method #2 **10020 ± 65 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000590	M	Eu	<	0.000300	M	Na		0.008739	M	Se	<	0.008000	M	Zn		0.005942
M	Al		0.005592	M	Fe	<	0.006500	M	Nb	<	0.029000	i	Si	<		M	Zr	<	0.001800
M	As	<	0.002100	M	Ga	<	0.000300	i	Nd	<		M	Sm	<	0.000300				
M	Au	<	0.000300	M	Gd	<	0.000300	M	Ni	<	0.008000	M	Sn	<	0.008900				
M	B	<	0.003300	M	Ge	<	0.000300	M	Os	<	0.000590	M	Sr		0.001747				
M	Ba		0.016778	M	Hf	<	0.001800	i	P	<		M	Ta	<	0.004200				
M	Be	<	0.000890	M	Hg	<	0.003300	M	Pb	<	0.000300	M	Tb	<	0.000300				
M	Bi	<	0.000890	M	Ho	<	0.000300	M	Pd	<	0.001800	M	Te	<	0.021000				
O	Ca		0.062920	M	In	<	0.032000	M	Pr	<	0.013000	M	Th	<	0.000300				
O	Cd	<	0.026000	M	Ir	<	0.000300	M	Pt	<	0.000300	O	Ti	<	0.032000				
M	Ce	<	0.008300	M	K		1.293372	M	Rb		0.045442	M	Tl		0.012584				
M	Co		0.005942	M	La	<	0.000300	M	Re	<	0.000300	M	Tm	<	0.000300				
M	Cr		0.005243	O	Li		0.000594	M	Rh	<	0.000300	M	U	<	0.005300				
M	Cs		0.005243	M	Lu	<	0.000300	M	Ru	<	0.079000	M	V	<	0.000890				
M	Cu		0.022371	M	Mg		0.005592	i	S	<		M	W		0.873900				
M	Dy	<	0.000300	M	Mn	<	0.005900	M	Sb		0.015031	M	Y	<	0.000300				
M	Er	<	0.000300	s	Mo	<		M	Sc	<	0.001200	M	Yb	<	0.000300				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 95.94 +6 6,7,8,9 [MoO4]-2(chemical form as received)

Chemical Compatibility -Mo is received in a NH4OH matrix giving the operator the option of using HCl or HF to stabilize acidic solutions. The [MoO4]-2 is soluble in concentrated HCl [MoOCl5]-2, dilute HF / HNO3 [MoOF5]-2 and basic media [MoO4]-2. Stable at ppm levels with some metals provided it is fluorinated. Do not mix with Alkaline or Rare Earths when HF is present. Stable with most inorganic anions provided it is in the [MoO4]-2 chemical form.

Stability - 2-100 ppb levels stable (alone or mixed with all other metals that are at comparable levels) as the [MoOF5]-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the [MoO4]-2 chemically stable for years in 1% NH4OH in a LDPE container.

Mo Containing Samples (Preparation and Solution) -Metal (Soluble in HF / HNO3 or hot dilute HCl); Oxide (soluble in HF or NH4OH) ; Organic Matrices (Dry ash at 450EC in Pt0 and dissolve oxide with HF or HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 95 amu	3 ppt	n/a	40Ar39K16O,79Br16O,190Os2+,190Pt2+
ICP-OES 202.030 nm	0.008 / 0.0002 µg/mL	1	Os, Hf
ICP-OES 203.844 nm	0.012 / 0.002 µg/mL	1	
ICP-OES 204.598 nm	0.012 / 0.001 µg/mL	1	Ir, Ta

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 04, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **July 04, 2025**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGTL10
Lot Number:	T2-TL714687
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Thallium
Starting Material:	TlNO3
Starting Material Lot#:	2118
Starting Material Purity:	99.9998%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10030 ± 42 µg/mL

Density: 1.036 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10040 ± 43 µg/mL**
ICP Assay NIST SRM 3158 Lot Number: 151215

Assay Method #2 **10010 ± 65 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL(

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000200	M	Eu	<	0.000200	O	Na		0.002489	M	Se	<	0.011019	O	Zn		0.002298
O	Al	<	0.004184	O	Fe	<	0.002824	M	Nb	<	0.000200	O	Si		0.003760	M	Zr	<	0.000200
M	As	<	0.002003	M	Ga	<	0.000200	M	Nd	<	0.000200	M	Sm	<	0.000200				
O	Au	<	0.002824	M	Gd	<	0.000200	M	Ni		0.001724	M	Sn	<	0.000601				
O	B	<	0.004184	M	Ge	<	0.000801	M	Os	<	0.000198	O	Sr	<	0.000313				
M	Ba	<	0.000400	M	Hf	<	0.000200	O	P	<	0.010460	M	Ta	<	0.000200				
O	Be	<	0.000104	M	Hg	<	0.000794	M	Pb		0.000811	M	Tb	<	0.000200				
M	Bi	<	0.005209	M	Ho	<	0.000200	M	Pd	<	0.000400	M	Te	<	0.005008				
O	Ca		0.002436	M	In	<	0.000200	M	Pr	<	0.000200	M	Th	<	0.000200				
M	Cd		0.001318	M	Ir	<	0.000198	M	Pt	<	0.000801	O	Ti	<	0.001255				
M	Ce	<	0.000200	O	K		0.006175	M	Rb	<	0.000200	s	Tl	<					
M	Co	<	0.000601	M	La	<	0.000200	M	Re	<	0.000200	M	Tm	<	0.000200				
M	Cr	<	0.000801	O	Li	<	0.000177	M	Rh	<	0.000200	M	U	<	0.000200				
M	Cs	<	0.003606	M	Lu	<	0.000200	M	Ru	<	0.000397	M	V	<	0.002203				
M	Cu	<	0.001001	O	Mg		0.000529	O	S	<	0.015690	M	W	<	0.000601				
M	Dy	<	0.000200	M	Mn	<	0.000801	M	Sb	<	0.000400	M	Y	<	0.000200				
M	Er	<	0.000200	M	Mo	<	0.001202	O	Sc	<	0.000711	M	Yb	<	0.000200				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 204.38 +1 6 Tl(H2O)61+
Chemical Compatibility - Soluble in HCl, HNO3, and H2SO4. Stable with most metals and inorganic anions. The sulfite, thiocyanate and oxalate are moderately soluble; the phosphate and arsenite are slightly soluble and the sulfide is insoluble.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.
Tl Containing Samples)Preparation and Solution) -Metal (Best dissolved in HNO3 which forms chiefly the Tl1+ ion.); Oxide (The thallous oxide is readily soluble in water. The thallic oxide requires high levels of acid); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Sulfuric/peroxide digestion or dry ash and dissolution in HCl).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 205 amu	2 ppt	N/A	189Os16O
ICP-OES 190.864 nm	0.04 / 0.004 µg/mL	1	V, Ti
ICP-OES 276.787 nm	0.1 / 0.01 µg/mL	1	Ta, V, Fe, Cr
ICP-OES 351.924 nm	0.2 / 0.02 µg/mL	1	Th, Ce, Zr

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 08, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **February 08, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

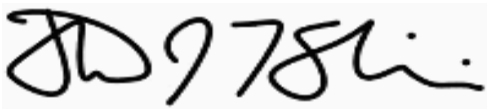
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certificate of Analysis

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Christiansburg, VA 24073 USA
inorganicventures.com

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F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGCD10
Lot Number:	S2-CD710508
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Cadmium
Starting Material:	Cd Metal
Starting Material Lot#:	1953
Starting Material Purity:	99.9995%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10008 ± 30 µg/mL

Density: 1.029 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10010 ± 32 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #2 **10011 ± 30 µg/mL**
ICP Assay NIST SRM 3108 Lot Number: 130116

Assay Method #3 **10003 ± 30 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Ag	<	0.003200	O	Eu	<	0.002500	O	Na		0.005499	M	Se	<	0.005700	O	Zn	<	0.001100
O	Al		0.008903	O	Fe		0.000602	M	Nb	<	0.000400	O	Si		0.016758	O	Zr	<	0.002600
M	As	<	0.003600	M	Ga	<	0.001200	M	Nd	<	0.000800	M	Sm	<	0.000400				
M	Au	<	0.000810	M	Gd	<	0.000400	M	Ni	<	0.003600	M	Sn	<	0.003200				
O	B		0.004189	O	Ge	<	0.012000	M	Os	<	0.000810	O	Sr	<	0.000330				
M	Ba	<	0.002400	M	Hf	<	0.000400	O	P	<	0.022000	M	Ta	<	0.000800				
M	Be	<	0.000400	M	Hg	<	0.001700	M	Pb	<	0.002400	M	Tb	<	0.000400				
M	Bi	<	0.000400	M	Ho	<	0.000400	M	Pd	<	0.001200	M	Te	<	0.008000				
O	Ca		0.011259	O	In	<	0.013000	M	Pr	<	0.000400	M	Th	<	0.000400				
s	Cd	<		M	Ir	<	0.000410	M	Pt	<	0.000400	O	Ti		0.000602				
M	Ce	<	0.000400	O	K		0.005237	M	Rb	<	0.004400	M	Tl		0.000523				
M	Co	<	0.000400	M	La	<	0.000400	M	Re	<	0.000400	M	Tm	<	0.000400				
O	Cr	<	0.005100	O	Li	<	0.000054	M	Rh	<	0.000400	M	U	<	0.000400				
M	Cs	<	0.002400	M	Lu	<	0.000400	M	Ru	<	0.002500	M	V	<	0.002000				
O	Cu	<	0.004800	O	Mg		0.000288	O	S	<	0.022000	M	W	<	0.000400				
M	Dy	<	0.000400	O	Mn	<	0.000860	O	Sb	<	0.018000	M	Y	<	0.000400				
M	Er	<	0.000400	M	Mo	<	0.001600	O	Sc	<	0.000430	M	Yb	<	0.000400				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 112.41 +2 4 Cd2(OH) (aq)3+ and Cd(OH)(aq)

Chemical Compatibility -Stable in HCl, HNO3, H2SO4 , and HF. Avoid basic media forming insoluble carbonate and hydroxide.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5 % HNO3 / LDPE container.

Cd Containing Samples (Preparation and Solution) -Metal (soluble in HNO3); Oxides (soluble in HCl or HNO3); Ores (dissolve in HCl /HNO3 then take to fumes with H2SO4. The silica and lead sulfate are filtered off after the addition of water); Organic based (dry ash at 450°C and dissolve ash in HCl), (sulfuric / peroxide acid digestion).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 111 amu	11 ppt	n/a	95Mo16O
ICP-OES 214.438 nm	0.003 / 0.0003 µg/mL	1	Pt, Ir
ICP-OES 226.502 nm	0.003 / 0.0003 µg/mL	1	Ir
ICP-OES 228.802 nm	0.003 / 0.0003 µg/mL	1	Co, Ir, As, Pt

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 01, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 01, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGMN10
Lot Number:	S2-MN704240
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Manganese
Starting Material:	Mn Metal
Starting Material Lot#:	2275
Starting Material Purity:	99.9909%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10011 ± 30 µg/mL

Density: 1.035 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **9989 ± 69 µg/mL**
ICP Assay NIST SRM 3132 Lot Number: 050429

Assay Method #2 **10011 ± 25 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **10024 ± 47 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.001500	M	Eu	<	0.000730	O	Na		0.176097	M	Se	<	0.006600	M	Zn		0.009925
O	Al		0.004322	M	Fe	<	0.650000	M	Nb	<	0.000730	O	Si		0.097654	M	Zr	<	0.000730
M	As	<	0.008000	M	Ga		0.004322	M	Nd	<	0.001500	M	Sm	<	0.000730				
M	Au	<	0.000730	M	Gd	<	0.000730	M	Ni		0.024013	M	Sn	<	0.002200				
M	B		0.068838	M	Ge	<	0.004400	M	Os	<	0.000730	O	Sr		0.000928				
M	Ba	<	0.001500	M	Hf	<	0.000730	i	P	<		M	Ta	<	0.000730				
M	Be	<	0.000730	M	Hg	<	0.002200	M	Pb		0.007364	M	Tb	<	0.000730				
M	Bi	<	0.003000	M	Ho	<	0.000730	M	Pd	<	0.000730	M	Te	<	0.019000				
O	Ca		0.062434	M	In	<	0.003000	M	Pr	<	0.000730	M	Th	<	0.000730				
M	Cd	<	0.001500	M	Ir	<	0.000730	M	Pt	<	0.000730	O	Ti	<	0.006500				
M	Ce	<	0.007300	O	K		0.006403	M	Rb	<	0.006600	M	Tl	<	0.000730				
O	Co		0.014728	M	La	<	0.003000	M	Re	<	0.000730	M	Tm	<	0.000730				
O	Cr		0.272151	O	Li		0.000416	M	Rh	<	0.003000	M	U	<	0.001500				
M	Cs	<	0.000730	M	Lu	<	0.000730	M	Ru	<	0.004400	M	V	<	0.000730				
O	Cu		0.007684	O	Mg		0.320177	i	S	<		M	W	<	0.004400				
M	Dy	<	0.001500	s	Mn	<		M	Sb	<	0.021000	O	Y		0.001360				
M	Er	<	0.001500	M	Mo		0.010245	O	Sc	<	0.004100	M	Yb	<	0.000730				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 54.94 +2 6 $Mn(H_2O)_6^{2+}$

Chemical Compatibility -Stable in HCl, HNO_3, H_2SO_4 ,HF, H_3PO_4. Avoid basic media. Stable with most metals and inorganic anions in acidic media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5 % HNO_3/LDPE container.

Mn Containing Samples (Preparation and Solution) -Metal (Soluble in dilute acids); Oxides (Soluble in dilute acids); Ores (Dissolve with HCl. If silica is present add HF and then fume off silica by adding H_2SO_4 and heat to SO_3 fumes - dense white fumes).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 55 amu	10 ppt	n/a	40Ar14N1H,39K16O,37Cl18O,40Ar15N,38Ar17O,36Ar18O1H ,38Ar16O1H,37Cl17O1H,23Na32S
ICP-OES 257.610 nm	0.0014 / 0.00002 µg/mL	1	Ce, W, Re
ICP-OES 259.373 nm	0.0016 / 0.00002 µg/mL	1	U, Ta, Mo, Fe, Nb
ICP-OES 260.569 nm	0.0021 / 0.00002 µg/mL	1	Co

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 17, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 17, 2025**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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300 Technology Drive
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CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSB10
Lot Number:	R2-SB688559
Matrix:	3% (v/v) HNO3 3% (w/v) tartaric acid
Value / Analyte(s):	10 000 µg/mL ea: Antimony
Starting Material:	Antimony Metal
Starting Material Lot#:	1857
Starting Material Purity:	99.9894%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10003 ± 47 µg/mL

Density: 1.061 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10003 ± 41 µg/mL**
ICP Assay NIST SRM 3102a Lot Number: 140911

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000200	M	Eu	<	0.000300	O	Na		0.140000	M	Se	<	0.007300	O	Zn		0.005000
M	Al		0.003200	O	Fe		0.060000	M	Nb	<	0.000100	O	Si		0.150000	O	Zr	<	0.006300
M	As	<	0.004400	M	Ga	<	0.000400	M	Nd	<	0.000100	M	Sm	<	0.000100				
M	Au	<	0.000210	M	Gd	<	0.000100	O	Ni		0.004800	M	Sn	<	0.001800				
M	B	<	0.011000	M	Ge	<	0.000600	M	Os	<	0.000110	O	Sr		0.000750				
O	Ba	<	0.004900	M	Hf	<	0.000100	O	P		0.540000	M	Ta		0.003300				
M	Be	<	0.000400	M	Hg	<	0.000110	M	Pb	<	0.000400	M	Tb	<	0.000100				
M	Bi	<	0.000200	M	Ho	<	0.000100	M	Pd	<	0.000210	M	Te	<	0.000600				
O	Ca		0.110000	M	In	<	0.000100	M	Pr	<	0.001600	M	Th	<	0.000100				
M	Cd	<	0.000200	M	Ir	<	0.000110	M	Pt	<	0.000600	M	Ti	<	0.002800				
M	Ce		0.006500	O	K		0.020000	M	Rb	<	0.001000	M	Tl	<	0.000100				
M	Co	<	0.000200	O	La	<	0.016000	M	Re	<	0.000100	M	Tm	<	0.000100				
M	Cr		0.006900	O	Li	<	0.000430	M	Rh	<	0.000300	M	U	<	0.000100				
M	Cs	<	0.000200	M	Lu	<	0.000100	M	Ru	<	0.000310	M	V	<	0.000800				
M	Cu	<	0.000600	O	Mg		0.021000	n	S	<		M	W	<	0.000200				
M	Dy	<	0.000100	O	Mn		0.001900	s	Sb	<		M	Y	<	0.000100				
M	Er	<	0.000100	M	Mo	<	0.000500	O	Sc	<	0.002300	M	Yb	<	0.000100				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 121.75 +3 6 Sb(O)C4H4O6-1

Chemical Compatibility -Stable in conc. HCl, dilute or conc. HF. Stable in dilute HNO3 as the fluoride or tartrate complex. Avoid basic media. Stable with most metals and inorganic anions in acidic media as the tartrate provided the acidity is not too high or the acid is oxidizing causing loss of the stabilizing tartrate ion. The fluoride complex of antimony is stable in strong acid but you should only mix with other metals that are fluorinated.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-2% HNO3 / LDPE container.

Sb Containing Samples (Preparation and Solution) -Metal and alloys (Soluble in H2O / HF / HNO3 mixture); Oxides (Soluble in HCl and tartaric acid or H2O / HF / HNO3 mixtures); Ores (fusion with Na2CO3 in Pt0 followed by dissolving the fuseate in a H2O / HF / HNO3 mixture); Organic based (sulfuric acid / hydrogen peroxide digestion)

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 121 amu	5 ppt	N/A	105Pd16O, 89Y16O2
ICP-OES 206.833 nm	0.03/0.003 µg/mL	1	Ta, Cr, Ge, Hf
ICP-OES 217.581 nm	0.05/0.005 µg/mL	1	Nb, W, Re, Fe
ICP-OES 231.147 nm	0.06/0.006 µg/mL	1	Ni, Co, Pt

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 30, 2020

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 30, 2024**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Manager, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

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F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGAS10
Lot Number:	T2-AS718260
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Arsenic
Starting Material:	As Metal
Starting Material Lot#:	2208
Starting Material Purity:	99.9971%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10060 ± 40 µg/mL

Density: 1.037 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10062 ± 46 µg/mL**
ICP Assay NIST SRM 3103a Lot Number: 100818

Assay Method #2 **10055 ± 76 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	< 0.003200	M	Eu	< 0.000530	O	Na	0.032544	M	Se	< 0.006300	O	Zn	0.001952			
M	Al	0.007593	O	Fe	0.001475	O	Nb	< 0.012000	O	Si	0.238658	O	Zr	< 0.004100			
s	As	<	M	Ga	< 0.000530	M	Nd	< 0.000530	M	Sm	< 0.000530						
M	Au	< 0.003100	M	Gd	< 0.000530	M	Ni	< 0.002100	M	Sn	< 0.000530						
M	B	0.026035	M	Ge	< 0.001600	M	Os	< 0.000520	M	Sr	< 0.000530						
M	Ba	< 0.000530	M	Hf	< 0.000530	O	P	< 0.043000	M	Ta	< 0.000530						
O	Be	< 0.000360	M	Hg	< 0.001600	M	Pb	< 0.002100	M	Tb	< 0.000530						
M	Bi	< 0.000530	M	Ho	< 0.000530	M	Pd	< 0.001100	M	Te	< 0.004700						
O	Ca	0.004339	M	In	< 0.023000	M	Pr	< 0.005300	M	Th	< 0.000530						
M	Cd	< 0.001100	M	Ir	< 0.000520	M	Pt	< 0.000530	O	Ti	< 0.002300						
M	Ce	< 0.000530	O	K	0.002061	M	Rb	< 0.000530	M	Tl	< 0.000530						
M	Co	< 0.000530	M	La	< 0.001100	M	Re	< 0.000530	M	Tm	< 0.000530						
O	Cr	< 0.001800	O	Li	< 0.000120	M	Rh	< 0.000530	M	U	< 0.000530						
M	Cs	< 0.005300	M	Lu	< 0.000530	M	Ru	< 0.000520	M	V	< 0.002700						
M	Cu	< 0.001600	O	Mg	0.000154	O	S	0.028205	M	W	< 0.012000						
M	Dy	< 0.000530	O	Mn	0.000154	M	Sb	< 0.000530	M	Y	< 0.000530						
M	Er	< 0.000530	M	Mo	< 0.000530	O	Sc	< 0.001700	M	Yb	< 0.000530						

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 74.92 ; mix of +3 and +5 ; 6 ; H3AsO4 and HAsO2

Chemical Compatibility - Arsenic has no cationic chemistry. It is soluble in HCl, HNO3,H3PO4, H2SO4 and HF aqueous matrices water and NH4OH . It is stable with most inorganic anions (forms arsenate when boiled with chromate) but many cationic metals form the insoluble arsenates under pH neutral conditions. When fluorinated and / or under acidic conditions arsenate formation is typically not a problem at moderate to low concentrations.

Stability - 2-100 ppb levels stable for months alone or mixed with other elements at equivalent levels in 1% HNO3 / LDPE container.

As Containing Samples (Preparation and Solution) - Metal (soluble in 1:1 H2O / HNO3); Oxides (the oxide exists in crystalline and amorphous forms where the amorphic form is more water soluble. The oxides typically dissolve in dilute acidic solutions when boiled); Minerals (one gram of powered sample is fused in a Ni crucible with 10 grams of a 1:1 mix of K2CO3 and KNO3 and the melt extracted with hot water); Organic Matrices (0.2 to 0.5 grams of sample are fused with 15 grams of a 1:1 Na2CO3 / Na2O2 mix in a Ni crucible. The fuseate is extracted with water and acidified with HNO3).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 75 amu	20 ppt	N/A	40Ar35Cl, 59Co16O, 36Ar38Ar1H,8Ar37Cl,Ar39K, 150Nd2+,150Sm2+
ICP-OES 189.042 nm	0.05/0.005 µg/mL	1	Cr
ICP-OES 193.696 nm	0.1/0.01 µg/mL	1	V, Ge
ICP-OES 228.812 nm	0.1/0.01 µg/mL	1	Cd, Pt, Ir, Co

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

May 10, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **May 10, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Supervisor, Product Documentation

Certificate Approved By:

Michael Booth
Director, Technical

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGBA10
Lot Number:	R2-BA692576
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Barium
Starting Material:	Barium Nitrate
Starting Material Lot#:	1969
Starting Material Purity:	99.9982%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10022 ± 30 µg/mL

Density: 1.025 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1	**10018 ± 50 µg/mL** ICP Assay NIST SRM 3104a Lot Number: 140909
Assay Method #2	**10023 ± 31 µg/mL** Gravimetric NIST SRM Lot Number: See Sec. 4.2
Assay Method #3	**10023 ± 30 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000410	O	Eu	<	0.005200	O	Na		0.004610	M	Se	<	0.003700	O	Zn		0.000658
M	Al	<	0.003100	O	Fe		0.015707	M	Nb	<	0.000210	O	Si		0.005573	M	Zr	<	0.001300
M	As	<	0.001300	M	Ga	<	0.000210	M	Nd	<	0.000210	O	Sm	<	0.021000				
M	Au	<	0.001300	M	Gd	<	0.000210	M	Ni	<	0.000810	M	Sn	<	0.000410				
O	B	<	0.005200	M	Ge	<	0.002500	M	Os	<	0.000410	O	Sr		0.003850				
s	Ba	<		M	Hf	<	0.000810	O	P	<	0.026000	M	Ta	<	0.000410				
O	Be	<	0.000320	M	Hg	<	0.000210	M	Pb	<	0.002300	M	Tb	<	0.000210				
M	Bi	<	0.000210	M	Ho	<	0.000210	M	Pd	<	0.000210	M	Te	<	0.001900				
O	Ca		0.007093	M	In	<	0.000210	M	Pr	<	0.000210	M	Th	<	0.000210				
M	Cd	<	0.000210	M	Ir	<	0.000210	M	Pt	<	0.000210	M	Ti	<	0.002100				
M	Ce	<	0.001300	O	K		0.035467	M	Rb	<	0.002100	M	Tl	<	0.000210				
M	Co	<	0.000410	O	La	<	0.005200	M	Re	<	0.000210	M	Tm	<	0.000410				
M	Cr	<	0.001700	O	Li	<	0.000630	M	Rh	<	0.000210	M	U	<	0.000210				
M	Cs	<	0.003300	M	Lu	<	0.001700	M	Ru	<	0.000210	O	V	<	0.005200				
M	Cu	<	0.001300	O	Mg		0.000861	O	S		0.268539	M	W	<	0.000410				
M	Dy	<	0.000210	M	Mn	<	0.000410	M	Sb	<	0.001300	O	Y	<	0.005200				
M	Er	<	0.001300	M	Mo	<	0.000410	M	Sc	<	0.000410	M	Yb	<	0.001300				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 137.33 +2 6 $Ba(H_2O)_6^{+2}$

Chemical Compatibility - Soluble in HCl, and HNO_3. Avoid H_2SO_4, HF and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicate, carbonate, hydroxide, oxide, fluoride, sulfate, oxalate, chromate, arsenate, iodate, molybdate, sulfite and tungstate in neutral aqueous media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1 -10,000 ppm solutions chemically stable for years in 1-3.5% HNO_3 / LDPE container.

Ba Containing Samples (Preparation and Solution) -Metal(is best dissolved in diluted HNO_3); Ores(Carbonate fusion in Pt0 followed by HCl dissolution. If sulfate is present dissolve the fuseate using HCl / tartaric acid to prevent $BaSO_4$ precipitate); Organic Matrices (dry ash and dissolve in dilute HCl.)

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 138 amu	1 ppt	N/A	122Sn16O, 122Te16O
ICP-OES 230.424 nm	0.004/0.0005 µg/mL	1	Mo, Ir, Co
ICP-OES 233.527 nm	0.004/0.0003 µg/mL	1	
ICP-OES 455.403 nm	0.002/0.0001 µg/mL	1	Zr, U

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

May 11, 2020

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **May 11, 2024**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Manager, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

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fax: 540.585.3012
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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGBE10
Lot Number:	R2-BE692992
Matrix:	6% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Beryllium
Starting Material:	Beryllium Acetate
Starting Material Lot#:	2281
Starting Material Purity:	99.9998%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10032 ± 41 µg/mL

Density: 1.128 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10042 ± 67 µg/mL**
ICP Assay NIST SRM 3105a Lot Number: 090514

Assay Method #2 **10025 ± 51 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	< 0.001100	M	Eu	< 0.000270	O	Na	0.040962	M	Se	< 0.005000	M	Zn	0.013054			
O	Al	0.016205	O	Fe	0.015754	M	Nb	< 0.000270	O	Si	0.024307	O	Zr	< 0.001900			
M	As	< 0.002900	M	Ga	< 0.000270	M	Nd	< 0.000270	M	Sm	< 0.000270						
M	Au	< 0.000520	M	Gd	< 0.000270	M	Ni	< 0.003700	M	Sn	< 0.000790						
M	B	< 0.091000	M	Ge	< 0.000270	M	Os	< 0.000260	M	Sr	0.000630						
M	Ba	0.002700	M	Hf	< 0.000270	O	P	< 0.066000	M	Ta	< 0.000270						
s	Be	<	M	Hg	< 0.000520	M	Pb	< 0.000270	M	Tb	< 0.000270						
M	Bi	< 0.000530	M	Ho	< 0.000270	M	Pd	< 0.000520	M	Te	< 0.003700						
O	Ca	0.072022	M	In	< 0.000790	M	Pr	< 0.000270	M	Th	< 0.000270						
M	Cd	< 0.000790	M	Ir	< 0.000260	M	Pt	< 0.000270	O	Ti	< 0.000400						
M	Ce	< 0.000270	O	K	0.045014	M	Rb	< 0.000270	M	Tl	< 0.000790						
O	Co	< 0.003200	M	La	< 0.000270	M	Re	< 0.000270	M	Tm	< 0.000270						
O	Cr	< 0.001800	O	Li	< 0.000660	M	Rh	< 0.001100	M	U	< 0.000270						
M	Cs	0.001440	M	Lu	< 0.000270	M	Ru	< 0.000260	M	V	< 0.000790						
M	Cu	< 0.002100	O	Mg	0.016205	i	S	<	M	W	< 0.000530						
M	Dy	< 0.000270	M	Mn	0.001215	M	Sb	< 0.000270	M	Y	< 0.000270						
M	Er	< 0.000270	M	Mo	< 0.000530	O	Sc	< 0.000930	M	Yb	< 0.000270						

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 9.01 +2 4 $Be(H_2O)_4^{+2}$

Chemical Compatibility -Soluble in HCl, HNO_3, H_2SO_4 and HF aqueous matrices. Stable with all metals and inorganic anions.

Stability - 2-100 ppb levels stable for months in 1 % HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 5-10 % HNO_3 / LDPE container.

Be Containing Samples (Preparation and Solution) - Meta l(is best dissolved in diluted H_2SO_4); BeO (boiling nitric, hydrochloric, or sulfuric acids or KHSO4 fusion); Ores (H_2SO_4/HF digestion or carbonate fusion in Pt0); Organic Matrices (sulfuric/peroxide digestion or nitric/sulfuric/perchloric acid decomposition, or dry ash and dissolution according to the BeO procedure above).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 9 amu	4 ppt	N/A	
ICP-OES 234.861 nm	0.0003/0.00016 µg/mL	1	Fe, Ta, Mo
ICP-OES 313.042 nm	0.0003/0.00009 µg/mL	1	V, Ce, U
ICP-OES 313.107 nm	0.0007/0.0005 µg/mL	1	Ce, Th, Tm

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION, PERIOD OF VALIDITY AND REVISION HISTORY

11.1 Certification Issue Date

May 13, 2020

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **May 13, 2024**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

11.4 Revision Status

- Revision 1 - Revised on Thursday, Jan 14, 2021 by utruong. Revision was made for the following reason: Modified Section 7 Chemical Form in Solution.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

INORGANIC VENTURES
300 Technology Drive
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CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGCO10
Lot Number:	R2-CO695285
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Cobalt
Starting Material:	Co Metal
Starting Material Lot#:	2326
Starting Material Purity:	99.9934%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10012 ± 31 µg/mL

Density: 1.056 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10031 ± 67 µg/mL**
ICP Assay NIST SRM 3113 Lot Number: 190630

Assay Method #2 **10019 ± 32 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **10000 ± 35 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	0.014660	M	Eu	<	0.000590	O	Na	0.007534	M	Se	<	0.019000	M	Zn	0.003461	
M	Al	< 0.024000	M	Fe	0.050905	M	Nb	<	0.000590	O	Si	0.075340	M	Zr	<	0.001200	
i	As	<	M	Ga	<	0.000590	M	Nd	<	0.000590	M	Sm	<	0.000590			
M	Au	< 0.004100	M	Gd	<	0.000590	O	Ni	0.427608	M	Sn	<	0.001200				
M	B	< 0.031000	M	Ge	<	0.003000	M	Os	<	0.000590	O	Sr	<	0.000260			
M	Ba	< 0.000590	M	Hf	<	0.000590	n	P	<		M	Ta	<	0.001200			
O	Be	< 0.001300	M	Hg	<	0.001800	M	Pb	0.003257	M	Tb	<	0.000590				
M	Bi	< 0.003000	M	Ho	<	0.000590	M	Pd	<	0.000590	M	Te	<	0.005300			
O	Ca	0.010588	M	In	<	0.001200	M	Pr	<	0.000590	M	Th	<	0.000590			
M	Cd	< 0.004700	M	Ir	<	0.001200	M	Pt	<	0.002400	M	Ti	<	0.014000			
M	Ce	< 0.000590	O	K	0.008144	M	Rb	<	0.000590	M	Tl	0.002647					
s	Co	<	M	La	<	0.000590	M	Re	<	0.000590	M	Tm	<	0.000590			
M	Cr	< 0.021000	O	Li	<	0.000130	M	Rh	<	0.000590	M	U	<	0.000590			
M	Cs	< 0.002400	M	Lu	<	0.000590	M	Ru	<	0.007100	O	V	<	0.000880			
M	Cu	0.189369	O	Mg	0.001893	n	S	<		M	W	<	0.000590				
M	Dy	< 0.000590	M	Mn	<	0.001800	M	Sb	<	0.003600	M	Y	<	0.000590			
M	Er	< 0.000590	M	Mo	<	0.002400	O	Sc	<	0.001600	M	Yb	<	0.000590			

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 58.93 +2 6 $Co(H_2O)_6^{2+}$

Chemical Compatibility -Stable in HCl, HNO_3, H_2SO_4 ,HF, H_3PO_4. Avoid basic media. Stable with most metals and inorganic anions in acidic media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO_3 / LDPE container.

Co Containing Samples (Preparation and Solution) - Metal (soluble in HNO_3); Oxides (Soluble in HCl); Ores (dissolve in HCl / HNO_3).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 59 amu	2 ppt	n/a	42Ca16O1H , 40Ar18O1H , 36Ar23Na, 43Ca16O, 24Mg35Cl
ICP-OES 228.616 nm	0.01/0.001 µg/mL	1	
ICP-OES 237.862 nm	0.01/0.002 µg/mL	1	W, Re, Al, Ta
ICP-OES 238.892 nm	0.01/0.002 µg/mL	1	Fe, W, Ta

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 04, 2020

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **August 04, 2024**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

INORGANIC VENTURES
Refine your results. Redefine your industry.

Certificate of Analysis

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGAG10
Lot Number:	S2-AG712977
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Silver
Starting Material:	Ag Shot
Starting Material Lot#:	2289
Starting Material Purity:	99.9951%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10051 ± 30 µg/mL

Density: 1.056 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1	**10051 ± 52 µg/mL** ICP Assay NIST SRM 3151 Lot Number: 160729
Assay Method #2	**10051 ± 19 µg/mL** Volhard NIST SRM 999c Lot Number: 999c
Assay Method #3	**10049 ± 31 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

s	Ag	<		M	Eu	<	0.000260	O	Na		0.003811	M	Se	<	0.003900	O	Zn		0.048146
M	Al		0.002688	O	Fe		0.006419	M	Nb	<	0.000260	O	Si		0.005215	M	Zr	<	0.000260
M	As	<	0.001100	M	Ga	<	0.000260	M	Nd	<	0.000260	M	Sm	<	0.000260				
M	Au	<	0.000260	M	Gd	<	0.000260	O	Ni		0.001765	M	Sn		0.020060				
O	B	<	0.004300	M	Ge	<	0.002300	M	Os	<	0.001100	O	Sr	<	0.000110				
M	Ba	<	0.000520	M	Hf	<	0.000260	O	P	<	0.017000	M	Ta	<	0.000260				
O	Be	<	0.001100	M	Hg	<	0.000770	M	Pb	<	0.003600	M	Tb	<	0.000260				
M	Bi		0.004814	M	Ho	<	0.000260	M	Pd		0.044134	M	Te	<	0.009000				
O	Ca		0.005215	M	In		0.003691	M	Pr	<	0.000260	M	Th	<	0.000260				
M	Cd	<	0.000260	M	Ir	<	0.000520	M	Pt	<	0.001100	O	Ti	<	0.000440				
M	Ce	<	0.002100	O	K	<	0.008700	M	Rb	<	0.001100	M	Tl	<	0.004100				
O	Co	<	0.000330	M	La	<	0.000260	M	Re	<	0.000260	M	Tm	<	0.000260				
O	Cr	<	0.002500	O	Li	<	0.000110	M	Rh	<	0.000520	M	U	<	0.000260				
M	Cs	<	0.002600	M	Lu	<	0.000260	M	Ru	<	0.000260	M	V	<	0.000260				
O	Cu		0.357085	O	Mg		0.001203	O	S	<	0.017000	M	W	<	0.000260				
M	Dy	<	0.000260	O	Mn	<	0.000220	M	Sb	<	0.014000	M	Y	<	0.000260				
M	Er	<	0.000260	M	Mo	<	0.000260	O	Sc	<	0.000220	M	Yb	<	0.000260				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 107.87 +1 6 $Ag(H_2O)_6^+$

Chemical Compatibility -Stable in HNO_3, and HF. Avoid basic media. Ag forms more insoluble salts than any other metal. It also is subject to photochemical reduction to the metal in HCl media although 10 µg/mL solutions in 10% HCl [$AgCl_{x1-x}$] are commonly used in the analytical laboratory. The most common solubility problems exist with arsenate, arsenite , bromide, chloride, iodide, carbonate , chromate, cyanide, iodate, oxalate, oxide, sulfate, sulfide, tartrate, and thiocyanate in aqueous media. The addition of nitric acid renders many of these salts soluble.

Stability - 2-100 ppb levels stable for 75+ days when mixed with equivalent levels of all other elements including the precious metals (where chloride is present) when in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO_3 / LDPE container.

Ag Containing Samples (Preparation and Solution) -Metal (Soluble in HNO_3); Oxides (Soluble in HNO_3); Ores (Digestion with conc. HNO_3).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 107 amu	1 ppt	N/A	91Zr16O
ICP-OES 243.779 nm	0.12/0.01 µg/mL	1	Mn, Th, Ni, Rh
ICP-OES 328.068 nm	0.007/0.0007 µg/mL	1	Ce, Rh, V
ICP-OES 338.289 nm	0.013/0.001 µg/mL	1	Ce, Cr, Th

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 28, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **December 28, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Supervisor, Product Documentation

Certificate Approved By:

Michael Booth
Director, Technical

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certificate of Analysis

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1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGCR(3)10
Lot Number:	S2-CR709784
Matrix:	10% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Chromium
Starting Material:	Cr Metal
Starting Material Lot#:	2328
Starting Material Purity:	99.9951%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10027 ± 41 µg/mL

Density: 1.072 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10027 ± 40 µg/mL**
ICP Assay NIST SRM 3112a Lot Number: 170630

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.001700	M	Eu	<	0.003400	O	Na		0.090372	M	Se	<	0.012000	O	Zn	<	0.006100
M	Al		0.034916	O	Fe		0.246471	M	Nb	<	0.017000	n	Si	<		M	Zr	<	0.007800
M	As	<	0.028000	O	Ga	<	0.013000	M	Nd	<	0.013000	M	Sm	<	0.006900				
M	Au	<	0.001700	M	Gd	<	0.000560	M	Ni		0.016020	M	Sn		0.006983				
O	B	<	0.025000	O	Ge	<	0.014000	M	Os	<	0.000560	M	Sr		0.006367				
M	Ba	<	0.008900	M	Hf	<	0.000560	i	P	<		M	Ta	<	0.000560				
M	Be	<	0.013000	M	Hg	<	0.001700	M	Pb		0.010064	M	Tb	<	0.000560				
M	Bi	<	0.002300	M	Ho	<	0.000560	M	Pd	<	0.021000	M	Te	<	0.010000				
O	Ca		0.075995	M	In	<	0.000560	M	Pr	<	0.001700	M	Th	<	0.000560				
M	Cd	<	0.000560	M	Ir	<	0.000560	M	Pt	<	0.001200	O	Ti		0.013555				
M	Ce	<	0.001200	O	K		0.043132	i	Rb	<		M	Tl	<	0.000560				
M	Co	<	0.002600	M	La	<	0.001200	M	Re	<	0.001200	O	Tm	<	0.013000				
s	Cr	<		O	Li		0.000390	M	Rh	<	0.095000	M	U	<	0.000560				
M	Cs	<	0.007800	M	Lu	<	0.000560	M	Ru	<	0.087000	O	V		0.014993				
O	Cu		0.007599	O	Mg		0.000883	i	S	<		M	W	<	0.049000				
M	Dy	<	0.000560	M	Mn		0.008626	M	Sb	<	0.003400	M	Y	<	0.001700				
M	Er	<	0.019000	M	Mo	<	0.032000	M	Sc		0.003080	M	Yb	<	0.000560				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 52.00 +3 6 $Cr(H_2O)_6^{3+}$

Chemical Compatibility -Stable in HCl, HNO_3, H_2SO_4, HF, H_3PO_4. Avoid basic media. Stable with most metals and inorganic anions in acidic media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO_3 / LDPE container.

Cr3 Containing Samples (Preparation and Solution) -Metal (soluble in HCl); Oxides/Ores (Chrome ore/oxides are very difficult to dissolve. The following procedures [A-D] are commonly used: A. Fusion with $KHSO_4$ and extraction with hot KCl. The residue fused with Na_2CO_3 and $KClO_3$, 3:1. B. Fusion with $NaKSO_4$ and NaF 2:1, C. Fusion with magnesia or lime and sodium or potassium carbonates, 4:1. D. Fusion with Na_2O_2 or NaOH and KNO_3 or NaOH and Na_2O_2. Nickel, iron, copper, or silver crucibles should be used for D. Platinum may be used for A, <, C); Organic Matrices (ash at 4500C followed by one of the fusion methods above or sulfuric/hydrogen peroxide acid digestions may be applicable to non oxide containing samples).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 52 amu	40 ppt	N/A	36S16O, 36Ar16O - The 50Cr, 53Cr, 54Cr lines suffer from many more potential interferences from sulfur, chlorine and argon compounds of oxygen, nitrogen and carbon.
ICP-OES 205.552 nm	0.006/0.0008 µg/mL	1	Os
ICP-OES 276.654 nm	0.01/0.001 µg/mL	1	Cu, Ta, V
ICP-OES 284.325 nm	0.008/0.0007 µg/mL	1	

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

October 26, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **October 26, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGNI10
Lot Number:	P2-NI686384
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Nickel
Starting Material:	Ni Metal
Starting Material Lot#:	2277 and 2282
Starting Material Purity:	99.9992%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 9979 ± 30 µg/mL

Density: 1.038 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **9971 ± 54 µg/mL**
ICP Assay NIST SRM 3136 Lot Number: 120619

Assay Method #2 **9970 ± 32 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **9993 ± 33 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag		0.002606	M	Eu	<	0.001100	O	Na		0.004965	O	Se	<	0.067000	M	Zn		0.006578
M	Al	<	0.013000	O	Fe		0.018618	M	Nb	<	0.001100	O	Si		0.010923	M	Zr	<	0.001100
O	As	<	0.067000	M	Ga	<	0.001100	M	Nd	<	0.001100	M	Sm	<	0.001100				
M	Au	<	0.002100	M	Gd	<	0.001100	s	Ni	<		M	Sn	<	0.016000				
M	B	<	0.017000	M	Ge	<	0.004200	M	Os		0.002110	O	Sr	<	0.000940				
M	Ba	<	0.001100	M	Hf	<	0.001100	i	P	<		M	Ta	<	0.001100				
O	Be	<	0.000410	M	Hg		0.014895	M	Pb		0.006578	M	Tb	<	0.001100				
M	Bi	<	0.004200	M	Ho	<	0.001100	M	Pd	<	0.001100	M	Te	<	0.015000				
O	Ca		0.003351	M	In	<	0.001100	M	Pr	<	0.001100	M	Th	<	0.001100				
M	Cd		0.001365	M	Ir		0.004716	M	Pt	<	0.001100	M	Ti	<	0.004200				
M	Ce	<	0.001100	O	K		0.004716	M	Rb	<	0.001100	M	Tl	<	0.001100				
O	Co		0.017377	M	La	<	0.001100	M	Re		0.001737	M	Tm	<	0.001100				
O	Cr	<	0.006700	O	Li	<	0.000140	M	Rh	<	0.006300	M	U	<	0.001100				
M	Cs	<	0.007300	M	Lu	<	0.001100	M	Ru	<	0.019000	M	V	<	0.002100				
M	Cu		0.004096	O	Mg		0.000372	i	S	<		M	W	<	0.006300				
M	Dy	<	0.001100	O	Mn	<	0.001900	M	Sb		0.005833	O	Y	<	0.000540				
M	Er	<	0.001100	M	Mo	<	0.008400	M	Sc	<	0.002100	M	Yb	<	0.001100				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 58.69 +2 6 Ni(H2O)62+
Chemical Compatibility -Stable in HCl, HNO3, H2SO4 ,HF, H3PO4. Avoid basic media. Stable with most metals and inorganic anions in acidic media.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.
Ni Containing Samples (Preparation and Solution) -Metal (Soluble in HNO3); Oxides (Soluble in HCl); Ores (Dissolve in HCl / HNO3).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 60 amu	100 ppt	n/a	43Ca16O1H , 44Ca16O, 23Na37Cl
ICP-OES 221.647 nm	0.01 / 0.0009 µg/mL	1	Si
ICP-OES 231.604 nm	0.02 / 0.002 µg/mL	1	Sb, Ta, Co
ICP-OES 232.003 nm	0.02 / 0.006 µg/mL	1	Cr, Re, Os, Nb, Ag, Pt, Fe

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 02, 2019

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **December 02, 2023**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Manager, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

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Certificate of Analysis

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F: 540-585-3012
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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGV10
Lot Number:	S2-V711005
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Vanadium
Starting Material:	Vanadium Pentoxide
Starting Material Lot#:	1782
Starting Material Purity:	99.9877%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10014 ± 30 µg/mL

Density: 1.104 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10017 ± 42 µg/mL**
ICP Assay NIST SRM 3165 Lot Number: 160906

Assay Method #2 **10013 ± 30 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000110	M	Eu	<	0.000110	O	Na		0.120000	M	Se	<	0.009400	M	Zn	0.009400
O	Al		0.120000	O	Fe		0.460000	M	Nb	<	0.001300	O	Si		0.270000	M	Zr	< 0.002900
M	As	<	0.000210	M	Ga	<	0.009300	M	Nd	<	0.000610	M	Sm	<	0.000110			
M	Au	<	0.004700	M	Gd	<	0.000110	M	Ni		0.012000	M	Sn		0.003900			
M	B		0.051000	M	Ge	<	0.000410	M	Os	<	0.000110	O	Sr		0.007100			
M	Ba		0.003600	M	Hf	<	0.000110	O	P	<	0.034000	M	Ta	<	0.000110			
O	Be	<	0.000560	M	Hg	<	0.000410	M	Pb		0.001400	M	Tb	<	0.000110			
M	Bi	<	0.000210	M	Ho	<	0.000110	M	Pd	<	0.000410	M	Te	<	0.000110			
O	Ca		0.730000	M	In	<	0.000110	M	Pr	<	0.000110	M	Th	<	0.000210			
M	Cd	<	0.000610	M	Ir	<	0.000110	M	Pt	<	0.000110	M	Ti		0.017000			
M	Ce	<	0.000610	M	K		0.052000	M	Rb	<	0.000310	M	Tl	<	0.000110			
M	Co	<	0.001300	M	La	<	0.000410	M	Re		0.001700	M	Tm	<	0.000110			
O	Cr		0.170000	M	Li	<	0.000810	M	Rh	<	0.000110	M	U	<	0.000410			
M	Cs		0.005600	M	Lu	<	0.000110	M	Ru	<	0.000110	s	V	<				
M	Cu	<	0.001300	M	Mg		0.053000	i	S	<		M	W		0.002000			
M	Dy	<	0.000110	M	Mn		0.007900	M	Sb		0.078000	M	Y	<	0.000110			
M	Er	<	0.000110	M	Mo		0.094000	M	Sc	<	0.000410	M	Yb	<	0.000110			

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 50.94 +5 6 $H_2V_{10}O_{28}^{4-}$

Chemical Compatibility -Soluble in HCl, HNO_3, H_2SO_4, HF, H_3PO_4 and strong basic media. Stable with most metals and inorganic anions in acidic media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO_3 / LDPE container.

V Containing Samples (Preparation and Solution) -Metal (Fusion with NaOH or KOH in Ni0 or Na_2CO_3 / KNO_3); Oxides (V_2O_3 - use HCl, V_2O_4 - use HCl or HNO_3, V_2O_5 - use concentrated acids); Ores (Na_2CO_3 / KNO_3 in Pt0 caution - nitrates attack Pto followed by water extraction of fuseate); Organic Matrices (Ash at 450 EC followed by dissolving according to V_2O_5 above) .

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 51 amu	4 ppt	N/A	34S16O1H, 35Cl16O, 38Ar13C, 36Ar15N, 36Ar14N1H, 37Cl14N,36S15N, 33S18O, 34S17O, 102Ru+2,02Pd+2
ICP-OES 290.882 nm	0.008 / 0.0008 µg/mL	1	Hf, Nb
ICP-OES 292.402 nm	0.006 / 0.001 µg/mL	1	Th
ICP-OES 309.311 nm	0.005 / 0.001 µg/mL	1	Mg, U, Th

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 28, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **December 28, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

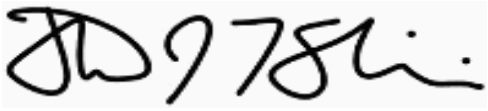
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGAL10
Lot Number:	T2-AL716102
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Aluminum
Starting Material:	Aluminum Nitrate Nonahydrate
Starting Material Lot#:	2460
Starting Material Purity:	99.9938%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10049 ± 31 µg/mL

Density: 1.087 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10059 ± 40 µg/mL**
ICP Assay NIST SRM 3101a Lot Number: 140903

Assay Method #2 **10044 ± 26 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **10049 ± 35 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.002100	M	Eu	<	0.002100	O	Na		0.352819	M	Se	<	0.005200	M	Zn	0.006018
s	Al	<		O	Fe		0.074714	M	Nb	<	0.000520	O	Si		0.017848	O	Zr	0.004358
M	As		0.008716	O	Ga		0.112072	M	Nd	<	0.000520	M	Sm	<	0.000520			
M	Au	<	0.008400	M	Gd	<	0.001100	O	Ni	<	0.006000	M	Sn		0.000747			
O	B	<	0.014000	M	Ge	<	0.005200	M	Os	<	0.000650	O	Sr		0.000518			
O	Ba		0.012867	M	Hf	<	0.004100	n	P	<		M	Ta	<	0.000520			
O	Be	<	0.000270	M	Hg	<	0.002000	M	Pb		0.002282	M	Tb	<	0.000520			
M	Bi		0.001930	M	Ho	<	0.000520	M	Pd	<	0.000520	M	Te	<	0.001100			
O	Ca		0.076790	M	In	<	0.002100	M	Pr	<	0.000520	M	Th	<	0.000520			
M	Cd	<	0.000520	M	Ir	<	0.000650	M	Pt	<	0.000520	O	Ti		0.001930			
M	Ce	<	0.001100	O	K		0.043583	M	Rb	<	0.000520	M	Tl	<	0.000520			
O	Co	<	0.005400	M	La	<	0.002100	M	Re	<	0.000520	M	Tm	<	0.000520			
O	Cr		0.006018	O	Li		0.000112	M	Rh	<	0.000520	M	U	<	0.000520			
M	Cs		0.000643	M	Lu	<	0.000520	M	Ru	<	0.002000	M	V		0.001286			
O	Cu	<	0.008300	O	Mg		0.068488	i	S	<		M	W	<	0.009800			
M	Dy	<	0.002100	O	Mn		0.000913	M	Sb	<	0.003100	M	Y	<	0.001100			
M	Er	<	0.000520	M	Mo		0.005396	O	Sc	<	0.000950	M	Yb	<	0.000520			

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 26.98 +3 6 Al(H2O)6+3
Chemical Compatibility -Soluble in HCl, HNO3, v F and v 2SO4. Avoid neutral media. Soluble in strongly basic NaOH forming the Al(OH)4(H2O)21- species. Stable with most metals and inorganic anions. The phosphate is insoluble in water and only slightly soluble in acid.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.
Al Containing Samples (Preparation and Solution) -Metal (Best dissolved in HCl / HNO3); a- Al2O3 (Na2CO3 fusion in Pt0);
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 27 amu	30 ppt	N/A	12C15N, 13C14N, 1H12C14N, 11B16O, 54Cr2+, 54Fe2+
ICP-OES 167.078 nm	0.1/0.009 µg/mL	1	Fe
ICP-OES 394.401 nm	0.05/0.006 µg/mL	1	U, Ce
ICP-OES 396.152 nm	0.03/0.006 µg/mL	1	Mo, Zr, Ce

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 22, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **March 22, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

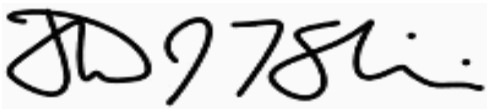
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certificate of Analysis

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F: 540-585-3012
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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGK10
Lot Number:	S2-K711973
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Potassium
Starting Material:	KNO3
Starting Material Lot#:	2313
Starting Material Purity:	99.9971%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 9992 ± 30 µg/mL

Density: 1.024 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **9987 ± 24 µg/mL**
Gravimetric NIST SRM Lot Number: See Sec. 4.2

Assay Method #2 **10004 ± 84 µg/mL**
ICP Assay NIST SRM 3141a Lot Number: 140813

Assay Method #3 **10007 ± 45 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.001400	M	Eu	<	0.000660	O	Na		0.246220	M	Se	<	0.007900	O	Zn	0.018056
O	Al		0.001592	O	Fe		0.005909	M	Nb	<	0.000660	O	Si		0.011490	O	Zr	< 0.001600
M	As	<	0.005300	M	Ga	<	0.000660	M	Nd	<	0.000660	M	Sm	<	0.000660			
M	Au	<	0.002000	M	Gd	<	0.000660	O	Ni	<	0.004900	M	Sn	<	0.000660			
O	B	<	0.005600	M	Ge	<	0.002000	M	Os	<	0.003300	O	Sr		0.000055			
O	Ba	<	0.000860	M	Hf	<	0.000660	O	P	<	0.032000	M	Ta	<	0.000660			
O	Be	<	0.000082	M	Hg	<	0.002000	M	Pb	<	0.002300	M	Tb	<	0.000660			
M	Bi	<	0.006600	M	Ho	<	0.000660	M	Pd	<	0.000660	M	Te	<	0.017000			
O	Ca		0.031187	M	In	<	0.000660	M	Pr	<	0.000660	M	Th	<	0.000660			
O	Cd	<	0.000450	M	Ir	<	0.000660	M	Pt	<	0.002700	M	Ti	<	0.000660			
M	Ce	<	0.000660	s	K	<		M	Rb		0.476026	M	Tl	<	0.000660			
O	Co	<	0.000780	M	La	<	0.000660	M	Re	<	0.000660	M	Tm	<	0.000660			
O	Cr		0.000541	O	Li	<	0.000084	M	Rh	<	0.000660	M	U	<	0.000660			
M	Cs	<	0.000660	M	Lu	<	0.000660	M	Ru	<	0.000660	O	V	<	0.001100			
M	Cu	<	0.002700	O	Mg		0.006237	O	S		0.027905	M	W	<	0.000660			
M	Dy	<	0.000660	O	Mn		0.000476	M	Sb	<	0.000660	M	Y	<	0.000660			
M	Er	<	0.000660	M	Mo	<	0.000660	O	Sc	<	0.000340	O	Yb	<	0.000270			

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 39.10 +1 (6) K+(aq)
Chemical Compatibility -Soluble in HCl, HNO3, H2SO4 and HF aqueous matrices. Avoid use of HClO4 due to insolubility of the perchlorate. Stable with all metals and inorganic anions except ClO4-.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.
K Containing Samples (Preparation and Solution) - Metal (Dissolves very rapidly in water); Ores (Sodium carbonate fusion in Pt0 followed by HCl dissolution-blank levels of K in sodium carbonate critical); Organic Matrices (Sulfuric/peroxide digestion)
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 39 amu	10 ppt	n/a	38ArH, 23Na16O, 78Se
ICP-OES 404.721 nm	1.1 / 0.05 µg/mL	1	U, Ce
ICP-OES 766.490 nm	0.4 / 0.001 µg/mL	1	2nd order radiation from R.E.s on some optical designs
ICP-OES 771.531 nm	1.0 / 0.03 µg/mL	1	2nd order radiation from R.E.s on some optical designs

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 10, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **December 10, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

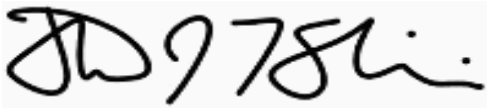
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGMG10
Lot Number:	S2-MG704239
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Magnesium
Starting Material:	Magnesium Metal
Starting Material Lot#:	2168
Starting Material Purity:	99.9984%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10053 ± 30 µg/mL

Density: 1.053 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10022 ± 62 µg/mL**
ICP Assay NIST SRM 3131a Lot Number: 140110

Assay Method #2 **10078 ± 26 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **10033 ± 26 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Ag		0.002106	M	Eu	<	0.000910	O	Na		0.071075	O	Se	<	0.048000	O	Zn		0.003299
M	Al		0.003553	M	Fe		0.002538	M	Nb	<	0.000460	O	Si	<	0.032000	O	Zr	<	0.002700
M	As	<	0.001400	M	Ga	<	0.000460	M	Nd	<	0.000910	M	Sm	<	0.000460				
M	Au	<	0.001400	M	Gd	<	0.000460	O	Ni	<	0.001600	M	Sn	<	0.002300				
O	B		0.006853	M	Ge	<	0.001400	M	Os	<	0.000460	O	Sr		0.000279				
O	Ba		0.000964	M	Hf	<	0.000460	O	P		0.015230	M	Ta	<	0.000460				
O	Be	<	0.000120	M	Hg	<	0.000460	M	Pb	<	0.000460	M	Tb	<	0.000460				
M	Bi	<	0.000460	M	Ho	<	0.000460	M	Pd	<	0.003200	M	Te	<	0.007300				
O	Ca		0.053306	M	In	<	0.000460	M	Pr	<	0.000460	M	Th	<	0.000460				
O	Cd	<	0.000360	M	Ir	<	0.000460	M	Pt	<	0.001900	O	Ti	<	0.001700				
M	Ce	<	0.002300	M	K		0.048229	M	Rb		0.002411	M	Tl		0.003046				
M	Co	<	0.000910	M	La	<	0.002800	M	Re	<	0.000460	M	Tm	<	0.000460				
M	Cr	<	0.002300	O	Li		0.027922	M	Rh	<	0.000460	M	U	<	0.000460				
M	Cs		0.001040	M	Lu	<	0.000460	M	Ru	<	0.000460	M	V	<	0.000460				
O	Cu	<	0.003000	s	Mg	<		O	S	<	0.190000	M	W	<	0.000460				
M	Dy	<	0.000460	O	Mn		0.015230	M	Sb		0.020814	O	Y	<	0.000720				
M	Er	<	0.000460	M	Mo	<	0.000910	O	Sc	<	0.000480	M	Yb	<	0.000460				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 24.31 +2 6 Mg(H2O)6+2

Chemical Compatibility -Soluble in HCl, HNO3, and H2SO4 avoid HF, H3PO4 and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicates, carbonates, hydroxides, oxides, and tungstates in neutral and slightly acidic media.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-10% HNO3 / LDPE container.

Mg Containing Samples (Preparation and Solution) -Metal (Best dissolved in diluted HNO3); Oxide (Readily soluble in above compatible aqueous acidic solutions); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Sulfuric / peroxide digestion or nitric / sulfuric / perchloric acid decomposition, or dry ash and dissolution in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 24 amu	42 ppt	n/a	7Li17O, 48Ti+2 , 48Ca+2
ICP-OES 279.553 nm	0.0002 / 0.00003 µg/mL	1	Th
ICP-OES 280.270 nm	0.0003 / 0.00005 µg/mL	1	U, V
ICP-OES 285.213 nm	0.002 / 0.00003 µg/mL	1	U, Hf, Cr, Zr

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 23, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 23, 2025**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certificate of Analysis

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGCA10
Lot Number:	T2-CA716103
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Calcium
Starting Material:	CaCO3
Starting Material Lot#:	2472
Starting Material Purity:	99.9950%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10005 ± 30 µg/mL

Density: 1.039 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10005 ± 45 µg/mL**
ICP Assay NIST SRM 3109a Lot Number: 130213

Assay Method #2 **10005 ± 25 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **10005 ± 31 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.001200	M	Eu	<	0.001200	O	Na		0.006112	M	Se	<	0.024000	M	Zn		0.005362
M	Al		0.065419	O	Fe		0.009115	M	Nb	<	0.001200	O	Si		0.139417	O	Zr	<	0.006700
O	As	<	0.013000	M	Ga	<	0.015000	M	Nd	<	0.020000	M	Sm	<	0.001200				
M	Au	<	0.017000	M	Gd	<	0.004800	O	Ni		0.000793	M	Sn	<	0.003600				
O	B		0.001179	M	Ge	<	0.003600	M	Os	<	0.001200	M	Sr		0.081505				
O	Ba		0.002788	M	Hf	<	0.001200	O	P	<	0.041000	M	Ta	<	0.001200				
O	Be	<	0.000410	M	Hg	<	0.004800	M	Pb		0.001608	M	Tb	<	0.001200				
M	Bi		0.001608	M	Ho	<	0.001200	M	Pd	<	0.001200	M	Te	<	0.003600				
s	Ca	<		M	In	<	0.001200	M	Pr		0.000257	M	Th	<	0.001200				
O	Cd	<	0.001300	M	Ir	<	0.001200	M	Pt	<	0.003600	O	Ti	<	0.001900				
M	Ce		0.001029	O	K		0.009759	M	Rb	<	0.001200	M	Tl	<	0.001200				
O	Co		0.000418	M	La		0.001823	M	Re	<	0.001200	M	Tm	<	0.001200				
O	Cr		0.003324	O	Li	<	0.007300	M	Rh	<	0.001200	M	U		0.002144				
M	Cs		0.007399	M	Lu		0.000128	M	Ru	<	0.001200	M	V		0.001286				
O	Cu	<	0.011000	M	Mg		1.286934	O	S		0.055767	O	W	<	0.024000				
M	Dy	<	0.002400	O	Mn		0.004611	M	Sb	<	0.009600	O	Y		0.000536				
M	Er	<	0.002400	M	Mo		0.003539	O	Sc	<	0.001400	M	Yb	<	0.001200				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 40.08 +2 6 Ca(H2O)6+2
Chemical Compatibility - Soluble in HCl and HNO3. Avoid H2SO4, vF, v3PO4 and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicate, carbonate, hydroxide, oxide, fluoride, sulfate, oxalate, chromate, arsenate, and tungstate in neutral aqueous media.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-10% HNO3 / LDPE container.
Ca Containing Samples)Preparation and Solution) -Metal (best dissolved in diluted HNO3); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (dry ash and dissolution in dilute HCl. Do not heat when dissolving to avoid precipitation of SiO2). The oxide, hydroxide, carbonate, phosphate, and fluoride of calcium are soluble in % levels of HCl or HNO3. The sulfates (gypsum, anhydrite, etc.), certain silicates, and complex compounds require fusion with Na2CO3 followed by HCl / water dissolution. Note that contamination is a very real problem when analyzing for trace levels.
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 44 amu	1200 ppt	n/a	16O212C, 28Si16O, 88Sr
ICP-OES 393.366 nm	0.0002 / 0.00004 µg/mL	1	U, Ce
ICP-OES 396.847 nm	0.0005 / 0.00006 µg/mL	1	Th
ICP-OES 422.673 nm	0.01 / 0.001 µg/mL	1	Ge

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 14, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **March 14, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

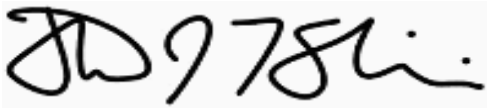
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGNA10
Lot Number:	T2-NA717221
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Sodium
Starting Material:	Na2CO3
Starting Material Lot#:	2358 and 2453
Starting Material Purity:	99.9977%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 9977 ± 30 µg/mL

Density: 1.033 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **9974 ± 18 µg/mL**
Gravimetric NIST SRM Lot Number: See Sec. 4.2

Assay Method #2 **9977 ± 34 µg/mL**
ICP Assay NIST SRM 3152a Lot Number: 200413

Assay Method #3 **9987 ± 31 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000930	M	Eu	<	0.000930	s	Na	<		M	Se	<	0.003800	O	Zn	0.000138
M	Al		0.004409	O	Fe		0.002393	M	Nb	<	0.000930	O	Si		0.056696	O	Zr	< 0.003200
O	As	<	0.023000	M	Ga	<	0.000930	M	Nd	<	0.000930	M	Sm	<	0.000930			
O	Au	<	0.004100	M	Gd	<	0.000930	O	Ni	<	0.003000	M	Sn	<	0.002800			
O	B		0.001385	M	Ge	<	0.004700	M	Os	<	0.000930	O	Sr		0.000251			
M	Ba		0.004031	M	Hf	<	0.000930	O	P		0.010205	M	Ta	<	0.000930			
O	Be	<	0.000130	M	Hg	<	0.000930	M	Pb	<	0.000930	M	Tb	<	0.000930			
M	Bi	<	0.000930	M	Ho	<	0.000930	M	Pd	<	0.000930	M	Te	<	0.001900			
O	Ca		0.176388	M	In	<	0.000930	M	Pr	<	0.000930	M	Th		0.000352			
O	Cd	<	0.000860	M	Ir	<	0.000930	M	Pt	<	0.000930	O	Ti		0.000592			
M	Ce	<	0.001900	O	K		0.302380	M	Rb	<	0.000930	M	Tl	<	0.000930			
O	Co	<	0.001800	O	La	<	0.002100	M	Re	<	0.000930	M	Tm	<	0.000930			
M	Cr	<	0.002800	O	Li		0.000031	M	Rh	<	0.000930	M	U	<	0.000930			
M	Cs	<	0.000930	M	Lu	<	0.000930	M	Ru	<	0.001900	O	V	<	0.001600			
O	Cu	<	0.003900	O	Mg		0.026458	O	S		0.040317	O	W	<	0.028000			
M	Dy	<	0.000930	O	Mn	<	0.000740	M	Sb	<	0.000930	O	Y	<	0.000860			
M	Er	<	0.000930	O	Mo	<	0.003600	O	Sc	<	0.000610	O	Yb	<	0.000250			

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 22.99 +1 (6) Na+(aq) largely ionic in nature

Chemical Compatibility -Soluble in HCl, HNO3, H2SO4 and HF aqueous matrices. Stable with all metals and inorganic anions.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.

Na Containing Samples (Preparation and Solution) - Metal (Dissolves very rapidly in water); Ores (Lithium carbonate fusion in graphite crucible followed by HCl dissolution - blank levels of Na in lithium carbonate critical); Organic Matrices (Sulfuric / peroxide digestion or nitric/sulfuric/perchloric acid decomposition).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 23 amu	310 ppt	n/a	46Ti+2 , 46Ca+2
ICP-OES 330.237 nm	2.0 / 0.09 µg/mL	1	Pd, Zn
ICP-OES 588.995 nm	0.03 / 0.006 µg/mL	1	2nd order radiation from R.E.s on some optical designs
ICP-OES 589.595 nm	0.07 / 0.00009 µg/mL	1	2nd order radiation from R.E.s on some optical designs

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 20, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 20, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

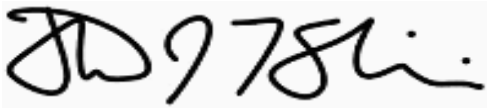
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certificate of Analysis

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inorganicventures.com

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F: 540-585-3012
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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGU1
Lot Number:	S2-U707914
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Uranium
Starting Material:	Uranyl Nitrate Hexahydrate
Starting Material Lot#:	P2-2322
Starting Material Purity:	99.9997%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 999 ± 5 µg/mL

Density: 1.010 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **998 ± 5 µg/mL**
ICP Assay NIST SRM 3164 Lot Number: 080521

Assay Method #2 **1001 ± 6 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.8 ± 0.1
Uranium 235U	0.19 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000270	M	Eu	<	0.000270	M	Na	<	0.011000	M	Se	<	0.009300	M	Zn	0.002358
M	Al	<	0.011000	M	Fe		0.003222	M	Nb	<	0.000270	M	Si	<	0.160000	M	Zr	< 0.001100
M	As	<	0.002400	M	Ga	<	0.000270	M	Nd	<	0.000270	M	Sm	<	0.000270			
M	Au	<	0.000270	M	Gd	<	0.000270	M	Ni	<	0.020000	M	Sn	<	0.011000			
M	B	<	0.000270	M	Ge	<	0.000800	M	Os	<	0.001900	M	Sr	<	0.000270			
M	Ba	<	0.003800	M	Hf	<	0.000270	i	P	<		M	Ta	<	0.000270			
M	Be	<	0.000270	M	Hg	<	0.000540	M	Pb	<	0.002200	M	Tb	<	0.000270			
M	Bi	<	0.000270	M	Ho	<	0.000270	M	Pd	<	0.000540	M	Te	<	0.003800			
M	Ca	<	0.140000	M	In	<	0.000270	M	Pr	<	0.000270	M	Th		0.000129			
M	Cd	<	0.000270	M	Ir	<	0.000270	M	Pt	<	0.000270	M	Ti	<	0.002700			
M	Ce	<	0.000540	O	K	<	0.250000	M	Rb	<	0.000800	M	Tl	<	0.000270			
M	Co	<	0.000800	M	La		0.000117	M	Re	<	0.064000	M	Tm	<	0.000270			
M	Cr		0.000943	M	Li	<	0.003000	M	Rh	<	0.000270	s	U	<				
M	Cs		0.000106	M	Lu	<	0.000270	M	Ru	<	0.000540	M	V	<	0.000540			
M	Cu	<	0.001100	M	Mg	<	0.003000	i	S	<		M	W	<	0.000540			
M	Dy	<	0.000270	M	Mn	<	0.006900	M	Sb	<	0.000270	M	Y	<	0.000270			
M	Er	<	0.000270	M	Mo	<	0.006400	M	Sc	<	0.000540	M	Yb	<	0.000270			

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 238.03 +6 8 UO22+(uranyl)
Chemical Compatibility - Soluble in HCl and HNO3. Avoid H3PO4. H2SO4 and HF matrices should not be a problem depending upon [U]. Although the UO22+ ion is distinctly basic, any U+4 will precipitate in basic media. UO22+salts are generally soluble in water and UO22+ is stable with most metals and inorganic anions. The uranyl phosphate is insoluble in water. UF4 and UF6 are water soluble.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.
U Containing Samples (Preparation and Solution) -Metal (Dissolves rapidly in HCl and HNO3); Oxide (Soluble in HNO3); Ores (Digest for 1-2 hours with 1 gram of ore to 30 mL 1:1 HNO3. Silica insolubles are removed by filtration after bringing the sample to fumes with conc. H2SO4.)
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 238 amu	2 ppt	N/A	206Pb16O2
ICP-OES 263.553 nm	0.3 / 0.01 µg/mL	1	Ce, Ir, Th, Rh, W, Zr, Ta, Ti, V, Hf, Fe, Re, Ru
ICP-OES 367.007 nm	0.3 / 0.02 µg/mL	1	Th, Ce
ICP-OES 385.958 nm	0.3 / 0.01 µg/mL	1	Th, Fe

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 28, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **August 28, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Certificate of Analysis

300 Technology Drive
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1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	AR-ICVMS-2
Lot Number:	T2-MEB719895
Matrix:	3% (v/v) HNO3 tr. HF
Value / Analyte(s):	2.5 µg/mL ea: Molybdenum, Antimony

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	**2.499 ± 0.015 µg/mL**	**Molybdenum, Mo**	**2.500 ± 0.017 µg/mL**

Density: 1.014 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	130418
Mo	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	140911
Sb	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 06, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **June 06, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

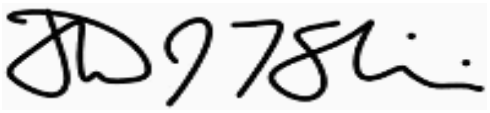
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	AR-ICVMS-3
Lot Number:	T2-MEB719896
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	250 µg/mL ea:

Aluminum, Calcium,
Iron, Potassium,
Magnesium, Sodium,

4 µg/mL ea:
Selenium,

2.5 µg/mL ea:

Thorium,	Thallium,
Uranium,	Vanadium,
Zinc,	Manganese,
Cadmium,	Cobalt,
Chromium,	Copper,
Arsenic,	Barium,
Beryllium,	Nickel,
Lead,	Silver

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	250.0 ± 0.9 µg/mL	Arsenic, As	2.500 ± 0.018 µg/mL
Barium, Ba	2.501 ± 0.013 µg/mL	Beryllium, Be	2.501 ± 0.015 µg/mL
Cadmium, Cd	2.501 ± 0.013 µg/mL	Calcium, Ca	250.0 ± 1.3 µg/mL
Chromium, Cr	2.500 ± 0.015 µg/mL	Cobalt, Co	2.500 ± 0.014 µg/mL
Copper, Cu	2.500 ± 0.014 µg/mL	Iron, Fe	250.0 ± 1.0 µg/mL
Lead, Pb	2.500 ± 0.013 µg/mL	Magnesium, Mg	250.0 ± 1.3 µg/mL
Manganese, Mn	2.500 ± 0.014 µg/mL	Nickel, Ni	2.500 ± 0.014 µg/mL
Potassium, K	250.0 ± 1.2 µg/mL	Selenium, Se	4.002 ± 0.024 µg/mL
Silver, Ag	2.501 ± 0.017 µg/mL	Sodium, Na	250.0 ± 1.2 µg/mL
Thallium, Tl	2.500 ± 0.017 µg/mL	Thorium, Th	2.499 ± 0.013 µg/mL
Uranium, U	2.501 ± 0.015 µg/mL	Vanadium, V	2.500 ± 0.014 µg/mL
Zinc, Zn	2.500 ± 0.014 µg/mL		

Density: 1.042 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Ag	Calculated		See Sec. 4.2
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
Ba	ICP Assay	3104a	140909
Ba	Calculated		See Sec. 4.2
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Cd	Calculated		See Sec. 4.2
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Co	Calculated		See Sec. 4.2
Cr	ICP Assay	3112a	170630
Cr	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Cu	Calculated		See Sec. 4.2
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Mn	Calculated		See Sec. 4.2
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Ni	Calculated		See Sec. 4.2
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Pb	Calculated		See Sec. 4.2
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Th	EDTA	928	928
Th	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	151215
Tl	Calculated		See Sec. 4.2
U	ICP Assay	3164	080521
U	Calculated		See Sec. 4.2

V	ICP Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928
Zn	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.8 ± 0.1
Uranium 235U	0.19 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Note: This solution contains Silver (Ag), please refer to our Sample Preparation Guide for more information.

https://www.inorganicventures.com/sample-preparation-guide/samples-containing-silver

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 06, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **June 06, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

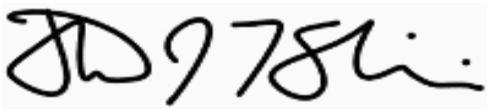
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

INORGANIC VENTURES
Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	AR-6020ICS-0A10
Lot Number:	T2-MEB719898
Matrix:	1.4% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Chloride,
	200 µg/mL ea: Carbon,
	100 µg/mL ea: Calcium, Aluminum, Iron, Potassium, Magnesium, Sodium, Phosphorus, Sulfur,
	2 µg/mL ea: Titanium, Molybdenum

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	**100.0 ± 0.4 µg/mL**	**Calcium, Ca**	**100.0 ± 0.5 µg/mL**
Carbon, C	**200.1 ± 0.5 µg/mL**	**Chloride, Cl**	**1 000 ± 5 µg/mL**
Iron, Fe	**100.0 ± 0.5 µg/mL**	**Magnesium, Mg**	**100.0 ± 0.5 µg/mL**
Molybdenum, Mo	**2.001 ± 0.014 µg/mL**	**Phosphorus, P**	**100.0 ± 0.6 µg/mL**
Potassium, K	**100.0 ± 0.5 µg/mL**	**Sodium, Na**	**100.0 ± 0.5 µg/mL**
Sulfur, S	**100.0 ± 0.5 µg/mL**	**Titanium, Ti**	**2.001 ± 0.015 µg/mL**

Density: 1.009 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
C	Acidimetric	84L	84L
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cl	Acidimetric	84L	84L
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mo	ICP Assay	3134	130418
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
S	Acidimetric	84L	84L
S	ICP Assay	traceable to 3154	P2-S680745
Ti	ICP Assay	3162a	130925

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 07, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **June 07, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

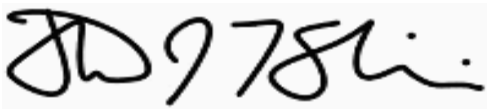
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW23-IT1136

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-01 D	SDG:	23A0418
Sampled:	01/18/23 08:28	Prepared:	01/20/23 13:16	File ID:	
% Solids:	81.57	Preparation:	No Prep Wet Chem	Analyzed:	01/20/23 13:18
Batch:	BLA0511	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	81.57	1	0.04	0.04	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW23-IT1142

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-02 D	SDG:	23A0418
Sampled:	01/18/23 08:47	Prepared:	01/20/23 13:16	File ID:	
% Solids:	76.41	Preparation:	No Prep Wet Chem	Analyzed:	01/20/23 13:18
Batch:	BLA0511	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	76.41	1	0.04	0.04	

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Form I
INORGANIC ANALYSIS DATA SHEET
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LDW23-SC1122

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-03 C	SDG:	23A0418
Sampled:	01/18/23 10:39	Prepared:	01/20/23 13:16	File ID:	
% Solids:	51.19	Preparation:	No Prep Wet Chem	Analyzed:	01/20/23 13:18
Batch:	BLA0511	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	51.19	1	0.04	0.04	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW23-IT1141

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-04 D	SDG:	23A0418
Sampled:	01/18/23 11:03	Prepared:	01/20/23 13:16	File ID:	
% Solids:	62.77	Preparation:	No Prep Wet Chem	Analyzed:	01/20/23 13:18
Batch:	BLA0511	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	62.77	1	0.04	0.04	

Analytical Resources, LLC
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Form I
INORGANIC ANALYSIS DATA SHEET
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LDW23-IT1133

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-05 D	SDG:	23A0418
Sampled:	01/18/23 11:13	Prepared:	01/20/23 13:16	File ID:	
% Solids:	78.64	Preparation:	No Prep Wet Chem	Analyzed:	01/20/23 13:18
Batch:	BLA0511	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	78.64	1	0.04	0.04	

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Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW23-IT1133-FD

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-06 D	SDG:	23A0418
Sampled:	01/18/23 11:13	Prepared:	01/20/23 13:16	File ID:	
% Solids:	77.53	Preparation:	No Prep Wet Chem	Analyzed:	01/20/23 13:18
Batch:	BLA0511	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	77.53	1	0.04	0.04	

Analytical Resources, LLC
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Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW23-IT1180

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-07 D	SDG:	23A0418
Sampled:	01/18/23 13:14	Prepared:	01/20/23 13:16	File ID:	
% Solids:	80.45	Preparation:	No Prep Wet Chem	Analyzed:	01/20/23 13:18
Batch:	BLA0511	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	80.45	1	0.04	0.04	

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Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW23-IT1218

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-08 D	SDG:	23A0418
Sampled:	01/18/23 13:42	Prepared:	01/20/23 13:16	File ID:	
% Solids:	67.18	Preparation:	No Prep Wet Chem	Analyzed:	01/20/23 13:18
Batch:	BLA0511	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	67.18	1	0.04	0.04	

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Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW23-IT1216

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-09 D	SDG:	23A0418
Sampled:	01/18/23 13:57	Prepared:	01/20/23 13:16	File ID:	
% Solids:	80.44	Preparation:	No Prep Wet Chem	Analyzed:	01/20/23 13:18
Batch:	BLA0511	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	80.44	1	0.04	0.04	

Analytical Resources, LLC
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Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW23-IT1135

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-10 D	SDG:	23A0418
Sampled:	01/18/23 14:23	Prepared:	01/20/23 13:16	File ID:	
% Solids:	71.89	Preparation:	No Prep Wet Chem	Analyzed:	01/20/23 13:18
Batch:	BLA0511	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	71.89	1	0.04	0.04	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW23-IT1140

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-11 D	SDG:	23A0418
Sampled:	01/18/23 14:47	Prepared:	01/20/23 13:16	File ID:	
% Solids:	77.00	Preparation:	No Prep Wet Chem	Analyzed:	01/20/23 13:18
Batch:	BLA0511	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	77.00	1	0.04	0.04	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW23-IT1275

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-12 D	SDG:	23A0418
Sampled:	01/18/23 15:09	Prepared:	01/20/23 15:22	File ID:	
% Solids:	80.87	Preparation:	No Prep Wet Chem	Analyzed:	01/20/23 15:42
Batch:	BLA0515	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	80.87	1	0.04	0.04	

PREPARATION BATCH SUMMARY

SM 2540 G-97

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Batch: BLA0511 Batch Matrix: Solid
Preparation: No Prep Wet Chem

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-IT1136	23A0418-01		01/20/23 13:16	
LDW23-IT1142	23A0418-02		01/20/23 13:16	
LDW23-SC1122	23A0418-03		01/20/23 13:16	
LDW23-IT1141	23A0418-04		01/20/23 13:16	
LDW23-IT1133	23A0418-05		01/20/23 13:16	
LDW23-IT1133-FD	23A0418-06		01/20/23 13:16	
LDW23-IT1180	23A0418-07		01/20/23 13:16	
LDW23-IT1218	23A0418-08		01/20/23 13:16	
LDW23-IT1216	23A0418-09		01/20/23 13:16	
LDW23-IT1135	23A0418-10		01/20/23 13:16	
LDW23-IT1140	23A0418-11		01/20/23 13:16	
Blank	BLA0511-BLK1		01/20/23 13:16	
LDW23-IT1136	BLA0511-DUP1		01/20/23 13:16	
LDW23-IT1136	BLA0511-DUP2		01/20/23 13:16	

TOTAL SOLIDS/VOLATILE SOLIDS (TS / TVS) BENCHSHEET for Solid samples

Method: PSEP 1986, SM2540, EPA 160.1

(dry at 104 (12-24 hr) then combust at 550 (30 min))

Batch:	BLA0511
Date:	1/20/2023 13:18
Analyst:	UW

Instrumentation

Drying Ovens:	12	**Analytical Balance:**	BAL2
Muffle Furnace:	2		

Batch drying time

record times as mm/dd/yy hh:mm

date/time in oven:	1/20/2023 14:30	
date/time out:	1/23/2023 7:05	
elapsed hrs =	64.6	> 24 hr

TS (%) calculated as:
Final dry wt (g) = (Dry Wt - Tare Wt)
TS = (Final Dry Wt)/ (grams Sample-Tare)

Oven Temps, °C	
Start Temp	104
Dry Cycle 1	103
Dry Cycle 2	
Dry Cycle 3	

TVS (mg/kg dry wt) calculated as:
Final ash wt (g) = (min ash wt - tare wt)
TVS (mg/kg) = [(Dry wt-Ash wt)/ (dry weight)] *1,000,000
if ash wt > dry wt, "Chk for Err"
if dry wt-ash wt < 0.001 g, "< (1/dry wt)*1,000,000

Balance Calibration Check

Record weights to 4 places

Cal Weight ID:		CV-02	CV-02	CV-02	CV-02	CV-02		CV-02	CV-02	CV-02
Date & Time:		1/20/23 13:32	1/20/23 14:08	1/23/23 7:48						
Cal Wt (g):	10.0000	10.0000	10.0000	9.9999						
		Cal OK!	Cal OK!	Cal OK!						

Sample ID	Dish #	Tare Wt. (g)	Dish & Sample (g)	Dry Wt 104C (grams) 1	2	3	dry Wt (g)	TS (%)	Notes	ASH WT 550C (grams) 1	2	3	Ash Wt (g)	TVS (mg/kg)	TVS (%)	Notes
BLA0511-BLK1	19	0.8103	0.0000	0.8100			-0.0003	0.04%								
23A0418-01	20	0.8111	6.9925	5.8535			5.0424	81.57%								
BLA0511-DUP1	21	0.8463	6.2669	5.2772			4.4309	81.74%	RPD=0.2							
BLA0511-DUP2	22	0.8249	6.4068	5.3620			4.5371	81.28%	RSD=0.3							
23A0418-02	23	0.8491	9.4643	7.4319			6.5828	76.41%								
23A0418-03	24	0.8552	7.5508	4.2827			3.4275	51.19%								
23A0418-04	25	0.8404	8.0929	5.3927			4.5523	62.77%								
23A0418-05	26	0.8204	9.5118	7.6551			6.8347	78.64%								
23A0418-06	27	0.8152	9.3100	7.4015			6.5863	77.53%								
23A0418-07	28	0.8278	8.8304	7.2660			6.4382	80.45%								
23A0418-08	29	0.8279	8.0473	5.6781			4.8502	67.18%								
23A0418-09	30	0.8265	7.3279	6.0564			5.2299	80.44%								
23A0418-10	31	0.8268	8.4217	6.2871			5.4603	71.89%								
23A0418-11	32	0.8354	8.5835	6.8018			5.9664	77.00%								

PREPARATION BATCH SUMMARY

SM 2540 G-97

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Batch: BLA0515 Batch Matrix: Solid
Preparation: No Prep Wet Chem

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-IT1275	23A0418-12		01/20/23 15:22	
Blank	BLA0515-BLK1		01/20/23 15:22	

TOTAL SOLIDS/VOLATILE SOLIDS (TS / TVS) BENCHSHEET for Solid samples

Method: PSEP 1986, SM2540, EPA 160.1

(dry at 104 (12-24 hr) then combust at 550 (30 min))

Batch:	BLA0515
Date:	1/20/2023 15:42
Analyst:	UW

Instrumentation			
Drying Ovens:	12	**Analytical Balance:**	BAL2
Muffle Furnace:	2		

Batch drying time				**Oven Temps, °C**	
record times as mm/dd/yy hh:mm		TS (%) calculated as:	Start Temp	104	TVS (mg/kg dry wt) calculated as:
date/time in oven:	1/20/2023 16:15	Final dry wt (g) = (Dry Wt - Tare Wt)	Dry Cycle 1	103	Final ash wt (g) = (min ash wt - tare wt)
date/time out:	1/23/2023 7:05	TS = (Final Dry Wt)/ (grams Sample-Tare)	Dry Cycle 2		TVS (mg/kg) = [(Dry wt-Ash wt)/ (dry weight)] *1,000,000
elapsed hrs =	62.8	> 24 hr	Dry Cycle 3		if ash wt > dry wt, "Chk for Err"
					if dry wt-ash wt < 0.001 g, "< (1/dry wt)*1,000,000

Balance Calibration Check

Record weights to 4 places											
Cal Weight ID:		CV-02	CV-02	CV-02	CV-02	CV-02		CV-02	CV-02	CV-02	
Date & Time:		1/20/23 15:44	1/20/23 16:00	1/23/23 7:37							
Cal Wt (g):	10.0000	10.0000	10.0000	10.0000							
		Cal OK!	Cal OK!	Cal OK!							

