



02 April 2021

Delaney Peterson
Anchor QEA, LLC
1201 3rd Ave, Suite 2600
Seattle, WA 98101

RE: GascoSiltronic: US Moorings

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.

<u>Associated Work Order(s)</u>	<u>Associated SDG ID(s)</u>
21C0175	N/A

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, Inc.

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.

Shelly Fishel For Amanda Volgardsen Johnson, Project Manager



21C0175
ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

POC: # Delaney Peterson (360-715-2707)
1605 Cornwall Avenue, Bellingham, WA 98225

Project: GascoSiltronic: US Moorings
Client: NW Natural

COC ID: ARI-20210309-182926
Sample Custodian: SN
Lab: Analytical Resources Inc.

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
001	RAB-FB-2103091636	FB	WQ	03/09/2021	16:36	8	<input type="checkbox"/>	EPH (QAPP C-6)	EPH	30	4°C
								TBT	SW8270ESIM	30	4°C
								PAH	SW8270E	30	4°C
								TPH	NWTPHDx	30	4°C
002	RAB-RB-2103091709	RB	WQ	03/09/2021	17:09	8	<input type="checkbox"/>	EPH (QAPP C-6)	EPH	30	4°C
								TBT	SW8270ESIM	30	4°C
								PAH	SW8270E	30	4°C
								TPH	NWTPHDx	30	4°C

Comment:					
Relinquished By:		Received By:		Relinquished By:	
Signature	Signature	Signature	Signature	Signature	Signature
Print Name	Print Name	Print Name	Print Name	Print Name	Print Name
Company	Company	Company	Company	Company	Company
Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time
Sasha Woodward	Kenny Dang				
Anchor OEA	ARI				
3/10/21 @0800	3/11/21 1030				



Cooler Receipt Form

ARI Client: Anchor REA
 COC No(s): _____ (NA)
 Assigned ARI Job No: 21C0175

Project Name: Gasco Siltronic: US moorings
 Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
 Tracking No: 7731 2469 0428 NA
7731 2469 0659

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)

Time 1030 1.1 3.0
 If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: DOO 5206

Cooler Accepted by: KD Date: 3/11/21 Time: 1030

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: SC Date: 3/11/21 Time: 1437 Labels checked by: SC

**** 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: _____



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

Project: GascoSiltronic: US Moorings
Project Number: [none]
Project Manager: Delaney Peterson

Reported:
04/02/2021 11:17

ANALYTICAL REPORT FOR SAMPLES

Laboratory ID	Sample ID	Matrix	Date Sampled	Date Received
21C0175-01	RAB-FB-2103091636	Water	03/09/21 16:36	03/11/21 10:30
21C0175-02	RAB-RB-2103091709	Water	03/09/21 17:09	03/11/21 10:30



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

Project: GascoSiltronic: US Moorings
Project Number: [none]
Project Manager: Delaney Peterson

Reported:
02-Apr-2021 12:18

Case Narrative

Client: Anchor QEA, LLC
Project: GascoSiltronic: US Moorings
Work Order: 21C0175

Sample receipt

Samples as listed on the preceding page were received 11-Mar-2021 10:30 under ARI work order 21C0175. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Butyl Tin(s) - EPA Method SW8270E-SIM

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

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

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

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

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

Extractable Organic Hydrocarbons - WA-Ecology

The sample(s) were extracted and analyzed within the recommended holding times.

The samples in initial analysis had Aromatics in the Aliphatics. The samples were re-fractionated. Due to 1-Chloro-octadecane bleed into the Aromatics the samples were re-fractionated a second time.

Peak resolution for benzo(b)fluoranthene and benzo(k)fluoranthene does not meet method requirements in the continuing calibration verification.

Initial and continuing calibrations were within method requirements.



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

Project: GascoSiltronic: US Moorings
Project Number: [none]
Project Manager: Delaney Peterson

Reported:
02-Apr-2021 12:18

Case Narrative

The surrogate percent recoveries were within control limits except 1-Chloro-octadecane which was out of control high and has been flagged.

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

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

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

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

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



QUALIFIERS AND NOTES

<u>Qualifier</u>	<u>Definition</u>
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.
D	The reported value is from a dilution
*	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



Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270E-SIM
Butyl Tins

Laboratory: Analytical Resources, Inc.
 Client: Anchor OEA, LLC
 Project: GascoSiltronic: US Moorings
 Matrix: Water Laboratory ID: 21C0175-01 C SDG: 21C0175
 Sampled: 03/09/21 16:36 Prepared: 03/16/21 09:29 File ID: NT821031806.D
 % Solids: Preparation: EPA 3510C SepF Analyzed: 03/18/21 12:09
 Batch: BJC0357 Sequence: SJC0283 Initial/Final: 100 mL / 0.5 mL
 Instrument: NT8 Column: RXI-17Sil ms Calibration: DL00046
 Cleanups: Silica Gel

CAS NO.	COMPOUND	DILUTION	(ug/L)	Q	DL	RL
36643-28-4	Tributyltin Ion	1	0.193	U	0.043	0.193

SURROGATES	ADDED:(ug/L)	(ug/L)	% REC	QC LIMITS	Q
Tripentyltin	2.2589	1.30	57.6	30 - 160	
Tripropyltin	2.1873	0.930	42.5	30 - 160	

Data File: \\target\share\chem3\nt8.1\20210318.1\NT821031806.D

Date: 18-MAR-2021 12:09

Client ID:

Sample Info: 21C0175-01

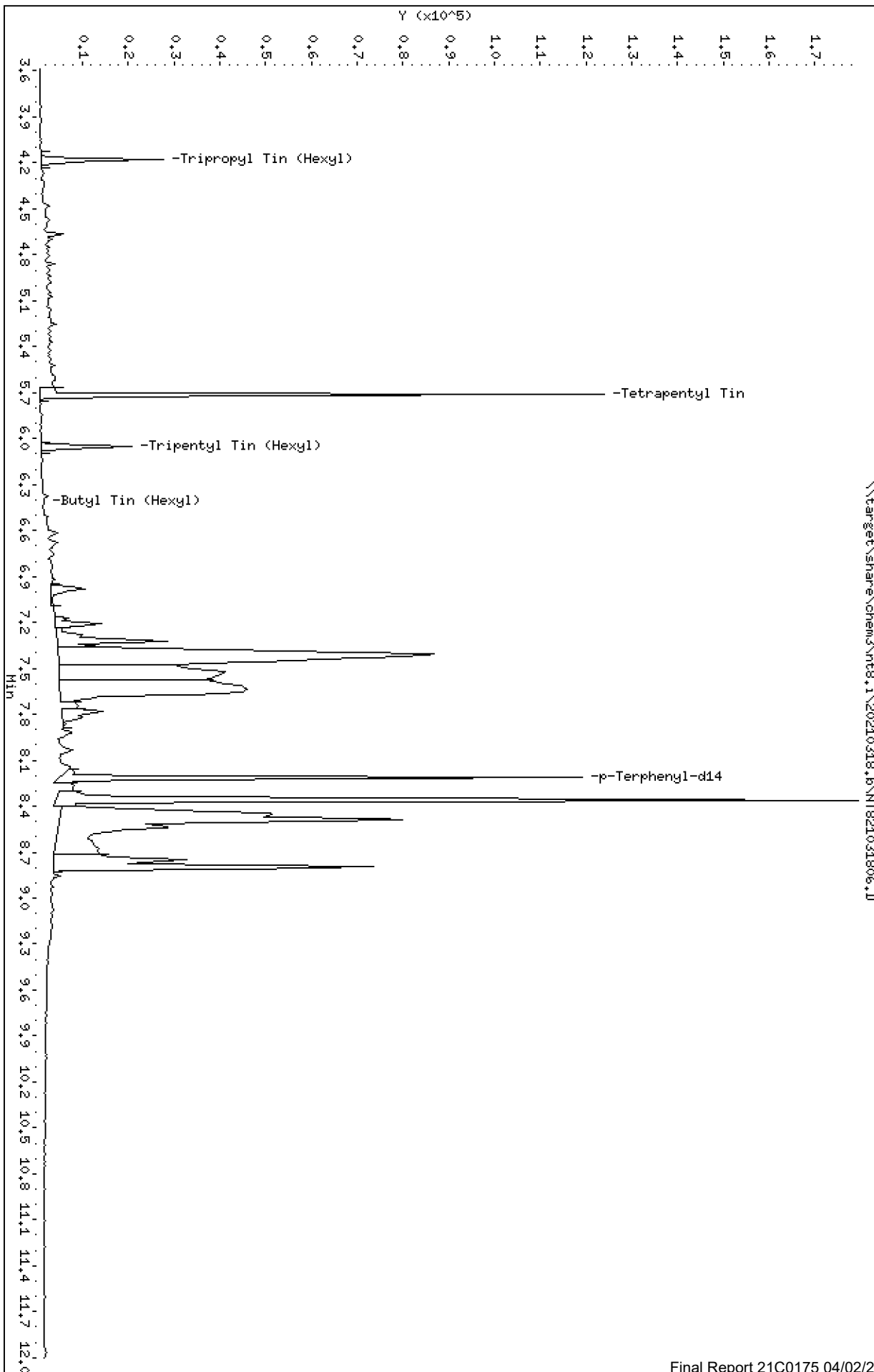
Column phase: ZB-5msi

Instrument: nt8.1

Operator: JZ

Column diameter: 0.25

\\target\share\chem3\nt8.1\20210318.1\NT821031806.D



Date : 18-MAR-2021 12:09

Client ID:

Instrument: nt8.i

Sample Info: 21C0175-01

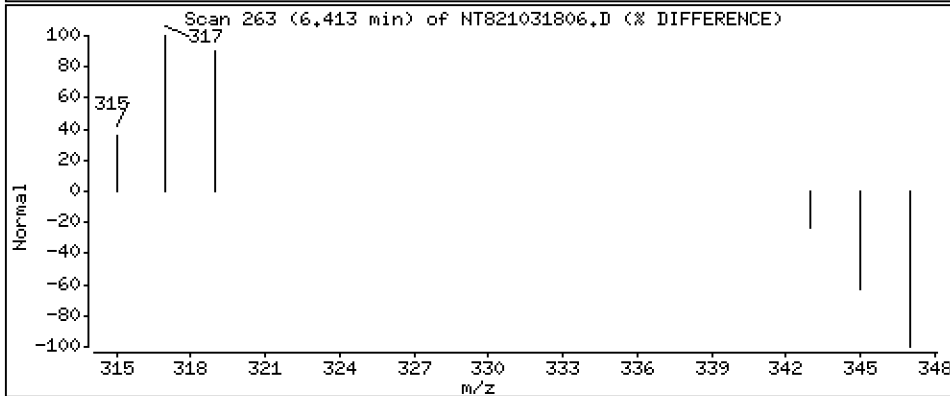
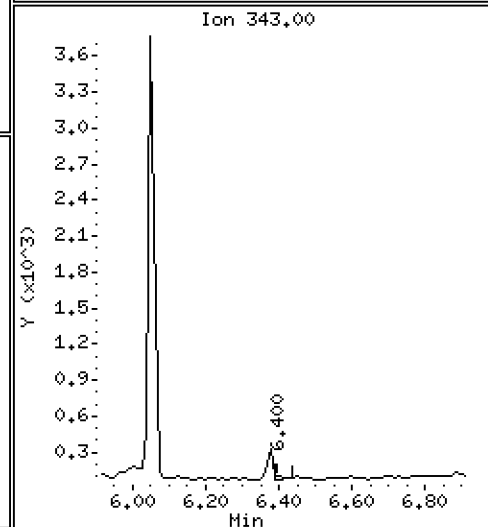
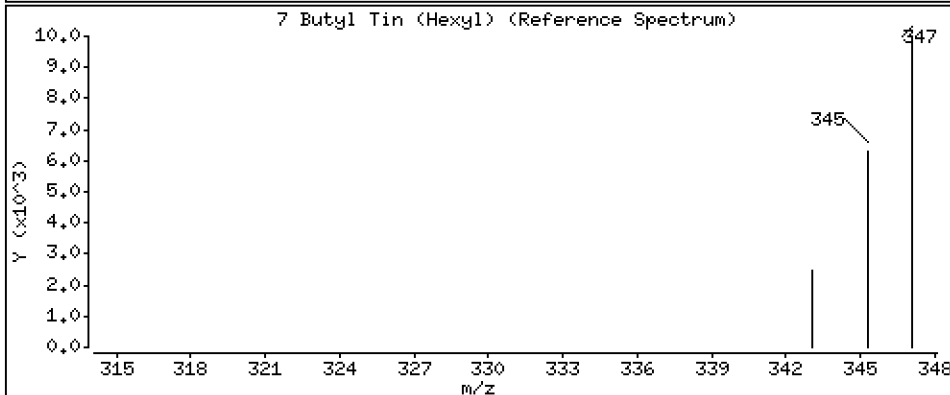
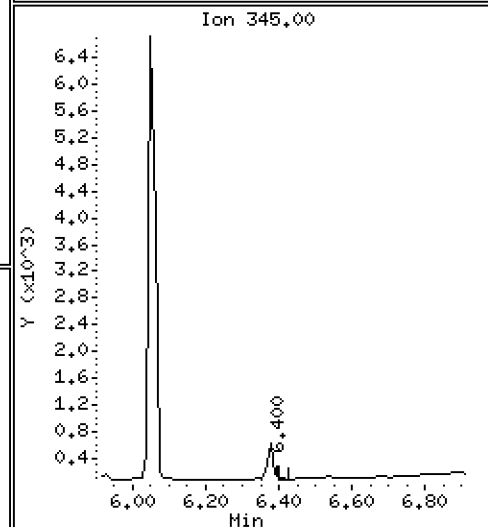
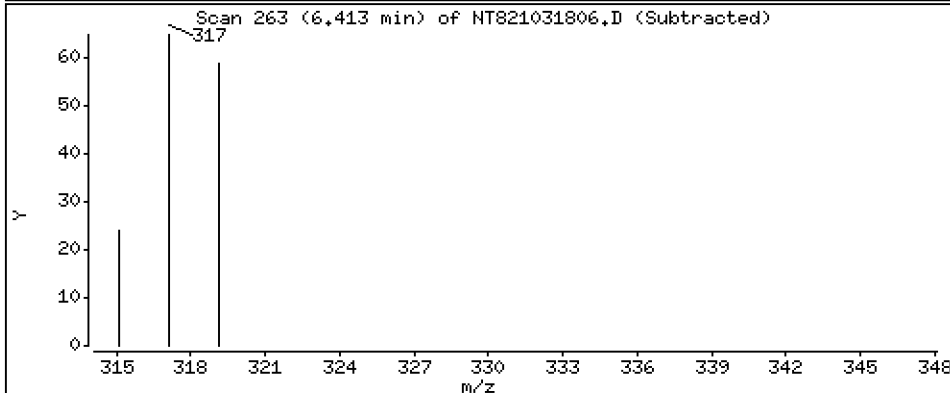
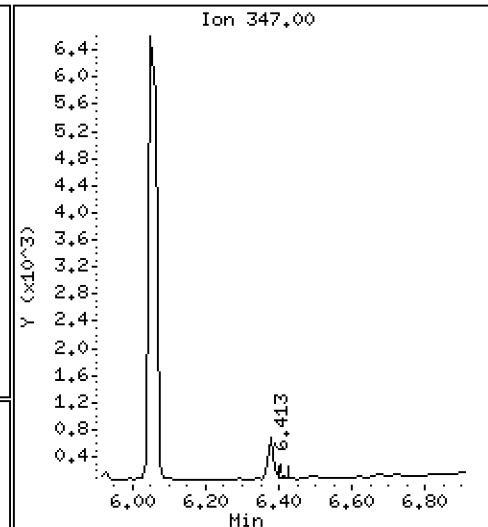
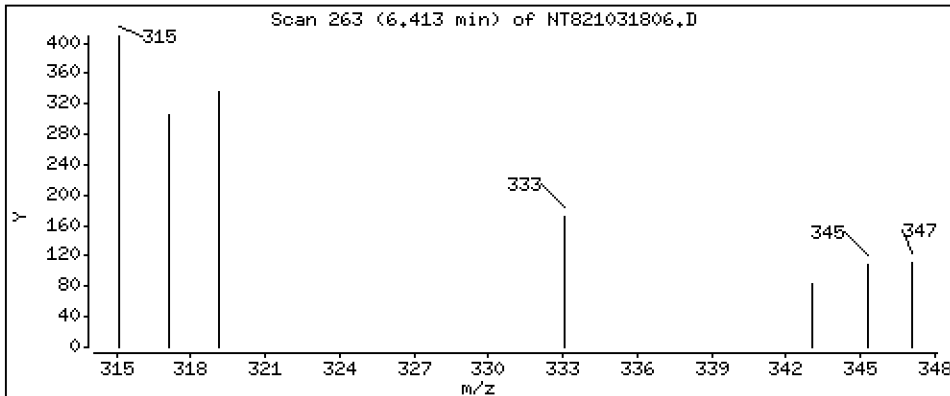
Operator: JZ

Column phase: ZB-5msi

Column diameter: 0.25

7 Butyl Tin (Hexyl)

Concentration: 0.001344 ug/mL



ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt8.i\20210318.b\NT821031806.D
 Lab Smp Id: 21C0175-01
 Inj Date : 18-MAR-2021 12:09
 Operator : JZ Inst ID: nt8.i
 Smp Info : 21C0175-01
 Misc Info : 21-
 Comment : 2 ul Injection
 Method : \\target\share\chem3\nt8.i\20210318.b\TBT201215.m
 Meth Date : 18-Mar-2021 11:06 nt8.i Quant Type: ISTD
 Cal Date : 15-DEC-2020 11:33 Cal File: NT820121508.D
 Als bottle: 6
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: sedmdl.sub
 Target Version: 4.14
 Processing Host: ORGDATA22

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN	FINAL
	MASS						(ug/mL)	(ug/mL)
\$ 1 Tripropyl Tin (Hexyl)	291		4.180	4.138	(0.732)	14902	0.24984	0.2498
2 Tetrabutyl Tin	289		Compound Not Detected.					
3 Tributyl Tin (Hexyl)	319		Compound Not Detected.					
* 4 Tetrapentyl Tin	333		5.711	5.711	(1.000)	117377	2.00000	
5 Dibutyl Tin (Hexyl)	347		Compound Not Detected.					
\$ 6 Tripentyl Tin (Hexyl)	347		6.049	6.061	(0.736)	9174	0.32685	0.3268
7 Butyl Tin (Hexyl)	347		6.412	6.412	(0.781)	45	0.00134	0.001344 (M)
* 8 p-Terphenyl-d14	244		8.215	8.215	(1.000)	105680	0.20000	

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt8.i Calibration Date: 18-MAR-2021
 Lab File ID: NT821031806.D Calibration Time: 10:46
 Lab Smp Id: 21C0175-01
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: JZ
 Method File: \\target\share\chem3\nt8.i\20210318.b\TBT201215.m
 Misc Info: 21-

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	72645	36323	145290	117377	61.58
8 p-Terphenyl-d14	65742	32871	131484	105680	60.75

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	5.71	5.21	6.21	5.71	0.00
8 p-Terphenyl-d14	8.22	7.72	8.72	8.22	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 - NT821031806.D

Lab ID: 21C0175-01

nt8.i, 20210318.b\TBT201215.m, 18-MAR-2021 12:09

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.732	0.725	0.0073	Tripropyl Tin (Hexyl)