Sample ID	Dish #	Tare Wt. (g)	Dish & Sample (g)	Dry Wt 104C (grams) 1	2	3	dry Wt (g)	TS (%)	Notes	ASH WT 550C (grams) 1	2	3	Ash Wt (g)	TVS (mg/kg)	(%)	Notes
BLA0515-BLK1	48	0.8427	0.0000	0.8426			-0.0001	0.01%								
23A0385-01	49	0.8317	7.4537	4.5329			3.7012	55.89%								
23A0385-02	50	0.8031	4.0741	2.9520			2.1489	65.70%								
23A0393-01	51	0.7873	7.9179	2.4889			1.7016	23.86%								
23A0418-12	52	0.7989	9.0525	7.4733			6.6744	80.87%								
23A0420-01	53	0.7984	7.0781	4.0408			3.2424	51.63%								
BLA0515-DUP1	54	0.8002	6.7047	3.8322			3.0320	51.35%	RPD=0.5							
BLA0515-DUP2	55	0.8004	6.9989	3.9904			3.1900	51.46%	RSD=0.3							
23A0420-02	56	0.8315	7.0576	4.0027			3.1712	50.93%								
23A0420-03	57	0.8409	8.2695	4.8709			4.0300	54.25%								
23A0420-04	58	0.8417	8.5459	6.0137			5.1720	67.13%								
23A0420-05	59	0.7981	7.4412	4.4329			3.6348	54.72%								
23A0420-06	60	0.8148	8.2304	4.8833			4.0685	54.86%								
23A0420-07	61	0.7935	7.5475	4.2358			3.4423	50.97%								
23A0420-08	62	0.8010	8.2102	5.0528			4.2518	57.39%								
23A0420-09	63	0.8133	8.4055	5.1115			4.2982	56.61%								

Form I

METHOD BLANK DATA SHEET

SM 2540 G-97

TotalAnalytes

Blank

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Batch: BLA0511
Laboratory ID: BLA0511-BLK1
Prepared: 01/20/23 13:16
Matrix: Solid
Preparation: No Prep Wet Chem
Analyzed: 01/20/23 13:18
Sequence:
Calibration:
Instrument: BAL2

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	ND	1	0.04	0.04	U

Form I

METHOD BLANK DATA SHEET

SM 2540 G-97

TotalAnalytes

Blank

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Batch: BLA0515
Laboratory ID: BLA0515-BLK1
Prepared: 01/20/23 15:22
Matrix: Solid
Preparation: No Prep Wet Chem
Analyzed: 01/20/23 15:42
Sequence:
Calibration:
Instrument: BAL2

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	ND	1	0.04	0.04	U

DUPLICATES

SM 2540 G-97

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Laboratory ID: BLA0511-DUP1
Batch: BLA0511
Lab Source ID: 23A0418-01
Preparation: No Prep Wet Chem
Initial/Final: 5 g / 5 g
Source Sample Name: LDW23-IT1136
% Solids: 81.57

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	RPD %	Q
Total Solids	20	81.57	81.74	0.206	

*: Values outside of QC limits
L: Analyte concentration is <=5 times the reporting limit and the replicate control limit defaults to Dup = +/- RL instead of 20% RPD

DUPLICATES

SM 2540 G-97

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Laboratory ID: BLA0511-DUP2
Batch: BLA0511
Lab Source ID: 23A0418-01
Preparation: No Prep Wet Chem
Initial/Final: 5 g / 5 g
Source Sample Name: LDW23-IT1136
% Solids: 81.57

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	RPD %	Q
Total Solids	20	81.57	81.28	0.358	

*: Values outside of QC limits
L: Analyte concentration is <=5 times the reporting limit and the replicate control limit defaults to Dup = +/- RL instead of 20% RPD

HOLDING TIME SUMMARY

Analysis: SM 2540 G-97

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW23-IT1136 23A0418-01	01/18/23 08:28	01/18/23 16:36	01/20/23 13:16	2	180	01/20/23 13:18	2	180	
LDW23-IT1142 23A0418-02	01/18/23 08:47	01/18/23 16:36	01/20/23 13:16	2	180	01/20/23 13:18	2	180	
LDW23-SC1122 23A0418-03	01/18/23 10:39	01/18/23 16:36	01/20/23 13:16	2	180	01/20/23 13:18	2	180	
LDW23-IT1141 23A0418-04	01/18/23 11:03	01/18/23 16:36	01/20/23 13:16	2	180	01/20/23 13:18	2	180	
LDW23-IT1133 23A0418-05	01/18/23 11:13	01/18/23 16:36	01/20/23 13:16	2	180	01/20/23 13:18	2	180	
LDW23-IT1133-FD 23A0418-06	01/18/23 11:13	01/18/23 16:36	01/20/23 13:16	2	180	01/20/23 13:18	2	180	
LDW23-IT1180 23A0418-07	01/18/23 13:14	01/18/23 16:36	01/20/23 13:16	2	180	01/20/23 13:18	2	180	
LDW23-IT1218 23A0418-08	01/18/23 13:42	01/18/23 16:36	01/20/23 13:16	1	180	01/20/23 13:18	2	180	
LDW23-IT1216 23A0418-09	01/18/23 13:57	01/18/23 16:36	01/20/23 13:16	1	180	01/20/23 13:18	2	180	
LDW23-IT1135 23A0418-10	01/18/23 14:23	01/18/23 16:36	01/20/23 13:16	1	180	01/20/23 13:18	2	180	
LDW23-IT1140 23A0418-11	01/18/23 14:47	01/18/23 16:36	01/20/23 13:16	1	180	01/20/23 13:18	2	180	
LDW23-IT1275 23A0418-12	01/18/23 15:09	01/18/23 16:36	01/20/23 15:22	2	180	01/20/23 15:42	2	180	
Duplicate BLA0511-DUP1	01/18/23 08:28	01/18/23 16:36	01/20/23 13:16	2	180	01/20/23 13:18	2	180	
Duplicate BLA0511-DUP2	01/18/23 08:28	01/18/23 16:36	01/20/23 13:16	2	180	01/20/23 13:18	2	180	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

SM 2540 G-97

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Instrument:

Analyte	MDL	RL	Units
Total Solids	0.04	0.04	%

Analytical Resources, LLC
Analytical Chemists and Consultants

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LDW23-IT1136

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-01 D	SDG:	23A0418
Sampled:	01/18/23 08:28	Prepared:	01/23/23 09:55	File ID:	CubeData_01262023@1133-206
% Solids:	81.57	Preparation:	Plumb 1981	Analyzed:	01/24/23 08:21
Batch:	BLA0526	Sequence:	SLA0248	Initial/Final:	0.5843 g Wet / 0.5843 g
Instrument:	TOC Cube			Calibration:	FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.11	1	0.02	0.02	

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LDW23-IT1142

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-02 D	SDG:	23A0418
Sampled:	01/18/23 08:47	Prepared:	01/23/23 09:55	File ID:	CubeData_01262023@1133-212
% Solids:	76.41	Preparation:	Plumb 1981	Analyzed:	01/24/23 08:51
Batch:	BLA0526	Sequence:	SLA0248	Initial/Final:	0.5689 g Wet / 0.5689 g
Instrument:	TOC Cube			Calibration:	FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.19	1	0.02	0.02	

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LDW23-SC1122

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-03 C	SDG:	23A0418
Sampled:	01/18/23 10:39	Prepared:	01/23/23 09:55	File ID:	CubeData_01262023@1133-220
% Solids:	51.19	Preparation:	Plumb 1981	Analyzed:	01/24/23 09:22
Batch:	BLA0526	Sequence:	SLA0248	Initial/Final:	0.5253 g Wet / 0.5253 g
Instrument:	TOC Cube			Calibration:	FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	2.26	1	0.02	0.02	

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LDW23-IT1141

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-04 D	SDG:	23A0418
Sampled:	01/18/23 11:03	Prepared:	01/23/23 09:55	File ID:	CubeData_01262023@1133-226
% Solids:	62.77	Preparation:	Plumb 1981	Analyzed:	01/24/23 09:52
Batch:	BLA0526	Sequence:	SLA0248	Initial/Final:	0.501 g Wet / 0.501 g
Instrument:	TOC Cube			Calibration:	FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.91	1	0.02	0.02	

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LDW23-IT1133

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-05 D	SDG:	23A0418
Sampled:	01/18/23 11:13	Prepared:	01/23/23 09:55	File ID:	CubeData_01262023@1133-232
% Solids:	78.64	Preparation:	Plumb 1981	Analyzed:	01/24/23 10:22
Batch:	BLA0526	Sequence:	SLA0248	Initial/Final:	0.505 g Wet / 0.505 g
Instrument:	TOC Cube			Calibration:	FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.43	1	0.02	0.02	

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LDW23-IT1133-FD

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-06 D	SDG:	23A0418
Sampled:	01/18/23 11:13	Prepared:	01/23/23 09:55	File ID:	CubeData_01262023@1133-279
% Solids:	77.53	Preparation:	Plumb 1981	Analyzed:	01/24/23 13:54
Batch:	BLA0527	Sequence:	SLA0248	Initial/Final:	0.5479 g Wet / 0.5479 g
Instrument:	TOC Cube			Calibration:	FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.39	1	0.02	0.02	

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LDW23-IT1180

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-07 D	SDG:	23A0418
Sampled:	01/18/23 13:14	Prepared:	01/23/23 09:55	File ID:	CubeData_01262023@1133-289
% Solids:	80.45	Preparation:	Plumb 1981	Analyzed:	01/24/23 15:26
Batch:	BLA0527	Sequence:	SLA0248	Initial/Final:	0.5094 g Wet / 0.5094 g
Instrument:	TOC Cube			Calibration:	FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.26	1	0.02	0.02	

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LDW23-IT1218

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-08 D	SDG:	23A0418
Sampled:	01/18/23 13:42	Prepared:	01/23/23 09:55	File ID:	CubeData_01262023@1133-294
% Solids:	67.18	Preparation:	Plumb 1981	Analyzed:	01/24/23 18:30
Batch:	BLA0527	Sequence:	SLA0248	Initial/Final:	0.5508 g Wet / 0.5508 g
Instrument:	TOC Cube			Calibration:	FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.80	1	0.02	0.02	

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LDW23-IT1216

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-09 D	SDG:	23A0418
Sampled:	01/18/23 13:57	Prepared:	01/23/23 09:55	File ID:	CubeData_01262023@1133-295
% Solids:	80.44	Preparation:	Plumb 1981	Analyzed:	01/24/23 19:00
Batch:	BLA0527	Sequence:	SLA0248	Initial/Final:	0.5378 g Wet / 0.5378 g
Instrument:	TOC Cube			Calibration:	FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.11	1	0.02	0.02	

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Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW23-IT1135

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-10 D	SDG:	23A0418
Sampled:	01/18/23 14:23	Prepared:	01/23/23 09:55	File ID:	CubeData_01262023@1133-296
% Solids:	71.89	Preparation:	Plumb 1981	Analyzed:	01/24/23 19:30
Batch:	BLA0527	Sequence:	SLA0248	Initial/Final:	0.5035 g Wet / 0.5035 g
Instrument:	TOC Cube			Calibration:	FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.47	1	0.02	0.02	

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Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW23-IT1140

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-11 D	SDG:	23A0418
Sampled:	01/18/23 14:47	Prepared:	01/23/23 09:55	File ID:	CubeData_01262023@1133-297
% Solids:	77.00	Preparation:	Plumb 1981	Analyzed:	01/24/23 20:00
Batch:	BLA0527	Sequence:	SLA0248	Initial/Final:	0.5321 g Wet / 0.5321 g
Instrument:	TOC Cube			Calibration:	FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.35	1	0.02	0.02	

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Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW23-IT1275

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23A0418-12 D	SDG:	23A0418
Sampled:	01/18/23 15:09	Prepared:	01/23/23 09:55	File ID:	CubeData_01262023@1133-298
% Solids:	80.87	Preparation:	Plumb 1981	Analyzed:	01/24/23 20:31
Batch:	BLA0527	Sequence:	SLA0248	Initial/Final:	0.5454 g Wet / 0.5454 g
Instrument:	TOC Cube			Calibration:	FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.07	1	0.02	0.02	

PREPARATION BATCH SUMMARY

EPA 9060A m

Laboratory:	Analytical Resources, LLC			SDG:	23A0418
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Batch:	BLA0526	Batch Matrix:	Solid	Preparation:	Plumb 1981

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-IT1136	23A0418-01	eData_01262023@1133-	01/23/23 09:55	
LDW23-IT1142	23A0418-02	eData_01262023@1133-	01/23/23 09:55	
LDW23-SC1122	23A0418-03	eData_01262023@1133-	01/23/23 09:55	
LDW23-IT1141	23A0418-04	eData_01262023@1133-	01/23/23 09:55	
LDW23-IT1133	23A0418-05	eData_01262023@1133-	01/23/23 09:55	
Blank	BLA0526-BLK1	eData_01262023@1133-	01/23/23 09:55	
LCS	BLA0526-BS1	eData_01262023@1133-	01/23/23 09:55	
MRL Check	BLA0526-MRL1	eData_01262023@1133-	01/23/23 09:55	
Reference	BLA0526-SRM1	eData_01262023@1133-	01/23/23 09:55	

PREPARATION BATCH SUMMARY

EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Batch: BLA0527 Batch Matrix: Solid
Preparation: Plumb 1981

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-IT1133-FD	23A0418-06	eData_01262023@1133-	01/23/23 09:55	
LDW23-IT1180	23A0418-07	eData_01262023@1133-	01/23/23 09:55	
LDW23-IT1218	23A0418-08	eData_01262023@1133-	01/23/23 09:55	
LDW23-IT1216	23A0418-09	eData_01262023@1133-	01/23/23 09:55	
LDW23-IT1135	23A0418-10	eData_01262023@1133-	01/23/23 09:55	
LDW23-IT1140	23A0418-11	eData_01262023@1133-	01/23/23 09:55	
LDW23-IT1275	23A0418-12	eData_01262023@1133-	01/23/23 09:55	
Blank	BLA0527-BLK1	eData_01262023@1133-	01/23/23 09:55	
LCS	BLA0527-BS1	eData_01262023@1133-	01/23/23 09:55	
LDW23-IT1133-FD	BLA0527-DUP1	eData_01262023@1133-	01/23/23 09:55	
MRL Check	BLA0527-MRL1	eData_01262023@1133-	01/23/23 09:55	
LDW23-IT1133-FD	BLA0527-MS1	eData_01262023@1133-	01/23/23 09:55	
Reference	BLA0527-SRM1	eData_01262023@1133-	01/23/23 09:55	

Form I

METHOD BLANK DATA SHEET

EPA 9060A m

TotalAnalytes

Blank

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Batch: BLA0526
Laboratory ID: BLA0526-BLK1
Prepared: 01/23/23 09:55
Matrix: Solid
Preparation: Plumb 1981
Analyzed: 01/23/23 20:14
Sequence: SLA0248
Calibration: FD00070
Instrument: TOC Cube

CAS NO.	Analyte	Concentration (% wet)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	ND	1	0.02	0.02	U

Form I

METHOD BLANK DATA SHEET

EPA 9060A m

TotalAnalytes

Blank

Laboratory: Analytical Resources, LLC | SDG: 23A0418

Client: Anchor QEA, LLC | Project: AOC5 MR Phase 1

Batch: BLA0527 | Laboratory ID: BLA0527-BLK1 | Prepared: 01/23/23 09:55

Matrix: Solid | Preparation: Plumb 1981 | Analyzed: 01/24/23 12:23

Sequence: SLA0248 | Calibration: FD00070 | Instrument: TOC Cube

CAS NO.	Analyte	Concentration (% wet)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	ND	1	0.02	0.02	U

LCS / LCS DUPLICATE RECOVERY

EPA 9060A m

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	01/23/23 20:44
Batch:	BLA0526	Laboratory ID:	BLA0526-BS1
Preparation:	Plumb 1981	Sequence Name:	LCS
Initial/Final:	0.021 g / 0.021 g		

COMPOUND	SPIKE ADDED (% wet)	LCS CONCENTRATION (% wet)	Q	LCS % REC. #	QC LIMITS REC.
Total Organic Carbon	44.4	44.0		98.9	80 - 120

* Indicates values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

EPA 9060A m

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	01/24/23 12:54
Batch:	BLA0527	Laboratory ID:	BLA0527-BS1
Preparation:	Plumb 1981	Sequence Name:	LCS
Initial/Final:	0.0204 g / 0.0204 g		

COMPOUND	SPIKE ADDED (% wet)	LCS CONCENTRATION (% wet)	Q	LCS % REC. #	QC LIMITS REC.
Total Organic Carbon	44.4	44.1		99.2	80 - 120

* Indicates values outside of QC limits

LDW23-IT1133-FD

DUPLICATES

EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Laboratory ID: BLA0527-DUP1
Batch: BLA0527
Lab Source ID: 23A0418-06
Preparation: Plumb 1981
Initial/Final: 0.5326 g / 0.5326 g
Source Sample Name: LDW23-IT1133-FD
% Solids: 77.53

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	RPD %	Q
Total Organic Carbon	20	0.39	0.41	4.16	

*: Values outside of QC limits
L: Analyte concentration is <=5 times the reporting limit and the replicate control limit defaults to Dup = +/- RL instead of 20% RPD

MS / MS DUPLICATE RECOVERY
EPA 9060A m

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	01/24/23 14:55
Batch:	BLA0527	Laboratory ID:	BLA0527-MS1
Preparation:	Plumb 1981	Sequence Name:	Matrix Spike
Initial/Final:	0.5296 g / 0.5296 g	Source Sample:	LDW23-IT1133-FD

COMPOUND	SPIKE ADDED (% dry)	SAMPLE CONCENTRATION (% dry)	Q	MS CONCENTRATION (% dry)	Q	MS % REC. #	QC LIMITS REC.
Total Organic Carbon	0.931	0.39		1.33		100	75 - 125

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SKD0371
Instrument: TOC Cube
Calibration: FD00070

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Cal Standard	SKD0371-CAL1	CubeData_04272022@1136-001	NA	04/26/22 12:30
Cal Standard	SKD0371-CAL2	CubeData_04272022@1136-002	NA	04/26/22 13:00
Cal Standard	SKD0371-CAL3	CubeData_04272022@1136-003	NA	04/26/22 13:30
Cal Standard	SKD0371-CAL4	CubeData_04272022@1136-004	NA	04/26/22 14:00
Cal Standard	SKD0371-CAL5	CubeData_04272022@1136-005	NA	04/26/22 14:30
Cal Standard	SKD0371-CAL6	CubeData_04272022@1136-006	NA	04/26/22 15:00
Cal Standard	SKD0371-CAL7	CubeData_04272022@1136-007	NA	04/26/22 15:30
Cal Standard	SKD0371-CAL8	CubeData_04272022@1136-008	NA	04/26/22 16:00
Cal Standard	SKD0371-CAL9	CubeData_04272022@1136-009	NA	04/26/22 16:30
Cal Standard	SKD0371-CALA	CubeData_04272022@1136-010	NA	04/26/22 17:00
Cal Standard	SKD0371-CALB	CubeData_04272022@1136-011	NA	04/26/22 17:30
Cal Standard	SKD0371-CALC	CubeData_04272022@1136-012	NA	04/26/22 18:00
Cal Standard	SKD0371-CALD	CubeData_04272022@1136-013	NA	04/26/22 18:30
Cal Standard	SKD0371-CALE	CubeData_04272022@1136-014	NA	04/26/22 19:00
Cal Standard	SKD0371-CALF	CubeData_04272022@1136-015	NA	04/26/22 19:31
Cal Standard	SKD0371-CALG	CubeData_04272022@1136-016	NA	04/26/22 20:01
Cal Standard	SKD0371-CALH	CubeData_04272022@1136-017	NA	04/26/22 20:31
Cal Standard	SKD0371-CALI	CubeData_04272022@1136-018	NA	04/26/22 21:01
Cal Standard	SKD0371-CALJ	CubeData_04272022@1136-019	NA	04/26/22 21:31
Cal Standard	SKD0371-CALK	CubeData_04272022@1136-020	NA	04/26/22 22:01
Initial Cal Check	SKD0371-ICV1	CubeData_04272022@1136-027	NA	04/27/22 02:03
Initial Cal Blank	SKD0371-ICB1	CubeData_04272022@1136-028	NA	04/27/22 02:33
Cal Standard	SKD0371-CALL	CubeData_04272022@1136-021	NA	04/27/22 11:08
Cal Standard	SKD0371-CALM	CubeData_04272022@1136-022	NA	04/27/22 11:08
Cal Standard	SKD0371-CALN	CubeData_04272022@1136-023	NA	04/27/22 11:09
Cal Standard	SKD0371-CALO	CubeData_04272022@1136-024	NA	04/27/22 11:09

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 9060A m

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLA0248	Instrument:	TOC Cube
		Calibration:	FD00070

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Initial Cal Check	SLA0248-ICV1	CubeData_01262023@1133-019	NA	01/23/23 17:12
Initial Cal Blank	SLA0248-ICB1	CubeData_01262023@1133-025	NA	01/23/23 17:43
MRL Check	BLA0526-MRL1	CubeData_01262023@1133-045	Solid	01/23/23 19:43
Blank	BLA0526-BLK1	CubeData_01262023@1133-050	Solid	01/23/23 20:14
LCS	BLA0526-BS1	CubeData_01262023@1133-058	Solid	01/23/23 20:44
Reference	BLA0526-SRM1	CubeData_01262023@1133-063	Solid	01/23/23 21:14
Calibration Check	SLA0248-CCV1	CubeData_01262023@1133-089	NA	01/23/23 23:16
Calibration Blank	SLA0248-CCB1	CubeData_01262023@1133-096	NA	01/23/23 23:46
Calibration Check	SLA0248-CCV2	CubeData_01262023@1133-173	NA	01/24/23 05:19
Calibration Blank	SLA0248-CCB2	CubeData_01262023@1133-180	NA	01/24/23 05:49
LDW23-IT1136	23A0418-01	CubeData_01262023@1133-206	Solid	01/24/23 08:21
LDW23-IT1142	23A0418-02	CubeData_01262023@1133-212	Solid	01/24/23 08:51
LDW23-SC1122	23A0418-03	CubeData_01262023@1133-220	Solid	01/24/23 09:22
LDW23-IT1141	23A0418-04	CubeData_01262023@1133-226	Solid	01/24/23 09:52
LDW23-IT1133	23A0418-05	CubeData_01262023@1133-232	Solid	01/24/23 10:22
MRL Check	BLA0527-MRL1	CubeData_01262023@1133-241	Solid	01/24/23 10:53
Calibration Check	SLA0248-CCV3	CubeData_01262023@1133-247	NA	01/24/23 11:23
Calibration Blank	SLA0248-CCB3	CubeData_01262023@1133-253	NA	01/24/23 11:53
Blank	BLA0527-BLK1	CubeData_01262023@1133-258	Solid	01/24/23 12:23
LCS	BLA0527-BS1	CubeData_01262023@1133-265	Solid	01/24/23 12:54
Reference	BLA0527-SRM1	CubeData_01262023@1133-273	Solid	01/24/23 13:24
LDW23-IT1133-FD	23A0418-06	CubeData_01262023@1133-279	Solid	01/24/23 13:54
LDW23-IT1133-FD	BLA0527-DUP1	CubeData_01262023@1133-287	Solid	01/24/23 14:25
LDW23-IT1133-FD	BLA0527-MS1	CubeData_01262023@1133-288	Solid	01/24/23 14:55
LDW23-IT1180	23A0418-07	CubeData_01262023@1133-289	Solid	01/24/23 15:26
Calibration Check	SLA0248-CCV4	CubeData_01262023@1133-292	NA	01/24/23 17:28
Calibration Blank	SLA0248-CCB4	CubeData_01262023@1133-293	NA	01/24/23 17:59
LDW23-IT1218	23A0418-08	CubeData_01262023@1133-294	Solid	01/24/23 18:30
LDW23-IT1216	23A0418-09	CubeData_01262023@1133-295	Solid	01/24/23 19:00

ANALYSIS BATCH (SEQUENCE) SUMMARY

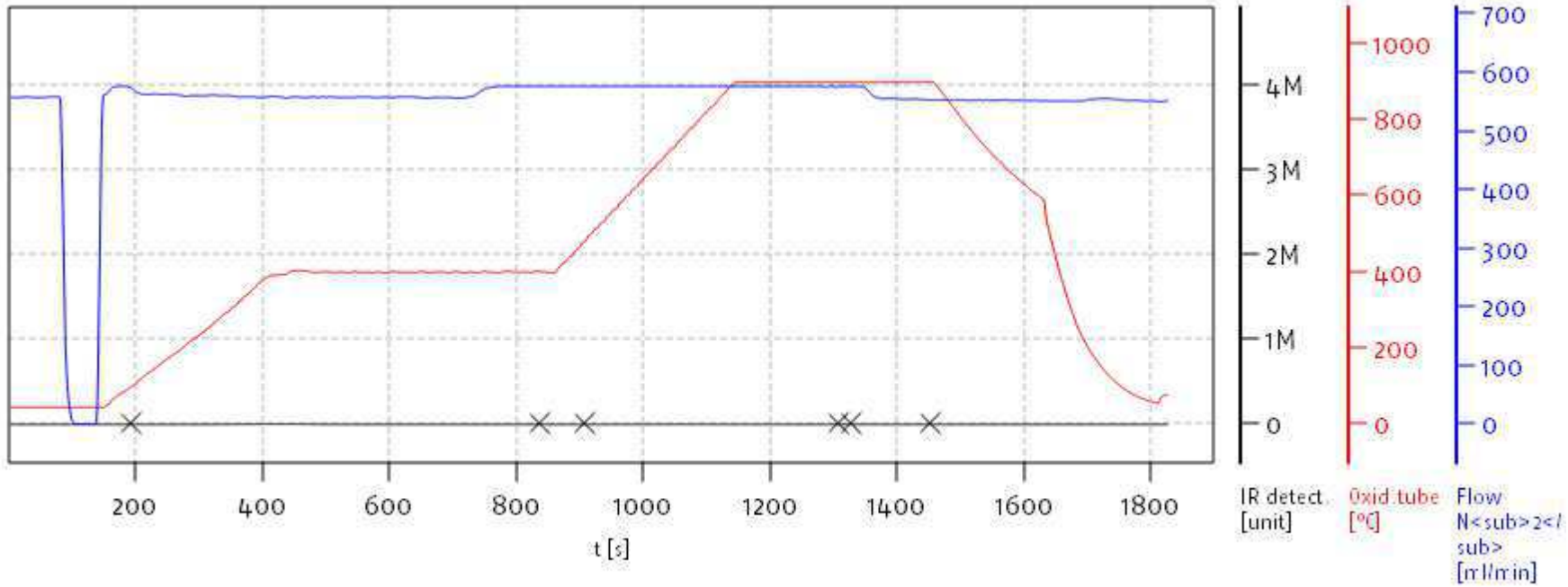
EPA 9060A m

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLA0248	Instrument:	TOC Cube
		Calibration:	FD00070

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
LDW23-IT1135	23A0418-10	CubeData_01262023@1133-296	Solid	01/24/23 19:30
LDW23-IT1140	23A0418-11	CubeData_01262023@1133-297	Solid	01/24/23 20:00
LDW23-IT1275	23A0418-12	CubeData_01262023@1133-298	Solid	01/24/23 20:31
Calibration Check	SLA0248-CCV5	CubeData_01262023@1133-304	NA	01/24/23 23:33
Calibration Blank	SLA0248-CCB5	CubeData_01262023@1133-305	NA	01/25/23 00:03
Calibration Check	SLA0248-CCV6	CubeData_01262023@1133-316	NA	01/25/23 05:38
Calibration Blank	SLA0248-CCB6	CubeData_01262023@1133-317	NA	01/25/23 06:08
Calibration Check	SLA0248-CCV7	CubeData_01262023@1133-328	NA	01/25/23 11:43
Calibration Blank	SLA0248-CCB7	CubeData_01262023@1133-329	NA	01/25/23 12:14
Calibration Check	SLA0248-CCV8	CubeData_01262023@1133-057	NA	01/25/23 17:47
Calibration Blank	SLA0248-CCB8	CubeData_01262023@1133-062	NA	01/25/23 18:18
Calibration Check	SLA0248-CCV9	CubeData_01262023@1133-135	NA	01/25/23 23:50
Calibration Blank	SLA0248-CCB9	CubeData_01262023@1133-143	NA	01/26/23 00:21
Calibration Check	SLA0248-CCVA	CubeData_01262023@1133-213	NA	01/26/23 05:54
Calibration Blank	SLA0248-CCBA	CubeData_01262023@1133-219	NA	01/26/23 06:25
Calibration Check	SLA0248-CCVB	CubeData_01262023@1133-280	NA	01/26/23 10:59
Calibration Blank	SLA0248-CCBB	CubeData_01262023@1133-286	NA	01/26/23 11:29

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
1	1	BLANK	1.00		CARBON	1/ 23/2023 3:42 PM	bl	0.000	24 254	0.000	0.000	1 654	10 157	0.000	0.000	1.0000	1.0000



Name:

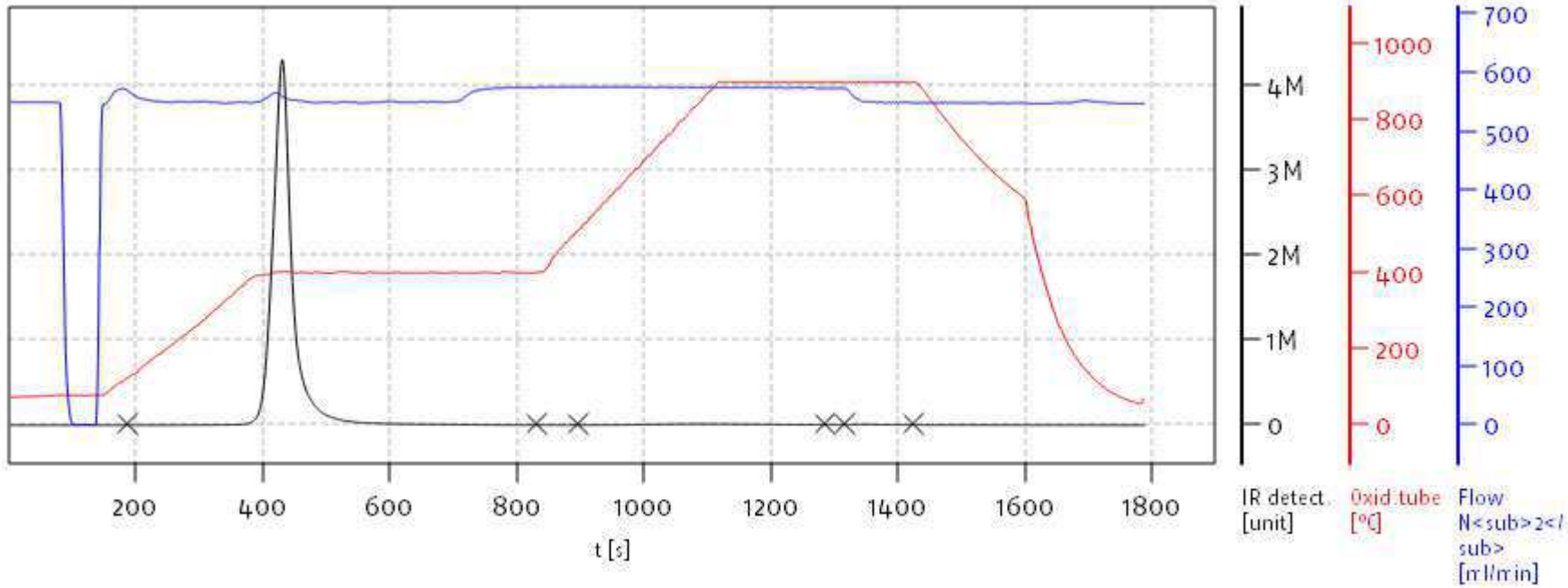
Access: soliTOC superuser

Date: Thu Jan 26 11:30:20 2023

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
2	2	Dfactor	19.50		CARBON	1/23/2023 4:12 PM	bl	44.446	5 763 756	45.134	0.000	24 224	113 253	44.446	0.688	0.9758	1.0000



Name:

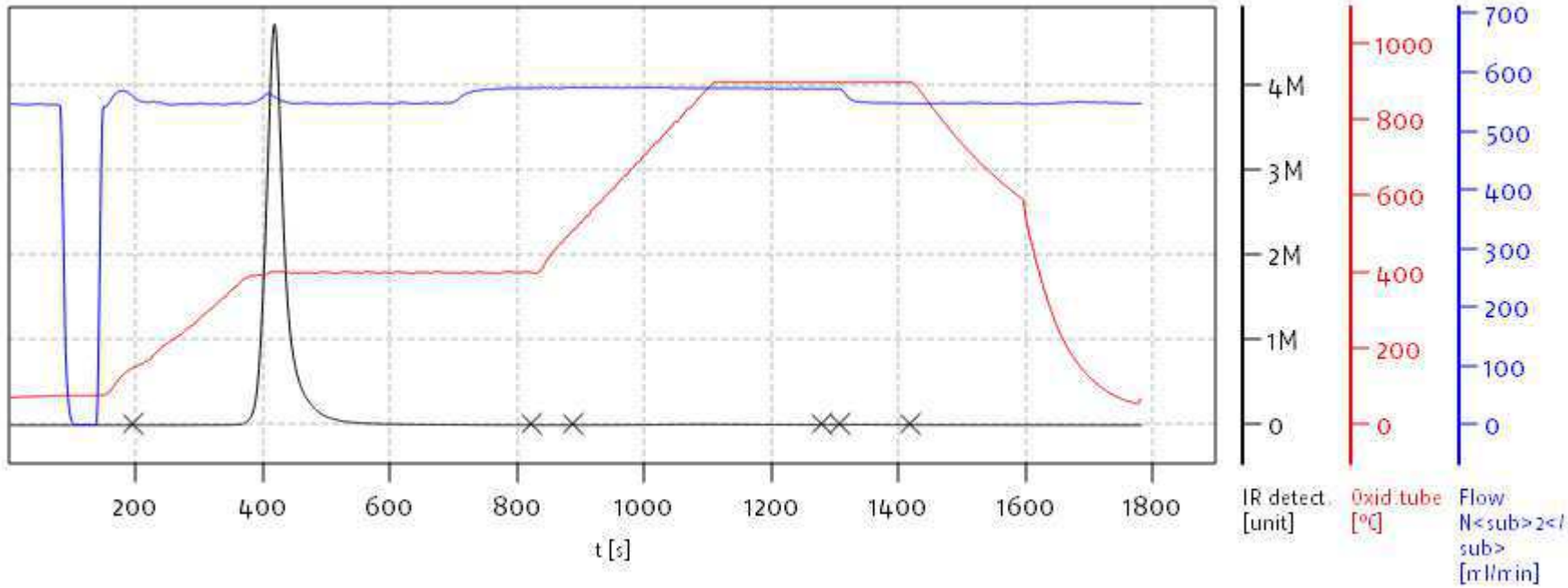
Access: soliTOC superuser

Date: Thu Jan 26 11:30:20 2023

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
3	3	Dfactor	21.10		CARBON	1/23/2023 4:42 PM	bl	44.446	6 292 641	44.834	0.000	18 059	79 449	44.446	0.388	0.9668	1.0000



Name:

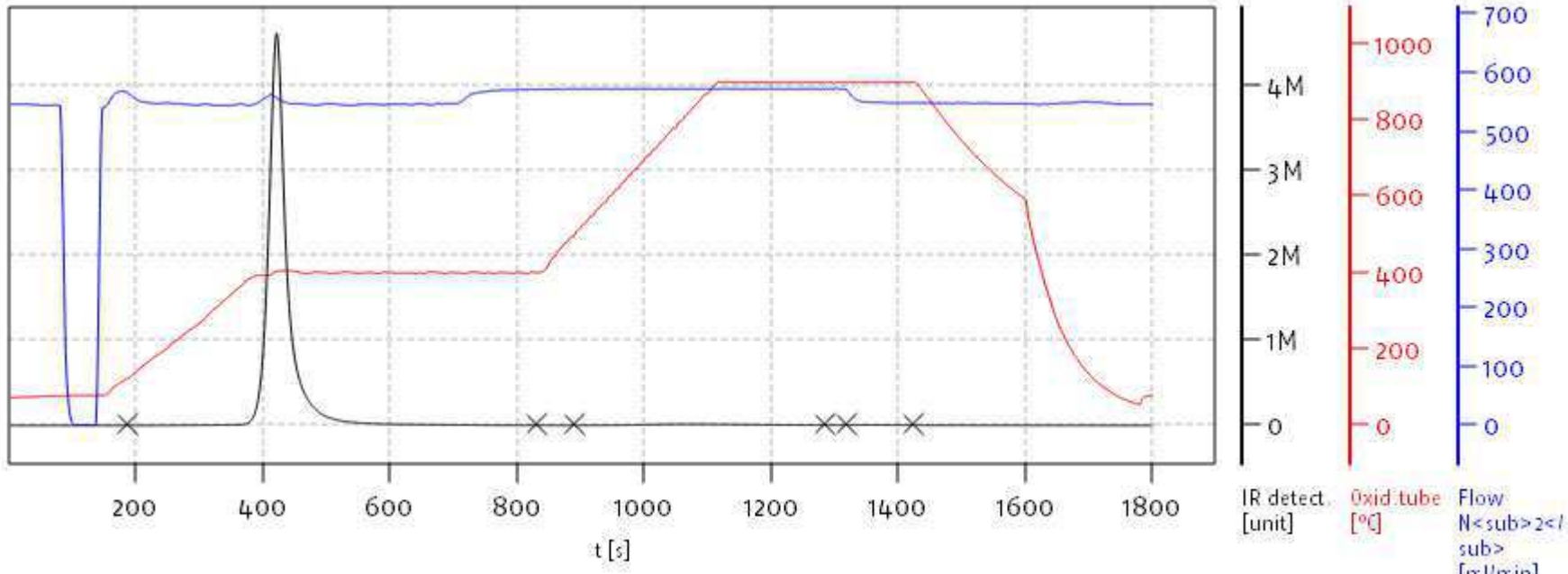
Access: soliTOC superuser

Date: Thu Jan 26 11:30:20 2023

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
4	4	SLA0248-ICV1	20.00		CARBON	1/23/2023 5:12 PM	bl	44.260	5 913 547	44.988	0.000	19 586	120 634	44.260	0.728	0.9713	1.0000



Name:

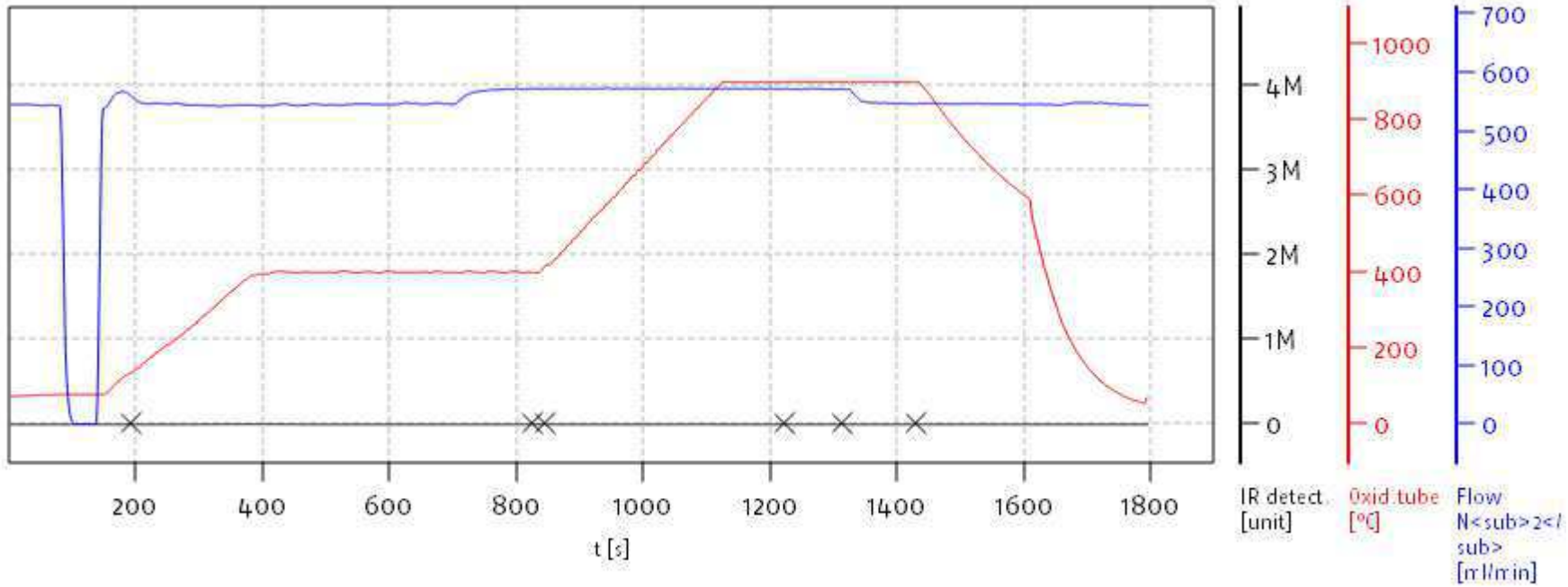
Access: soliTOC superuser

Date: Thu Jan 26 11:30:20 2023

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
5	5	SLA0248-ICB1	500.70		CARBON	1/23/2023 5:43 PM	bl,C2u	0.000	13 139	0.000	0.000	1 222	3 531	0.000	0.000	0.9713	1.0000



Name:

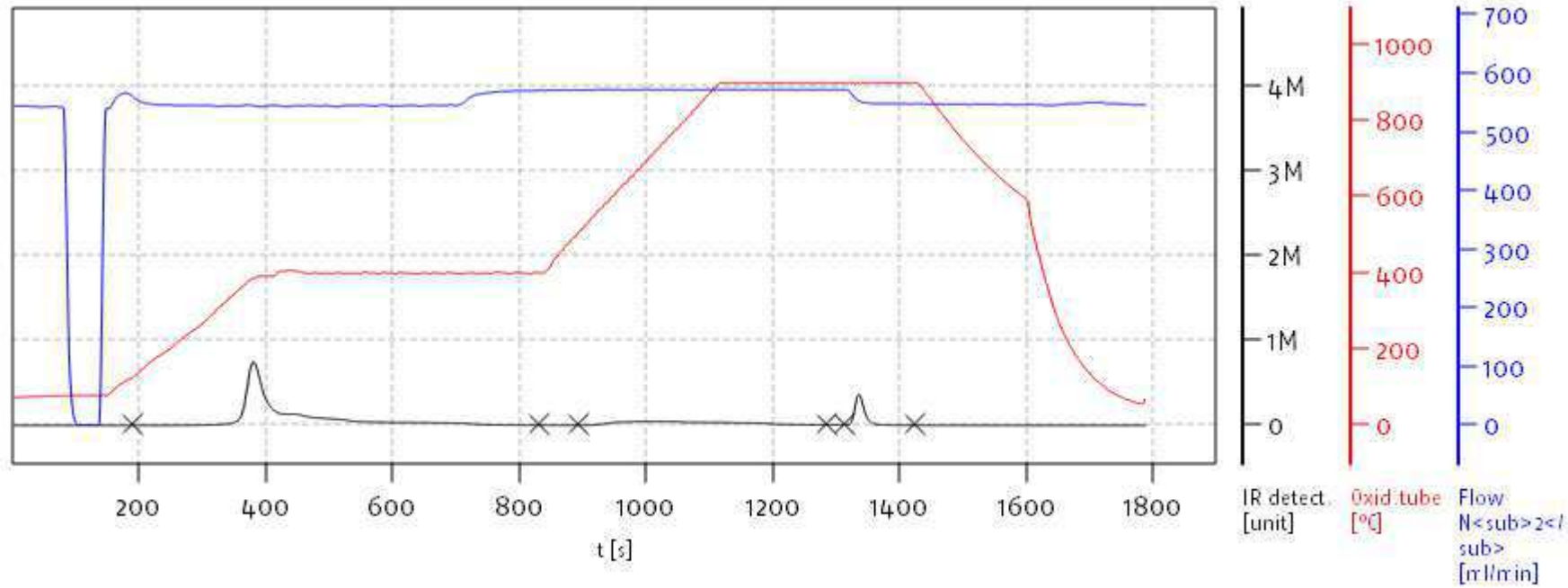
Access: soliTOC superuser

Date: Thu Jan 26 11:30:20 2023

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
6	6	23A0328-03RE1	227.90		CARBON	1/23/2023 6:13 PM	bl	1.203	1 625 125	1.456	0.149	245 212	398 003	1.055	0.252	0.9713	1.0000



Name:

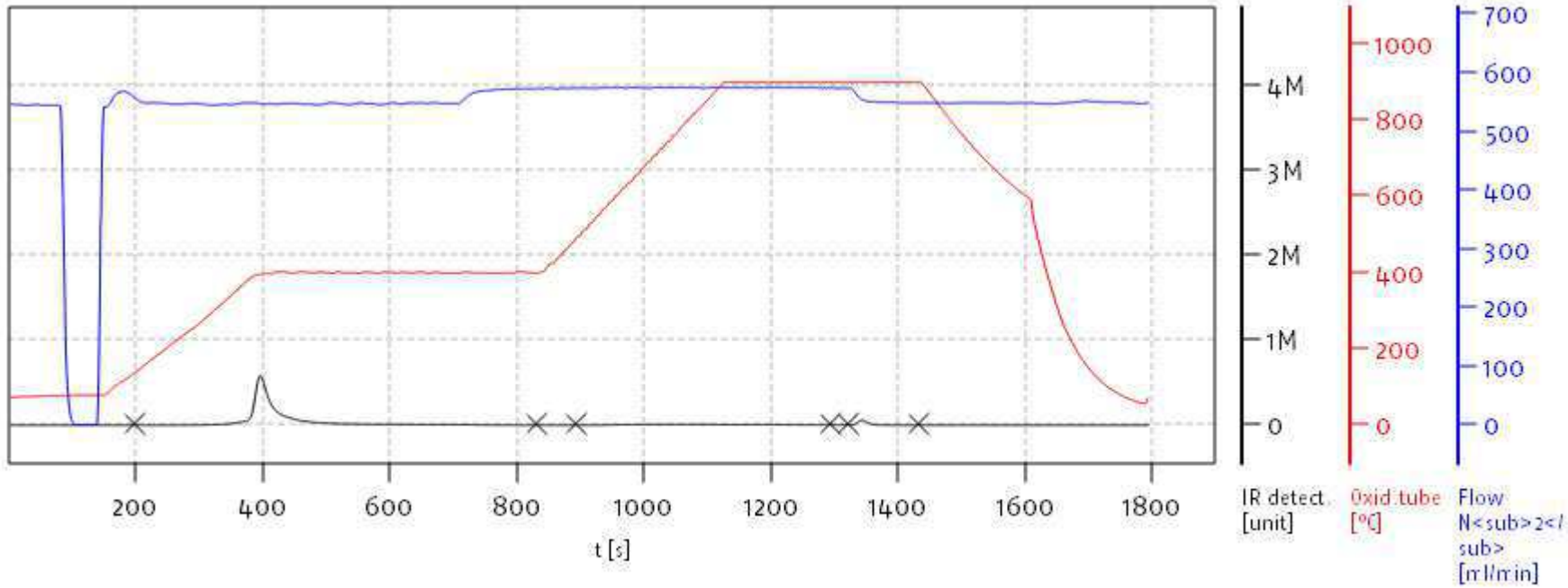
Access: soliTOC superuser

Date: Thu Jan 26 11:30:20 2023

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
7	7	23A0385-01RE1	109.10		CARBON	1/23/2023 6:43 PM	bl	1.190	874 784	1.273	0.021	41 338	85 265	1.169	0.083	0.9713	1.0000



Name:

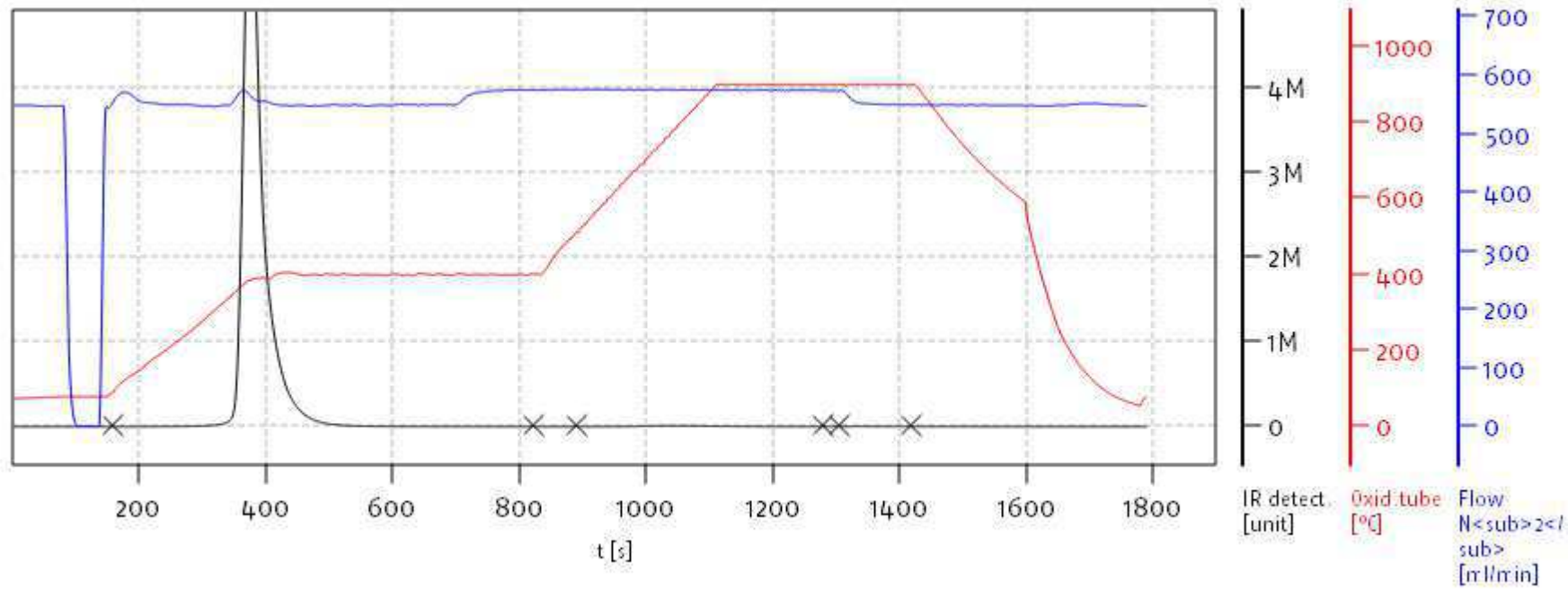
Access: soliTOC superuser

Date: Thu Jan 26 11:30:20 2023

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
8	8	23A0385-02RE1	129.10		CARBON	1/23/2023 7:13 PM	bl	10.269	8 843 651	10.303	0.000	8 633	54 806	10.269	0.034	0.9713	1.0000



Name:

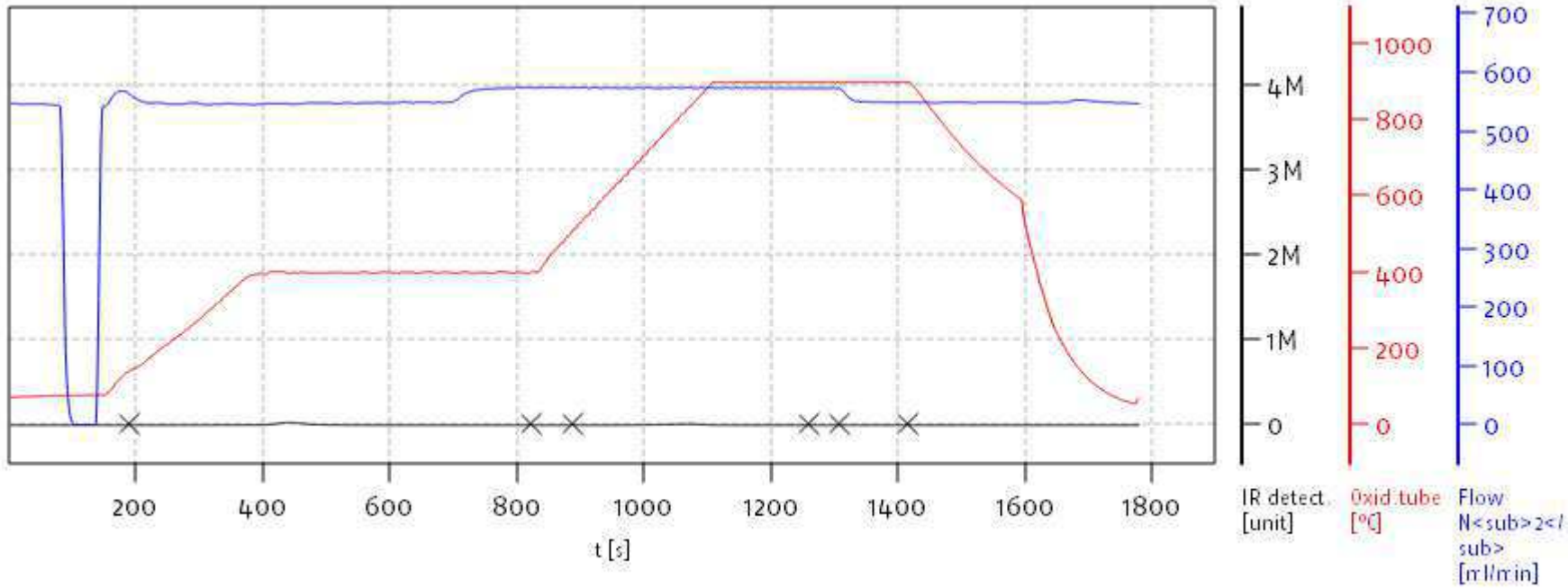
Access: soliTOC superuser

Date: Thu Jan 26 11:30:20 2023

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
9	9	BLA0526-MRL1	509.40		CARBON	1/23/2023 7:43 PM	bl,C2u	0.014	72 656	0.016	0.000	537	35 766	0.014	0.003	0.9713	1.0000



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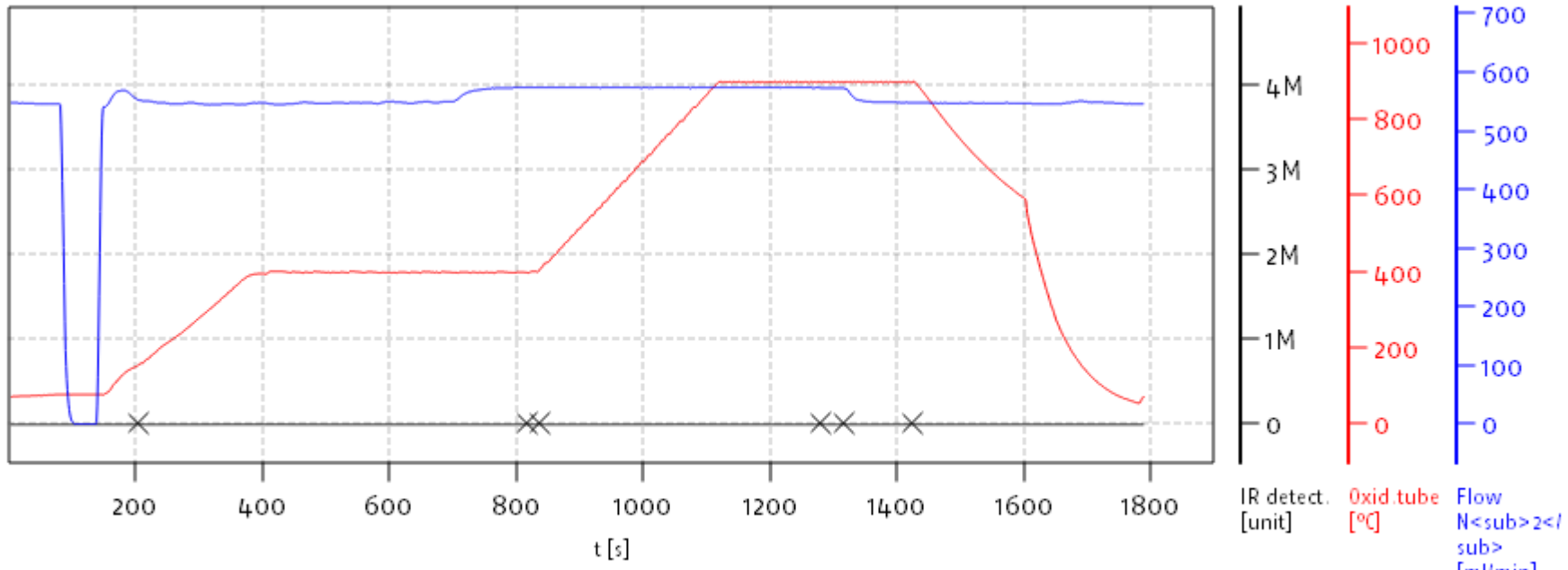
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
10	10	BLA0526-BLK1	527.90		CARBON	1/23/2023 8:14 PM	bl,C2u	0.000	5 941	0.000	0.000	480	4 113	0.000	0.000	0.9713	1.0000



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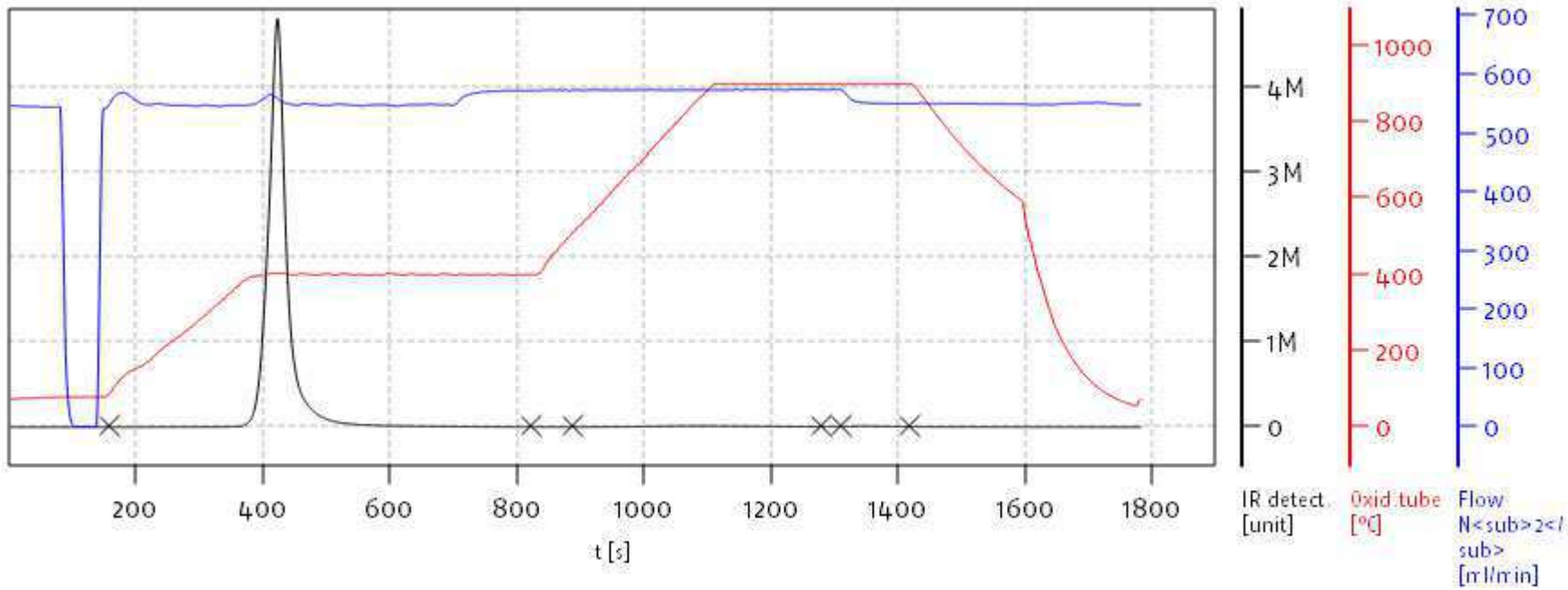
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
11	11	BLA0526-BS1	21.00		CARBON	1/23/2023 8:44 PM	bl	43.970	6 163 353	44.615	0.029	30 531	114 084	43.941	0.645	0.9713	1.0000



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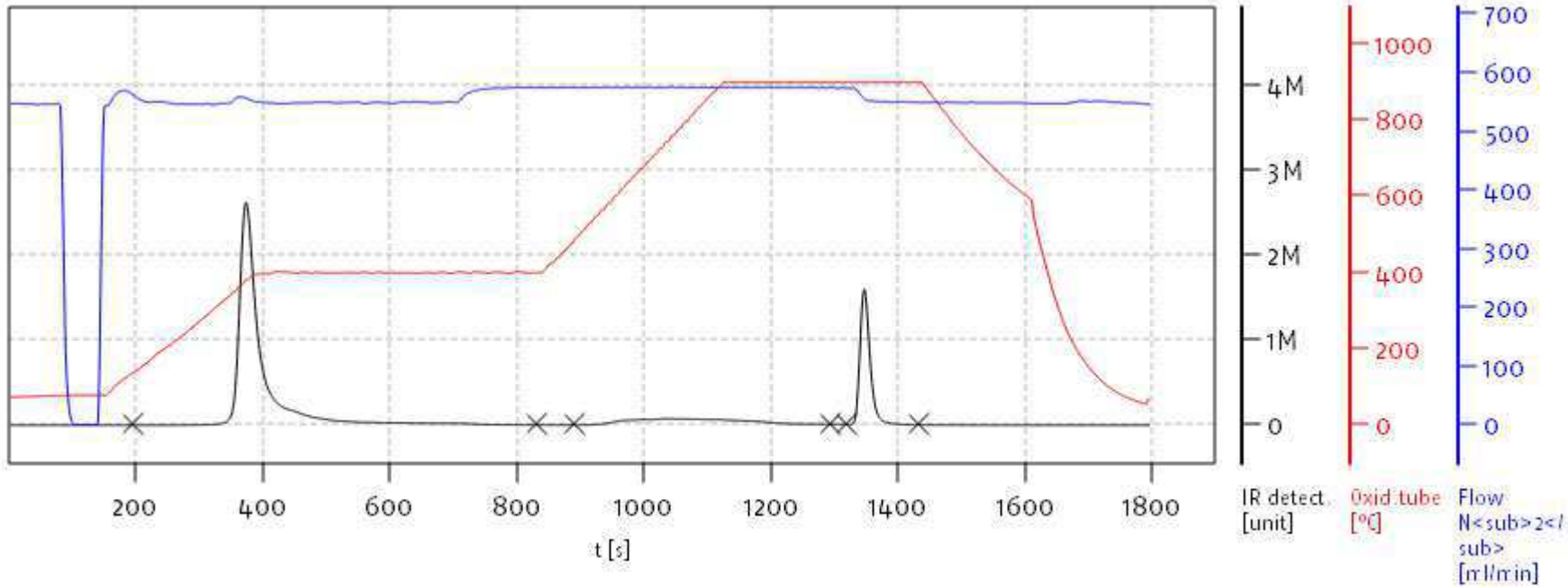
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
12	12	BLA0526-SRM1	250.90		CARBON	1/23/2023 9:14 PM	bl	2.913	3 763 037	3.297	0.674	1 119 165	647 738	2.239	0.383	0.9713	1.0000



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soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
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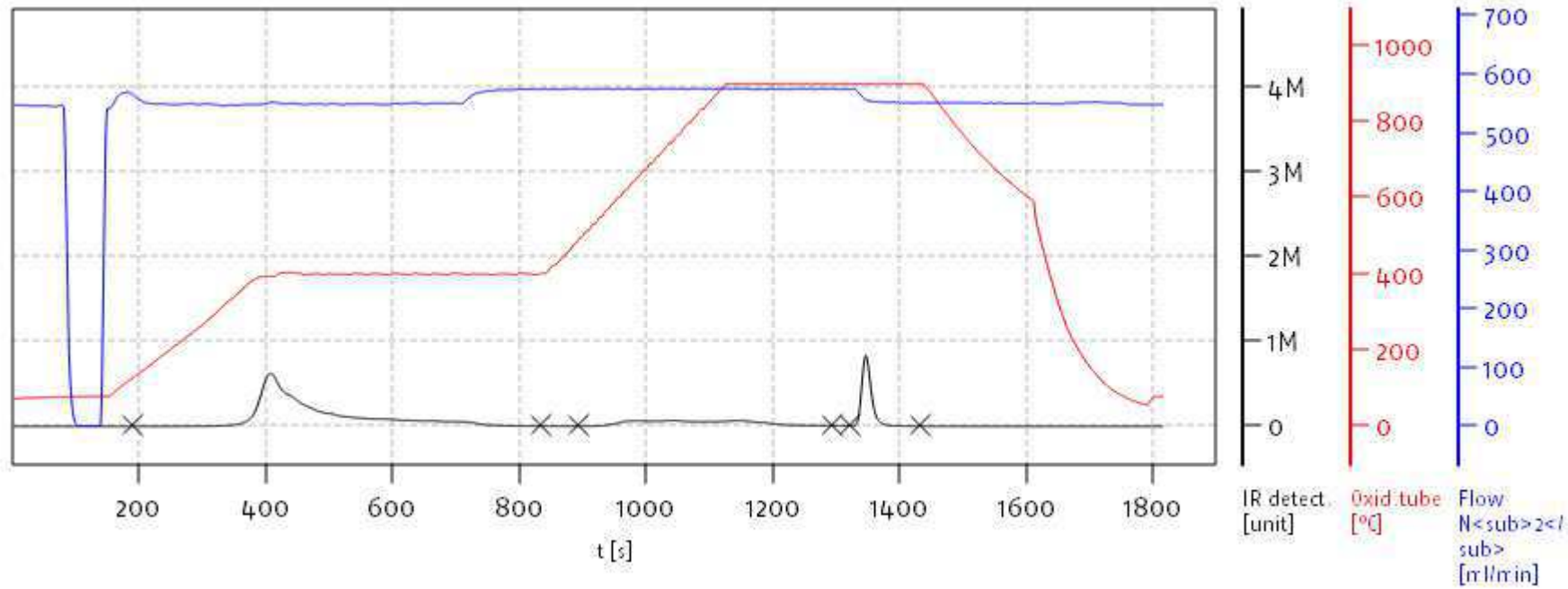
elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
13	13	23A0417-01	520.30		CARBON	1/23/2023 9:45 PM	bl	0.822	2 322 424	0.995	0.158	558 783	608 457	0.663	0.173	0.9713	1.0000



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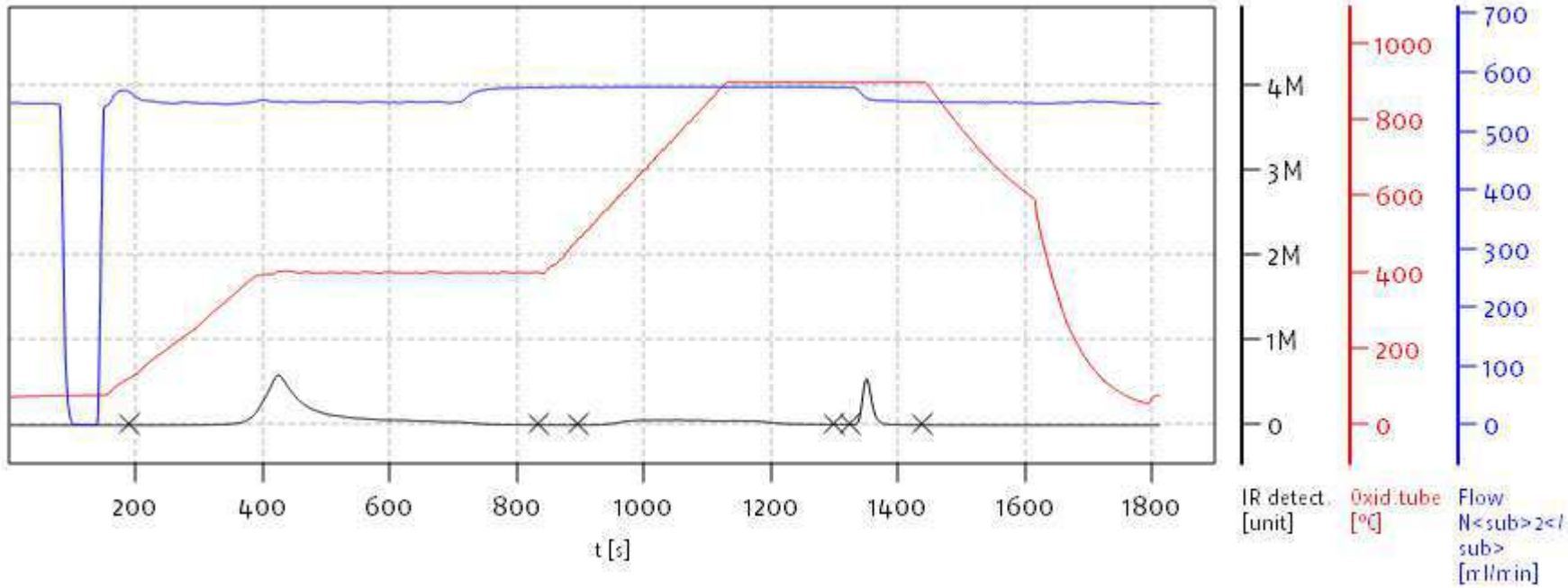
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
14	14	BLA0526-DUP1	531.00		CARBON	1/23/2023 10:15 PM	bl	0.660	2 010 977	0.808	0.099	364 598	531 554	0.562	0.147	0.9713	1.0000



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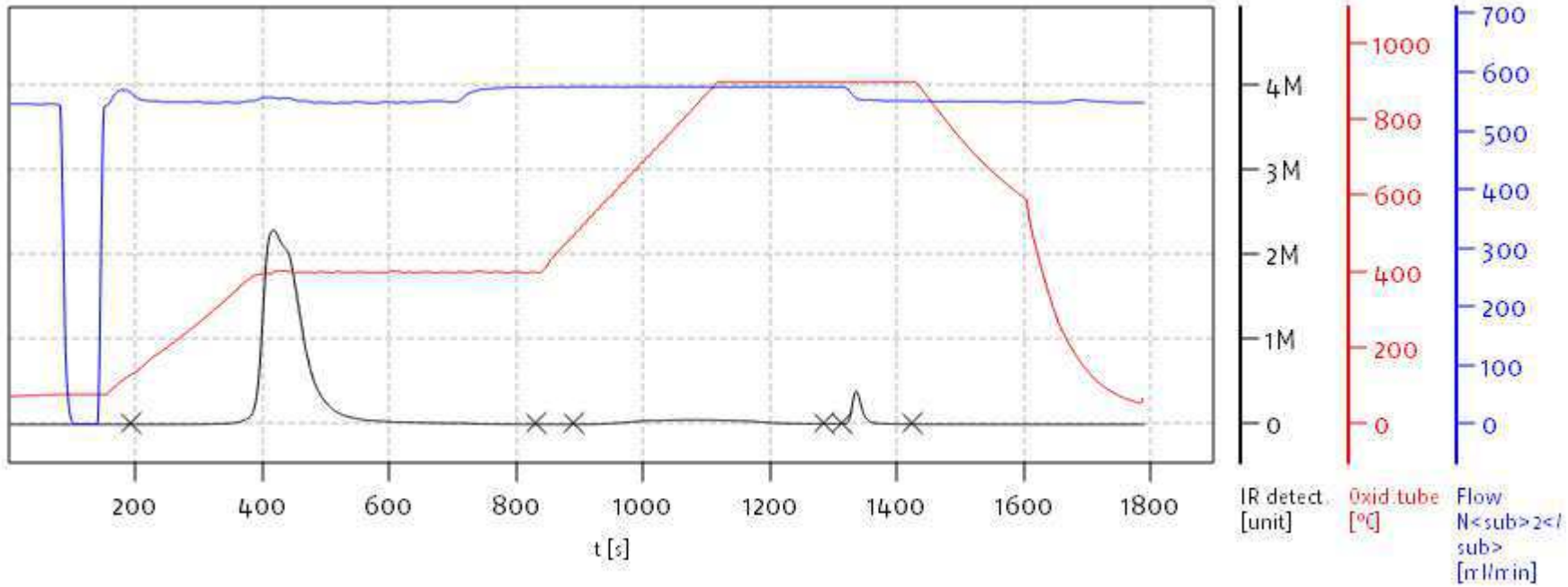
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
15	15	BLA0526-MS1	537.10	0.0088	CARBON	1/23/2023 10:46 PM	bl	1.780	6 130 764	1.896	0.071	274 209	427 181	1.709	0.115	0.9713	1.0000



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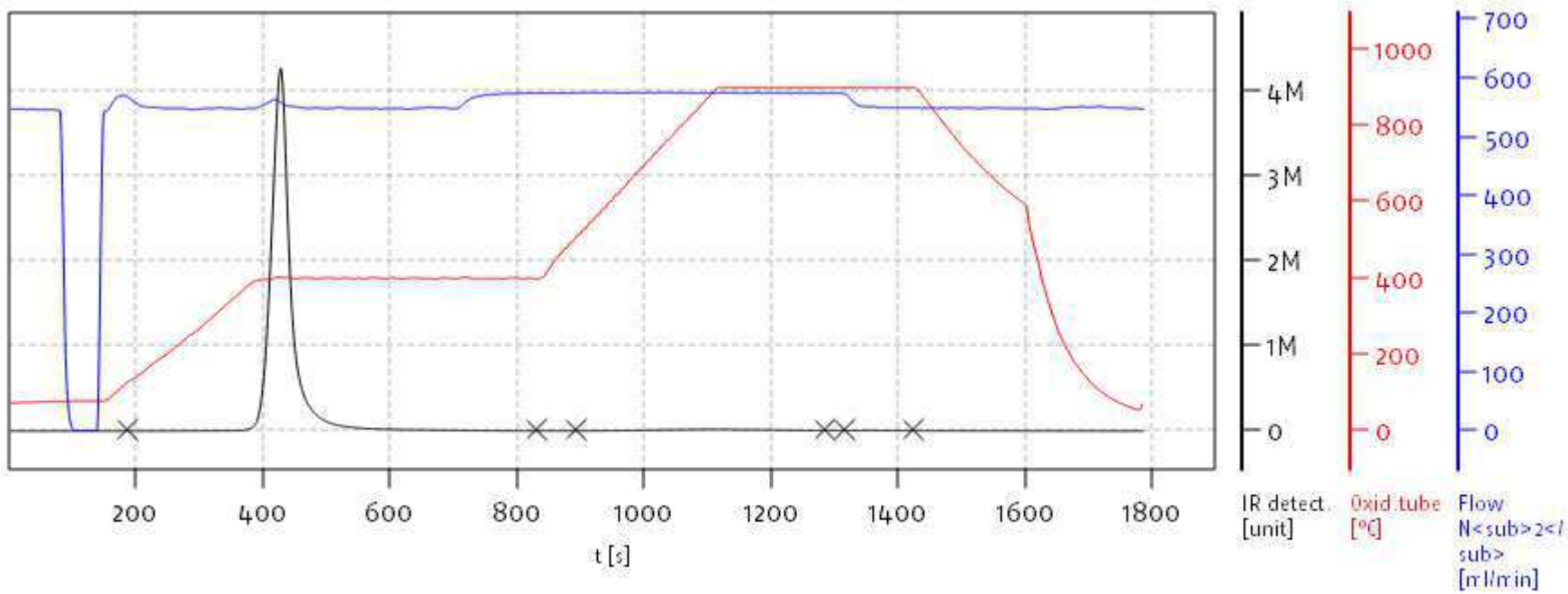
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
16	16	SLA0248-CCV1	19.60		CARBON	1/23/2023 11:16 PM	bl	43.638	5 714 757	44.632	0.000	22 126	152 433	43.638	0.994	0.9713	1.0000



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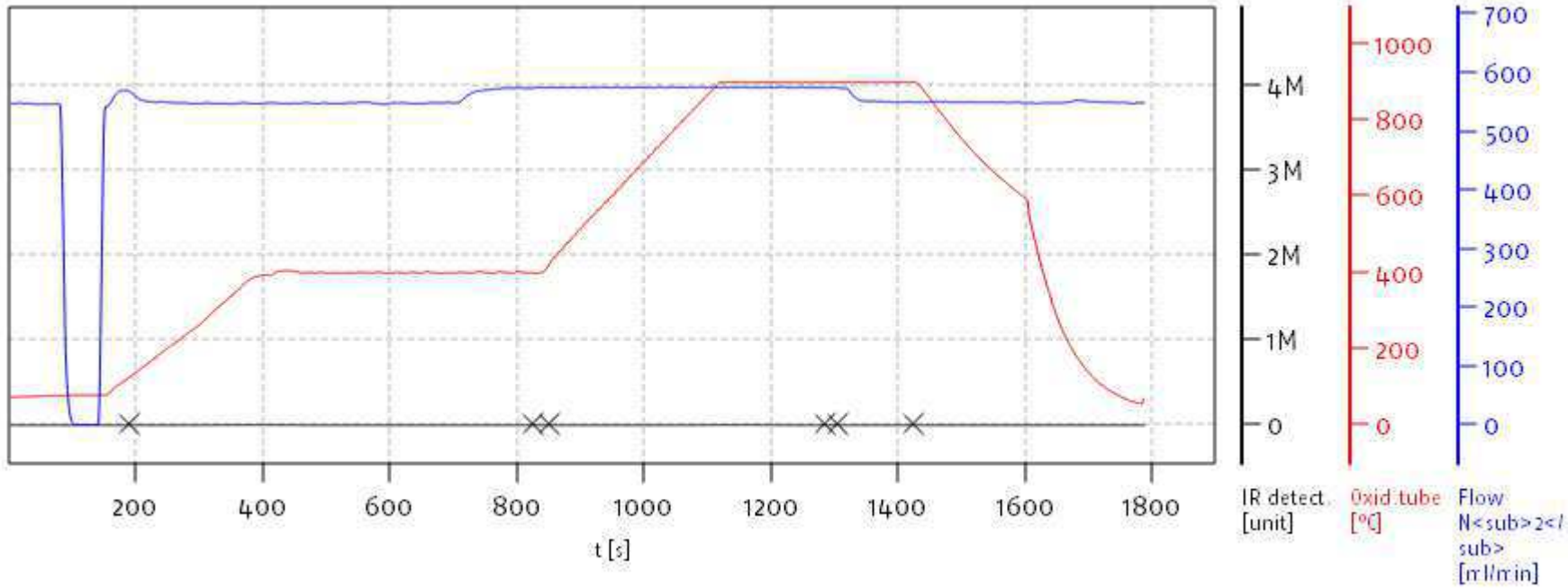
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
17	17	SLA0248-CCB1	513.30		CARBON	1/23/2023 11:46 PM	bl,C2u	0.000	12 790	0.000	0.000	675	11 783	0.000	0.000	0.9713	1.0000



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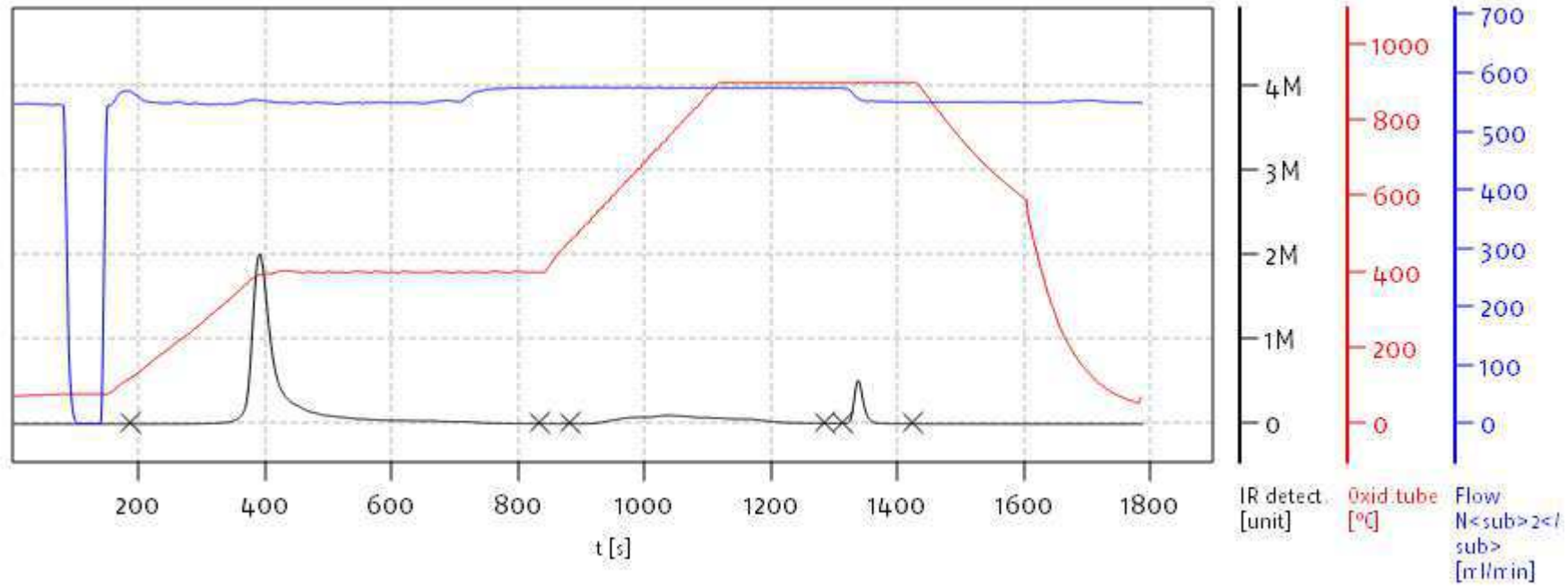
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
18	18	23A0417-02	527.20		CARBON	1/24/2023 12:16 AM	bl	1.063	3 437 301	1.276	0.091	335 182	751 689	0.973	0.213	0.9713	1.0000



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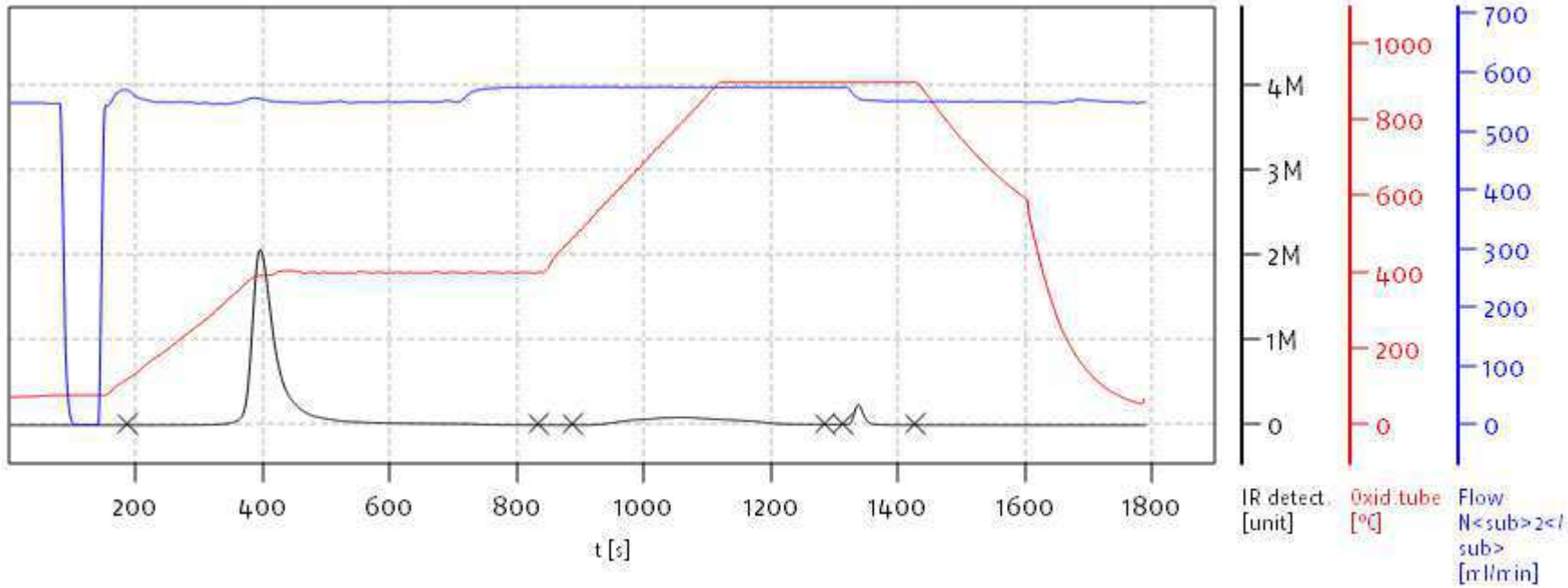
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
19	19	23A0417-03	520.30		CARBON	1/24/2023 12:46 AM	bl	1.074	3 605 237	1.264	0.040	161 637	664 150	1.034	0.190	0.9713	1.0000



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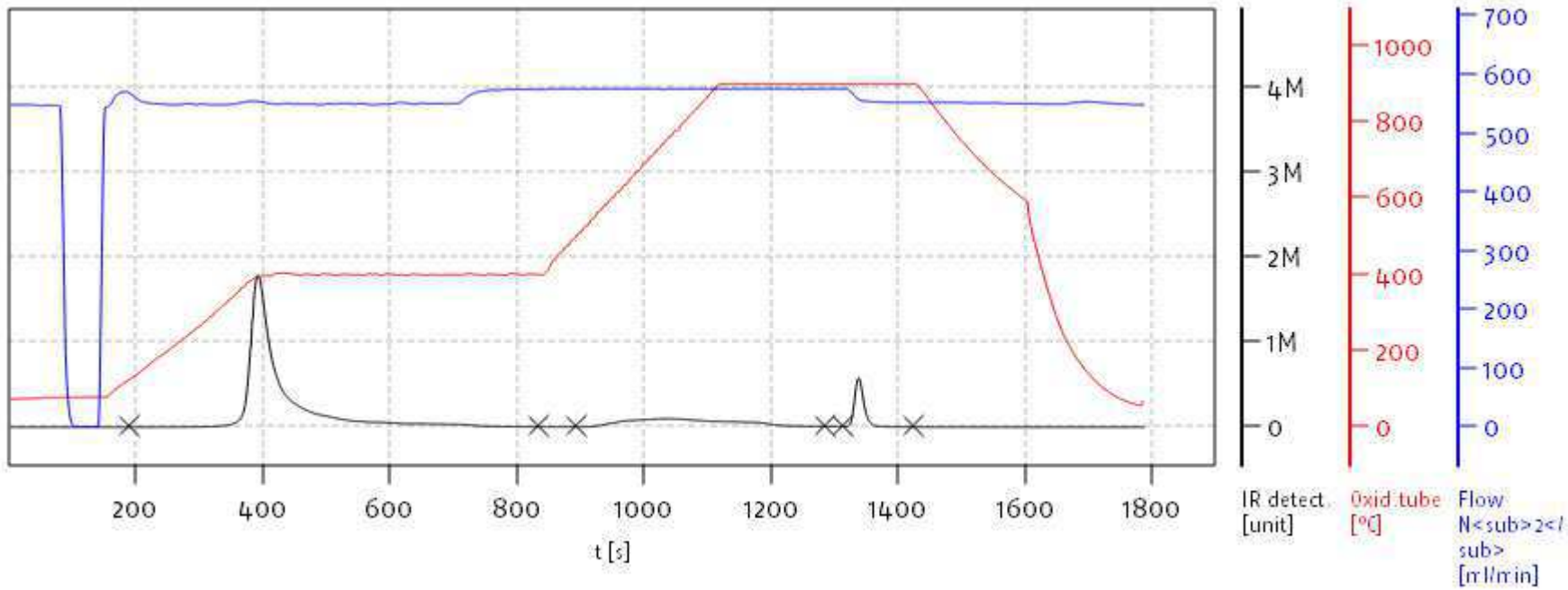
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
20	20	23A0417-04	527.80		CARBON	1/24/2023 1:17 AM	bl	1.083	3 472 766	1.301	0.102	373 179	769 424	0.982	0.218	0.9713	1.0000



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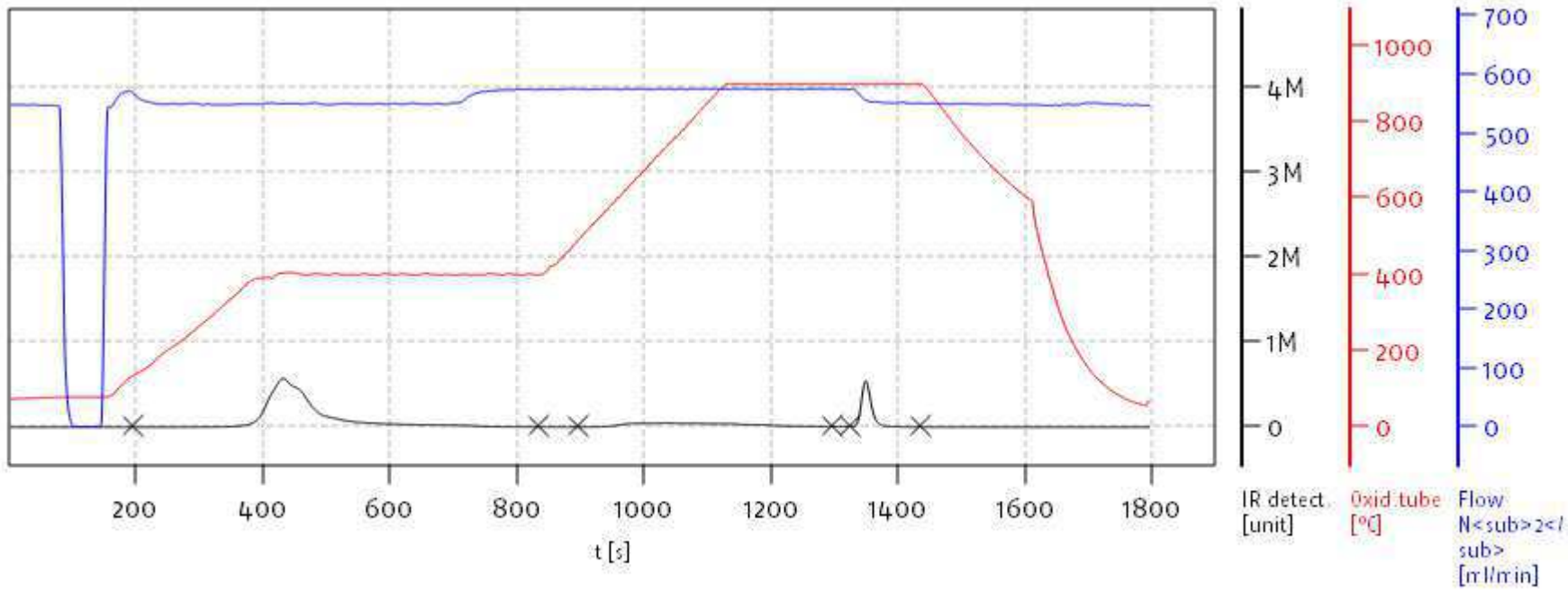
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
21	21	23A0417-05	502.00		CARBON	1/24/2023 1:47 AM	bl	0.654	1 855 876	0.770	0.106	371 856	400 241	0.548	0.115	0.9713	1.0000



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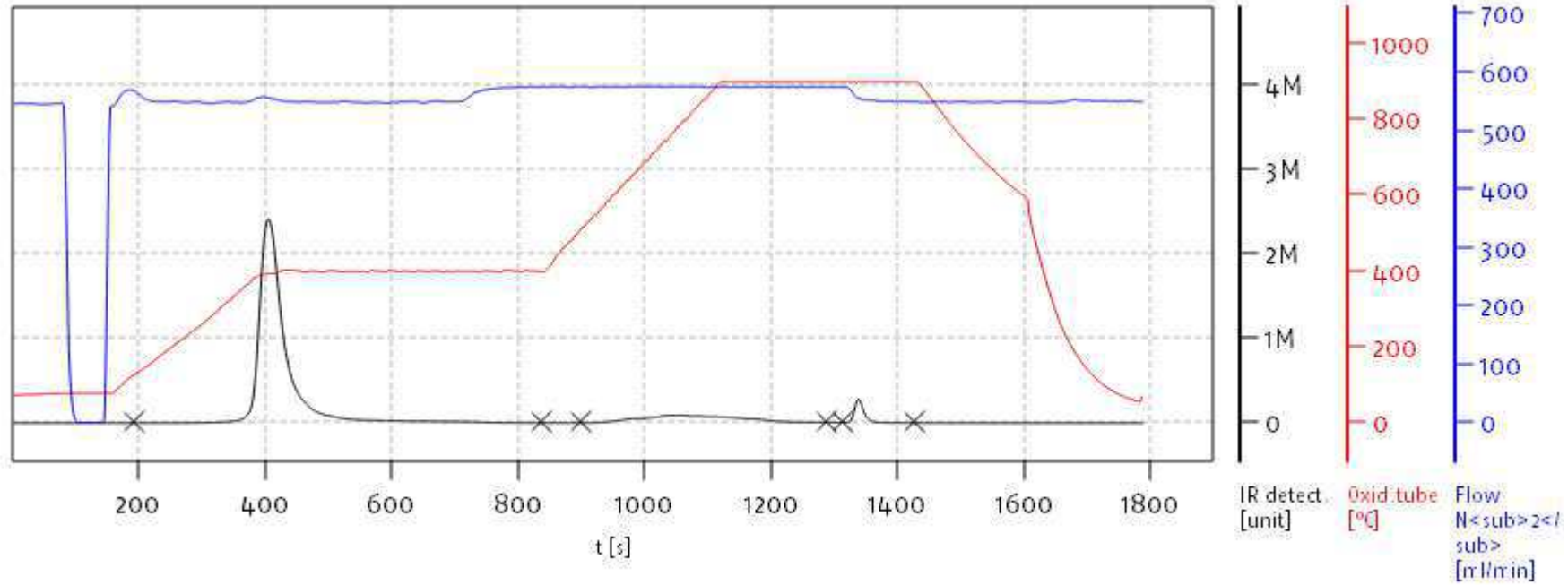
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
22	22	23A0417-06	527.80		CARBON	1/24/2023 2:17 AM	bl	1.245	4 227 598	1.426	0.048	189 628	646 254	1.197	0.182	0.9713	1.0000



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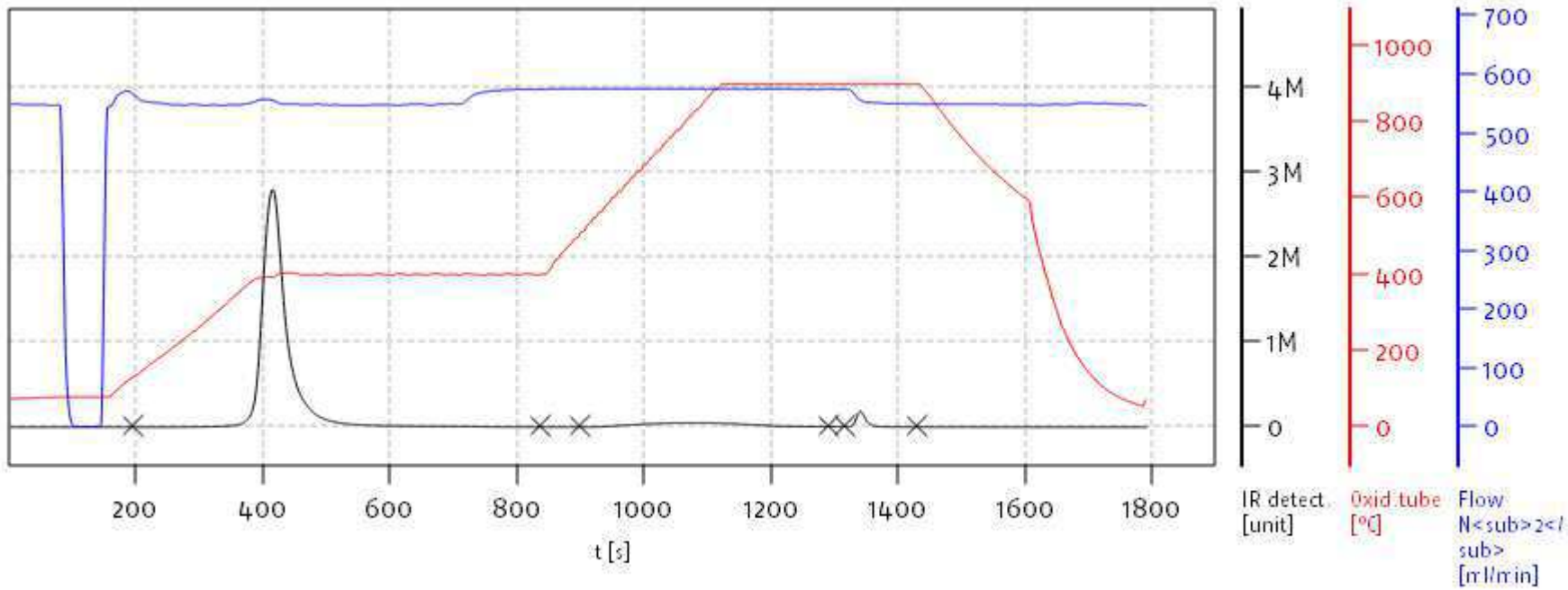
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
23	23	23A0417-07	534.10		CARBON	1/24/2023 2:47 AM	bl	1.330	4 649 871	1.433	0.029	125 835	380 375	1.302	0.103	0.9713	1.0000



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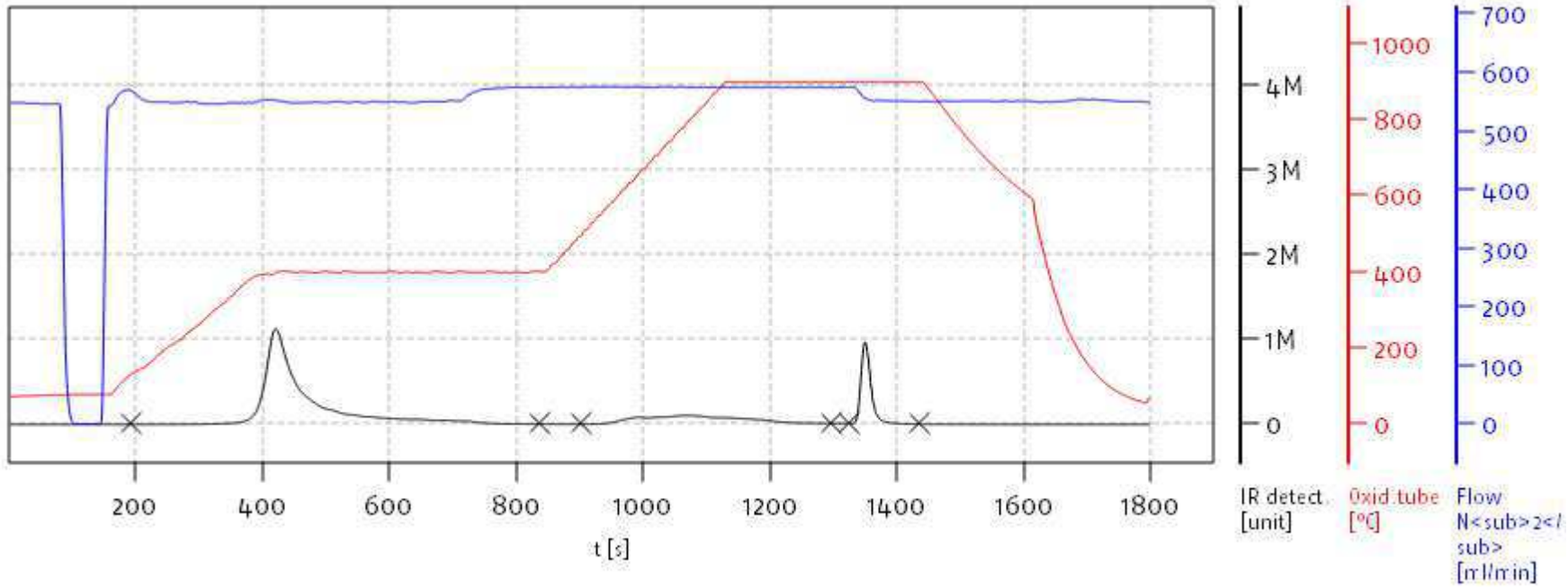
24	24	23A0417-08	520.90		CARBON	1/24/2023 3:18 AM	bl	1.056	3 013 492	1.290	0.194	679 922	811 733	0.862	0.233	0.9713	1.0000



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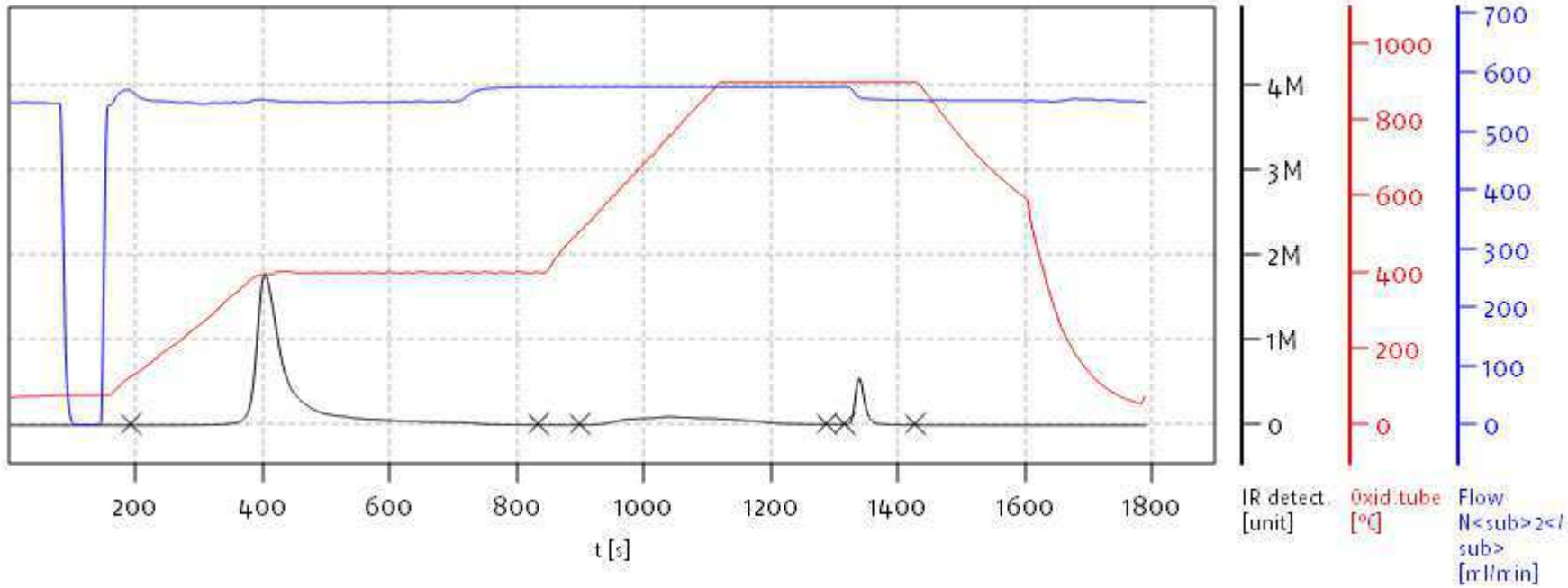
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
25	25	23A0417-09	533.50		CARBON	1/24/2023 3:48 AM	bl	1.135	3 692 506	1.344	0.101	375 619	750 032	1.033	0.210	0.9713	1.0000



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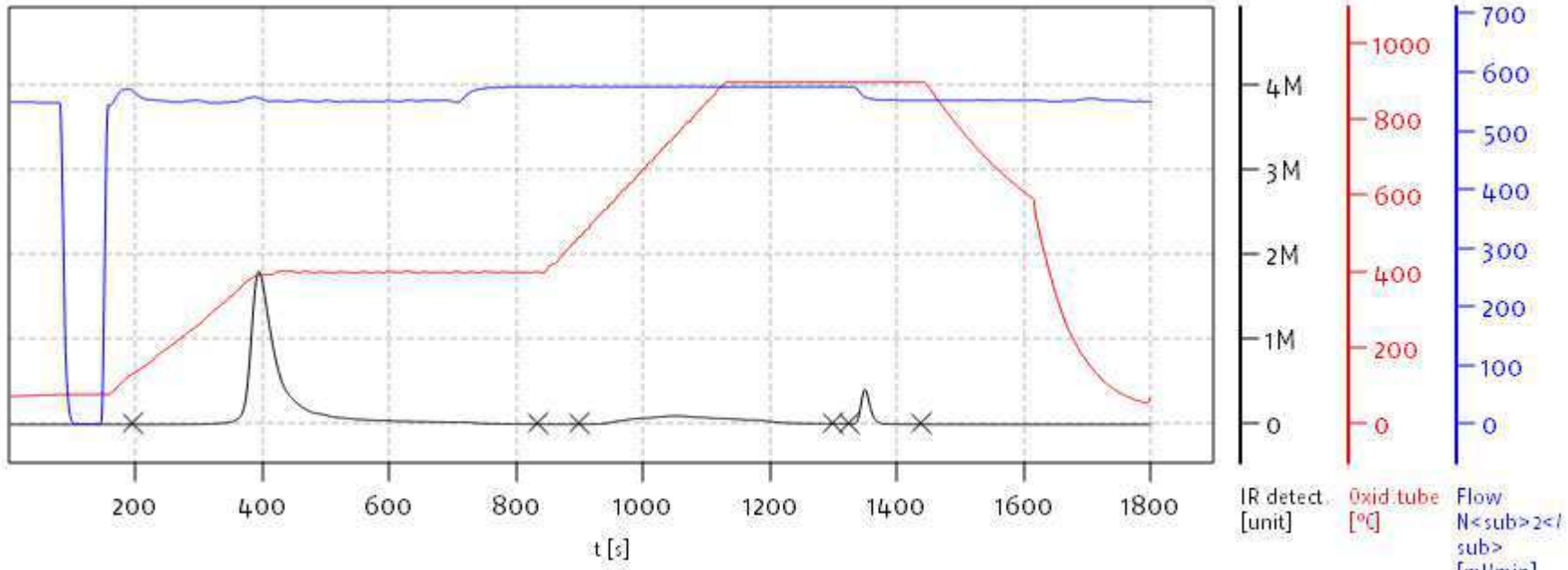
26	26	23A0417-10	507.60		CARBON	1/24/2023 4:18 AM	bl	1.121	3 560 683	1.337	0.074	269 169	736 051	1.047	0.216	0.9713	1.0000



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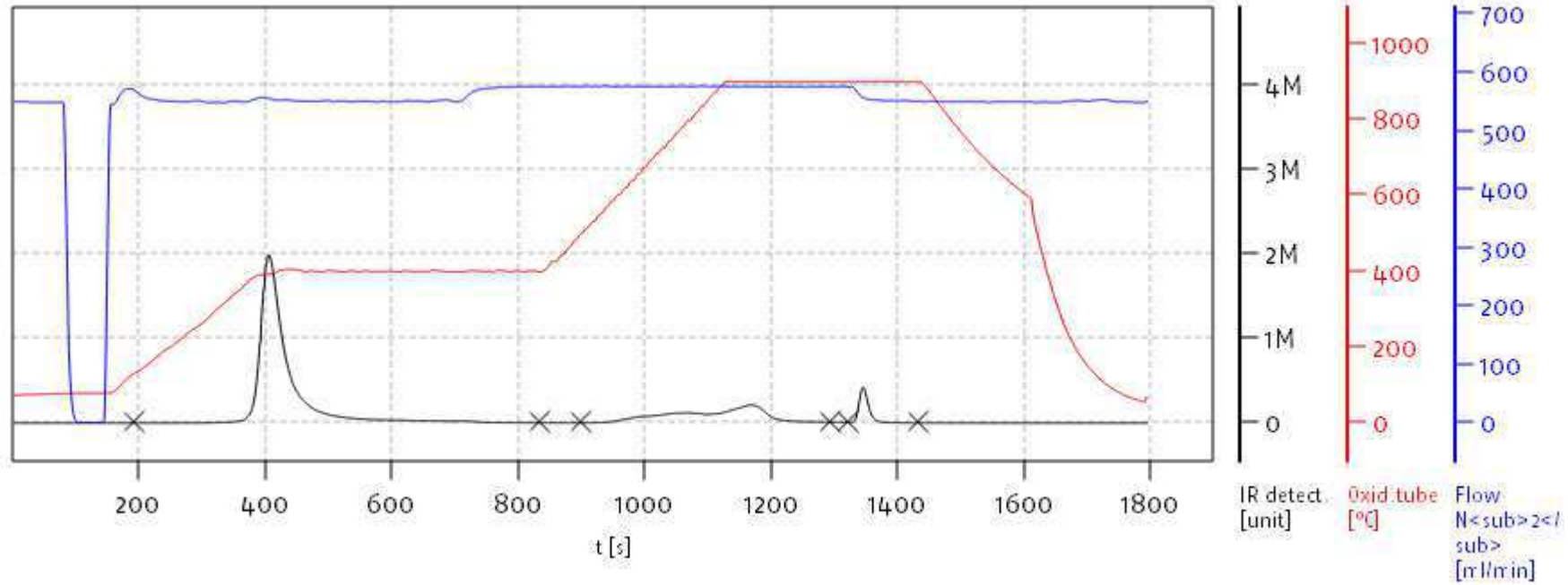
27	27	23A0417-11	535.30		CARBON	1/24/2023 4:49 AM	bl	1.083	3 620 348	1.409	0.074	281 788	1 154 369	1.009	0.326	0.9713	1.0000



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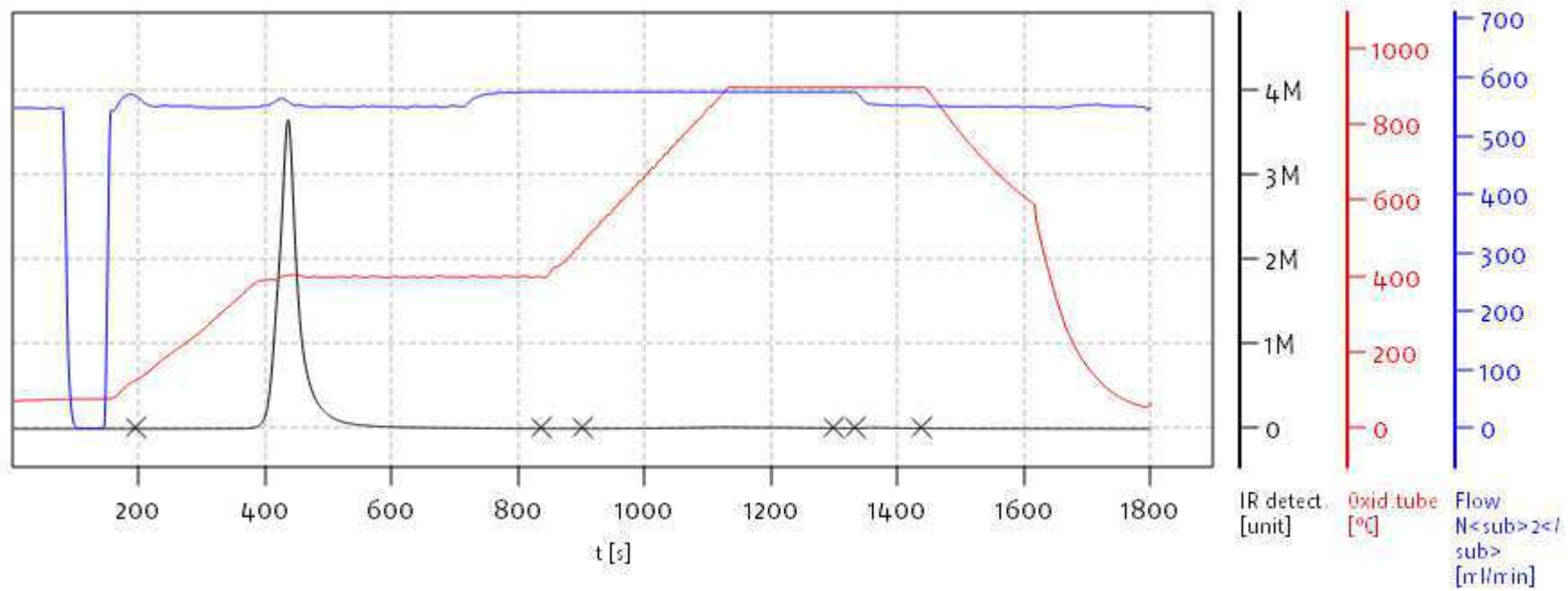
28	28	SLA0248-CCV2	18.30		CARBON	1/24/2023 5:19 AM	bl	42.411	5 180 950	43.456	0.059	33 558	150 104	42.352	1.045	0.9713	1.0000



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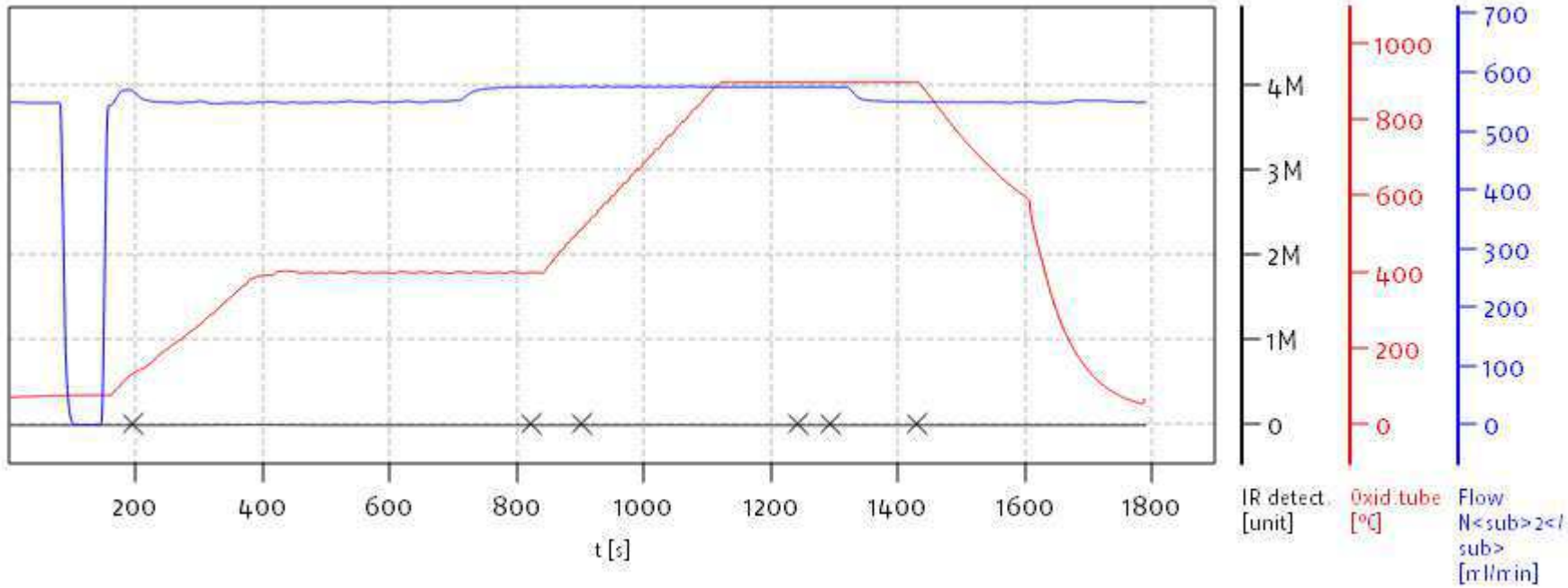
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
29	29	SLA0248-CCB2	507.20		CARBON	1/24/2023 5:49 AM	bl,C2u	0.000	21 088	0.000	0.000	755	5 520	0.000	0.000	0.9713	1.0000



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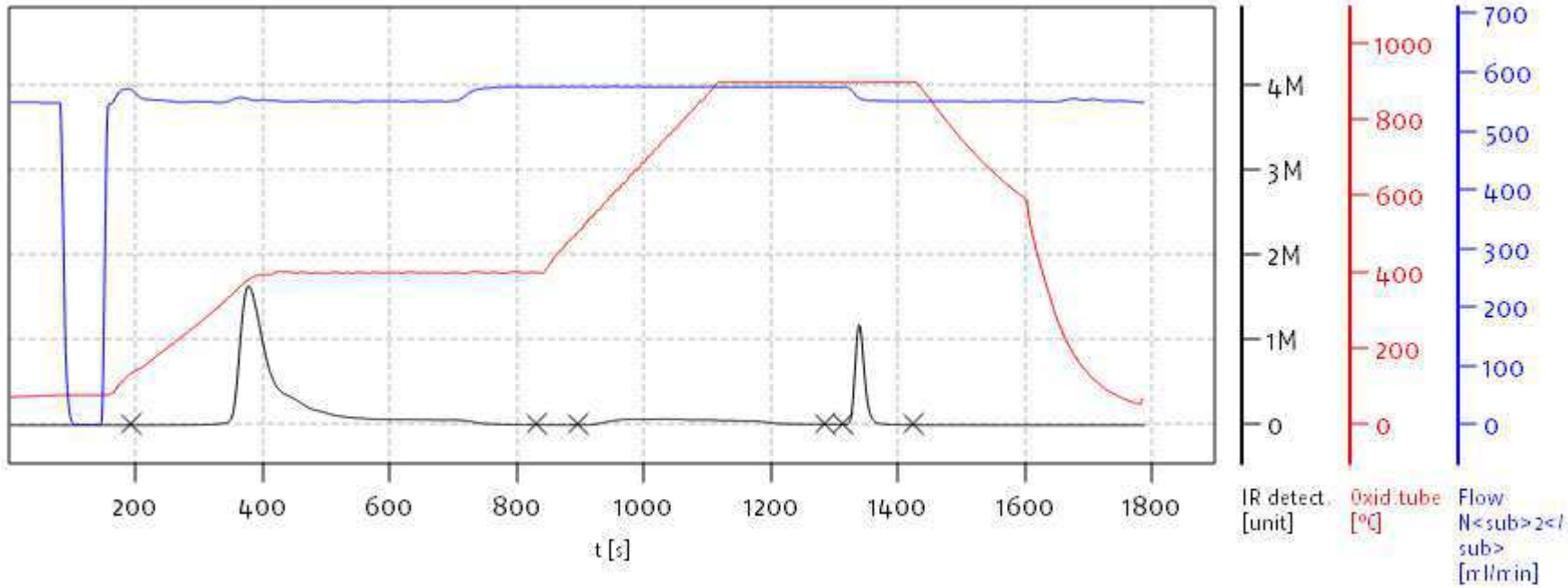
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
30	30	23A0417-12	603.80		CARBON	1/24/2023 6:19 AM	bl	1.211	4 113 045	1.367	0.193	779 716	637 049	1.018	0.157	0.9713	1.0000



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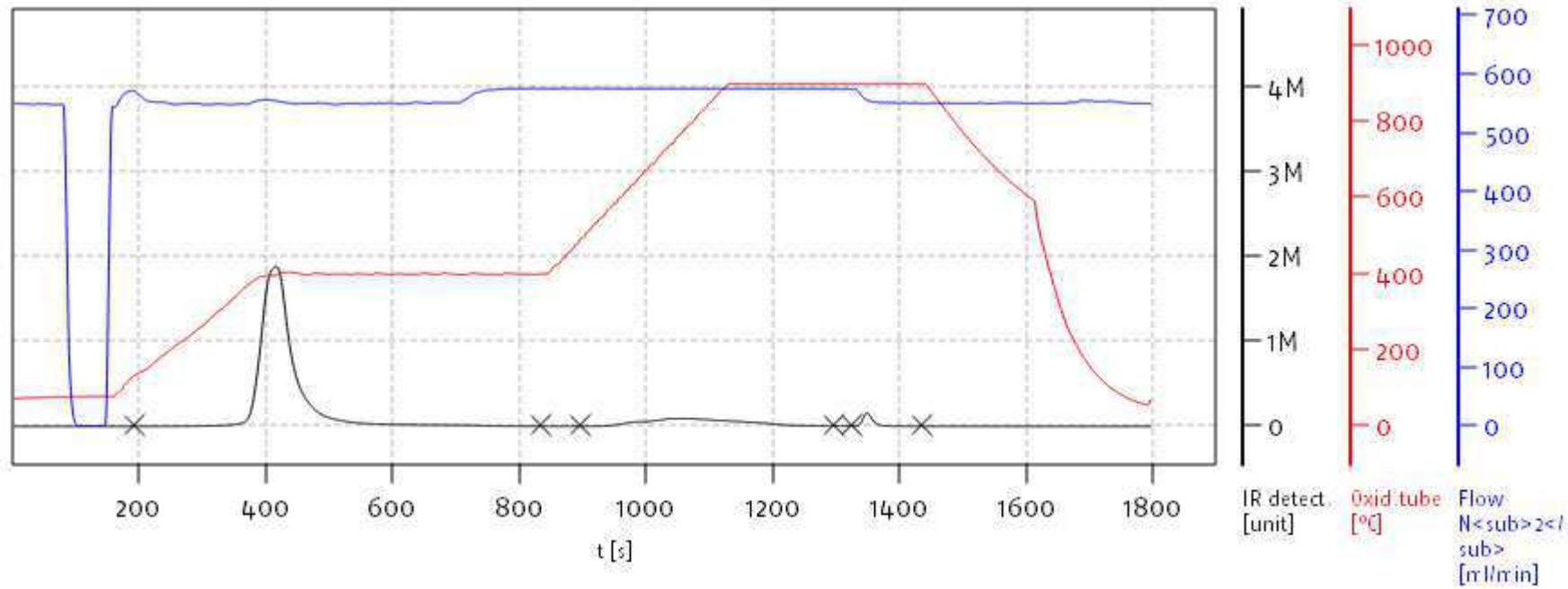
Access: soliTOC superuser

Date: Thu Jan 26 11:30:20 2023

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
31	31	23A0417-13	561.40		CARBON	1/24/2023 6:50 AM	bl	1.128	4 151 942	1.297	0.023	109 546	639 394	1.105	0.169	0.9713	1.0000



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Serial No: 0300.181017
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Balance: BAL3
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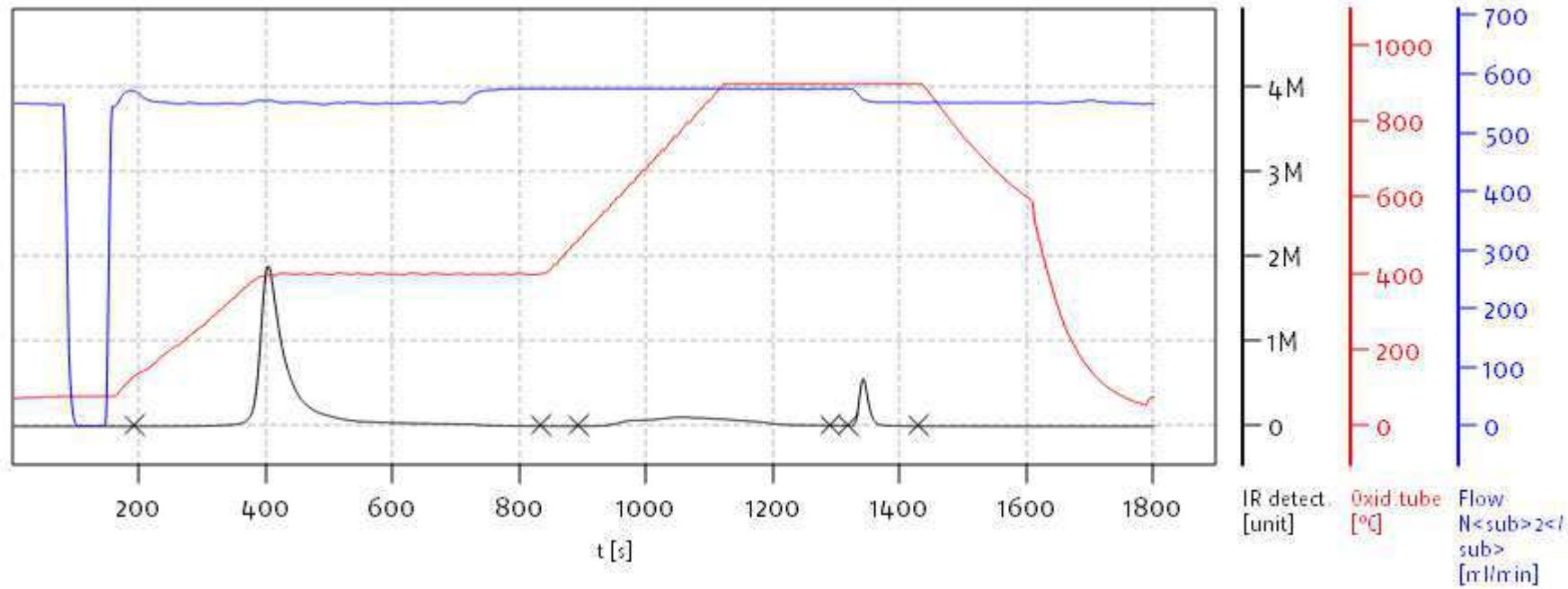
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
32	32	23A0417-14	504.30		CARBON	1/24/2023 7:20 AM	bl	1.181	3 632 357	1.419	0.106	370 920	801 586	1.075	0.238	0.9713	1.0000



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Balance: BAL3
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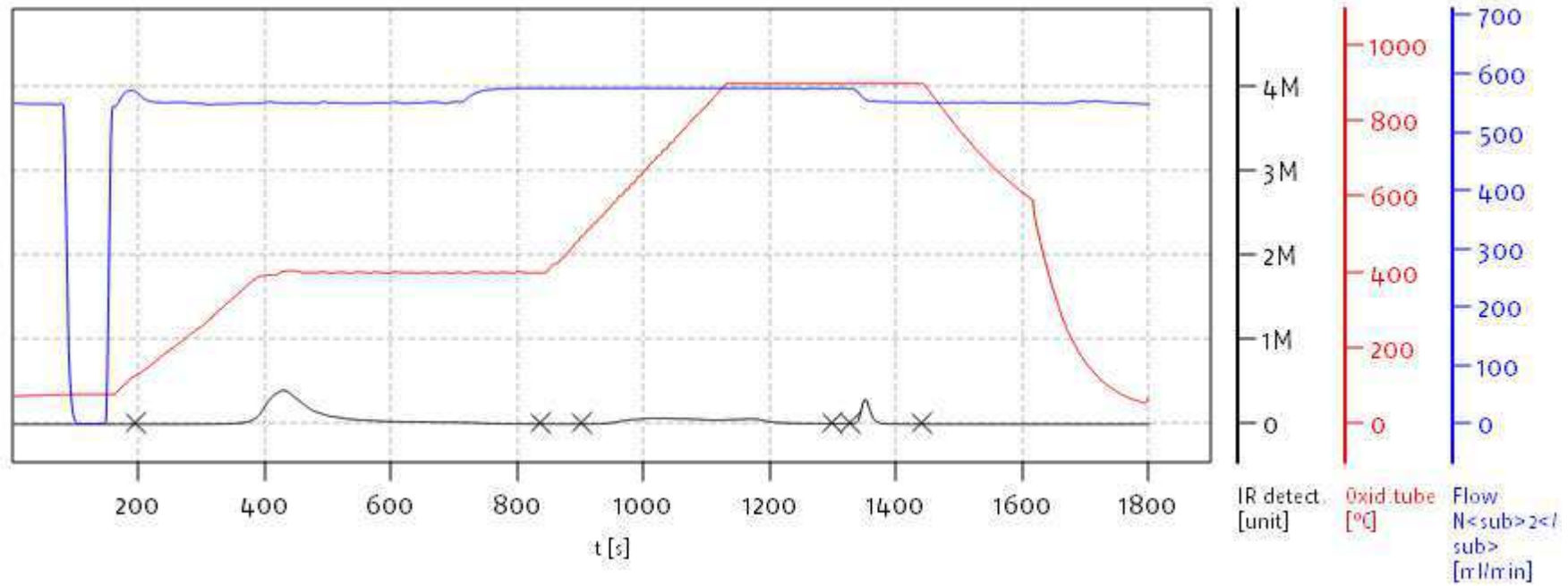
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
33	33	23A0417-15	522.10		CARBON	1/24/2023 7:51 AM	bl	0.462	1 461 072	0.625	0.049	192 083	575 350	0.413	0.163	0.9713	1.0000



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Balance: BAL3
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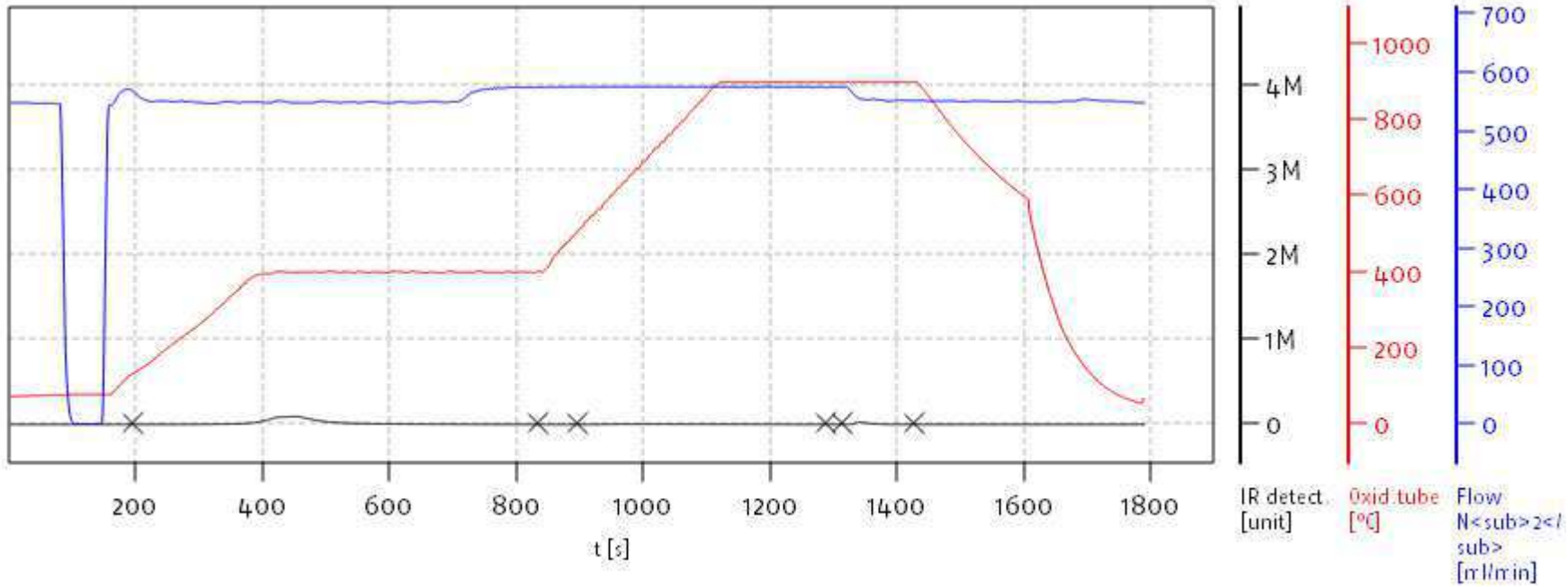
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
34	34	23A0418-01	584.30		CARBON	1/24/2023 8:21 AM	bl	0.090	375 658	0.091	0.000	24 619	31 807	0.090	0.001	0.9713	1.0000



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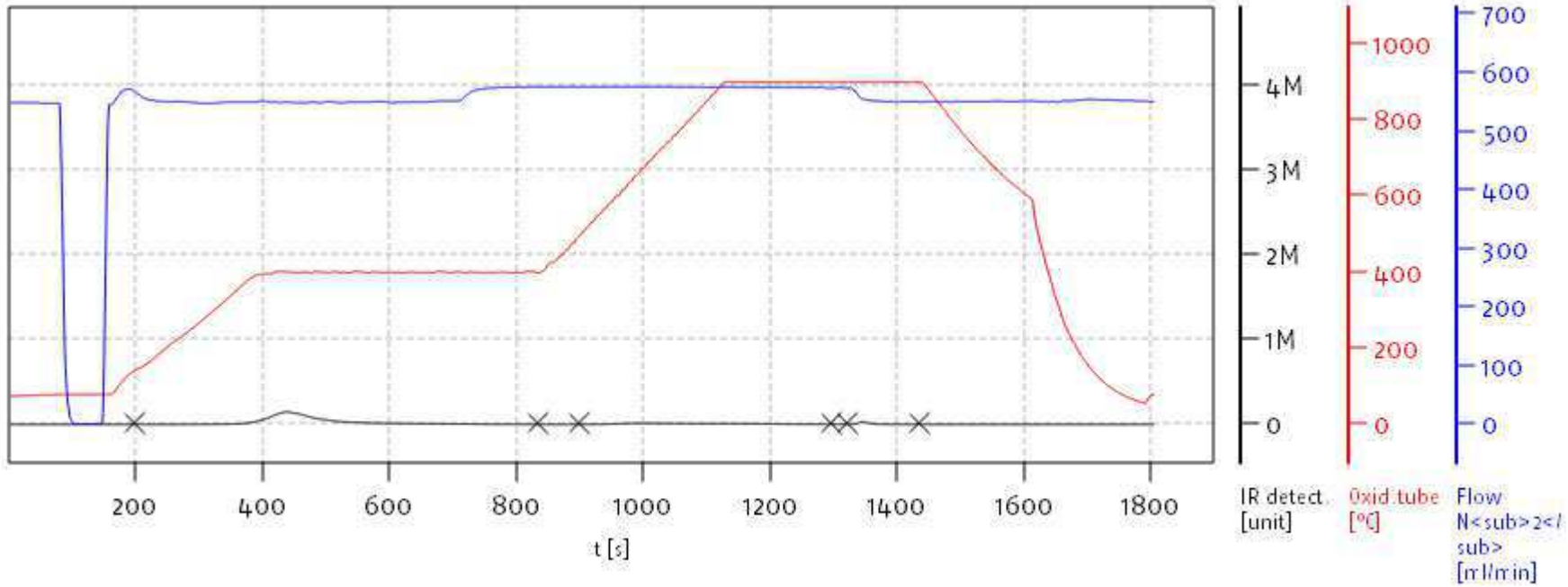
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
35	35	23A0418-02	568.90		CARBON	1/24/2023 8:51 AM	bl	0.145	576 504	0.169	0.000	25 191	111 873	0.145	0.023	0.9713	1.0000



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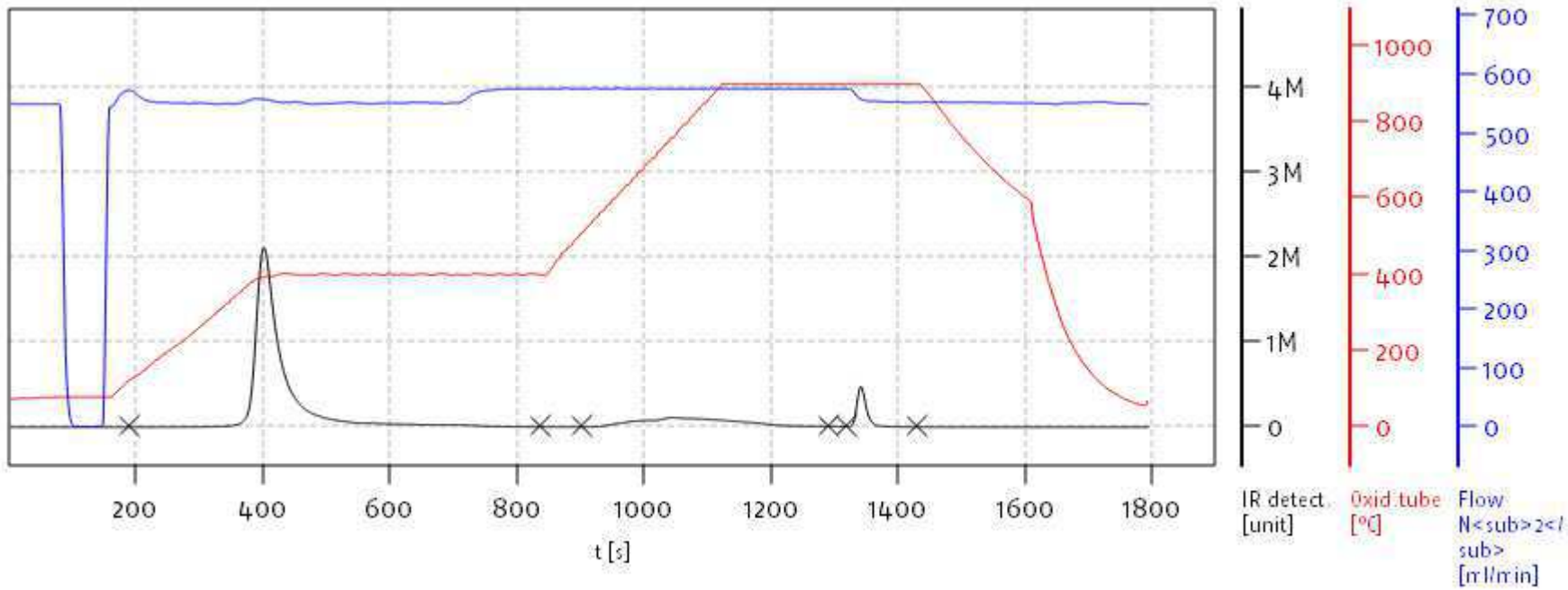
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
36	36	23A0418-03	525.30		CARBON	1/24/2023 9:22 AM	bl	1.158	3 773 077	1.377	0.085	315 974	770 874	1.072	0.219	0.9713	1.0000



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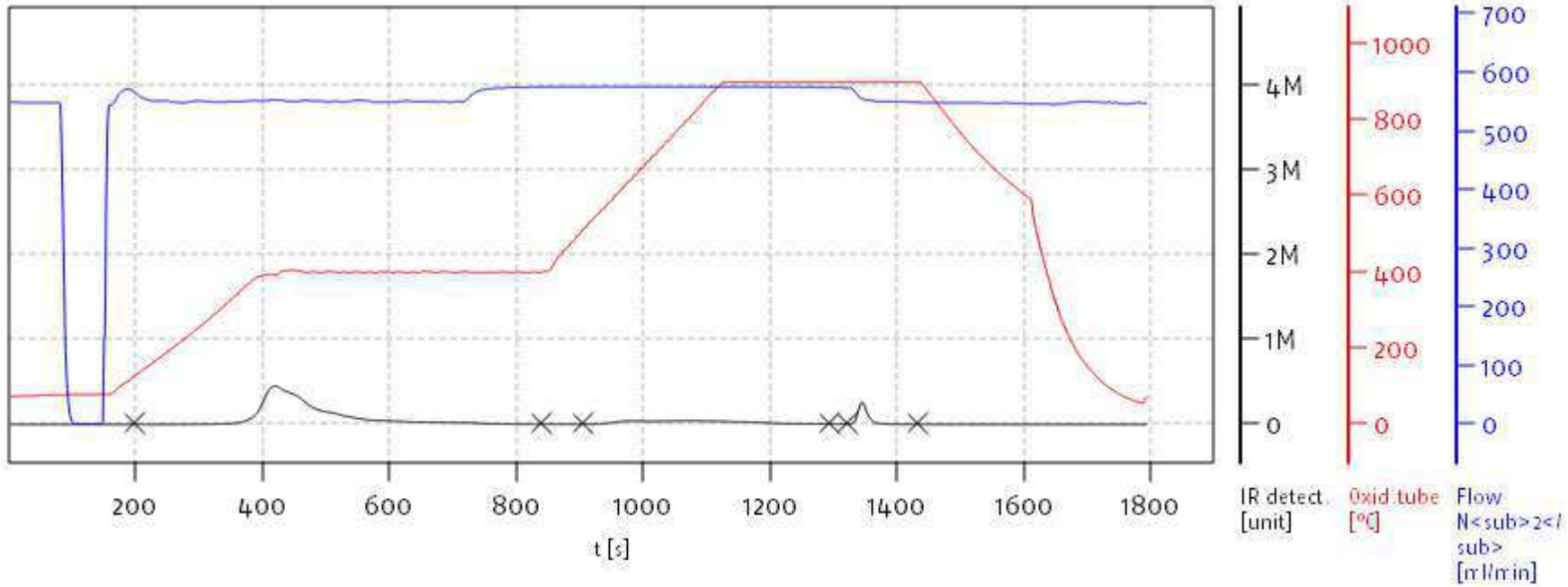
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
37	37	23A0418-04	501.00		CARBON	1/24/2023 9:52 AM		0.574	1 786 164	0.680	0.046	175 502	369 065	0.528	0.106	0.9713	1.0000



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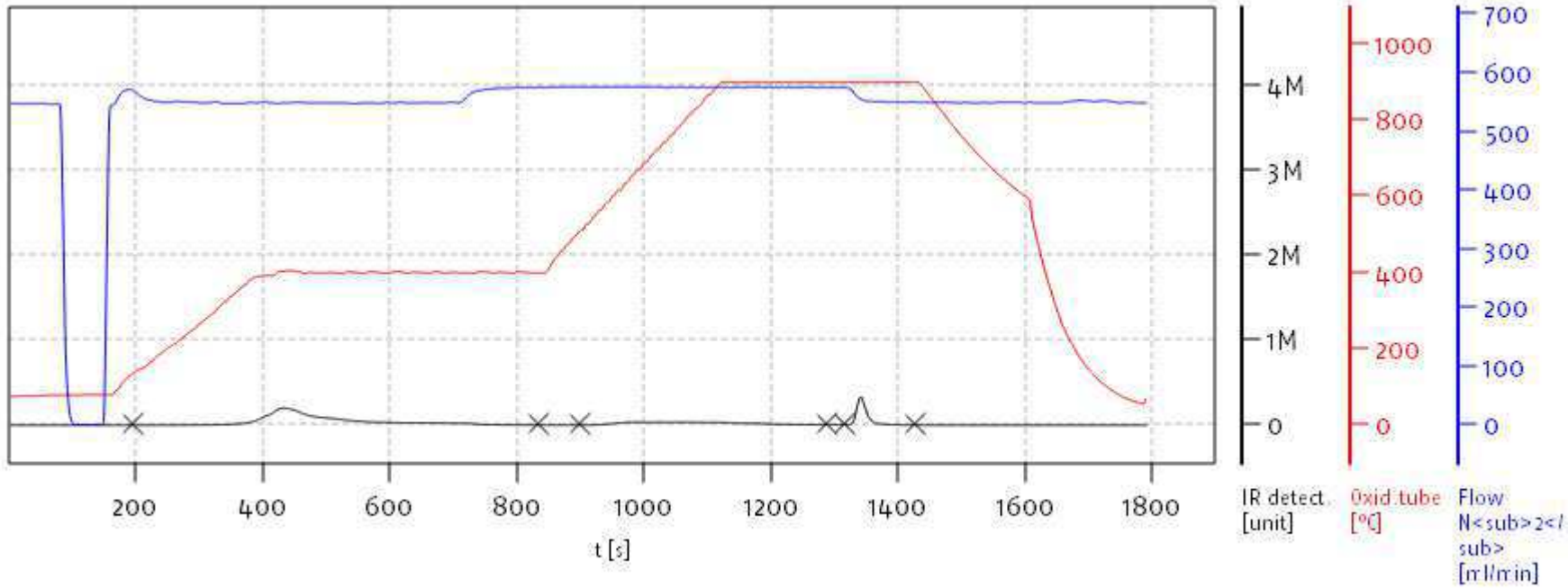
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
38	38	23A0418-05	505.00		CARBON	1/24/2023 10:22 AM	bl	0.336	940 508	0.422	0.064	233 922	307 987	0.272	0.086	0.9713	1.0000



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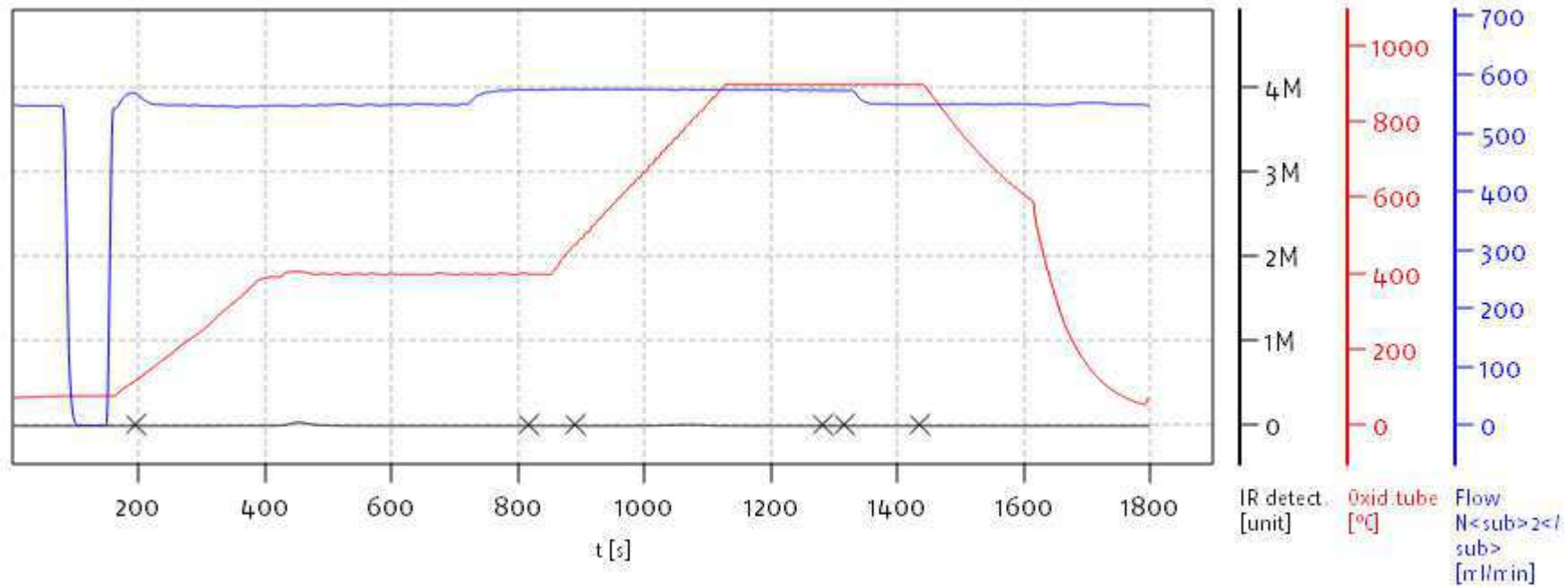
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
39	39	BLA0527-MRL1	518.90		CARBON	1/24/2023 10:53 AM	bl,C2u	0.013	71 947	0.016	0.000	281	35 716	0.013	0.003	0.9713	1.0000



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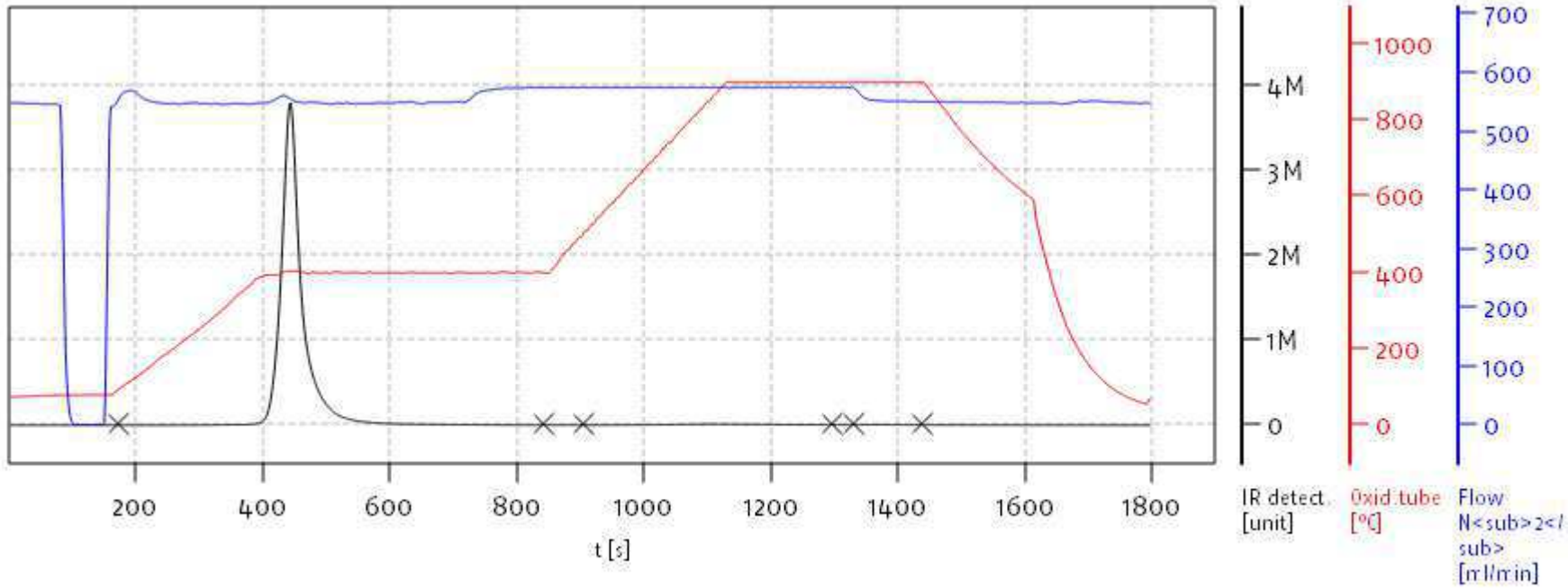
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
40	40	SLA0248-CCV3	18.40		CARBON	1/24/2023 11:23 AM	bl	43.515	5 351 464	44.093	0.000	20 432	95 190	43.515	0.578	0.9713	1.0000



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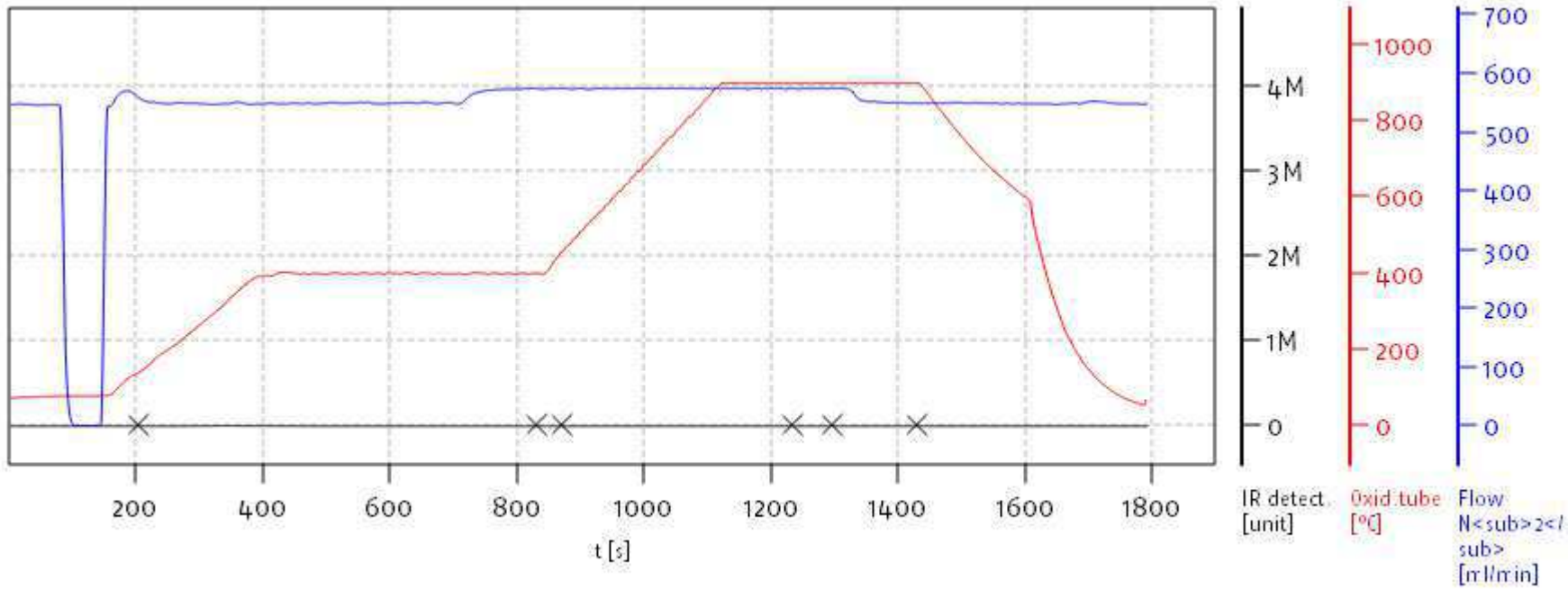
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
41	41	SLA0248-CCB3	509.40		CARBON	1/24/2023 11:53 AM	bl,C3u,C2u	0.000	17 668	0.000	0.000	566	2 045	0.000	0.000	0.9713	1.0000



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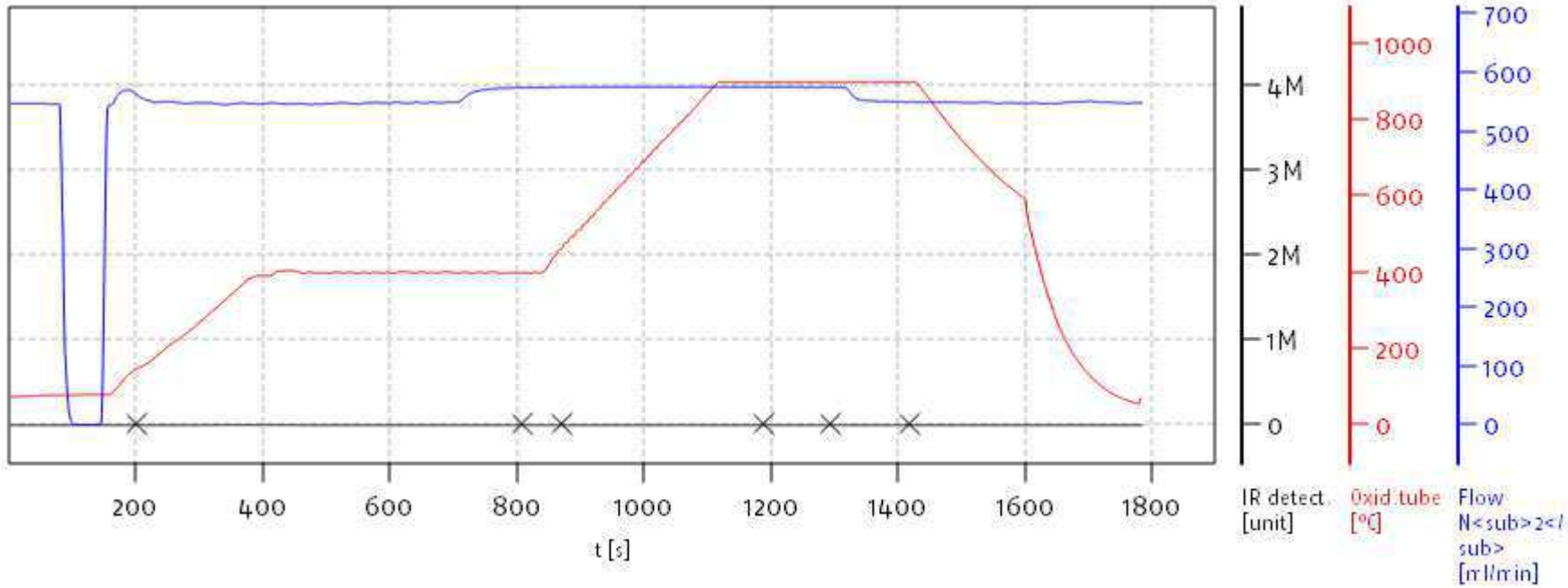
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
42	42	BLA0527-BLK1	520.40		CARBON	1/24/2023 12:23 PM	bl,C2u	0.000	13 395	0.000	0.000	786	2 876	0.000	0.000	0.9713	1.0000



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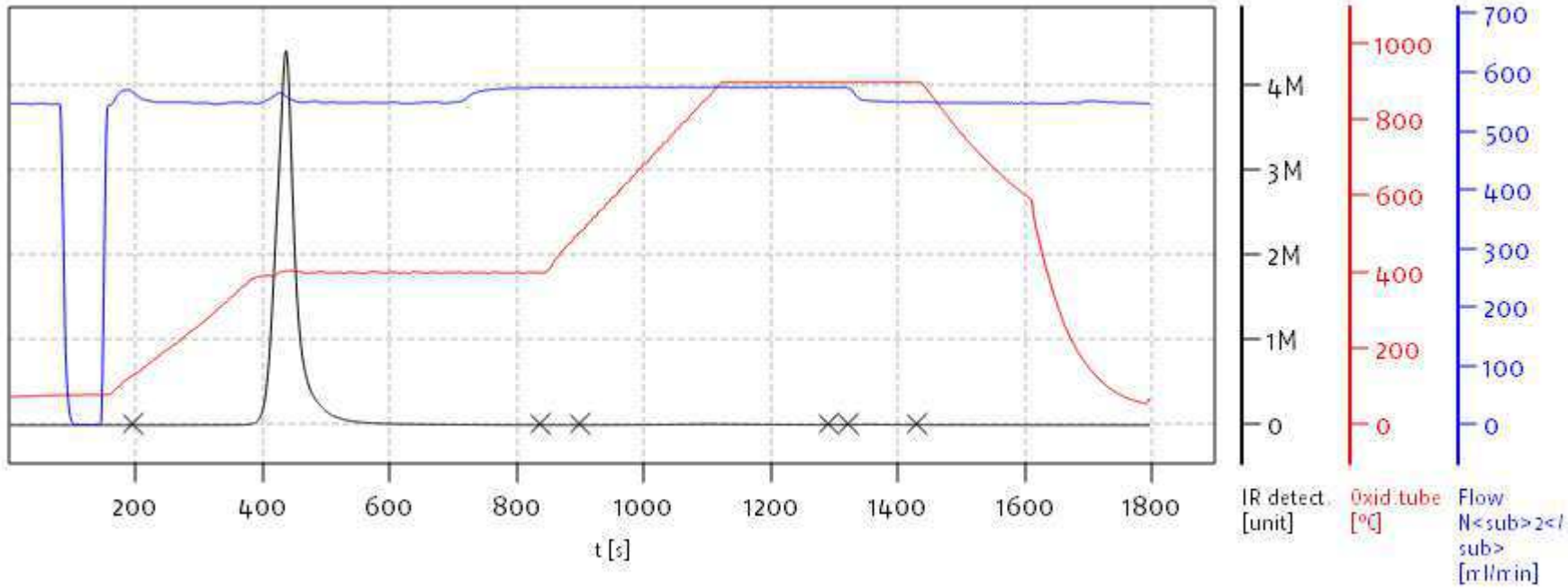
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
43	43	BLA0527-BS1	20.40		CARBON	1/24/2023 12:54 PM	bl	44.081	6 007 097	44.568	0.000	21 666	90 617	44.081	0.486	0.9713	1.0000



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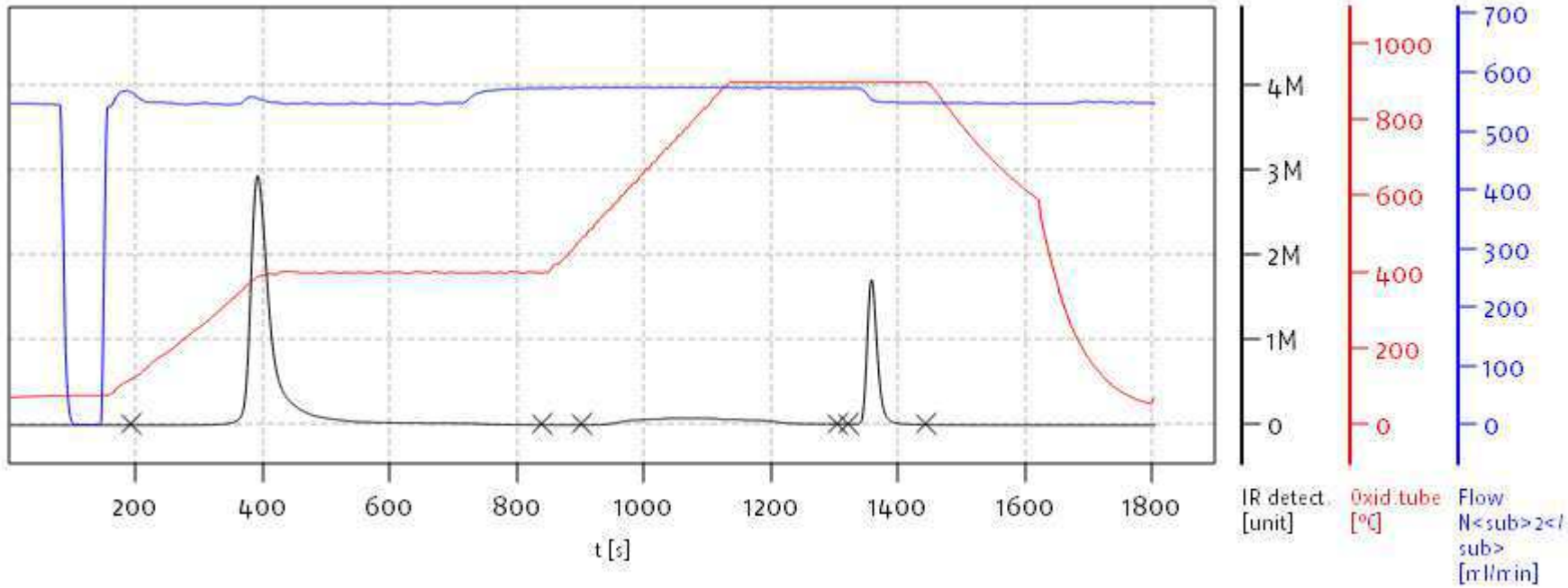
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
44	44	BLA0527-SRM1	281.80		CARBON	1/24/2023 1:24 PM	bl	2.940	4 308 791	3.314	0.655	1 219 661	706 221	2.285	0.373	0.9713	1.0000



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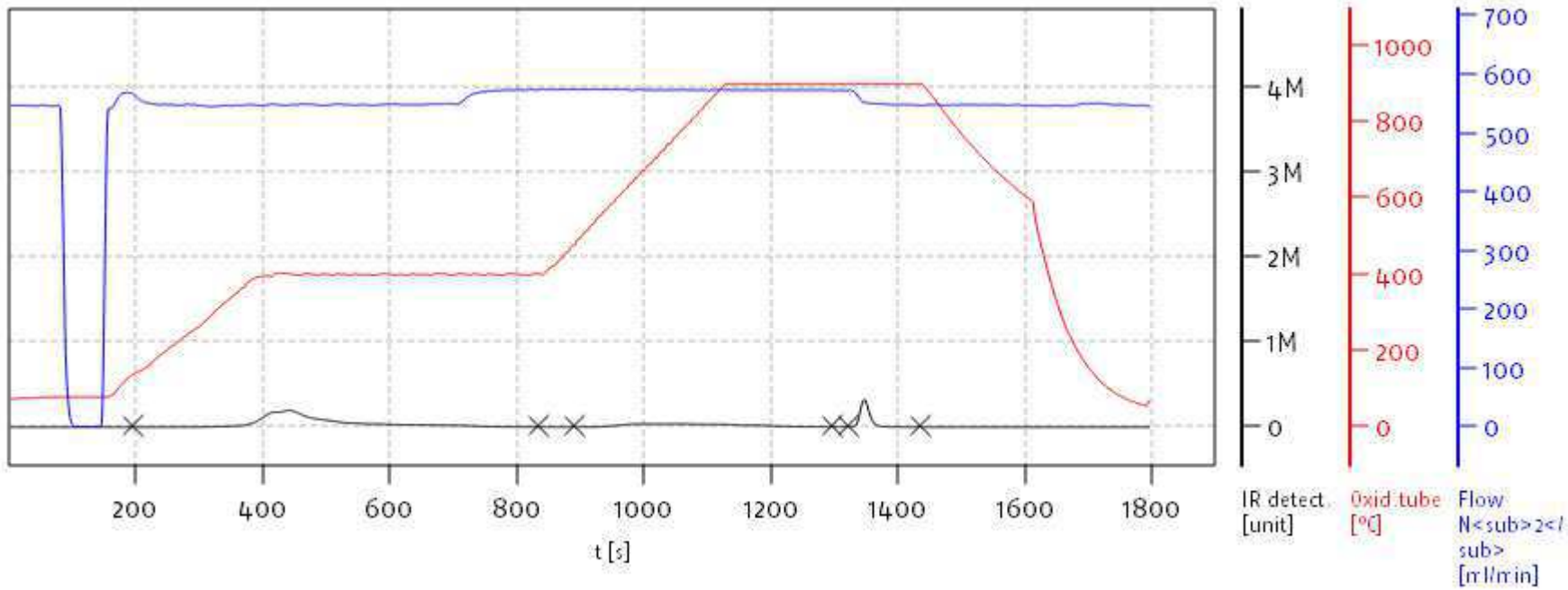
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
45	45	23A0418-06	547.90		CARBON	1/24/2023 1:54 PM	bl	0.306	951 233	0.388	0.052	211 425	318 302	0.254	0.082	0.9713	1.0000



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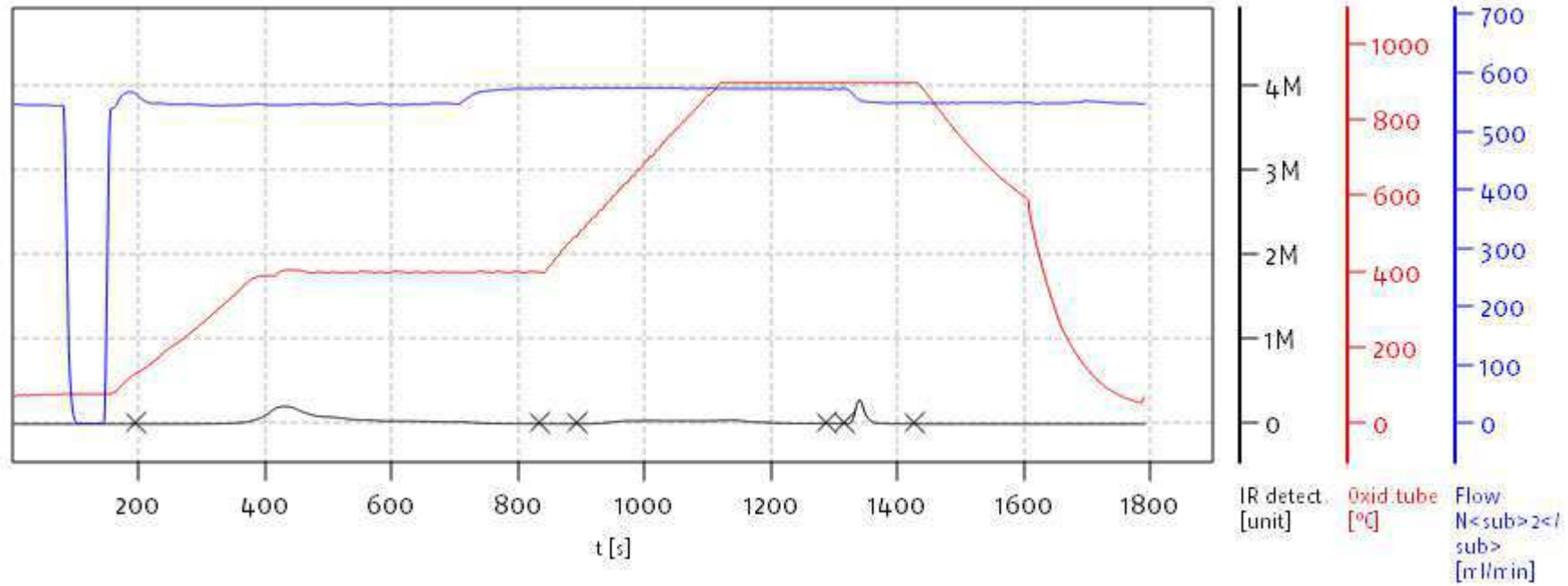
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
46	46	BLA0527-DUP1	532.60		CARBON	1/24/2023 2:25 PM	bl	0.319	985 884	0.417	0.049	193 745	361 729	0.271	0.097	0.9713	1.0000



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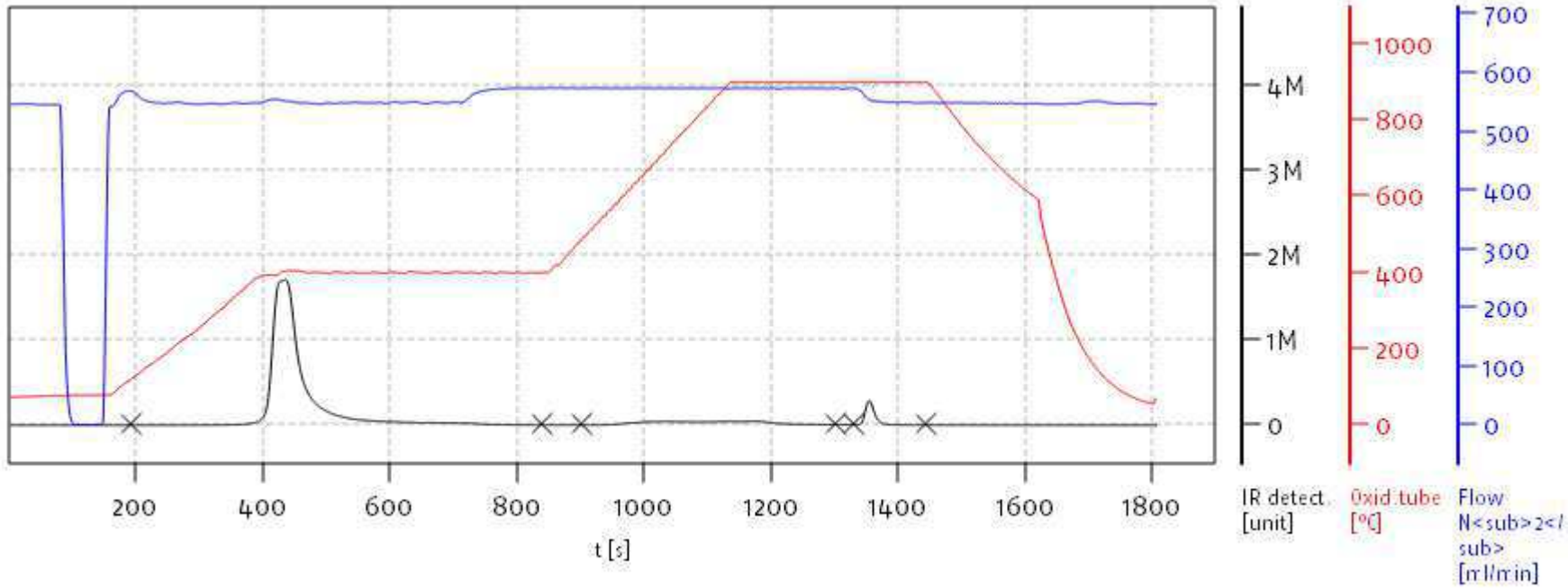
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
47	47	BLA0527-MS1	529.60	0.0086	CARBON	1/24/2023 2:55 PM	bl	1.031	3 488 160	1.139	0.048	189 968	395 784	0.983	0.108	0.9713	1.0000



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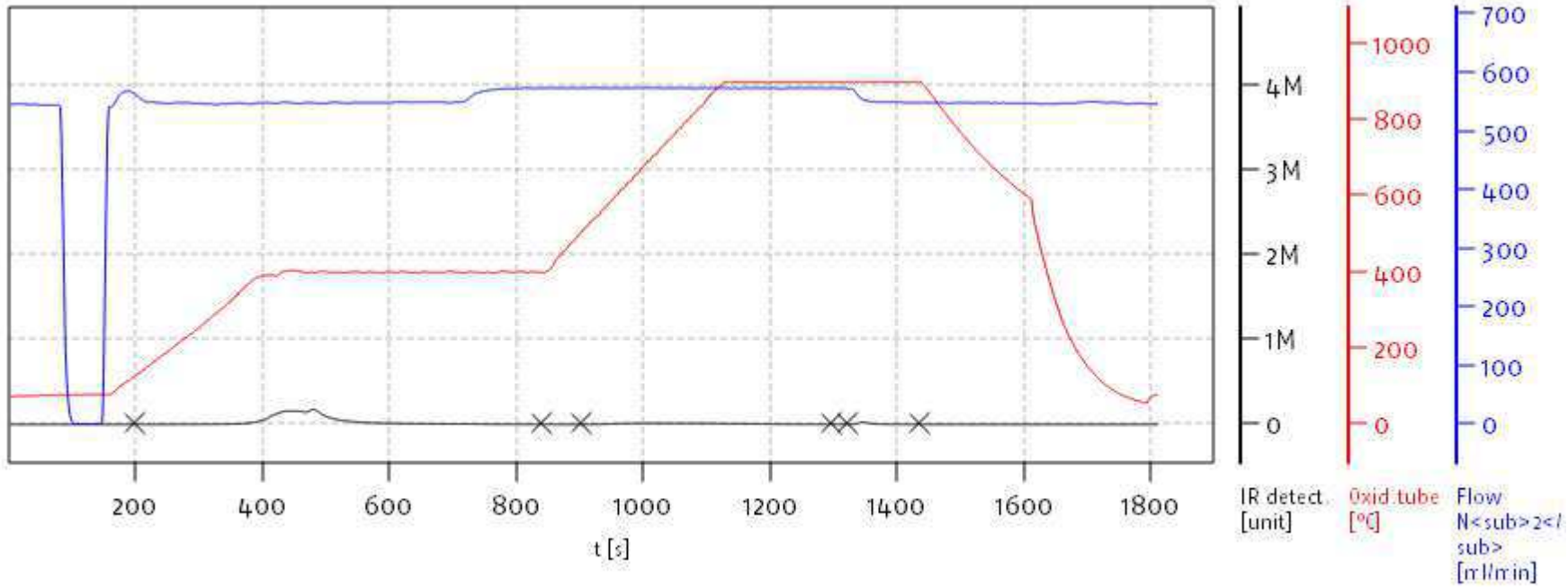
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
48	48	23A0418-07	509.40		CARBON	1/24/2023 3:26 PM	bl	0.207	729 140	0.233	0.000	24 008	110 588	0.207	0.026	0.9713	1.0000



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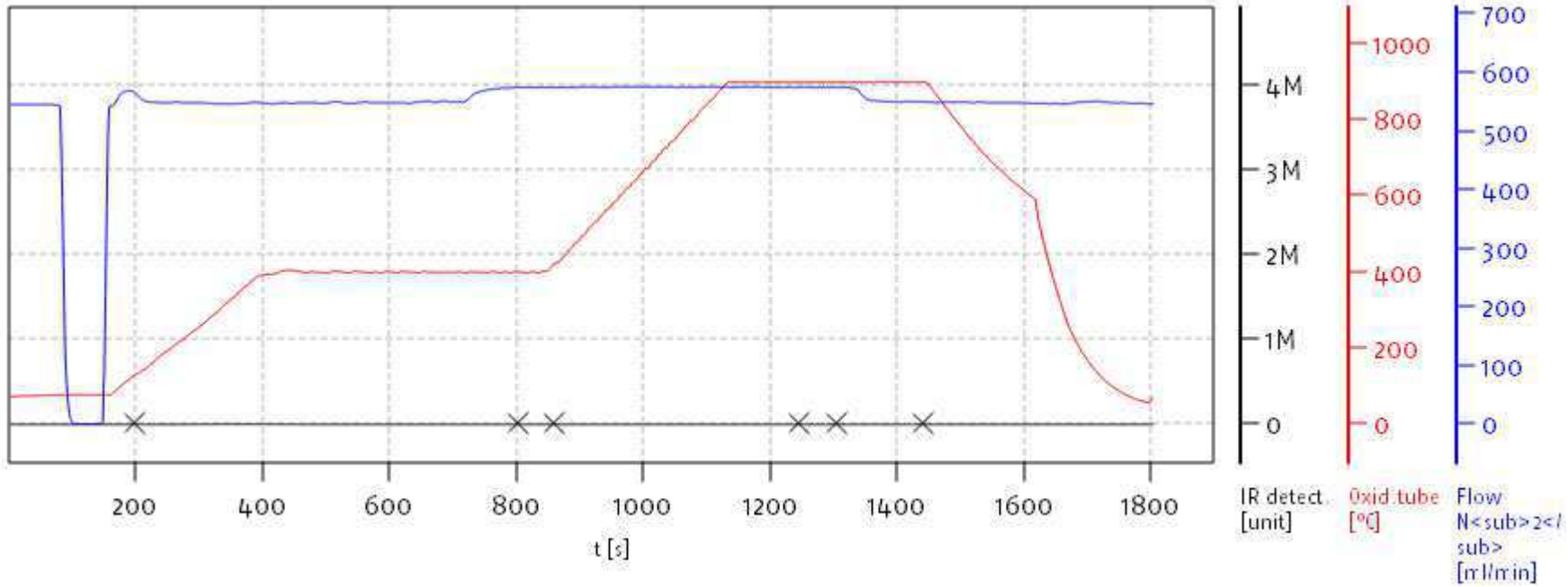
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
49	49	BLANK	1.00		CARBON	1/ 24/2023 3:56 PM	bl	0.000	15 215	0.000	0.000	501	1 464	0.000	0.000	0.9713	1.0000



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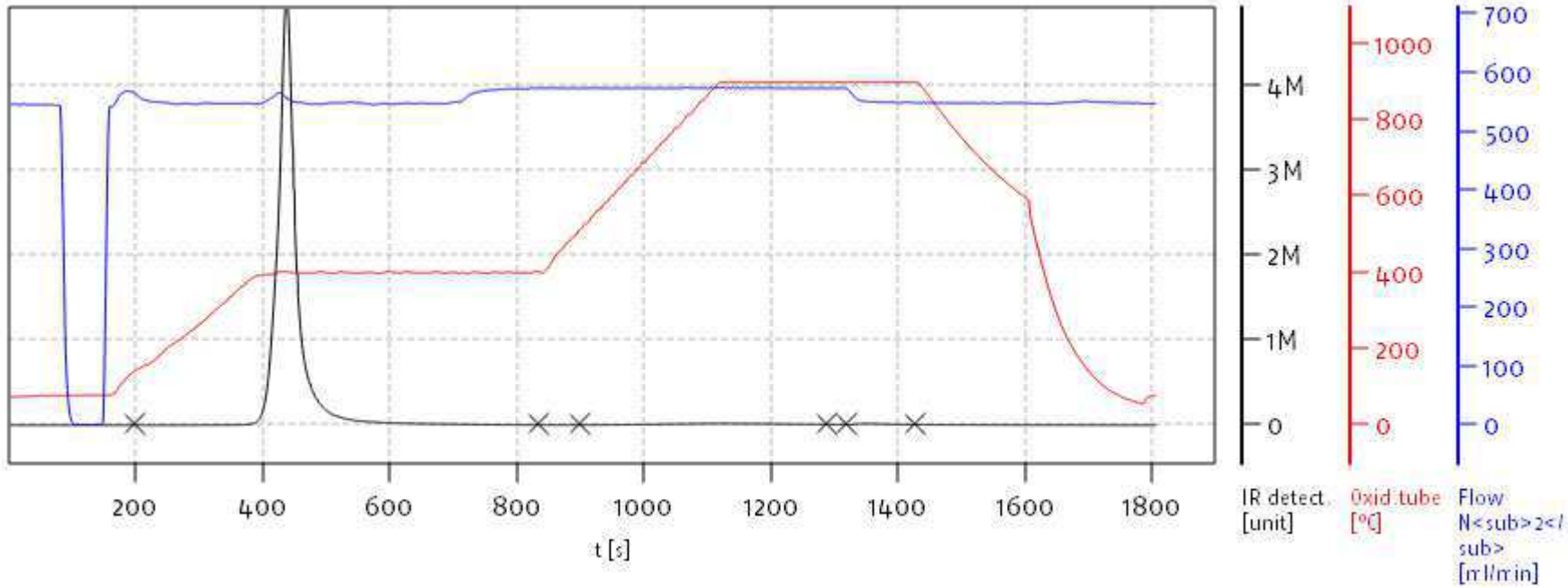
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
50	50	Dfactor	22.40		CARBON	1/24/2023 4:27 PM	bl	44.577	6 396 545	45.551	0.131	45 479	167 520	44.446	0.974	1.0096	1.0000