RRT check based on Ccal File: NT821031802.D

On Column LOD for nt8.i, 20210318.b\TBT201215.m, sedmdl.sub = 0.0000

Exception: Tripropyl Tin (Hexyl) (Surr) 0.0010

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

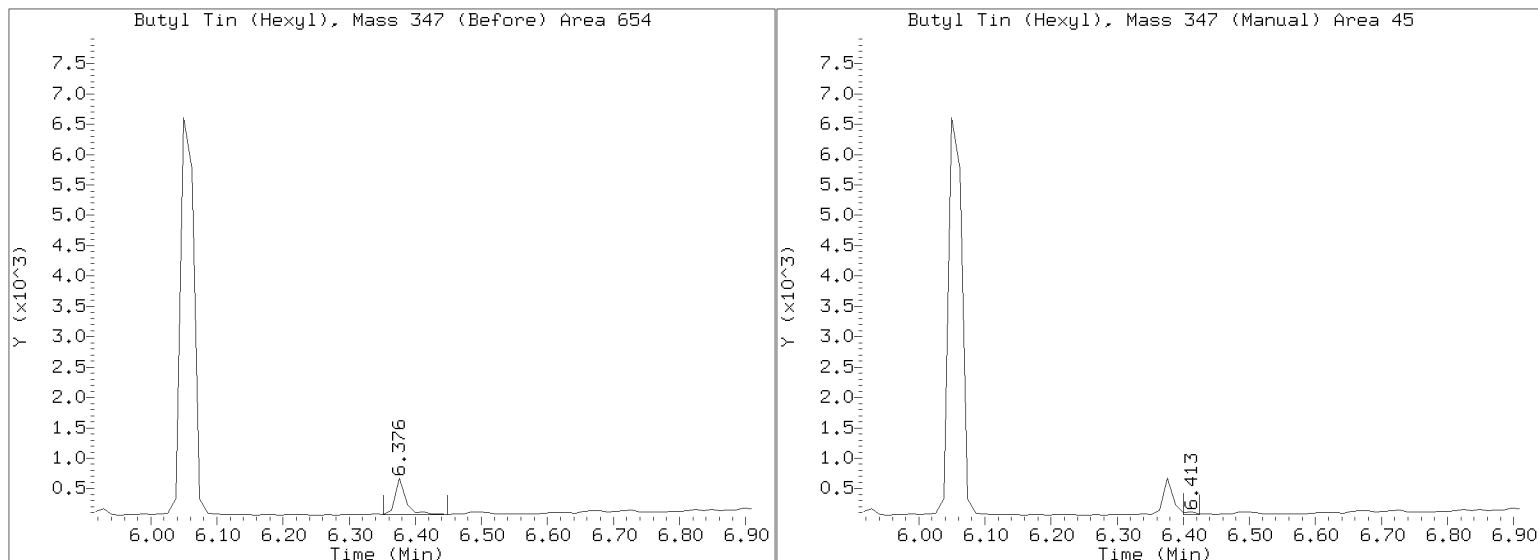
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20210318.b/NT821031806.D

Injection Date: 18-MAR-2021 12:09

Lab ID: 21C0175-01 Client ID:

Report Date: 03/18/2021 17:01





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

Laboratory: Analytical Resources, Inc.
 Client: Anchor OEA, LLC
 Project: GascoSiltronic: US Moorings
 Matrix: Water Laboratory ID: 21C0175-01 A SDG: 21C0175
 Sampled: 03/09/21 16:36 Prepared: 03/16/21 12:13 File ID: NT1121032405.D
 % Solids: Preparation: EPA 3510C SepF Analyzed: 03/24/21 15:38
 Batch: BJC0356 Sequence: SJC0391 Initial/Final: 500 mL / 0.5 mL
 Instrument: NT11 Column: RXi-17Sil-MS Calibration: DH00073
 Cleanups: Silica Gel

CAS NO.	COMPOUND	DILUTION	(ug/L)	Q	DL	RL
91-20-3	Naphthalene	1	0.013		0.001	0.010
91-57-6	2-Methylnaphthalene	1	0.003	J	0.001	0.010
208-96-8	Acenaphthylene	1	0.010	U	0.002	0.010
83-32-9	Acenaphthene	1	0.010	U	0.003	0.010
86-73-7	Fluorene	1	0.010	U	0.002	0.010
85-01-8	Phenanthrene	1	0.010	U	0.001	0.010
120-12-7	Anthracene	1	0.010	U	0.001	0.010
206-44-0	Fluoranthene	1	0.010	U	0.002	0.010
129-00-0	Pyrene	1	0.010	U	0.001	0.010
56-55-3	Benzo(a)anthracene	1	0.010	U	0.0008	0.010
218-01-9	Chrysene	1	0.010	U	0.0009	0.010
205-99-2	Benzo(b)fluoranthene	1	0.010	U	0.0005	0.010
207-08-9	Benzo(k)fluoranthene	1	0.010	U	0.003	0.010
205-82-3	Benzo(j)fluoranthene	1	0.010	U	0.002	0.010
50-32-8	Benzo(a)pyrene	1	0.010	U	0.002	0.010
193-39-5	Indeno(1,2,3-cd)pyrene	1	0.010	U	0.001	0.010
53-70-3	Dibenzo(a,h)anthracene	1	0.010	U	0.001	0.010
191-24-2	Benzo(g,h,i)perylene	1	0.010	U	0.001	0.010

SURROGATES	ADDED:(ug/L)	(ug/L)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	0.30000	0.206	68.7	42 - 120	
Dibenzo[a,h]anthracene-d14	0.30000	0.170	56.8	29 - 120	
Fluoranthene-d10	0.30000	0.216	72.0	57 - 120	

Data File: \\target\share\chem3\nt11.1\20210324.6\NT1121032405.D

Date: 24-MAR-2021 15:38

Client ID:

Sample Info: 21C0175-01

Page 1

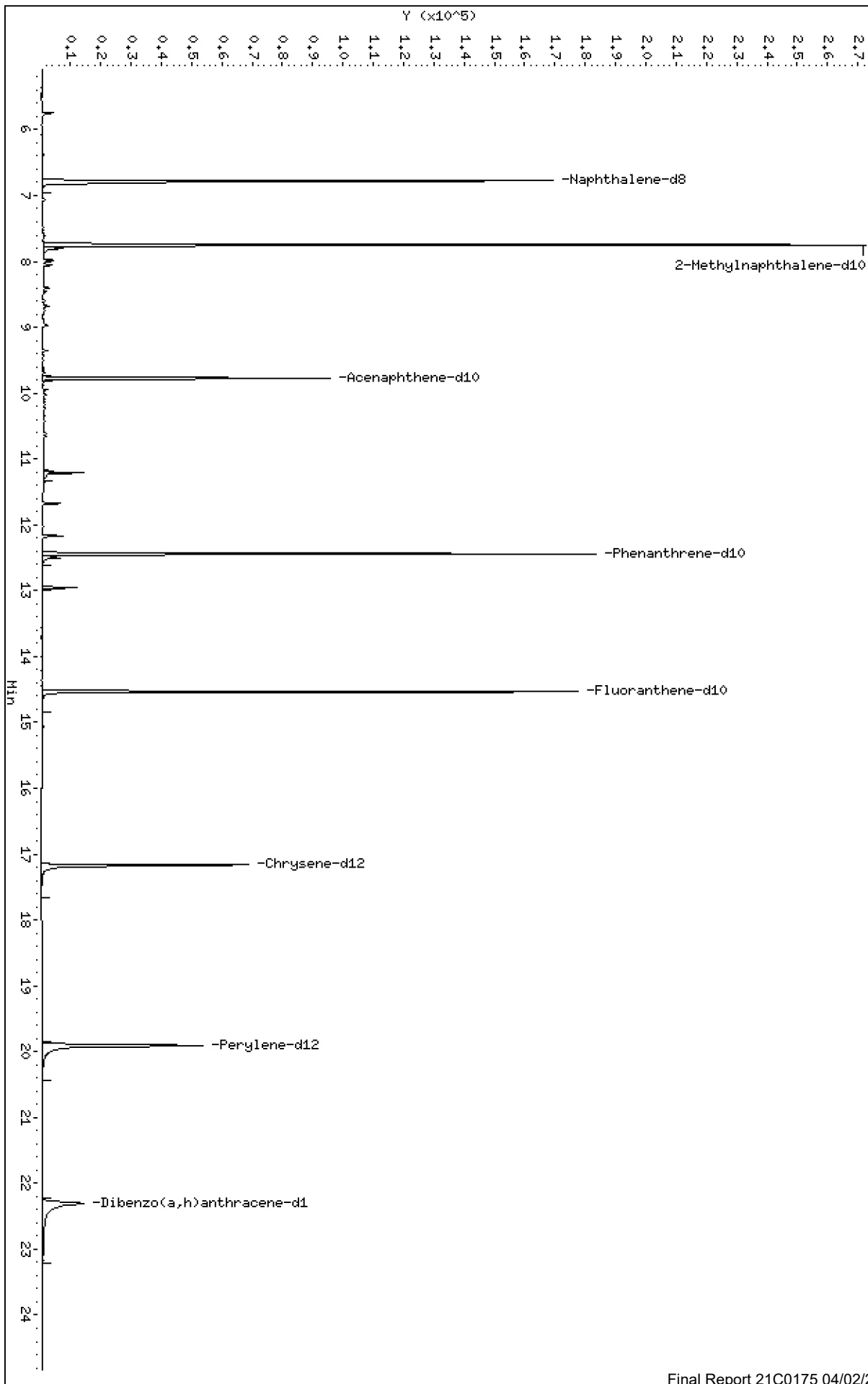
Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Column phase: Rxi-17S11 MS

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Date : 24-MAR-2021 15:38

Client ID:

Instrument: nt11.i

Sample Info: 21C0175-01

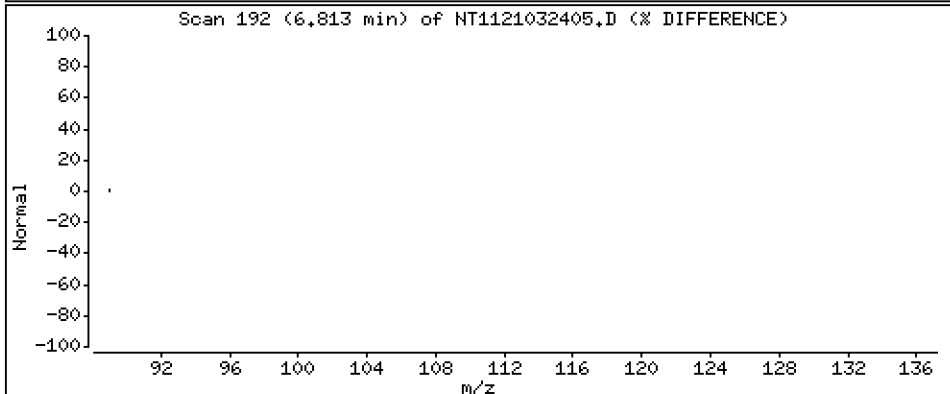
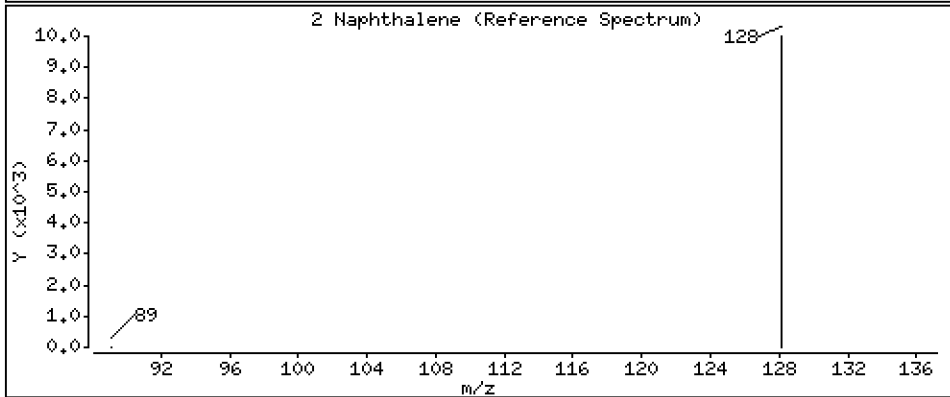
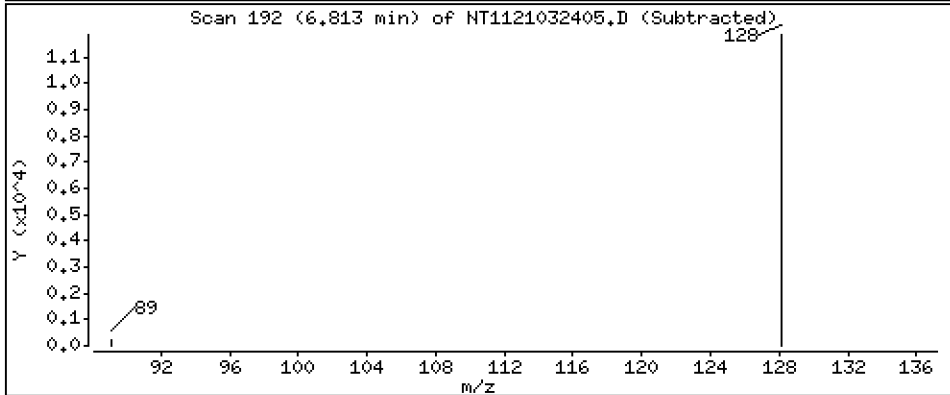
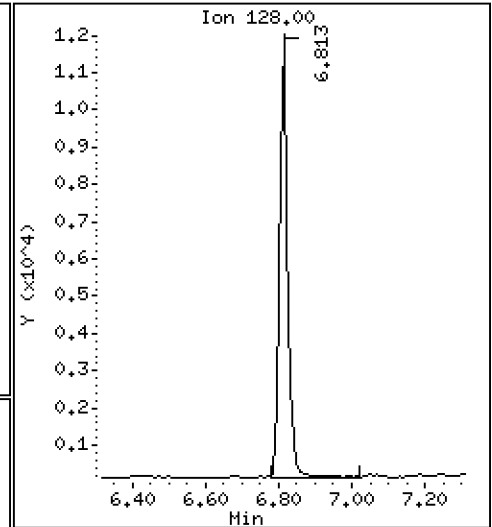
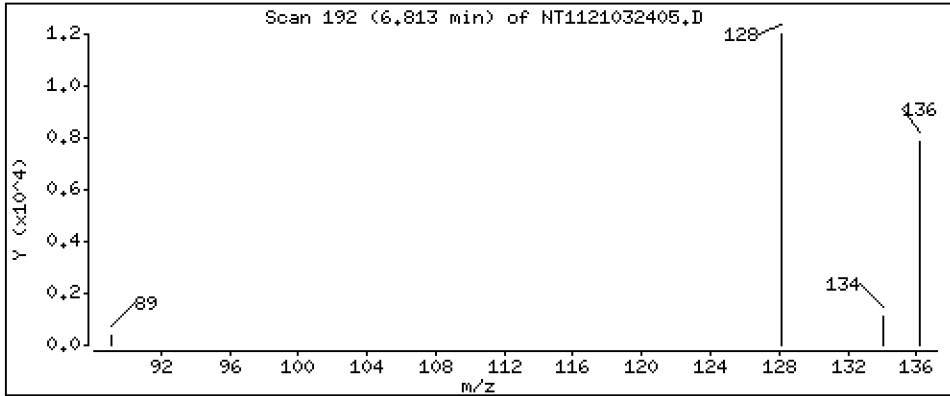
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 12,7 ng/mL



Date : 24-MAR-2021 15:38

Client ID:

Instrument: nt11.i

Sample Info: 21C0175-01

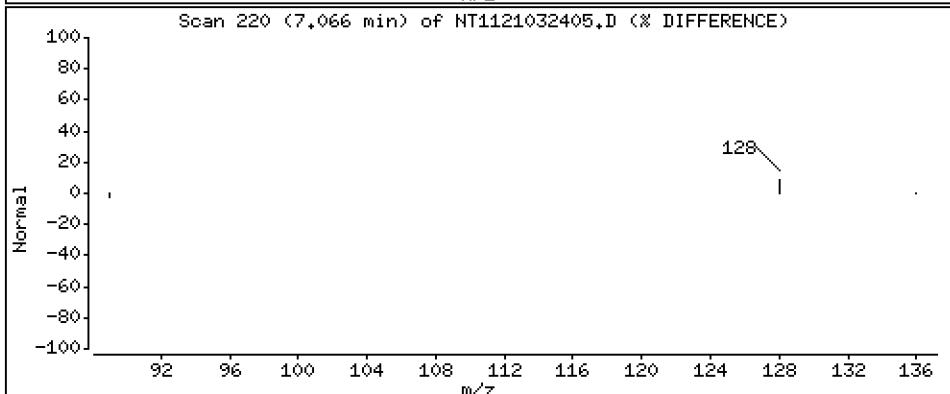
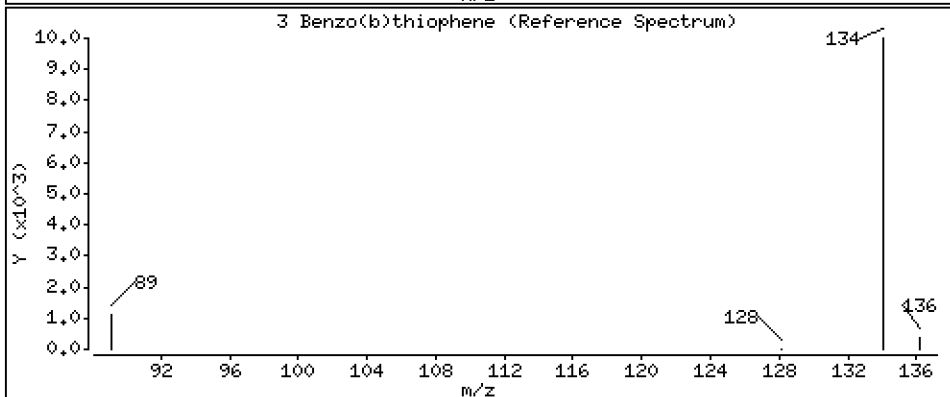
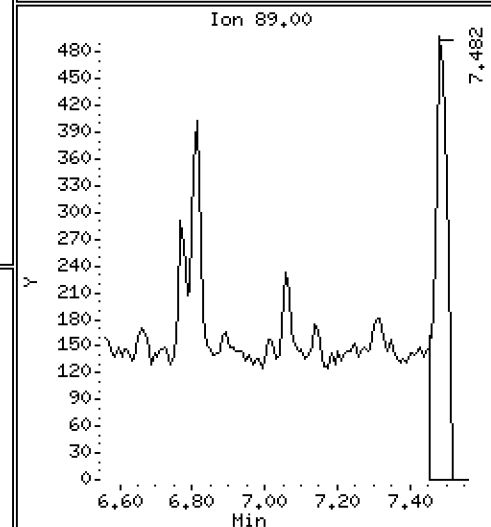
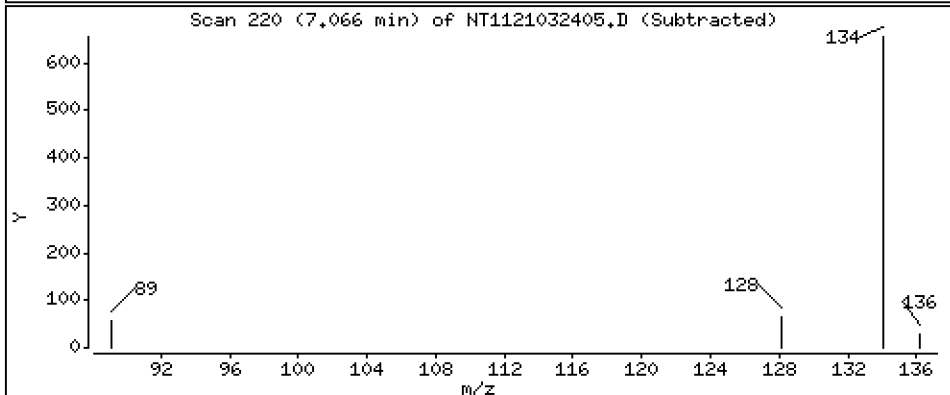
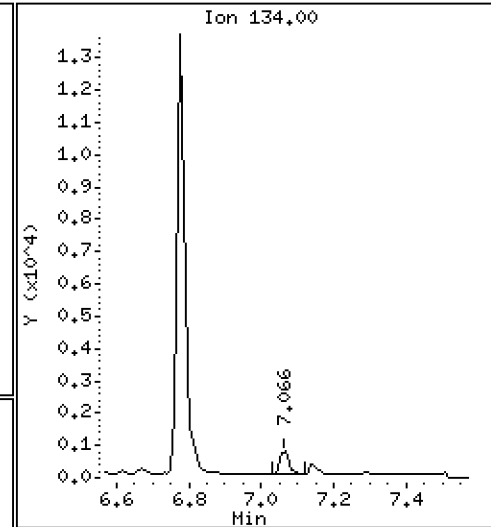
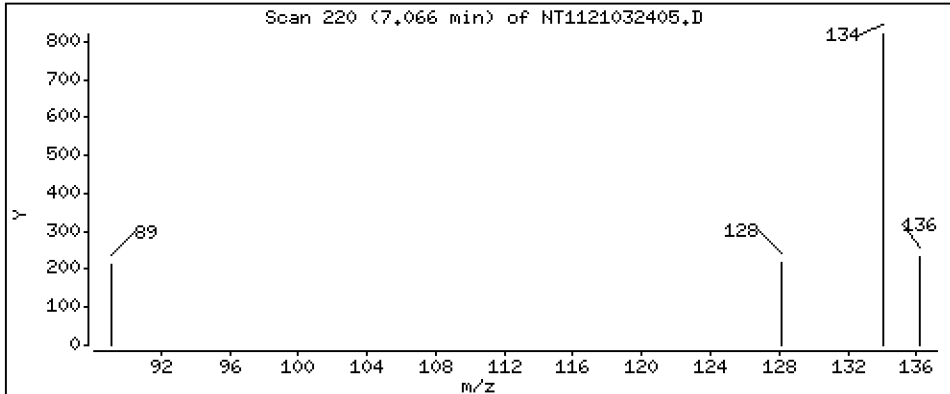
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

3 Benzo(b)thiophene

Concentration: 1,05 ng/mL



Date : 24-MAR-2021 15:38

Client ID:

Instrument: nt11.i

Sample Info: 21C0175-01

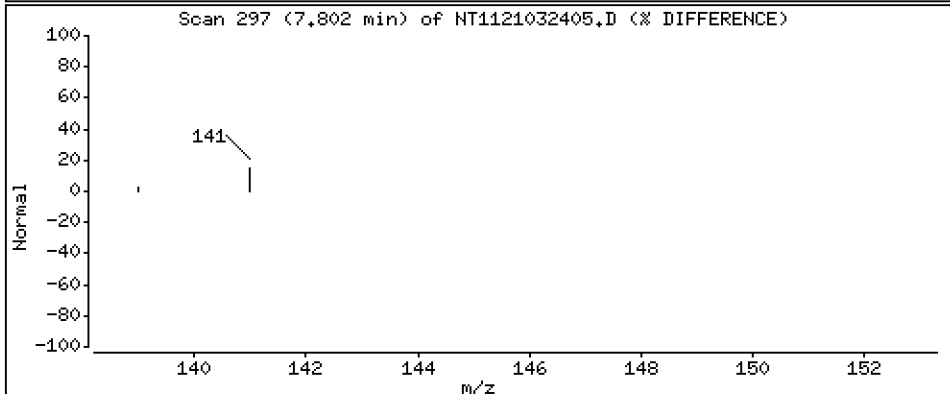
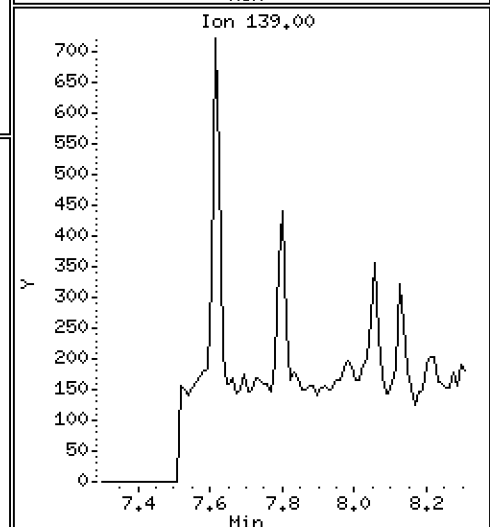
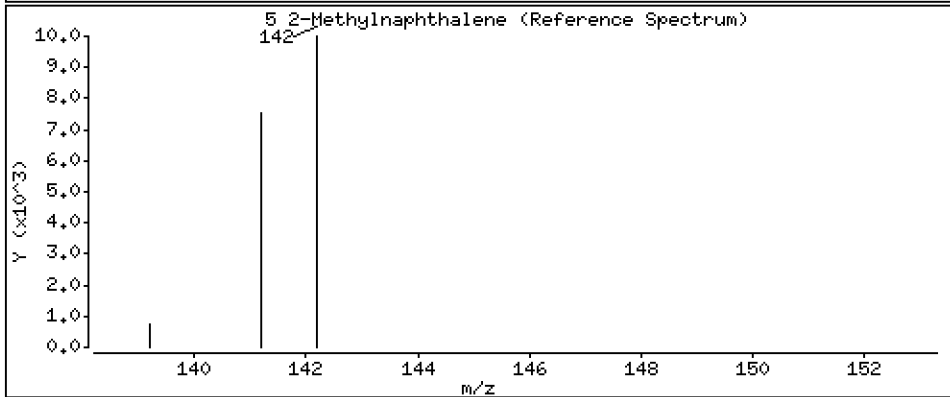
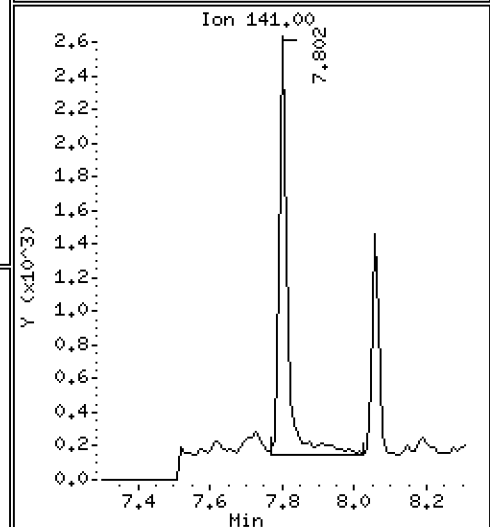
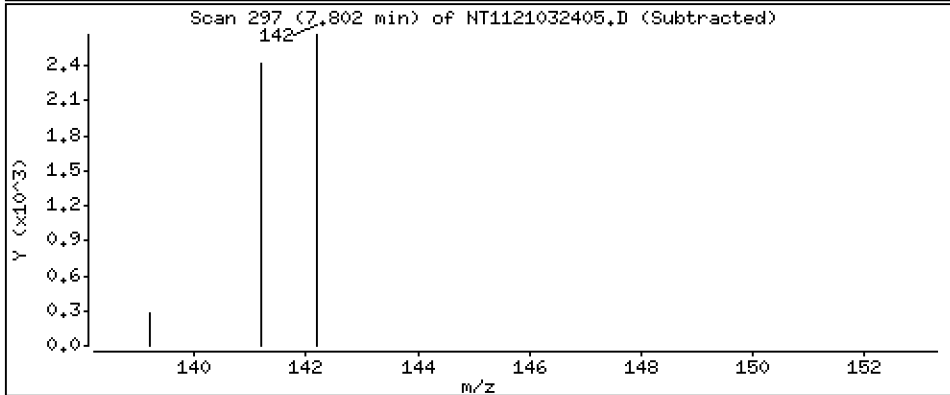
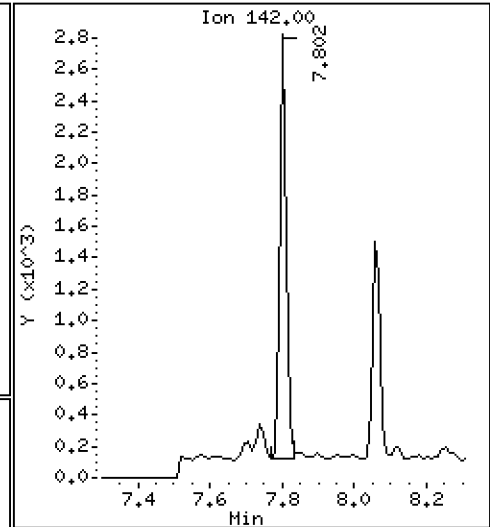
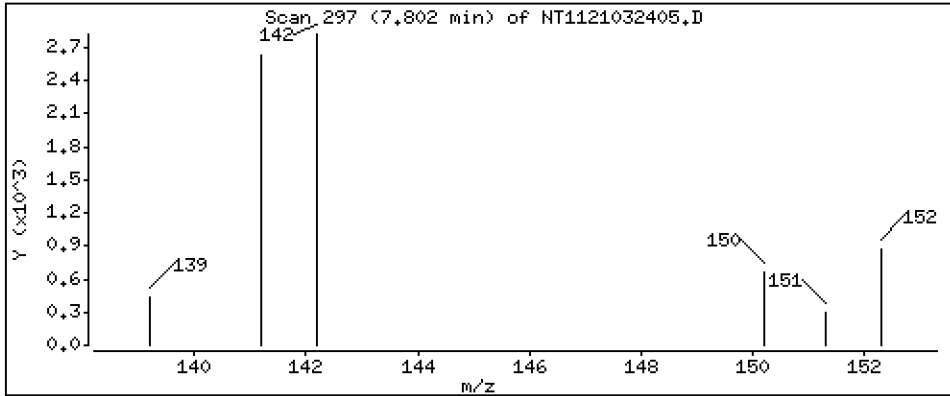
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5 2-Methylnaphthalene

Concentration: 2,92 ng/mL



Date : 24-MAR-2021 15:38

Client ID:

Instrument: nt11.i

Sample Info: 21C0175-01

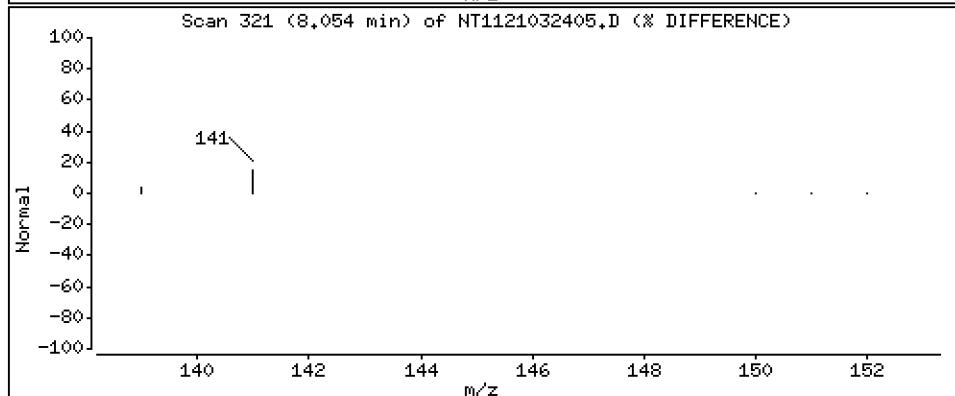
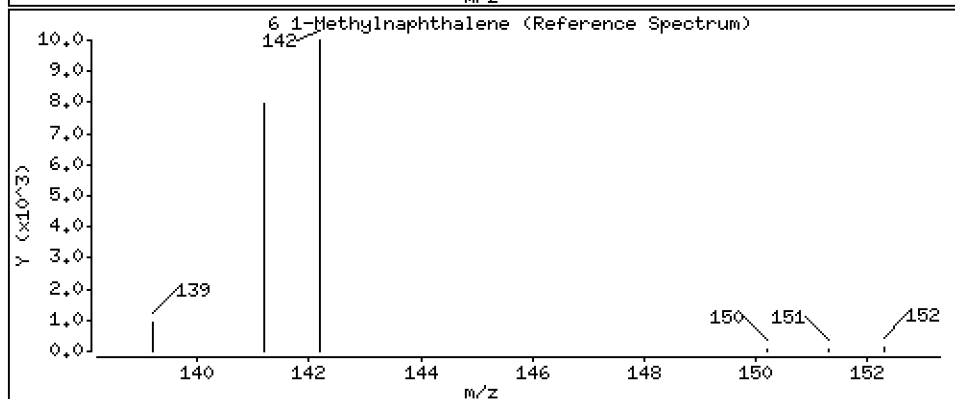
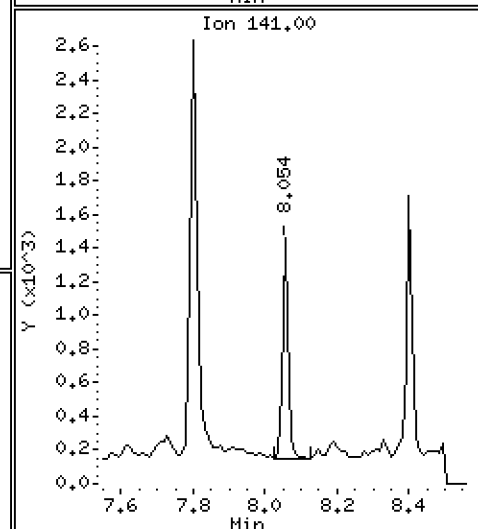
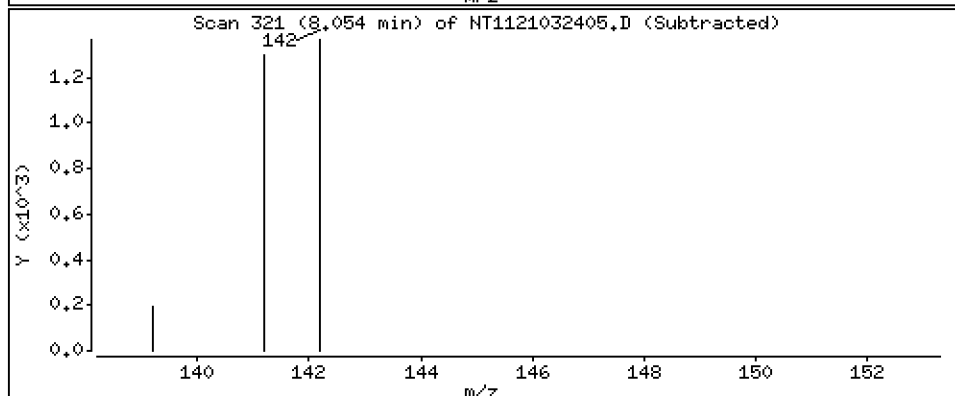
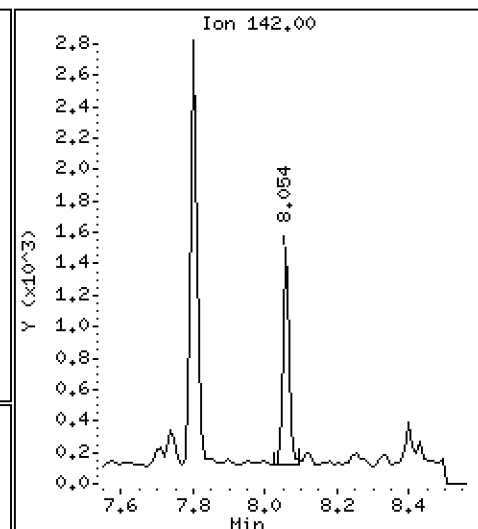
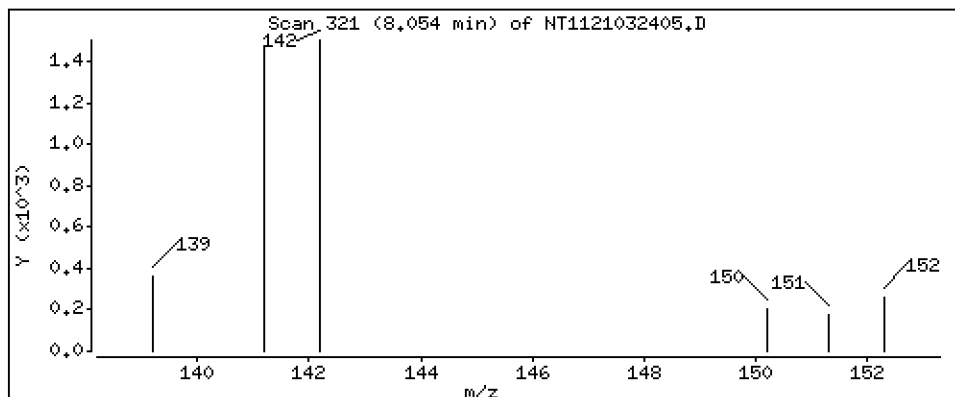
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 1,88 ng/mL



Date : 24-MAR-2021 15:38

Client ID:

Instrument: nt11.i

Sample Info: 21C0175-01

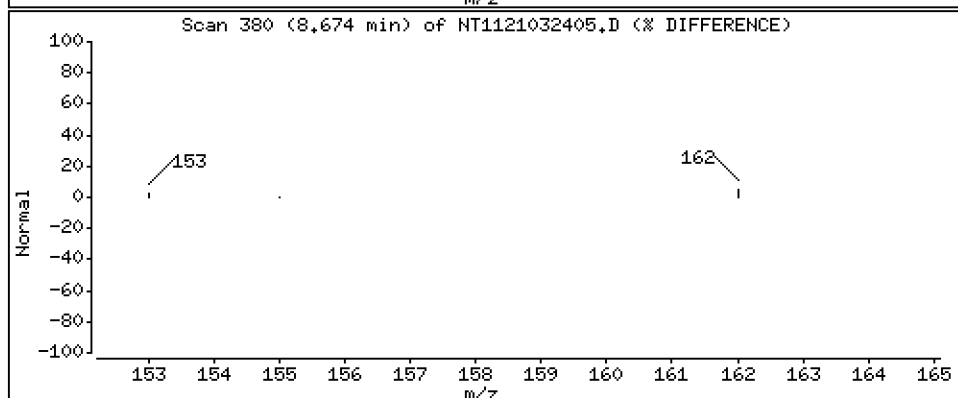
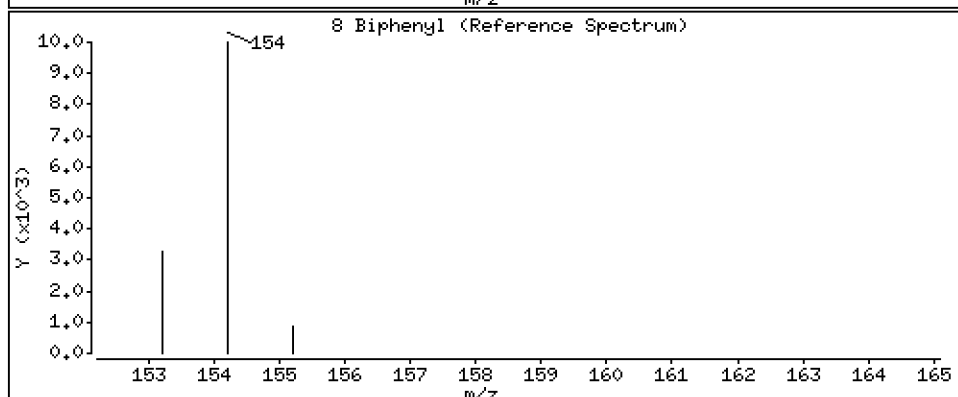
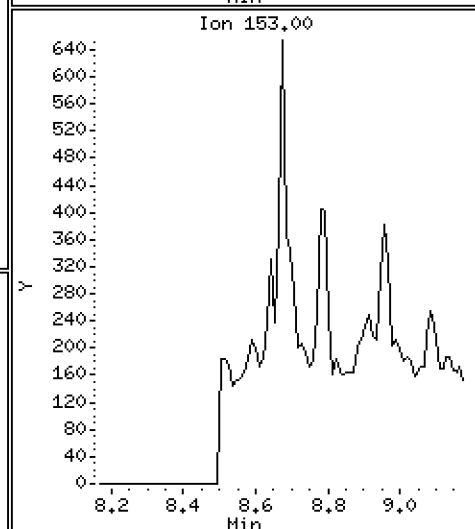
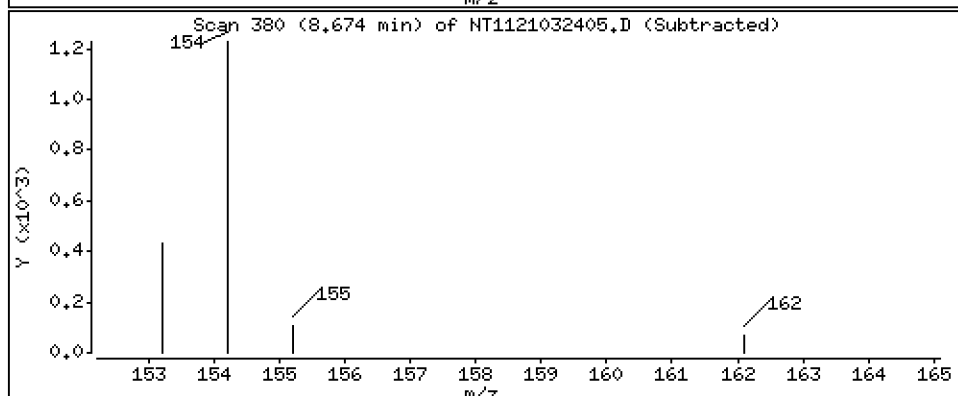
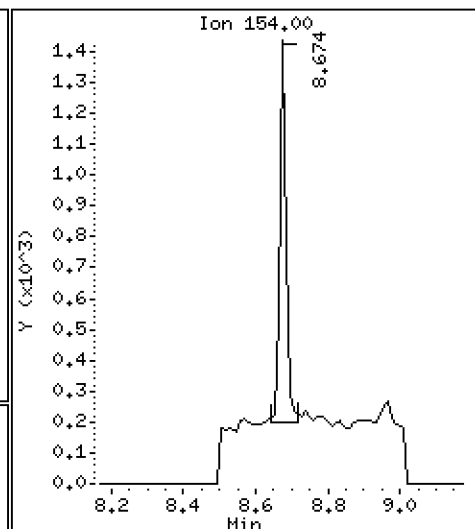
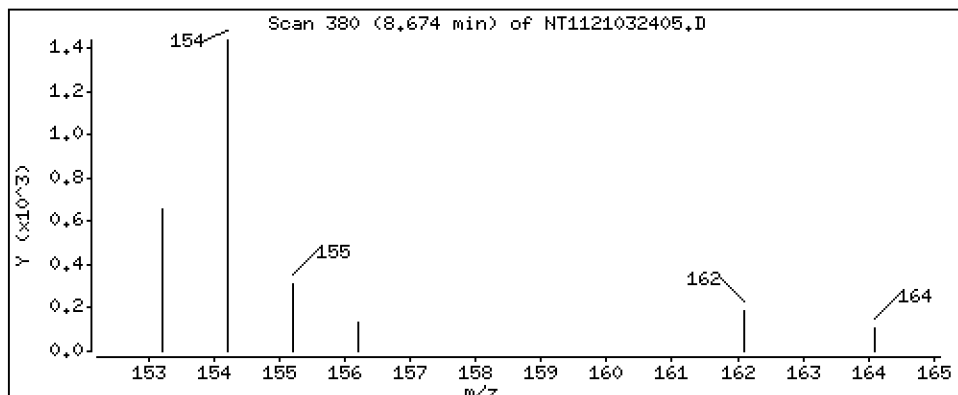
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