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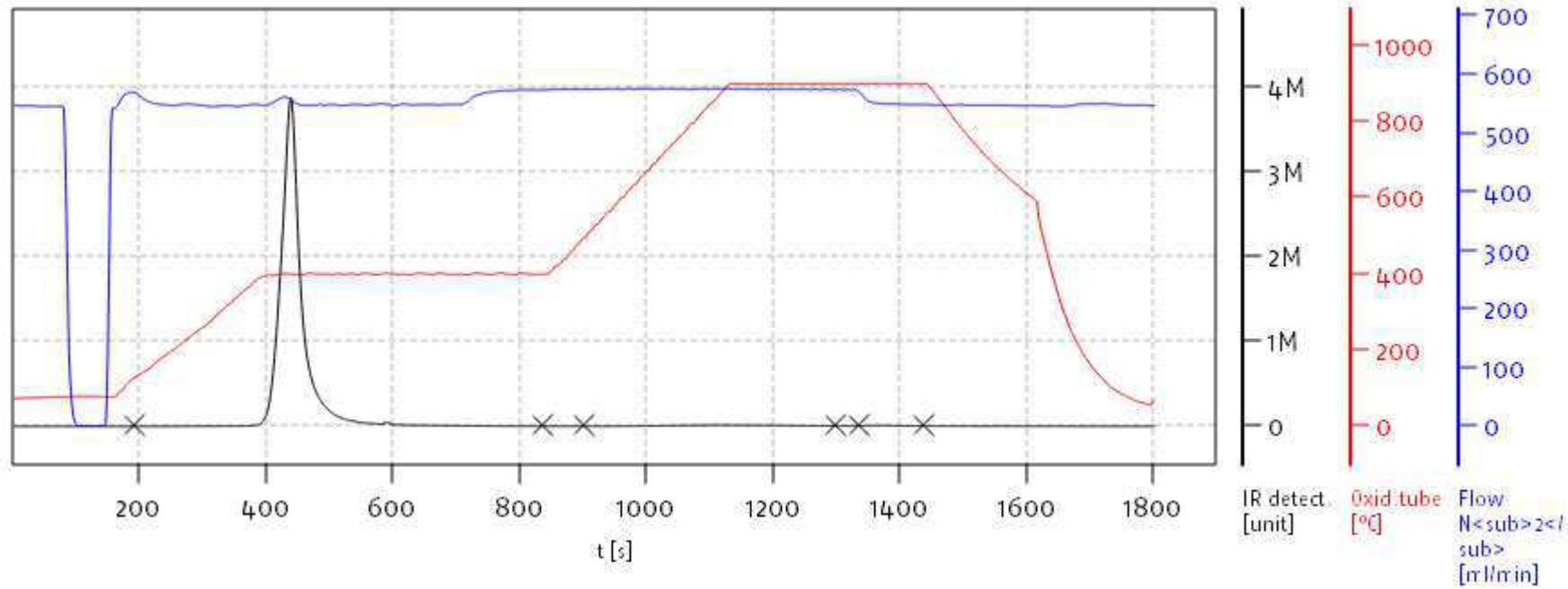
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
51	51	Dfactor	19.00		CARBON	1/24/2023 4:57 PM	bl	44.463	5 474 613	45.280	0.018	28 723	126 814	44.446	0.817	1.0013	1.0000



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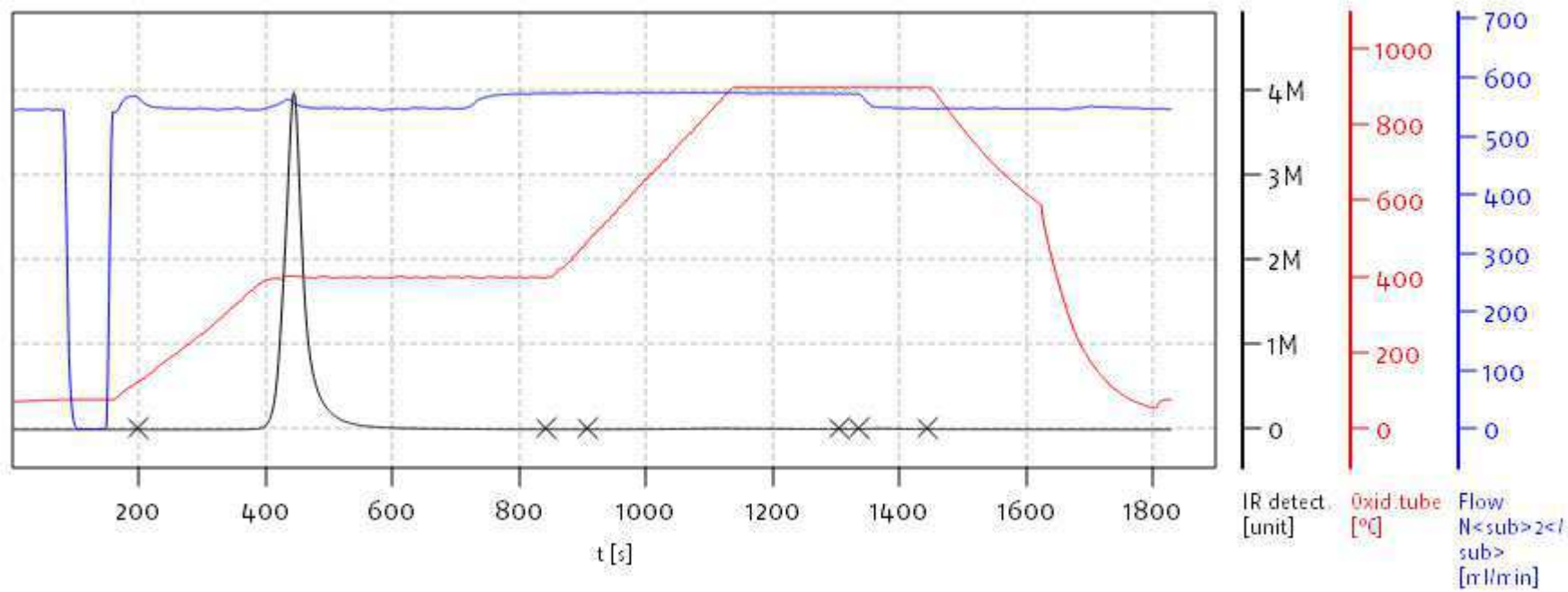
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
52	52	SLA0248-CCV4	19.00		CARBON	1/24/2023 5:28 PM	bl	44.940	5 509 997	45.534	0.019	28 915	99 472	44.920	0.594	1.0055	1.0000



Name:

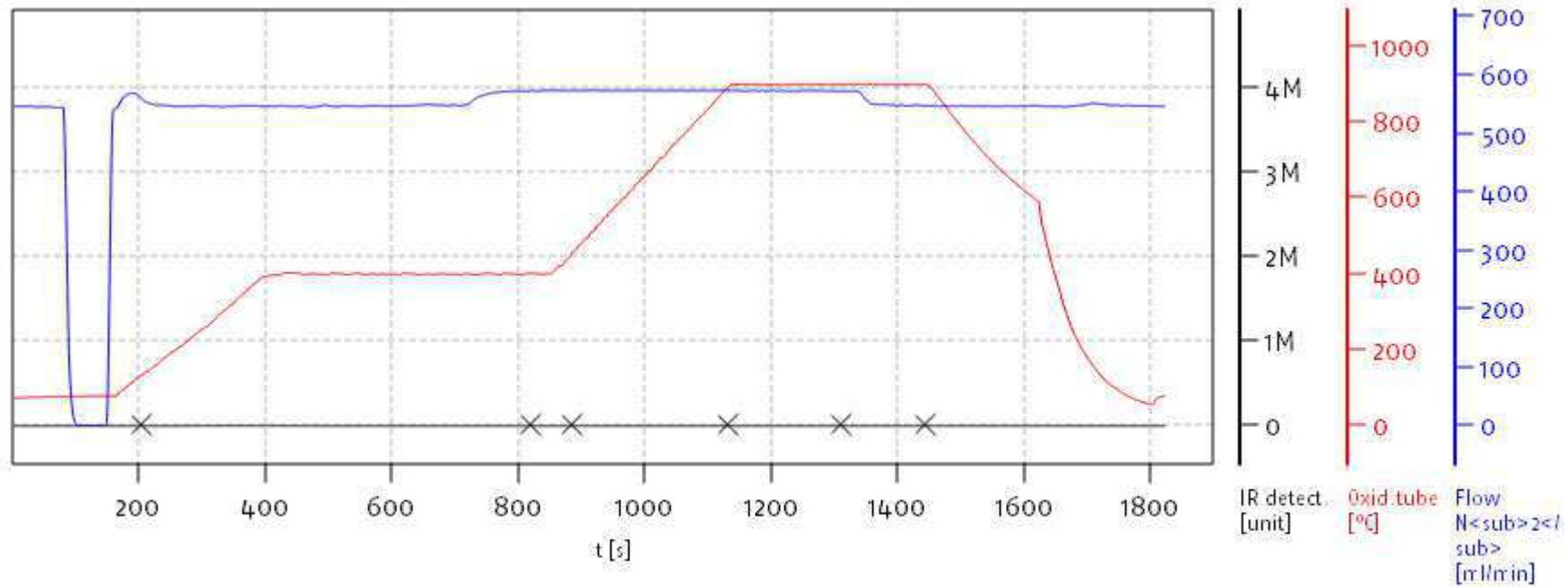
Access: soliTOC superuser

Date: Thu Jan 26 11:30:20 2023

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
53	53	SLA0248-CCB4	532.30		CARBON	1/24/2023 5:59 PM	bl,C3u,C2u	0.000	12 484	0.000	0.000	1 627	827	0.000	0.000	1.0055	1.0000



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Access: soliTOC superuser

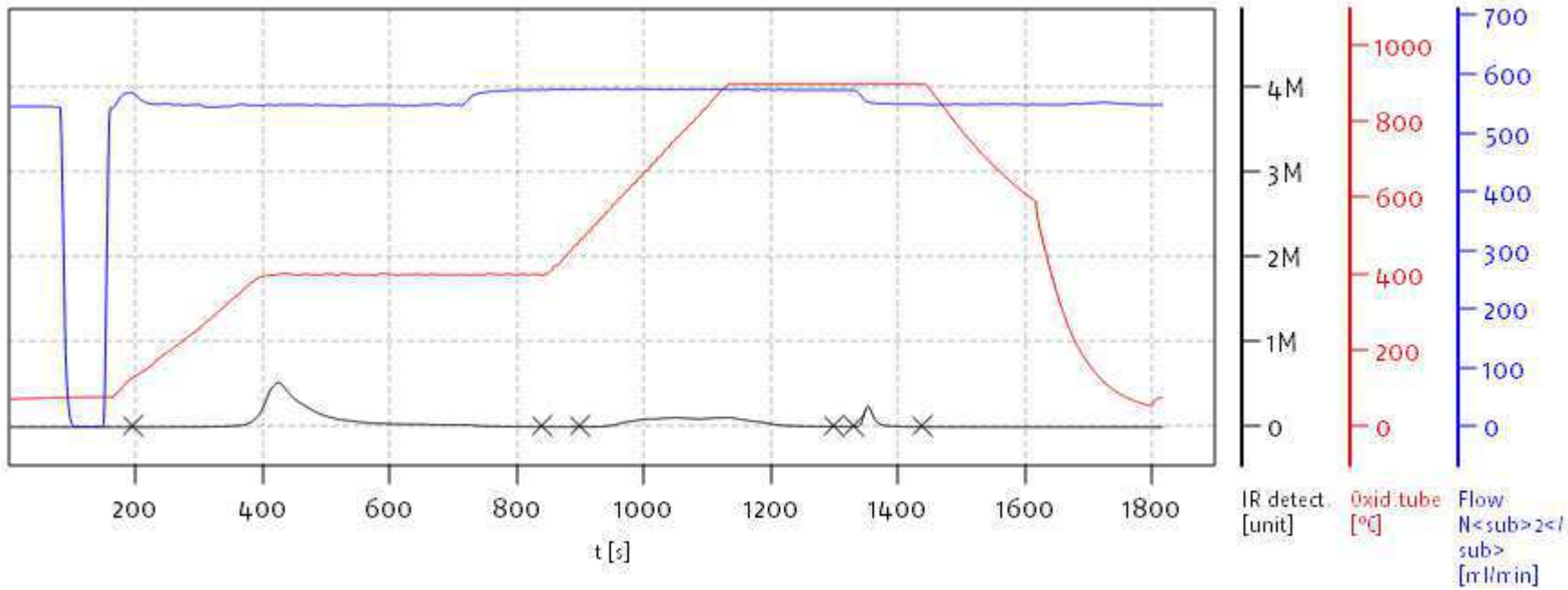
Date: Thu Jan 26 11:30:20 2023

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
54	54	23A0418-08	550.80		CARBON	1/24/2023 6:30 PM	bl	0.536	1 768 321	0.776	0.044	182 546	881 633	0.492	0.240	1.0055	1.0000



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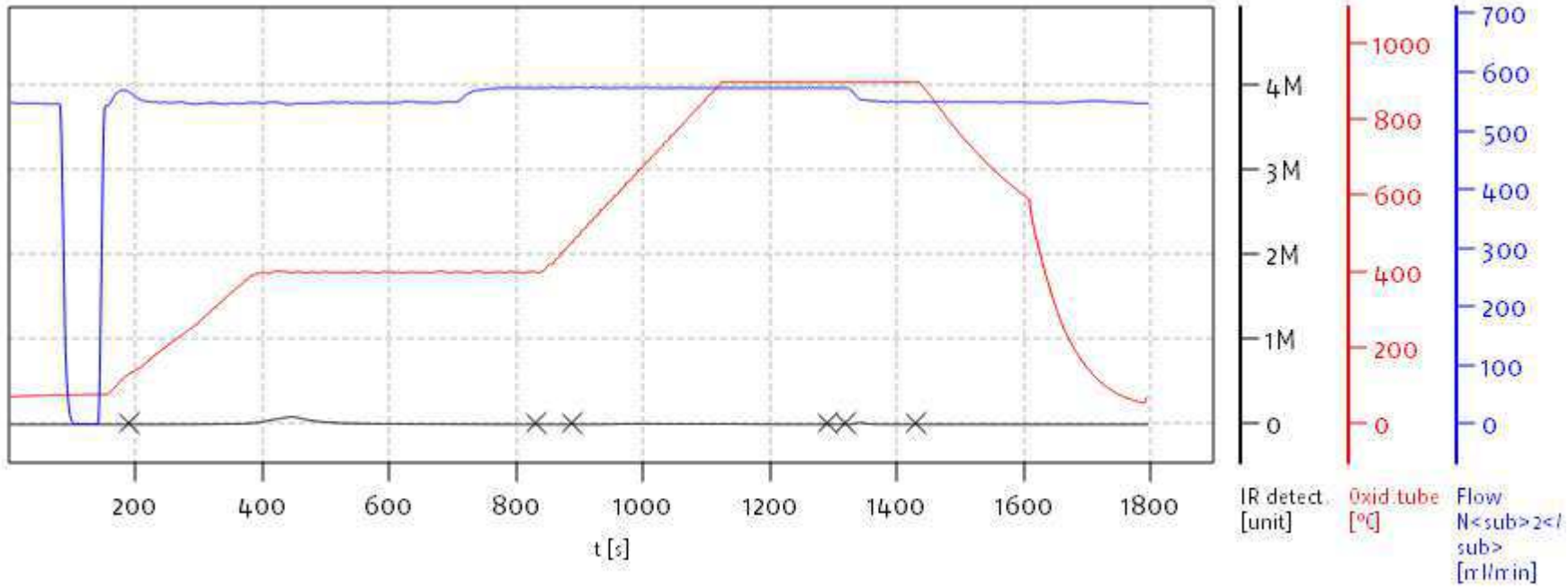
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
55	55	23A0418-09	537.80		CARBON	1/24/2023 7:00 PM	bl	0.087	327 798	0.096	0.000	16 307	57 203	0.087	0.009	1.0055	1.0000



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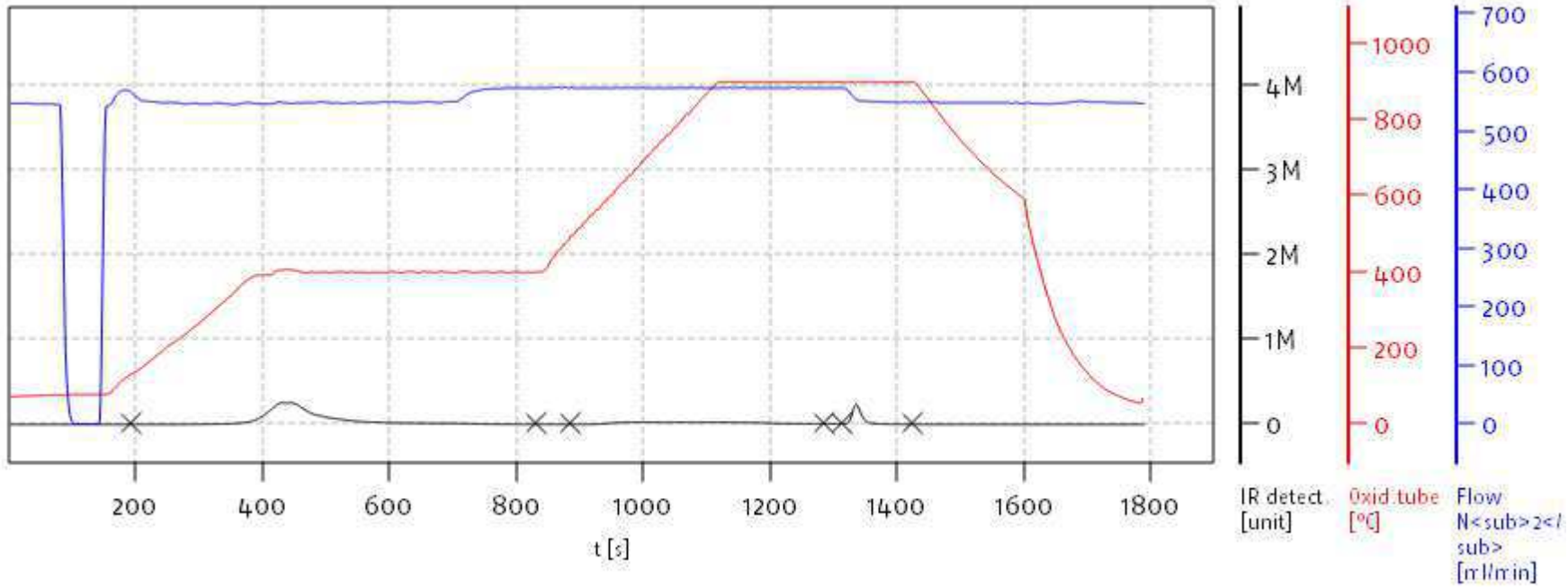
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
56	56	23A0418-10	503.50		CARBON	1/24/2023 7:30 PM	bl	0.340	996 939	0.412	0.040	158 102	259 903	0.300	0.072	1.0055	1.0000



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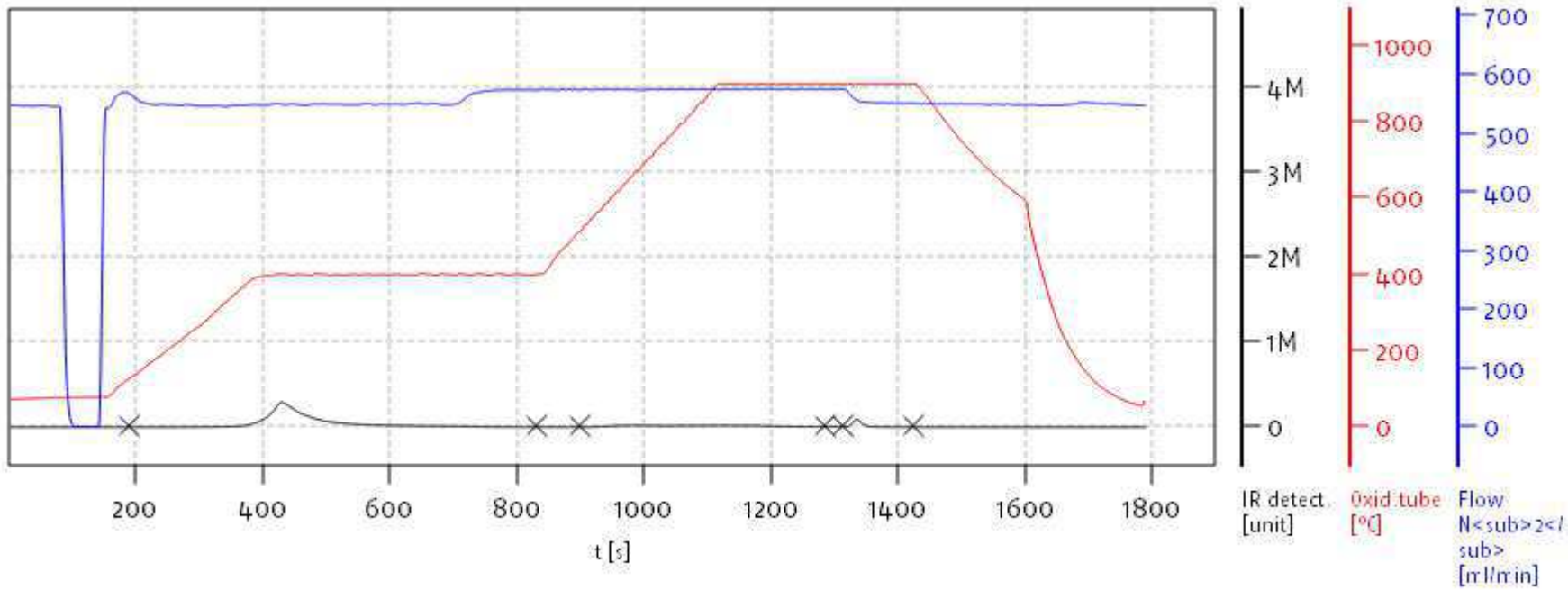
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
57	57	23A0418-11	532.10		CARBON	1/24/2023 8:00 PM	bl	0.267	901 035	0.311	0.011	64 384	180 068	0.256	0.045	1.0055	1.0000



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soliTOC V2.0.2 (31015f9) 2018-11-19
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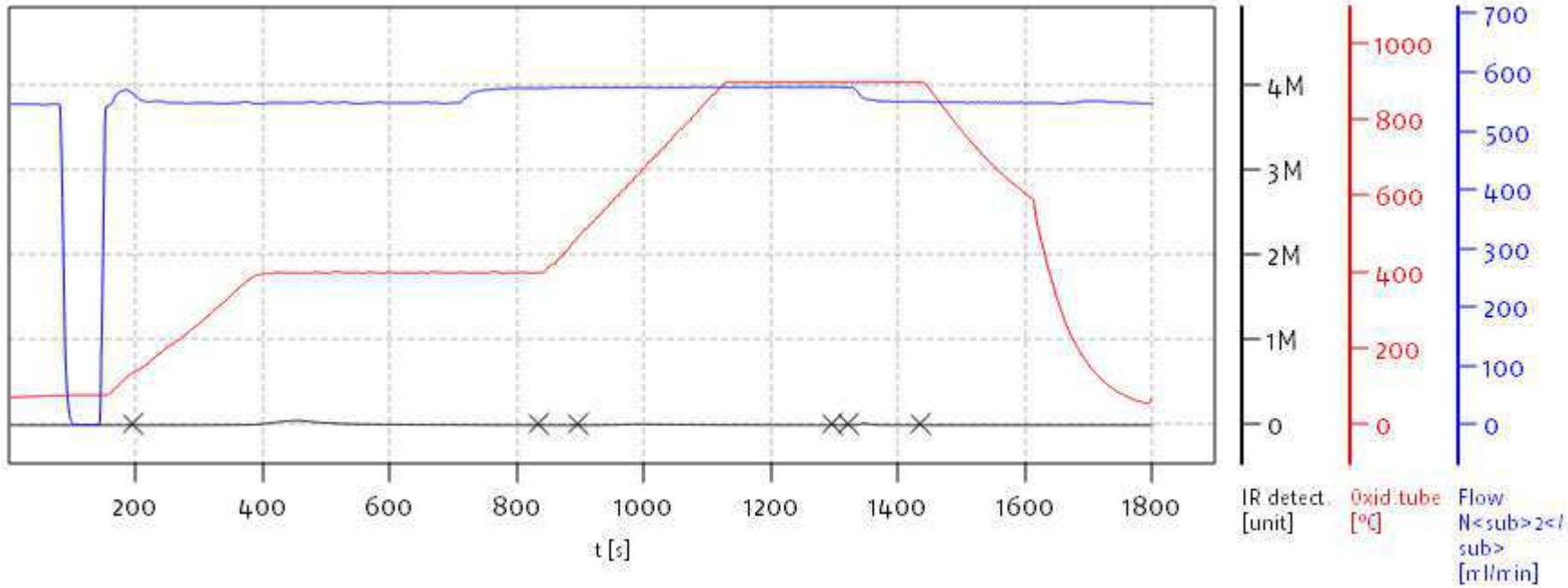
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
58	58	23A0418-12	545.40		CARBON	1/24/2023 8:31 PM	bl	0.060	235 333	0.067	0.000	14 871	51 112	0.060	0.007	1.0055	1.0000



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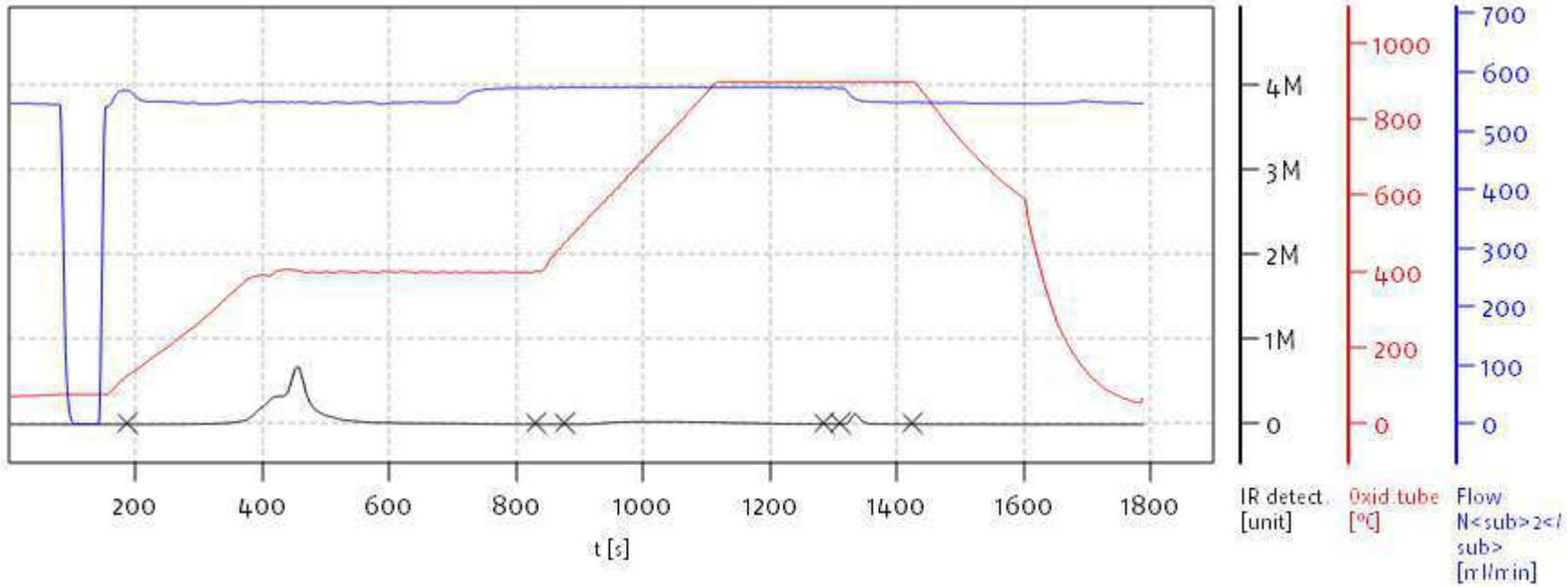
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
59	59	23A0419-01	515.30		CARBON	1/24/2023 9:01 PM	bl	0.521	1 692 132	0.591	0.018	86 928	258 431	0.503	0.070	1.0055	1.0000



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Serial No: 0300.181017
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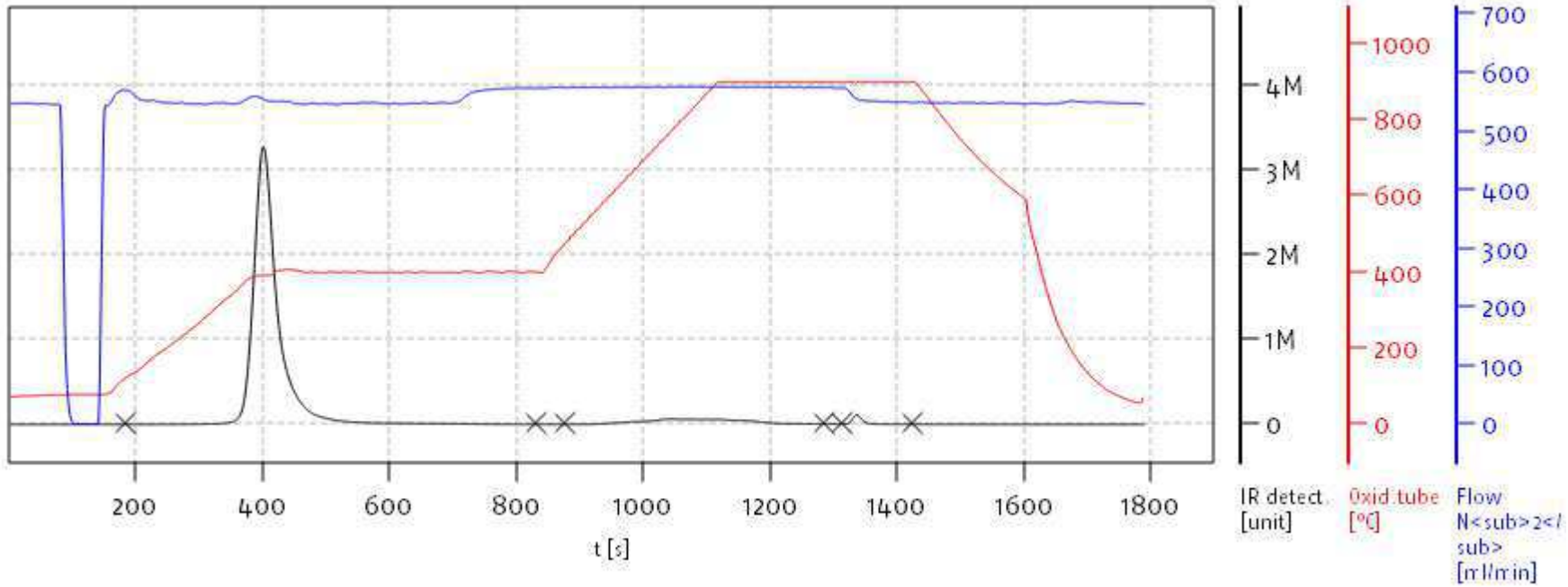
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
60	60	23A0419-02	550.60		CARBON	1/24/2023 9:31 PM	bl	1.522	5 357 359	1.644	0.015	79 872	462 306	1.507	0.123	1.0055	1.0000



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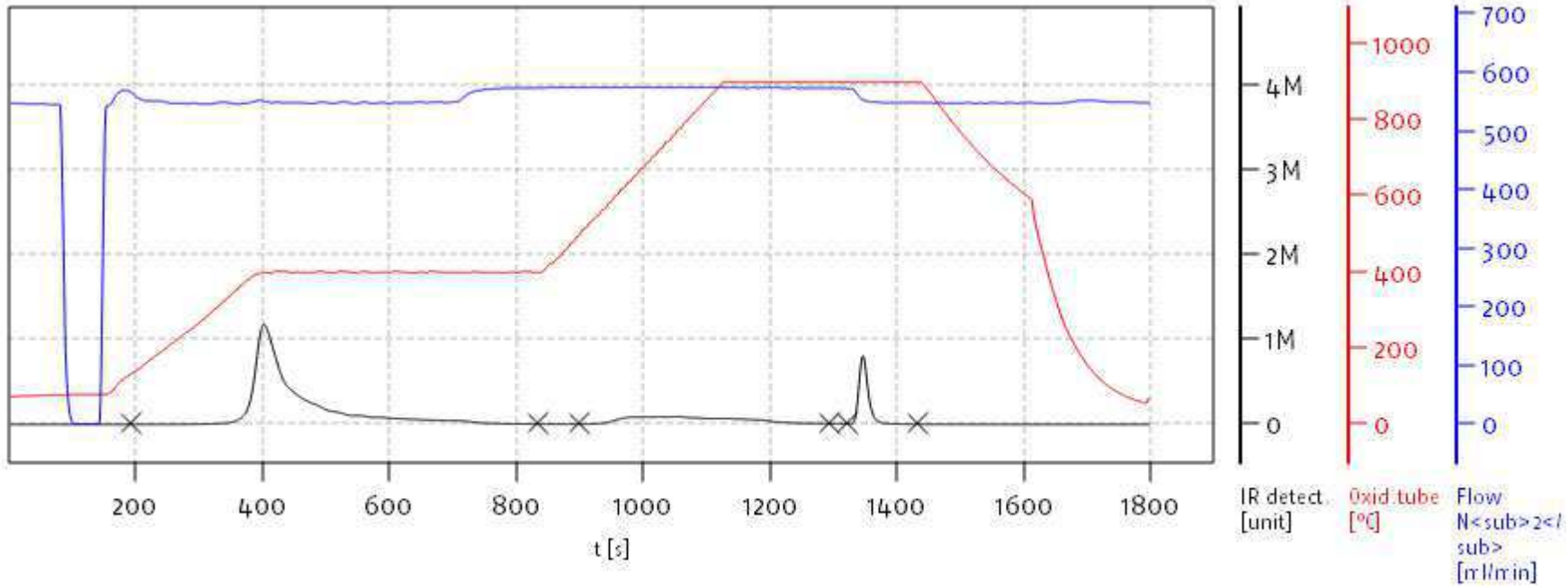
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
61	61	23A0419-03	613.30		CARBON	1/24/2023 10:02 PM	bl	0.944	3 249 770	1.133	0.126	526 318	773 639	0.818	0.189	1.0055	1.0000



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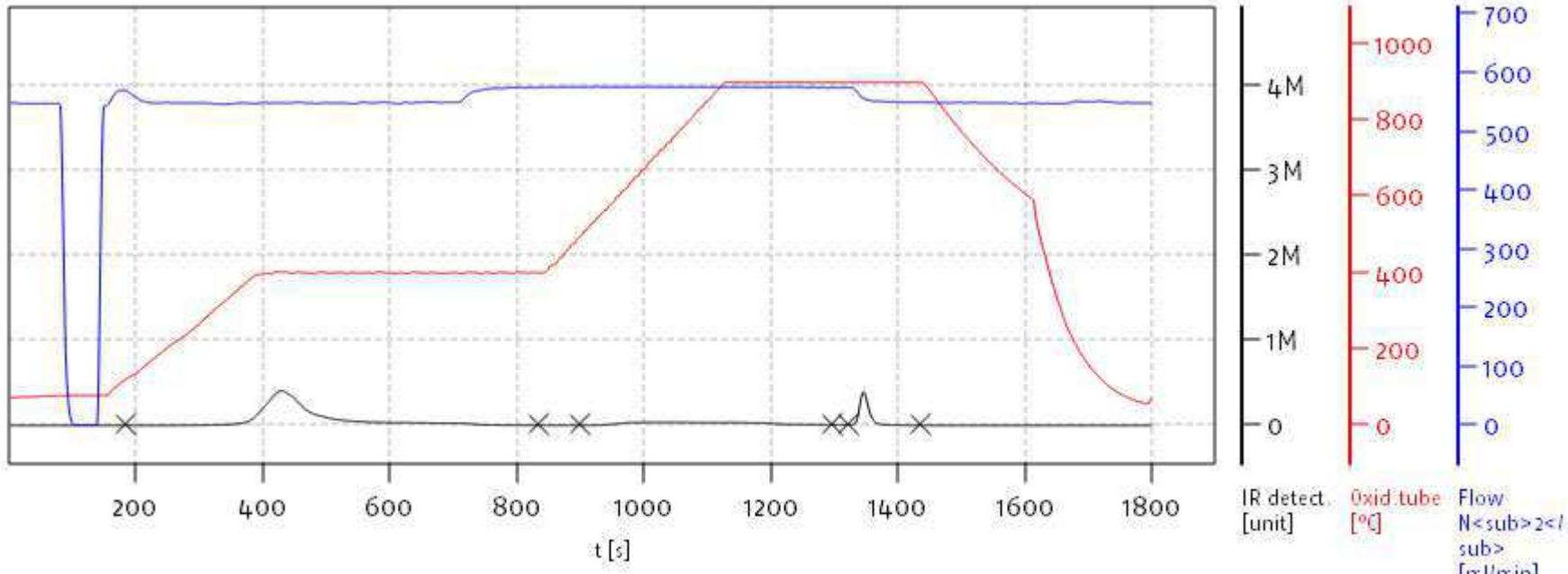
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
62	62	23A0419-04	545.90		CARBON	1/24/2023 10:32 PM	bl	0.473	1 454 308	0.565	0.066	258 009	352 785	0.407	0.093	1.0055	1.0000



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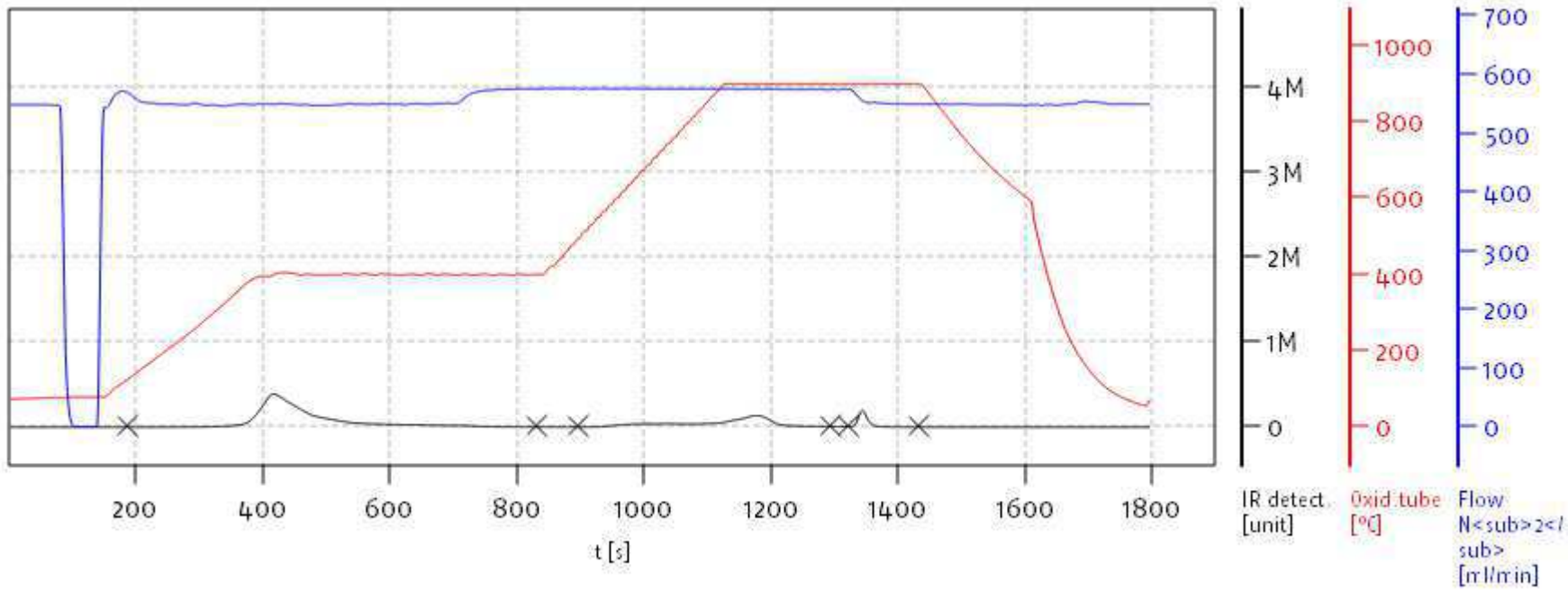
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
63	63	23A0419-05	506.80		CARBON	1/24/2023 11:02 PM	bl	0.458	1 417 466	0.632	0.031	128 482	594 540	0.427	0.173	1.0055	1.0000



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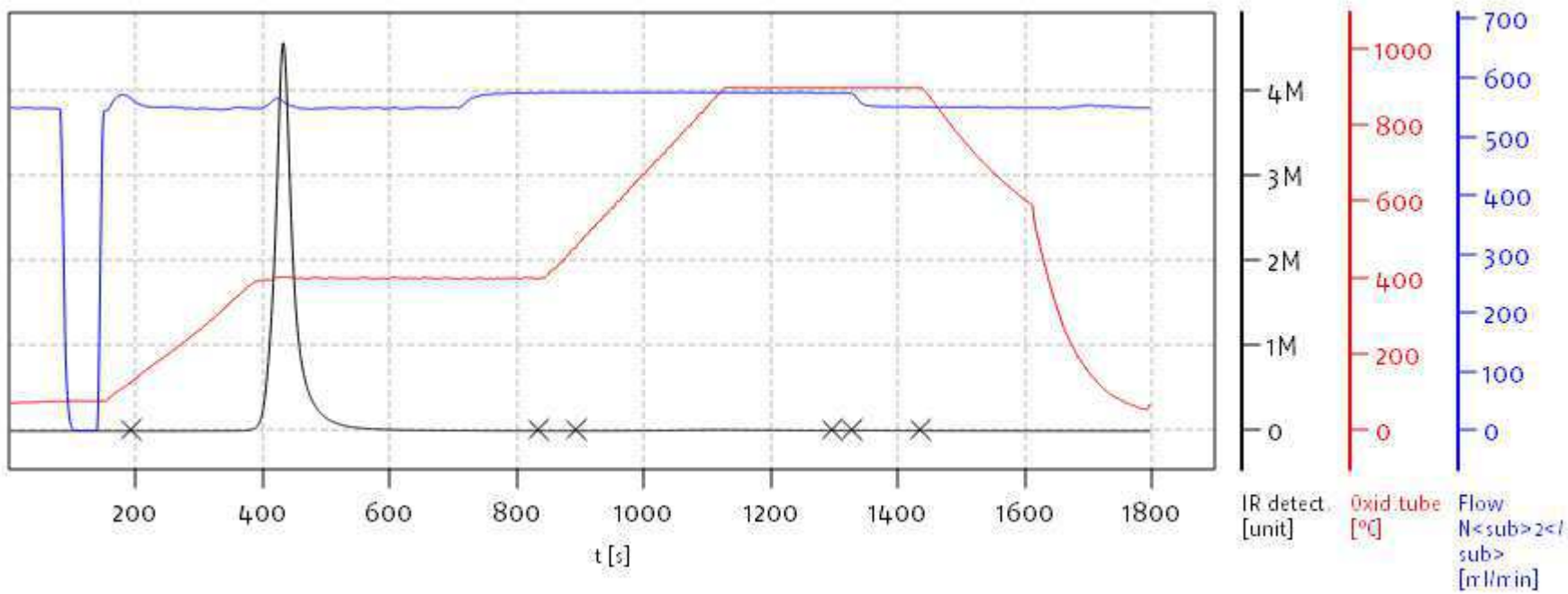
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
64	64	SLA0248-CCV5	20.20		CARBON	1/24/2023 11:33 PM	bl	45.627	5 948 035	46.215	0.000	18 294	103 230	45.627	0.588	1.0055	1.0000



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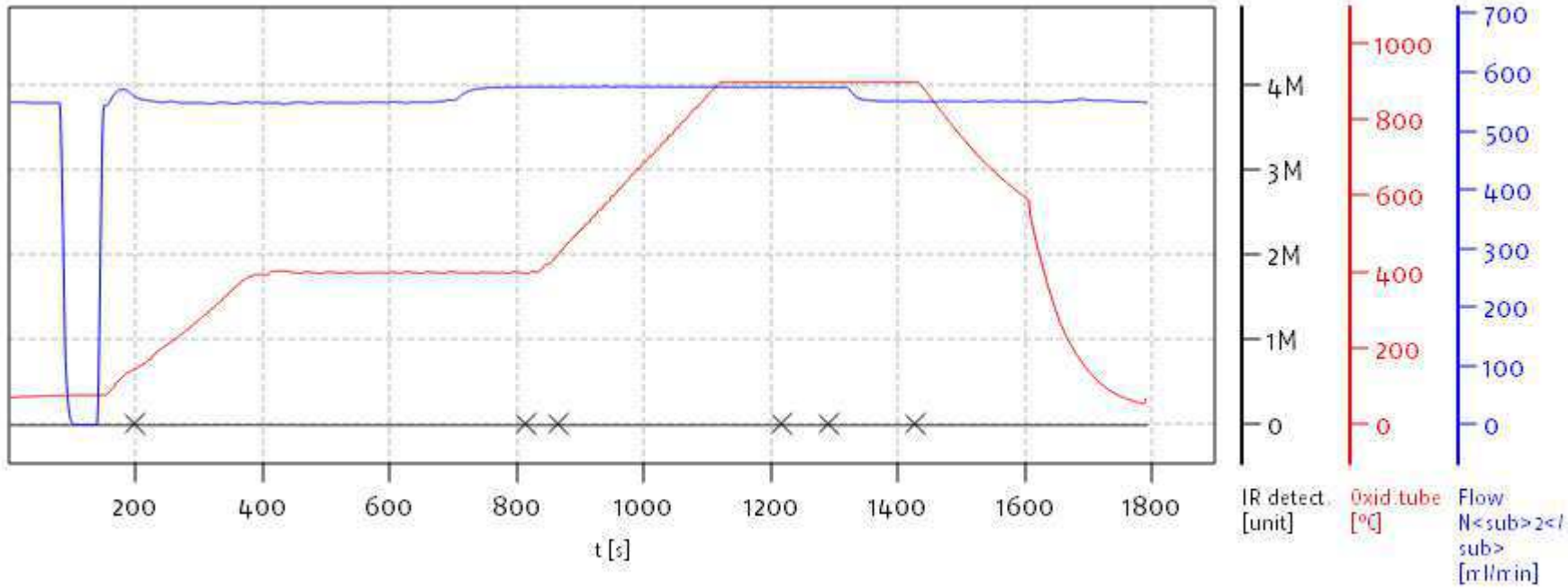
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
65	65	SLA0248-CCB5	513.30		CARBON	1/25/2023 12:03 AM	bl,C3u,C2u	0.000	9 871	0.000	0.000	593	1 761	0.000	0.000	1.0055	1.0000



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Balance: BAL3
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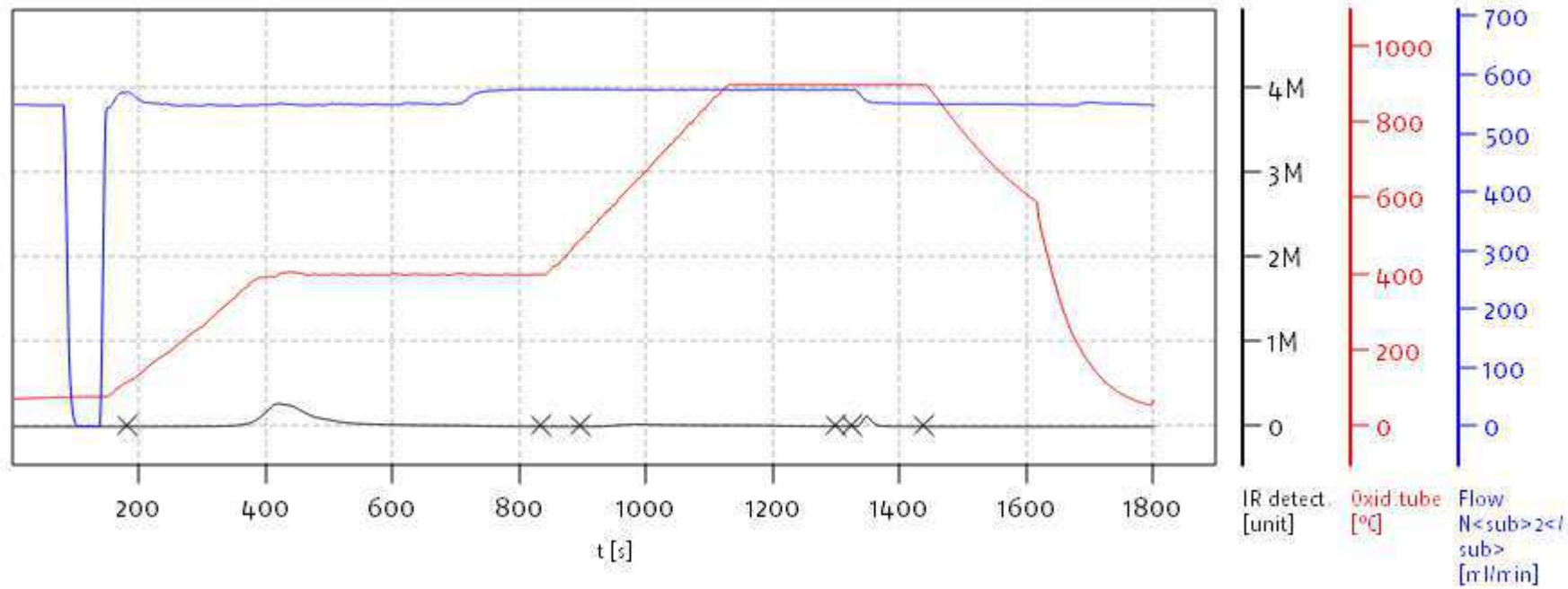
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
66	66	23A0419-06	630.20		CARBON	1/25/2023 12:33 AM	bl	0.270	1 061 559	0.310	0.014	83 788	189 582	0.256	0.040	1.0055	1.0000



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Balance: BAL3
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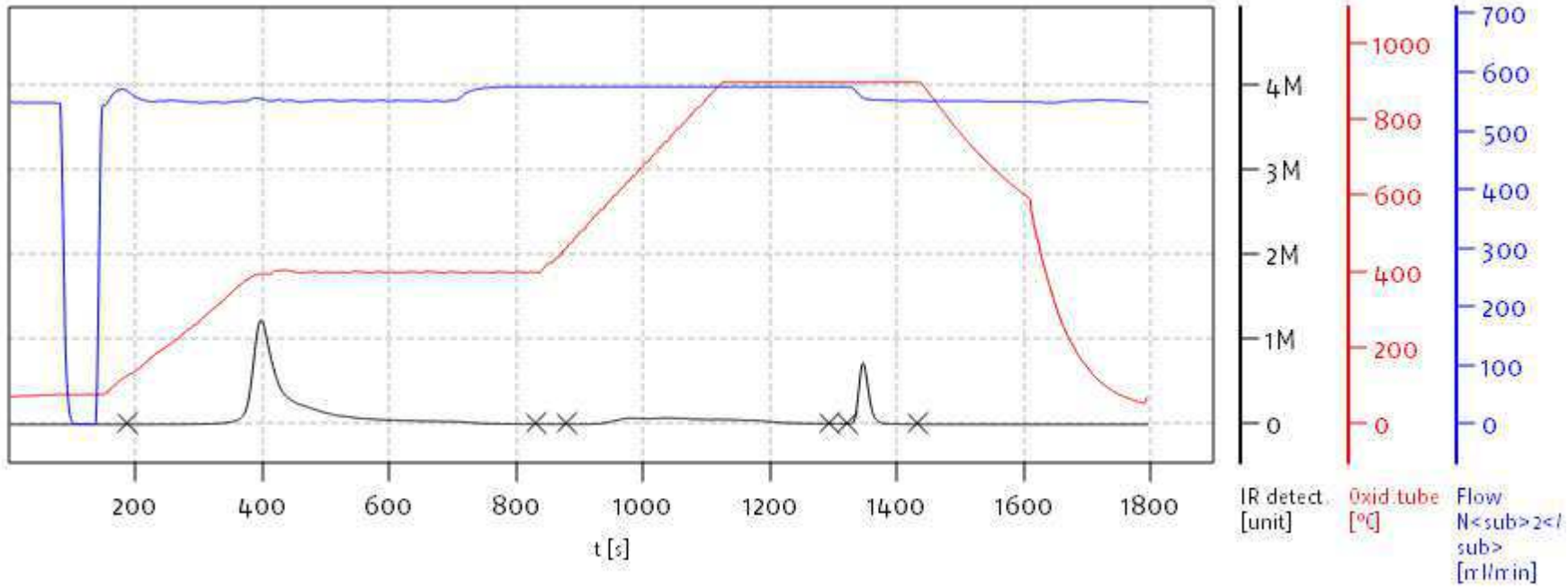
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
67	67	23A0419-07	537.70		CARBON	1/25/2023 1:04 AM	bl	0.951	2 835 937	1.129	0.138	505 685	645 187	0.813	0.178	1.0055	1.0000



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Balance: BAL3
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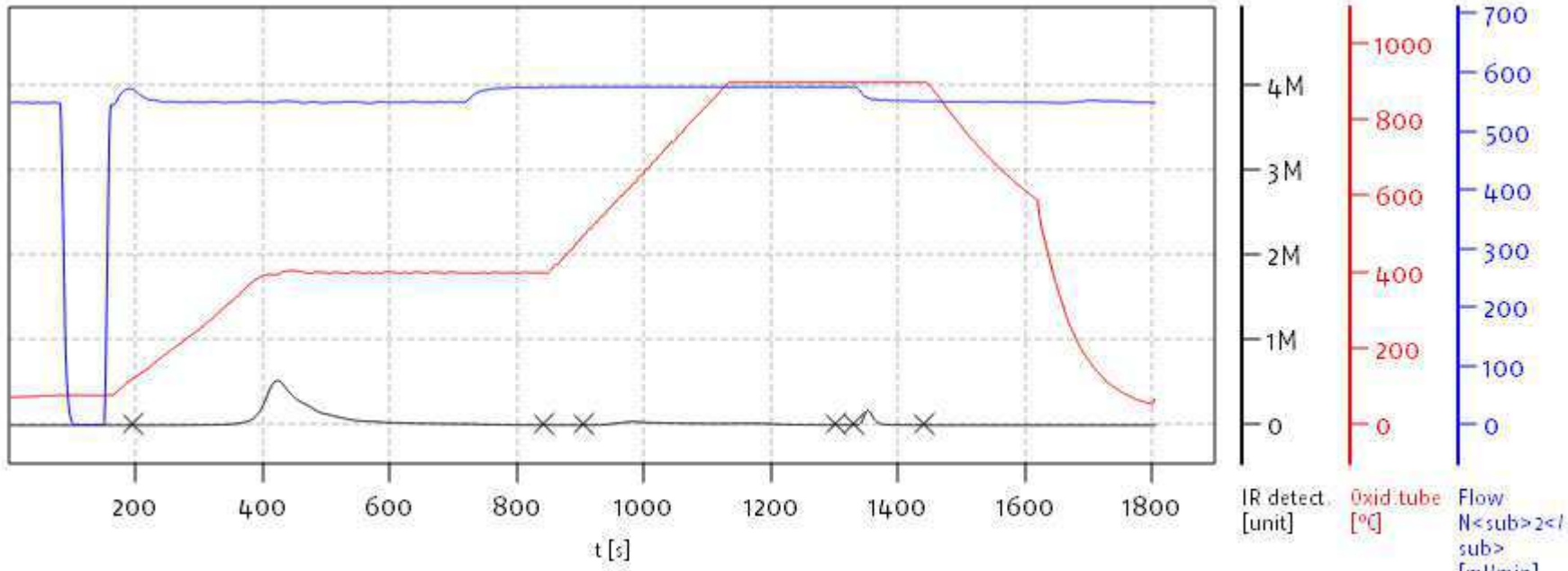
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
68	68	23A0419-08	537.60		CARBON	1/25/2023 1:34 AM	bl	0.515	1 711 460	0.583	0.027	121 660	261 895	0.488	0.068	1.0055	1.0000



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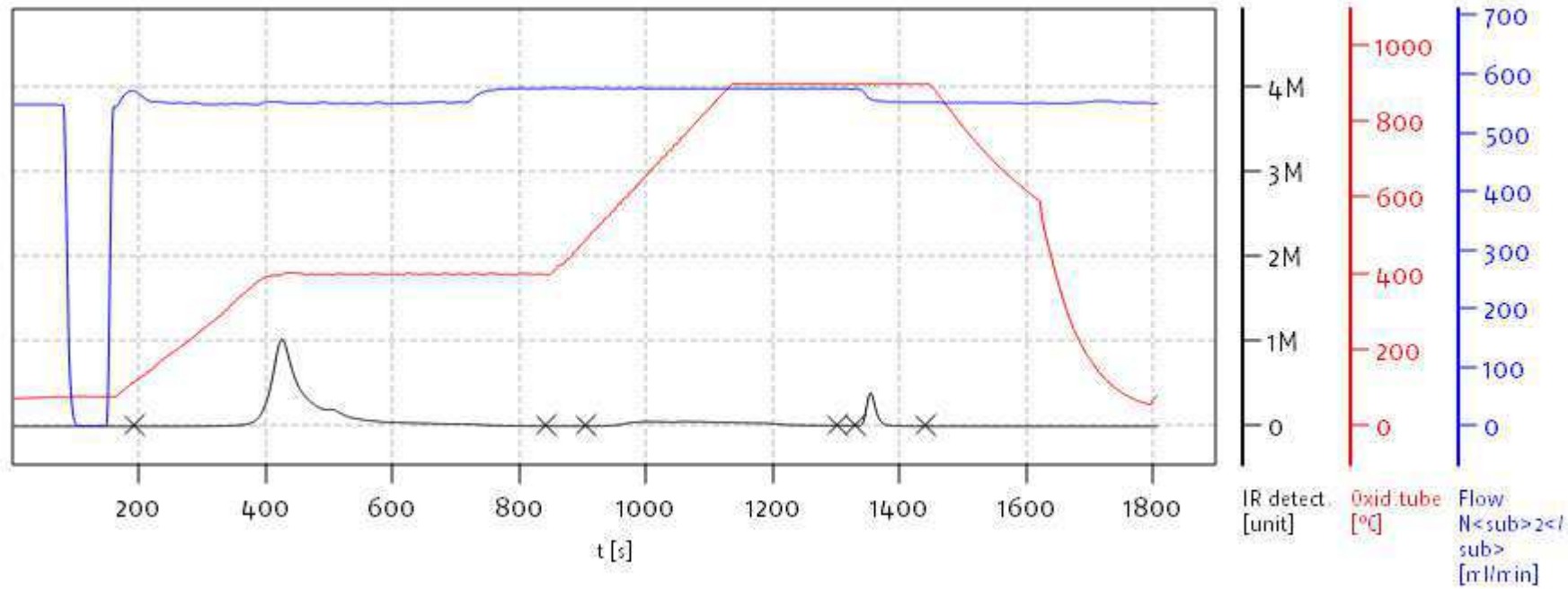
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
69	69	23A0419-09	509.30		CARBON	1/25/2023 2:05 AM	bl	0.857	2 595 167	0.999	0.072	264 304	493 561	0.785	0.142	1.0055	1.0000



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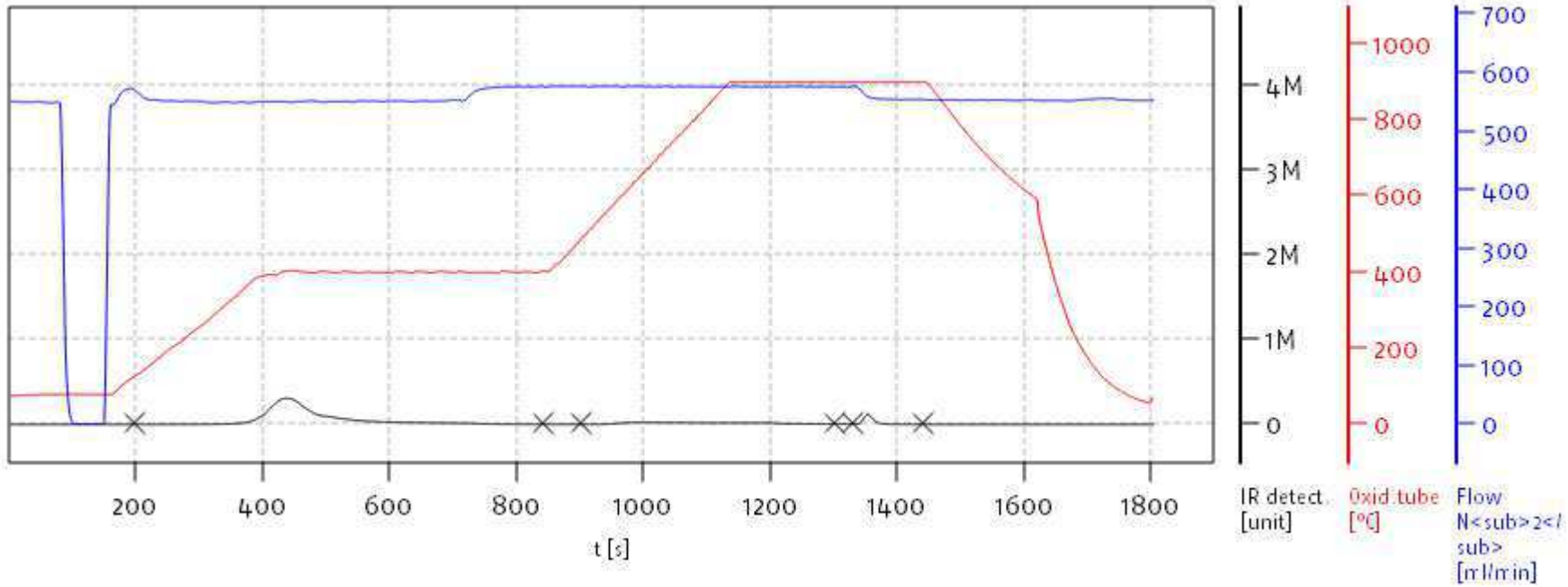
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
70	70	23A0419-10	504.20		CARBON	1/25/2023 2:35 AM	bl	0.369	1 165 099	0.427	0.018	84 367	215 101	0.351	0.058	1.0055	1.0000



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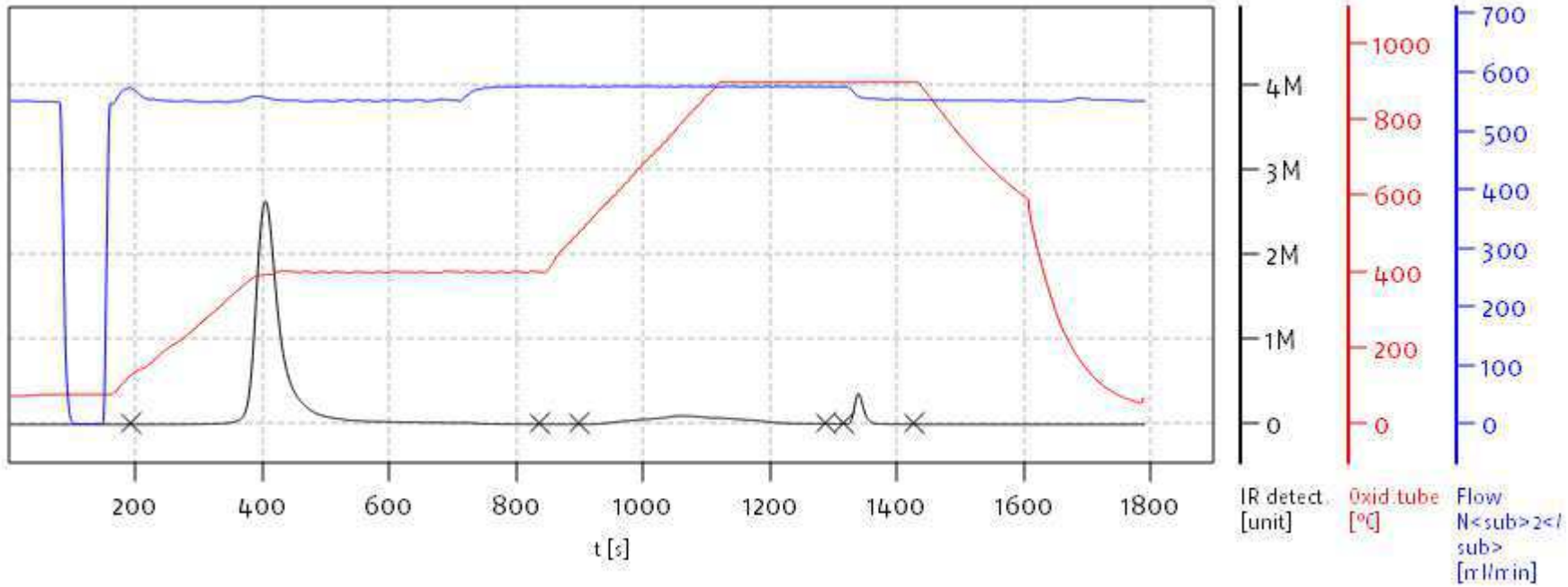
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
71	71	23A0419-11	531.70		CARBON	1/25/2023 3:05 AM	bl	1.405	4 616 787	1.594	0.061	236 679	675 880	1.344	0.189	1.0055	1.0000



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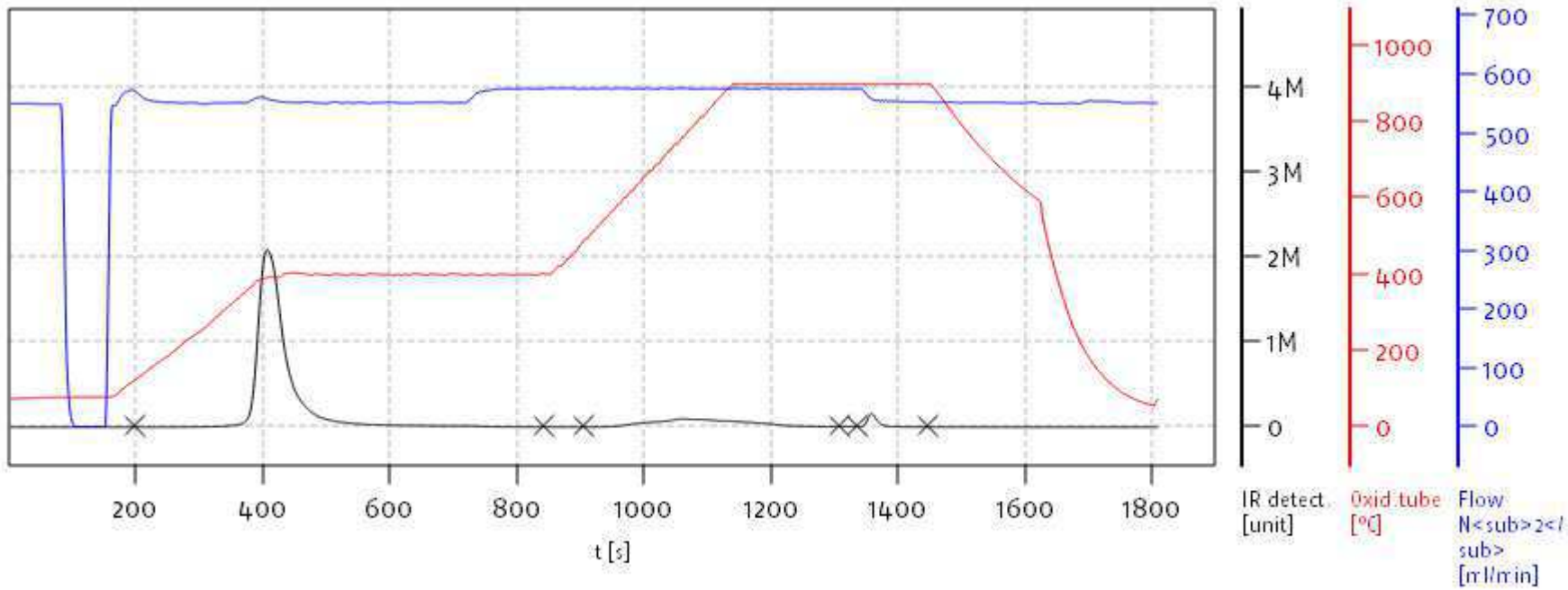
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
72	72	23A0419-12	521.80		CARBON	1/25/2023 3:36 AM	bl	1.214	4 010 810	1.396	0.026	113 948	638 461	1.188	0.182	1.0055	1.0000



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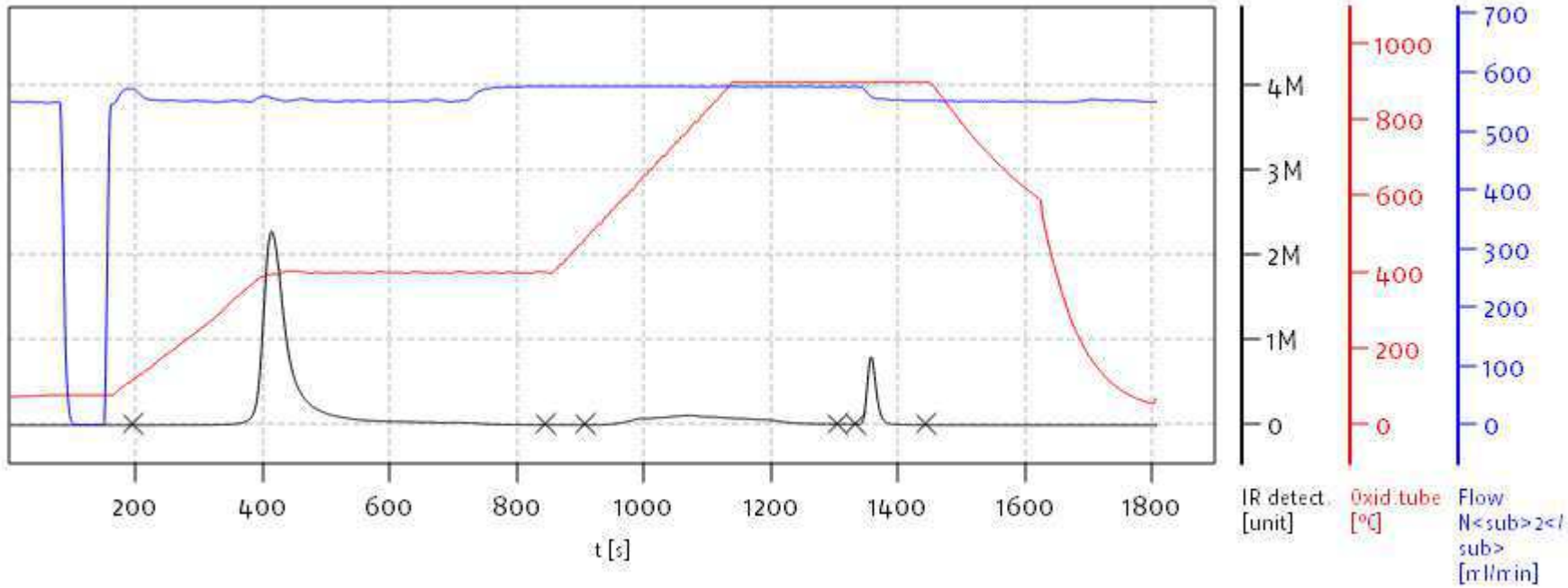
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
73	73	23A0420-01	557.90		CARBON	1/25/2023 4:06 AM	bl	1.297	4 183 421	1.527	0.137	519 608	857 047	1.160	0.230	1.0055	1.0000



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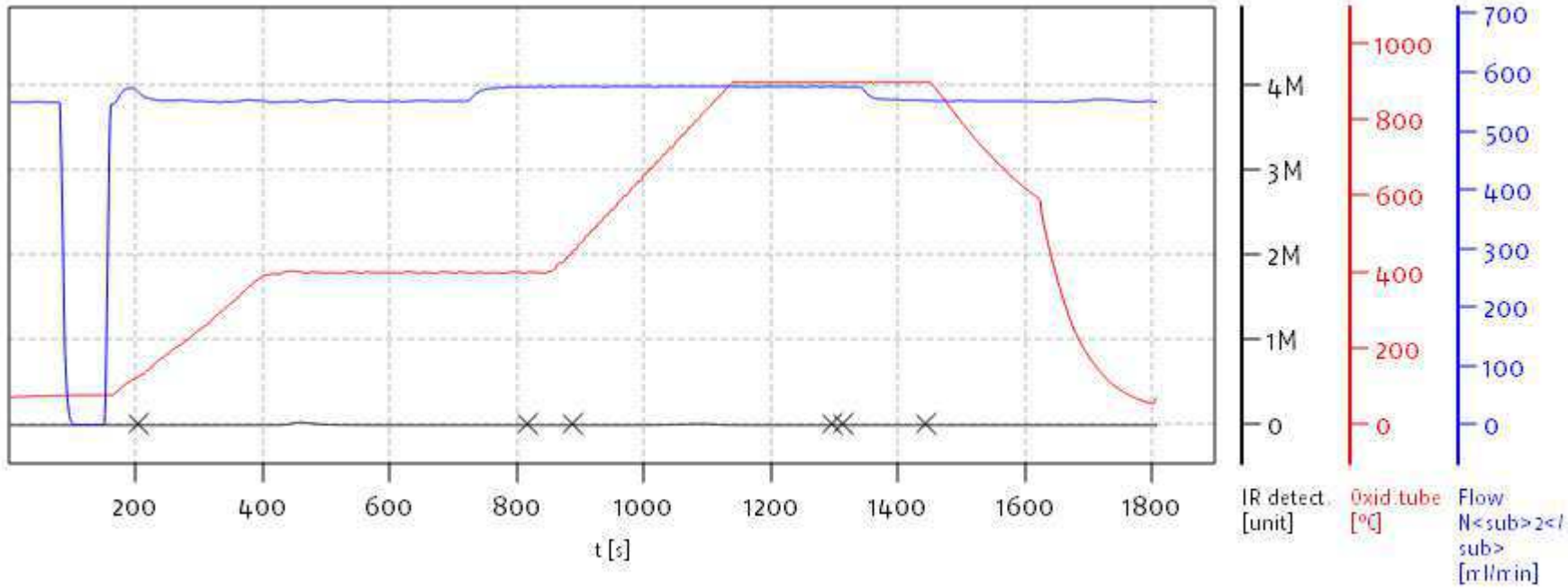
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
74	74	BLA0536-MRL1	527.70		CARBON	1/25/2023 4:37 AM	bl,C2u	0.009	58 025	0.012	0.000	345	35 521	0.009	0.003	1.0055	1.0000



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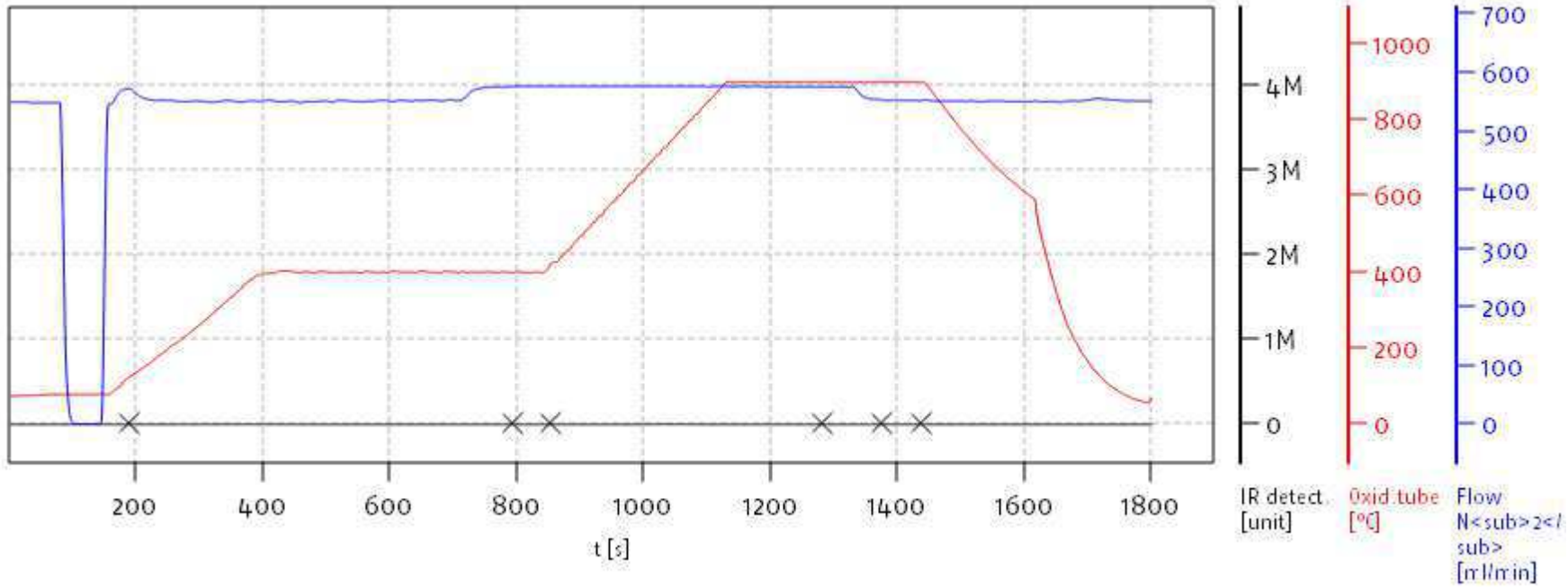
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
75	75	BLA0536-BLK1	519.40		CARBON	1/25/2023 5:07 AM	bl,C2u	0.000	8 243	0.000	0.000	238	6 505	0.000	0.000	1.0055	1.0000



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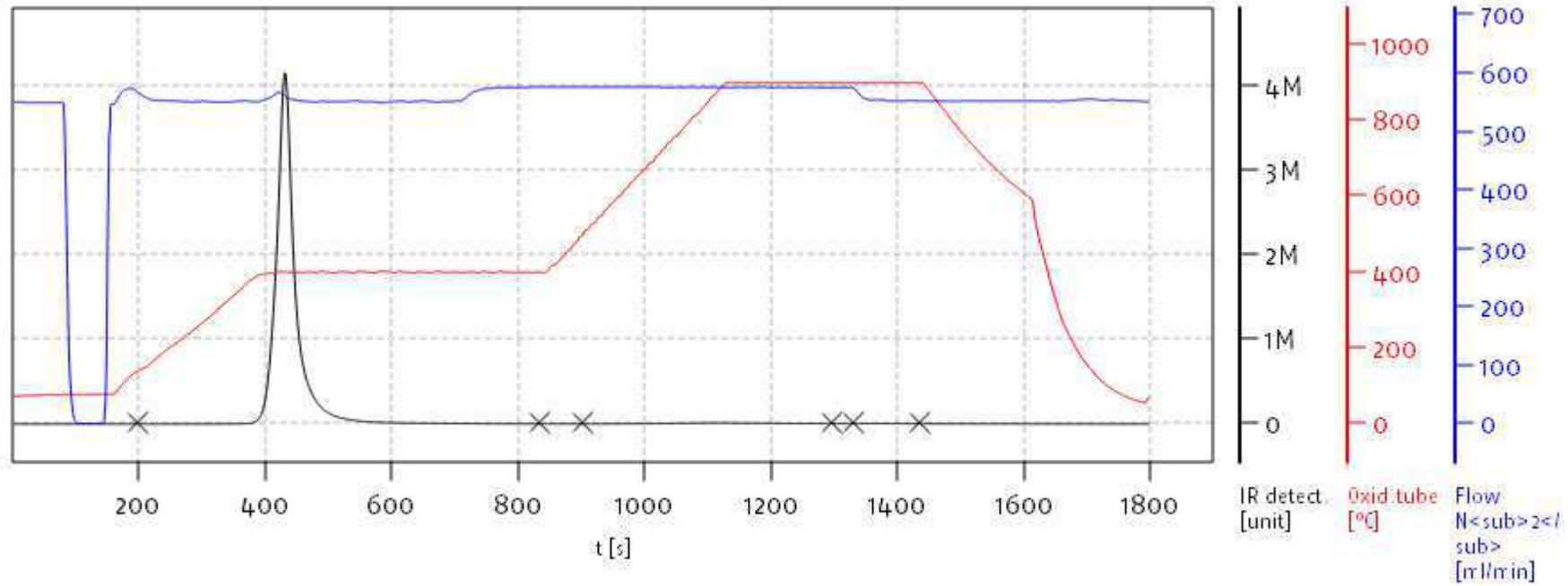
76	76	SLA0248-CCV6	18.60		CARBON	1/25/2023 5:38 AM	bl	44.707	5 369 056	45.302	0.000	19 465	97 995	44.707	0.595	1.0055	1.0000



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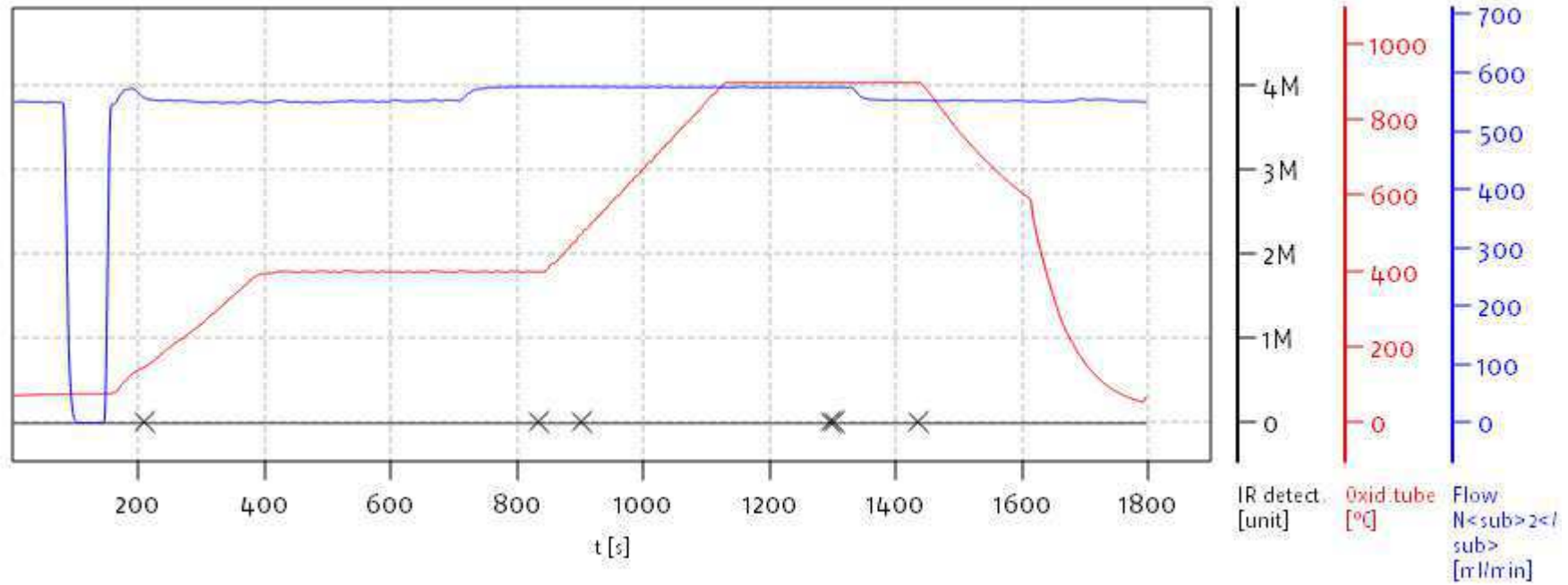
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
77	77	SLA0248-CCB6	523.50		CARBON	1/25/2023 6:08 AM	bl,C3u,C2u	0.000	4 357	0.000	0.000	597	177	0.000	0.000	1.0055	1.0000



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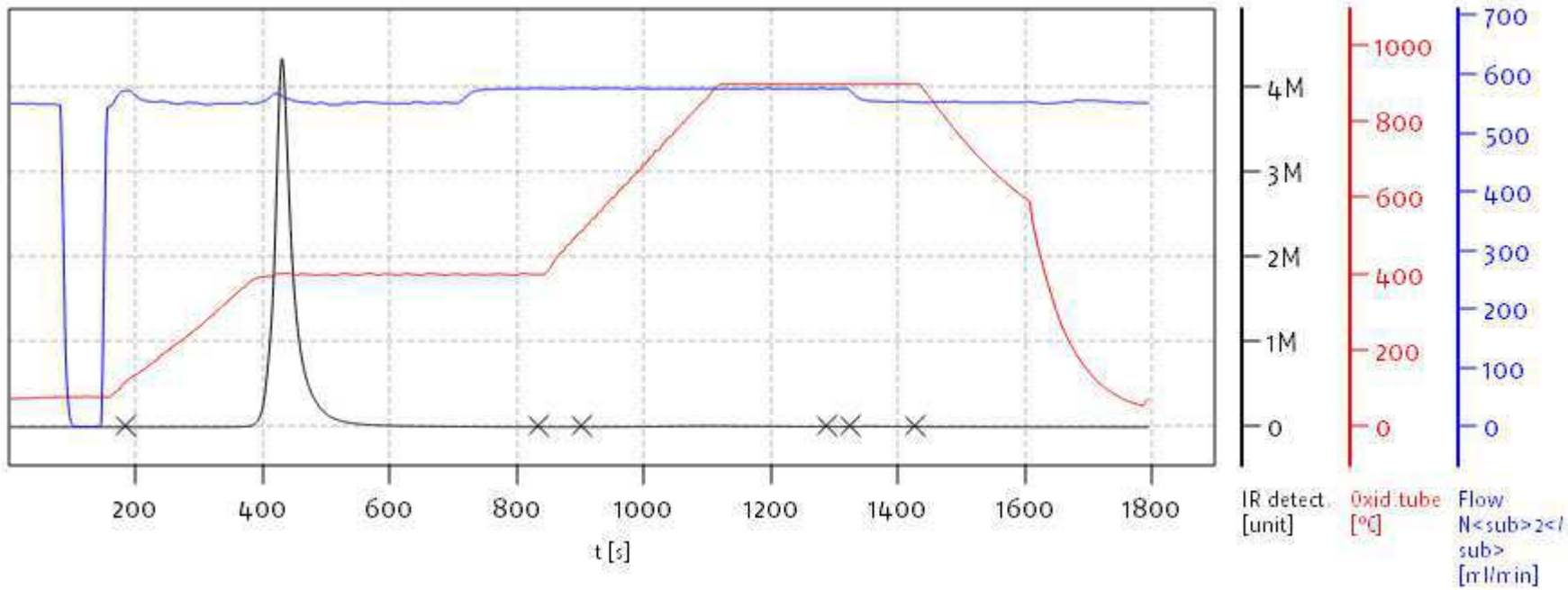
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
78	78	BLA0536-BS1	19.70		CARBON	1/25/2023 6:38 AM	bl	44.843	5 702 289	45.465	0.000	23 176	105 684	44.843	0.622	1.0055	1.0000



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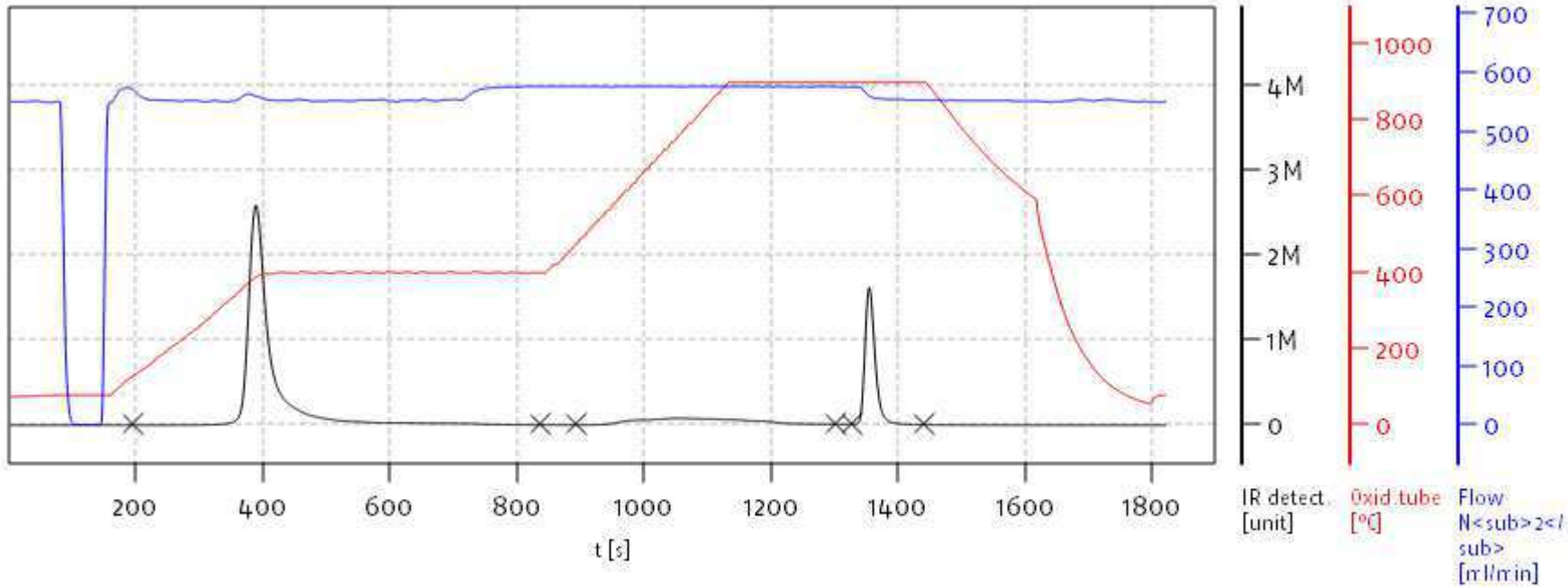
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
79	79	BLA0536-SRM1	257.50		CARBON	1/25/2023 7:09 AM	bl	2.969	3 828 148	3.354	0.671	1 143 426	666 051	2.298	0.384	1.0055	1.0000