8 Biphenyl

Concentration: 1,03 ng/mL



Date : 24-MAR-2021 15:38

Client ID:

Instrument: nt11.i

Sample Info: 21C0175-01

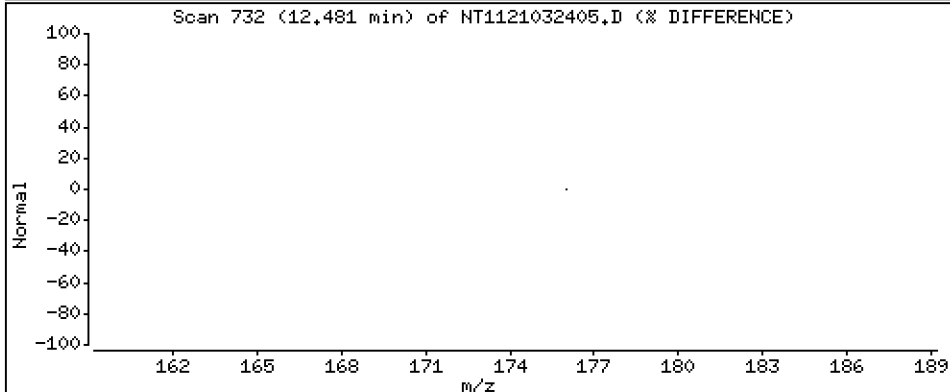
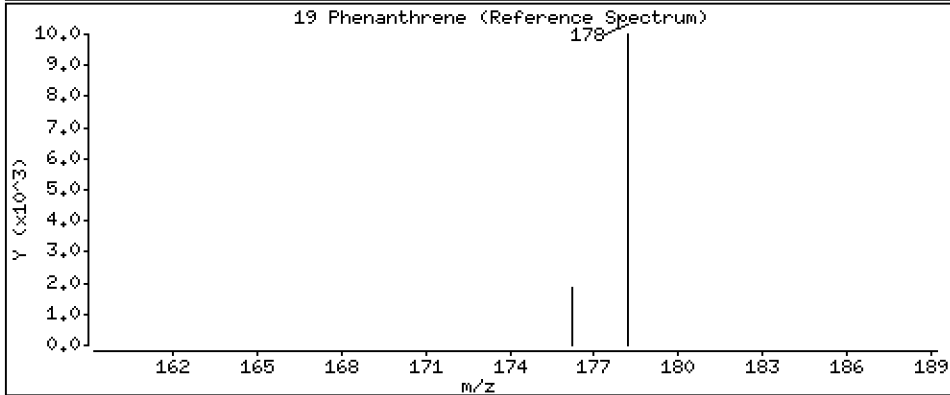
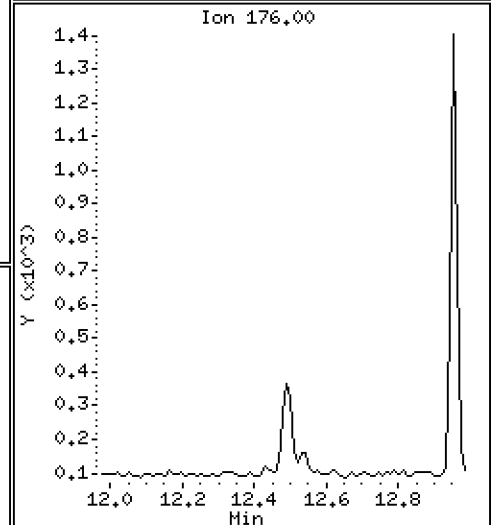
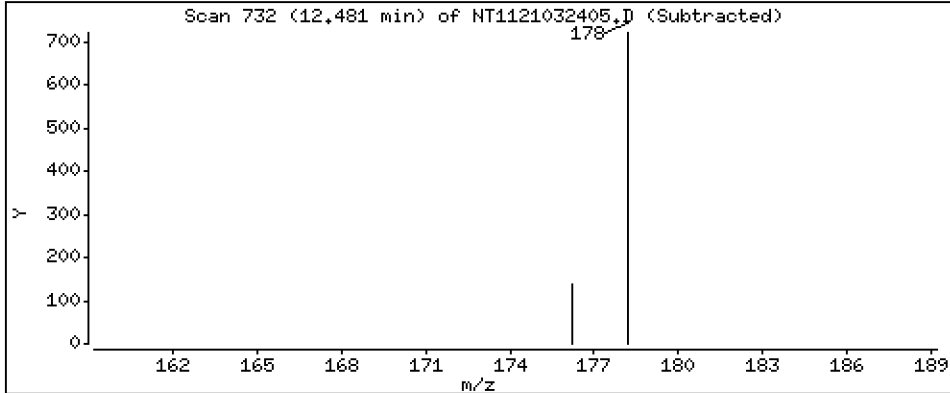
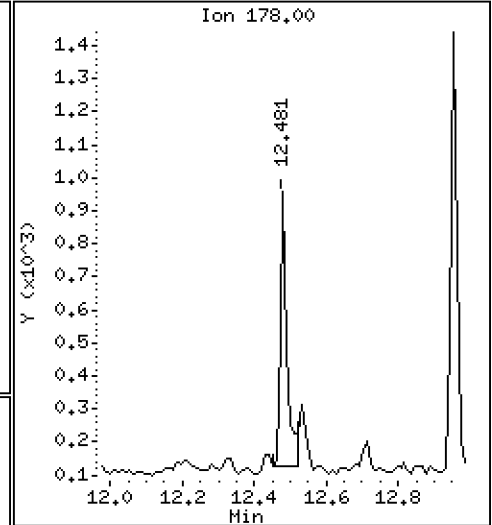
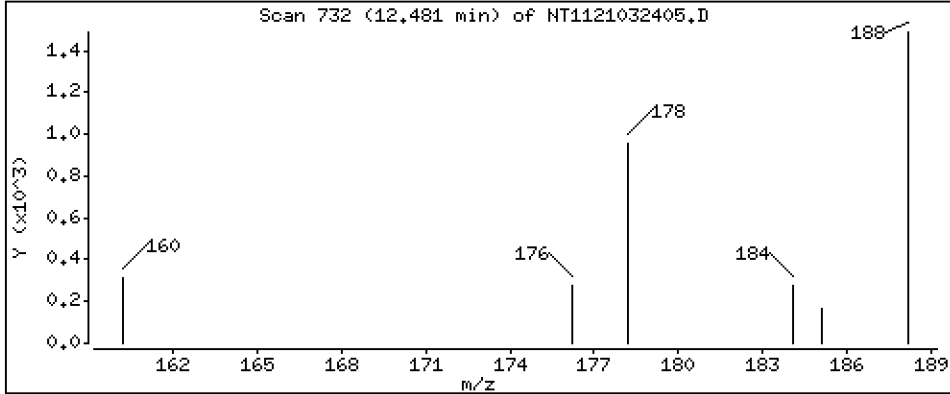
Operator: VTS

Column phase: Rxi-17Si11 MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 1,01 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20210324.b\NT1121032405.D
 Lab Smp Id: 21C0175-01
 Inj Date : 24-MAR-2021 15:38 MS Autotune Date: 15-JAN-2015 16:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 21C0175-01
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20210324.b\lowsim.m
 Meth Date : 24-Mar-2021 14:23 van Quant Type: ISTD
 Cal Date : 27-AUG-2020 13:38 Cal File: NT1120082704.D
 Als bottle: 5
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PAH.sub
 Target Version: 4.14
 Processing Host: VANS-202011

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		
							ON-COLUMN (ng/mL)	FINAL (ng/mL)	
* 1 Naphthalene-d8	136		6.777	6.777	(1.000)	243210	200.000		
2 Naphthalene	128		6.813	6.813	(1.005)	17995	12.7431	12.7	
3 Benzo(b)thiophene	134		7.066	7.066	(1.043)	1165	1.04573	1.05	
\$ 4 2-Methylnaphthalene-d10	152		7.749	7.749	(1.143)	201487	206.034	206	
5 2-Methylnaphthalene	142		7.801	7.801	(1.151)	3328	2.92342	2.92 (M)	
6 1-Methylnaphthalene	142		8.053	8.054	(1.188)	1988	1.87862	1.88	
7 2-Chloronaphthalene	162		Compound Not Detected.						
8 Biphenyl	154		8.673	8.673	(0.888)	1465	1.03452	1.03 (M)	
9 2,6-Dimethylnaphthalene	156		Compound Not Detected.						
10 Acenaphthylene	152		Compound Not Detected.						
* 11 Acenaphthene-d10	164		9.770	9.770	(1.000)	122126	200.000		
12 Acenaphthene	153		Compound Not Detected.						
13 Dibenzofuran	168		Compound Not Detected.						
14 2,3,5-Trimethylnaphthalene	170		Compound Not Detected.						
16 Fluorene	166		Compound Not Detected.						
17 Dibenzothiophene	184		Compound Not Detected.						
* 18 Phenanthrene-d10	188		12.439	12.439	(1.000)	181646	200.000		
19 Phenanthrene	178		12.481	12.481	(1.003)	1202	1.01156	1.01	
21 Anthracene	178		Compound Not Detected.						
22 Carbazole	167		Compound Not Detected.						
23 1-Methylphenanthrene	192		Compound Not Detected.						
\$ 24 Fluoranthene-d10	212		14.530	14.530	(1.168)	205679	215.973	216	
25 Fluoranthene	202		Compound Not Detected.						
26 Pyrene	202		Compound Not Detected.						
27 Benzo(a)anthracene	228		Compound Not Detected.						
* 28 Chrysene-d12	240		17.163	17.163	(1.000)	122694	200.000		
29 Chrysene	228		Compound Not Detected.						
30 Benzo(b)fluoranthene	252		Compound Not Detected.						
31 Benzo(k)fluoranthene	252		Compound Not Detected.						
32 Benzo(j)fluoranthene	252		Compound Not Detected.						
34 Benzo(e)pyrene	252		Compound Not Detected.						
35 Benzo(a)pyrene	252		Compound Not Detected.						
* 36 Perylene-d12	264		19.903	19.903	(1.000)	125561	200.000		
37 Perylene	252		Compound Not Detected.						

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/mL)
\$ 38 Dibenzo(a,h)anthracene-d14	292	22.305	22.305	(1.121)	83222	170.288	170
39 Dibenzo(a,h)anthracene	278				Compound Not Detected.		
40 Indeno(1,2,3-cd)pyrene	276				Compound Not Detected.		
41 Benzo(g,h,i)perylene	276				Compound Not Detected.		

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 24-MAR-2021
 Lab File ID: NT1121032405.D Calibration Time: 13:25
 Lab Smp Id: 21C0175-01
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20210324.b\lowsim.m
 Misc Info:

Test Mode:
 Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	211546	105773	423092	243210	14.97
11 Acenaphthene-d10	115033	57517	230066	122126	6.17
18 Phenanthrene-d10	167782	83891	335564	181646	8.26
28 Chrysene-d12	125684	62842	251368	122694	-2.38
36 Perylene-d12	145995	72998	291990	125561	-14.00

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	6.78	6.28	7.28	6.78	-0.00
11 Acenaphthene-d10	9.77	9.27	10.27	9.77	-0.00
18 Phenanthrene-d10	12.44	11.94	12.94	12.44	-0.00
28 Chrysene-d12	17.16	16.66	17.66	17.16	-0.00
36 Perylene-d12	19.90	19.40	20.40	19.90	-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 - NT1121032405.D

Lab ID: 21C0175-01

nt11.i, 20210324.b\lowsim.m, 24-MAR-2021 15:38

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

RRT check based on Ccal File: NT1121032402.D

On Column LOD for nt11.i, 20210324.b\lowsim.m, PAH.sub = 0.0000

Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000

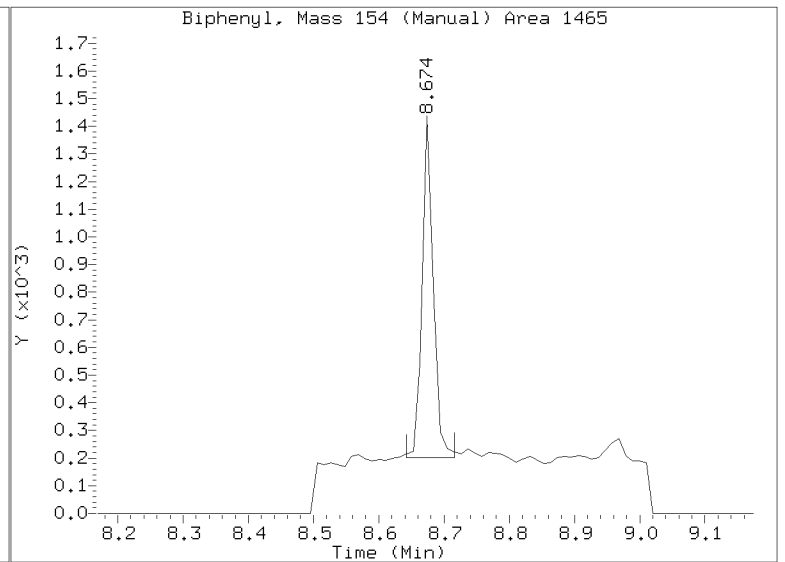
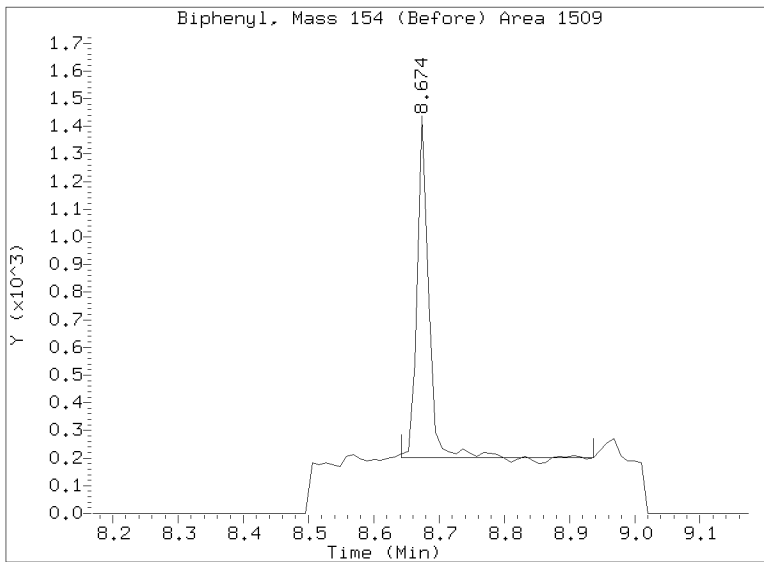
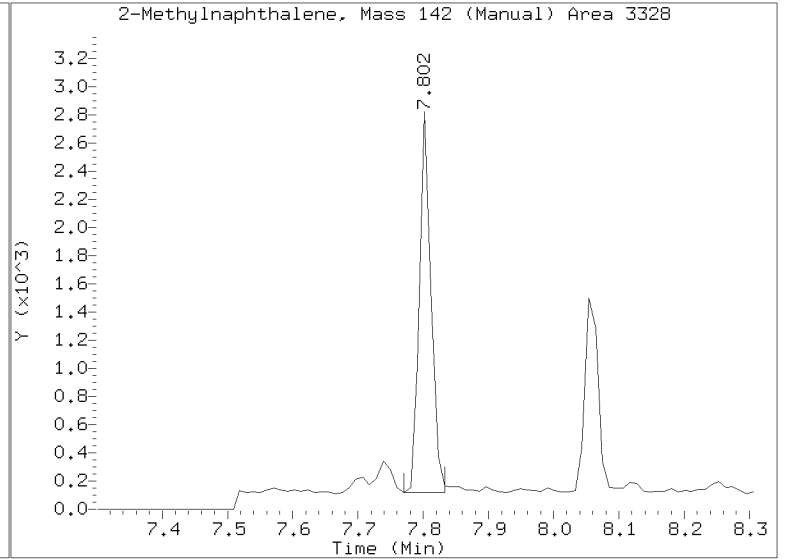
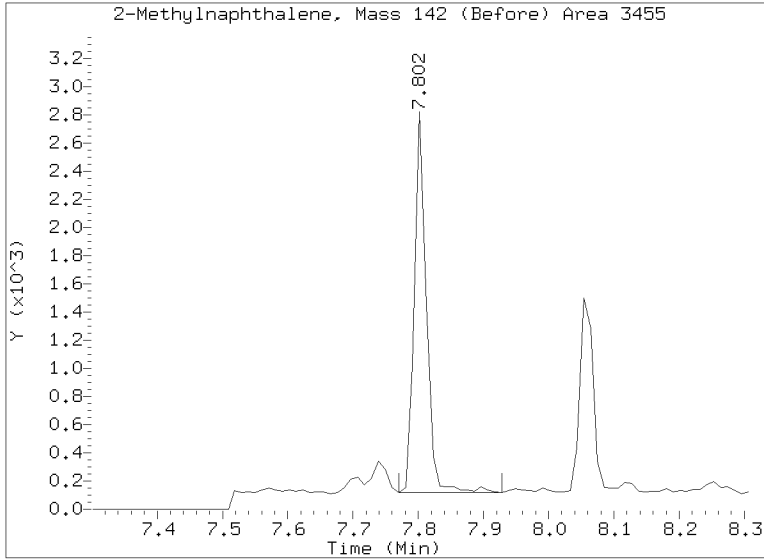
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000

Exception: Fluoranthene-d10 (Surr) 0.1000

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

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20210324.b/NT1121032405.D
Injection Date: 24-MAR-2021 15:38
Lab ID:21C0175-01 Client ID:
Report Date: 03/25/2021 07:02





Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270E-SIM
Butyl Tins

Laboratory: Analytical Resources, Inc.
 Client: Anchor OEA, LLC
 Project: GascoSiltronic: US Moorings
 Matrix: Water Laboratory ID: 21C0175-02 C SDG: 21C0175
 Sampled: 03/09/21 17:09 Prepared: 03/16/21 09:29 File ID: NT821031807.D
 % Solids: Preparation: EPA 3510C SepF Analyzed: 03/18/21 12:26
 Batch: BJC0357 Sequence: SJC0283 Initial/Final: 100 mL / 0.5 mL
 Instrument: NT8 Column: RXI-17Sil ms Calibration: DL00046
 Cleanups: Silica Gel

CAS NO.	COMPOUND	DILUTION	(ug/L)	Q	DL	RL
36643-28-4	Tributyltin Ion	1	0.193	U	0.043	0.193

SURROGATES	ADDED:(ug/L)	(ug/L)	% REC	QC LIMITS	Q
Tripentyltin	2.2589	1.11	49.2	30 - 160	
Tripropyltin	2.1873	0.765	35.0	30 - 160	

Data File: \\target\share\chem3\nt8.1\20210318.1\NT821031807.D

Date: 18-MAR-2021 12:26

Client ID:

Sample Info: 21C0175-02

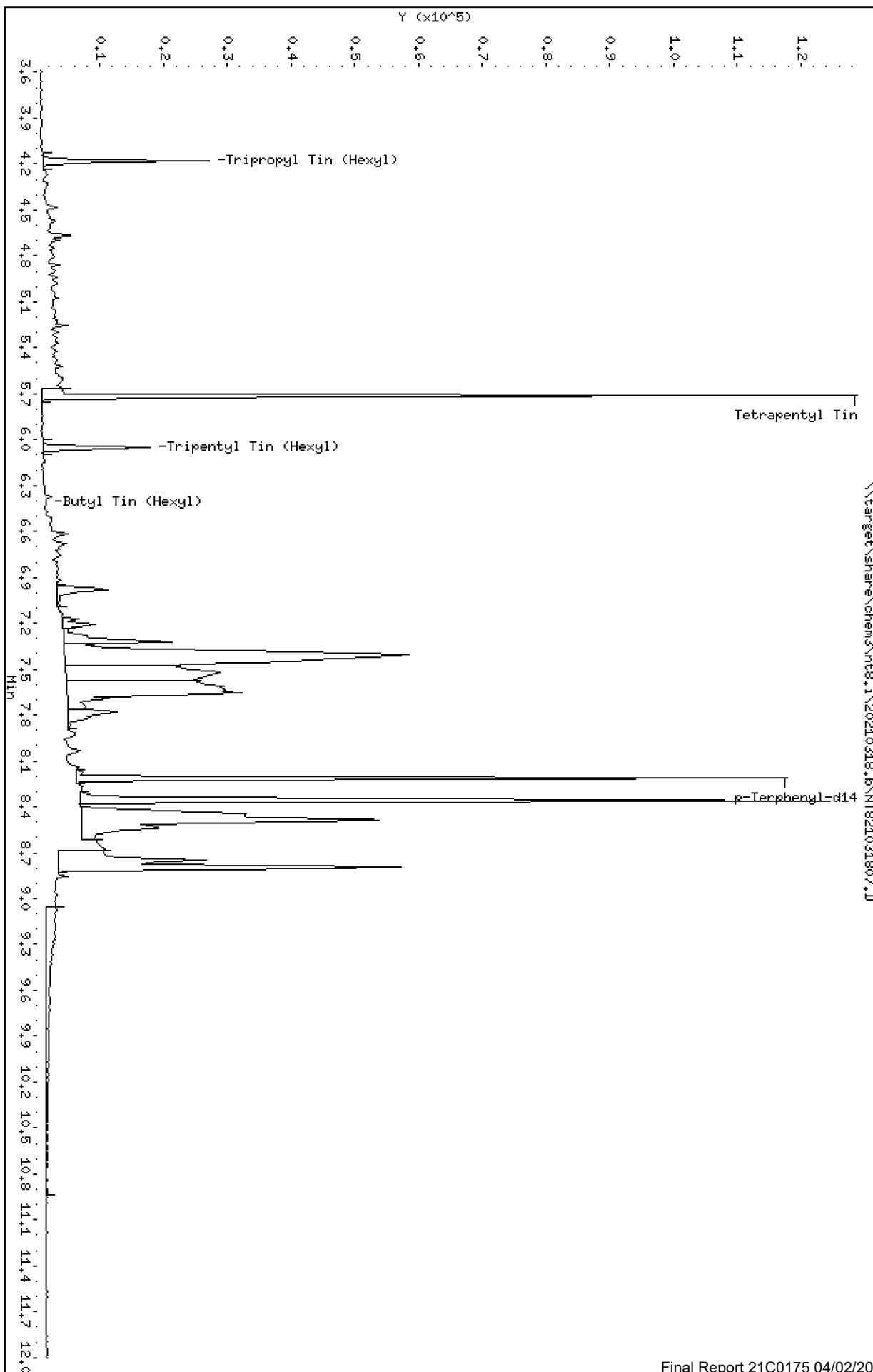
Column phase: ZB-5msi

Instrument: nt8.1

Operator: JZ

Column diameter: 0.25

Page 1



Date : 18-MAR-2021 12:26

Client ID:

Instrument: nt8.i

Sample Info: 21C0175-02

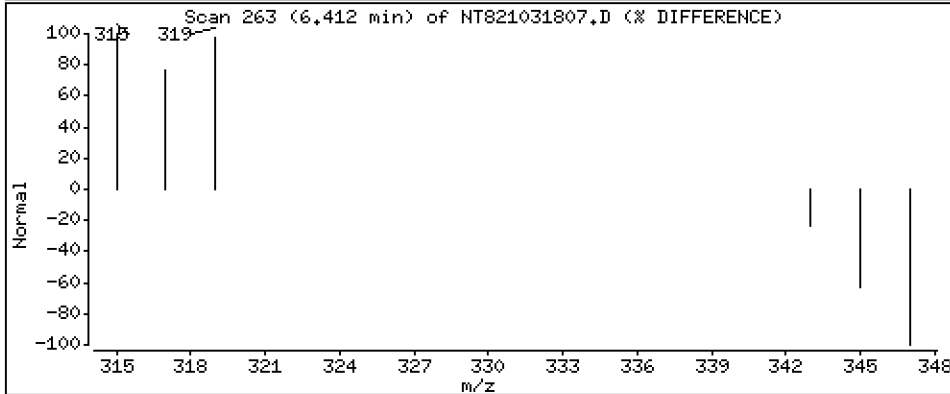
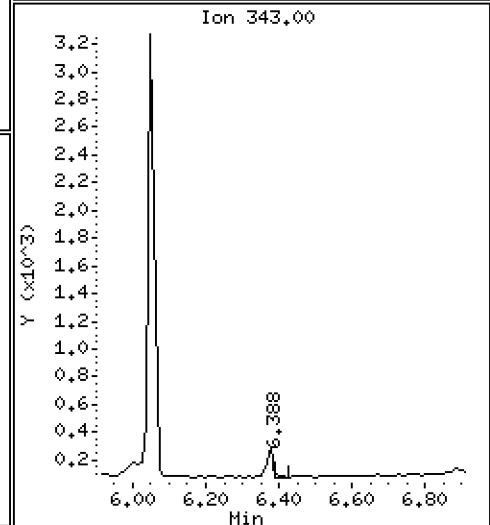
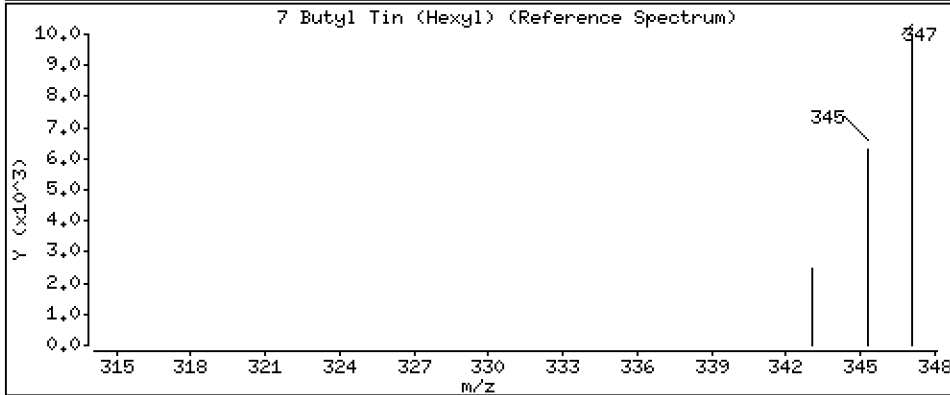
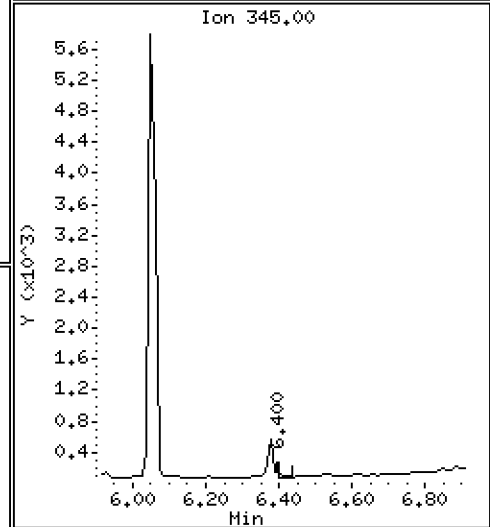
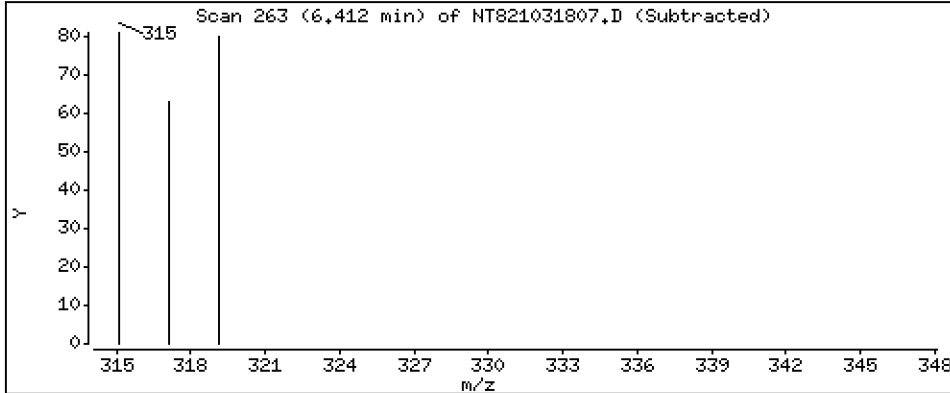
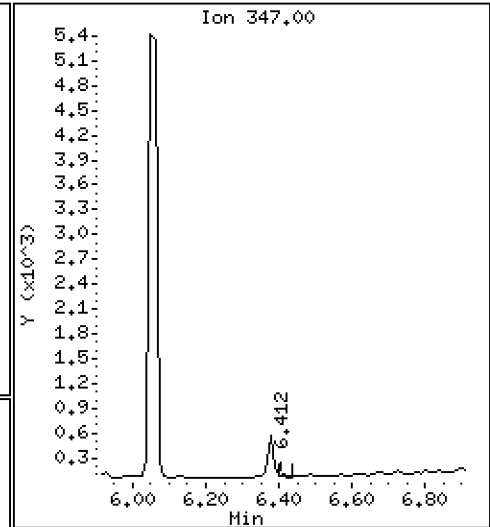
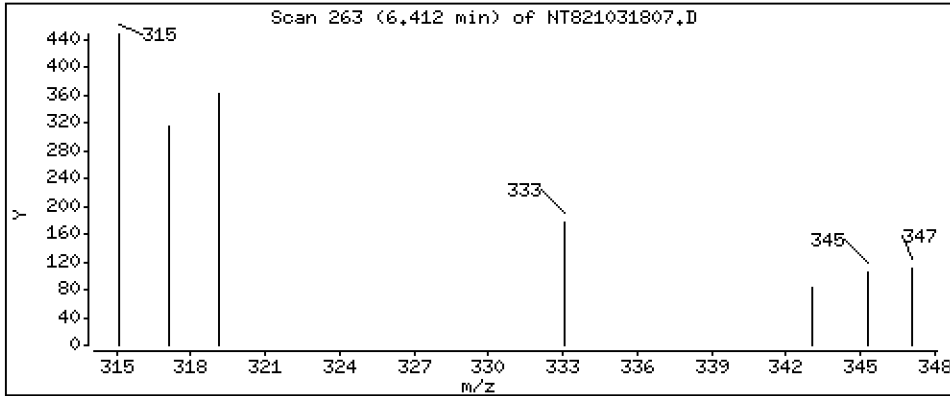
Operator: JZ

Column phase: ZB-5msi

Column diameter: 0.25

7 Butyl Tin (Hexyl)

Concentration: 0.001383 ug/mL



ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt8.i\20210318.b\NT821031807.D
 Lab Smp Id: 21C0175-02
 Inj Date : 18-MAR-2021 12:26
 Operator : JZ Inst ID: nt8.i
 Smp Info : 21C0175-02
 Misc Info : 21-
 Comment : 2 ul Injection
 Method : \\target\share\chem3\nt8.i\20210318.b\TBT201215.m
 Meth Date : 18-Mar-2021 11:06 nt8.i Quant Type: ISTD
 Cal Date : 15-DEC-2020 11:33 Cal File: NT820121508.D
 Als bottle: 7
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: sedmdl.sub
 Target Version: 4.14
 Processing Host: ORGDATA22

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN	FINAL
	MASS						(ug/mL)	(ug/mL)
=====	=====		=====	=====	=====	=====	=====	=====
\$ 1 Tripropyl Tin (Hexyl)	291		4.180	4.138	(0.732)	12696	0.20561	0.2056
2 Tetrabutyl Tin	289		Compound Not Detected.					
3 Tributyl Tin (Hexyl)	319		Compound Not Detected.					
* 4 Tetrapentyl Tin	333		5.711	5.711	(1.000)	121512	2.00000	
5 Dibutyl Tin (Hexyl)	347		Compound Not Detected.					
\$ 6 Tripentyl Tin (Hexyl)	347		6.049	6.061	(0.736)	7964	0.27954	0.2795
7 Butyl Tin (Hexyl)	347		6.412	6.412	(0.781)	47	0.00138	0.001383 (M)
* 8 p-Terphenyl-d14	244		8.215	8.215	(1.000)	107268	0.20000	

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt8.i Calibration Date: 18-MAR-2021
 Lab File ID: NT821031807.D Calibration Time: 10:46
 Lab Smp Id: 21C0175-02
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: JZ
 Method File: \\target\share\chem3\nt8.i\20210318.b\TBT201215.m
 Misc Info: 21-

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	72645	36323	145290	121512	67.27
8 p-Terphenyl-d14	65742	32871	131484	107268	63.17

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	5.71	5.21	6.21	5.71	0.00
8 p-Terphenyl-d14	8.22	7.72	8.72	8.22	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 - NT821031807.D

Lab ID: 21C0175-02

nt8.i, 20210318.b\TBT201215.m, 18-MAR-2021 12:26

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.732	0.725	0.0073	Tripropyl Tin (Hexyl)

RRT check based on Ccal File: NT821031802.D

On Column LOD for nt8.i, 20210318.b\TBT201215.m, sedmdl.sub = 0.0000

Exception: Tripropyl Tin (Hexyl) (Surr) 0.0010

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

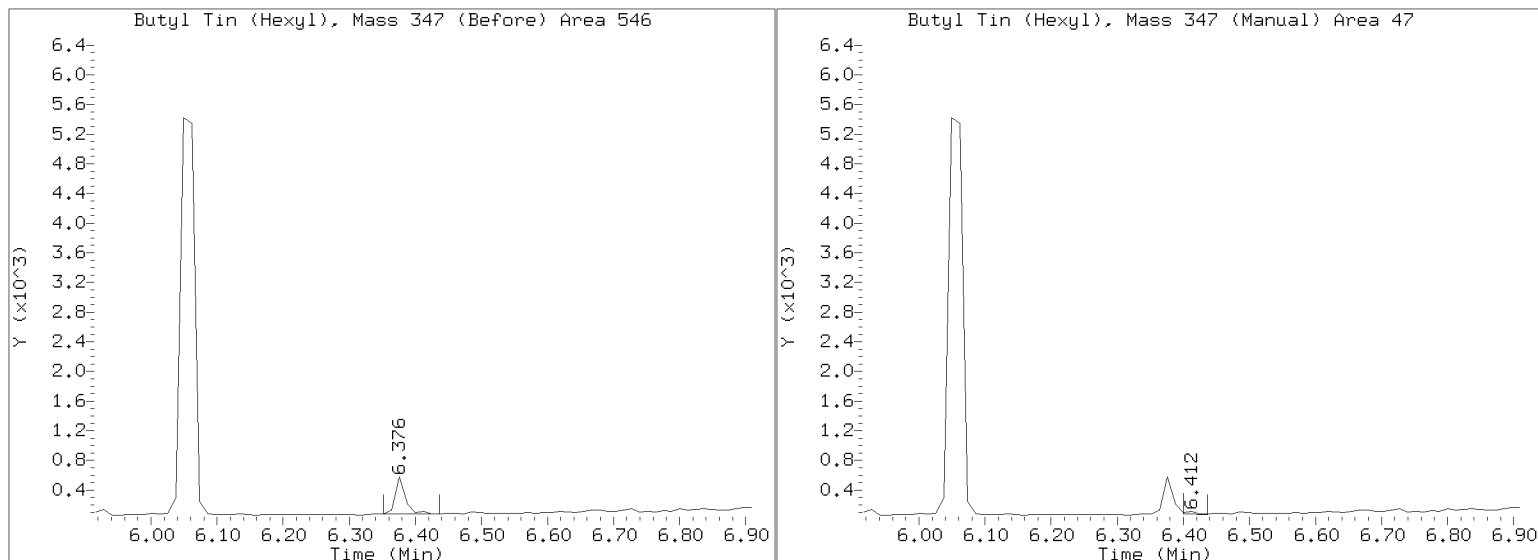
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20210318.b/NT821031807.D

Injection Date: 18-MAR-2021 12:26

Lab ID: 21C0175-02 Client ID:

Report Date: 03/18/2021 17:01





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

Laboratory: Analytical Resources, Inc.
 Client: Anchor OEA, LLC
 Project: GascoSiltronic: US Moorings
 Matrix: Water Laboratory ID: 21C0175-02 A SDG: 21C0175
 Sampled: 03/09/21 17:09 Prepared: 03/16/21 12:13 File ID: NT1121032406.D
 % Solids: Preparation: EPA 3510C SepF Analyzed: 03/24/21 16:10
 Batch: BJC0356 Sequence: SJC0391 Initial/Final: 500 mL / 0.5 mL
 Instrument: NT11 Column: RXi-17Sil-MS Calibration: DH00073
 Cleanups: Silica Gel

CAS NO.	COMPOUND	DILUTION	(ug/L)	Q	DL	RL
91-20-3	Naphthalene	1	0.016		0.001	0.010
91-57-6	2-Methylnaphthalene	1	0.005	J	0.001	0.010
208-96-8	Acenaphthylene	1	0.010	U	0.002	0.010
83-32-9	Acenaphthene	1	0.010	U	0.003	0.010
86-73-7	Fluorene	1	0.010	U	0.002	0.010
85-01-8	Phenanthrene	1	0.001	J	0.001	0.010
120-12-7	Anthracene	1	0.010	U	0.001	0.010
206-44-0	Fluoranthene	1	0.010	U	0.002	0.010
129-00-0	Pyrene	1	0.010	U	0.001	0.010
56-55-3	Benzo(a)anthracene	1	0.010	U	0.0008	0.010
218-01-9	Chrysene	1	0.010	U	0.0009	0.010
205-99-2	Benzo(b)fluoranthene	1	0.010	U	0.0005	0.010
207-08-9	Benzo(k)fluoranthene	1	0.010	U	0.003	0.010
205-82-3	Benzo(j)fluoranthene	1	0.010	U	0.002	0.010
50-32-8	Benzo(a)pyrene	1	0.010	U	0.002	0.010
193-39-5	Indeno(1,2,3-cd)pyrene	1	0.010	U	0.001	0.010
53-70-3	Dibenzo(a,h)anthracene	1	0.010	U	0.001	0.010
191-24-2	Benzo(g,h,i)perylene	1	0.010	U	0.001	0.010

SURROGATES	ADDED:(ug/L)	(ug/L)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	0.30000	0.211	70.2	42 - 120	
Dibenzo[a,h]anthracene-d14	0.30000	0.176	58.8	29 - 120	
Fluoranthene-d10	0.30000	0.225	74.9	57 - 120	

Data File: \\target\share\chem3\nt11.1\20210324.6\NT1121032406.D

Date : 24-MAR-2021 16:10

Client ID:

Sample Info: 21C0175-02

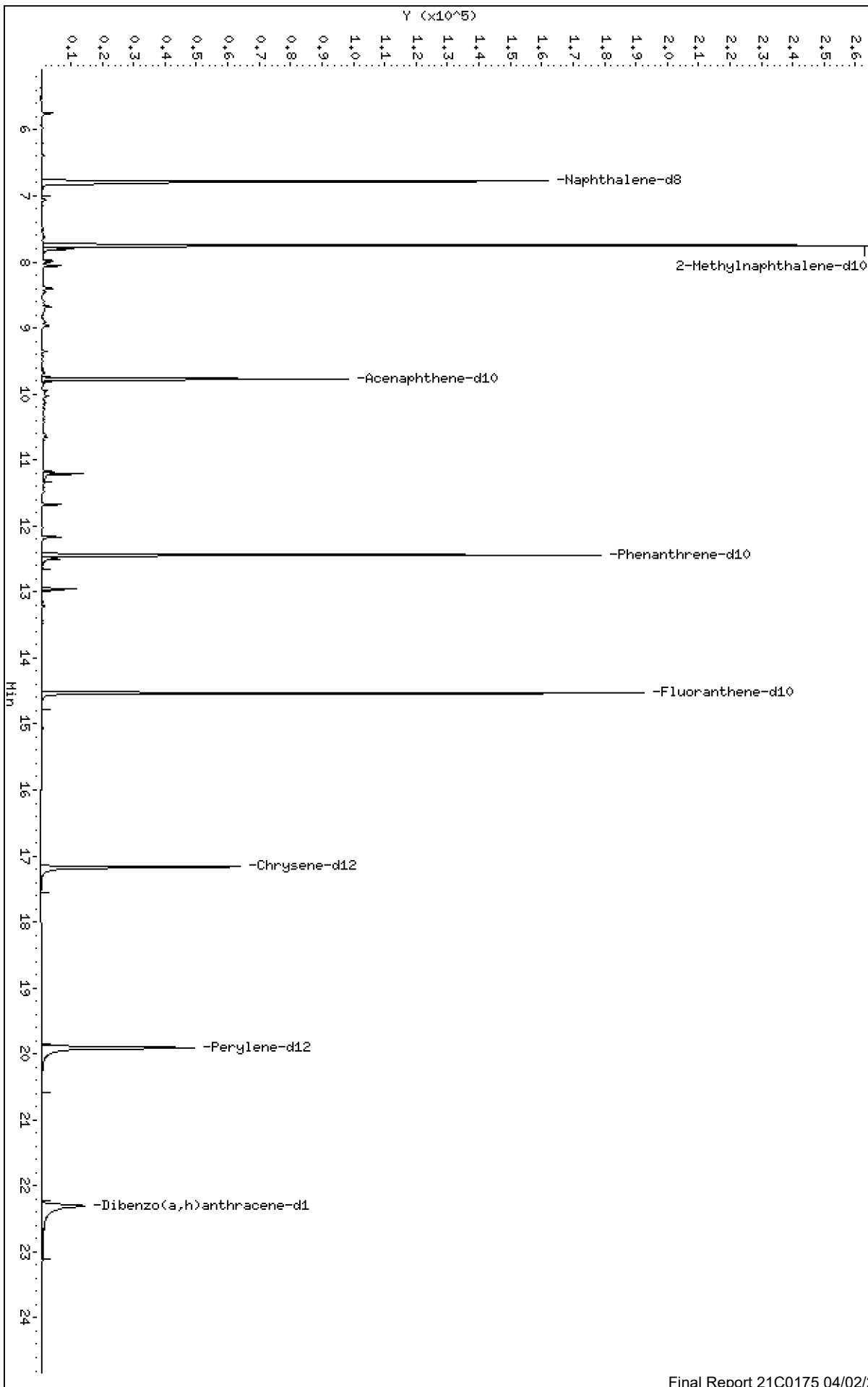
Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Column phase: Rxi-17S11 MS

\\target\share\chem3\nt11.1\20210324.6\NT1121032406.D



Date : 24-MAR-2021 16:10

Client ID:

Instrument: nt11.i

Sample Info: 21C0175-02

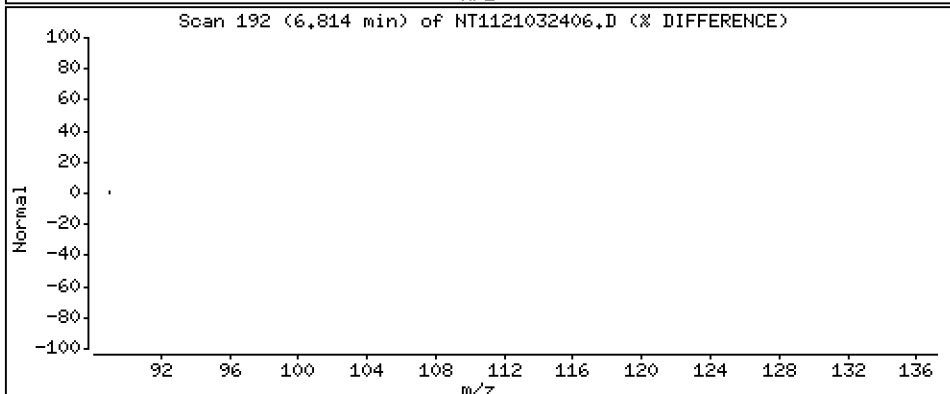
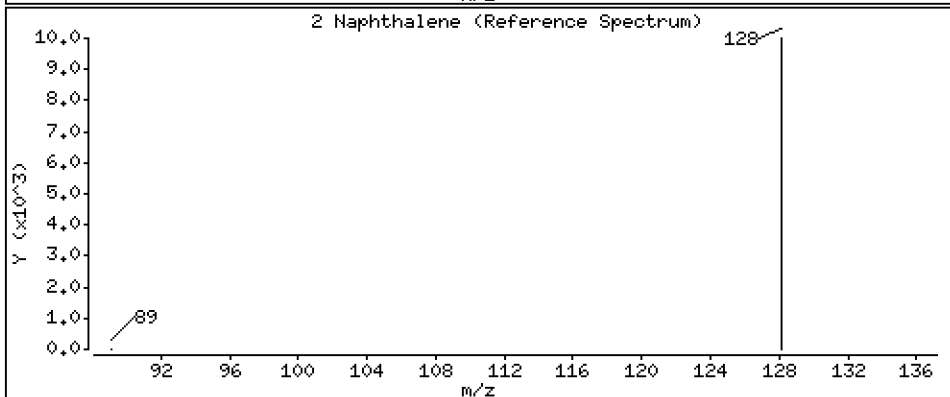
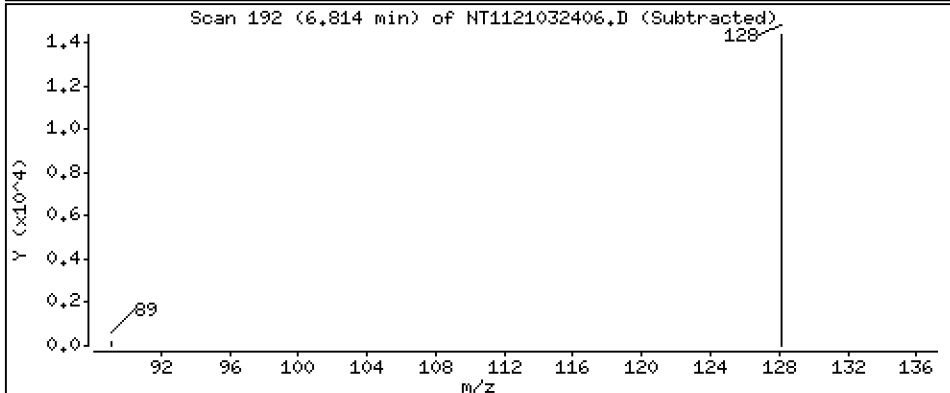
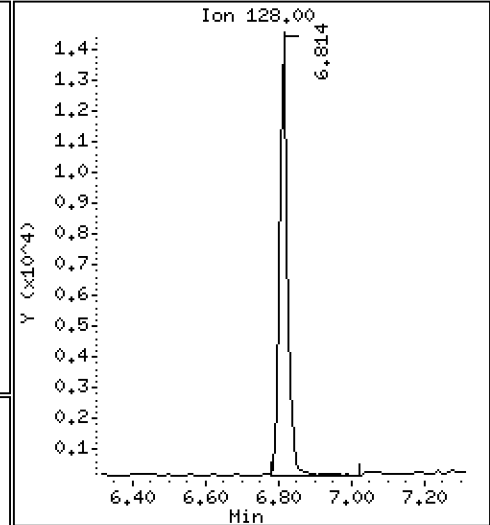
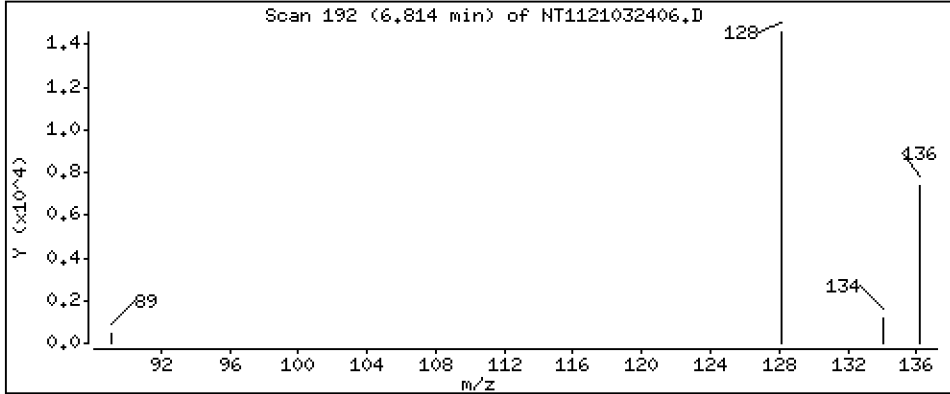
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 15,9 ng/mL



Date : 24-MAR-2021 16:10

Client ID:

Instrument: nt11.i

Sample Info: 21C0175-02

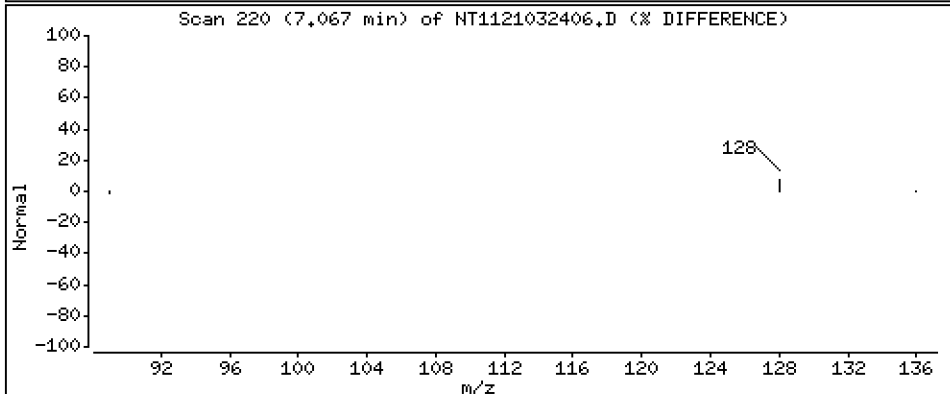
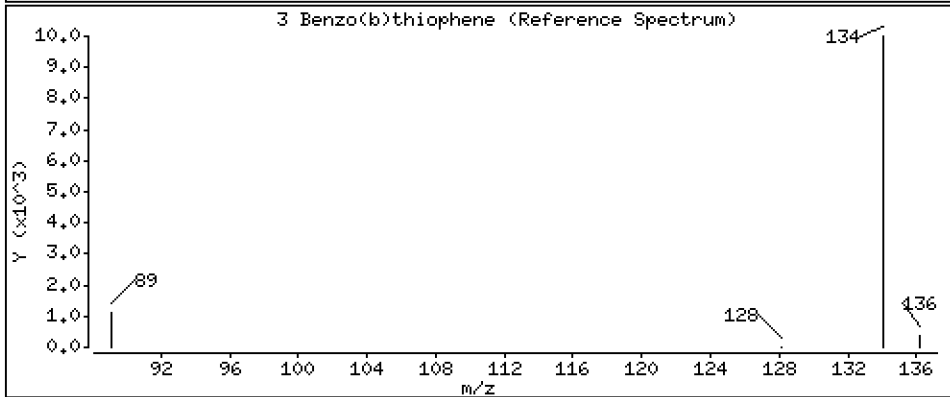
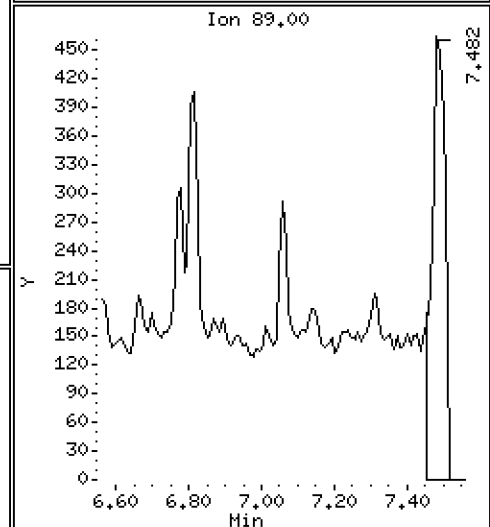
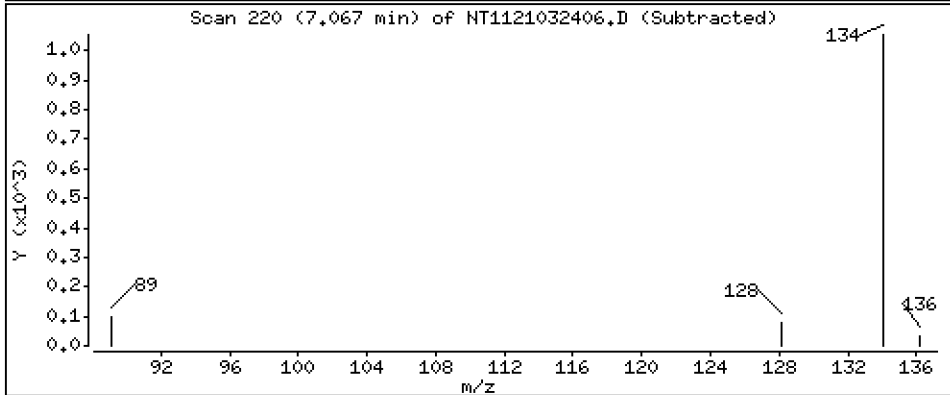
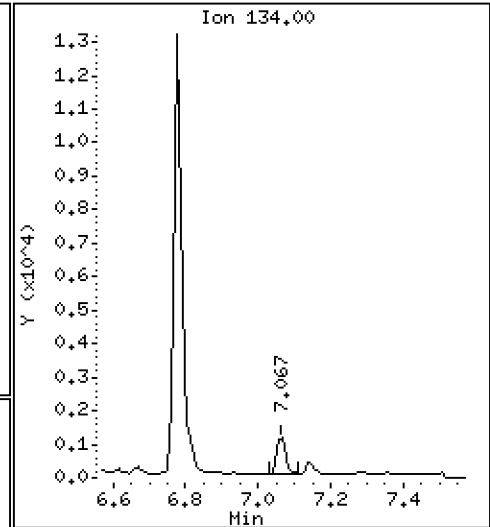
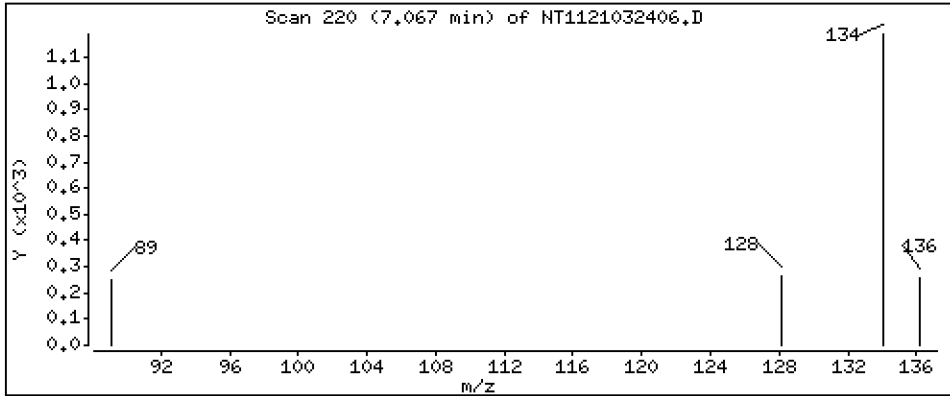
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

3 Benzo(b)thiophene

Concentration: 1,61 ng/mL



Date : 24-MAR-2021 16:10

Client ID:

Instrument: nt11.i

Sample Info: 21C0175-02

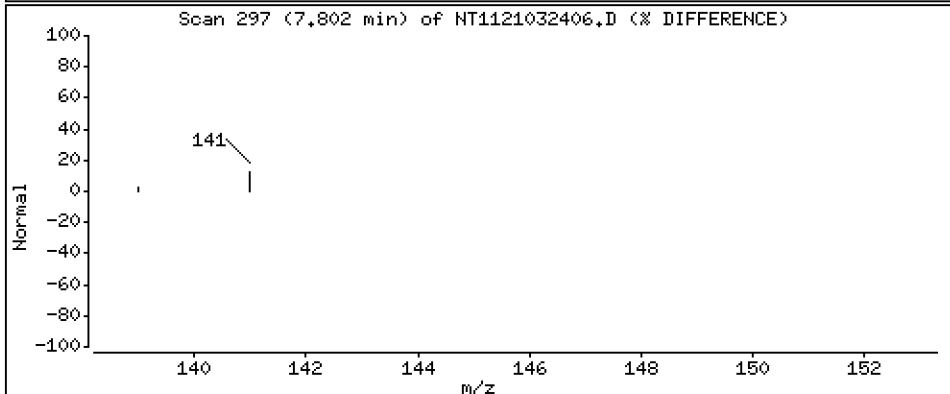
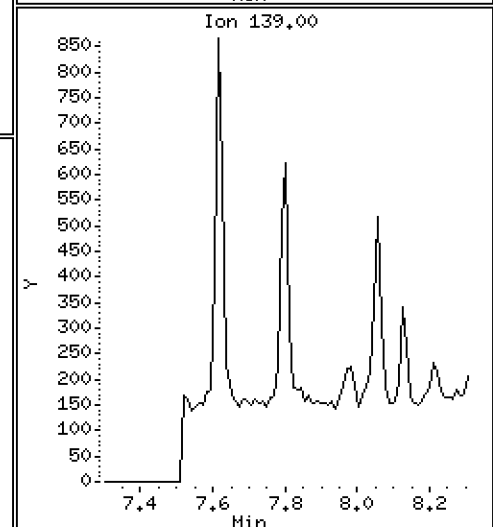
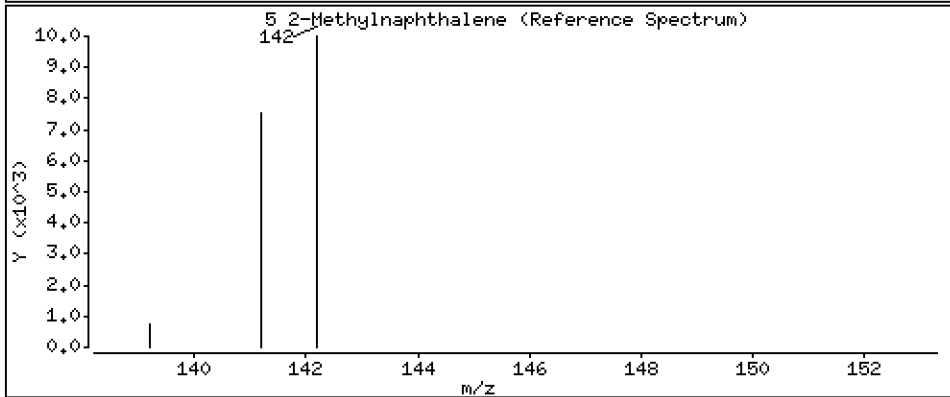
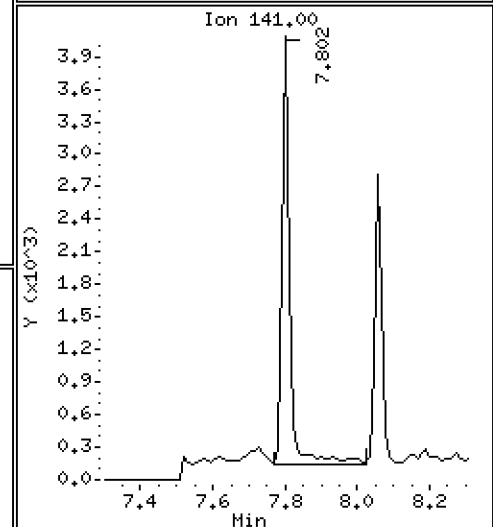
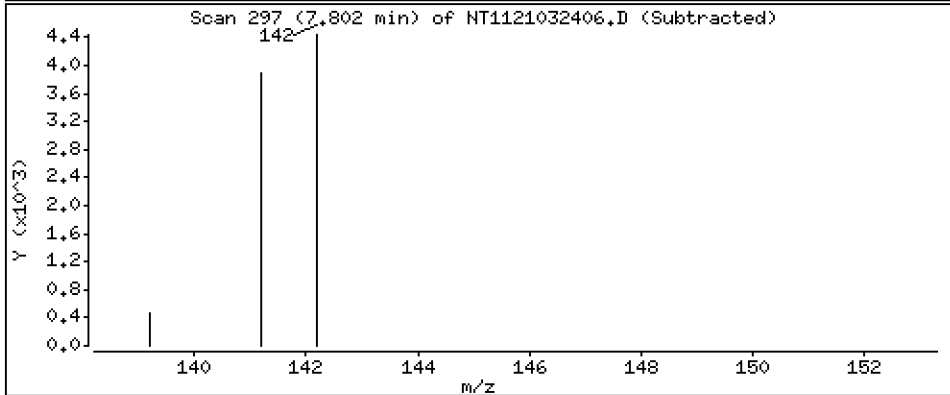
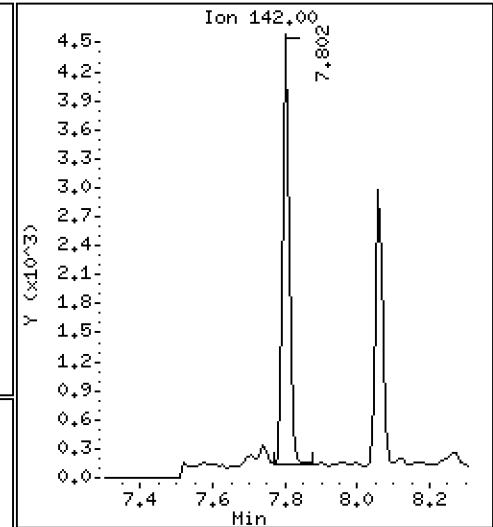
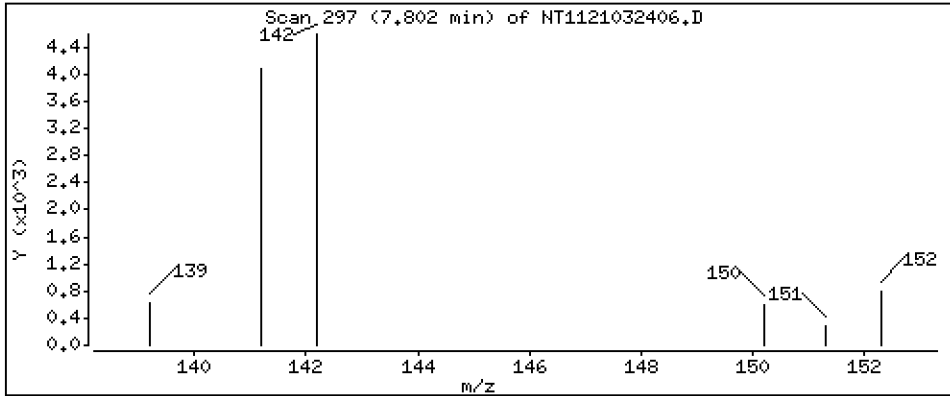
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5-2-Methylnaphthalene