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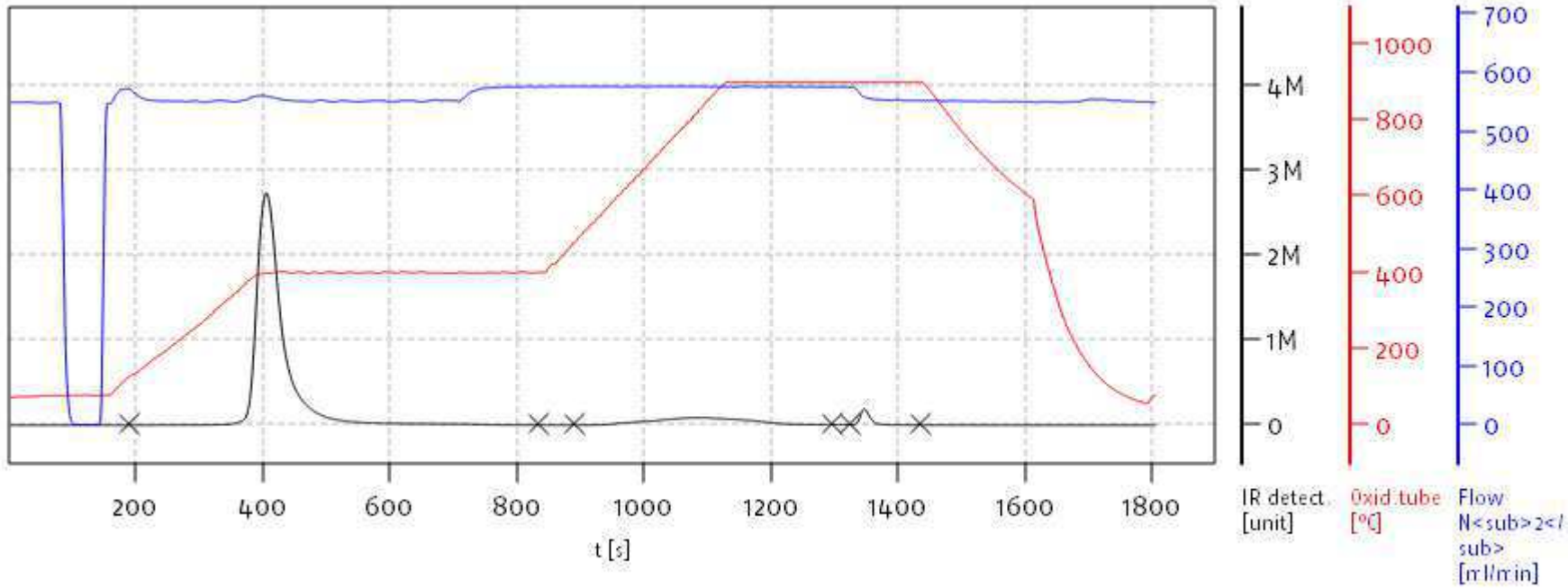
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
80	80	23A0420-02	538.70		CARBON	1/25/2023 7:40 AM	bl	1.414	4 815 615	1.580	0.031	133 189	603 826	1.384	0.166	1.0055	1.0000



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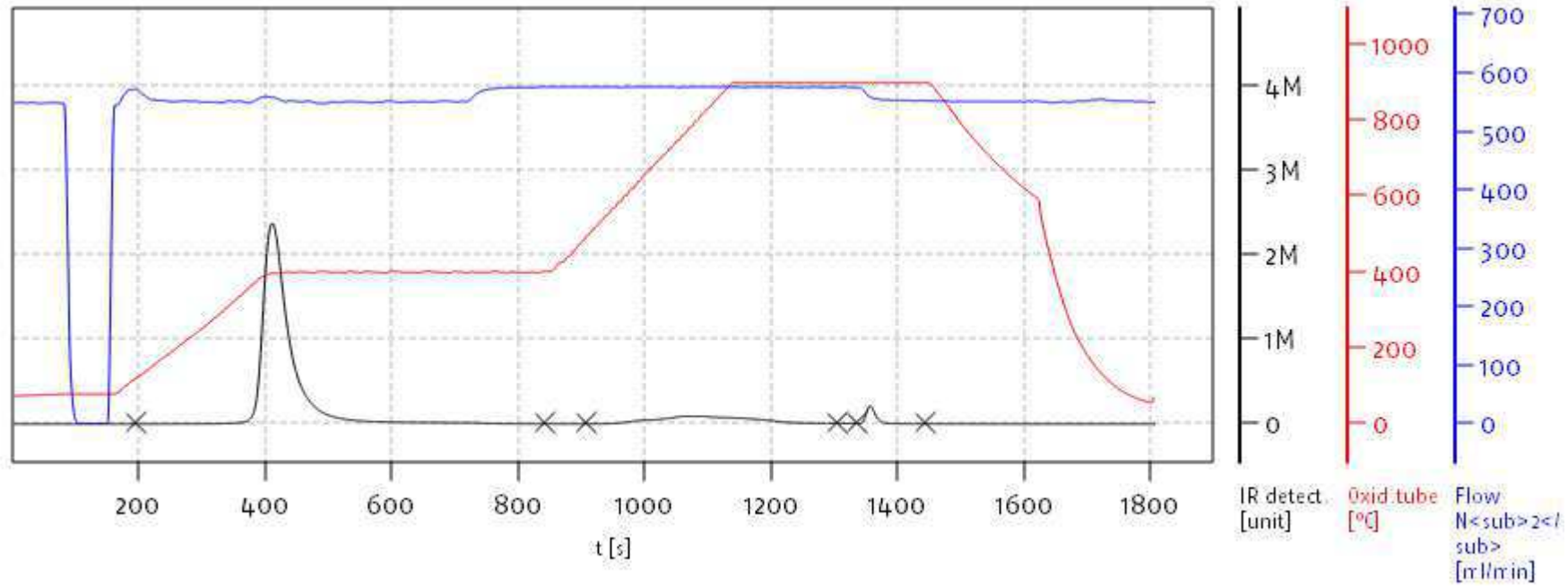
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
81	81	BLA0536-DUP1	517.10		CARBON	1/25/2023 8:10 AM	bl	1.342	4 366 419	1.523	0.035	144 427	634 068	1.306	0.182	1.0055	1.0000



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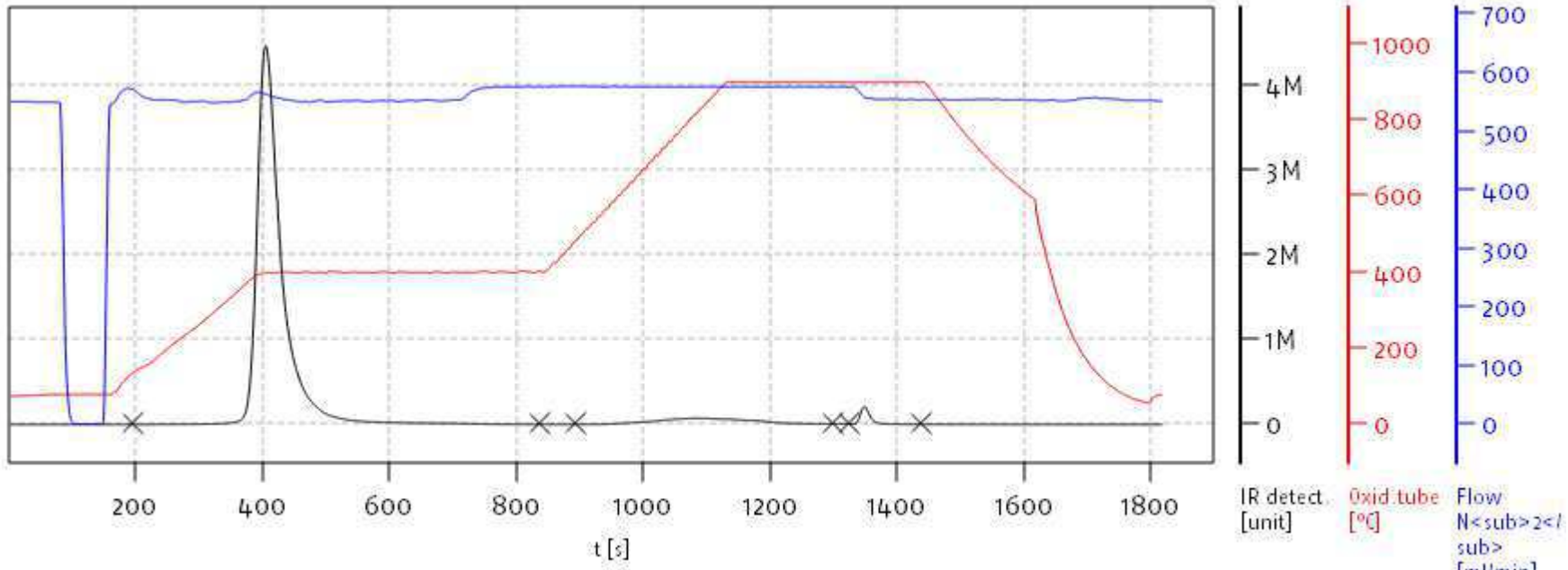
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
82	82	BLA0536-MS1	520.70	0.0094	CARBON	1/25/2023 8:41 AM	bl	2.268	7 493 431	2.410	0.036	147 574	505 750	2.232	0.142	1.0055	1.0000



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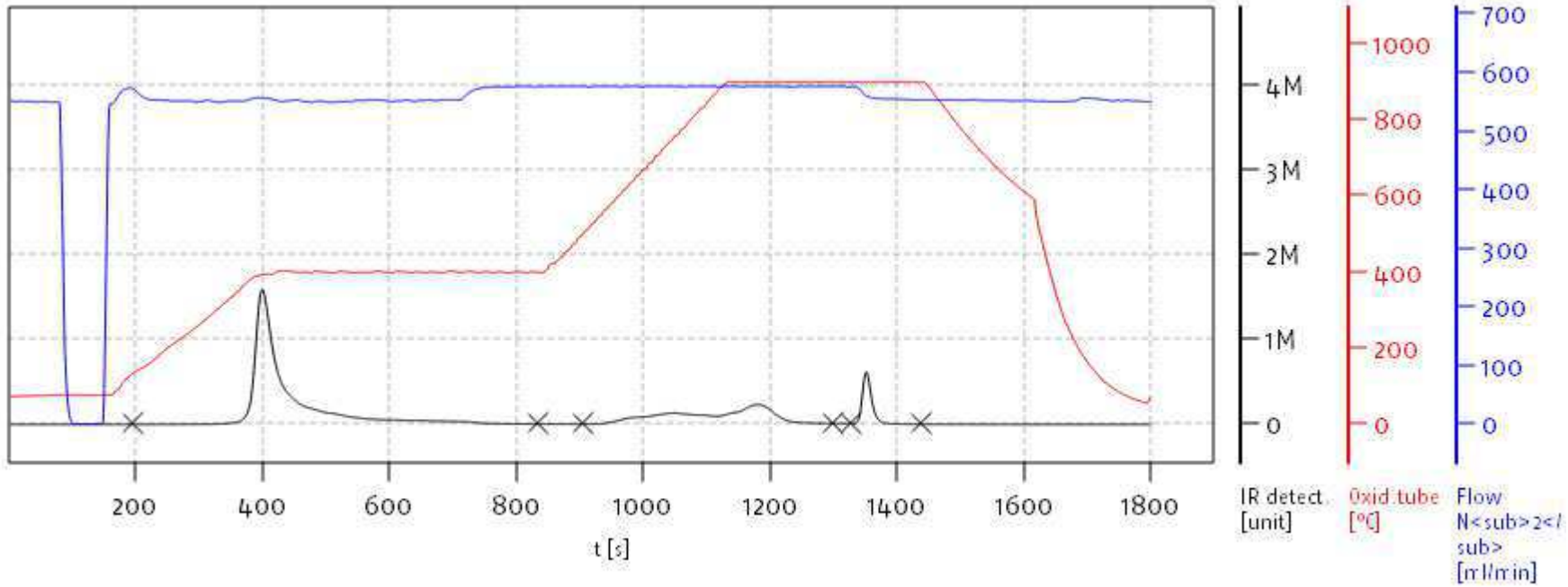
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
83	83	23A0420-03	508.60		CARBON	1/25/2023 9:11 AM	bl	1.071	3 147 291	1.467	0.116	406 097	1 327 970	0.955	0.396	1.0055	1.0000



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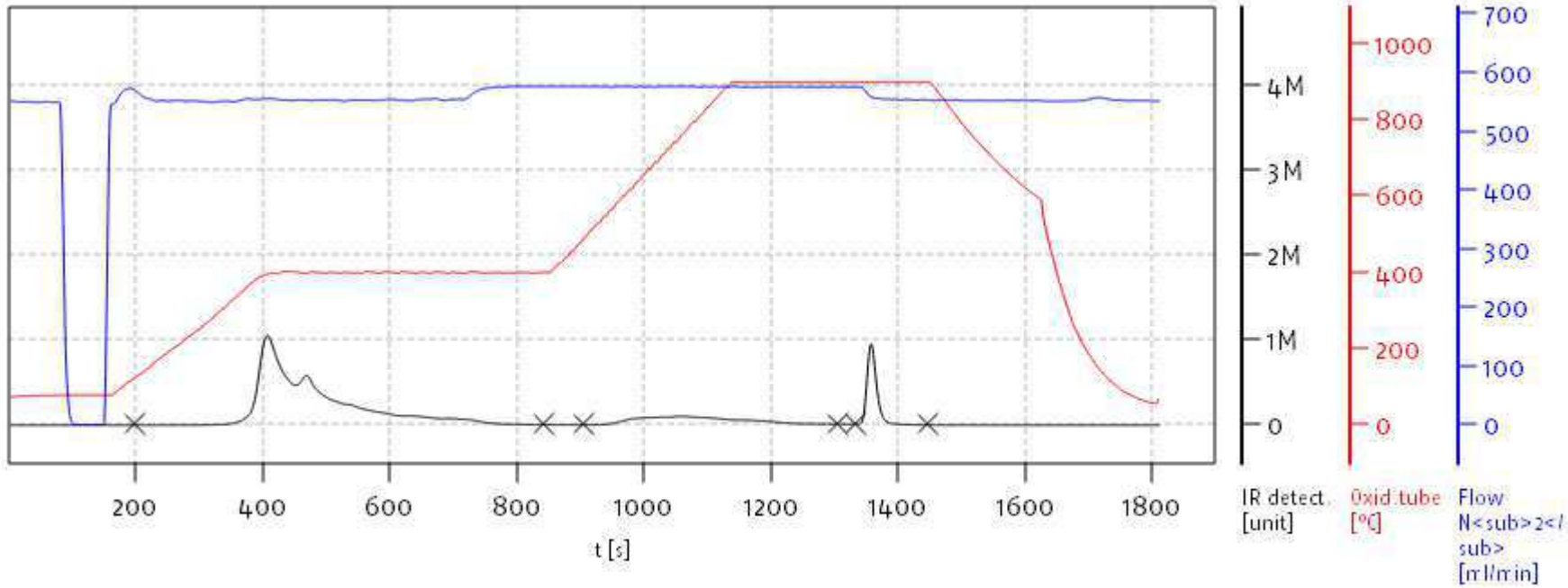
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
84	84	23A0420-04	512.40		CARBON	1/25/2023 9:42 AM	bl	1.401	4 027 952	1.634	0.185	640 119	798 657	1.215	0.233	1.0055	1.0000



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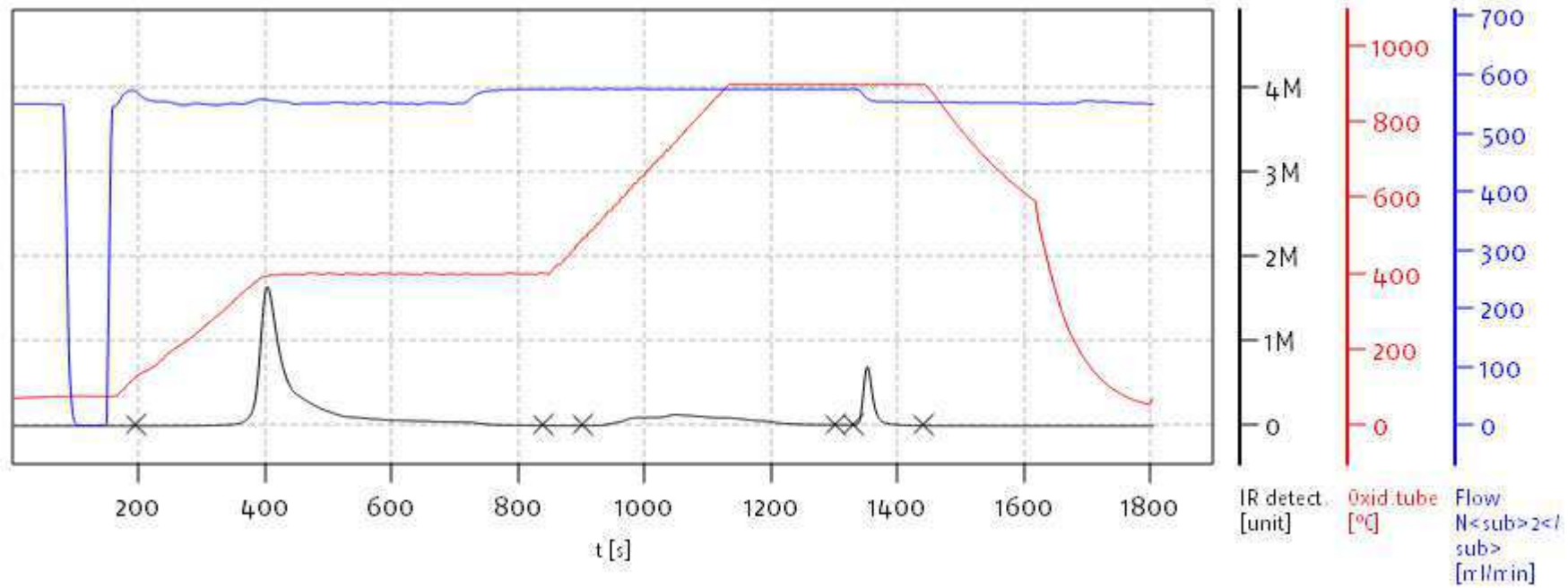
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
85	85	23A0420-05	550.70		CARBON	1/25/2023 10:12 AM	bl	1.127	3 559 043	1.391	0.129	484 909	965 035	0.998	0.264	1.0055	1.0000



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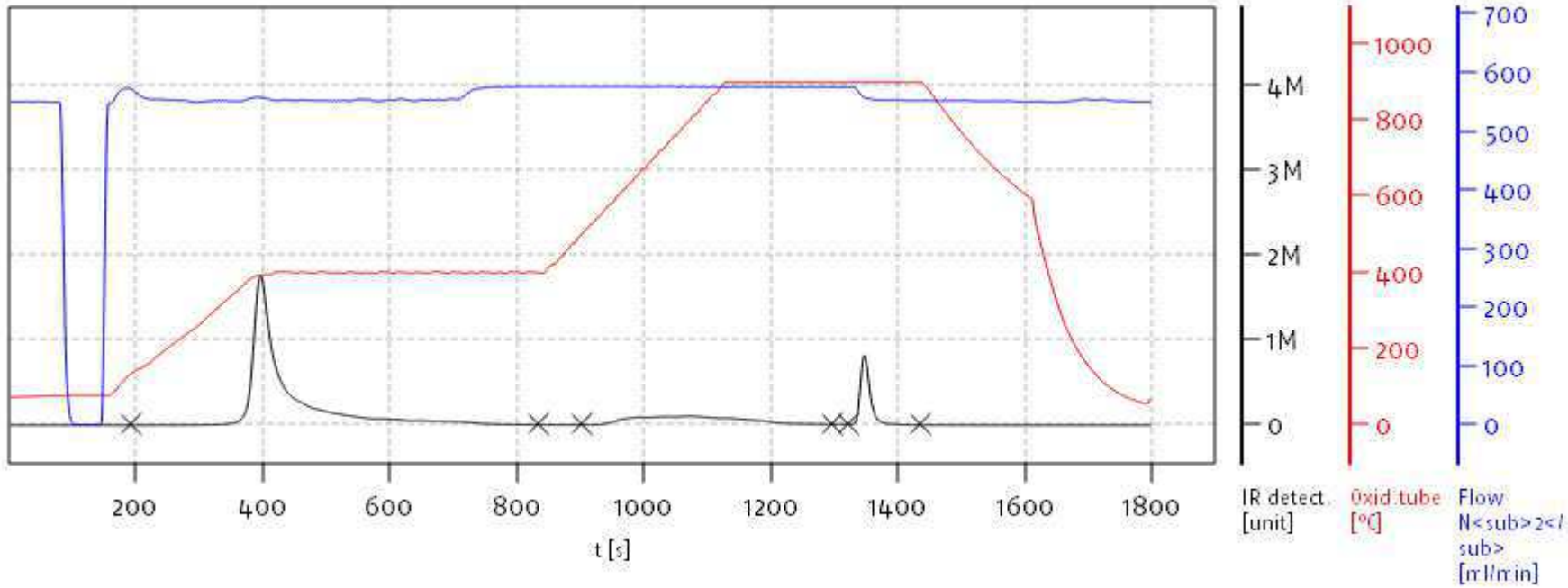
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
86	86	23A0420-06	551.60		CARBON	1/25/2023 10:43 AM	bl	1.143	3 548 920	1.378	0.149	557 915	864 692	0.994	0.235	1.0055	1.0000



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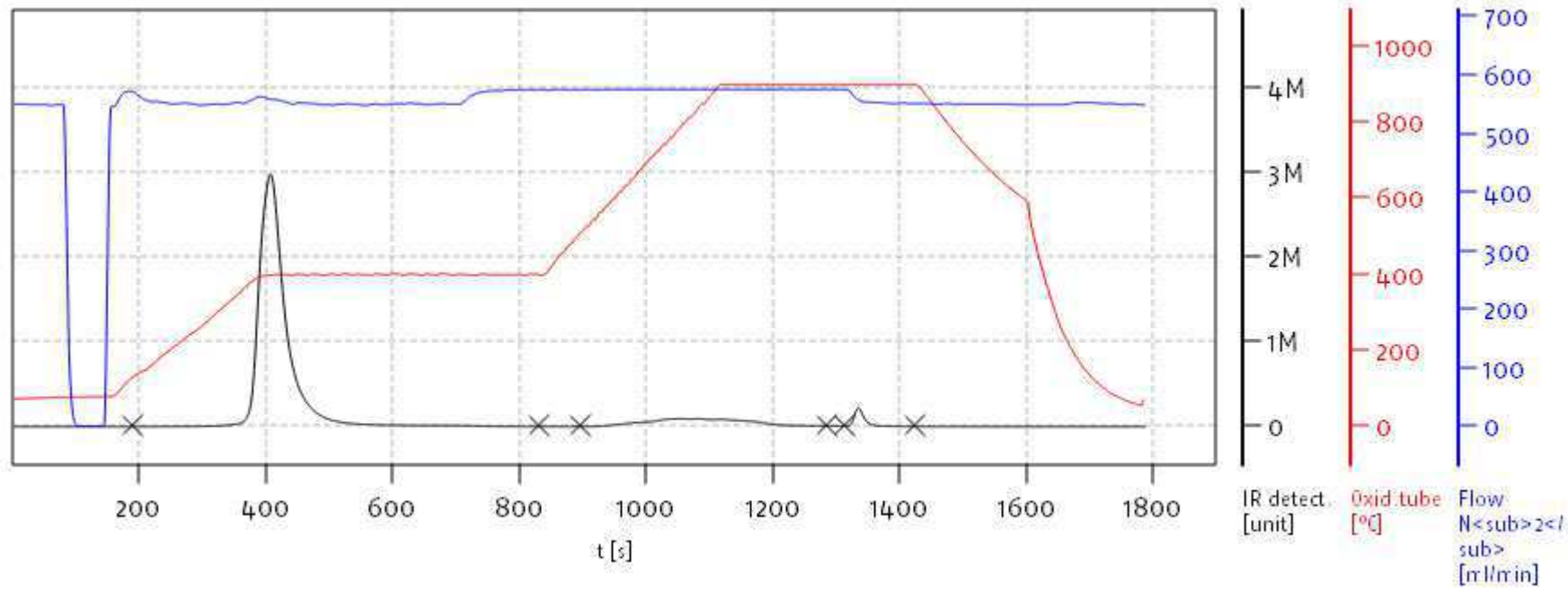
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
87	87	23A0420-07	576.00		CARBON	1/25/2023 11:13 AM	bl	1.499	5 441 719	1.677	0.035	157 829	691 486	1.463	0.179	1.0055	1.0000



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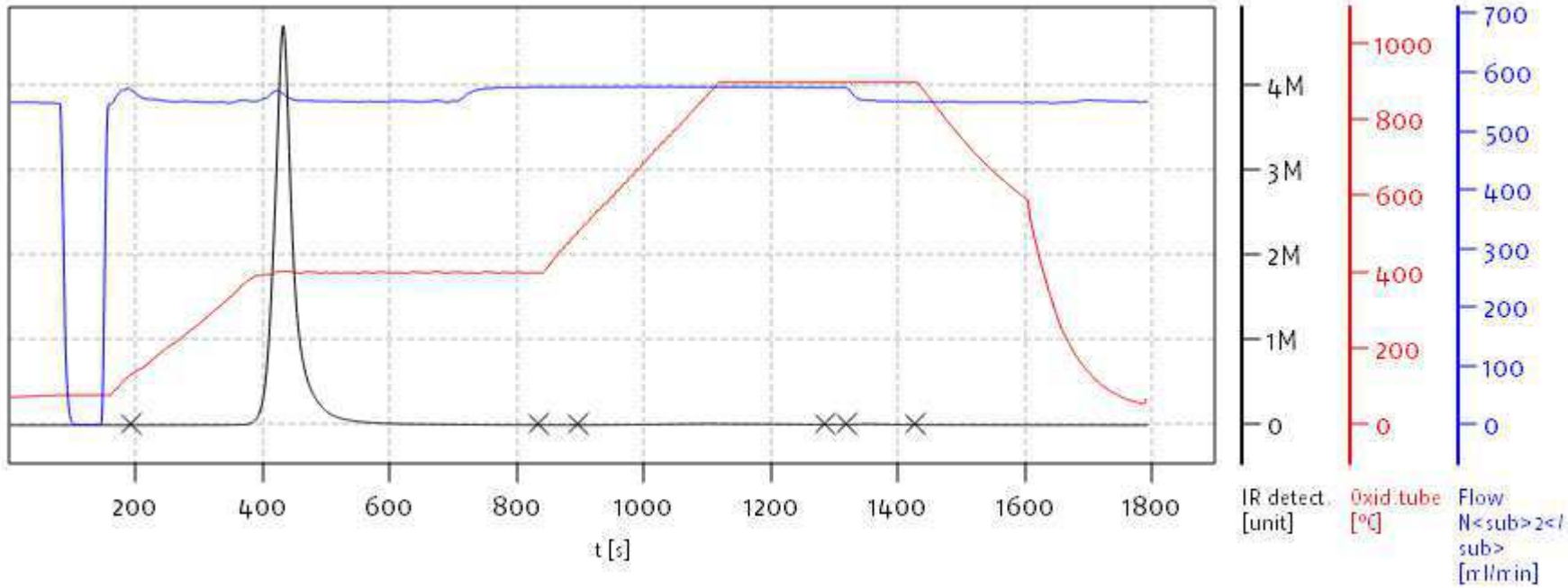
88	88	SLA0248-CCV7	22.20		CARBON	1/25/2023 11:43 AM	bl	44.445	6 360 834	45.184	0.034	31 436	132 487	44.411	0.739	1.0055	1.0000



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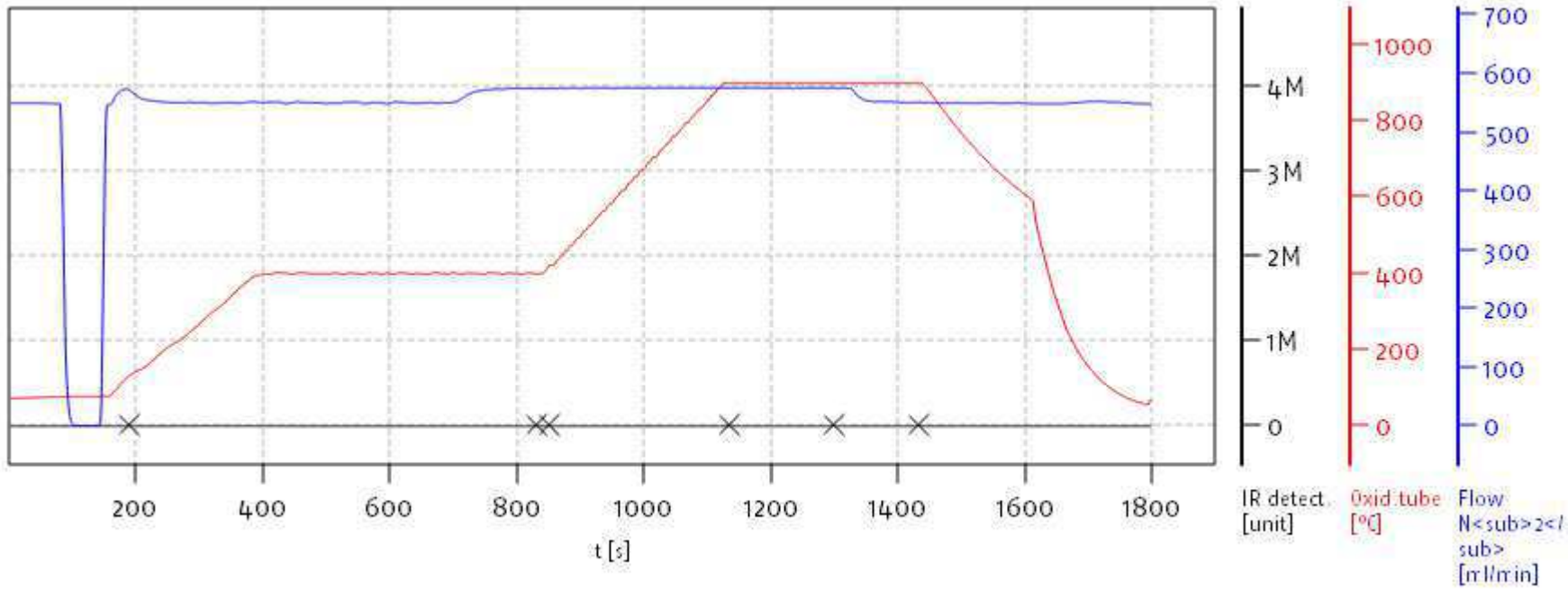
89	89	SLA0248-CCB7	510.40		CARBON	1/25/2023 12:14 PM	bl,C3u,C2u	0.000	9 173	0.000	0.000	755	173	0.000	0.000	1.0055	1.0000



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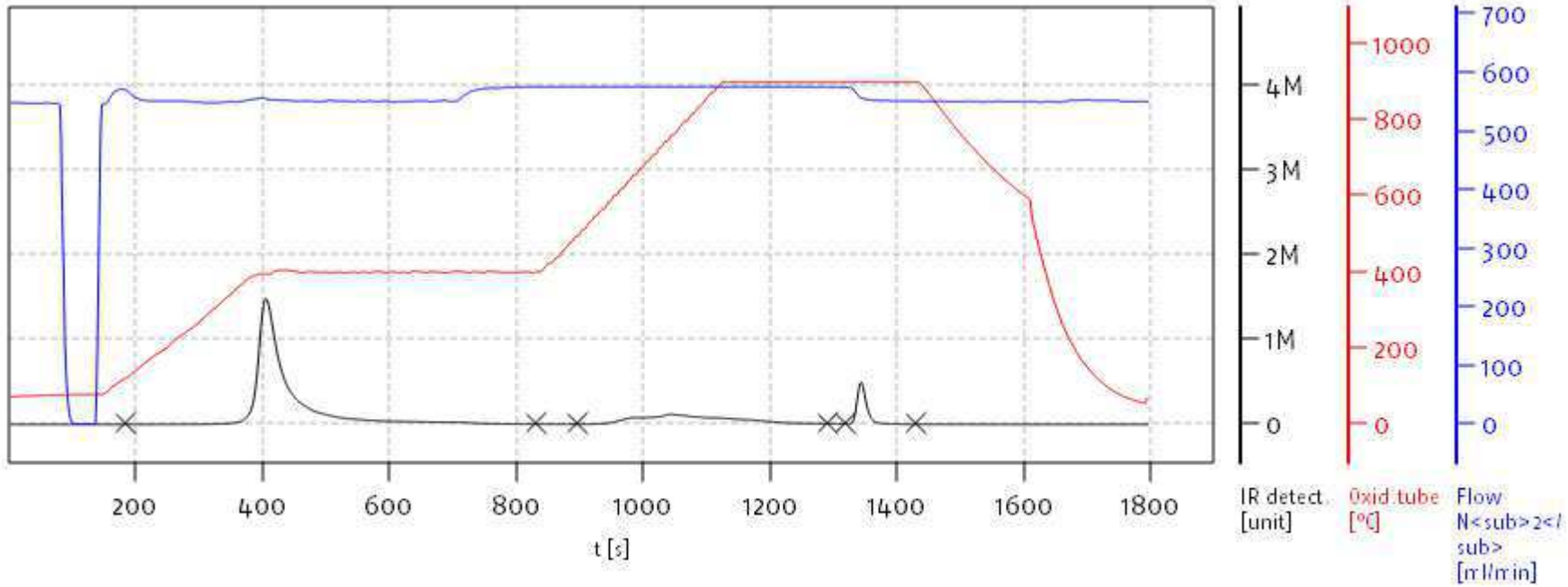
90	1	23A0420-08	531.50		CARBON	1/25/2023 12:44 PM	bl	0.932	2 908 752	1.150	0.088	330 034	774 946	0.844	0.218	1.0055	1.0000



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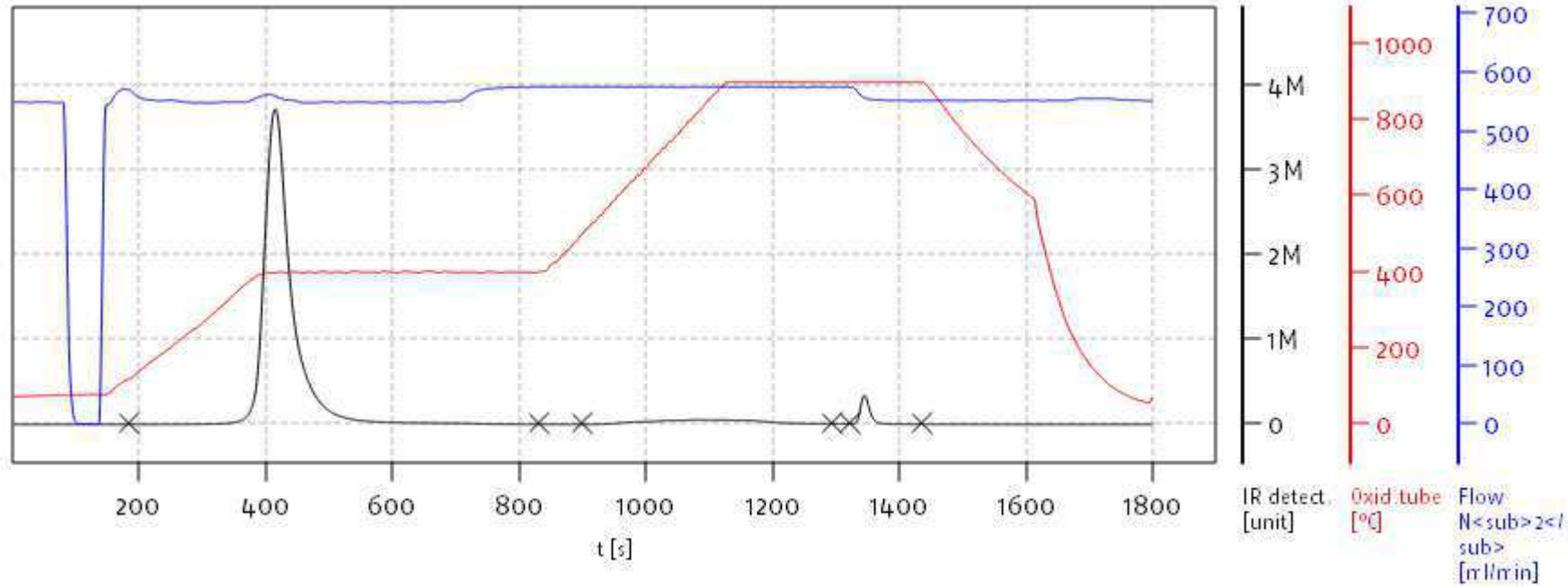
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
91	2	23A0420-09	595.70		CARBON	1/25/2023 1:14 PM	bl	1.856	6 930 831	1.963	0.052	226 221	440 193	1.804	0.107	1.0055	1.0000



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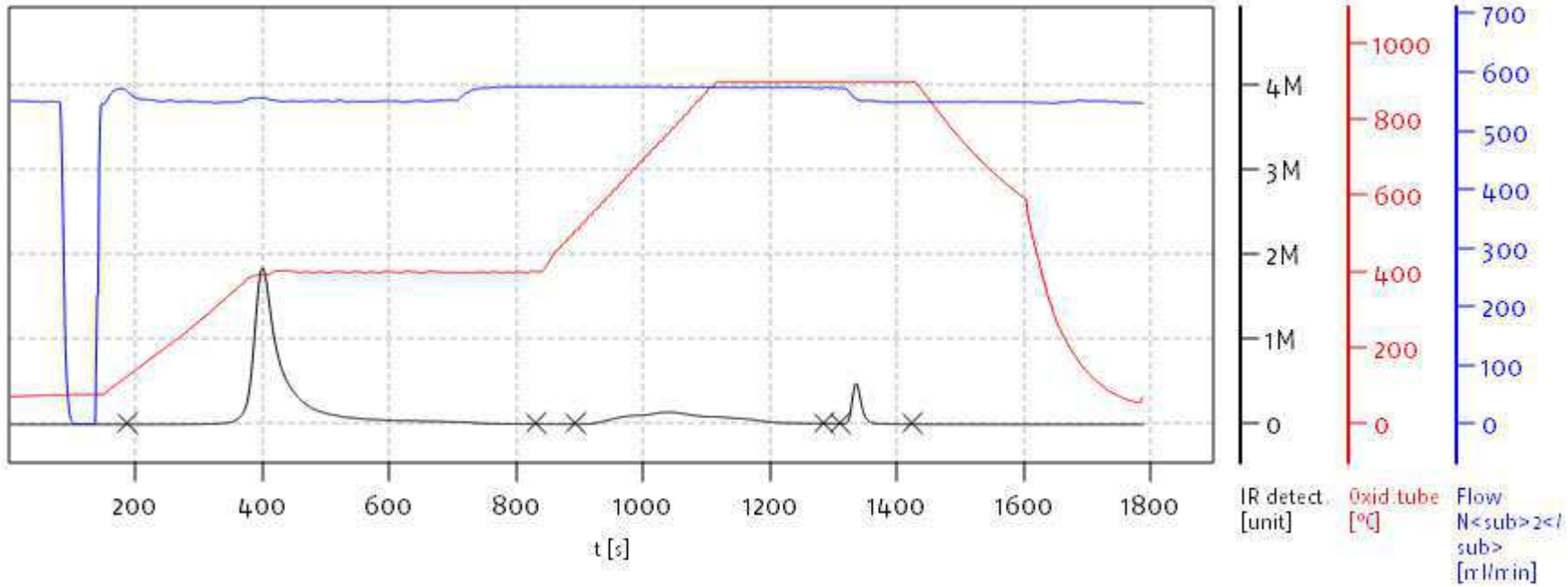
92	3	23A0455-01	643.80		CARBON	1/25/2023 1:45 PM	bl	0.978	3 780 275	1.208	0.070	319 720	982 408	0.908	0.230	1.0055	1.0000



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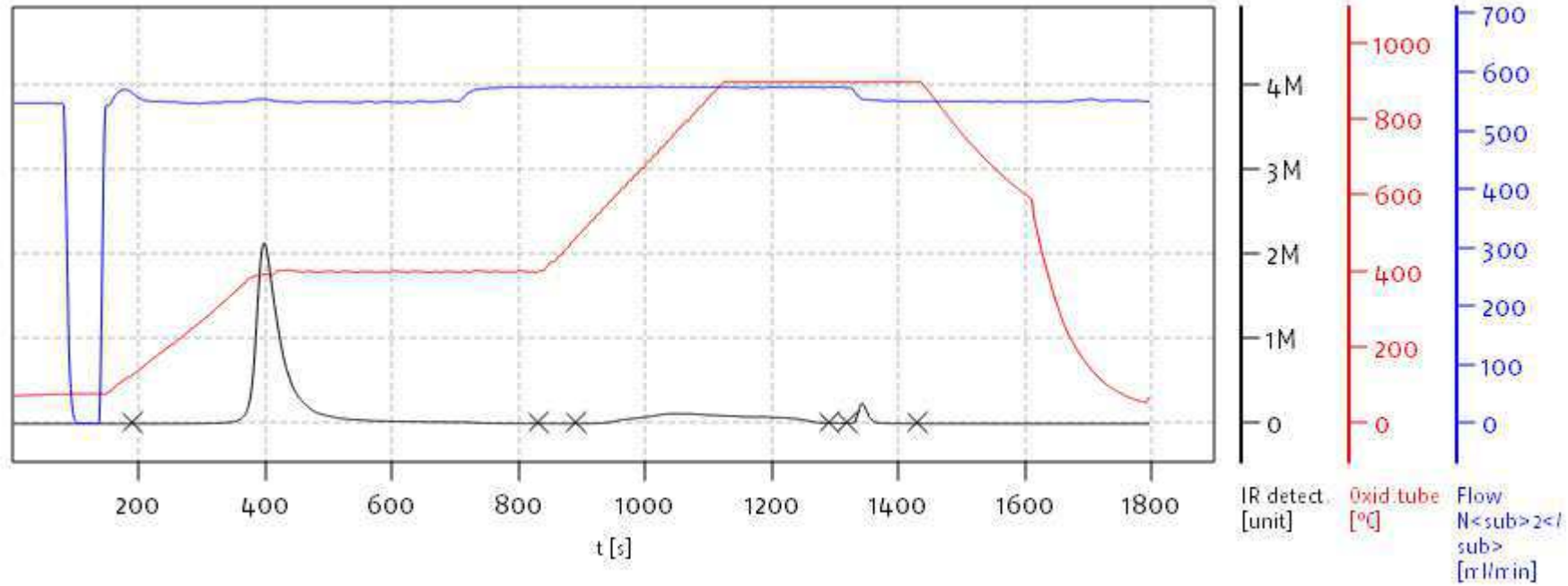
93	4	23A0455-02	544.10		CARBON	1/25/2023 2:15 PM	bl	1.155	3 928 863	1.434	0.038	161 622	1 007 942	1.116	0.279	1.0055	1.0000



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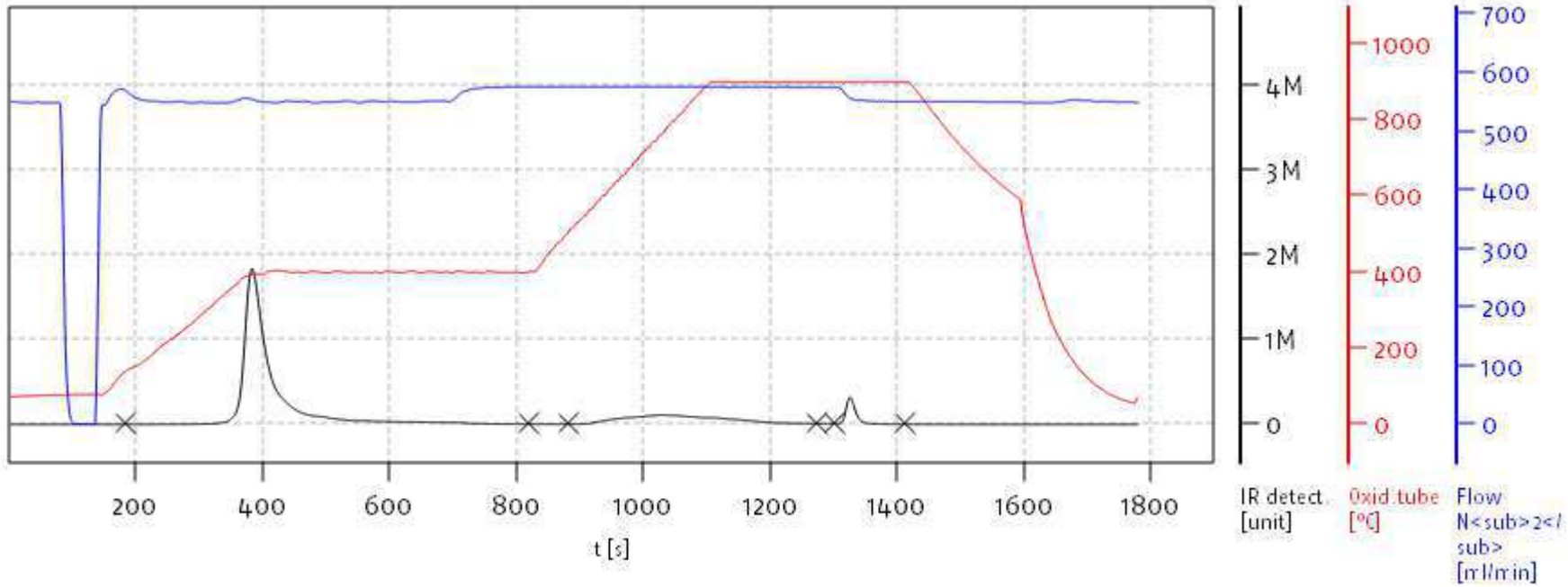
94	5	23A0455-03	533.10		CARBON	1/25/2023 2:45 PM	bl	1.006	3 280 902	1.233	0.055	217 577	811 013	0.950	0.228	1.0055	1.0000



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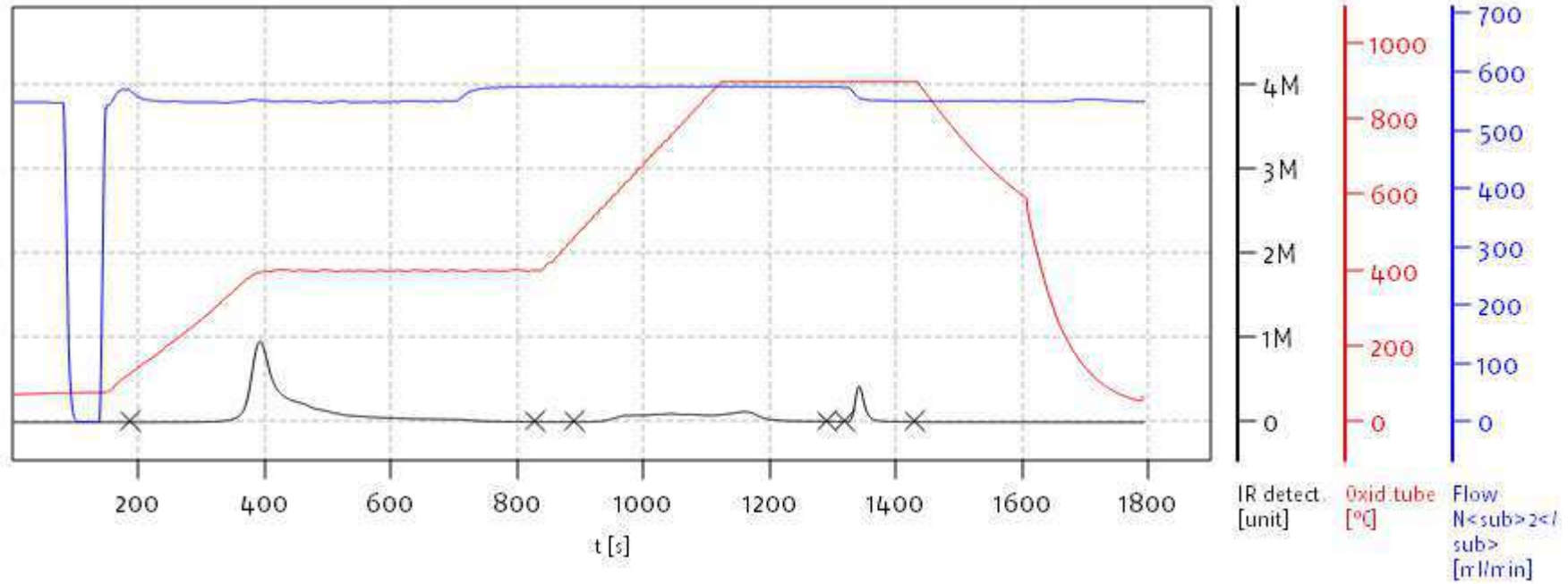
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
95	6	23A0455-04	505.70		CARBON	1/25/2023 3:15 PM	bl	0.839	2 483 236	1.107	0.083	296 855	901 894	0.756	0.268	1.0055	1.0000



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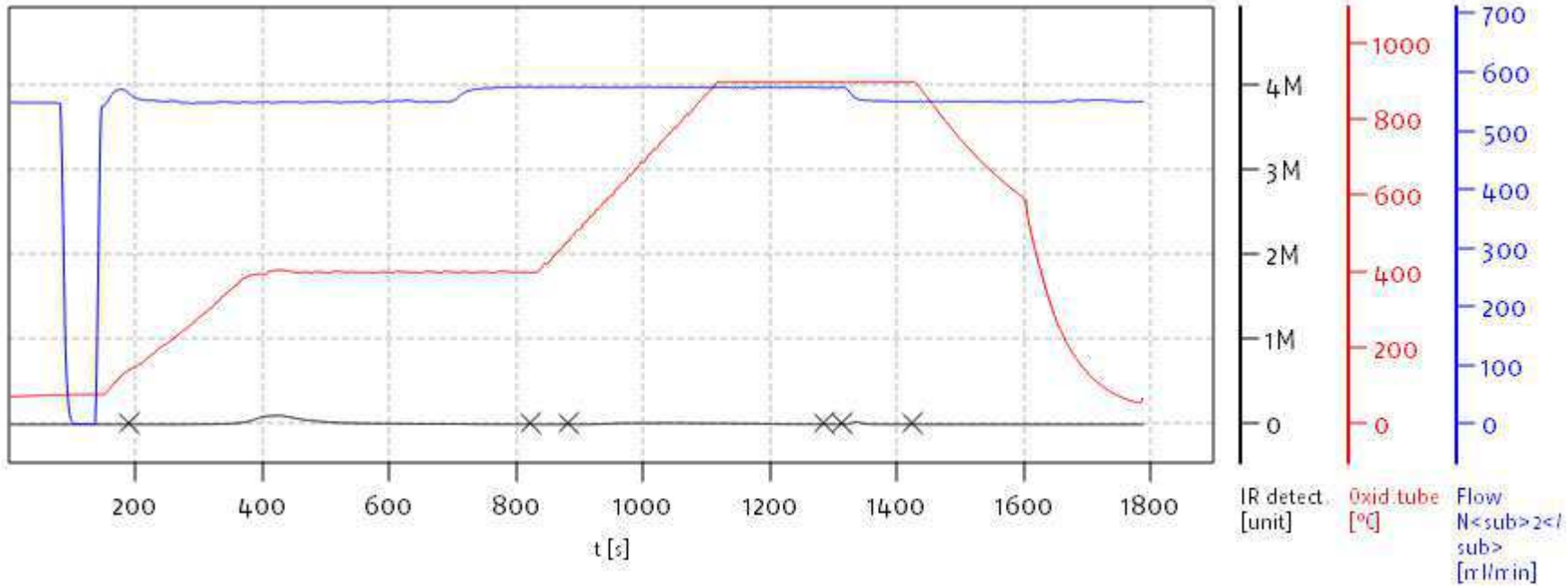
Access: soliTOC superuser

Date: Thu Jan 26 11:30:20 2023

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
96	7	23A0455-05	578.50		CARBON	1/25/2023 3:45 PM	bl	0.114	448 511	0.143	0.000	21 176	135 200	0.114	0.029	1.0055	1.0000



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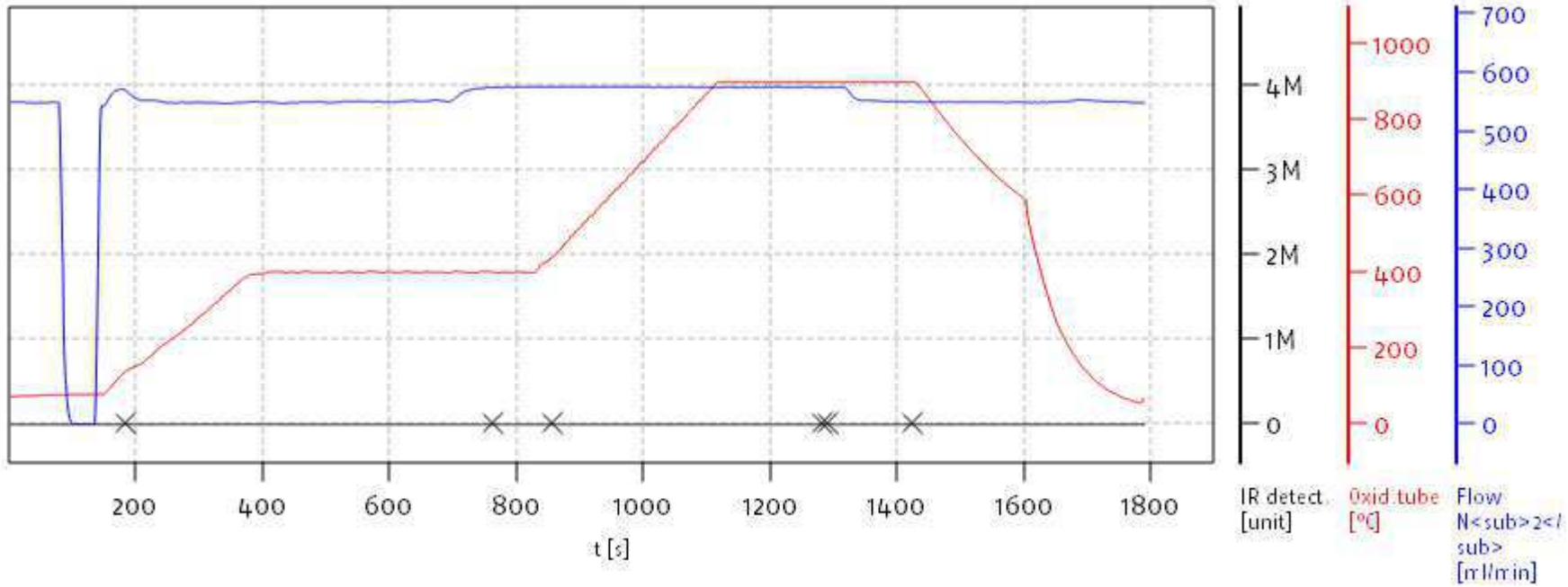
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
97	8	BLANK	1.00		CARBON	1/ 25/2023 4:16 PM	bl	0.000	9 690	0.000	0.000	398	1 467	0.000	0.000	1.0055	1.0000



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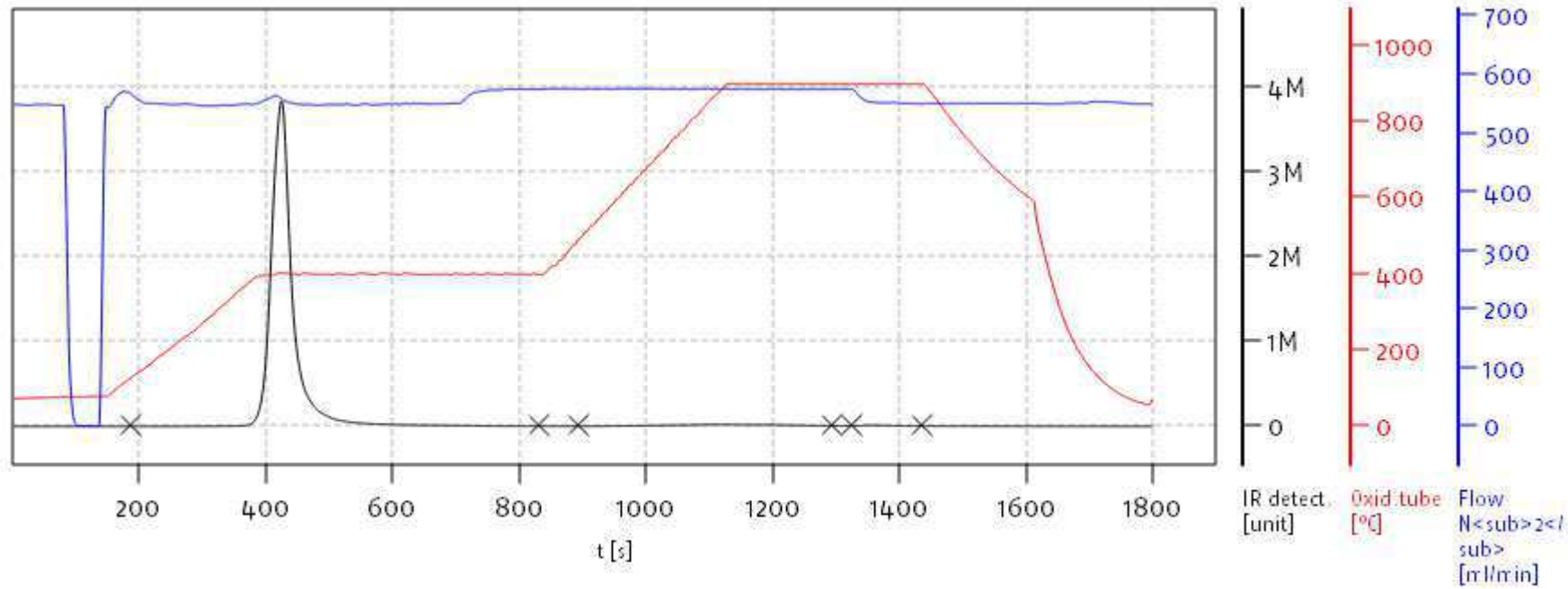
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
98	9	Dfactor	19.70		CARBON	1/25/2023 4:46 PM	bl	44.493	5 581 097	45.733	0.047	32 519	184 433	44.446	1.241	1.0183	1.0000



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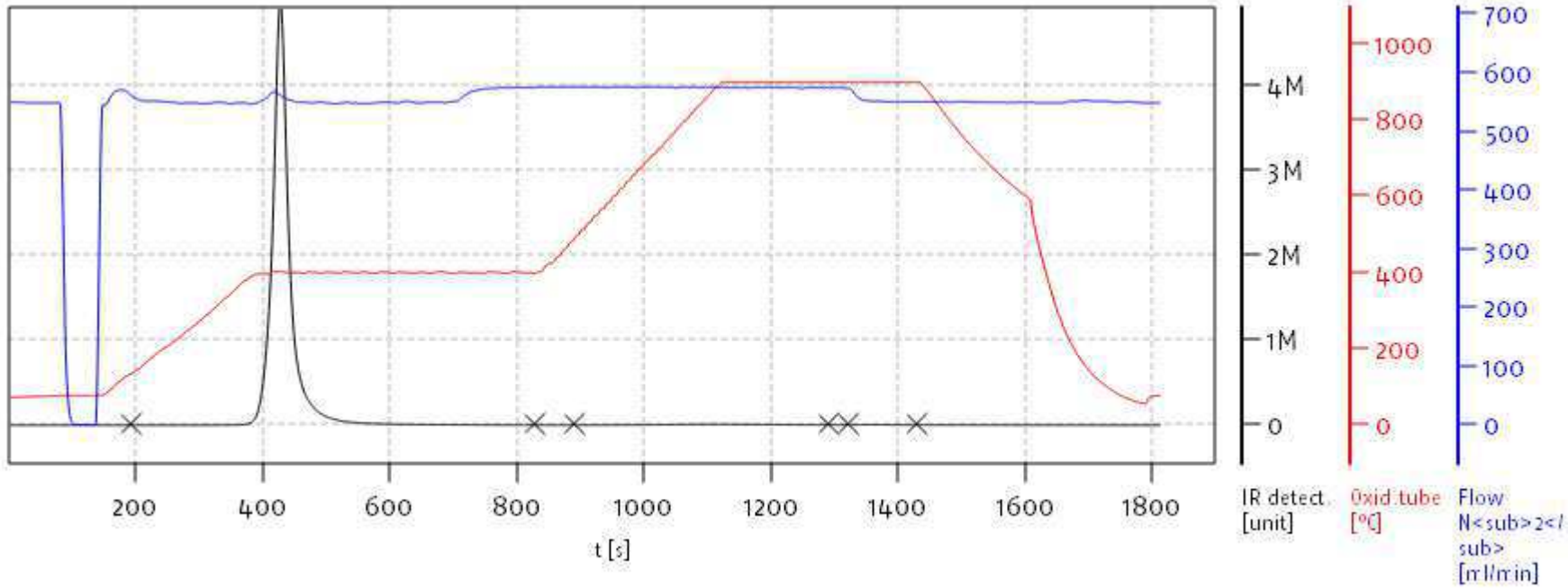
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
99	10	Dfactor	19.70		CARBON	1/25/2023 5:17 PM	bl	44.446	5 816 436	44.894	0.000	17 042	83 614	44.446	0.449	0.9769	1.0000



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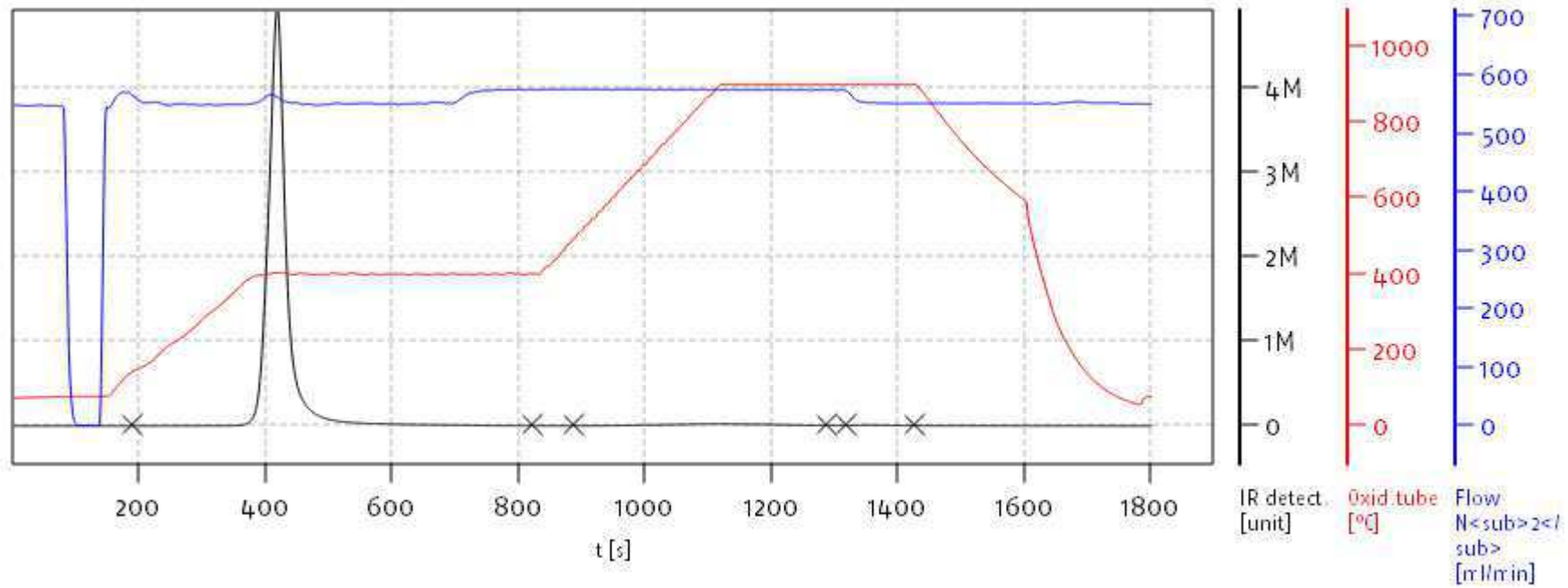
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
100	11	SLA0248-CCV8	21.00		CARBON	1/25/2023 5:47 PM	bl	44.971	6 141 719	46.160	0.001	26 726	187 870	44.970	1.189	0.9976	1.0000



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Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
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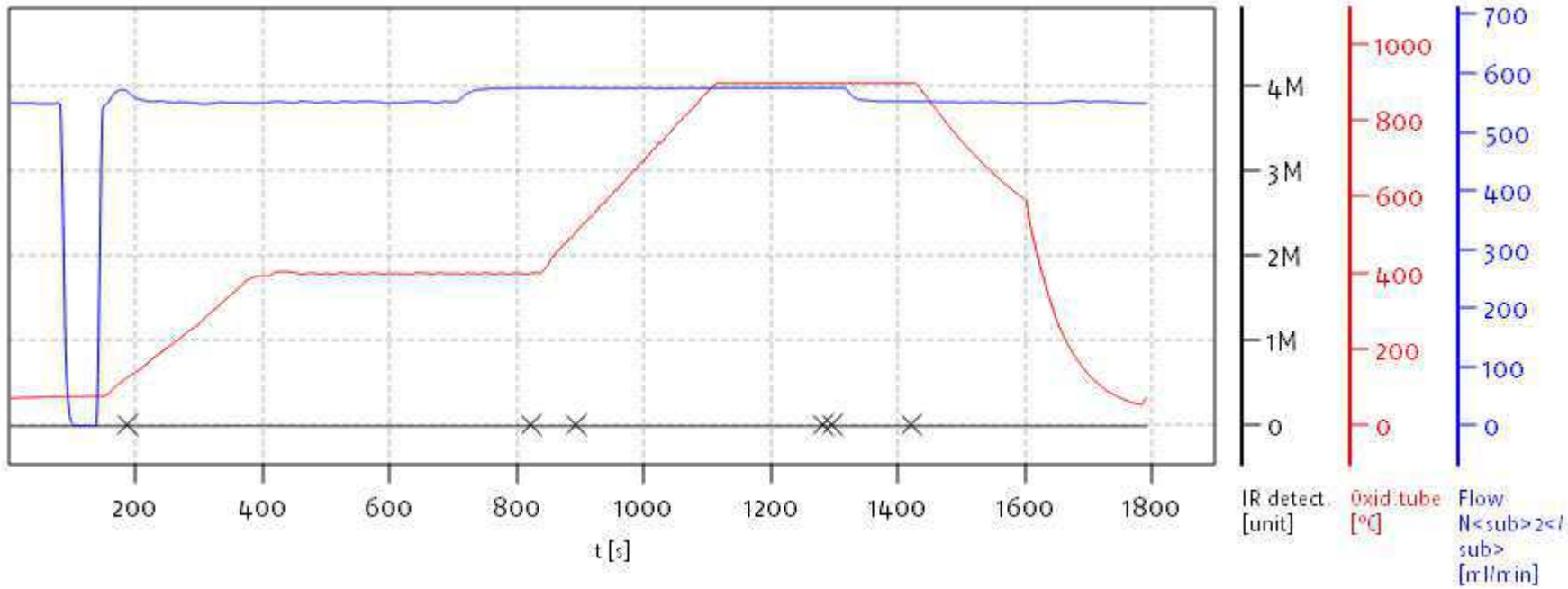
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
101	12	SLA0248-CCB8	506.50		CARBON	1/25/2023 6:18 PM	bl,C3u,C2u	0.000	9 854	0.000	0.000	1 317	874	0.000	0.000	0.9976	1.0000



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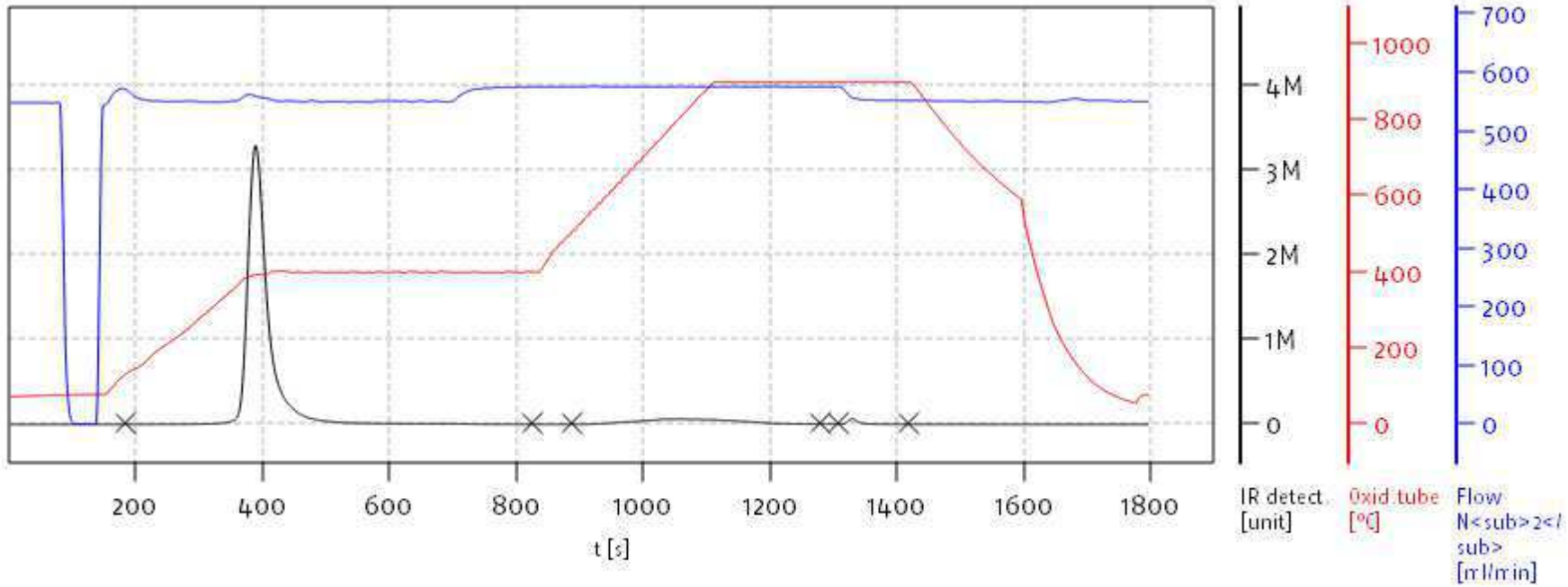
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
102	13	23A0455-06	506.40		CARBON	1/25/2023 6:48 PM	bl	1.383	4 536 741	1.513	0.008	52 336	450 457	1.375	0.130	0.9976	1.0000



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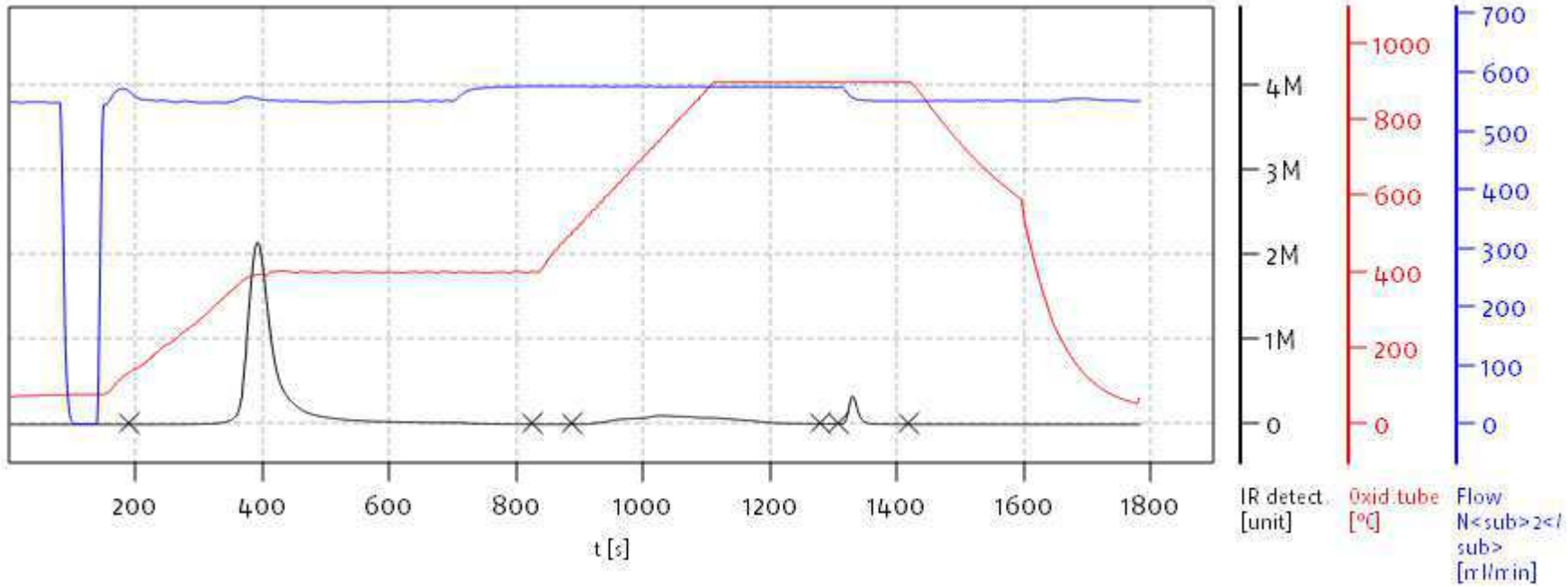
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
103	14	23A0455-07	506.40		CARBON	1/25/2023 7:18 PM	bl	1.265	3 983 520	1.480	0.058	215 698	731 107	1.207	0.215	0.9976	1.0000



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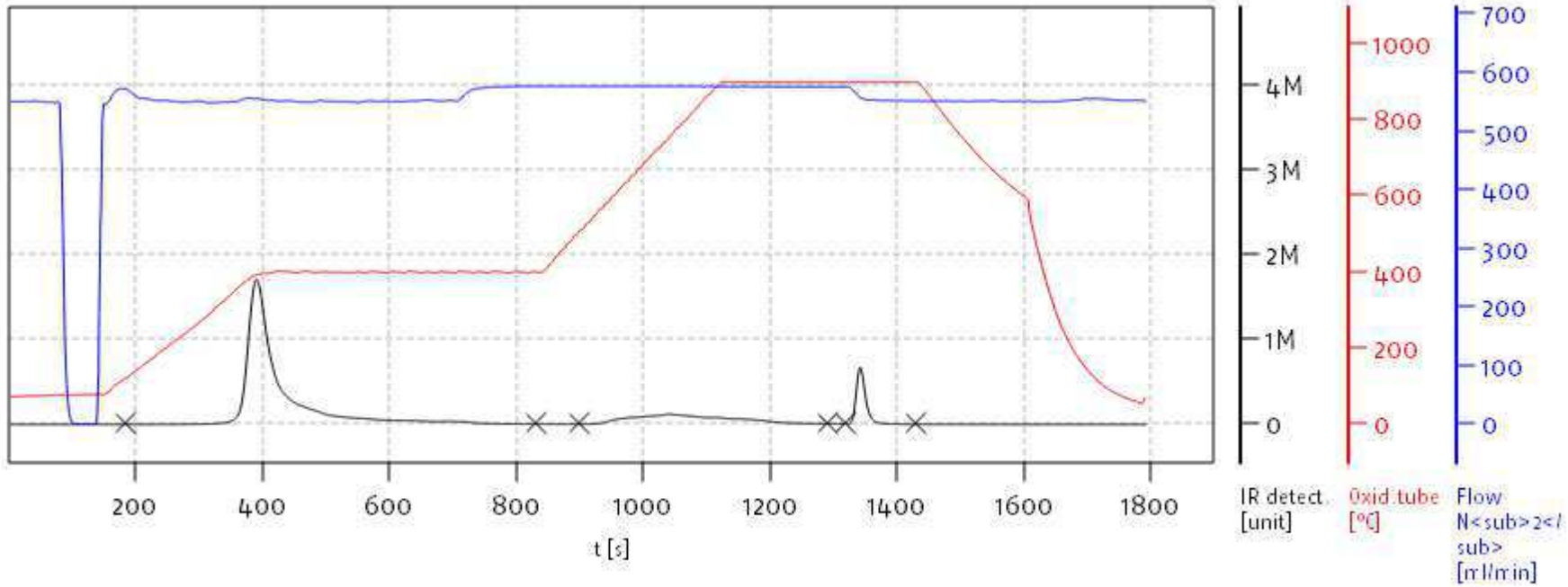
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
104	15	23A0455-08	529.90		CARBON	1/25/2023 7:48 PM	bl	1.147	3 547 390	1.386	0.121	440 173	845 635	1.026	0.239	0.9976	1.0000



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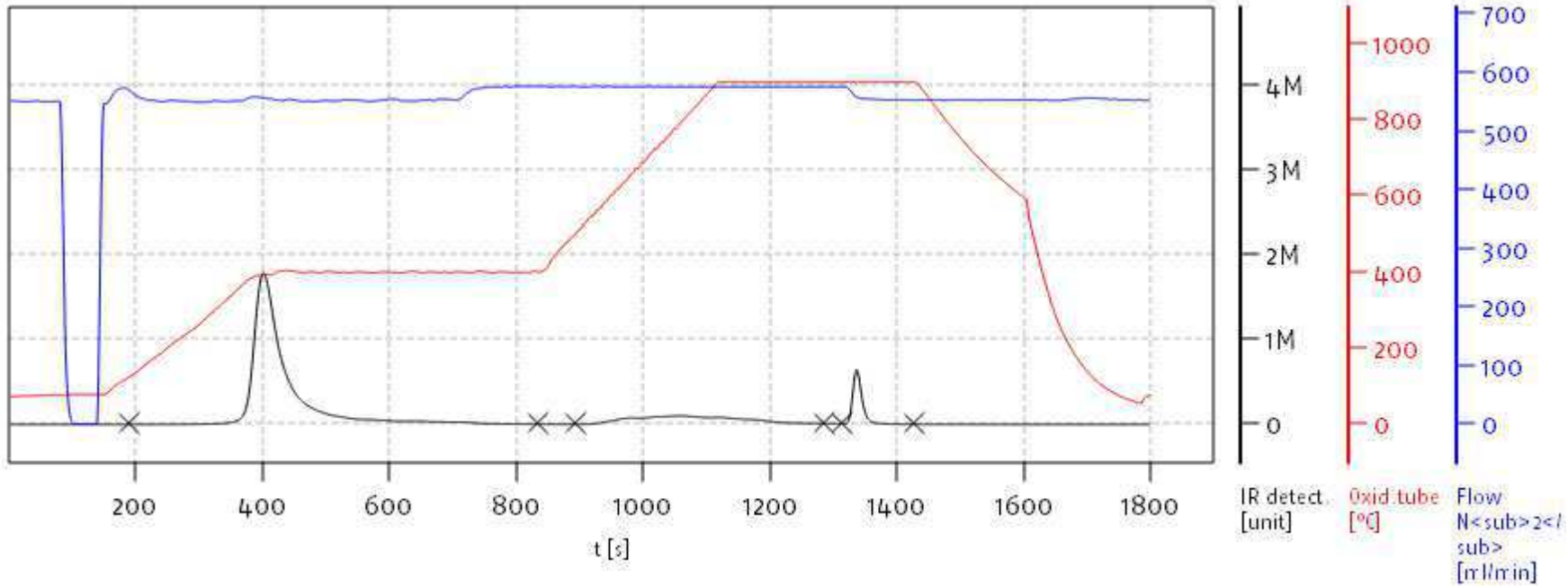
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
105	16	23A0455-09	526.50		CARBON	1/25/2023 8:19 PM	bl	1.234	3 839 753	1.461	0.115	419 247	800 429	1.118	0.228	0.9976	1.0000



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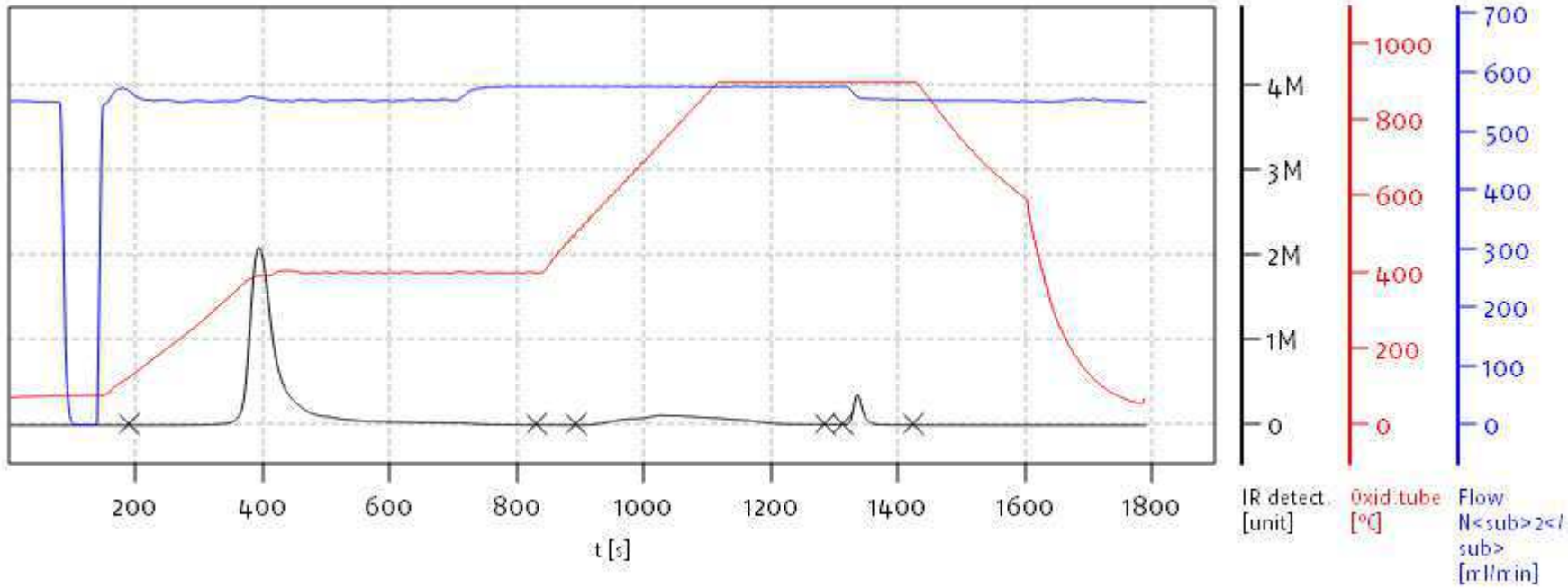
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
106	17	23A0455-10	522.30		CARBON	1/25/2023 8:49 PM	bl	1.245	4 025 520	1.479	0.063	238 642	814 813	1.182	0.234	0.9976	1.0000



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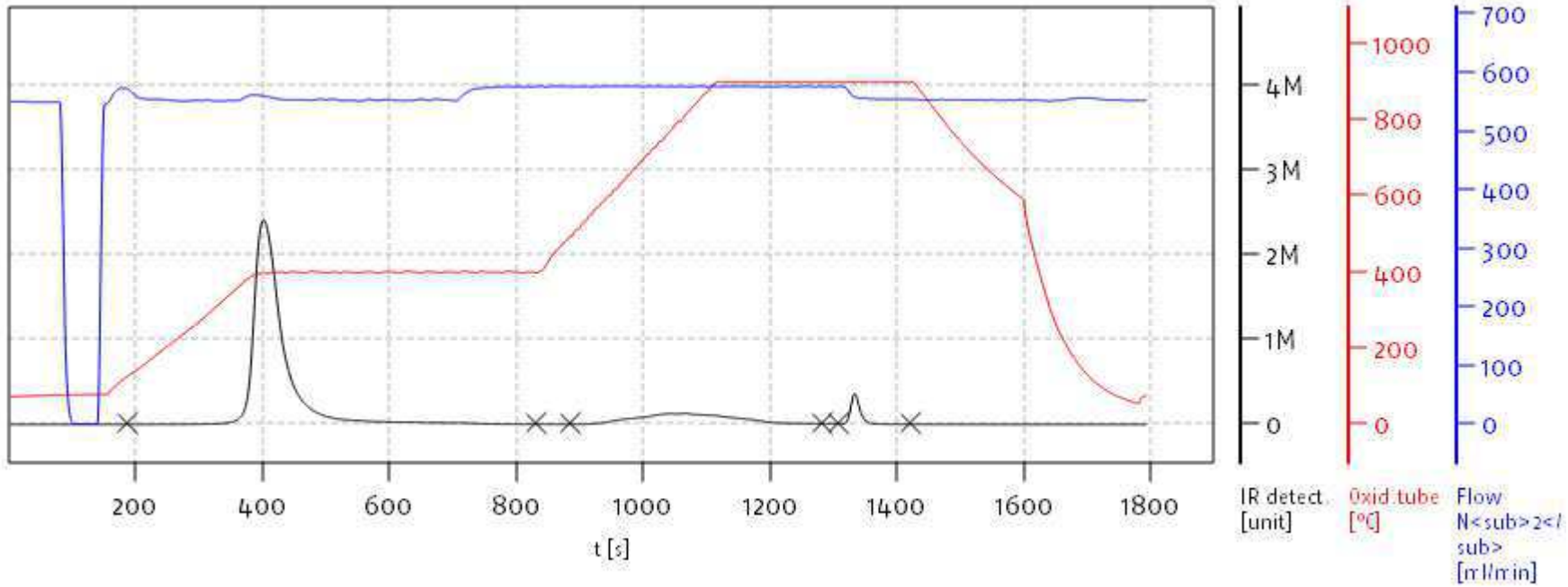
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
107	18	23A0455-11	617.70		CARBON	1/25/2023 9:19 PM	bl	1.235	4 759 248	1.453	0.052	235 130	895 715	1.183	0.218	0.9976	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
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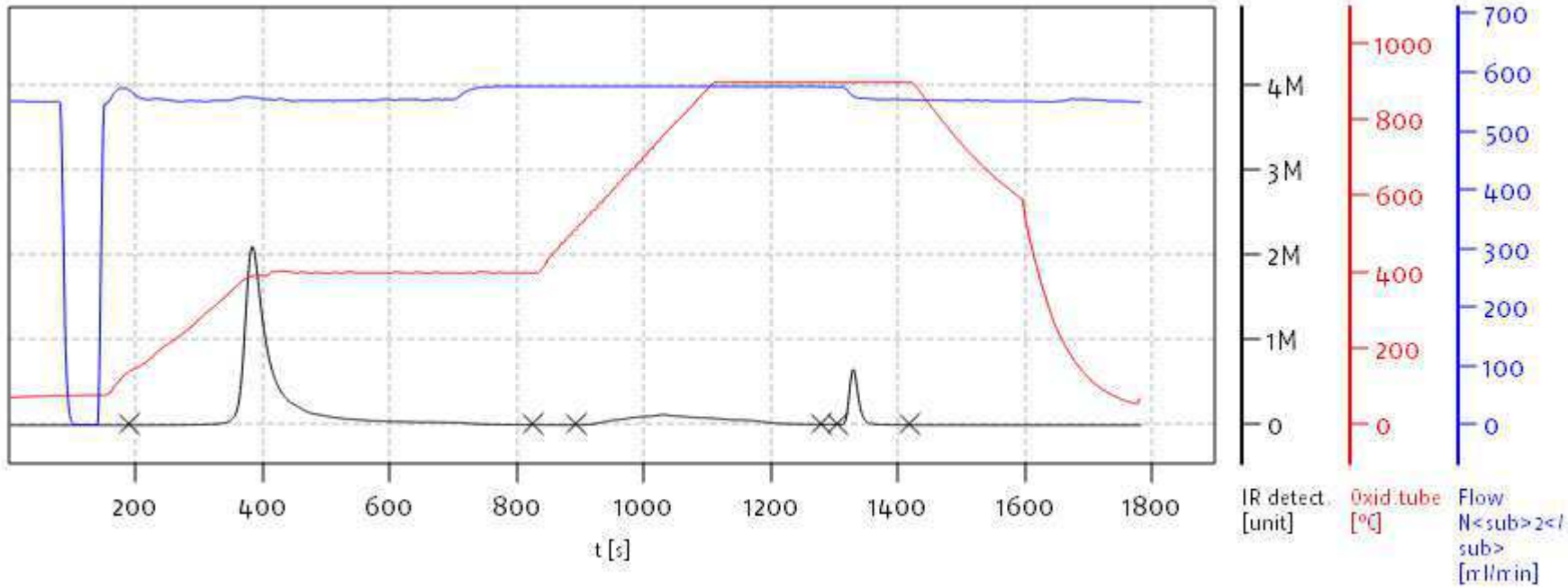
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
108	19	23A0455-12	516.20		CARBON	1/25/2023 9:49 PM	bl	1.278	3 901 605	1.525	0.119	423 387	848 229	1.159	0.246	0.9976	1.0000



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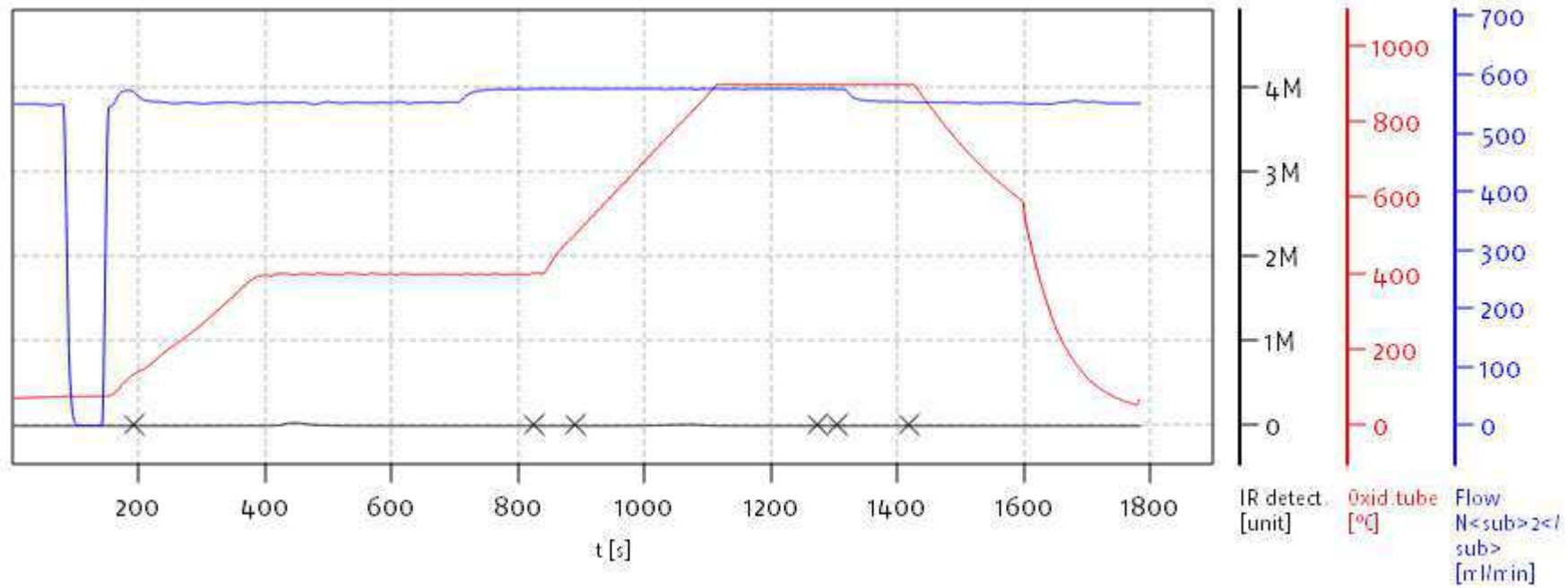
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
109	20	BLA0567-MRL1	603.30		CARBON	1/25/2023 10:19 PM	bl,C2u	0.012	72 784	0.016	0.000	458	41 440	0.012	0.004	0.9976	1.0000



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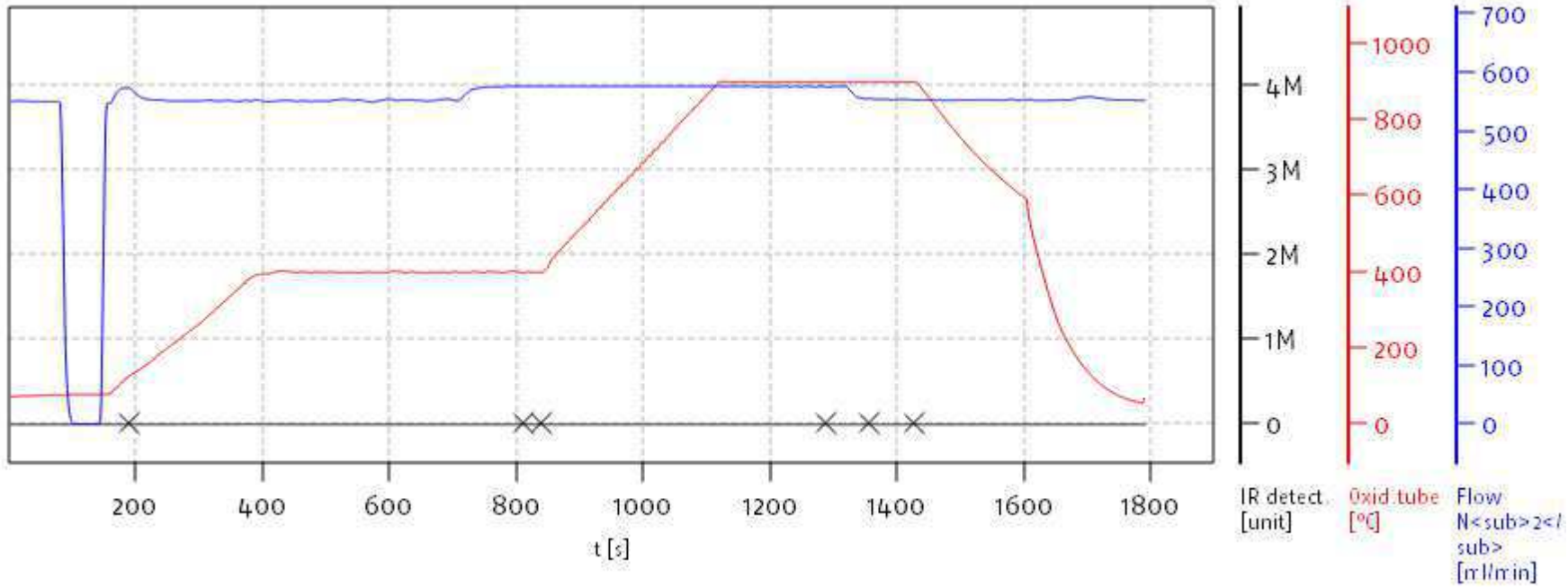
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
110	21	BLA0567-BLK1	511.60		CARBON	1/25/2023 10:50 PM	bl,C2u	0.000	9 802	0.000	0.000	280	3 832	0.000	0.000	0.9976	1.0000



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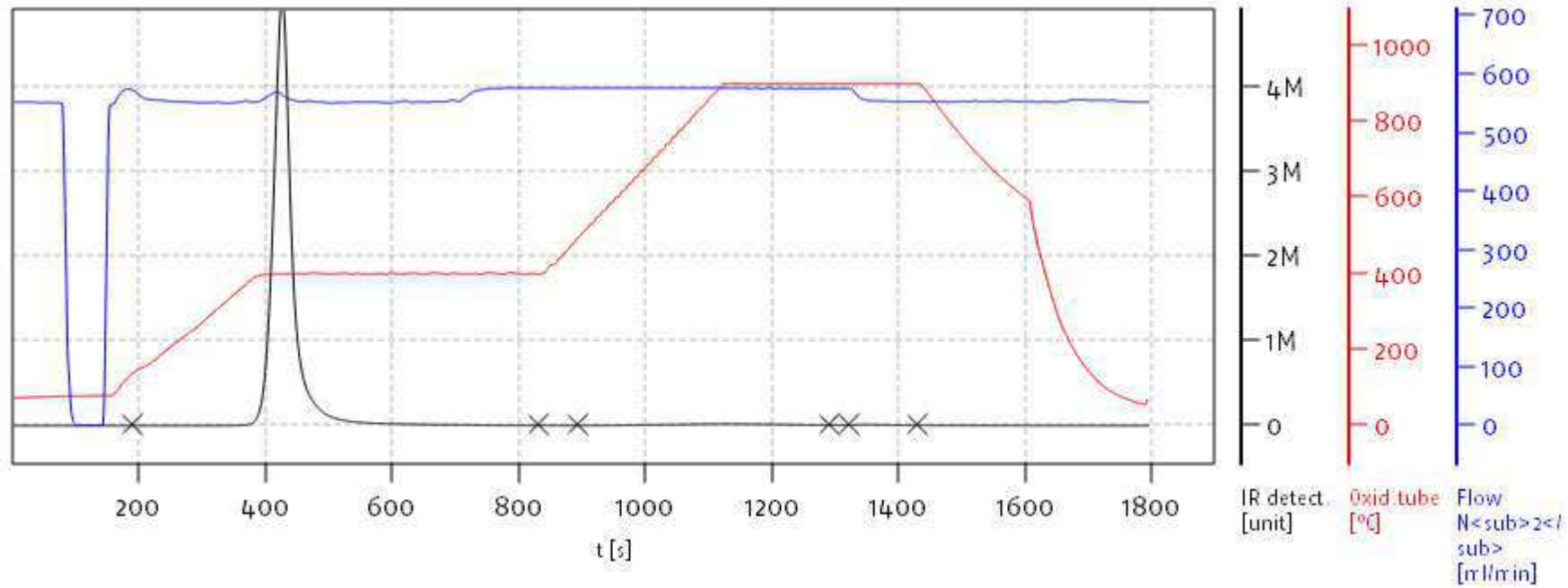
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
111	22	BLA0567-BS1	22.80		CARBON	1/25/2023 11:20 PM	bl	44.786	6 634 985	45.708	0.026	30 346	162 281	44.760	0.922	0.9976	1.0000



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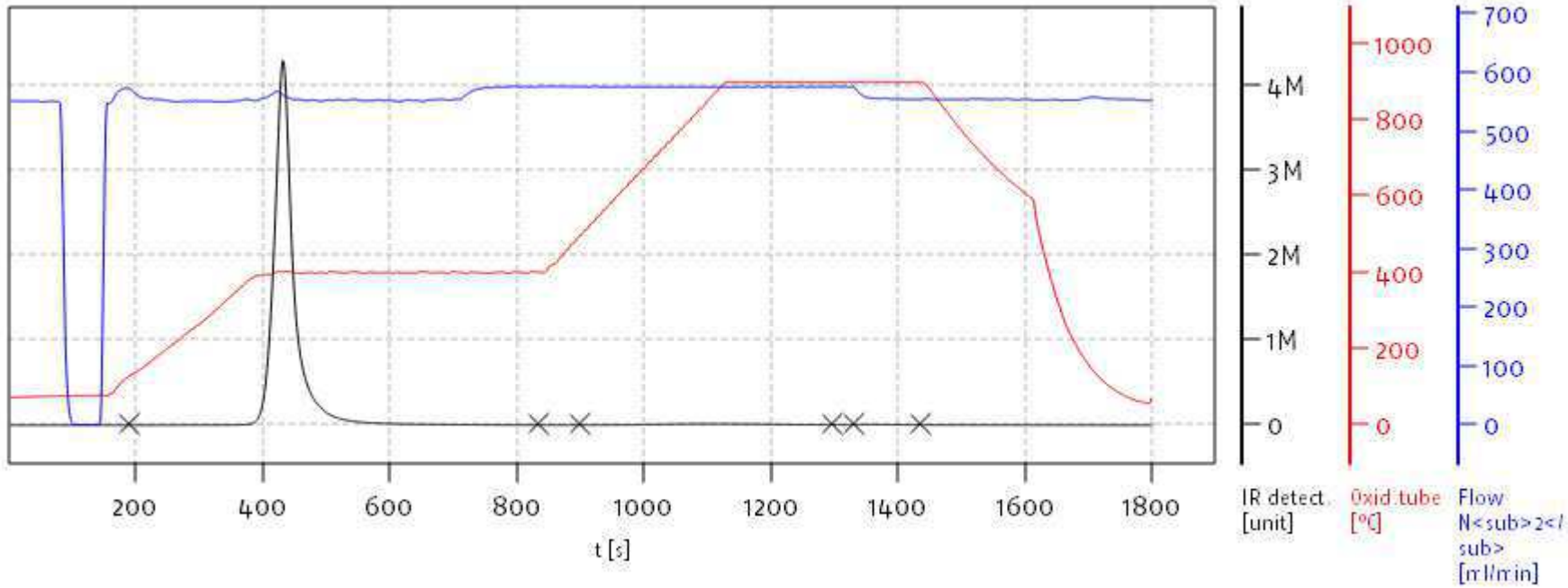
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
112	23	SLA0248-CCV9	19.90		CARBON	1/25/2023 11:50 PM	bl	44.500	5 760 928	45.261	0.000	22 135	124 339	44.500	0.761	0.9976	1.0000



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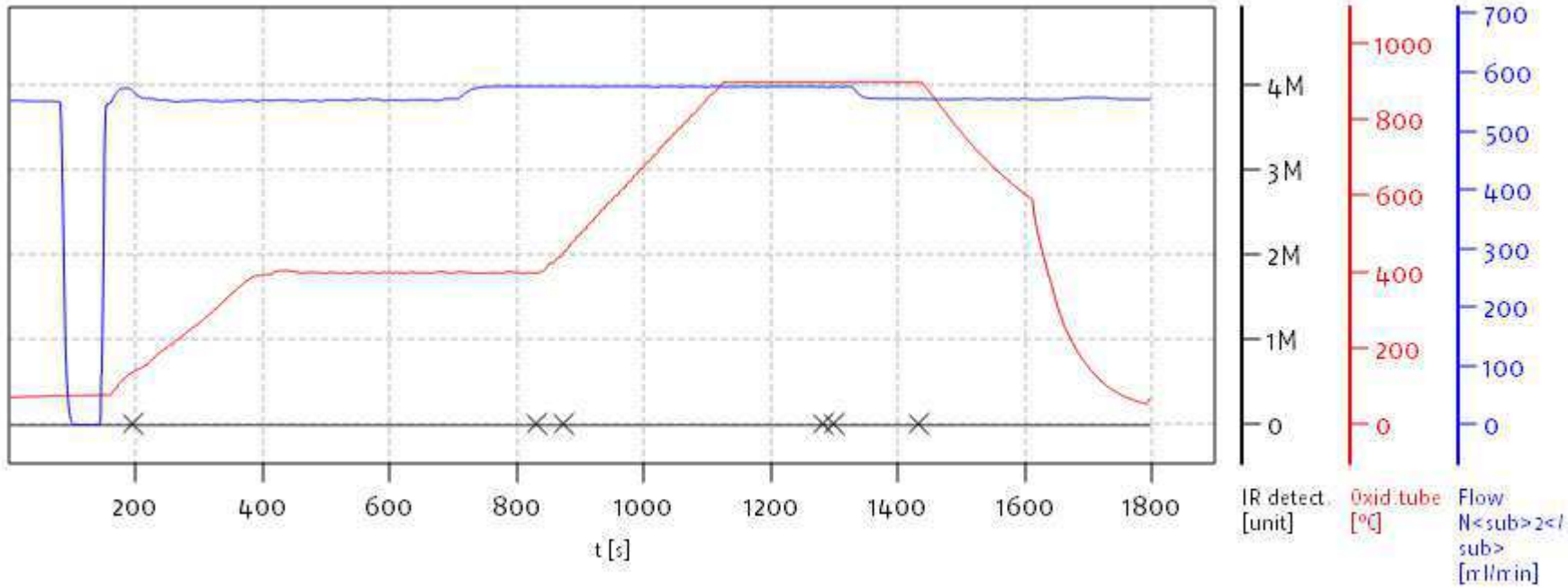
elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
113	24	SLA0248-CCB9	513.80		CARBON	1/26/2023 12:21 AM	bl,C2u	0.000	7 942	0.000	0.000	1 083	4 655	0.000	0.000	0.9976	1.0000



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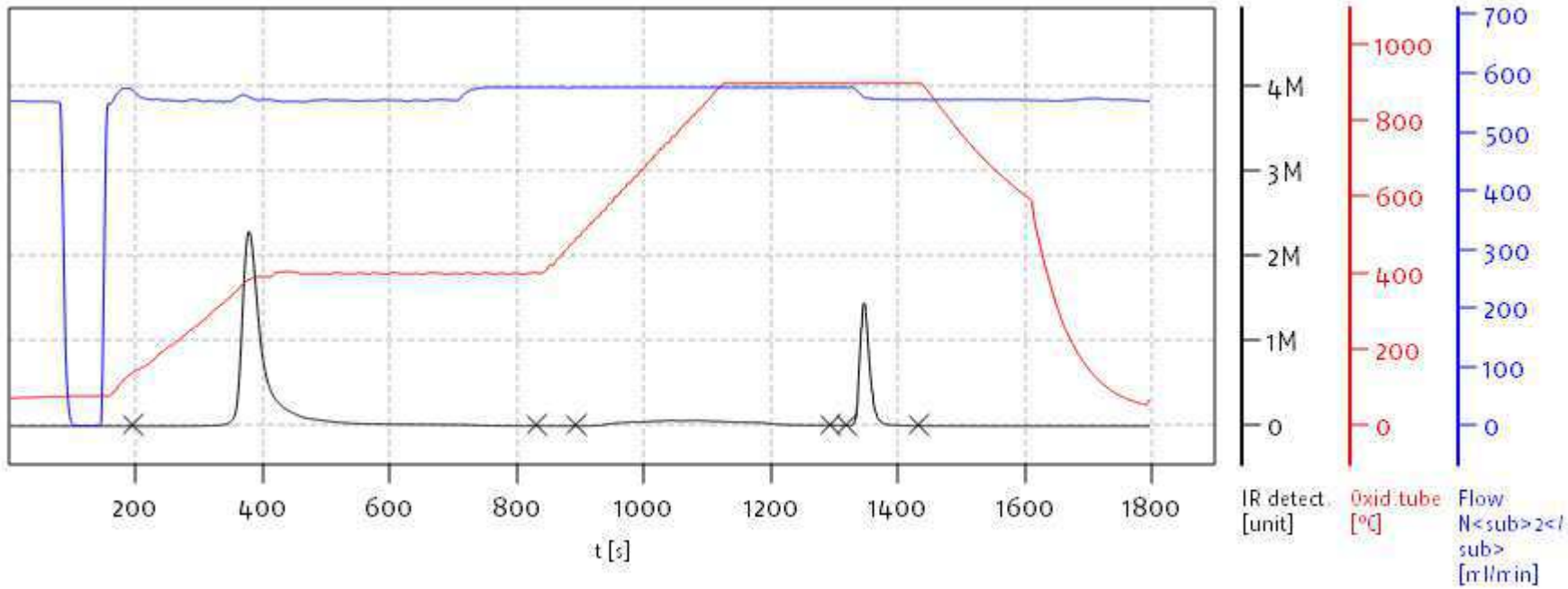
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
114	25	BLA0567-SRM1	226.10		CARBON	1/26/2023 12:51 AM	bl	2.944	3 377 549	3.306	0.655	983 463	555 249	2.289	0.362	0.9976	1.0000



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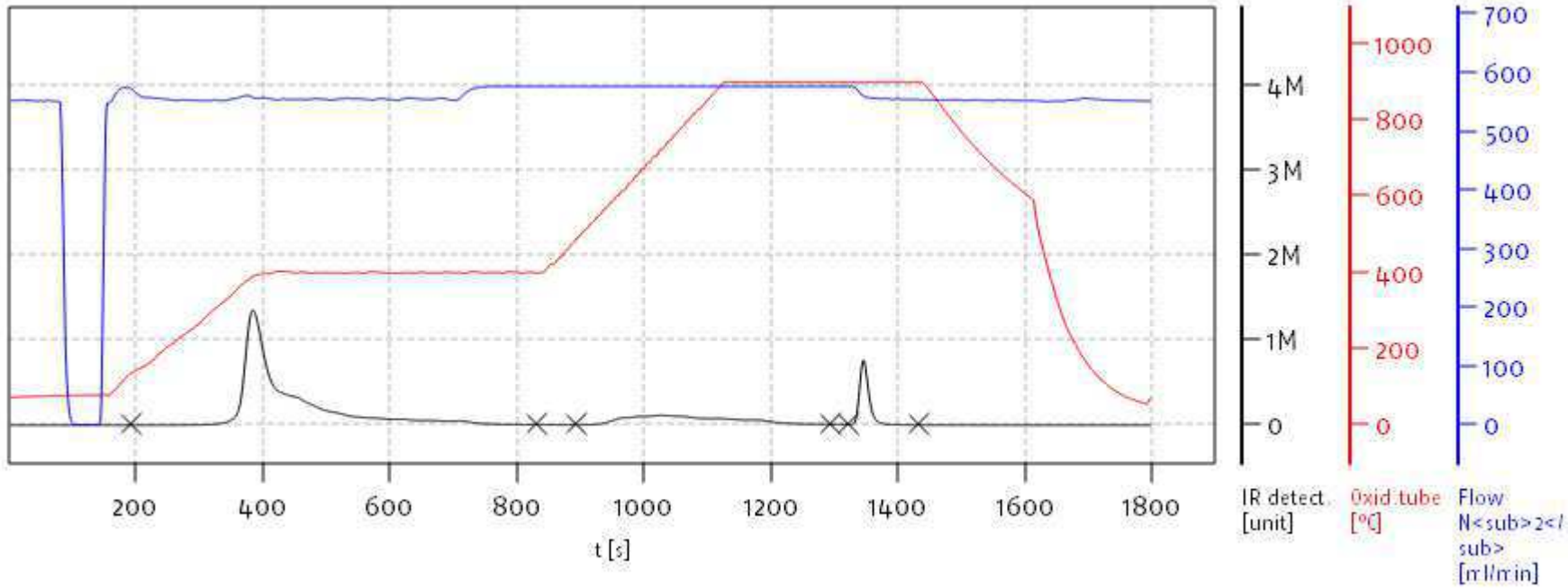
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
115	26	23A0455-13	565.70		CARBON	1/26/2023 1:22 AM	bl	1.077	3 504 412	1.313	0.128	493 953	887 488	0.949	0.236	0.9976	1.0000



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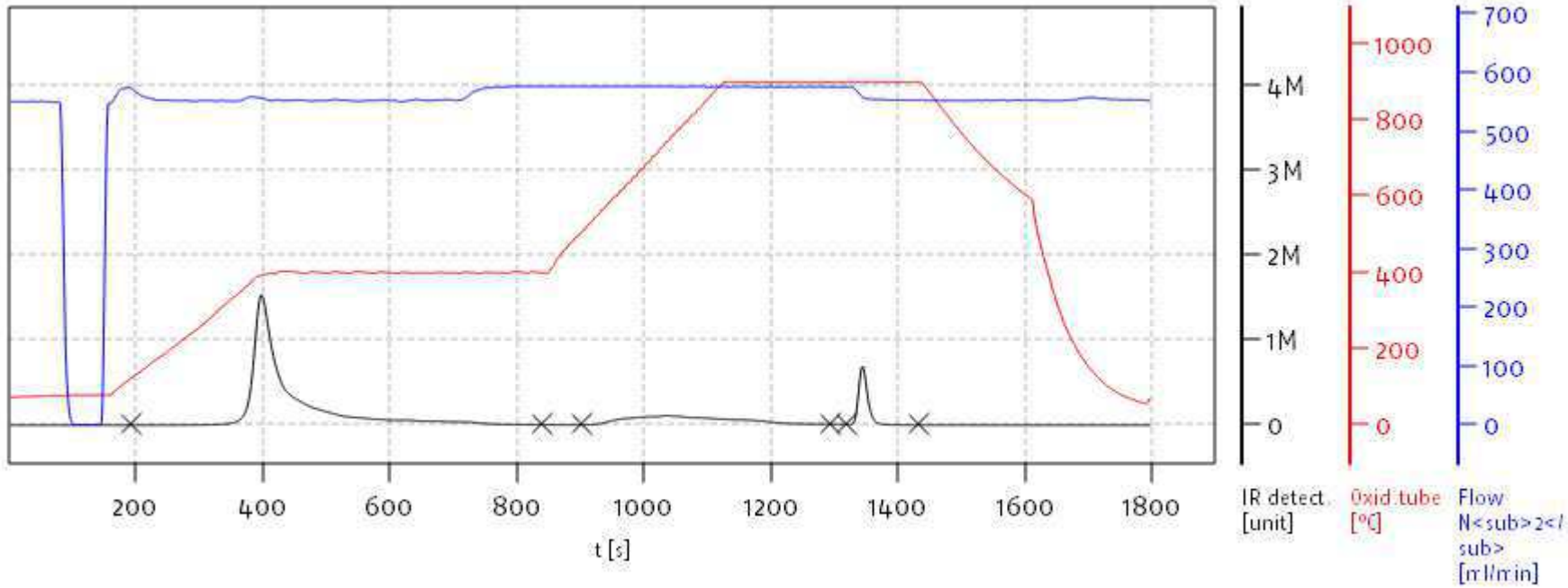
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
116	27	BLA0567-DUP1	532.30		CARBON	1/26/2023 1:52 AM	bl	1.082	3 342 670	1.319	0.120	438 124	843 486	0.962	0.238	0.9976	1.0000



Name:

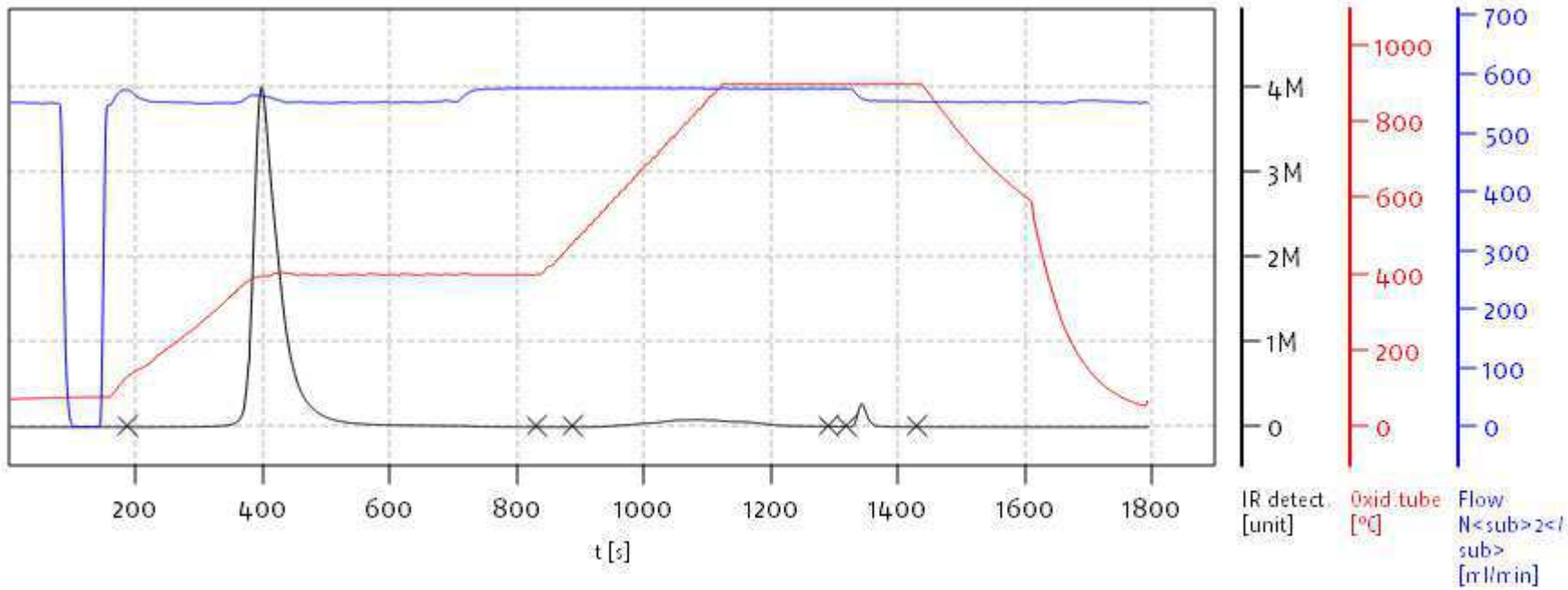
Access: soliTOC superuser

Date: Thu Jan 26 11:30:20 2023

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
117	28	BLA0567-MS1	566.00	0.0092	CARBON	1/26/2023 2:22 AM	bl	1.988	7 155 402	2.145	0.043	183 953	598 965	1.945	0.157	0.9976	1.0000



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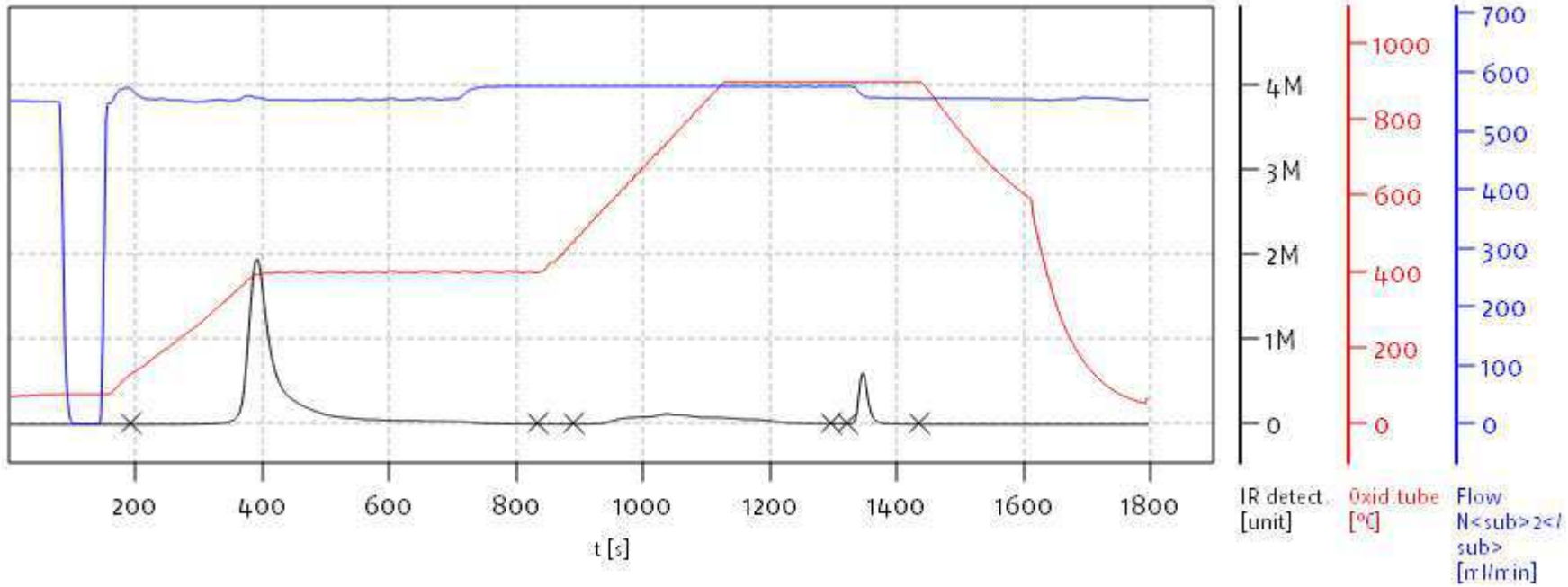
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
118	29	23A0455-14	511.80		CARBON	1/26/2023 2:53 AM	bl	1.250	3 799 218	1.501	0.112	396 470	856 358	1.138	0.251	0.9976	1.0000



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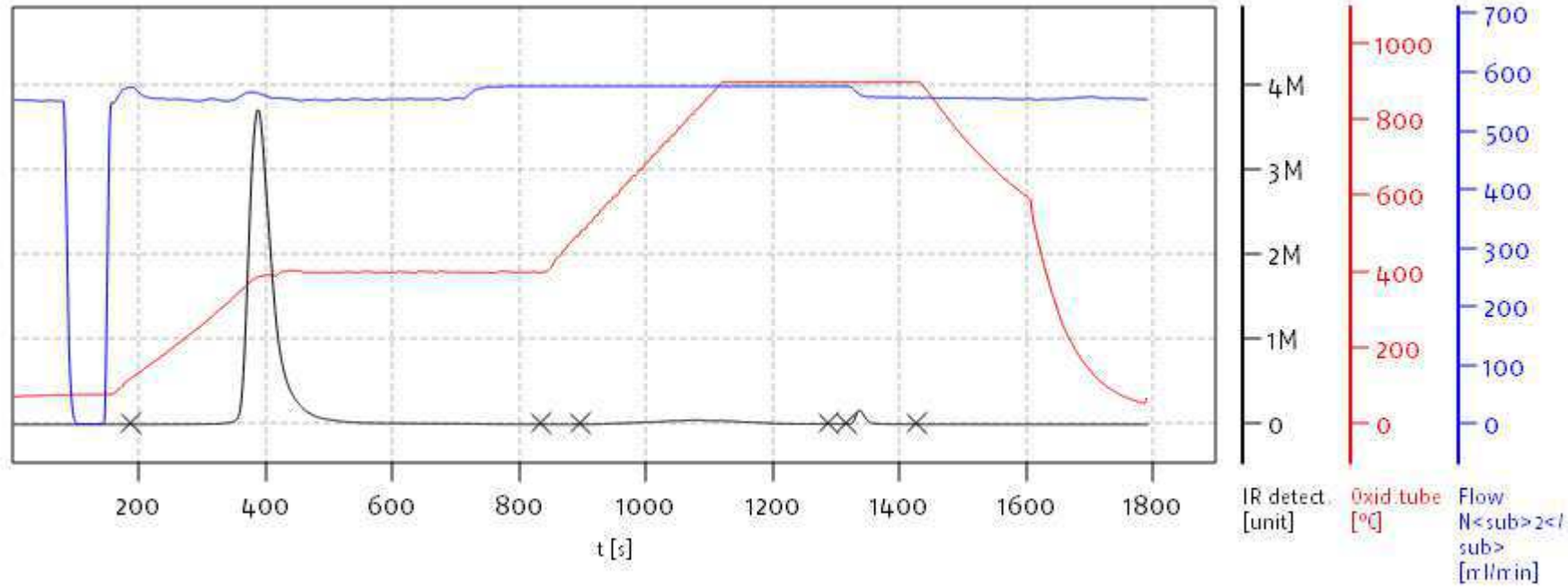
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
119	30	23A0455-15	505.10		CARBON	1/26/2023 3:23 AM	bl	1.907	6 176 062	2.002	0.027	115 337	334 881	1.880	0.095	0.9976	1.0000



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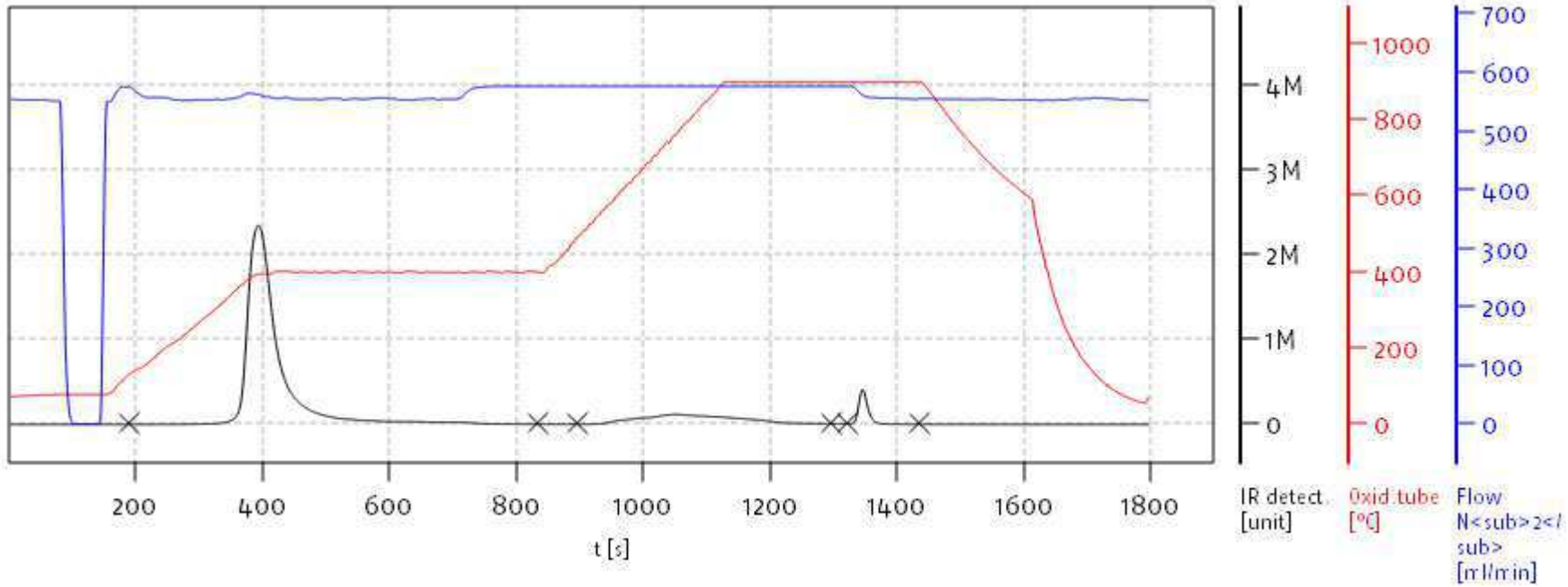
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
120	31	23A0455-16	535.40		CARBON	1/26/2023 3:53 AM	bl	1.447	4 805 329	1.677	0.068	263 268	822 780	1.378	0.230	0.9976	1.0000



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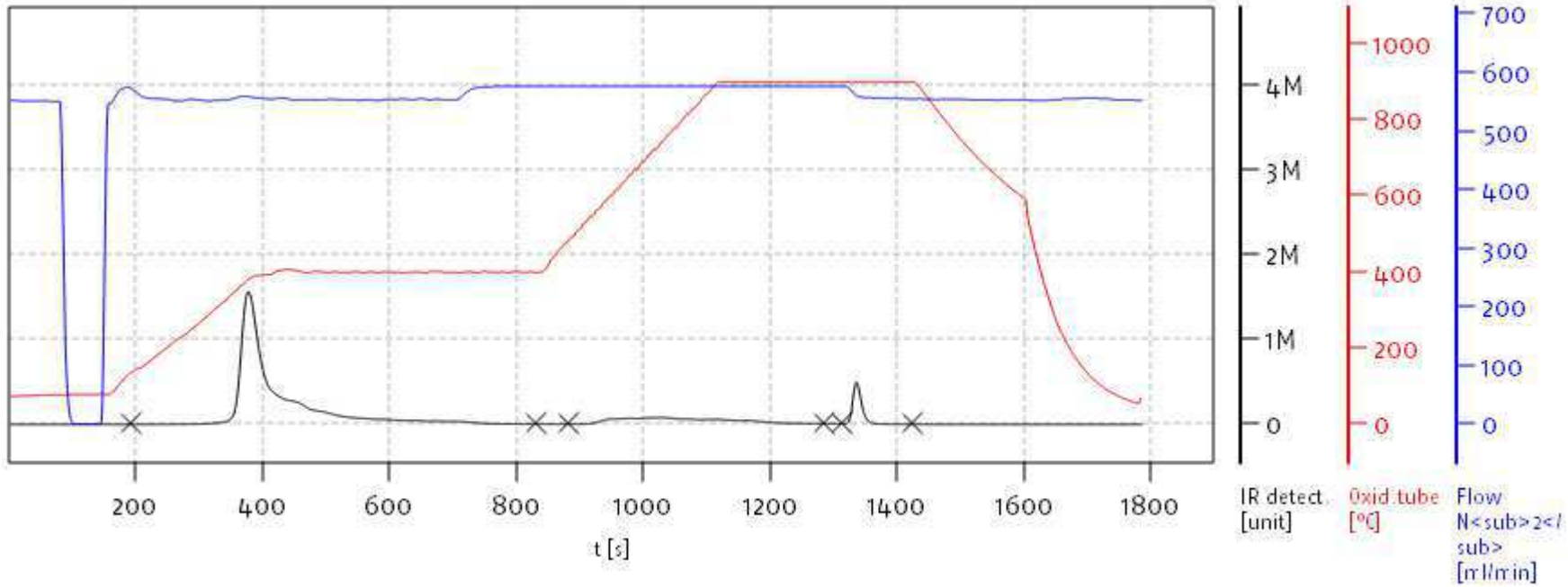
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
121	32	23A0455-17	517.70		CARBON	1/26/2023 4:23 AM	bl	1.081	3 366 692	1.271	0.085	309 721	661 069	0.996	0.190	0.9976	1.0000



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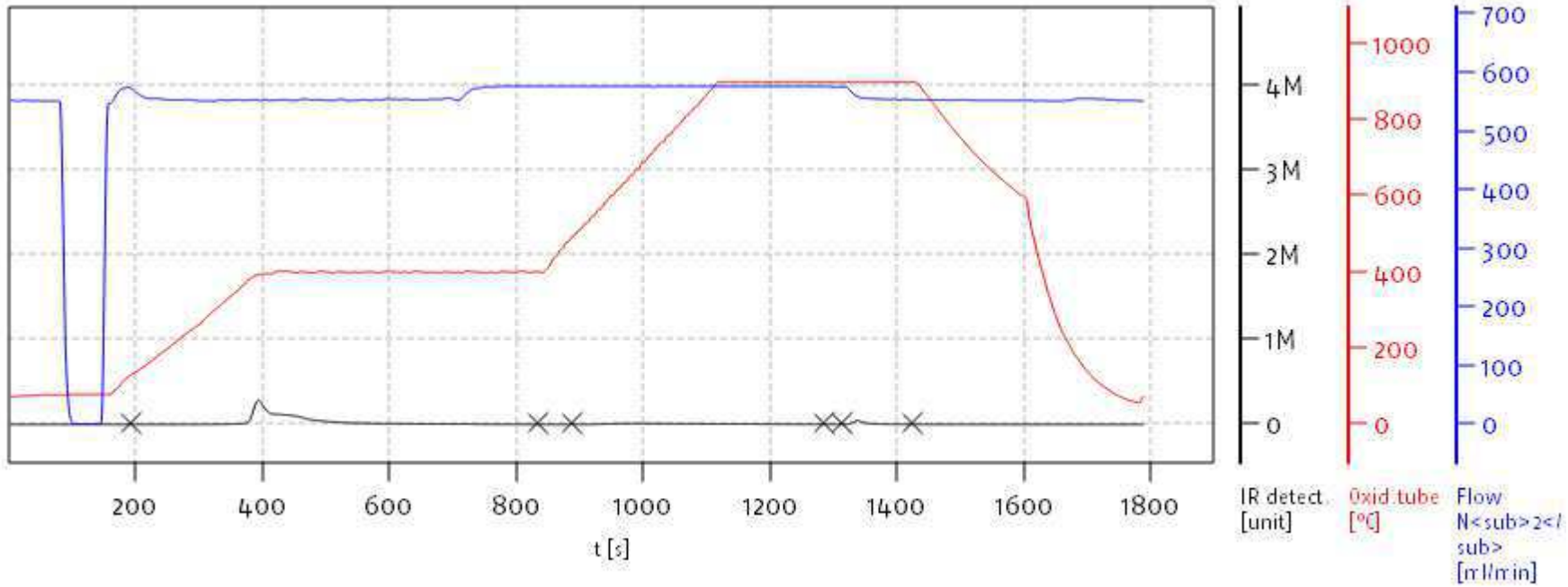
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
122	33	23A0455-18	517.00		CARBON	1/26/2023 4:54 AM	bl	0.188	643 350	0.205	0.004	39 263	82 950	0.184	0.017	0.9976	1.0000



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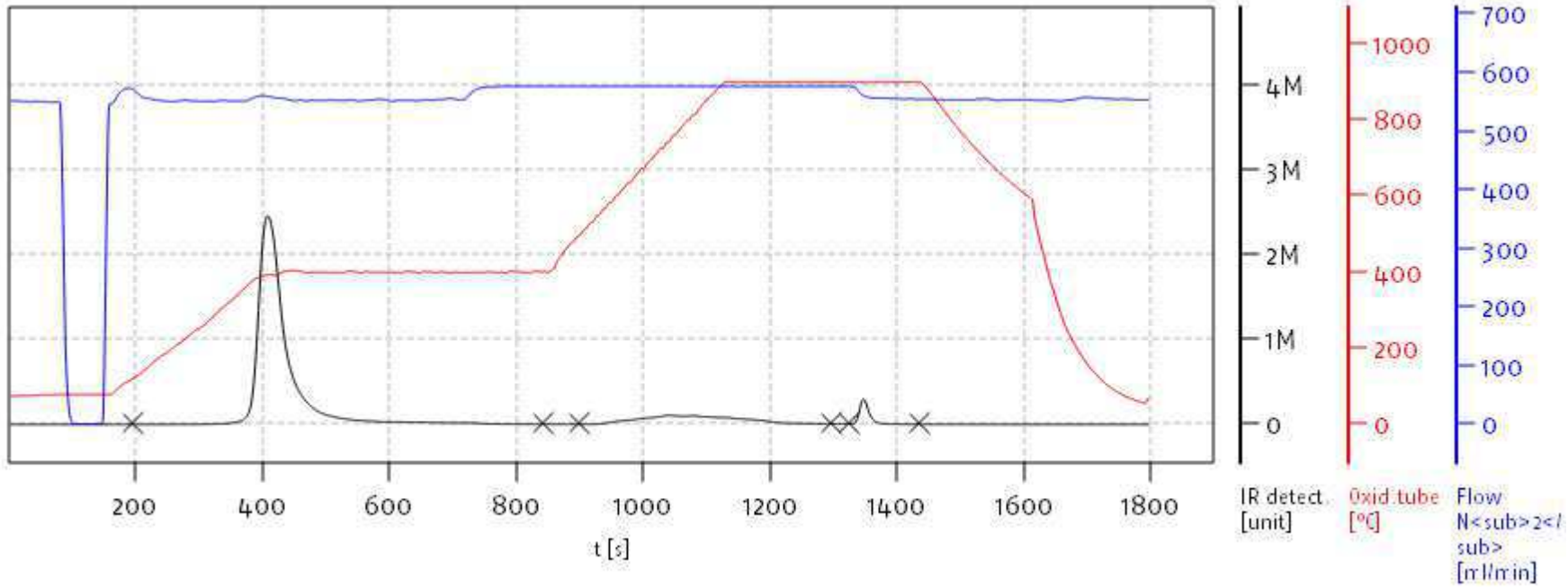
Date: Thu Jan 26 11:30:20 2023

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
123	34	23A0467-01	569.40		CARBON	1/26/2023 5:24 AM	bl	1.293	4 617 765	1.493	0.048	202 181	762 625	1.245	0.200	0.9976	1.0000



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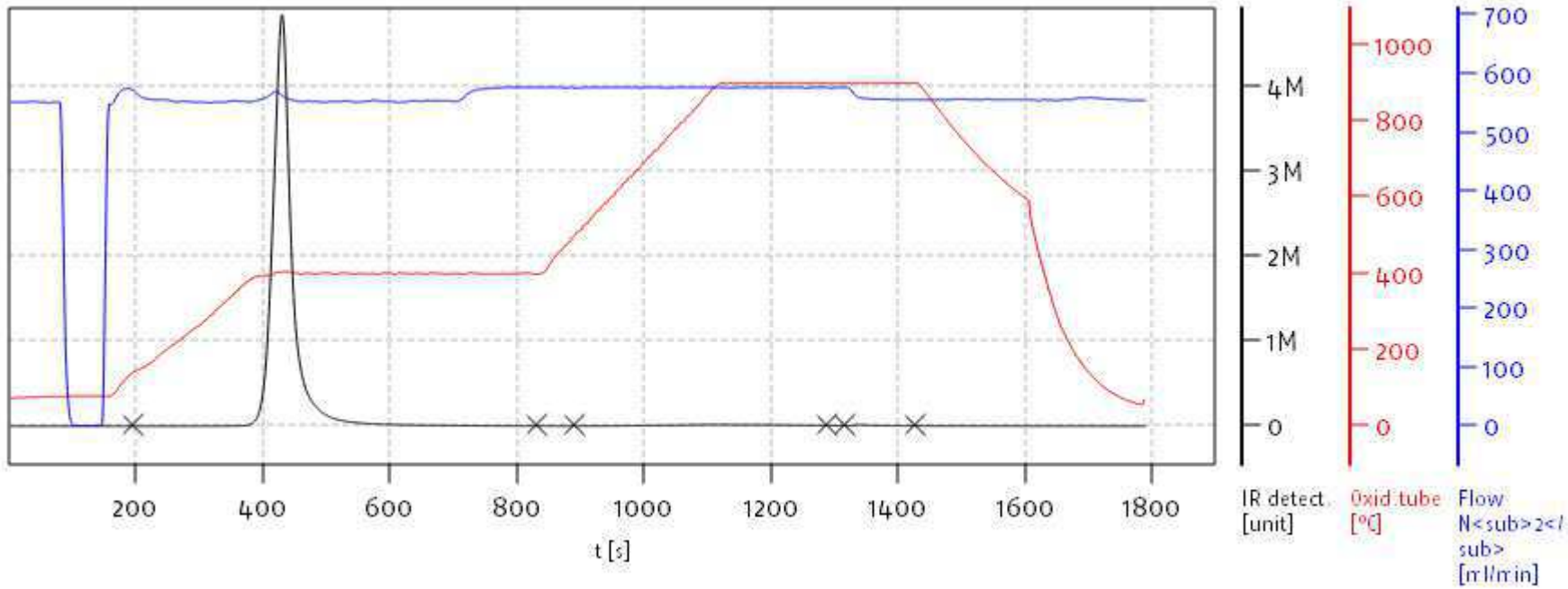
Date: Thu Jan 26 11:30:20 2023

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
124	35	SLA0248-CCVA	21.80		CARBON	1/26/2023 5:54 AM	bl	44.607	6 318 367	45.452	0.036	31 650	145 591	44.571	0.845	0.9976	1.0000



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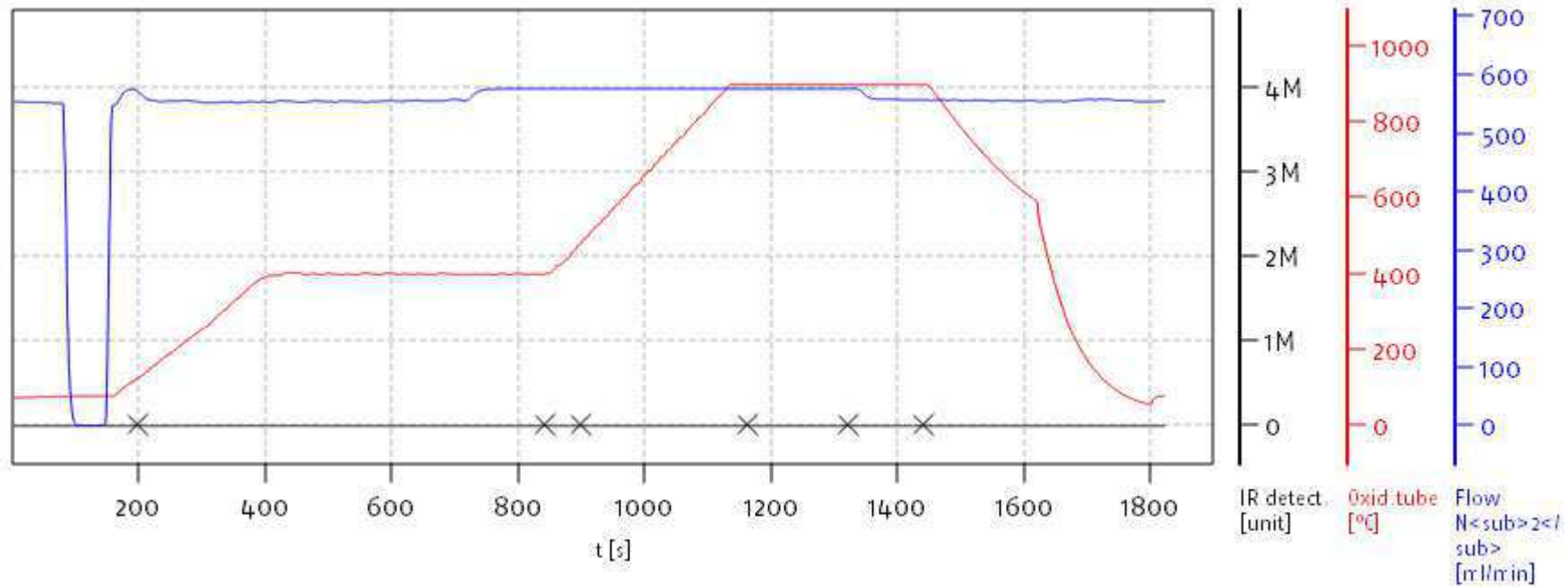
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
125	36	SLA0248-CCBA	524.10		CARBON	1/26/2023 6:25 AM	bl,C3u,C2u	0.000	9 643	0.000	0.000	554	531	0.000	0.000	0.9976	1.0000



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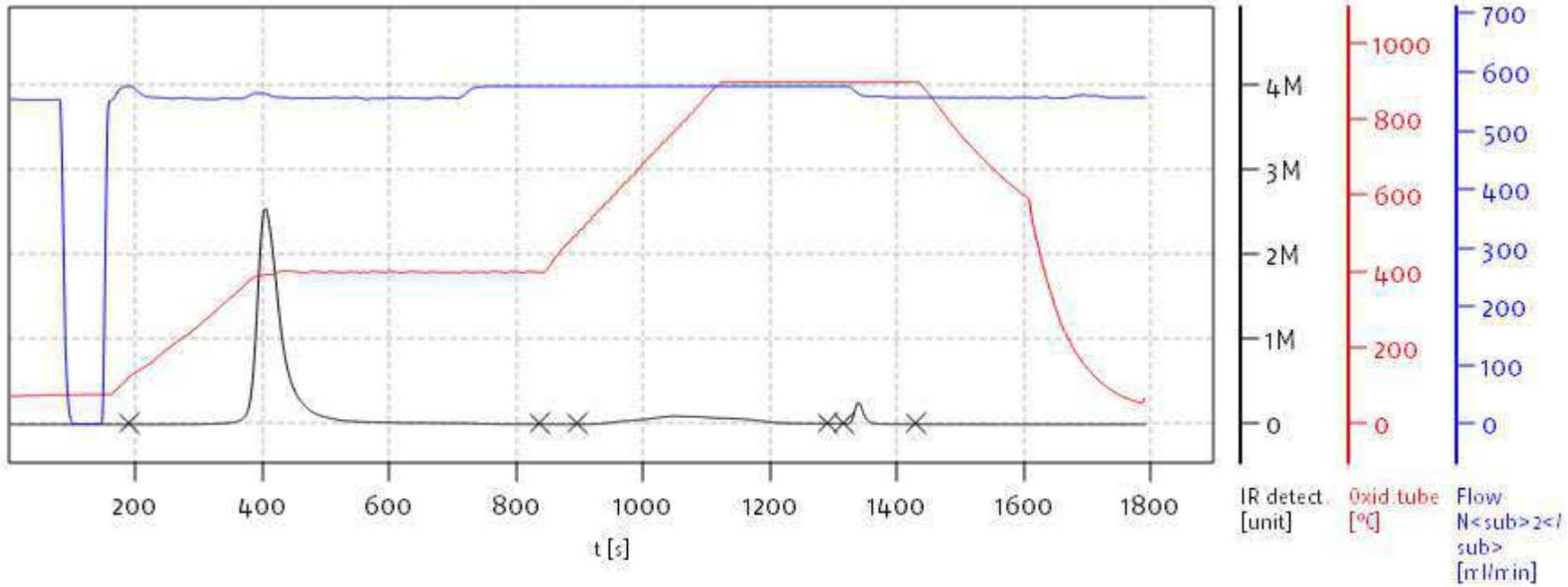
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
126	37	23A0467-02	545.80		CARBON	1/26/2023 6:55 AM	bl	1.274	4 383 555	1.463	0.041	171 156	694 640	1.233	0.189	0.9976	1.0000



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Balance: BAL3
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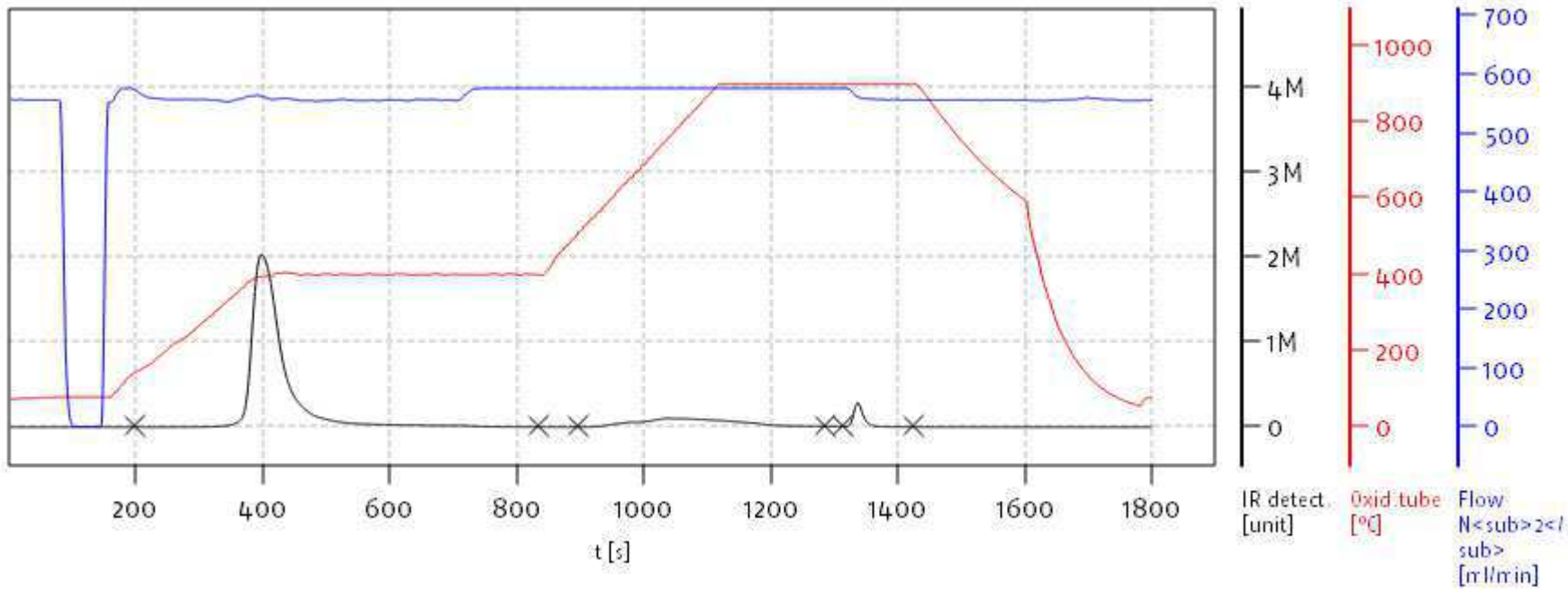
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
127	38	23A0467-03	530.40		CARBON	1/26/2023 7:26 AM	bl	1.264	4 199 050	1.467	0.049	195 335	722 943	1.215	0.203	0.9976	1.0000



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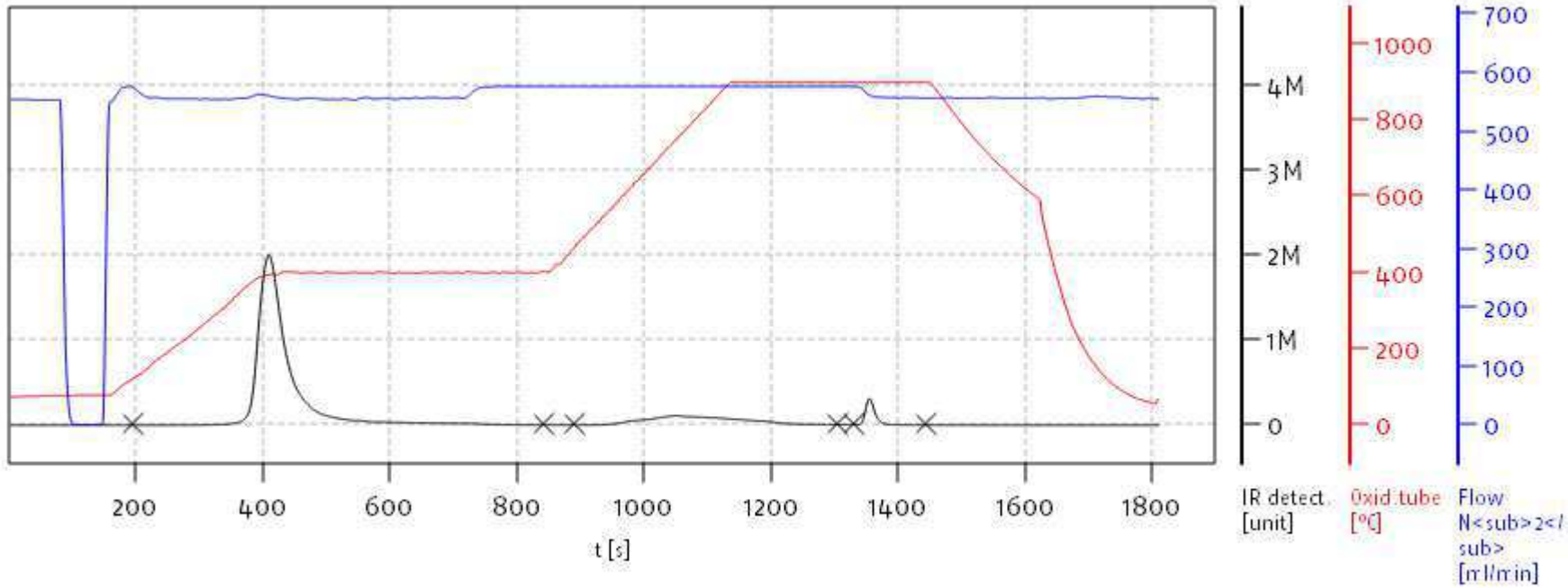
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
128	39	23A0467-04	544.00		CARBON	1/26/2023 7:56 AM	bl	1.195	4 052 849	1.398	0.052	208 257	740 768	1.143	0.203	0.9976	1.0000



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Balance: BAL3
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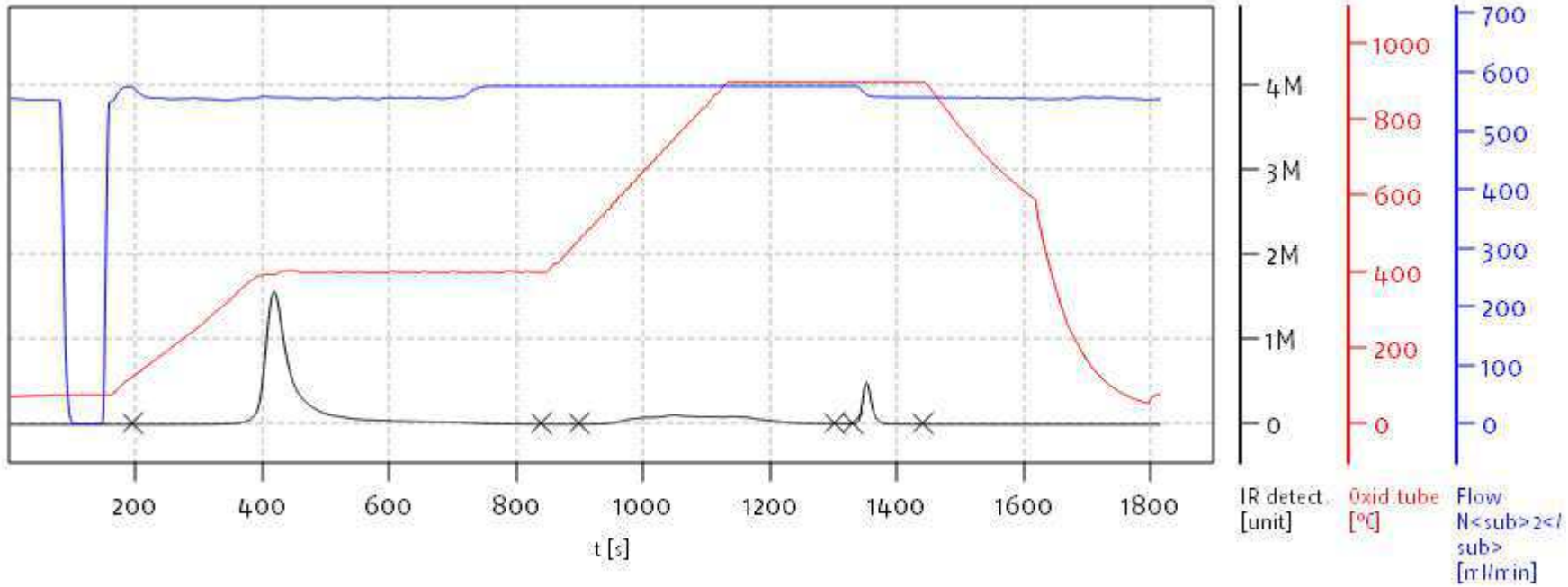
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
129	40	23A0467-05	527.70		CARBON	1/26/2023 8:27 AM	bl	0.968	3 043 531	1.204	0.085	315 557	833 183	0.883	0.237	0.9976	1.0000



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Balance: BAL3
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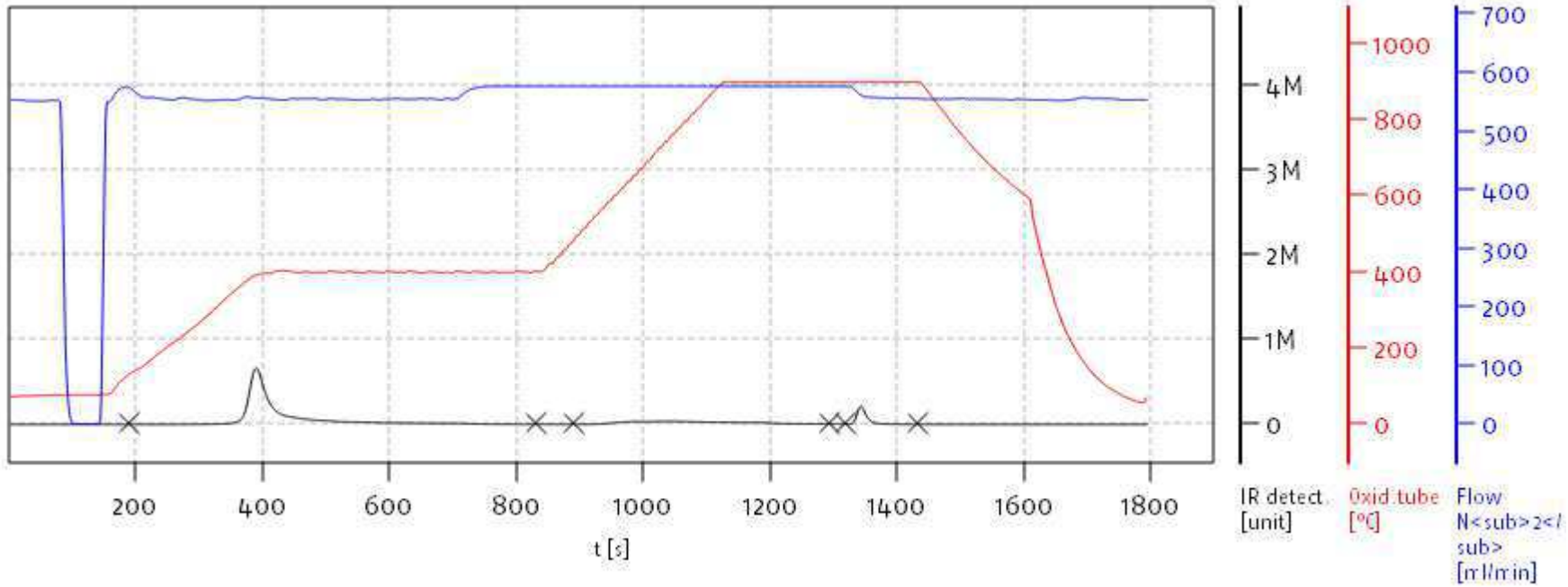
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
130	41	23A0467-06	183.00		CARBON	1/26/2023 8:57 AM	bl	1.092	1 202 027	1.325	0.100	145 294	301 990	0.992	0.233	0.9976	1.0000



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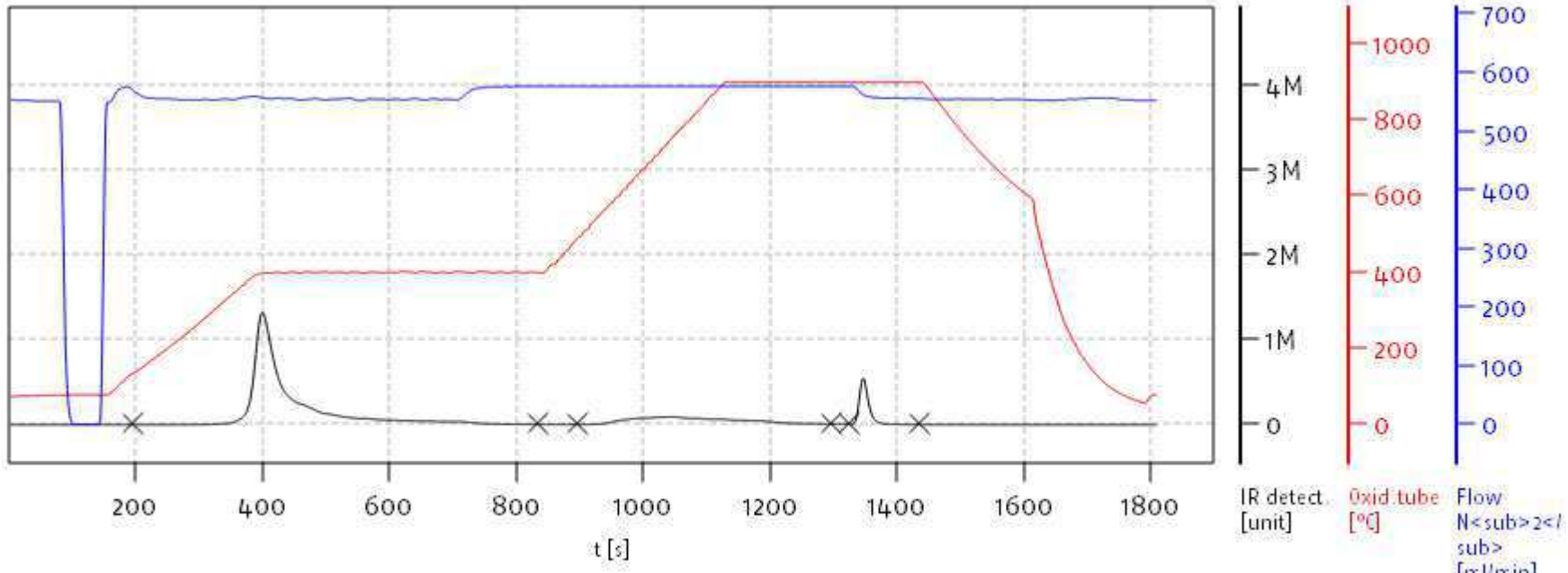
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
131	42	23A0467-07	507.10		CARBON	1/26/2023 9:28 AM	bl	0.980	2 914 148	1.185	0.100	355 083	699 820	0.879	0.206	0.9976	1.0000



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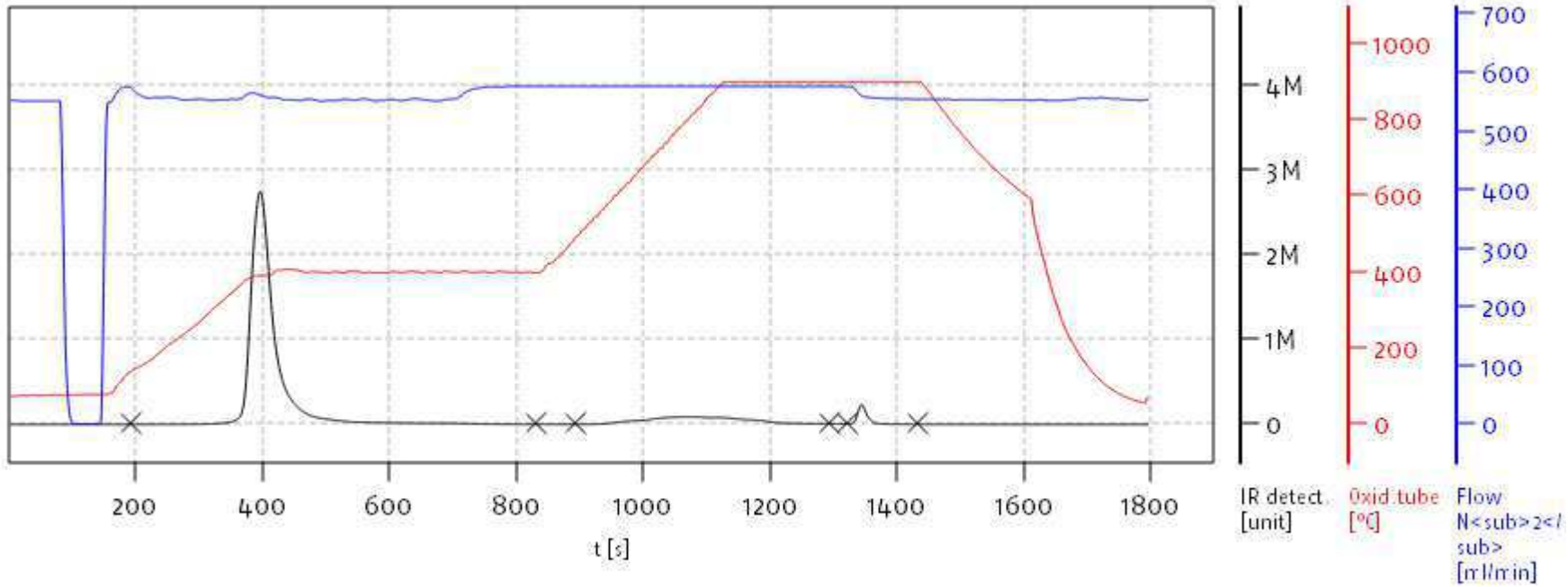
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
132	43	23A0467-08	523.50		CARBON	1/26/2023 9:58 AM	bl	1.325	4 390 162	1.511	0.038	155 894	654 584	1.287	0.186	0.9976	1.0000



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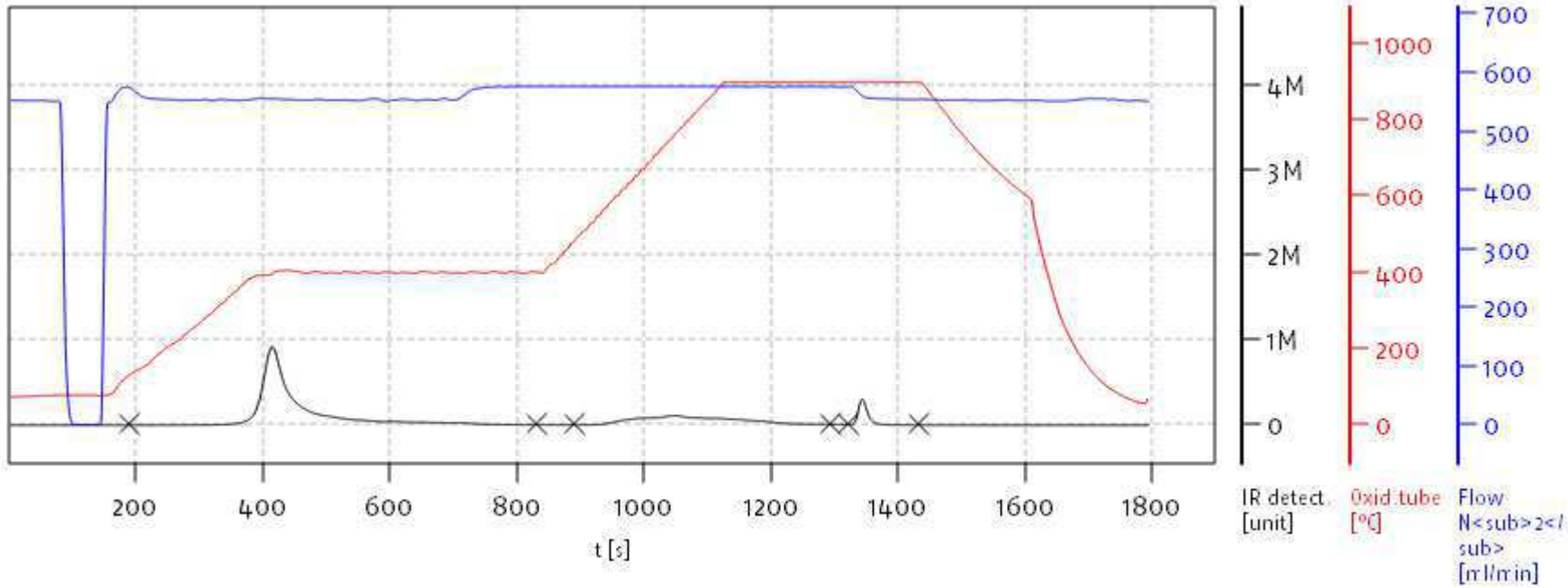
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
133	44	23A0467-09	558.50		CARBON	1/26/2023 10:29 AM	bl	0.627	2 115 762	0.835	0.049	203 167	779 790	0.578	0.209	0.9976	1.0000



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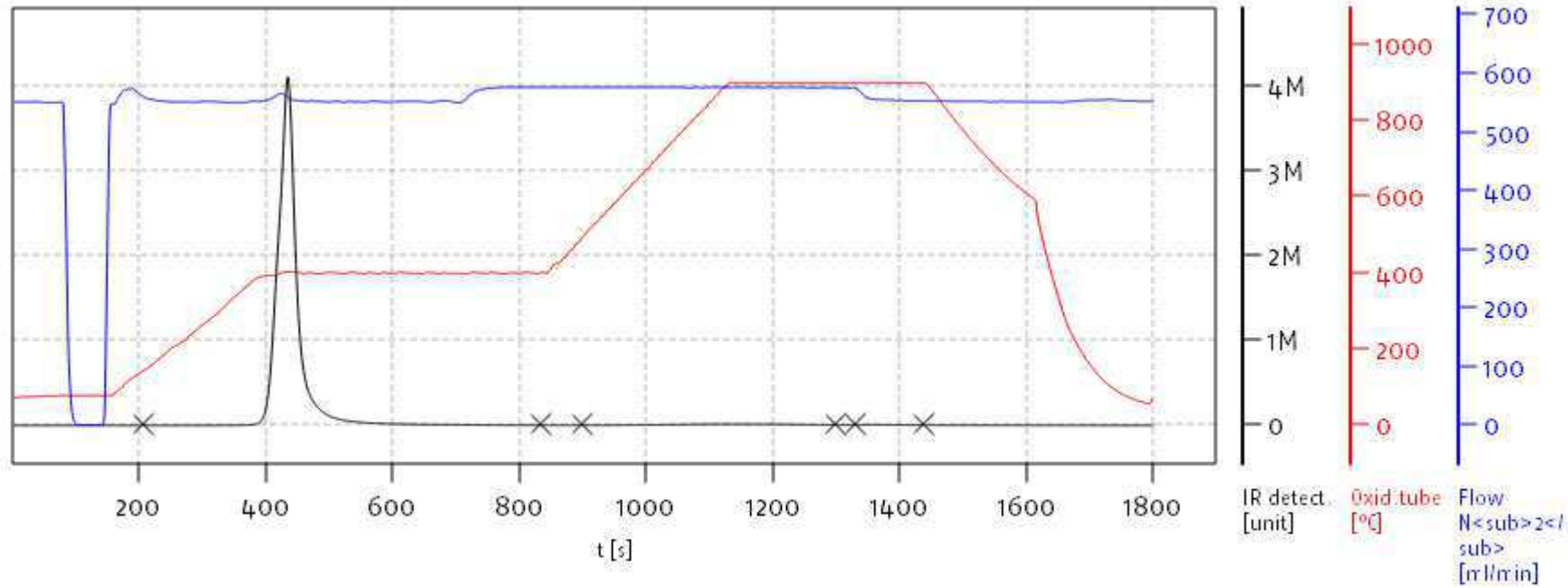
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
134	45	SLA0248-CCVB	18.50		CARBON	1/26/2023 10:59 AM	bl	44.025	5 300 584	44.939	0.000	22 577	135 761	44.025	0.914	0.9976	1.0000



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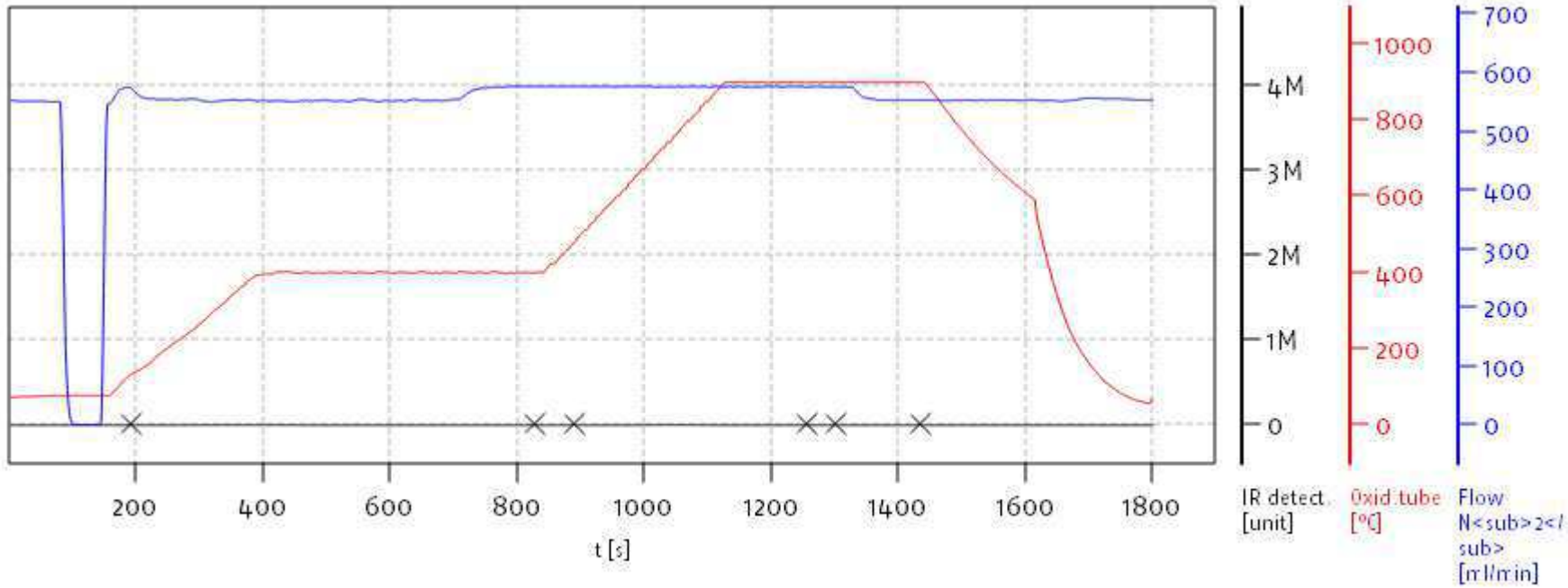
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
135	46	SLA0248-CCBB	520.00		CARBON	1/26/2023 11:29 AM	bl,C2u	0.000	11 812	0.000	0.000	673	9 902	0.000	0.000	0.9976	1.0000



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Serial No: 0300.181017
Mode CCC

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: FD00070
Instrument: TOC Cube
Calibration Date: 04/26/2022 11:29

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF
Total Organic Carbon	0.0080973	1449743	0.014695	1300238	0.021293	1292913	0.02939	1293535	0.044385	2094063	0.05878	1400085
Total Carbon	0.0080973	1449743	0.014695	1300238	0.021293	1292913	0.02939	1293535	0.044385	2094063	0.05878	1400085
Total Inorganic Carbon	0.0080973	1449743	0.014695	1300238	0.021293	1292913	0.02939	1293535	0.044385	2094063	0.05878	1400085
% Soot	0.0080973	1449743	0.014695	1300238	0.021293	1292913	0.02939	1293535	0.044385	2094063	0.05878	1400085

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: FD00070
Instrument: TOC Cube
Calibration Date: 04/26/2022 11:29

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF
Total Organic Carbon	0.074075	1370638	0.08937	1351930	0.12056	2158544	0.14995	1559046	0.24	1346463	0.288	1430135
Total Carbon	0.074075	1370638	0.08937	1351930	0.12056	2158544	0.14995	1559046	0.24	1346463	0.288	1430135
Total Inorganic Carbon	0.074075	1370638	0.08937	1351930	0.12056	2158544	0.14995	1559046	0.24	1346463	0.288	1430135
% Soot	0.074075	1370638	0.08937	1351930	0.12056	2158544	0.14995	1559046	0.24	1346463	0.288	1430135

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: FD00070
Instrument: TOC Cube
Calibration Date: 04/26/2022 11:29

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF
Total Organic Carbon	0.414	1337053	0.606	1385937	0.894	1382774	1.188	1379790	1.5	1375927	1.818	1372882
Total Carbon	0.414	1337053	0.606	1385937	0.894	1382774	1.188	1379790	1.5	1375927	1.818	1372882
Total Inorganic Carbon	0.414	1337053	0.606	1385937	0.894	1382774	1.188	1379790	1.5	1375927	1.818	1372882
% Soot	0.414	1337053	0.606	1385937	0.894	1382774	1.188	1379790	1.5	1375927	1.818	1372882

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: FD00070
Instrument: TOC Cube
Calibration Date: 04/26/2022 11:29

Compound	Level 19		Level 20		Level 21		Level 22		Level 23		Level 24	
	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF
Total Organic Carbon	2.49	1398606	2.982	1376871	4.188	1256057	4.818	1279542	5.406	1283358	7.2	1301408
Total Carbon	2.49	1398606	2.982	1376871	4.188	1256057	4.818	1279542	5.406	1283358	7.2	1301408
Total Inorganic Carbon	2.49	1398606	2.982	1376871	4.188	1256057	4.818	1279542	5.406	1283358	7.2	1301408
% Soot	2.49	1398606	2.982	1376871	4.188	1256057	4.818	1279542	5.406	1283358	7.2	1301408

INITIAL CALIBRATION DATA

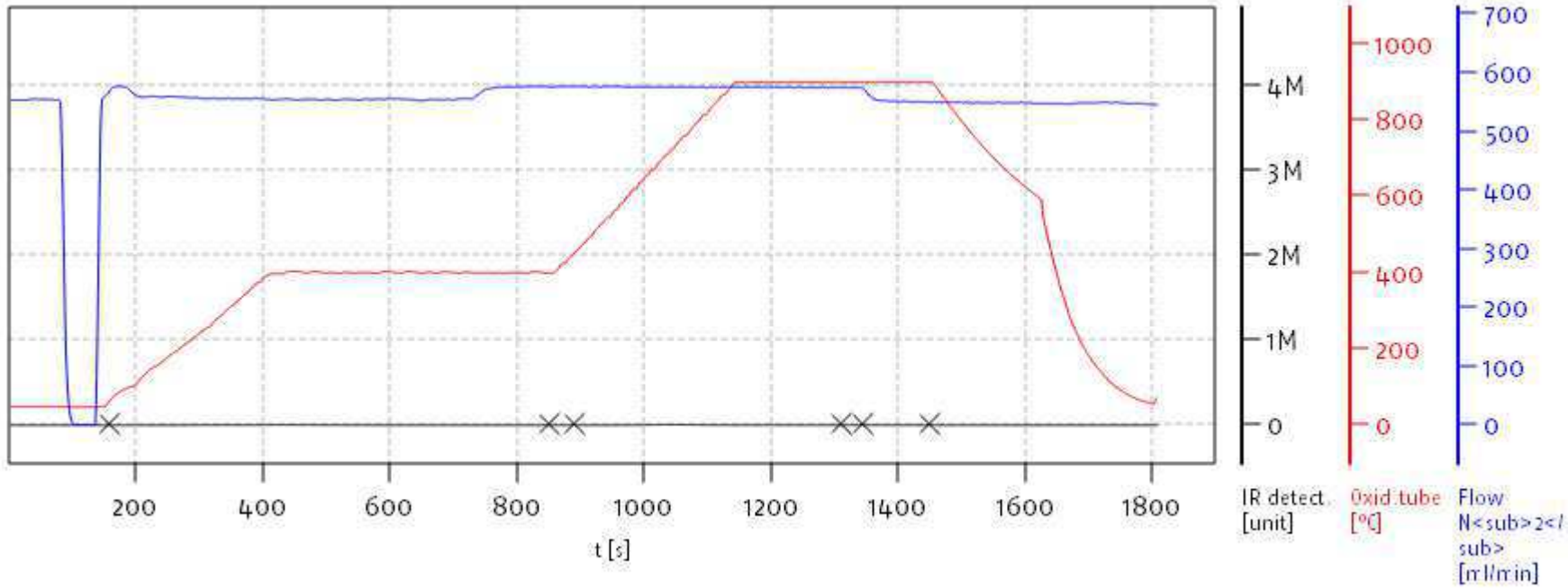
EPA 9060A m

Laboratory:	Analytical Resources, LLC	SDG:	23A0418
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	FD00070	Instrument:	TOC Cube
Calibration Date:	04/26/2022 11:29		

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	COD Limit	Q
Total Organic Carbon	1424064	15.9	0.9988			
Total Carbon	1424064	15.9	0.9988			
Total Inorganic Carbon	1424064	15.9	0.9988			
% Soot	1424064	15.9	0.9988			

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
1	1	BLANK	1.00		1.00	CARBON	4/26/2022 11:29 AM	0.000	0.000	0.000	bl	29 049	30 612	3 899	1.0000	1.0000



Name:

Access: soliTOC superuser

Date: Wed Apr 27 11:07:12 2022

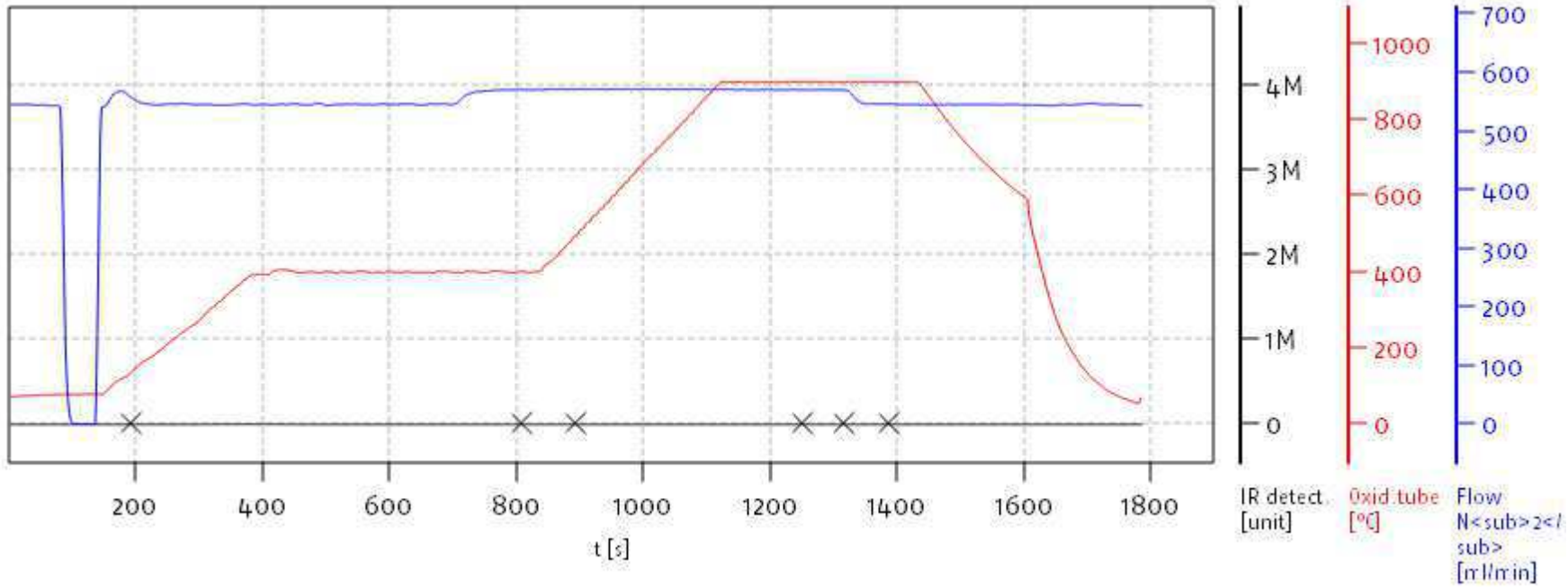
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Document: 042622 DOE CALIBRATION from: 4/27/2022 11:05 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
2	2	BLANK	1.00		1.00	CARBON	4/26/2022 12:00 PM	0.000	0.000	0.000	bl	11 115	60	8	1.0000	1.0000



Name:

Access: soliTOC superuser

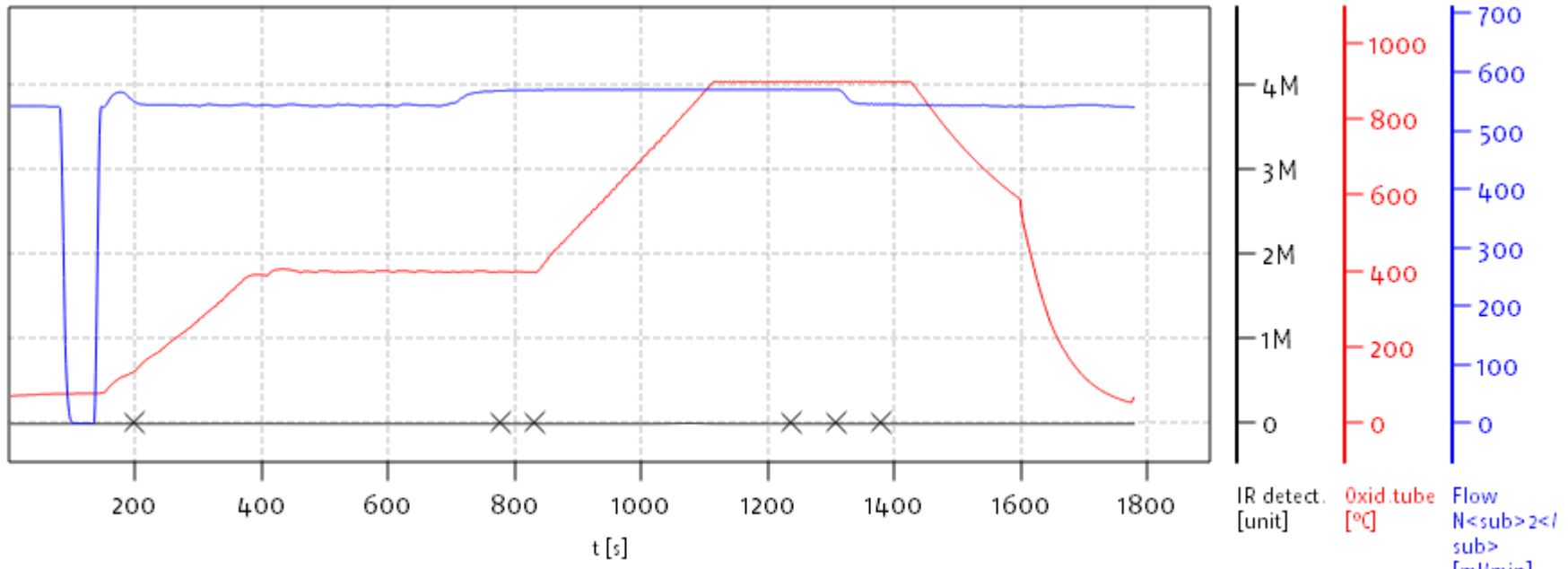
Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
3	3	SEQ-CAL1	200.00	0.0027	1.00	CARBON	4/26/2022 12:30 PM	0.010	0.008	0.018	bl,C1u,C2u	7 294	11 739	22	1.0000	0.7425



Name:

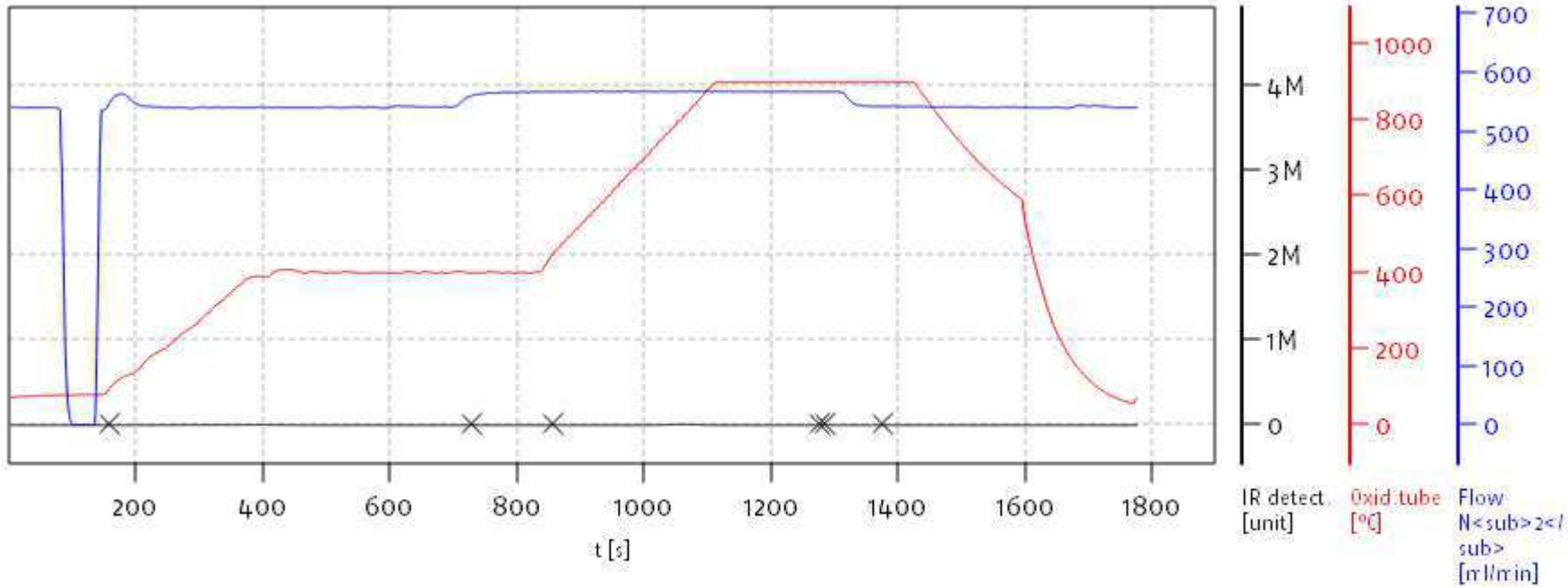
Access: soliTOC superuser

Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
4	4	SEQ-CAL2	200.00	0.0049	1.00	CARBON	4/26/2022 1:00 PM	0.023	0.015	0.038	bl,C2u	23 296	19 107	47	1.0000	0.8936



Name:

Access: soliTOC superuser

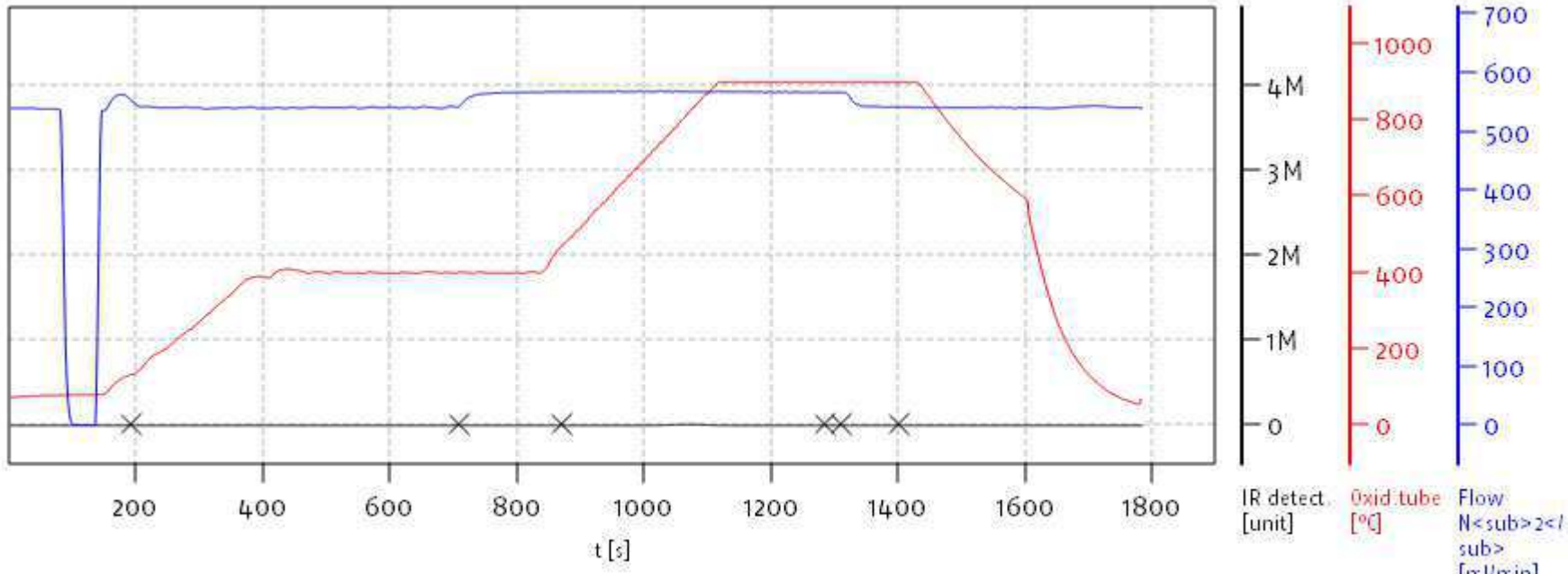
Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
5	5	SEQ-CAL3	200.00	0.0071	1.00	CARBON	4/26/2022 1:30 PM	0.006	0.022	0.028	bl,C1u,C2u	2 319	27 530	170	1.0000	0.9343



Name:

Access: soliTOC superuser

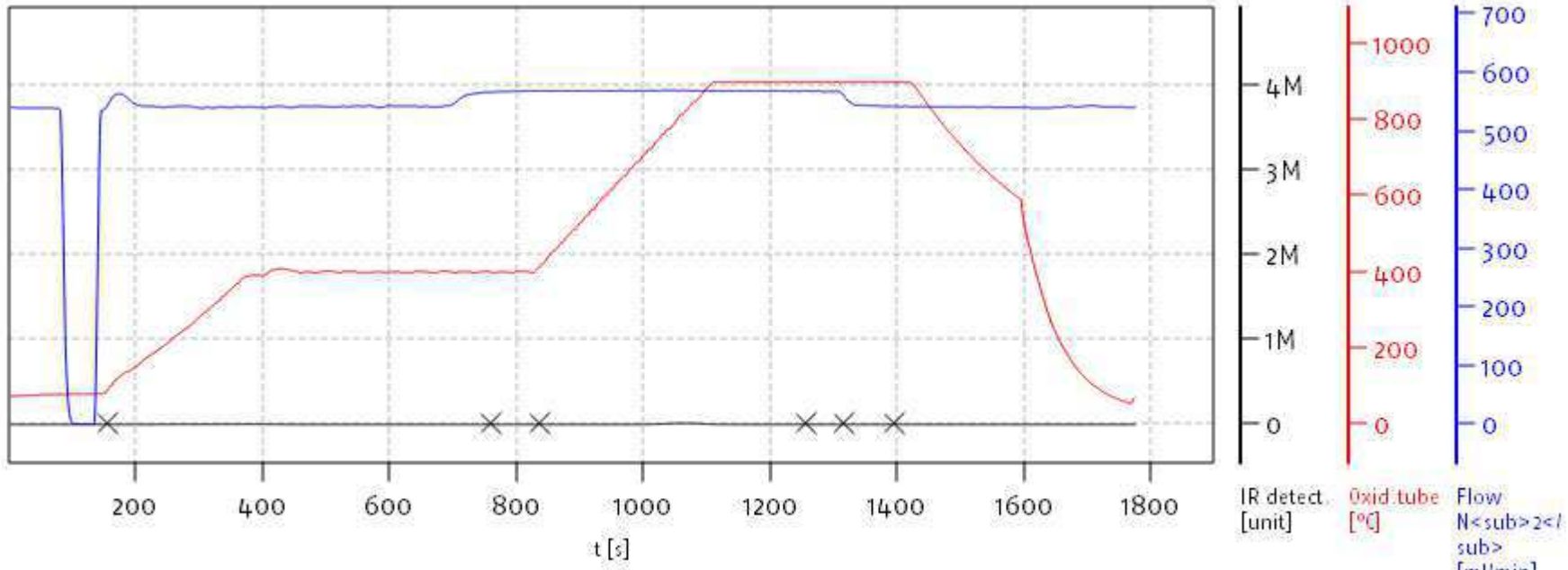
Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
6	6	SEQ-CAL4	200.00	0.0098	1.00	CARBON	4/26/2022 2:00 PM	0.020	0.030	0.050	bl,C2u	19 746	38 017	109	1.0000	0.9461



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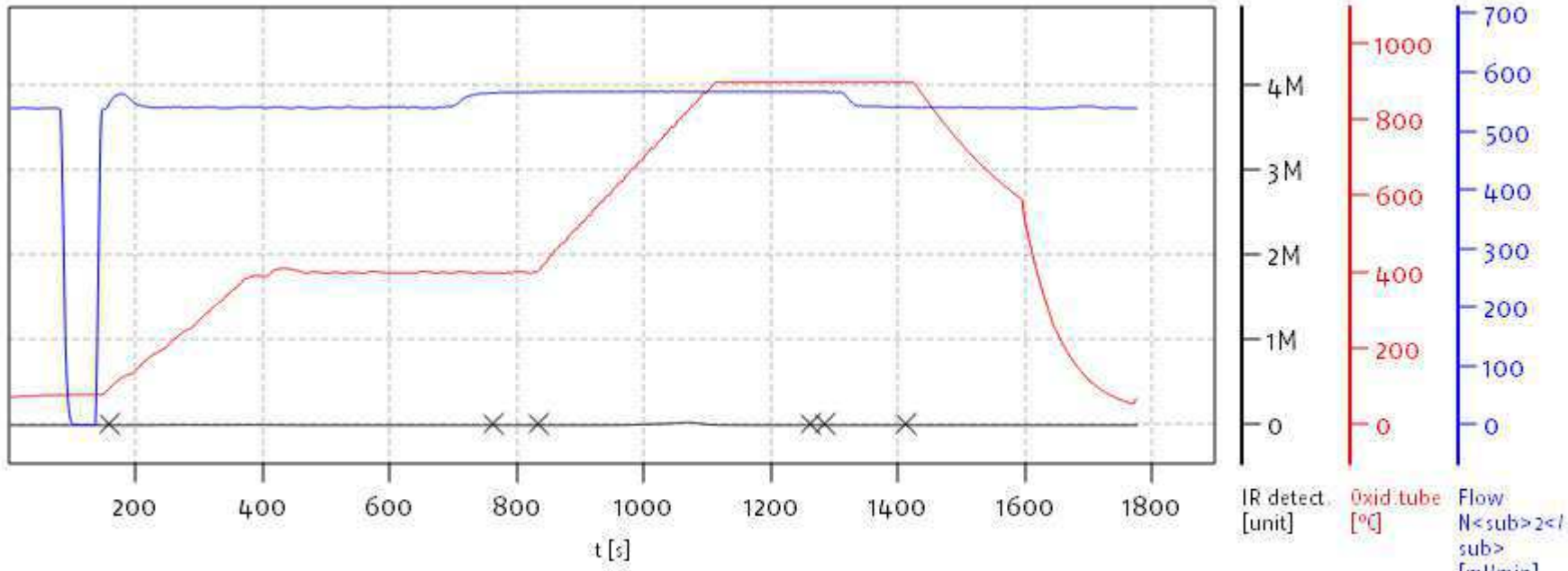
Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
7	7	SEQ-CAL5	200.00	0.0148	1.00	CARBON	4/26/2022 2:30 PM	0.021	0.045	0.066	bl,C2u	20 951	92 945	236	1.0000	0.5975



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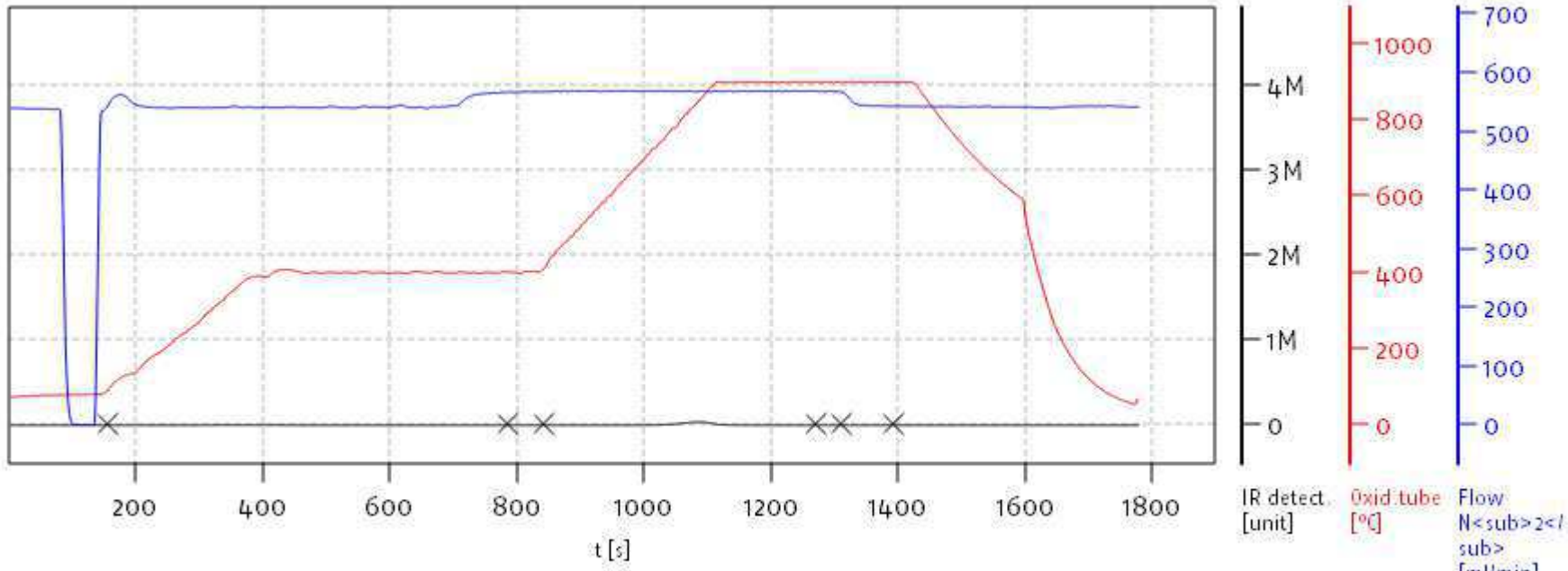
Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
8	8	SEQ-CAL6	200.00	0.0196	1.00	CARBON	4/26/2022 3:00 PM	0.012	0.061	0.073	bl,C2u	10 118	82 297	59	1.0000	0.9144



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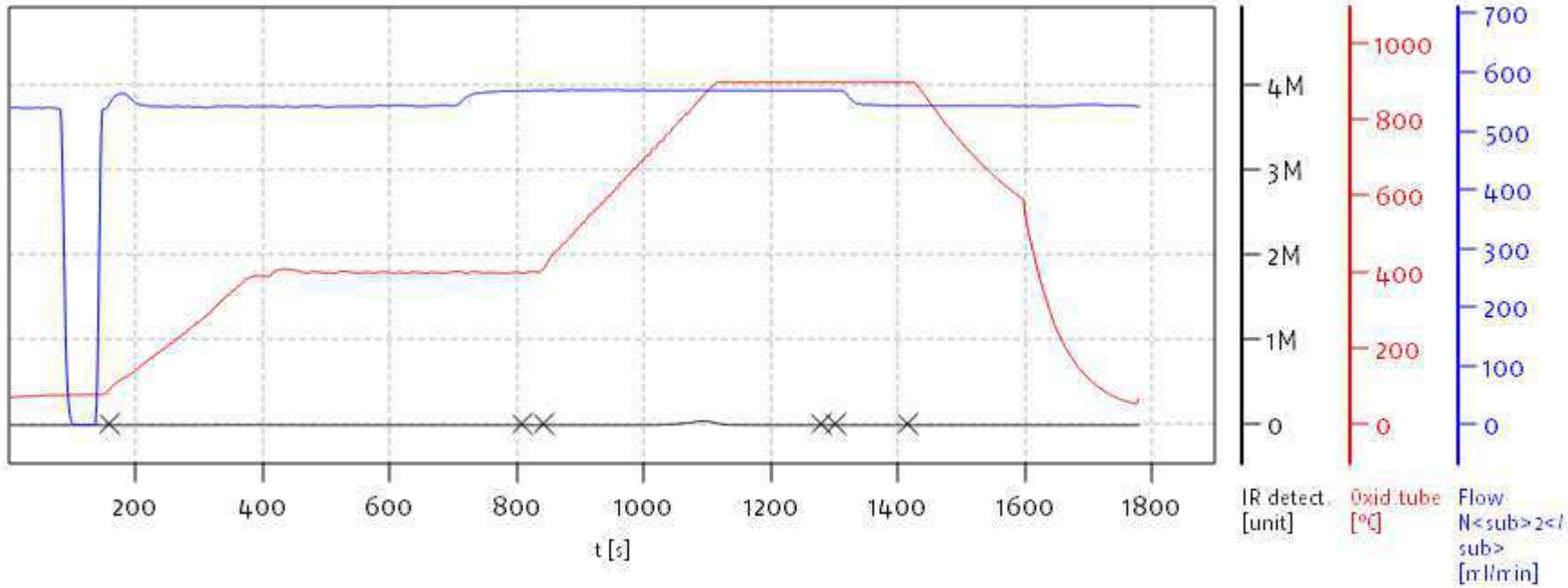
Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
9	9	SEQ-CAL7	200.00	0.0247	1.00	CARBON	4/26/2022 3:30 PM	0.013	0.075	0.088	bl,C2u	10 555	101 530	292	1.0000	0.9173



Name:

Access: soliTOC superuser

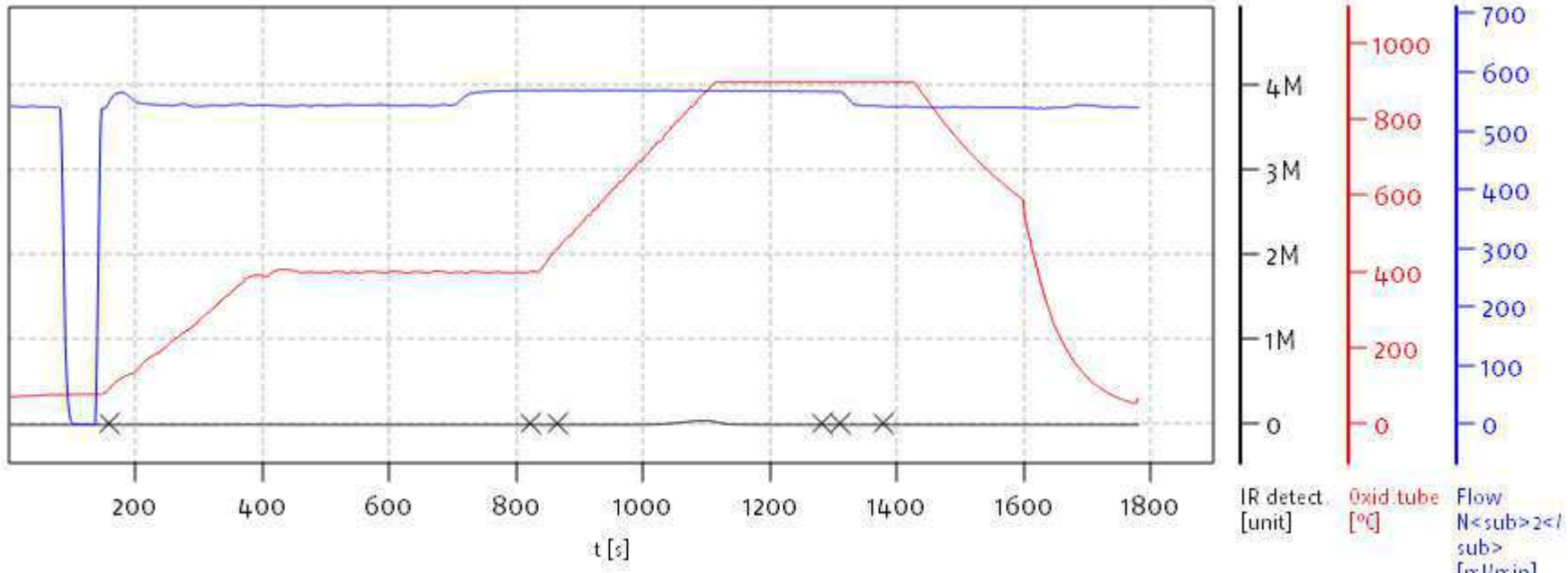
Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
10	10	SEQ-CAL8	200.00	0.0298	1.00	CARBON	4/26/2022 4:00 PM	0.009	0.091	0.100	bl,C1u,C2u	6 668	120 822	116	1.0000	0.9312



Name:

Access: soliTOC superuser

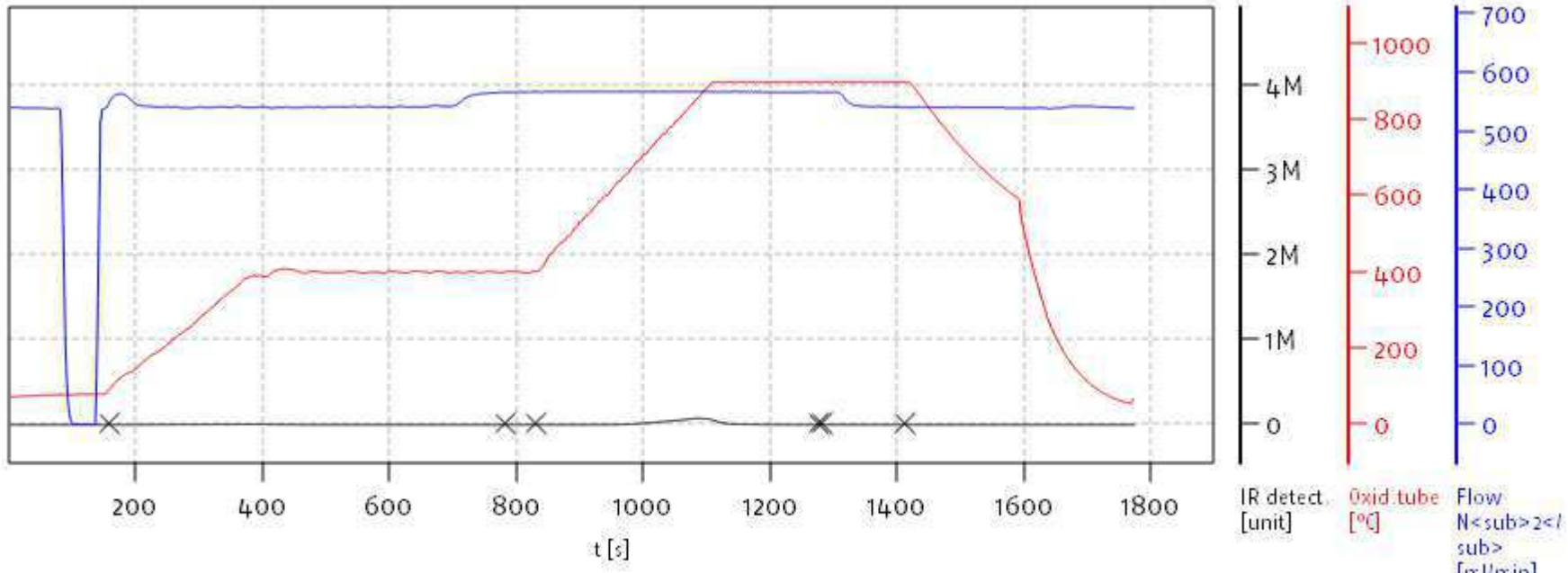
Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
11	11	SEQ-CAL9	200.00	0.0402	1.00	CARBON	4/26/2022 4:30 PM	0.031	0.120	0.151	bl,C2u	32 999	260 234	1 044	1.0000	0.5792



Name:

Access: soliTOC superuser

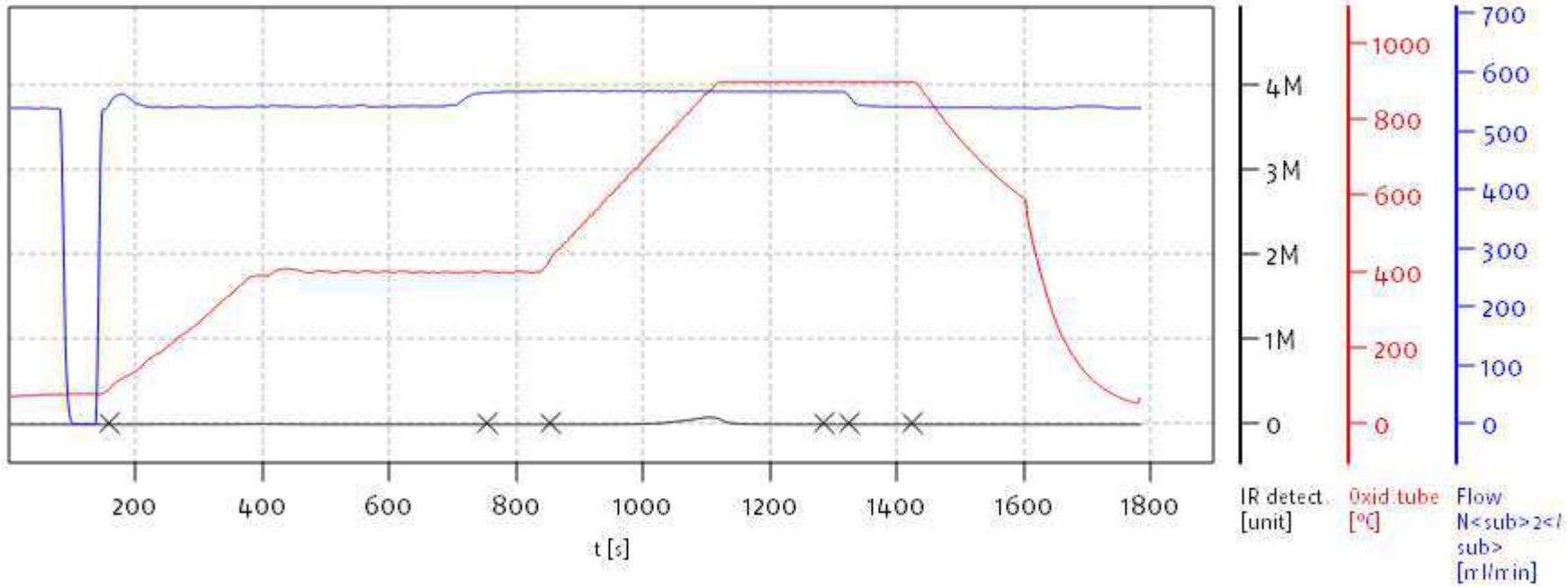
Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
12	12	SEQ-CALA	200.00	0.0500	1.00	CARBON	4/26/2022 5:00 PM	0.021	0.151	0.172	bl,C2u	20 147	233 779	913	1.0000	0.8099



Name:

Access: soliTOC superuser

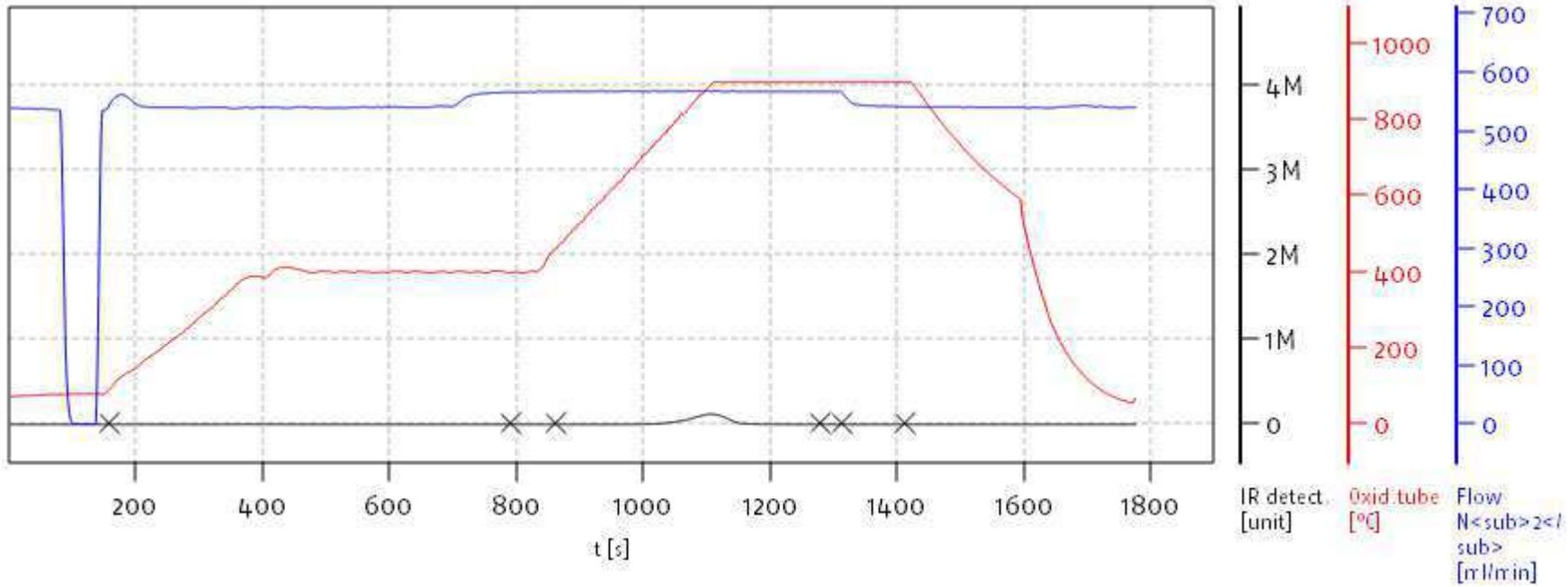
Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
13	13	SEQ-CALB	200.00	0.0040	1.00	CARBON	4/26/2022 5:30 PM	0.010	0.258	0.268	bl,C1u,C2u	7 070	323 151	663	1.0000	1.0048



Name:

Access: soliTOC superuser

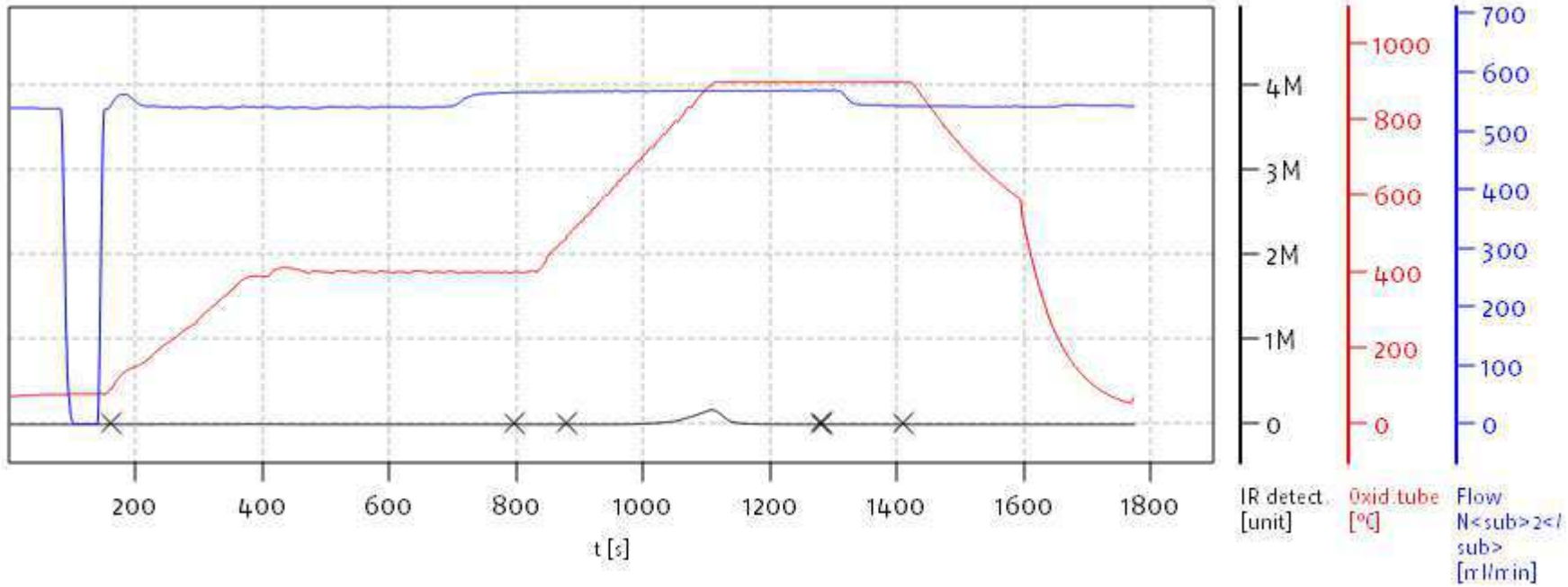
Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
14	14	SEQ-CALC	200.00	0.0048	1.00	CARBON	4/26/2022 6:00 PM	0.015	0.324	0.339	bl,C2u	13 785	411 879	575	1.0000	0.9917



Name:

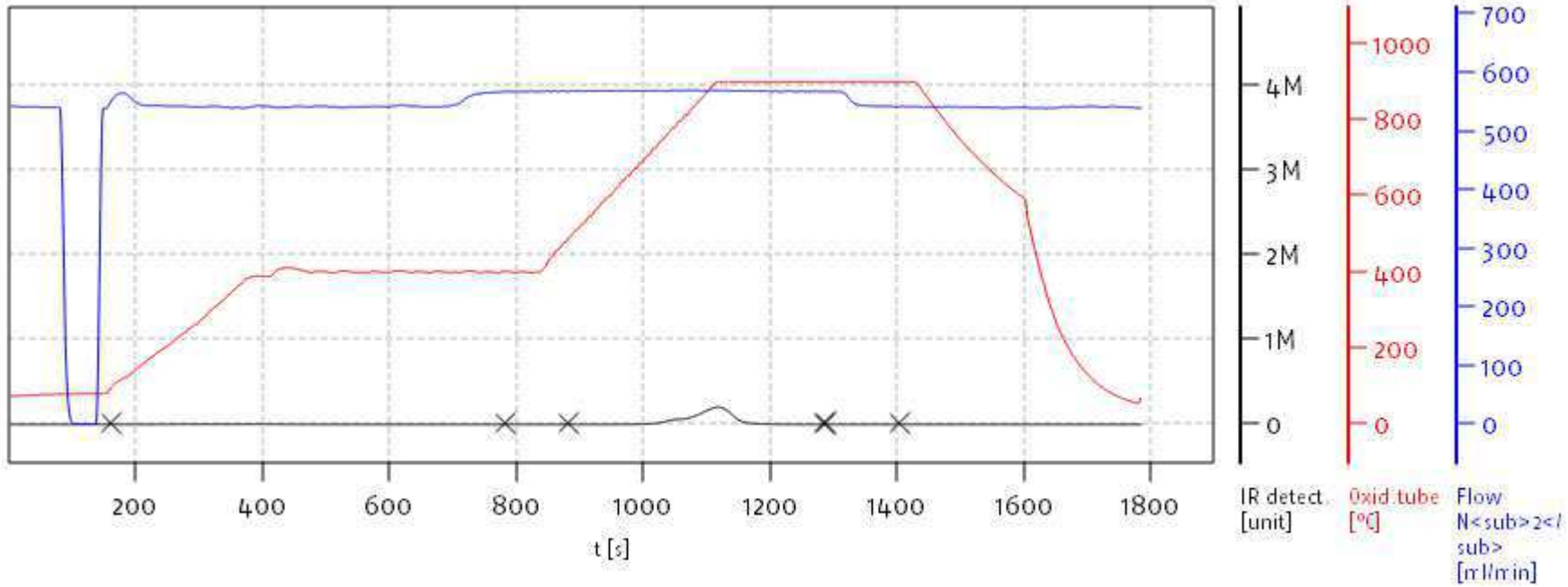
Access: soliTOC superuser

Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
15	15	SEQ-CALD	200.00	0.0069	1.00	CARBON	4/26/2022 6:30 PM	0.019	0.444	0.463	bl,C2u	18 465	553 540	263	1.0000	1.0129



Name:

Access: soliTOC superuser

Date: Wed Apr 27 11:07:12 2022

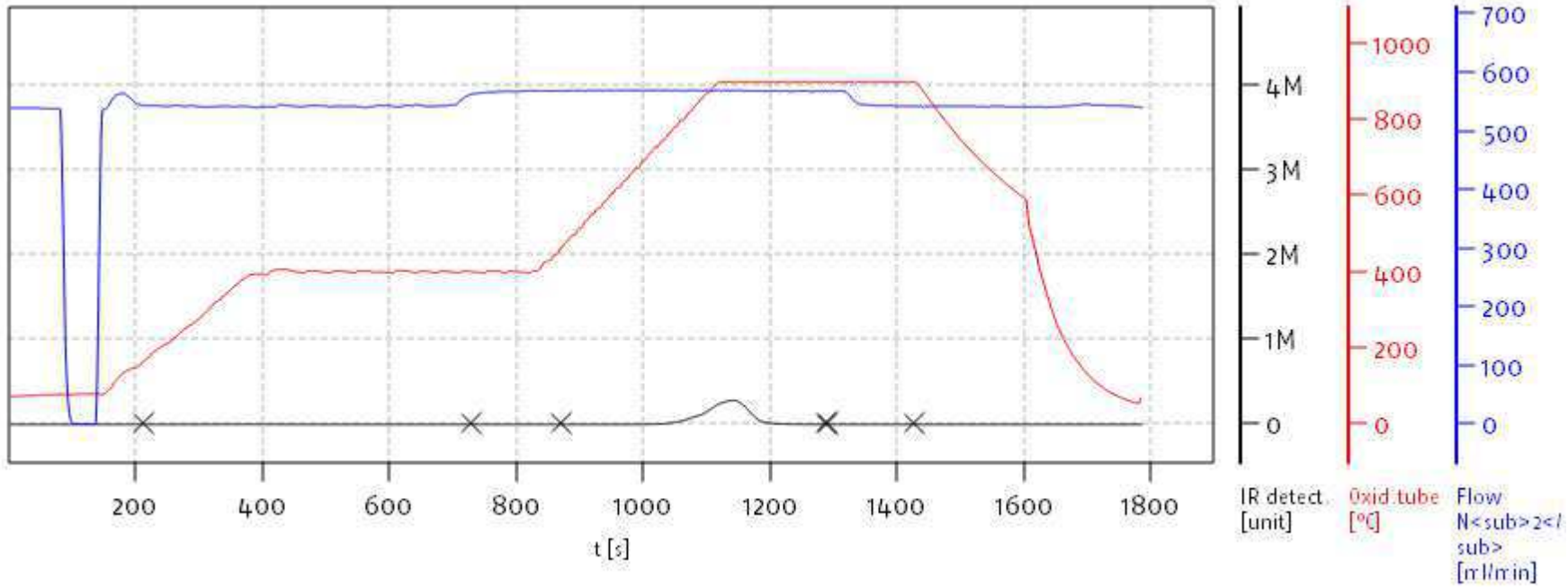
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Document: 042622 DOE CALIBRATION from: 4/27/2022 11:05 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
16	16	SEQ-CALE	200.00	0.0101	1.00	CARBON	4/26/2022 7:00 PM	0.009	0.600	0.609	bl,C1u,C2u	5 485	839 878	536	1.0000	0.9036



Name:

Access: soliTOC superuser

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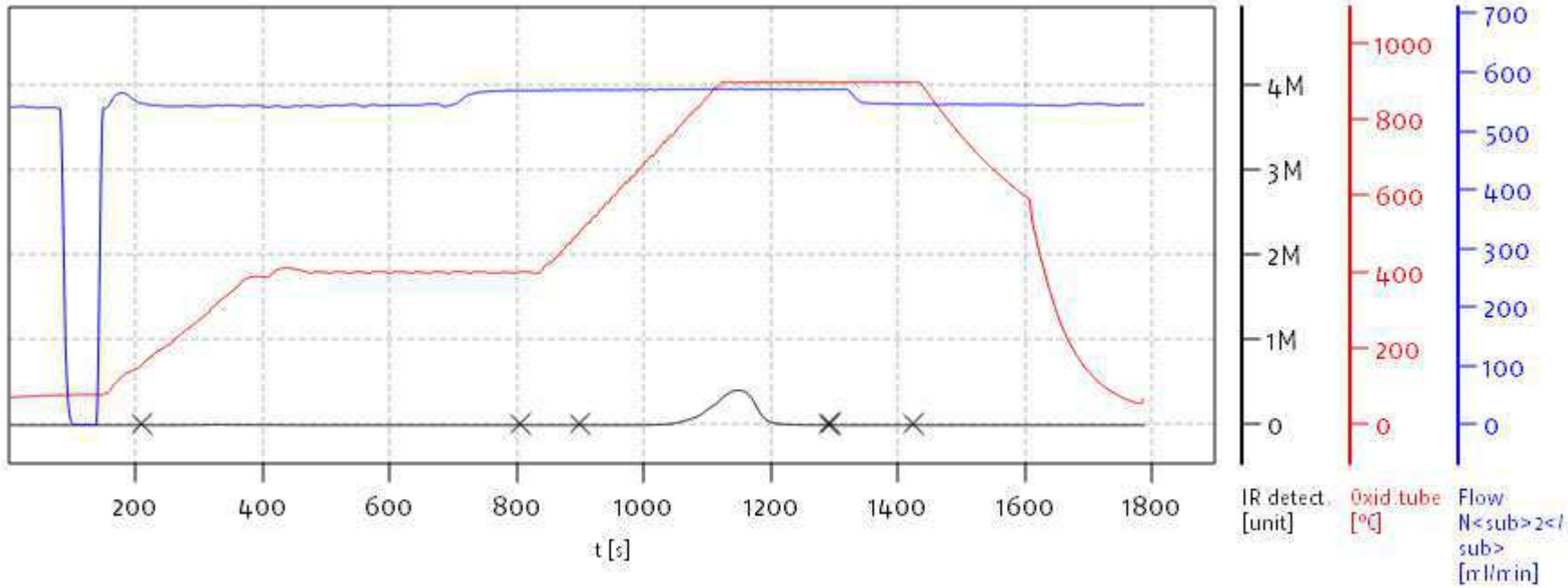
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
17	17	SEQ-CALF	200.00	0.0149	1.00	CARBON	4/26/2022 7:31 PM	0.019	0.906	0.925	bl,C2u	17 439	1 236 200	814	1.0000	0.9279



Name:

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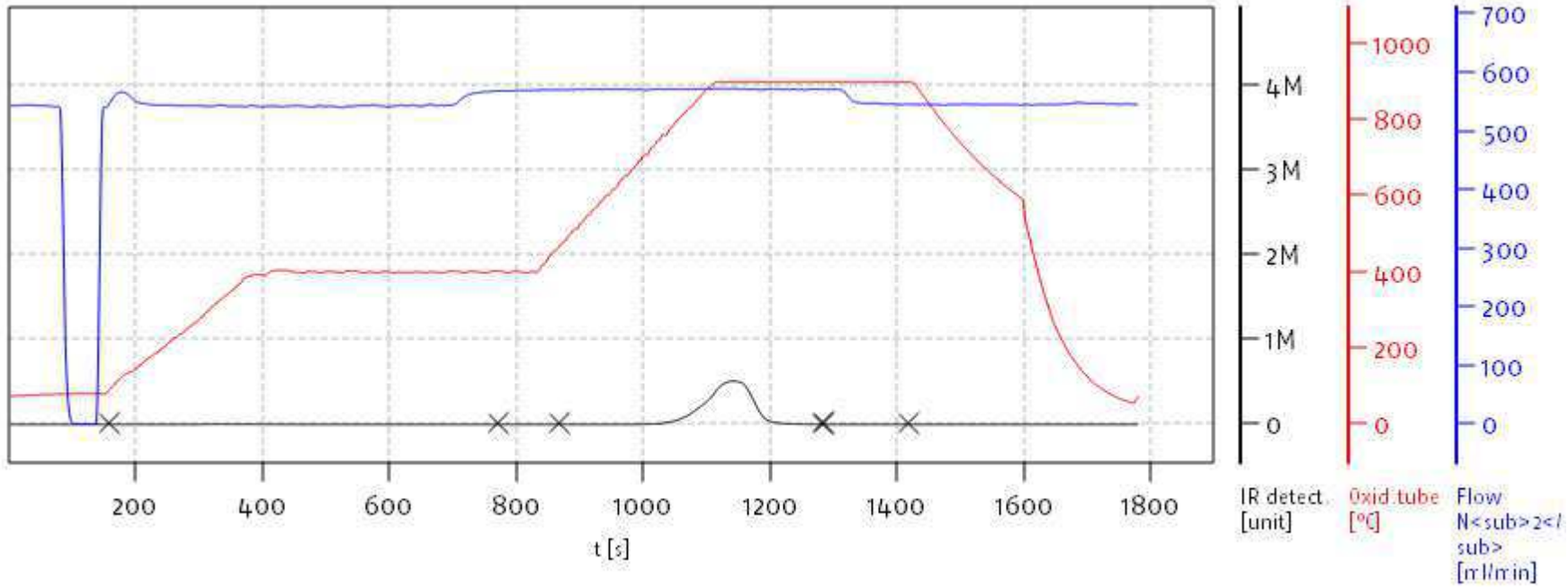
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
18	18	SEQ-CALG	200.00	0.0198	1.00	CARBON	4/26/2022 8:01 PM	0.015	1.206	1.221	bl,C2u	12 557	1 639 190	1 295	1.0000	0.9320



Name:

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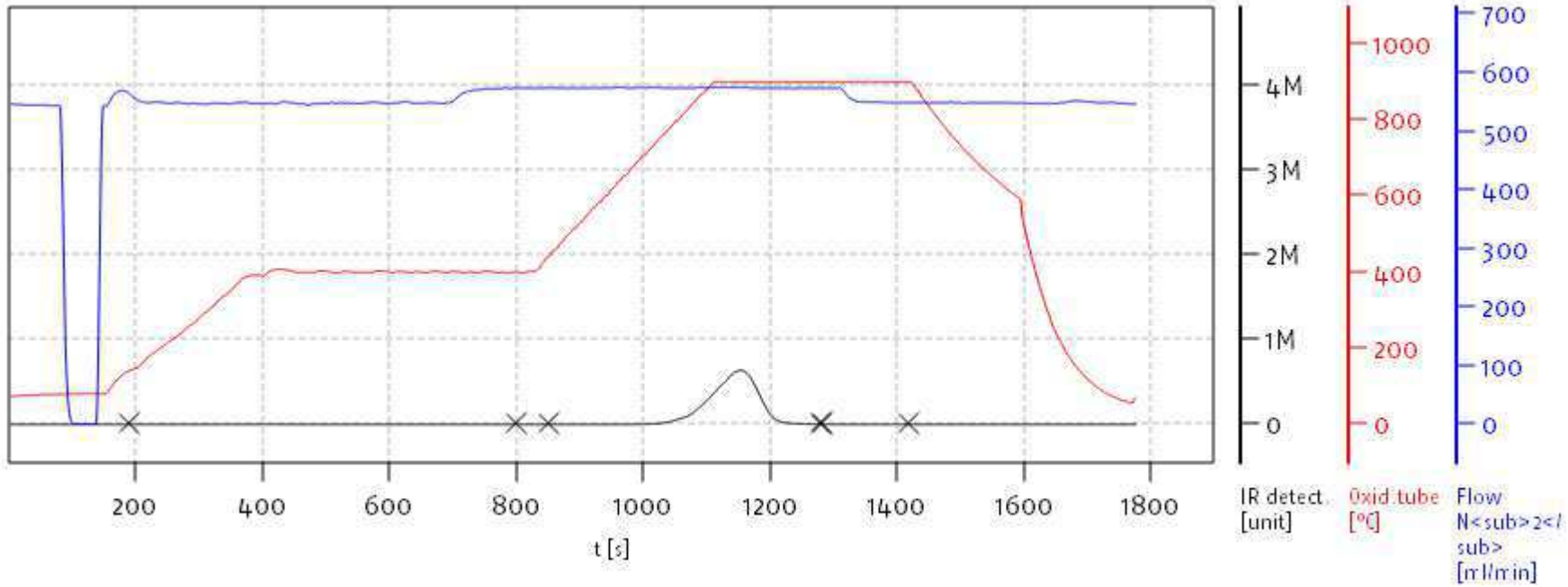
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
19	19	SEQ-CALH	200.00	0.0250	1.00	CARBON	4/26/2022 8:31 PM	0.009	1.524	1.533	bl,C1u,C2u	4 029	2 063 890	2 225	1.0000	0.9357



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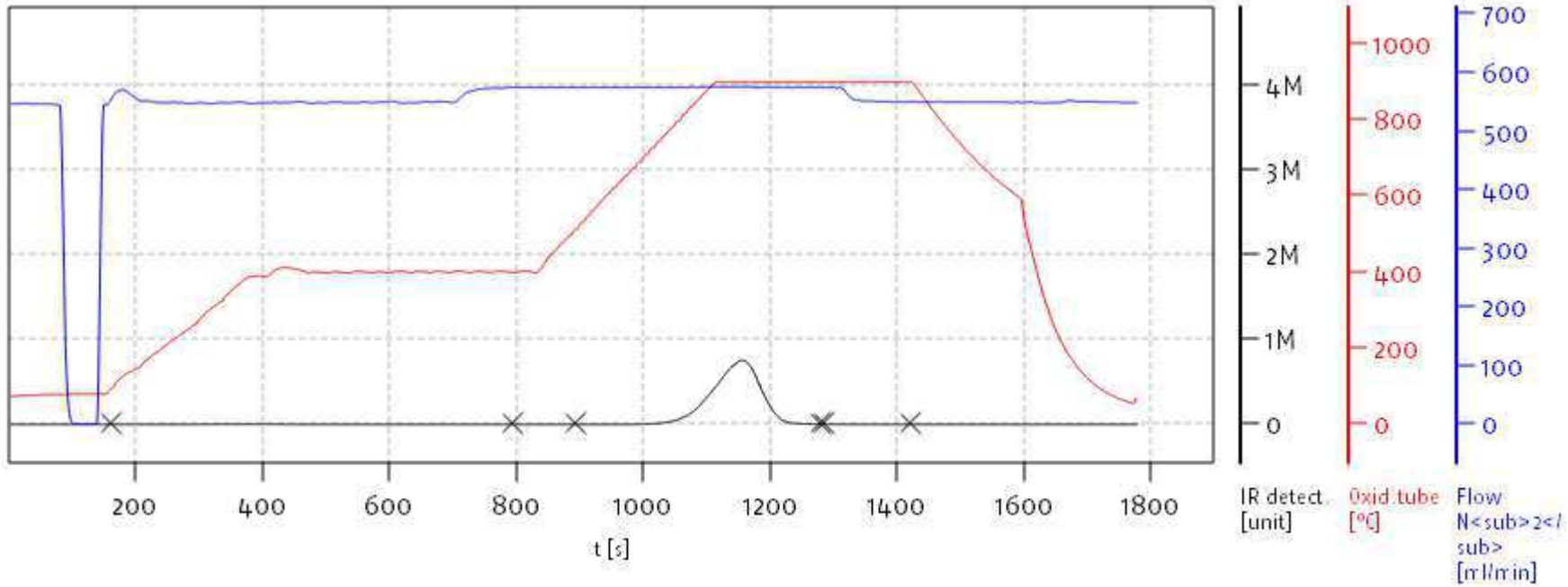
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
20	20	SEQ-CALI	200.00	0.0303	1.00	CARBON	4/26/2022 9:01 PM	0.017	1.800	1.817	bl,C2u	13 926	2 495 900	2 903	1.0000	0.9140



Name:

Access: soliTOC superuser

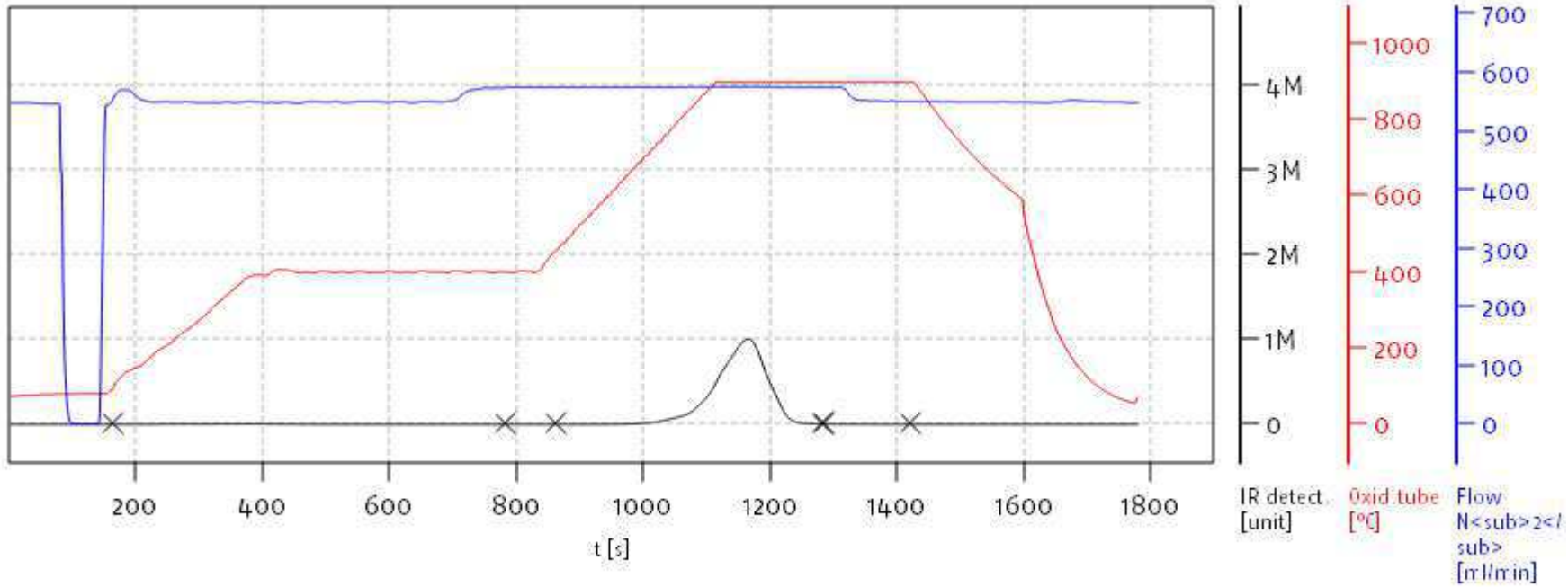
Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
21	21	SEQ-CALJ	200.00	0.0415	1.00	CARBON	4/26/2022 9:31 PM	0.031	2.400	2.431	bl,C2u	28 786	3 482 530	5 351	1.0000	0.8737



Name:

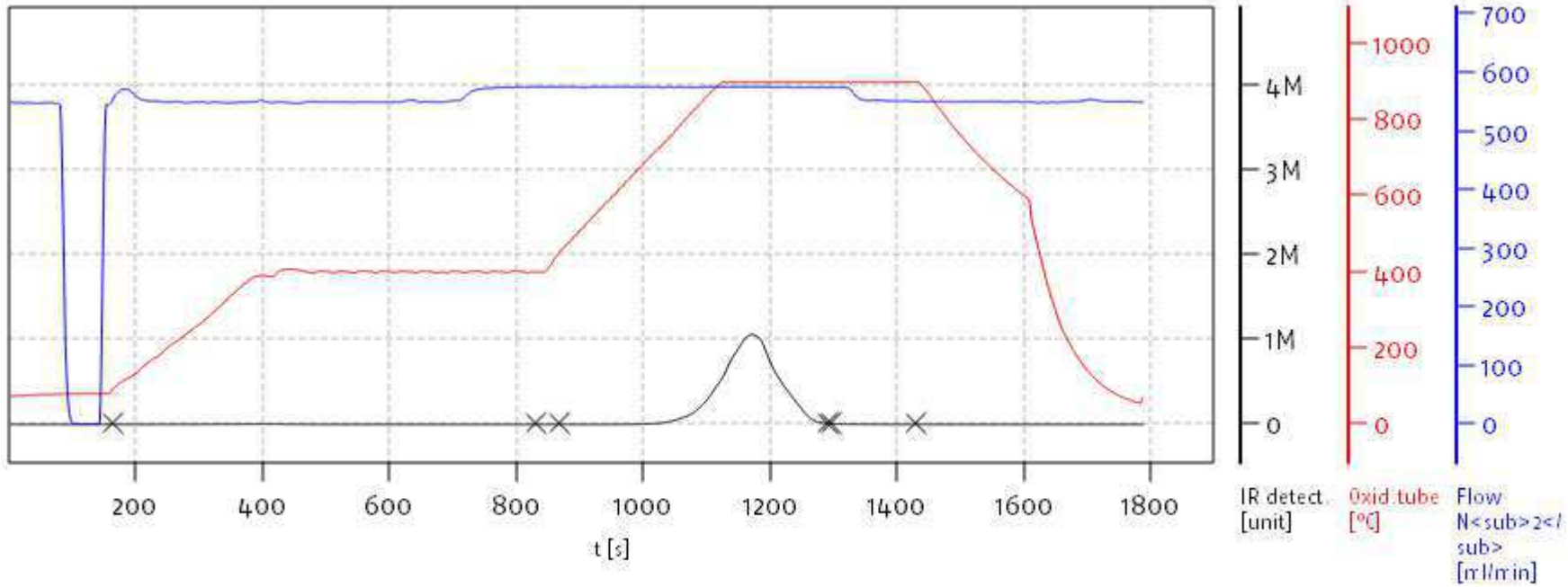
Access: soliTOC superuser

Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
22	22	SEQ-CALK	200.00	0.0497	1.00	CARBON	4/26/2022 10:01 PM	0.031	3.012	3.043	bl	23 732	4 105 830	9 736	1.0000	0.9301



Name:

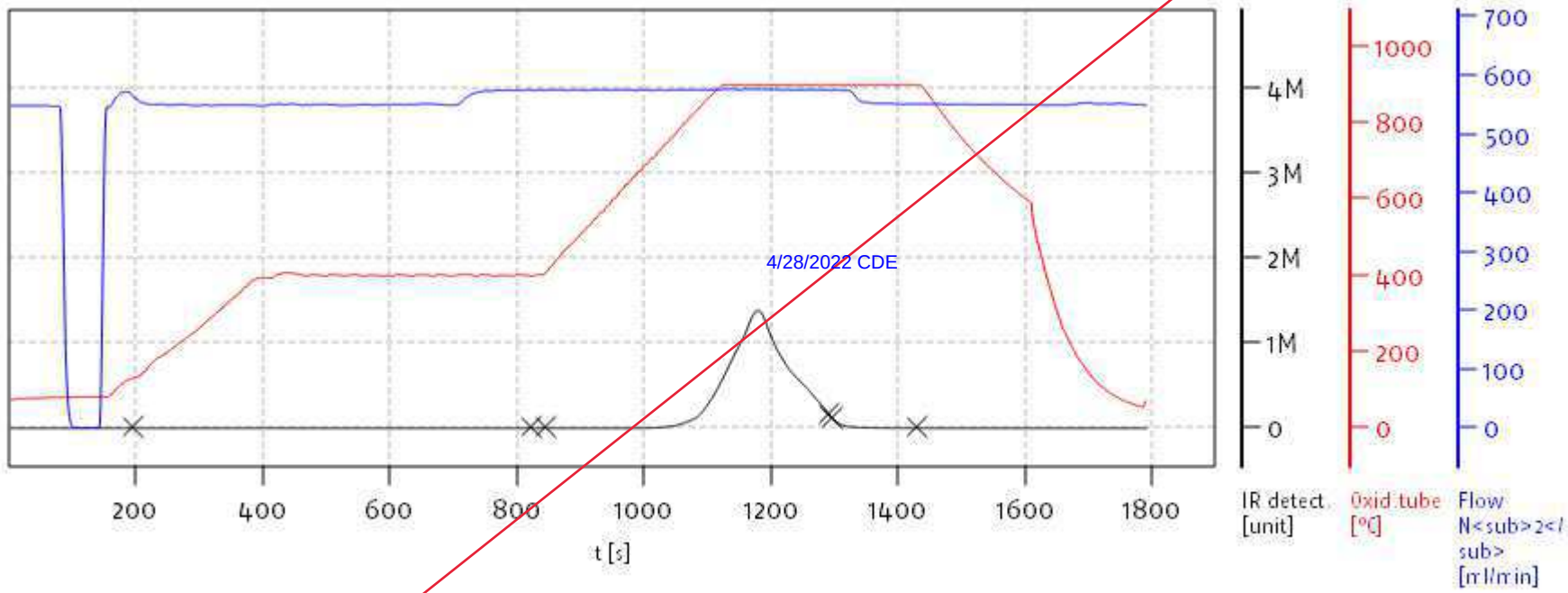
Access: soliTOC superuser

Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
23	23	SEQ-CALL	200.00	0.0698	1.00	CARBON	4/26/2022 10:31 PM	0.005	3.805	3.810	bl,C1u	3 605	5 648 620	71 970	1.0000	0.9443



Name:

Access: soliTOC superuser

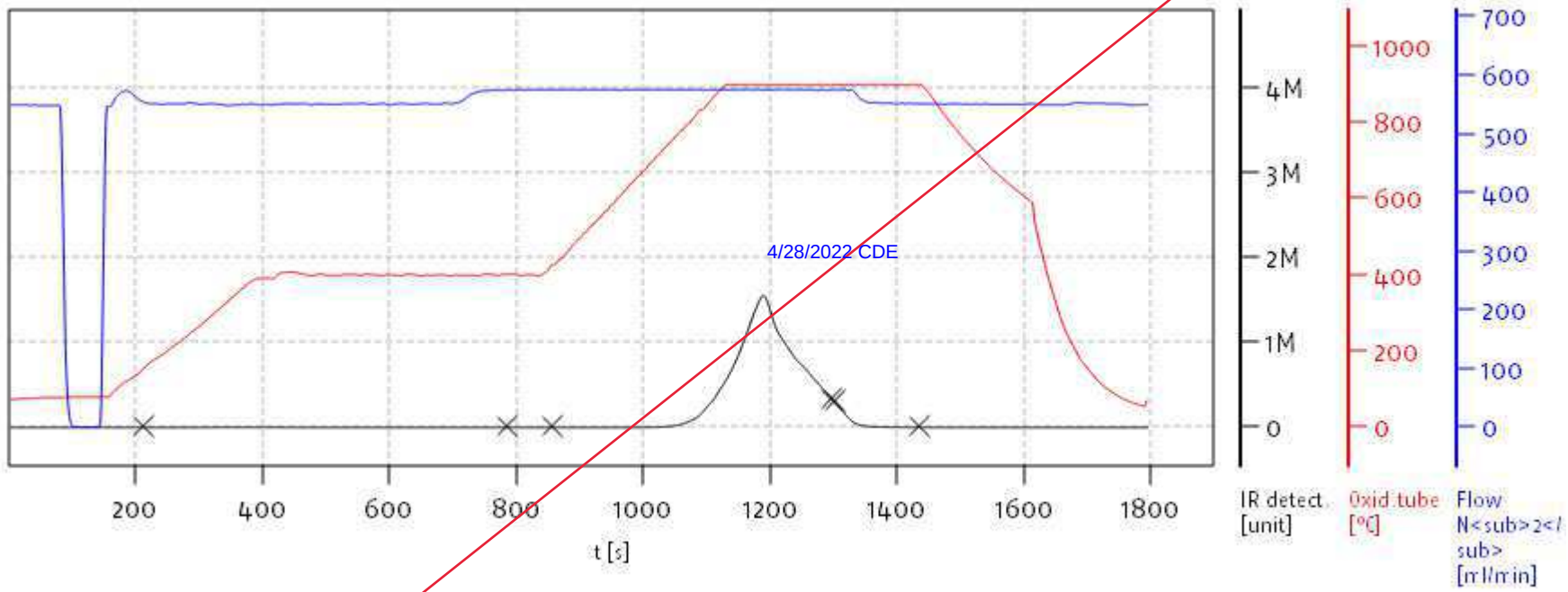
Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
24	24	SEQ-CALM	200.00	0.0803	1.00	CARBON	4/26/2022 11:02 PM	0.010	4.637	4.647	bl	10 023	6 397 530	228 171	1.0000	0.9539



Name:

Access: soliTOC superuser

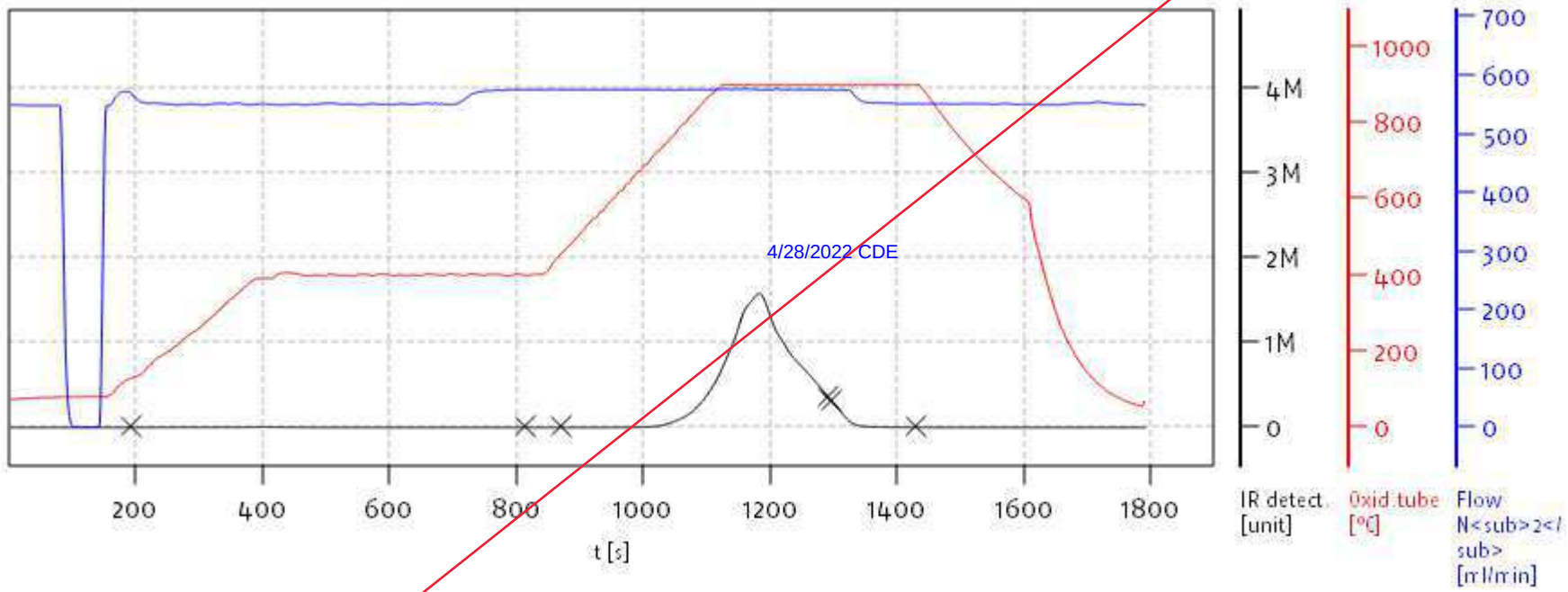
Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
25	25	SEQ-CALN	200.00	0.0901	1.00	CARBON	4/26/2022 11:32 PM	0.020	5.219	5.239	bl	23 354	7 186 580	239 986	1.0000	0.9540



Name:

Access: soliTOC superuser

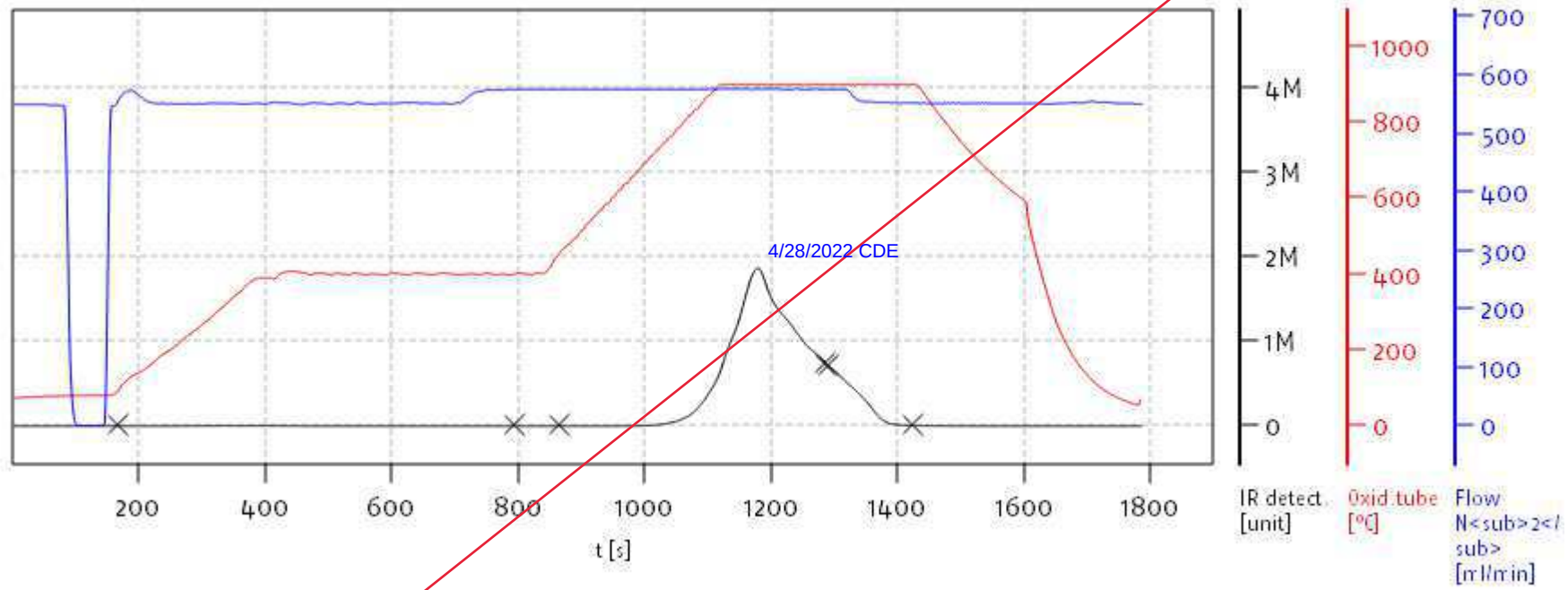
Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
26	26	SEQ-CALO	200.00	0.1200	1.00	CARBON	4/27/2022 12:02 AM	0.019	7.915	7.934	bl,C3o	21 248	8 544 610	1 334 580	1.0000	1.0714



Name:

Access: soliTOC superuser

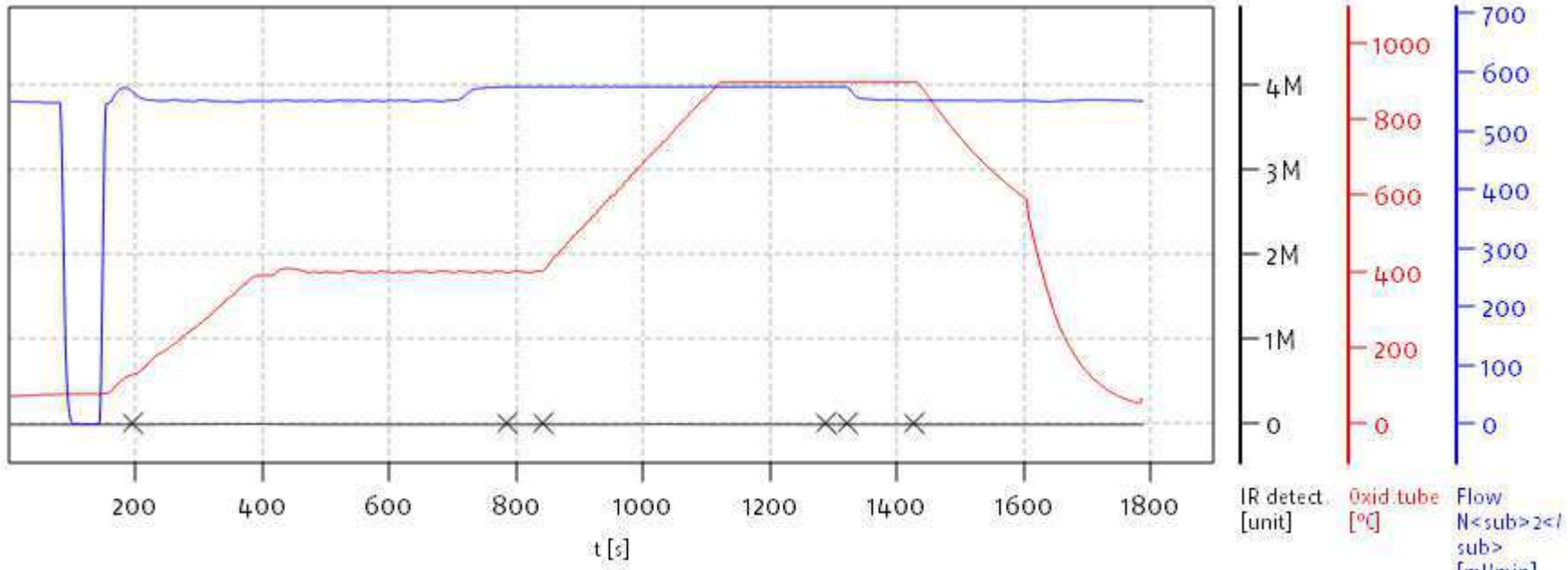
Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
27	27	BLANK	1.00		1.00	CARBON	4/27/2022 12:32 AM	0.000	0.000	0.000	bl	29 766	19 596	1 205	1.0000	0.9007



Name:

Access: soliTOC superuser

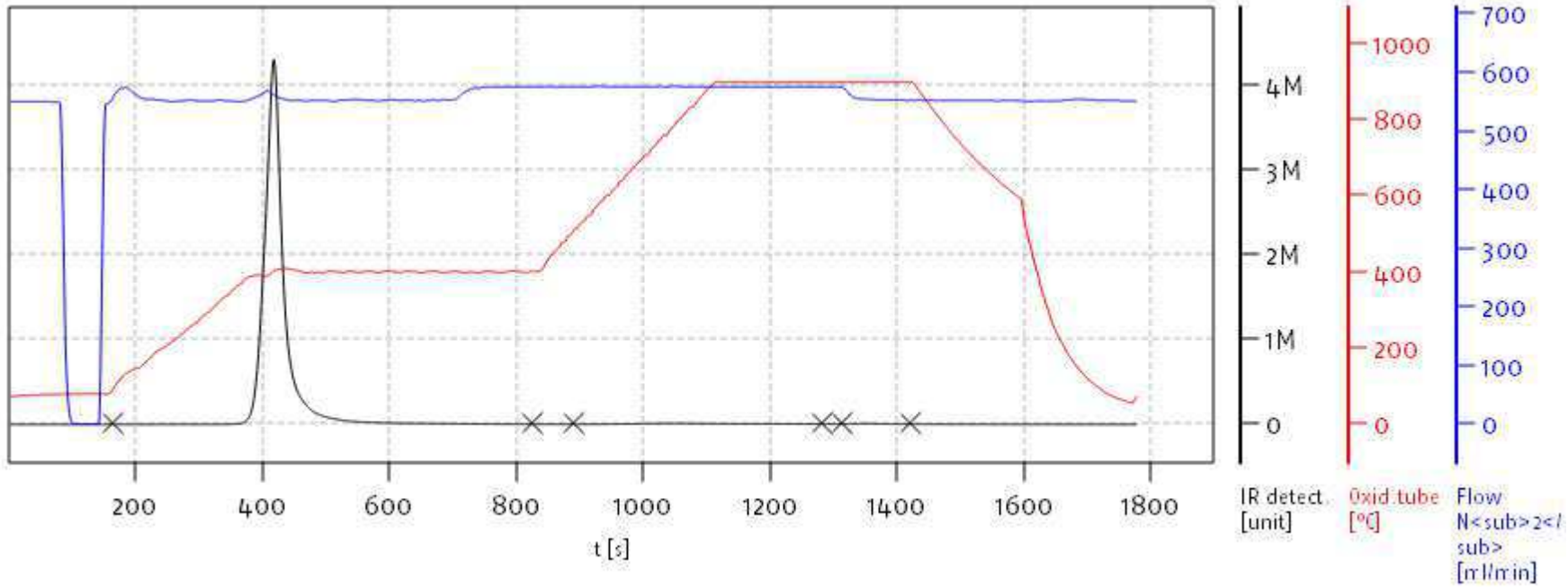
Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
28	28	Dfactor	19.00		1.00	CARBON	4/27/2022 1:02 AM	44.678	0.893	45.571	bl	5 588 680	104 999	25 384	0.9581	1.0000



Name:

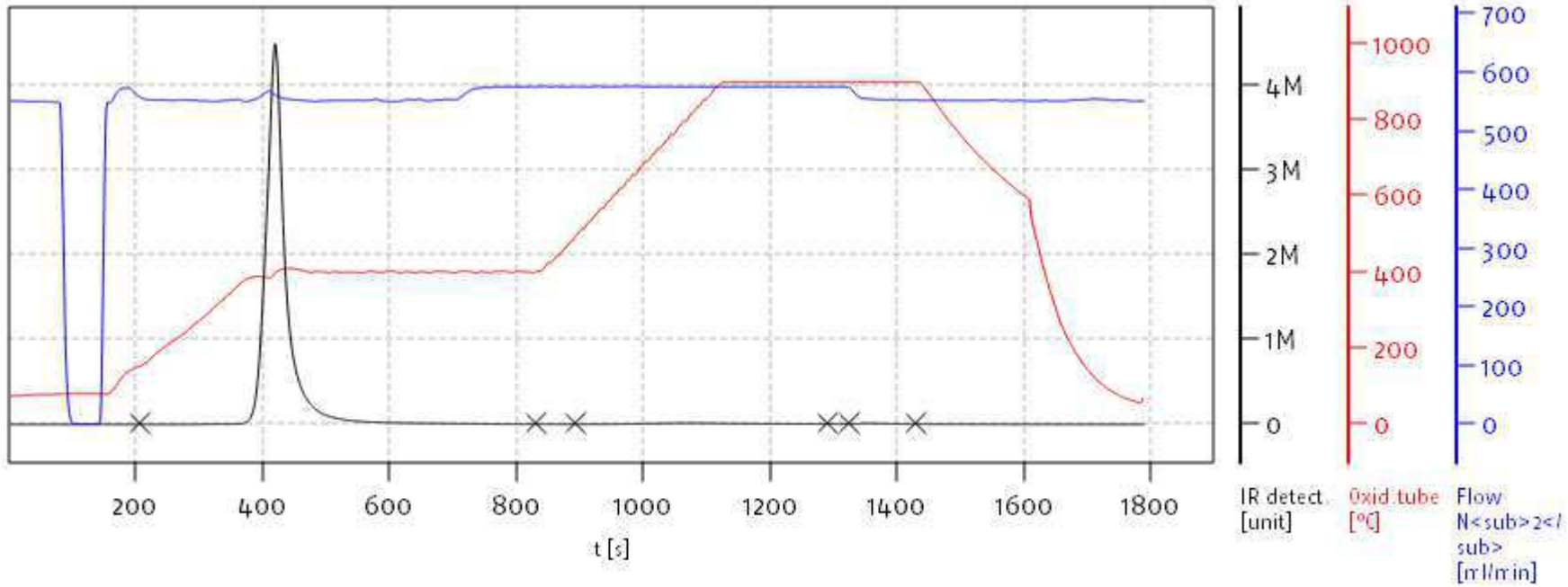
Access: soliTOC superuser

Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
29	29	Dfactor	20.80		1.00	CARBON	4/27/2022 1:32 AM	44.694	0.937	45.631	bl	6 076 750	120 961	30 224	0.9647	1.0000



Name:

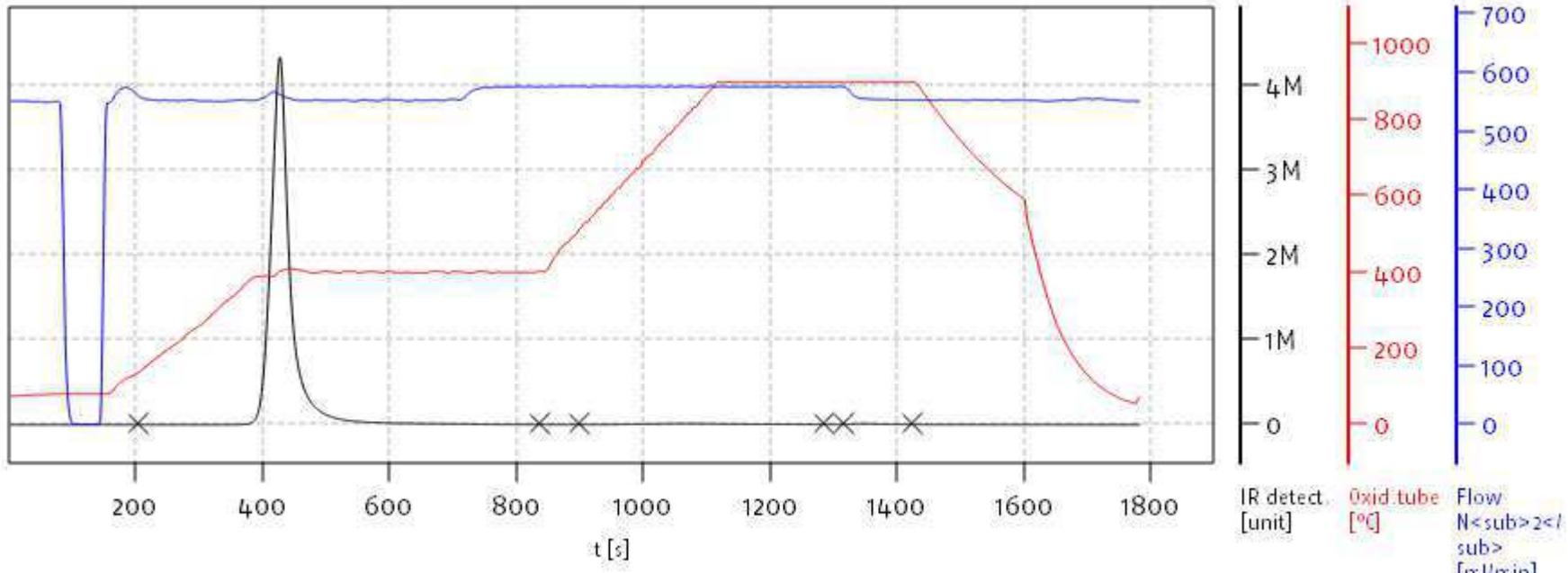
Access: soliTOC superuser

Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
30	30	SEQ-ICV1	19.40		1.00	CARBON	4/27/2022 2:03 AM	44.964	0.742	45.706	bl	5 722 450	98 735	27 054	0.9614	0.9007



Name:

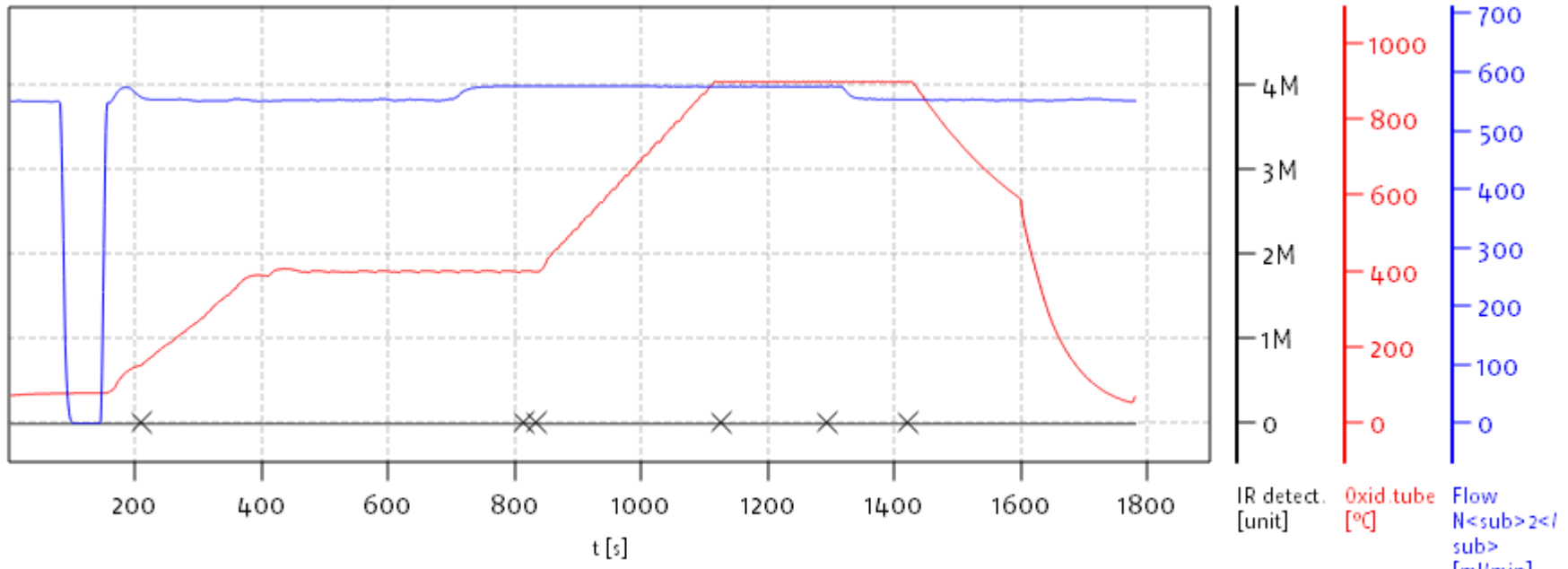
Access: soliTOC superuser

Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
31	31	SEQ-ICB1	501.10		1.00	CARBON	4/27/2022 2:33 AM	0.002	0.001	0.003	bl,C1u,C3u,C2u	2 158	225	165	0.9614	0.9007



Name:

Access: soliTOC superuser

Date: Wed Apr 27 11:07:12 2022

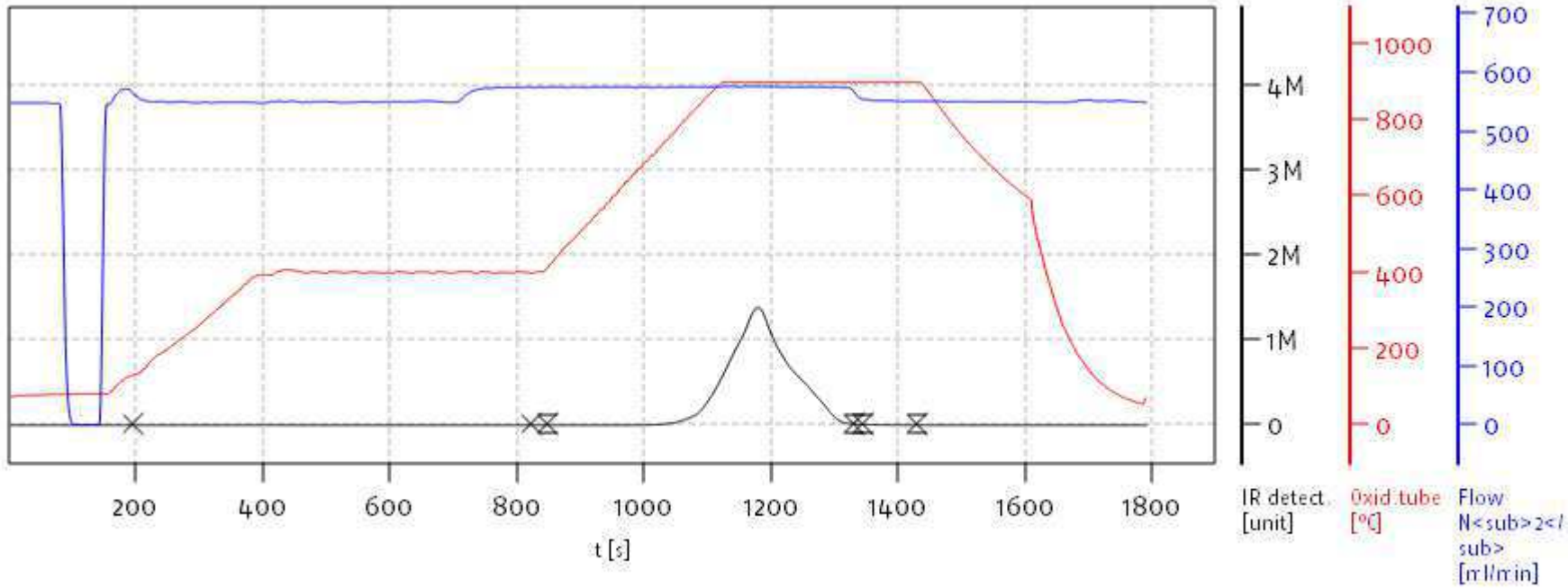
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
23	23	SEQ-CALL	200.00	0.0698	1.00	CARBON	4/27/2022 11:08 AM	0.005	3.917	3.922	bl,C1u	3 605	**5 260 365**	**0**	1.0000	0.9443



Name:

Access: soliTOC superuser

Date: Wed Apr 27 11:10:16 2022

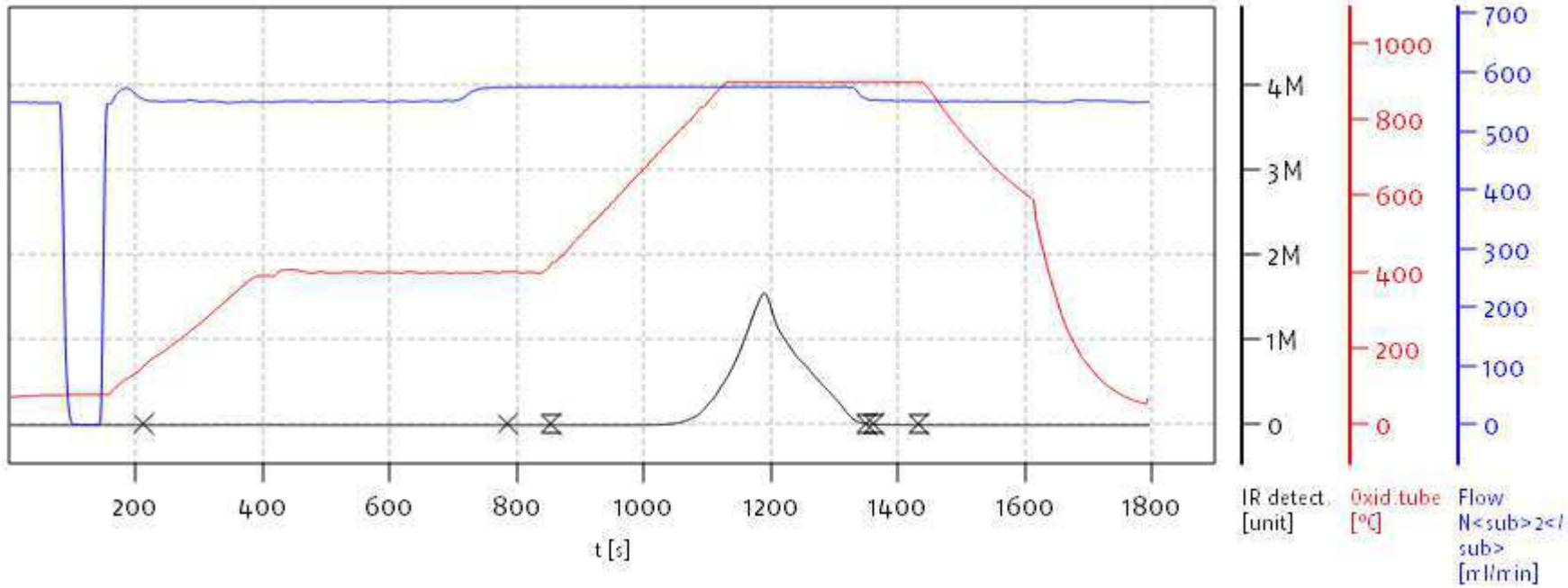
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Document: 042622 DOE CALIBRATION from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
24	24	SEQ-CALM	200.00	0.0803	1.00	CARBON	4/27/2022 11:08 AM	0.010	4.637	4.647	bl	10 023	**6 164 833**	**0**	1.0000	0.9539



Name:

Access: soliTOC superuser

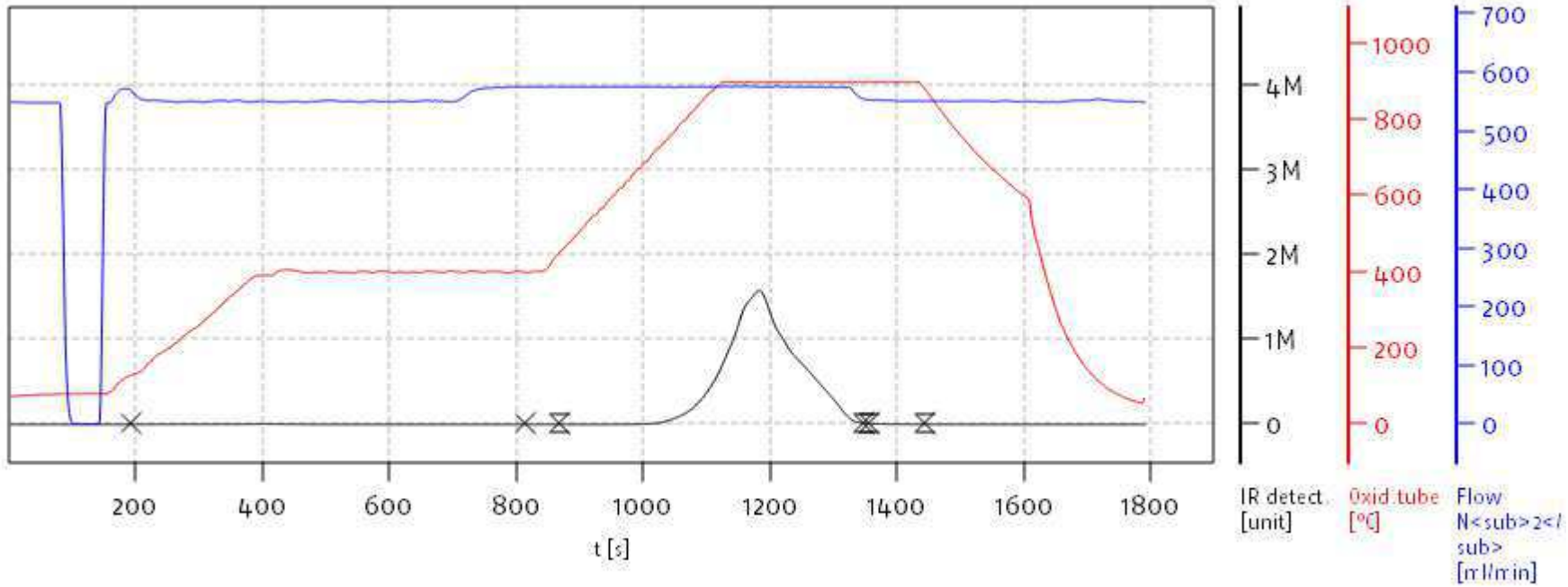
Date: Wed Apr 27 11:10:16 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Document: 042622 DOE CALIBRATION from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
25	25	SEQ-CALN	200.00	0.0901	1.00	CARBON	4/27/2022 11:09 AM	0.020	5.219	5.239	bl	23 354	**6 937 833**	**0**	1.0000	0.9540



Name:

Access: soliTOC superuser

Date: Wed Apr 27 11:10:16 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

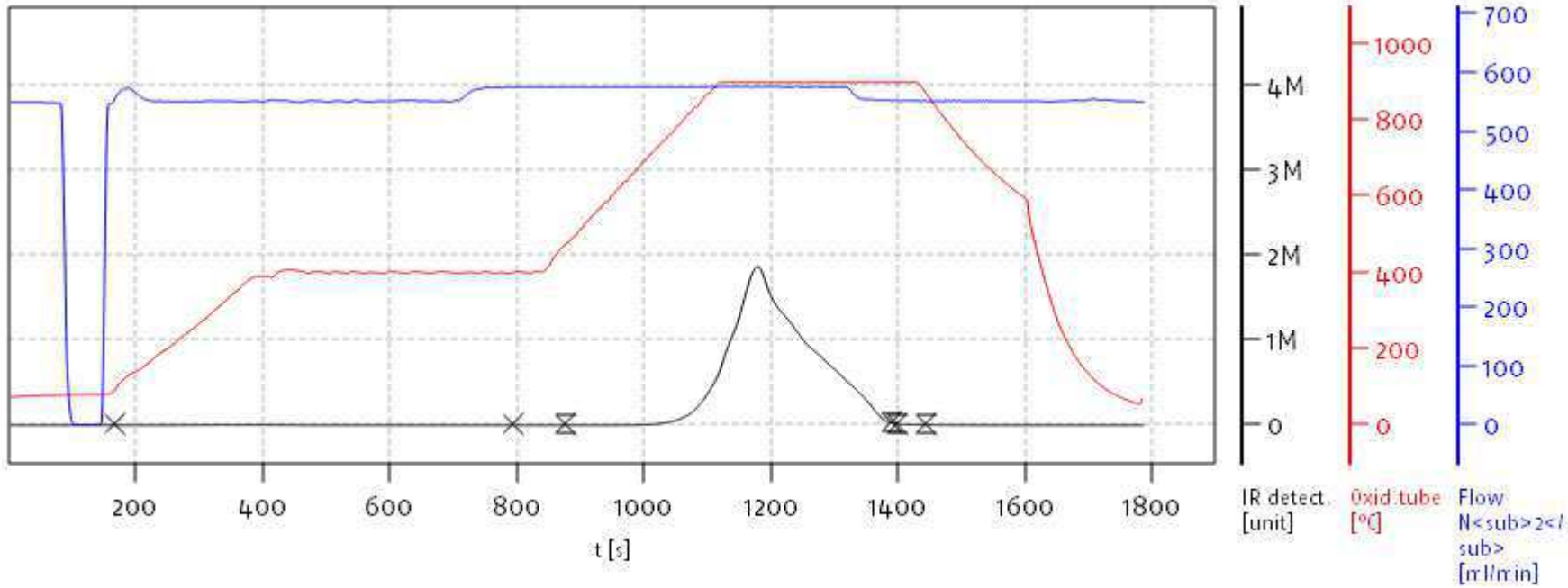
elementar
EXCELLENCE IN ELEMENTS

Document: 042622 DOE CALIBRATION from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
26	26	SEQ-CALO	200.00	0.1200	1.00	CARBON	4/27/2022 11:09 AM	0.019	7.915	7.934	bl,C3o	21 248	9 370 139	0	1.0000	1.0714



Name:

Access: soliTOC superuser

Date: Wed Apr 27 11:10:16 2022

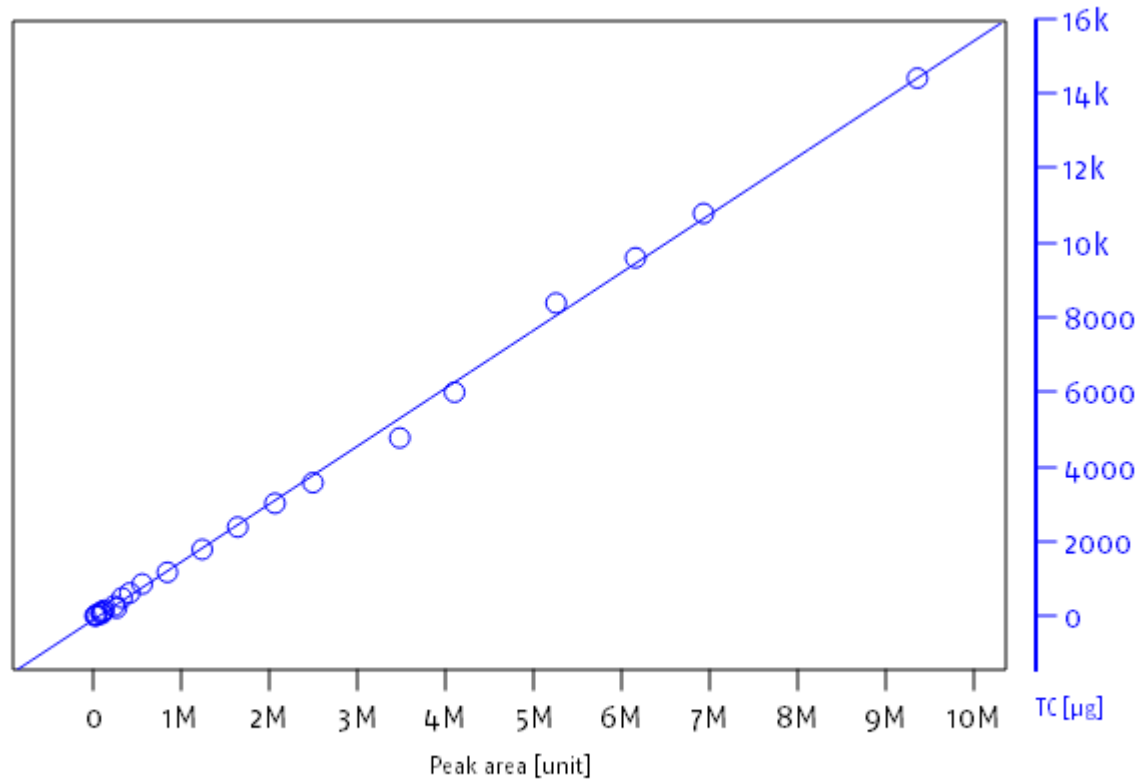
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Calibration parameters TC, Whole range

a	-4.107546e-02
b	+1.548032e-06
c	+0.000000e+00
d	+0.000000e+00
e	+0.000000e+00
r	0.998372
r_old	0.998372
Proc.-SD	166.070255 µg

Calibration graph TC, Whole range



INSTRUMENT BLANKS
EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: TOC Cube
Calibration: FD00070
Sequence: SKD0371
Date Analyzed: 04/27/22 02:33

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SKD0371-ICB1	Total Organic Carbon	0.00	0.02	0.02	%	

INSTRUMENT BLANKS
EPA 9060A m

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Instrument ID: TOC Cube
Sequence: SLA0248

SDG: 23A0418
Project: AOC5 MR Phase 1
Calibration: FD00070
Date Analyzed: 01/23/23 17:43

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SLA0248-ICB1	Total Organic Carbon	0.00	0.02	0.02	%	
SLA0248-CCB1	Total Organic Carbon	0.00	0.02	0.02	%	
SLA0248-CCB2	Total Organic Carbon	0.00	0.02	0.02	%	
SLA0248-CCB3	Total Organic Carbon	0.00	0.02	0.02	%	
SLA0248-CCB4	Total Organic Carbon	0.00	0.02	0.02	%	
SLA0248-CCB5	Total Organic Carbon	0.00	0.02	0.02	%	
SLA0248-CCB6	Total Organic Carbon	0.00	0.02	0.02	%	
SLA0248-CCB7	Total Organic Carbon	0.00	0.02	0.02	%	
SLA0248-CCB8	Total Organic Carbon	0.00	0.02	0.02	%	
SLA0248-CCB9	Total Organic Carbon	0.00	0.02	0.02	%	
SLA0248-CCBA	Total Organic Carbon	0.00	0.02	0.02	%	
SLA0248-CCBB	Total Organic Carbon	0.00	0.02	0.02	%	

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: TOC Cube
Calibration: FD00070
Control Limt: +/- 10.00%
Sequence: SKD0371

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SKD0371-ICV1	Total Organic Carbon	44.446	43.7	98.3	%	EPA 9060A m
	Total Carbon	44.446	44.1	99.2	%	EPA 9060A m
	Total Inorganic Carbon	0.0000	0.40		%	EPA 9060A m
	% Soot	0.0000	0.004		%	EPA 9060A m

* Values outside of QC limits

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: TOC Cube
Calibration: FD00070
Control Limt: +/- 10.00%
Sequence: SLA0248

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SLA0248-ICV1	Total Organic Carbon	44.446	44.3	99.6	%	EPA 9060A m
SLA0248-CCV1	Total Organic Carbon	44.446	43.6	98.2	%	EPA 9060A m
SLA0248-CCV2	Total Organic Carbon	44.446	42.4	95.4	%	EPA 9060A m
SLA0248-CCV3	Total Organic Carbon	44.446	43.5	97.9	%	EPA 9060A m
SLA0248-CCV4	Total Organic Carbon	44.446	44.9	101	%	EPA 9060A m
SLA0248-CCV5	Total Organic Carbon	44.446	45.6	103	%	EPA 9060A m
SLA0248-CCV6	Total Organic Carbon	44.446	44.7	101	%	EPA 9060A m
SLA0248-CCV7	Total Organic Carbon	44.446	44.4	100	%	EPA 9060A m
SLA0248-CCV8	Total Organic Carbon	44.446	45.0	101	%	EPA 9060A m
SLA0248-CCV9	Total Organic Carbon	44.446	44.5	100	%	EPA 9060A m
SLA0248-CCVA	Total Organic Carbon	44.446	44.6	100	%	EPA 9060A m
SLA0248-CCVB	Total Organic Carbon	44.446	44.0	99.1	%	EPA 9060A m

* Values outside of QC limits

STANDARD REFERENCE MATERIAL RECOVERY

EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Laboratory ID: BLA0526-SRM1
Batch: BLA0526
Initial/Final: 0.2509 g / 0.2509 g
Preparation: Plumb 1981
Analyzed: 01/23/2023 21:14
Standard ID: L000299
Expires: 01/11/2024
Standard Lot#: NA
Description: 1941B - Organics in Marine Sediment (Conv

ANALYTE	TRUE (% wet)	FOUND (% wet)	MDL	MRL	Q	SRM % REC.	QC LIMITS REC.
Total Organic Carbon	2.9900	2.91	0.02	0.02		97.4	80 - 120

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

STANDARD REFERENCE MATERIAL RECOVERY

EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Laboratory ID: BLA0527-SRM1
Batch: BLA0527
Initial/Final: 0.2818 g / 0.2818 g
Preparation: Plumb 1981
Analyzed: 01/24/2023 13:24
Standard ID: L000299
Expires: 01/11/2024
Standard Lot#: NA
Description: 1941B - Organics in Marine Sediment (Conv

ANALYTE	TRUE (% wet)	FOUND (% wet)	MDL	MRL	Q	SRM % REC.	QC LIMITS REC.
Total Organic Carbon	2.9900	2.94	0.02	0.02		98.3	80 - 120

* Values outside of QC limits

HOLDING TIME SUMMARY

Analysis: EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW23-IT1136 23A0418-01	01/18/23 08:28	01/18/23 16:36	01/23/23 09:55	5	180	01/24/23 08:21			
LDW23-IT1142 23A0418-02	01/18/23 08:47	01/18/23 16:36	01/23/23 09:55	5	180	01/24/23 08:51			
LDW23-SC1122 23A0418-03	01/18/23 10:39	01/18/23 16:36	01/23/23 09:55	4	180	01/24/23 09:22			
LDW23-IT1141 23A0418-04	01/18/23 11:03	01/18/23 16:36	01/23/23 09:55	4	180	01/24/23 09:52			
LDW23-IT1133 23A0418-05	01/18/23 11:13	01/18/23 16:36	01/23/23 09:55	4	180	01/24/23 10:22			
LDW23-IT1133-FD 23A0418-06	01/18/23 11:13	01/18/23 16:36	01/23/23 09:55	4	180	01/24/23 13:54			
LDW23-IT1180 23A0418-07	01/18/23 13:14	01/18/23 16:36	01/23/23 09:55	4	180	01/24/23 15:26			
LDW23-IT1218 23A0418-08	01/18/23 13:42	01/18/23 16:36	01/23/23 09:55	4	180	01/24/23 18:30			
LDW23-IT1216 23A0418-09	01/18/23 13:57	01/18/23 16:36	01/23/23 09:55	4	180	01/24/23 19:00			
LDW23-IT1135 23A0418-10	01/18/23 14:23	01/18/23 16:36	01/23/23 09:55	4	180	01/24/23 19:30			
LDW23-IT1140 23A0418-11	01/18/23 14:47	01/18/23 16:36	01/23/23 09:55	4	180	01/24/23 20:00			
LDW23-IT1275 23A0418-12	01/18/23 15:09	01/18/23 16:36	01/23/23 09:55	4	180	01/24/23 20:31			
Duplicate BLA0527-DUP1	01/18/23 11:13	01/18/23 16:36	01/23/23 09:55	4	180	01/24/23 14:25			
Matrix Spike BLA0527-MS1	01/18/23 11:13	01/18/23 16:36	01/23/23 09:55	4	180	01/24/23 14:55			

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Instrument: TOC Cube

Analyte	MDL	RL	Units
Total Organic Carbon	0.02	0.02	%

National Institute of Standards & Technology

Certificate of Analysis

Standard Reference Material® 1941b

Organics in Marine Sediment

This Standard Reference Material (SRM) is marine sediment collected at the mouth of the Baltimore (MD) Harbor. SRM 1941b is intended for use in evaluating analytical methods for the determination of selected polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCB) congeners, and chlorinated pesticides in marine sediment and similar matrices. Information values are also provided for total organic carbon (TOC), total carbon, hydrogen, and nitrogen. All of the constituents for which certified, reference, and information values are provided in SRM 1941b were naturally present in the sediment before processing. A unit of SRM 1941b consists of a bottle containing 50 g of radiation-sterilized, freeze-dried sediment.

Certified Mass Fraction Values: Certified mass fraction values for PAHs, PCB congeners, and chlorinated pesticides are provided in Table 1 through Table 3. The certified values for the PAHs, PCB congeners, and chlorinated pesticides are based on the agreement of results obtained at NIST from two or more chemically independent analytical techniques along with results from an interlaboratory comparison study [1]. A NIST certified value is a value for which NIST has the highest confidence in its accuracy in that all known or suspected sources of bias have been investigated or taken into account [1].

Reference Mass Fraction Values: Reference mass fraction values for additional PAHs (some in combination), additional PCB congeners, and additional chlorinated pesticides are provided in Table 4 through Table 7. Reference values for alkylated PAH groups are provided in Table 8 and for selected hopanes and steranes in Table 9. A reference value for total organic carbon is provided in Table 10. Reference values are noncertified values that are the best estimate of the true value; however, the values do not meet the NIST criteria for certification and are provided with associated uncertainties that may reflect only measurement precision, may not include all sources of uncertainty, or may reflect a lack of sufficient statistical agreement among multiple analytical methods [1].

Information Mass Fraction Values: Information mass fraction values are provided in Table 11 for carbon, hydrogen, and nitrogen. An information value is considered to be a value that will be of use to the SRM user, but insufficient information is available to assess the uncertainty associated with the value [1]. Information values cannot be used to establish metrological traceability.

Expiration of Certification: The certification of **SRM 1941b** is valid, within the measurement uncertainty specified, until **01 October 2020**, provided the SRM is handled and stored in accordance with the instructions given in this certificate (see "Instructions for Handling, Storage, and Use"). This certification is nullified if the SRM is damaged, contaminated, or otherwise modified.

Maintenance of SRM Certification: NIST will monitor this SRM over the period of its certification. If substantive technical changes occur that affect the certification before the expiration of this certificate, NIST will notify the purchaser. Registration (see attached sheet or register online) will facilitate notification.

Coordination of the technical measurements leading to the certification of this material was under the leadership of M.M. Schantz and S.A. Wise of the NIST Chemical Sciences Division.

Analytical measurements for the certification of SRM 1941b were performed at NIST by J.R. Kucklick, B.J. Porter, D.L. Poster, M.M. Schantz, P. Schubert, S. Tutschku, and L.L. Yu of the NIST Chemical Sciences Division.

Carlos A. Gonzalez, Chief
Chemical Sciences Division

Gaithersburg, MD 20899
Certificate Issue Date: 16 January 2015

Robert L. Watters, Jr., Director
Office of Reference Materials

Measurements for TOC were provided by a commercial laboratory and T.L. Wade of the Geochemical and Environmental Research Group, Texas A&M University (College Station, TX). The carbon, hydrogen, and nitrogen data were provided by a commercial laboratory. Results for the PAHs, PCBs, and chlorinated pesticides from 38 laboratories (see Appendix A) that participated in an interlaboratory comparison exercise coordinated by NIST were used. Results for the alkylated PAH groups, hopanes, and steranes from 33 laboratories (see Appendix B) that participated in another interlaboratory comparison exercise coordinated by NIST were also used.

Collection and preparation of SRM 1941b were performed by M.P. Cronise and C.N. Fales of the NIST Office of Reference Materials and B.J. Porter and M.M. Schantz of the NIST Chemical Sciences Division. The sediment material was collected with the assistance of G.G. Lauenstein, J. Collier, and J. Lewis (National Oceanic and Atmospheric Administration, Silver Spring, MD).

Consultation on the statistical design of the experimental work and evaluation of the data were provided by S.D. Leigh and J.H. Yen of the NIST Statistical Engineering Division.

Support aspects involved in the issuance of this SRM were coordinated through the NIST Office of Reference Materials.

INSTRUCTIONS FOR HANDLING, STORAGE, AND USE

Handling: This material is naturally occurring marine sediment from an urban area and may contain constituents of unknown toxicities; therefore, caution and care should be exercised during its handling and use.

Storage: SRM 1941b must be stored in its original bottle at temperatures less than 30 °C and away from direct sunlight.

Use: Prior to removal of subsamples for analysis, the contents of the bottle should be mixed. The mass fractions of constituents in SRM 1941b are reported on a dry-mass basis. The SRM, as received, contains a mass fraction of approximately 2.4 % moisture (see "Conversion to Dry-Mass Basis"). The sediment sample should be dried to a constant mass before weighing for analysis; or a separate subsample of the sediment should be removed from the bottle at the time of analysis and dried to determine the mass fraction on a dry-mass basis. If the constituents of interest are volatile, then the moisture must be determined with a separate subsample.

PREPARATION AND ANALYSIS[1]

Sample Collection and Preparation: The sediment used to prepare this SRM was collected from the Chesapeake Bay at the mouth of the Baltimore (MD) Harbor near the Francis Scott Key Bridge (39°12.3'N and 76°31.4'W). This location is very near the site where SRM 1941 and SRM 1941a were collected. The sediment was collected using a Kynar-coated modified Van Veen-type grab sampler. A total of approximately 3300 kg of wet sediment was collected from the site. The sediment was freeze-dried, sieved at 150 μm (100 % passing), homogenized in a cone blender, radiation sterilized (^{60}Co), and then packaged in screw-capped amber glass bottles each containing approximately 50 g.

Conversion to Dry-Mass Basis: The results for the constituents in SRM 1941b are reported on a dry-mass basis; however, the material "as received" contains residual moisture. The amount of moisture in SRM 1941b was determined by measuring the mass loss after freeze-drying subsamples of 1.1 g to 1.3 g for four days at 1 Pa with a –10 °C shelf temperature and a –50 °C condenser temperature. The moisture content in SRM 1941b at the time of the certification analyses was 2.39 % ± 0.08 % (95 % confidence level). Analytical results for the organic constituents were determined on an as-received basis and then converted to a dry-mass basis by dividing by the conversion factor of 0.9761 (gram dry mass per gram as-received mass).

Polycyclic Aromatic Hydrocarbons: The general approach used for the value assignment of the PAHs in SRM 1941b was similar to that reported in detail elsewhere [2]. The approach consisted of combining results from analyses using various combinations of different extraction techniques and solvents, clean-up/isolation procedures, and chromatographic separation and detection techniques: Soxhlet extraction and pressurized-fluid extraction (PFE) using dichloromethane (DCM) or a hexane/acetone mixture, cleanup of the extracts using solid-phase extraction (SPE) or normal-phase liquid chromatography (LC), followed by analysis using the following techniques: (1) reversed-phase liquid chromatography with fluorescence detection (LC-FL) analysis of the total PAH fraction, (2) reversed-phase

[1] Certain commercial equipment, instruments or materials are identified in this certificate to adequately specify the experimental procedure. Such identification does not imply recommendation or endorsement by the National Institute of Standards

LC-FL analysis of isomeric PAH fractions isolated by normal-phase LC (i.e., multidimensional LC), (3) gas chromatography/mass spectrometry (GC/MS) analysis of the PAH fraction on three stationary phases of different selectivity, i.e., a 5 % (all column compositions are given as mole fractions in %) phenyl-substituted methylpolysiloxane phase, a 50 % phenyl-substituted methylpolysiloxane phase, and a relatively non-polar proprietary phase.

Three sets of GC/MS results, designated as GC/MS (I), GC/MS (II), and GC/MS (III), were obtained using three columns with different selectivities for the separation of PAHs. For GC/MS (I) analyses, duplicate subsamples of approximately 1 g from ten bottles of SRM 1941b were extracted using PFE with DCM. Copper powder was added to the extract to remove elemental sulfur. The concentrated extract was passed through an aminopropyl SPE cartridge and eluted with 2 % DCM in hexane (all solvent concentrations are given as volume fractions in %). The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-5 MS, J&W Scientific, Folsom, CA). The GC/MS (II) analyses were performed using 5 g subsamples from six bottles of SRM 1941b. These samples were extracted using PFE with DCM. The high molecular mass compounds were removed from the extracts using size exclusion chromatography (SEC) with a preparative-scale divinylbenzene-polystyrene column (10 μm particle size with 10 nm diameter pores), and the sulfur was removed from the extracts by adding copper powder. The concentrated extract was passed through an aminopropyl SPE cartridge and eluted with 10 % DCM in hexane. The analysis was by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 50 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-17 MS, J&W Scientific). For the GC/MS (III), 9 g subsamples from six bottles of SRM 1941b were Soxhlet-extracted for 18 h with 250 mL of a mixture of 50 % hexane/50 % acetone. Copper powder was added to the extract to remove elemental sulfur, and the concentrated extract was passed through a silica SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a relatively non-polar proprietary phase (0.25 μm film thickness; DB-XLB, J&W Scientific).

Two sets of LC-FL results, designated as LC-FL (total) and LC-FL (isomer), were used in the certification process. For the LC-FL (total), subsamples of approximately 1 g from six bottles of SRM 1941b were extracted using PFE with a mixture of 50 % hexane/50 % acetone. The extracts were concentrated and then processed through an aminopropylsilane SPE cartridge using 2 % DCM in hexane to obtain the total PAH fraction. For the LC-FL (isomer), a 5 g subsample from the six bottles was extracted using PFE with DCM and processed through an aminopropylsilane SPE cartridge using 10 % DCM in hexane; the PAH fraction was then fractionated further on a semi-preparative aminopropylsilane column (μBondapak NH_2, 9 mm i.d. × 30 cm, Waters Associates, Milford, MA) to isolate isomeric PAH fractions as described previously [3–6]. The total PAH fraction and the isomeric PAH fractions were analyzed using a 5 μm particle-size polymeric octadecylsilane (C_{18}) column (4.6 mm i.d. × 25 cm, Hypersil-PAH, Keystone Scientific, Inc., Bellefonte, PA) with wavelength-programmed fluorescence detection [4,5].

For the GC/MS and LC-FL measurements described above, selected perdeuterated PAHs were added to the sediment prior to solvent extraction for use as internal standards for quantification purposes.

In addition to the analyses performed at NIST, SRM 1941b was used in an interlaboratory comparison exercise in 1999 as part of the NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment [7]. Results from 38 laboratories that participated in this exercise were used as the sixth data set in the determination of the certified values for PAHs in SRM 1941b. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest.

Homogeneity Assessment for PAHs: The homogeneity of SRM 1941b was assessed by analyzing duplicate samples of approximately 1 g from ten bottles selected by stratified random sampling. Samples were extracted, processed, and analyzed as described above for GC/MS (I). No statistically significant differences among bottles were observed for the PAHs at this sample size.

PAH Isomers of Molecular Mass 300 and 302: For the determination of the molecular mass 300 and 302 isomers, three subsamples of approximately 5 g each were extracted using PFE with DCM. The extracts were then concentrated with a solvent change to hexane and passed through an aminopropyl SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 50 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-17MS, J&W Scientific). Perdeuterated dibenzo[*a,i*]pyrene was added to the sediment prior to extraction for use as an internal standard [8].

PCBs and Chlorinated Pesticides: The general approach used for the determination of PCBs and chlorinated pesticides in SRM 1941b consisted of combining results from analyses using various combinations of different extraction techniques and solvents, cleanup/isolation procedures, and chromatographic separation and detection techniques. Techniques and solvents included Soxhlet extraction and PFE using DCM or a hexane/acetone mixture.

clean-up/isolation using SPE or LC, followed by analysis using GC/MS and gas chromatography with electron capture detection (GC-ECD) on two columns with different selectivity for the separation of PCBs and chlorinated pesticides. The analytical methods are described in detail elsewhere [2].

Six sets of results were obtained and designated as GC-ECD (I) A and B, GC/MS (I) A and B, GC/MS (II), and Interlaboratory Comparison Exercise. For the GC-ECD (I) analyses, approximately 10 g subsamples from six bottles of SRM 1941b were extracted using PFE with DCM. Copper powder was added to the extract to remove elemental sulfur, and SEC, as described above, was used to remove the high molecular mass compounds. The concentrated extract was then fractionated on a semi-preparative aminopropylsilane column to isolate two fractions containing: (1) the PCBs and lower-polarity pesticides and (2) the more polar pesticides. GC-ECD analyses of the two fractions were performed on two columns of different selectivities for PCB separations: 0.25 mm × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-5, J&W Scientific), and a 0.25 mm × 60 m fused silica capillary column with a non-polar proprietary phase (0.25 μm film thickness; DB-XLB, J&W Scientific). The results from the 5 % phenyl phase are designated as GC-ECD (IA) and the results from the proprietary phase are designated as GC-ECD (IB). For the GC-ECD analyses, two PCB congeners that are not significantly present in the sediment extract (PCB 103 and PCB 198 [9,10]) and endosulfan I-d_4, 4,4'-DDE-d_8, 4,4'-DD-d_8, and 4,4'-DDT-d_8 were added to the sediment prior to extraction for use as internal standards for quantification purposes.

Two sets of results were obtained by GC/MS. For GC/MS (I), approximately 9 g subsamples from six bottles were Soxhlet- extracted with a mixture of 50 % hexane/50 % acetone for approximately 18 h. Copper powder was added to the extract to remove elemental sulfur, and the concentrated extract was passed through a silica SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS with two ionization modes, electron impact (EI) and negative ion chemical ionization (NICI). The GC/MS EI method, GC/MS (IA), used a 0.25 mm i.d. × 60 m fused silica capillary column with a relatively non-polar proprietary phase (0.25 μm film thickness; DB-XLB, J&W Scientific). The GC/MS NICI method, GC/MS (IB), used a 0.25 mm i.d. × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-5MS, J&W Scientific). The GC/MS (II) results were obtained in the same manner as the GC/MS (IA) analyses except that three subsamples were Soxhlet-extracted with DCM for approximately 18 h. For the GC/MS analyses, selected carbon-13 labeled PCB congeners and chlorinated pesticides were added to the sediment prior to extraction for use as internal standards for quantification purposes.

In addition to the analyses performed at NIST, SRM 1941b was used in an interlaboratory comparison exercise in 1999 as part of the NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment [7]. Results from 38 laboratories that participated in this exercise were used as the sixth data set in the determination of the certified values for PCB congeners and chlorinated pesticides in SRM 1941b. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest.

The reference value for PCB 77 was determined from a separate fraction. The samples were extracted and processed as for GC-ECD (I) above. The first (PCB and lower-polarity pesticide) fraction from the semi-preparative aminopropylsilane column was further fractionated using a Cosmosil PYE (pyrenylethyl group bonded) column (5 μm particle size, 4.6 mm i.d. × 25 cm ; Phenomenex, Torrance, CA) [11]. Three fractions were collected: the first fraction contained the pesticides and multi-*ortho* PCBs, the second fraction contained the polychlorinated naphthalenes, non-*ortho* PCB congeners, and some mono-*ortho* PCB congeners, and the third fraction removed the residual planar compounds from the column. The second fraction was analyzed by GC/MS NICI using the same column as GC/MS (IB) above. Carbon-13 labeled PCB 77 was used as an internal standard for quantification purposes.

Alkylated PAH Groups, Hopanes, and Steranes: SRM 1941b was used in an interlaboratory comparison exercise in 2011 [12]. Results from 33 laboratories that participated in this exercise were used in the determination of the reference values for alkylated PAH groups, hopanes, and steranes in SRM 1941b. Note that not all laboratories returned data for each analyte. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest. For the alkylated PAHs, the majority of the laboratories (>90 %) used the parent PAH for determination of the response factor for the corresponding alkylated group.

Total Organic Carbon (TOC): Two laboratories provided results for TOC using similar procedures. Briefly, subsamples of approximately 200 mg were reacted with 6 mol/L hydrochloric acid and rinsed with deionized water prior to combustion in a gas fusion furnace. The carbon monoxide and carbon dioxide produced were measured and compared to a blank for calculation of the percent TOC. Each laboratory analyzed subsamples from three bottles of SRM 1941b. One of the laboratories also analyzed three subsamples from three bottles of SRM 1941b for carbon, hydrogen, and nitrogen.

Table 1. Certified Mass Fraction Values for PAHs in SRM 1941b

PAHs	Mass Fractions[a] (µg/kg)		
Naphthalene[b,c,d,e,f,g]	848	±	95[h]
Fluorene[b,c,d,e,f,g]	85	±	15[h]
Phenanthrene[b,c,d,e,f,g]	406	±	44[h]
Anthracene[b,c,d,e,f,g]	184	±	18[h]
3-Methylphenanthrene[b,c,d]	105	±	13[h]
2-Methylphenathrene[b,c,d]	128	±	14[h]
1-Methylphenanthrene[b,c,d,g]	73.2	±	5.9[h]
Fluoranthene[b,c,d,e,f,g]	651	±	50[h]
Pyrene[b,c,d,e,f,g]	581	±	39[h]
Benz[*a*]anthracene[b,c,d,e,f,g]	335	±	25[h]
Chrysene[d,f]	291	±	31[h]
Triphenylene[d,f]	108	±	5[i]
Benzo[*b*]fluoranthene[c,e]	453	±	21[h]
Benzo[*k*]fluoranthene[b,c,d,e]	225	±	18[h]
Benzo[*e*]pyrene[b,c,d,g]	325	±	25[h]
Benzo[*a*]pyrene[b,c,d,f,g]	358	±	17[h]
Perylene[b,c,d,f,g]	397	±	45[h]
Benzo[*ghi*]perylene[b,c,d,f,g]	307	±	45[h]
Indeno[1,2,3-*cd*]pyrene[b,c,d,f,g]	341	±	57[h]
Dibenz[*a,j*]anthracene[b,c,d,f]	48.9	±	4.6[h]
Dibenz[*a,c*]anthracene[c,f]	36.7	±	5.2[h]
Dibenz[*a,h*]anthracene[c,f]	53	±	10[h]
Benzo[*b*]chrysene[b,c,d,f]	53	±	12[h]
Picene[b,c,d]	46.6	±	4.7[h]

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] GC/MS (I) on 5 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[c] GC/MS (II) on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[d] GC/MS (III) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.
[e] LC-FL (total) of total PAH fraction after PFE with DCM.
[f] LC-FL (isomer) of isomeric PAH fractions after PFE with DCM.
[g] 1999 Interlaboratory Comparison Study [7] with 21 to 29 laboratories submitting data for each PAH.
[h] Certified values are weighted means of the results from two to six analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.
[i] The certified value is an unweighted mean of the results from two analytical methods. The uncertainty listed with the value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the value is metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

Table 2. Certified Mass Fraction Values for PCB Congeners[a] in SRM 1941b

PCB Congeners			Mass Fractions[b] (µg/kg)		
PCB	8	(2,4'-Dichlorobiphenyl)[c,d,e,f,g]	1.65	±	0.19[h]
PCB	18	(2,2',5-Trichlorobiphenyl)[c,d,e,f,g]	2.39	±	0.29[h]
PCB	28	(2,4,4'-Trichlorobiphenyl)[c,d,e,f,g]	4.52	±	0.57[h]
PCB	31	(2,4',5-Trichlorobiphenyl)[c,e,f]	3.18	±	0.41[h]
PCB	44	(2,2'3,5'-Tetrachlorobiphenyl)[c,d,e,f,g]	3.85	±	0.20[i]
PCB	49	(2,2'4,5'-Tetrachlorobiphenyl)[c,d,e,f]	4.34	±	0.28[i]
PCB	52	(2,2',5,5'-Tetrachlorobiphenyl)[c,d,e,f,g]	5.24	±	0.28[i]
PCB	66	(2,3',4,4'-Tetrachlorobiphenyl)[c,e,f,g,j]	4.96	±	0.53[i]
PCB	87	(2,2',3,4,5'-Pentachlorobiphenyl)[c,d,f,j]	1.14	±	0.16[h]
PCB	95	(2,2',3,5',6-Pentachlorobiphenyl)[c,e,f,g]	3.93	±	0.62[i]
PCB	99	(2,2',4,4',5-Pentachlorobiphenyl)[c,d,e,f,g]	2.90	±	0.36[i]
PCB	101	(2,2',4,5,5'-Pentachlorobiphenyl)[c,e,f,g,j]	5.11	±	0.34[i]
PCB	105	(2,3,3',4,4'-Pentachlorobiphenyl)[c,d,e,f,g,j]	1.43	±	0.10[i]
PCB	110	(2,3,3',4',6-Pentachlorobiphenyl)[c,e,f,j]	4.62	±	0.36[i]
PCB	118	(2,3',4,4',5-Pentachlorobiphenyl)[c,d,e,f,g,j]	4.23	±	0.19[i]
PCB	128	(2,2',3,3',4,4'-Hexachlorobiphenyl)[c,d,e,f,g,j]	0.696	±	0.044[i]
PCB	138	(2,2',3,4,4',5'-Hexachlorobiphenyl)[c,e,f,j]	3.60	±	0.28[i]
PCB	149	(2,2',3,4',5',6-Hexachlorobiphenyl)[c,d,e,j]	4.35	±	0.26[h]
PCB	153	(2,2',4,4',5,5'-Hexachlorobiphenyl)[c,d,e,f,g,j]	5.47	±	0.32[i]
PCB	156	(2,3,3',4,4',5-Hexachlorobiphenyl)[c,d,e,f,j]	0.507	±	0.090[h]
PCB	170	(2,2',3,3',4,4',5-Heptachlorobiphenyl)[c,d,e,f,g,j]	1.35	±	0.09[i]
PCB	180	(2,2',3,4,4',5,5'-Heptachlorobiphenyl)[c,d,e,f,g,j]	3.24	±	0.51[i]
PCB	183	(2,2',3,4,4',5',6-Heptachlorobiphenyl)[c,d,e,j]	0.979	±	0.087[h]
PCB	187	(2,2',3,4',5,5',6-Heptachlorobiphenyl)[c,d,e,f,g,j]	2.17	±	0.22[i]
PCB	194	(2,2',3,3',4,4',5,5'-Octachlorobiphenyl)[c,d,e,j]	1.04	±	0.06[h]
PCB	195	(2,2',3,3',4,4',5,6-Octachlorbiphenyl)[c,e,g,j]	0.645	±	0.060[i]
PCB	201	(2,2',3,3',4,5',6,6'-Octachlorobiphenyl)[c,e,j]	0.777	±	0.034[h]
PCB	206	(2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl)[c,e,f,g,j]	2.42	±	0.19[i]
PCB	209	Decachlorobiphenyl[c,d,e,f,g,j]	4.86	±	0.45[i]

[a] PCB congeners are numbered according to the scheme proposed by Ballschmiter and Zell [9] and later revised by Schulte and Malisch [10] to conform to IUPAC rules, except PCB 201. Under the Ballschmiter and Zell numbering system, the IUPAC PCB 201 is listed as PCB 200.

[b] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[c] GC/MS (IA) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.

[d] GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.

[e] GC-ECD (IB) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (IA).

[f] GC/MS (II) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.

[g] 1999 Interlaboratory Comparison Study [7] with 13 to 31 laboratories submitting data for each PCB congener.

[h] Certified values are unweighted means of the results from three to five analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

[i] Certified values are weighted means of the results from three to six analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

[j] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).

Table 3. Certified Mass Fraction Values for Chlorinated Pesticides in SRM 1941b

Chlorinated Pesticides	Mass Fractions[a] (µg/kg)
Hexachlorobenzene[b,c,d,e]	5.83 ± 0.38[f]
cis-Chlordane[b,c,d,e,g]	0.85 ± 0.11[h]
trans-Chlordane[b,c,e]	0.566 ± 0.093[f]
cis-Nonachlor[b,e,g]	0.378 ± 0.053[h]
trans-Nonachlor[b,c,d,e,g]	0.438 ± 0.073[f]
4,4'-DDE[b,d,e,g]	3.22 ± 0.28[h]
4,4'-DDD[b,d,e,g]	4.66 ± 0.46[h]

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] GC/MS (IA) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.
[c] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).
[d] GC/MS (II) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.
[e] 1999 Interlaboratory Comparison Study [7] with 13 to 31 laboratories submitting data for each pesticide.
[f] Certified values are unweighted means of the results from three to five analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.
[g] GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.
[h] Certified values are weighted means of the results from three to five analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the chlorinated pesticides listed and the values listed are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

Table 4. Reference Mass Fraction Values for PAHs in SRM 1941b

PAHs	Mass Fractions[a] (µg/kg)		
1-Methylnaphthalene[b,c,d,e]	127	±	14[f]
2-Methylnaphthalene[b,c,d,e]	276	±	53[f]
2,6-Dimethylnaphthalene[b,c,d,e]	75.9	±	4.5[f]
2,3,5-Trimethylnaphthalene[b,c,d,e]	25.5	±	5.1[f]
Biphenyl[b,c,d,e]	74.0	±	8.0[f]
Acenaphthylene[b,c,d,e]	53.3	±	6.4[f]
Acenaphthene[b,c,d,e]	38.4	±	5.2[f]
9-Methylphenanthrene[c]	63.5	±	2.5[g]
4-Methylphenanthrene and 9-Methylphenanthrene[b,d]	80.1	±	4.8[f]
2-Methylanthracene[c,d]	36	±	15[f]
8-Methylfluoranthene[b]	49.5	±	2.7[g]
7-Methylfluoranthene[b]	45.4	±	1.5[g]
1-Methylfluoranthene[b]	42.4	±	2.1[g]
3-Methylfluoranthene[b]	28.8	±	1.3[g]
2-Methylpyrene[b]	78.7	±	4.0[g]
4-Methylpyrene[b]	66.4	±	2.6[g]
1-Methylpyrene[b]	52.5	±	2.3[g]
Acephenanthrene[d]	30.5	±	1.9[g]
Benzo[*c*]phenanthrene[b,c,d]	58	±	15[f]
Benzo[*a*]fluoranthene[b,c,d]	73	±	18[f]
Benzo[*j*]fluoranthene[c]	217	±	5[g]
Indeno[1,2,3-*cd*]fluoranthene[d]	9.63	±	0.34[g]
Pentaphene[d]	25.3	±	1.0[g]

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] GC/MS (I) on 5 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[c] GC/MS (II) on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[d] GC/MS (III) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.
[e] 1999 Interlaboratory Comparison Study [7] with 14 to 26 laboratories submitting data for each PAH.
[f] Reference values are weighted means of the results from two to four analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of PAHs listed as determined by the methods indicted. The values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.
[g] Reference values are the means of results obtained by NIST using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k, is determined from the Student's t-distribution for the associated degrees of freedom (19 for footnote b and 5 for footnotes c and d) and 95 % confidence level for each analyte. The measurand is the total mass fraction of the PAHs listed as determined by the method indicted. The values listed are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

Table 5. Reference Mass Fraction Values for PAHs of Molecular Mass 300 and 302 in SRM 1941b

PAHs of Molecular Mass 300 and 302	Mass Fractions[a,b,c] (µg/kg)		
Coronene	72.6	±	4.7
Dibenzo[*b,e*]fluoranthene	10.3	±	0.3
Naphtho[1,2-*b*]fluoranthene	91.0	±	3.1
Naphtho[1,2-*k*]fluoranthene and Naphtho[2,3-*j*]fluoranthene	79.8	±	2.5
Naphtho[2,3-*b*]fluoranthene	23.5	±	0.3
Dibenzo[*b,k*]fluoranthene	95.6	±	3.1
Dibenzo[*a,k*]fluoranthene	26.6	±	0.4
Dibenzo[*j,l*]fluoranthene	63.8	±	1.8
Dibenzo[*a,l*]pyrene	11.1	±	1.0
Naphtho[2,3-*k*]fluoranthene	10.7	±	0.6
Naphtho[1,2-*a*]pyrene	16.7	±	1.4
Naphtho[2,3-*e*]pyrene	33.2	±	2.3
Dibenzo[*a,e*]pyrene	76.1	±	3.6
Naphtho[2,1-*a*]pyrene	59.2	±	1.8
Dibenzo[*e,i*]pyrene	35.0	±	2.4
Naphtho[2,3-*a*]pyrene	16.5	±	0.6
Benzo[*b*]perylene	38.2	±	1.2
Dibenzo[*a,i*]pyrene	25.5	±	1.0
Dibenzo[*a,h*]pyrene	6.94	±	0.29

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[b] Reference values are the means of results obtained by NIST using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k, is determined from the Student's t-distribution for two degrees of freedom and 95 % confidence level for each analyte. The measurand is the total mass fraction of the constituent listed as determined by the method indicted. The values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

[c] GC/MS on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM [8].

Table 6. Reference Mass Fraction Values for PCB Congeners[a] in SRM 1941b

PCB Congeners			Mass Fractions[b,c] (µg/kg)		
PCB	45	(2,2',3,6-Tetrachlorobiphenyl)[d,e]	0.73	±	0.12
PCB	56	(2,3,3',4'-Tetrachlorobiphenyl)[d,f,g]	1.21	±	0.11
PCB	63	(2,3,4',5-Tetrachlorobiphenyl)[e,f,g]	0.213	±	0.040
PCB	70	(2,3',4',5-Tetrachlorobiphenyl)[e,f,g]	4.99	±	0.29
PCB	74	(2,4,4',5-Tetrachlorobiphenyl)[e,f,g]	2.04	±	0.15
PCB	77	(3,3',4,4'-Tetrachlorobiphenyl)[h]	0.31	±	0.03
PCB	107	(2,3,3',4',5-Pentachlorobiphenyl)[d,e,f,g]	0.628	±	0.028
PCB	132	(2,2',3,3',4,6'-Hexachlorobiphenyl)[d,f,g]	1.28	±	0.27
PCB	146	(2,2',3,4',5,5'-Hexachlorobiphenyl)[e,f,g]	1.22	±	0.12
PCB	158	(2,3,3',4,4',6-Hexachlorobiphenyl)[d,e,f,g]	0.65	±	0.15
PCB	163	(2,3,3',4',5,6-Hexachlorobiphenyl)[e,f,g]	1.28	±	0.06
PCB	174	(2,2',3,3',4,5,6'-Heptachlorobiphenyl)[d,e,f,g]	1.51	±	0.39
PCB	193	(2,3,3',4',5,5',6-Heptachlorobiphenyl)[d,e,f,g]	0.292	±	0.075

[a] PCB congeners are numbered according to the scheme proposed by Ballschmiter and Zell [9] and later revised by Schulte and Malisch [10] to conform with IUPAC rules, except PCB 107. Under the Ballschmiter and Zell numbering system, the IUPAC PCB 107 is listed as PCB 108.

[b] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[c] For these PCB congeners except PCB 77, the reference values are unweighted means of the results from two to four analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled within-method variance following the ISO/JCGM Guide [14,15]. For PCB 77, the reference value is the mean of results obtained by NIST using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k, is determined from the Student's t-distribution corresponding to two degrees of freedom and 95 % confidence level for PCB 77. The measurand is the total mass fraction of the PCB Congeners listed as determined by the method or methods indicted. The values listed are metrologically traceable to the SI unit of mass, expressed as microgram per kilogram on a dry-mass basis.

[d] GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.

[e] GC-ECD (IB) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (IA).

[f] GC/MS (IA) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.

[g] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).

[h] GC/MS NICI on a 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC-ECD (I) fractionated using a PYE column.

Table 7. Reference Mass Fraction Values for Selected Chlorinated Pesticides in SRM 1941b

Chlorinated Pesticides	Mass Fractions[a,b] (µg/kg)		
2,4'-DDE[c,d]	0.38	±	0.12
4,4'-DDT[e,f]	1.12	±	0.42

[a] Mass Fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] The reference values are unweighted means of the results from two analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the chlorinated pesticides listed as determined by the methods indicted. The values listed are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.
[c] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).
[d] GC-ECD (IB) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (IA).
[e] GC/MS (II) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.
[f] 1999 Interlaboratory Comparison Study [7] with 10 laboratories submitting data for 4,4'-DDT.

Table 8. Reference Mass Fraction Values for Alkylated PAH Groups in SRM 1941b

Alkylated PAH Group	Mass Fraction[a,b] (µg/kg)		
C2-decalins	18	±	5
C4-decalins	41	±	4
C2-naphthalenes	187	±	53
C3-naphthalenes	158	±	42
C1-benzothiophenes	25	±	14
C2-benzothiophenes	20	±	11
C3-benzothiophenes	22	±	13
C4-benzothiophenes	18	±	5
C1-fluorenes	57	±	18
C2-fluorenes	122	±	43
C3-fluorenes	128	±	31
C1-phenanthrenes/anthracenes	313	±	99
C2-phenanthrenes/anthracenes	247	±	62
C3-phenanthrenes/anthracenes	165	±	46
C4-phenanthrenes/anthracenes	87	±	36
C1-dibenzothiophenes	54	±	13
C2-dibenzothiophenes	91	±	18
C3-dibenzothiophenes	84	±	15
C4-dibenzothiophenes	57	±	13
C1-fluoranthenes/pyrenes	252	±	48
C2-fluoranthenes/pyrenes	205	±	38
C3-fluoranthenes/pyrenes	102	±	22
C4-fluoranthenes/pyrenes	121	±	59
C1-benzanthraces/chrysenes/triphenylenes	208	±	43
C2-benzanthraces/chrysenes/triphenylenes	120	±	24
C3-benzanthraces/chrysenes/triphenylenes	73	±	31
C4-benzanthraces/chrysenes/triphenylenes	41	±	11

[a] The reference mass fraction value reported on a dry-mass basis is the median of results using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the median, and the coverage factor, $k = 2$. The measurand is the total mass fraction of the alkylated PAH groups listed as determined by the interlaboratory study methods. The values listed are metrologically traceable to the SI unit of mass fraction, expressed as micrograms per kilogram on a dry-mass basis.
[b] Data from the interlaboratory study [12].

Table 9. Reference Mass Fraction Values for Hopanes and Steranes in SRM 1941b

Hopane or Sterane	Mass Fraction[a,b] (µg/kg)
17α(H)-22,29,30-Trisnorhopane	54 ± 18
17α(H)-21β(H)-30-Norhopane	137 ± 21
17α(H)-21β(H)-30-Hopane	215 ± 44
17α(H)-21β(H)-22R-Homohopane	44 ± 10
17α(H)-21β(H)-22S-Homohopane	48 ± 13
5α(H)-14α(H),17α(H)-Cholestane 20R	41 ± 11
5α(H)-14β(H),17β(H)-Cholestane 20R	27 ± 6
5α(H)-14β(H),17β(H)-24-Methylcholestane 20R	21 ± 8
5α(H)-14α(H),17α(H)-24-Ethylcholestane 20R	19 ± 5
5α(H)-14β(H),17β(H)-24-Ethylcholestane 20R	41 ± 9

[a] The reference mass fraction value reported on a dry-mass basis is the median of results using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the median, and the coverage factor, $k = 2$. The measurand is the total mass fraction of the constituent listed as determined by the methods used during the interlaboratory study. The values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.
[b] Data from the interlaboratory study [12].

Table 10. Reference Mass Fraction Value for Total Organic Carbon in SRM 1941b

Total Organic Carbon (TOC)	2.99 % ± 0.24 %[a,b]

[a] Mass fraction is reported on a dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] The reference value for total organic carbon is a weighted mean value from routine measurements made by two laboratories [21]. The uncertainty listed is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance. The reporting follows the ISO/JCGM Guides [2]. The measurand is the total mass fraction of TOC listed as determined by the methods indicted. The values listed are metrologically traceable to the SI unit of mass, expressed as a percent on a dry-mass basis.

Table 11. Information Mass Fraction Values for Carbon, Hydrogen, and Nitrogen in SRM 1941b

Elements	Mass Fractions[a] (%)
Carbon	3.3
Hydrogen	1.2
Nitrogen	<0.5

[a] Mass fraction is reported on a dry-mass basis; material as received contains approximately 2.4 % moisture.

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Certificate Revision History: 16 January 2015 (Corrected IUPAC name for PCB-56 and PCB-107; editorial changes); 10 June 2014 (Units corrected from mg/kg to µg/kg in Tables 8 and 9; editorial changes); 10 April 2012 (Reference value added for alkylated PAH groups, hopanes, and steranes; extension of certification period; editorial changes); 16 August 2004 (Reference values for the butyl tins removed; editorial changes); 15 July 2002 (Original certificate date).

Users of this SRM should ensure that the Certificate of Analysis in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail srminfo@nist.gov; or via the Internet at http://www.nist.gov/srm.

APPENDIX A

The laboratories listed below performed measurements that contributed to the certification of PAHs, PCBs, and chlorinated pesticides in SRM 1941b Organics in Marine Sediment.

Arthur D. Little, Inc; Cambridge, MA
Axys Analytical Services; Sidney, BC, Canada
B & B Laboratories; College Station, TX
Battelle Ocean Sciences; Duxbury, MA
Bedford Institute of Oceanography; Dartmouth, NS, Canada
California Department of Fish and Game; Rancho Cordova, CA
Central Contra Costa Sanitary District; Martinez, CA
Chesapeake Biological Laboratory; Solomons, MD
Centro de Investigacionies Energeticas Medioambientales y Tecnologicas; Madrid, Spain
City of Los Angeles Environmental Monitoring Division; Playa del Rey, CA
City of San Jose Environmental Services Department; San Jose, CA
Columbia Analytical Services; Kelso, WA
East Bay Municipal Utility District; Oakland, CA
Florida Department of Environmental Protection; Tallahassee, FL
Manchester Environmental Laboratory; Port Orchard, WA
Murray State University; Murray, KY
Massachusetts Water Resources Authority Central Lab; Winthrop, MA
National Research Council of Canada; Ottawa, Ontario, Canada
National Oceanic and Atmospheric Association (NOAA), National Marine Fisheries Service (NMFS), Auke Bay Laboratory; Juneau, AK
NOAA, National Ocean Service/Center for Coastal Environmental Health and Biomolecular Research; Charleston, SC
NOAA, NMFS, Sandy Hook Marine Laboratory; Highlands, NJ
NOAA, NMFS, Northwest Fisheries Science Center; Seattle, WA
Orange County Sanitation District; Fountain Valley, CA
Philip Analytical Services; Burlington, Ontario, Canada
Serv de Hidrografia Naval; Buenos Aires, Argentina
Skidaway Institute of Technology; Savannah, GA
Southwest Laboratory of Oklahoma; Broken Arrow, OK
Severn Trent Knoxville Laboratory; Knoxville, TN
Texas A&M University, Geochemical and Environmental Research Group; College Station, TX
Texas Parks and Wildlife Department; San Marcos, TX
University of California at Los Angeles, Institute of Geophysics and Planetary Physics; Los Angeles, CA
University of Connecticut, Environmental Research Institute; Storrs, CT
University of Rhode Island, Graduate School of Oceanography; Narragansett, RI
US Department of Agriculture, Environmental Chemistry Laboratory; Beltsville, MD
US Environmental Protection Agency, Atlantic Ecology Division; Narragansett, RI
US Geological Survey, National Water Quality Laboratory; Denver, CO
Woods Hole Group Environmental Lab; Raynham, MA
Wright State University; Dayton, OH

APPENDIX B

The laboratories listed below performed measurements that contributed to the certification of alkylated PAH groups, hopanes, and steranes in SRM 1941b Organics in Marine Sediment.

Alpha Analytical, Inc.; Mansfield, MA
Analytical Resources, Inc.; Tukwila, WA
Axys Analytical Services; Sydney, BC, Canada
Battelle Analytical & Environmental Chemistry Laboratory; Duxbury, MA
Center for Laboratory Sciences; Pasco, WA
Columbia Analytical Services; Jacksonville, FL
Columbia Analytical Services; Rochester, NY
Columbia Analytical Services, Kelso, WA
Florida Department of Environmental Protection; Tallahassee, FL
Florida International University; North Miami, FL
Michigan Department of Natural Resources and Environment; Lansing, MI
Mississippi State Chemical Laboratory; Mississippi State, MS
NIST; Charleston, SC
NIST; Gaithersburg, MD
NOAA/NCCOS/NOS; Charleston, SC
NOAA/NMFS/Alaska Fisheries Science Center; Juneau, AK
NY State Department of Health; Albany, NY
Pace Analytical Services, Inc. Minneapolis; Minneapolis, MN
RJ Lee Group, Inc; Monroeville, PA
TDI/B&B Laboratories, Inc.; College Station, TX
TestAmerica Laboratories; Mobile, AL
TestAmerica Laboratories; West Sacramento, CA
TestAmerica Laboratories; University Park, IL
TestAmerica Laboratories; Schriever, LA
TestAmerica Laboratories; Edison, NJ
TestAmerica Laboratories; Knoxville, TN
TestAmerica Laboratories; Pittsburgh, PA
TestAmerica Laboratories; South Burlington, VT
TestAmerica Laboratories; Tacoma, WA
US Army Engineer Research and Development Center; Vicksburg, MS
USGS Columbia Environmental Research Center; Columbia, MO
University of Iowa, State Hygienic Laboratory; Iowa City, IO
Washington State Public Health Laboratories; Shoreline, WA

NIST

Date of Issue:
31 March 2014

SAFETY DATA SHEET

1. Substance and Source Identification

Product Identifier

SRM Number: 1941b
SRM Name: Organics in Marine Sediment
Other Means of Identification: Not applicable.

Recommended Use of This Material and Restrictions of Use

This Standard Reference Material (SRM) is marine sediment collected at the mouth of the Baltimore (MD) Harbor. SRM 1941b is intended for use in evaluating analytical methods for the determination of selected polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCB) congeners, and chlorinated pesticides in marine sediment and similar matrices. All of the constituents for which certified, reference, and information values are provided in SRM 1941b were naturally present in the sediment before processing. A unit of SRM 1941b consists of a bottle containing 50 g of radiation-sterilized, freeze-dried sediment.

Company Information

National Institute of Standards and Technology
Standard Reference Materials Program
100 Bureau Drive, Stop 2300
Gaithersburg, Maryland 20899-2300

Telephone: 301-975-2200
FAX: 301-948-3730
E-mail: SRMMSDS@nist.gov
Website: http://www.nist.gov/srm

Emergency Telephone ChemTrec:
1-800-424-9300 (North America)
+1-703-527-3887 (International)

2. Hazards Identification

Classification

Physical Hazard: Not classified.
Health Hazard: Not classified.

Label Elements
Symbol
No Symbol/Pictogram

Signal Word
Not applicable.

Hazard Statement(s): Not applicable.

Precautionary Statement(s): Not applicable.

Hazards Not Otherwise Classified: Not applicable.

Ingredients(s) with Unknown Acute Toxicity: Not applicable.

3. Composition and Information on Hazardous Ingredients

Substance: Marine sediment

Other Designations: Sediment.

This material is naturally occurring marine sediment from an urban area. The material contains trace amounts of polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCB) congeners, and should be handled with care. Components are listed in compliance with OSHA's 29 CFR 1910.1200; for the actual values see the Certificate of Analysis.

Hazardous Component(s)	CAS Number	EC Number (EINECS)	Nominal Mass Concentration (%)
Marine Sediment	Not available	Not available	100

4. First Aid Measures

Description of First Aid Measures:

Inhalation: If adverse effects occur, remove to uncontaminated area. If not breathing, give artificial respiration or oxygen by qualified personnel. Seek immediate medical attention.

Skin Contact: Wash skin with soap and water.

Eye Contact: Flush eyes with water for at least 15 minutes. If necessary, seek medical attention.

Ingestion: If adverse effects occur after ingestion, seek medical treatment.

Most Important Symptoms/Effects, Acute and Delayed: May cause irritation.

Indication of any immediate medical attention and special treatment needed, if necessary: If any of the above symptoms are present, seek medical attention if needed.

5. Fire Fighting Measures

Fire and Explosion Hazards: Negligible fire hazard. Avoid generating dust. See Section 9, "Physical and Chemical Properties" for flammability properties.

Extinguishing Media:
Suitable: Use extinguishing media appropriate for surrounding fire.
Unsuitable: None listed.

Specific Hazards Arising from the Chemical: None listed.

Special Protective Equipment and Precautions for Fire-Fighters: Avoid inhalation of material or combustion byproducts. Wear full protective clothing and NIOSH approved self-contained breathing apparatus (SCBA).

NFPA Ratings (0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe)

Health = 1 Fire = 0 Reactivity = 0

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Any accumulated material on surfaces should be removed and properly disposed of. Use suitable protective equipment; see Section 8, "Exposure Controls and Personal Protection".

Methods and Materials for Containment and Clean up: Collect spilled material in appropriate container for disposal. Keep out of water supplies and sewers. Keep unnecessary people away, isolate hazard area and deny entry.

7. Handling and Storage

Safe Handling Precautions: Minimize dust generation and accumulation on surfaces. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. See Section 8, "Exposure Controls and Personal Protection".

Storage: Store and handling in accordance with all current regulations and standards.

8. Exposure Controls and Personal Protection

Exposure Limits: No occupational exposure limits have been established for marine sediment. This material is a particulate matter and adequate inhalation/respiratory protection should be used to minimize exposure. The exposure limits for Particulates Not Otherwise Regulated (PNOR) are applicable.

OSHA (PEL): 15 mg/m^3 (TWA, total particulates not otherwise regulated)
OSHA (PEL) 5 mg/m^3 (TWA, respirable particulates not otherwise regulated)

NIOSH (REL): 10 mg/m^3 (TWA, total particulates not otherwise regulated, 8 h)
NIOSH (REL): 5 mg/m^3 (TWA, respirable particulates not otherwise regulated)

Engineering Controls: Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Personal Protection: In accordance with OSHA 29 CFR 1910.132, subpart I, wear appropriate Personal Protective Equipment (PPE) to minimize exposure to this material.

Respiratory Protection: If workplace conditions warrant a respirator, a respiratory protection program that meets OSHA 29CFR 1910.134 must be followed. Refer to NIOSH 42 CFR 84 for applicable certified respirators.

Eye/Face Protection: Wear splash resistant safety goggles with a face shield. An eye wash station should be readily available near areas of use.

Skin and Body Protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Chemical-resistant gloves should be worn at all times when handling chemicals.

9. PHYSICAL AND CHEMICAL PROPERTIES

Descriptive Properties:

Appearance (physical state, color, etc.):	amorphous powder
Molecular Formula:	not applicable
Molar Mass (g/mol):	not applicable
Odor:	not available
Odor threshold:	not available
pH:	not available
Evaporation rate:	not applicable
Melting point/freezing point (°C):	not available
Specific Gravity (water=1)	not available
Vapor Pressure (mmHg):	not applicable
Vapor Density (air = 1):	not applicable
Viscosity (cP):	not applicable
Solubility(ies):	not available
Partition coefficient (n-octanol/water):	not available
Particle Size:	<150 µm

Thermal Stability Properties:

Autoignition Temperature (°C):	not available
Thermal Decomposition (°C):	not available
Initial boiling point and boiling range (°C):	not available
Explosive Limits, LEL (Volume %):	not available
Explosive Limits, UEL (Volume %):	not available
Flash Point (°C):	not available
Flammability (solid, gas):	not available

10. STABILITY AND REACTIVITY

Reactivity: Stable at normal temperatures and pressure.

Stability: X Stable _____ Unstable

Possible Hazardous Reactions: None listed.

Conditions to Avoid: Avoid generating dust.

Incompatible Materials: None listed.

Fire/Explosion Information: See Section 5, "Fire Fighting Measures".

Hazardous Decomposition: Thermal decomposition will produce oxides of carbon.

Hazardous Polymerization: _____ Will Occur X Will Not Occur

11. TOXICOLOGICAL INFORMATION

Route of Exposure: __X__ Inhalation __X__ Skin _____ Ingestion

Symptoms Related to the Physical, Chemical and Toxicological Characteristics: Generated dust may cause irritation if inhaled.

Potential Health Effects (Acute, Chronic and Delayed):

Inhalation: Generated dust may cause irritation.

Skin Contact: May cause mechanical irritation.

Eye Contact: May cause mechanical irritation.

Ingestion: No data available.

Numerical Measures of Toxicity:

Acute Toxicity: Not classified; no data available.

Skin Corrosion/Irritation: Not classified; no data available.

Serious Eye damage/ Eye irritation: Not classified; no data available.

Respiratory Sensitization: Not classified; no data available.

Skin Sensitization: Not classified; no data available.

Germ Cell Mutagenicity: Not classified; no data available.

Carcinogenicity: Not classified.

Listed as a Carcinogen/Potential Carcinogen _____ Yes __X__ No
Marine sediment is not listed by NTP, IARC or OSHA as a carcinogen.

Reproductive Toxicity: Not classified; no data available.

Specific Target Organ Toxicity, Single Exposure: Not classified; no data available.

Specific Target Organ Toxicity, Repeated Exposure: Not classified; no data available.

Aspiration Hazard: Not classified; no data available.

12. ECOLOGICAL INFORMATION

Ecotoxicity Data: No data available.

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

Other Adverse effects: No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose of waste in accordance with all applicable federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

U.S. DOT and IATA: Not regulated by DOT or IATA.

15. REGULATORY INFORMATION

U.S. Regulations:

CERCLA Sections 102a/103 (40 CFR 302.4): Not regulated.

SARA Title III Section 302 (40 CFR 355.30): Not regulated.

SARA Title III Section 304 (40 CFR 355.40): Not regulated.

SARA Title III Sections 311/312 Hazardous Categories (40 CFR 370.21):

ACUTE HEALTH:	No.
CHRONIC HEALTH:	No.
FIRE:	No.
REACTIVE:	No.
PRESSURE:	No.

State Regulations:
California Proposition 65: Not listed.

U.S. TSCA Inventory: Not listed.

TSCA 12(b), Export Notification: Not listed.

Canadian Regulations:
WHMIS Information: Not provided for this material.

16. OTHER INFORMATION

Issue Date: 31 March 2014

Sources: 29 CFR Occupational Health and Safety Office (OSHA) 1910.1000, *Limits for Air Contaminants*, Table Z-1; available at http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9992 (accessed Mar 2014).

Center for Disease Control (CDC) NIOSH Pocket Guide to Chemical Hazards, *Particulates not otherwise regulated*; available at http://www.cdc.gov/niosh/npg/npgd0480.html (accessed Mar 2014).

Key of Acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists	NRC	Nuclear Regulatory Commission
ALI	Annual Limit on Intake	NTP	National Toxicology Program
CAS	Chemical Abstracts Service	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
CFR	Code of Federal Regulations	RCRA	Resource Conservation and Recovery Act
DOT	Department of Transportation	REL	Recommended Exposure Limit
EC50	Effective Concentration, 50 %	RM	Reference Material
EINECS	European Inventory of Existing Commercial Chemical Substances	RQ	Reportable Quantity
EPCRA	Emergency Planning and Community Right-to-Know Act	RTECS	Registry of Toxic Effects of Chemical Substances
IARC	International Agency for Research on Cancer	SARA	Superfund Amendments and Reauthorization Act
IATA	International Air Transportation Agency	SCBA	Self-Contained Breathing Apparatus
IDLH	Immediately Dangerous to Life and Health	SRM	Standard Reference Material
LC50	Lethal Concentration, 50 %	STEL	Short Term Exposure Limit
LD50	Lethal Dose, 50 %	TLV	Threshold Limit Value
LEL	Lower Explosive Limit	TPQ	Threshold Planning Quantity
MSDS	Material Safety Data Sheet	TSCA	Toxic Substances Control Act
NFPA	National Fire Protection Association	TWA	Time Weighted Average
NIOSH	National Institute for Occupational Safety and Health	UEL	Upper Explosive Limit
NIST	National Institute of Standards and Technology	WHMIS	Workplace Hazardous Materials Information System

Disclaimer: Physical and chemical data contained in this SDS are provided only for use in assessing the hazardous nature of the material. The SDS was prepared carefully, using current references; however, NIST does not certify the data in the SDS. The certified values for this material are given in the NIST Certificate of Analysis.

Users of this SRM should ensure that the SDS in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail srminfo@nist.gov; or via the Internet at http://www.nist.gov/srm.

Bill to:	Ship to:
68455 DAVE MITCHELL ANALYTICAL RESOURCES INC 4611 S 134TH PLACE SUITE 100 TUKWILA, WA 98168-3240 1 (206)695-6205	68456 DAVE MITCHELL ANALYTICAL RESOURCES INC 4611 S 134TH PLACE SUITE 100 TUKWILA, WA 98168-3240 1 (206)695-6205

Ship via	UPS Ground	Description		Ship from	
Salesmen	MCMIDM2	Instructions		Blanket	
Contact	DAVE MITCHELL	Pro#		Truck#	

Order discrepancies (other than back ordered items) must be reported to our Customer Relations Department at 301-975-6776 within 5 days of receipt of shipment or this order will be considered complete. NIST SRMs/RMs are generally not returnable - with the exception of defective goods or shipments made in error by NIST. To return a SRM/RM, please call for instructions and a Return SRM/RM Authorization Number before shipment. Returns WILL NOT BE ACCEPTED without prior authorization.

Order	UOM	Ship	UOM	B/O	UOM	Item	Description
1	EACH	1	EACH	0	EACH	1941B	Organics in Marine Sediment
						Total qty:	1 / EACH
							NOT FOR HUMAN CONSUMPTION, LABORATORY USE ONLY.

9/21/16
04:04 PM

1700101

Picked by	
Packed by	
# of pieces	
Weight	

MP Biomedicals, LLC

29525 Fountain Parkway
Solon, Ohio 44139

Telephone: 440/337-1200
Toll Free: 800/854-0530

Fax: 440/337-1180
web: www.mpbio.com

Certificate of Analysis

Product Description: Microcrystalline Cellulose Powder_
Catalog Number: 191499_
Lot: Q9483_

Formula: $(C_6H_{10}O_5)n$	**Formula Weight:** N/A
CAS #: 9004-34-6	**Storage:** 15 - 30°C
Physical Description: White Powder	

Test	Specification	Result
Identity Test	Passes	Passes
Purity	97.0 - 102.0%	97.0 - 102.0%
Moisture	<5.0%	3.4%
Particle Size/Mesh +60 mesh +200 mesh	Wt % <8% >45%	 <1% 55%
pH	5 - 7	6.73
Residue on Ignition	<0.05%	<0.05%
Water Soluble Substances	<12.0 mg/5 g	4.5 mg/5 g
Heavy Metals	<10 ppm	<10 ppm

H001822
Microcrystalline Cellulose Powder (TOC)
Expires 11/30/2022
Prepared By Casey English 2/22/2019

Identification A & B: Passes
Bulk Density: 0.29 g/ml
Bulk Density (graduated cylinder): 0.31 g/ml
Conductivity: 18 µS/cm
Starch: Negative
Ether Soluble Substances: 0.01%
Total Aerobic microbial Count: 100 cfu/g
Total Mold and Yeast Count: 20 cfu/g
Staphylococcus aureus: Absent/1 g
Pseudomonas aeruginosa: Absent/1 g
E. coli: Absent/1 g
Salmonella: Absent/10 g
Particle size:

- 450 mesh: 77%
- d10: 37 um
- d50: 139 um
- d90: 271 um

TUP: <9/600 cm^2
Degree of brightness: >88%
Powder flow-angle of repose: <42°
Recommended Retest Date: 11/30/2022

07/26/2018 - *John Huang, PhD*
MP Biomedicals, LLC.
Quality Control Manager

MP Biomedicals, LLC

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07/26/2018 - *John Huang, PhD*
MP Biomedicals, LLC.
Quality Control Manager

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Physical Description: White Powder	

Test	Specification	Result
Identity Test	Passes	Passes
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Starch: Negative
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07/26/2018 - *John Huang, PhD*
MP Biomedicals, LLC.
Quality Control Manager

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Online Ordering, MSDSs, certificates of analysis and data sheets now available on our web site
Technical Service: 1-800-279-5490 (440-337-1200) Customer Service: 1-800-854-0530 (440-337-1200)

PREPARATION BATCH SUMMARY

ASTM D2216

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Batch: BLA0399 Batch Matrix: Solid
Preparation: No Prep-Organics

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-IT1136	23A0418-01		02/08/23 12:12	
LDW23-IT1142	23A0418-02		02/08/23 12:12	
LDW23-IT1135	23A0418-10		02/08/23 12:12	

HOLDING TIME SUMMARY

Analysis: ASTM D2216

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW23-IT1136 23A0418-01	01/18/23 08:28	01/18/23 16:36	02/08/23 12:12	21	180	02/09/23 05:08	22	180	
LDW23-IT1142 23A0418-02	01/18/23 08:47	01/18/23 16:36	02/08/23 12:12	21	180	02/09/23 05:08	22	180	
LDW23-IT1135 23A0418-10	01/18/23 14:23	01/18/23 16:36	02/08/23 12:12	20	180	02/09/23 05:08	22	180	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

ASTM D2216

Laboratory: Analytical Resources, LLC
SDG: 23A0418
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Instrument:

Analyte	MDL	RL	Units
Total Solids		0.01	%

TOTAL SOLIDS BENCHSHEET							Batch:	BLB0152
Method: PSEP 1986							Date:	2/7/2023 10:12
(dry at 103-105 C)							Analyst:	CR
Instrumentation							Drying Oven:	15
							Analytical Balance:	B139298002

Batch drying time						
Record times as mm/dd/yy hh:mm			Oven Temp, C	TS (%) calculated as:	Oven Temps, °C	
Date/time in oven:	2/8/2023 16:43		106	Final dry wt (g) = (Dry Wt - Tare Wt)	Start Temp:	106
Date/time out:	2/9/2023 9:13		104	TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)	End Temp:	104
Elapsed hrs:	16.5					

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
23A0418-01	0.8300	11.6100	9.5800	8.75	**81.17%**	No
23A0418-02	0.8400	12.2000	9.4100	8.57	**75.44%**	No
23A0418-03	0.8000	12.1200	6.4000	5.60	**49.47%**	No
23A0418-04	0.7800	12.3000	7.5300	6.75	**58.59%**	No
23A0418-05	0.8100	12.6100	9.2600	8.45	**71.61%**	No
23A0418-06	0.8000	11.5600	8.8500	8.05	**74.81%**	No
23A0418-07	0.8100	11.8300	9.6100	8.80	**79.85%**	No
23A0418-08	0.7700	11.1000	6.8600	6.09	**58.95%**	No
23A0418-09	0.8000	12.1400	9.8100	9.01	**79.45%**	No
23A0418-10	0.7900	11.6200	8.2000	7.41	**68.42%**	No
23A0418-11	0.8100	12.1600	9.1800	8.37	**73.74%**	No
23A0418-12	0.8000	11.8200	9.5700	8.77	**79.58%**	No

Done :)

TOTAL SOLIDS BENCHSHEET

Method: PSEP 1986

(dry at 103-105 C)

Instrumentation

Batch:	BLB0152
Date:	2/7/2023 10:12
Analyst:	R
Drying Oven:	015
Analytical Balance:	B13129802

Batch drying time

Record times as mm/dd/yy hh:mm

			Oven Temp, C
Date/time in oven:	2/8/23	16:43	106
Date/time out:	2/9/23	9:13	104
Elapsed hrs:	0.0		

TS (%) calculated as:

Final dry wt (g) = (Dry Wt - Tare Wt)

TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)

Oven Temps, °C	
Start Temp:	106
End Temp:	104

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
23A0418-01 A	0.83	11.61	9.58			No
23A0418-02 |	0.84	12.20	9.41			No
23A0418-03 |	0.80	12.12	6.40			No
23A0418-04 |	0.78	12.30	7.53			No
23A0418-05 |	0.81	12.61	9.26			No
23A0418-06 |	0.80	11.56	8.85			No
23A0418-07 |	0.81	11.83	9.61			No
23A0418-08 |	0.77	14.10	6.86			No
23A0418-09 |	0.80	12.14	9.81			No
23A0418-10 |	0.79	11.62	8.20			No
23A0418-11 |	0.81	12.16	9.18			No
23A0418-12 A	0.80	11.82	9.57			No

T/S + Screens

3 copies