Concentration: 5,18 ng/mL



Date : 24-MAR-2021 16:10

Client ID:

Instrument: nt11.i

Sample Info: 21C0175-02

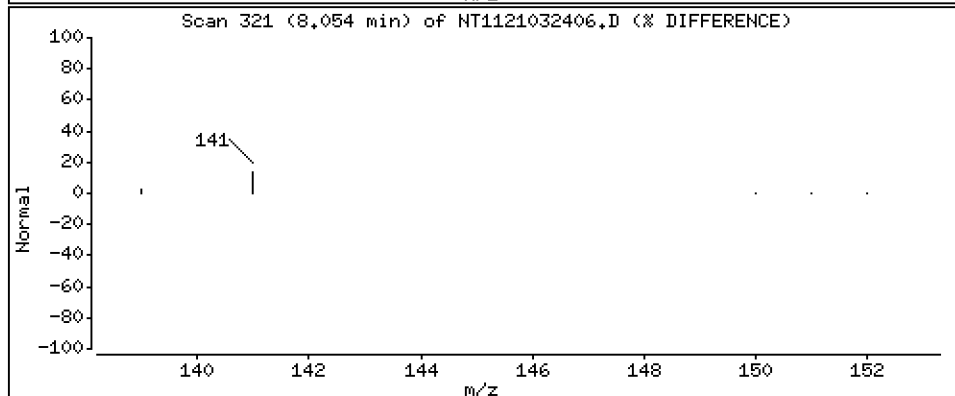
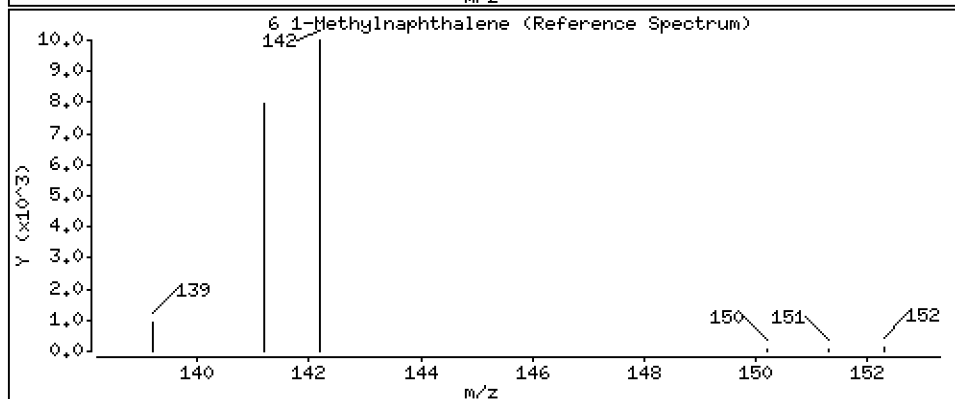
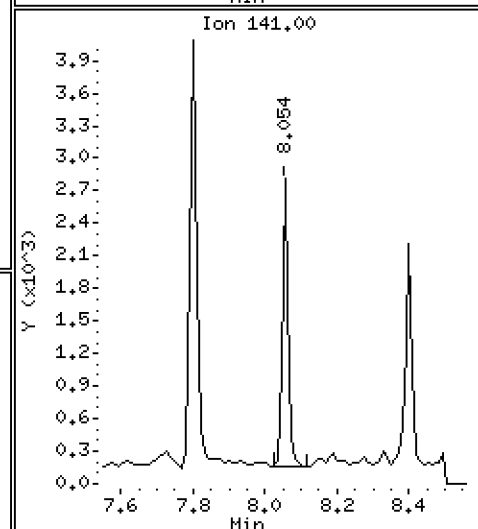
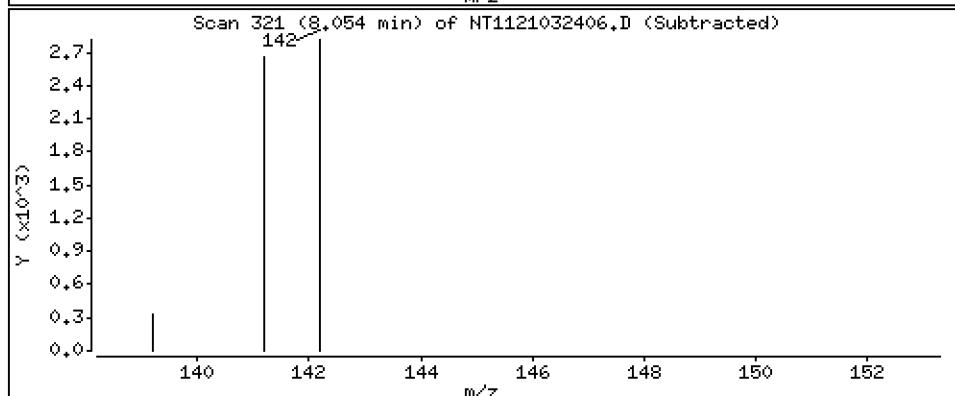
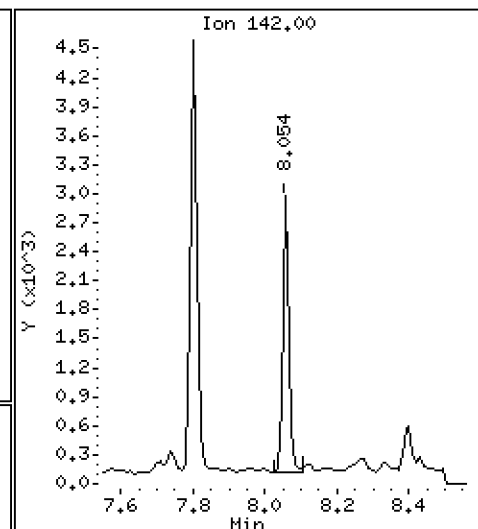
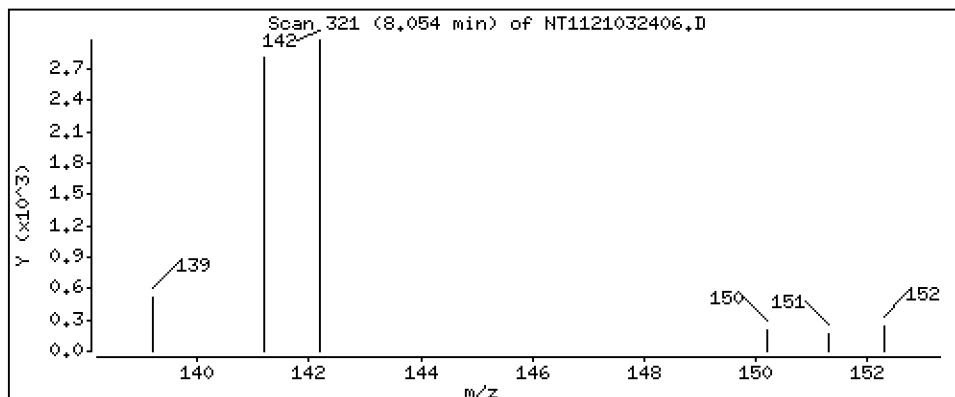
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 3,94 ng/mL



Date : 24-MAR-2021 16:10

Client ID:

Instrument: nt11.i

Sample Info: 21C0175-02

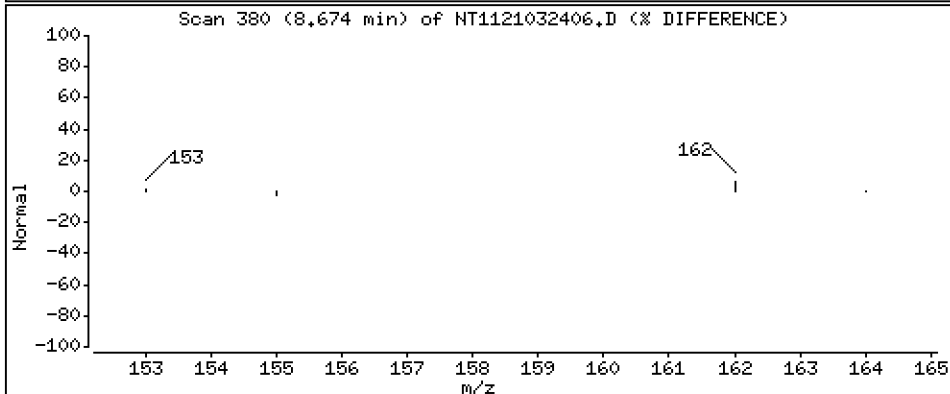
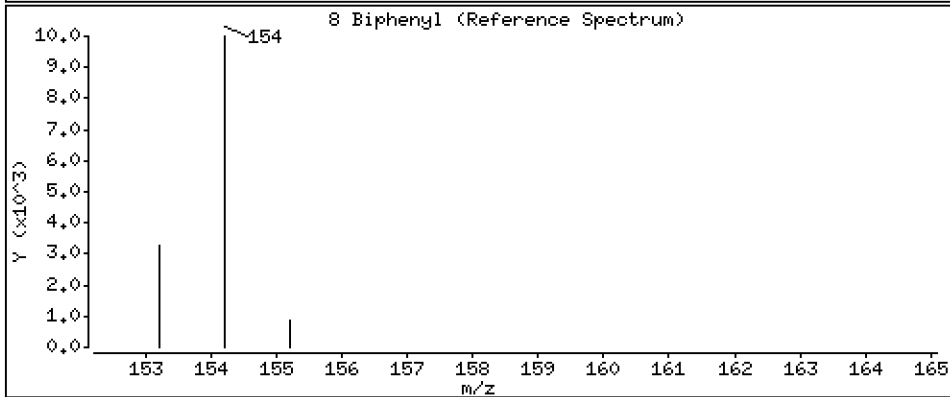
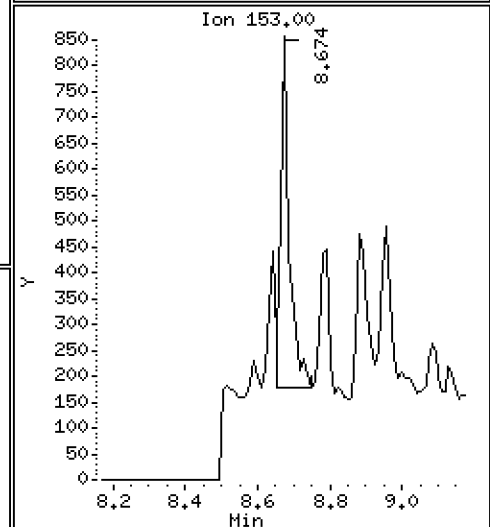
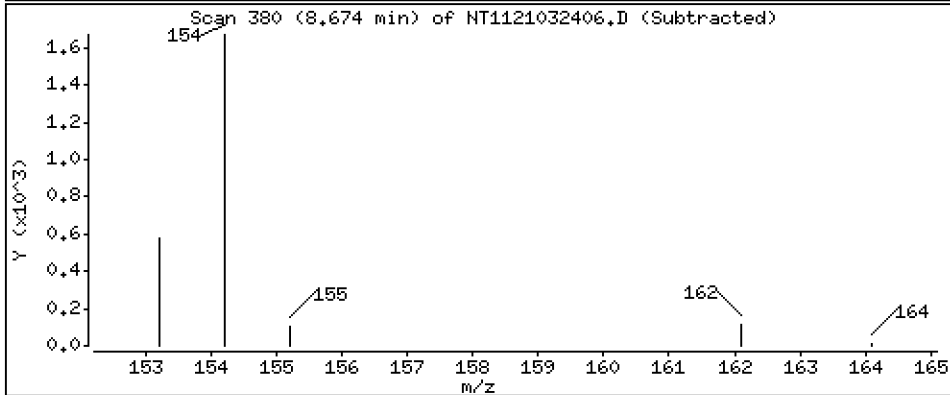
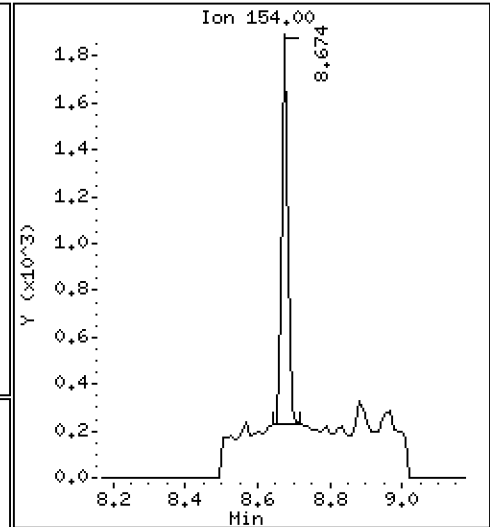
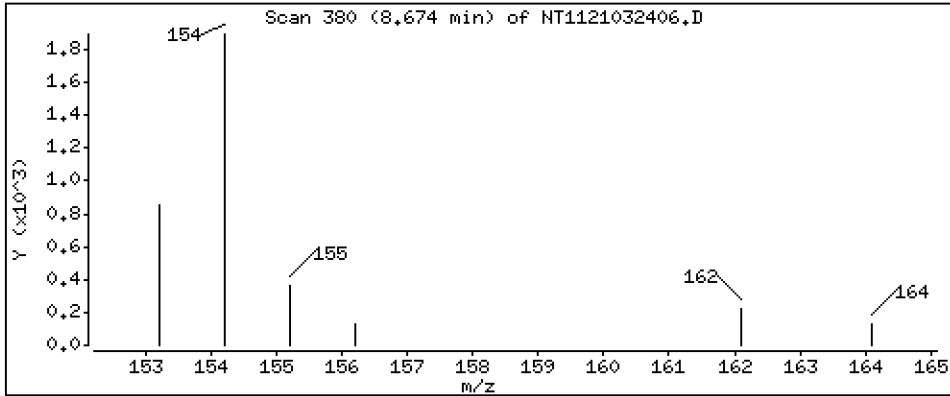
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

8 Biphenyl

Concentration: 1,35 ng/mL



Date : 24-MAR-2021 16:10

Client ID:

Instrument: nt11.i

Sample Info: 21C0175-02

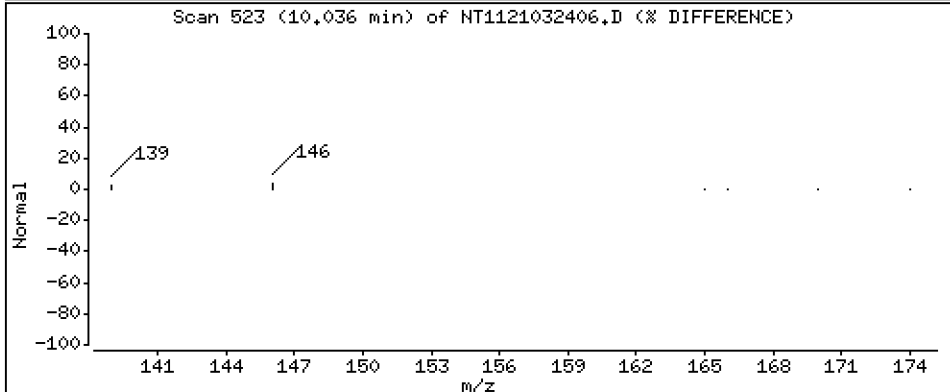
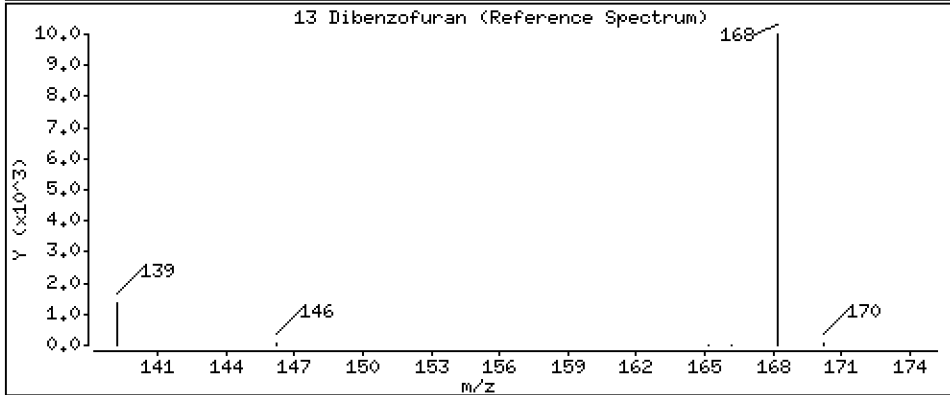
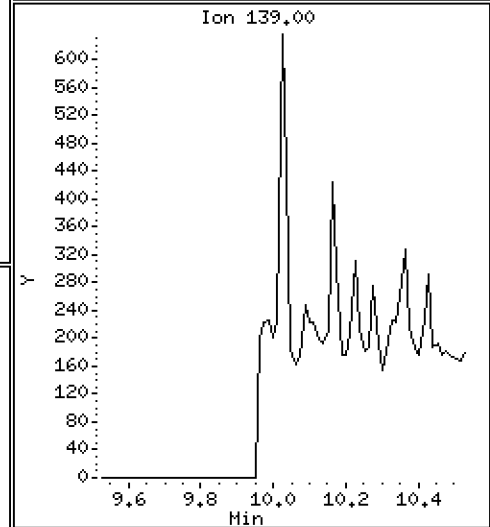
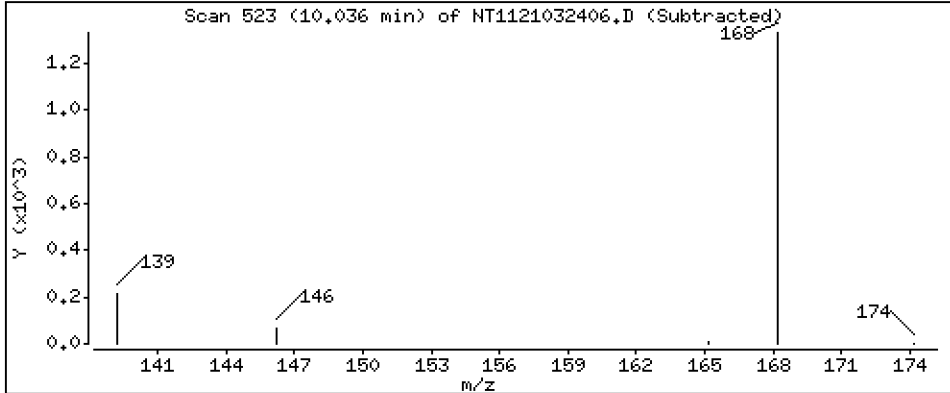
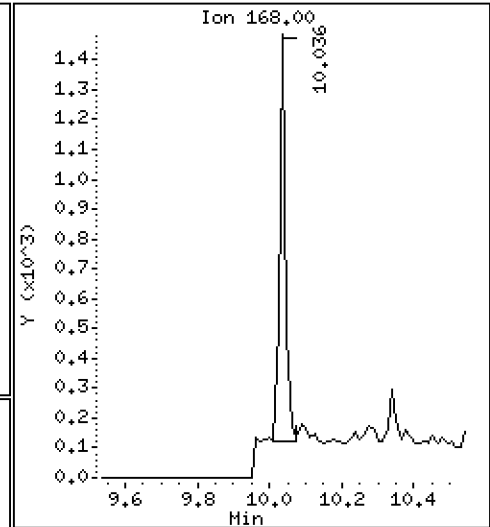
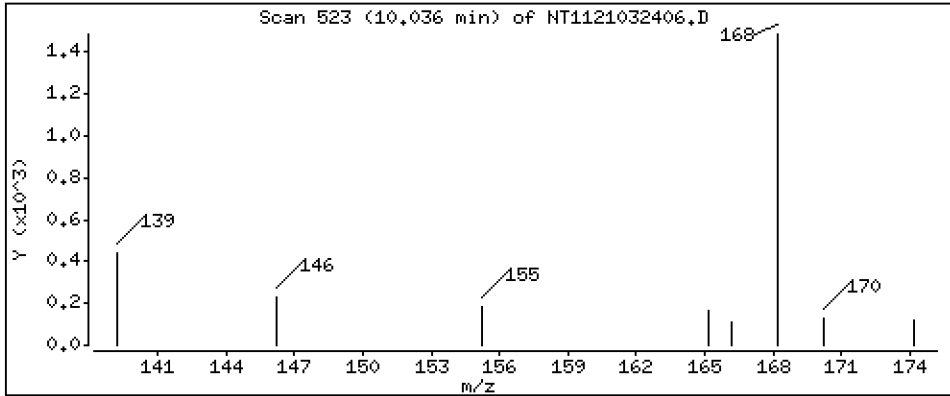
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 1,38 ng/mL



Date : 24-MAR-2021 16:10

Client ID:

Instrument: nt11.i

Sample Info: 21C0175-02

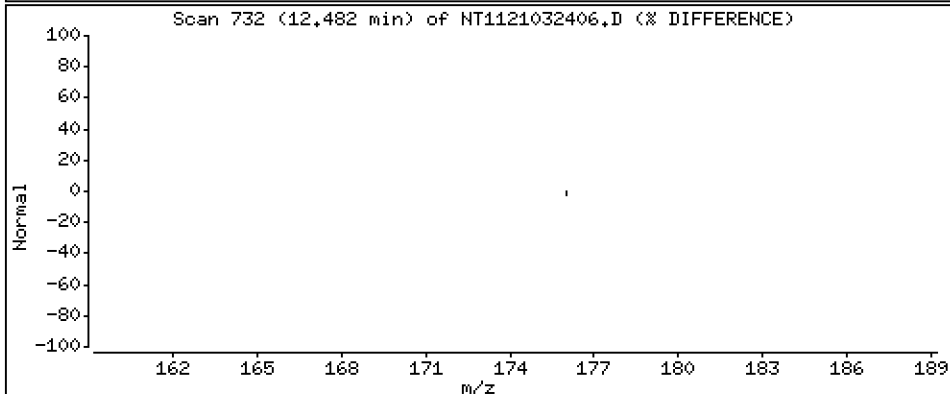
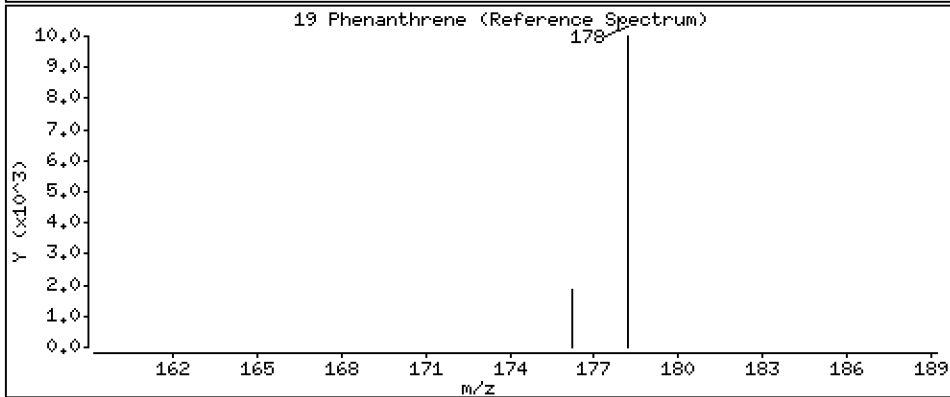
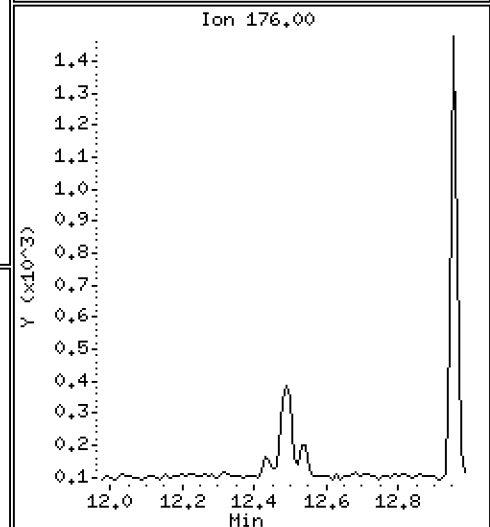
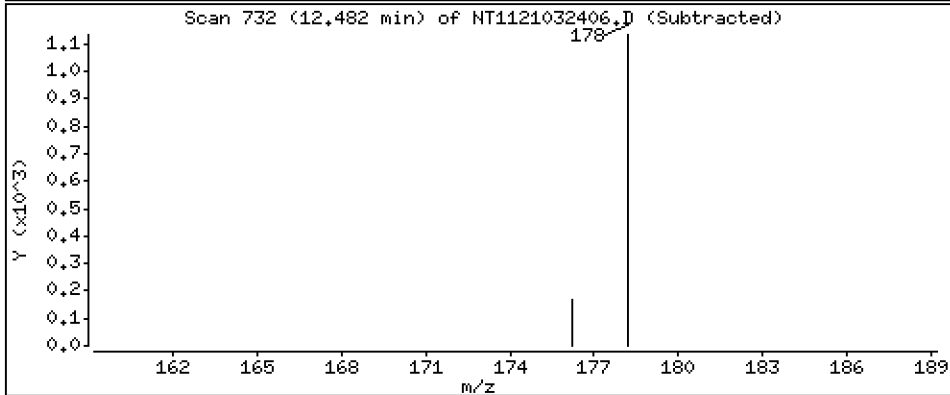
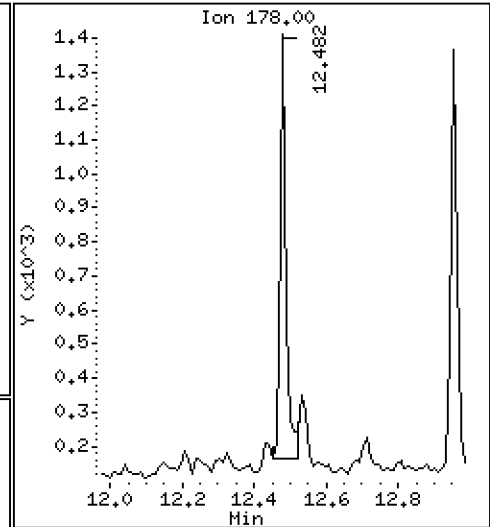
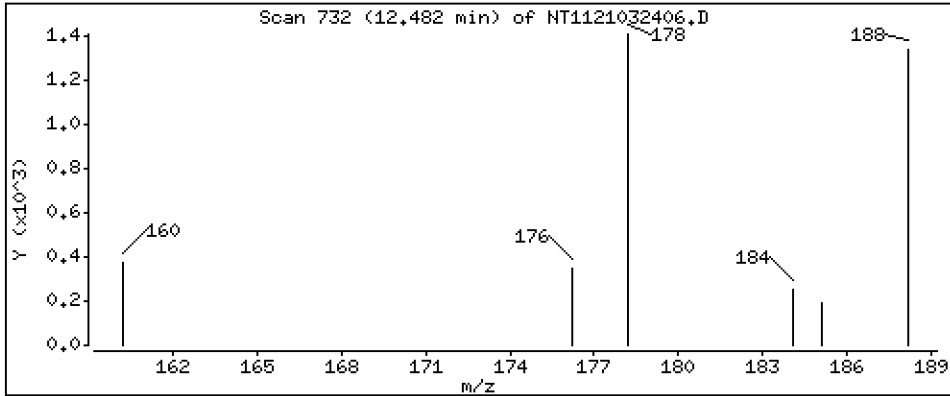
Operator: VTS

Column phase: Rxi-17Si11 MS

Column diameter: 0.25

19 Phenanthrene

Concentration: 1.43 ng/mL



Date : 24-MAR-2021 16:10

Client ID:

Instrument: nt11.i

Sample Info: 21C0175-02

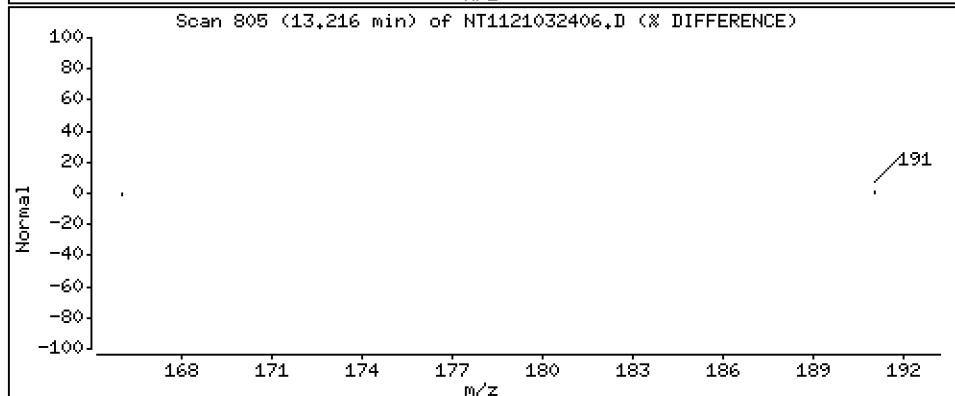
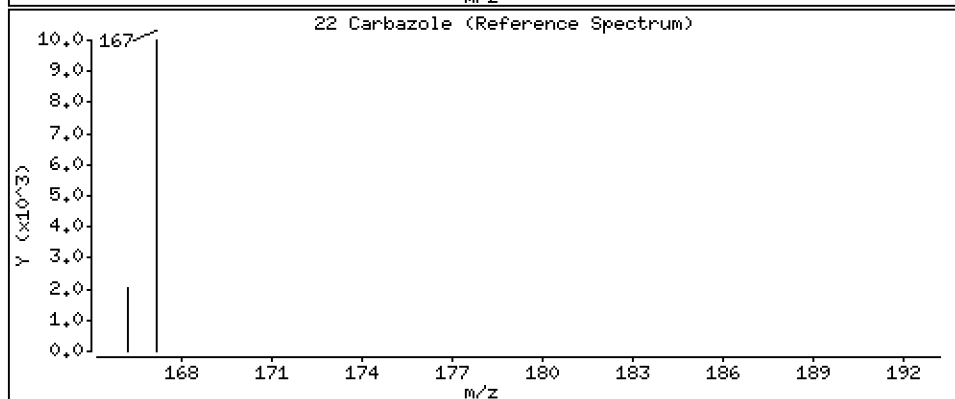
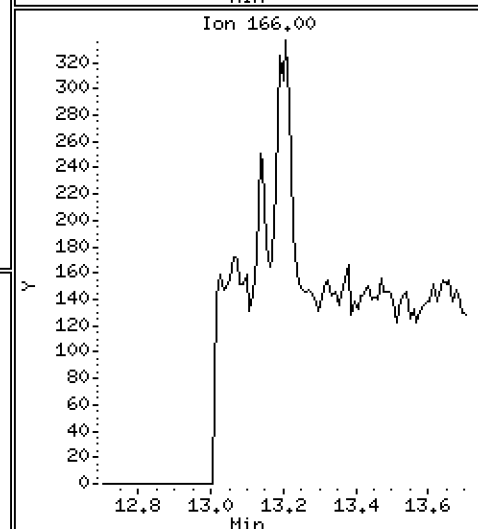
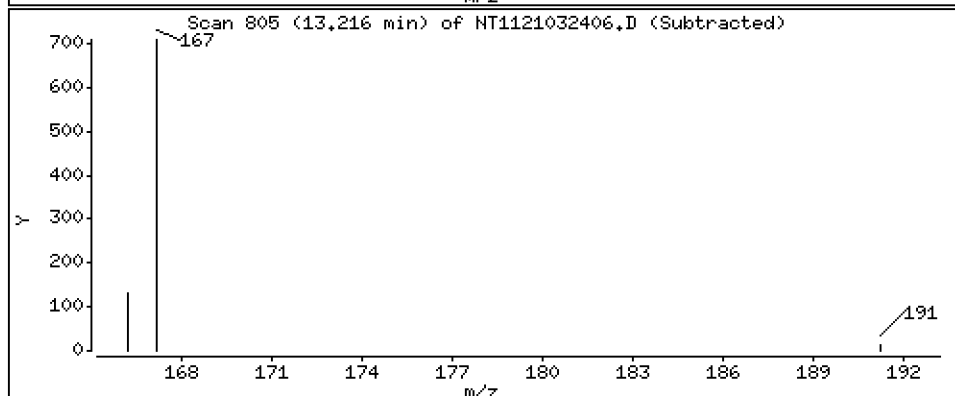
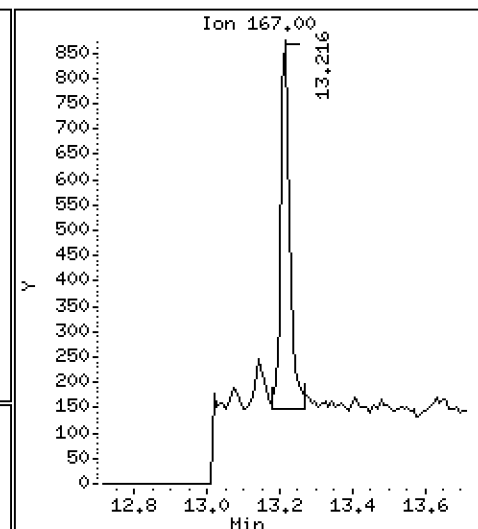
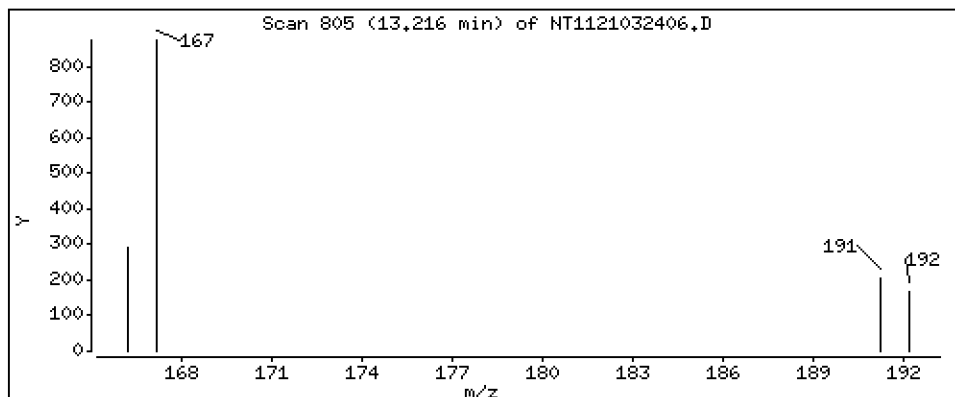
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

22 Carbazole

Concentration: 0,999 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20210324.b\NT1121032406.D
 Lab Smp Id: 21C0175-02
 Inj Date : 24-MAR-2021 16:10 MS Autotune Date: 15-JAN-2015 16:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 21C0175-02
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20210324.b\lowsim.m
 Meth Date : 24-Mar-2021 14:23 van Quant Type: ISTD
 Cal Date : 27-AUG-2020 13:38 Cal File: NT1120082704.D
 Als bottle: 6
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PAH.sub
 Target Version: 4.14
 Processing Host: VANS-202011

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		6.777	6.777	(1.000)	231532	200.000	
2 Naphthalene	128		6.813	6.813	(1.005)	21373	15.8986	15.9
3 Benzo(b)thiophene	134		7.066	7.066	(1.043)	1703	1.60575	1.61
\$ 4 2-Methylnaphthalene-d10	152		7.749	7.749	(1.143)	196159	210.703	211
5 2-Methylnaphthalene	142		7.802	7.801	(1.151)	5610	5.17657	5.18
6 1-Methylnaphthalene	142		8.054	8.054	(1.188)	3968	3.93881	3.94
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		8.674	8.673	(0.888)	1855	1.34894	1.35 (M)
9 2,6-Dimethylnaphthalene	156		Compound Not Detected.					
10 Acenaphthylene	152		Compound Not Detected.					
* 11 Acenaphthene-d10	164		9.770	9.770	(1.000)	118594	200.000	
12 Acenaphthene	153		Compound Not Detected.					
13 Dibenzofuran	168		10.036	10.036	(1.027)	1652	1.37526	1.38
14 2,3,5-Trimethylnaphthalene	170		Compound Not Detected.					
16 Fluorene	166		Compound Not Detected.					
17 Dibenzothiophene	184		Compound Not Detected.					
* 18 Phenanthrene-d10	188		12.439	12.439	(1.000)	177429	200.000	
19 Phenanthrene	178		12.481	12.481	(1.003)	1662	1.43193	1.43
21 Anthracene	178		Compound Not Detected.					
22 Carbazole	167		13.216	13.216	(1.062)	1234	0.99857	0.999 (M)
23 1-Methylphenanthrene	192		Compound Not Detected.					
\$ 24 Fluoranthene-d10	212		14.530	14.530	(1.168)	208955	224.628	225
25 Fluoranthene	202		Compound Not Detected.					
26 Pyrene	202		Compound Not Detected.					
27 Benzo(a)anthracene	228		Compound Not Detected.					
* 28 Chrysene-d12	240		17.164	17.163	(1.000)	119867	200.000	
29 Chrysene	228		Compound Not Detected.					
30 Benzo(b)fluoranthene	252		Compound Not Detected.					
31 Benzo(k)fluoranthene	252		Compound Not Detected.					
32 Benzo(j)fluoranthene	252		Compound Not Detected.					
34 Benzo(e)pyrene	252		Compound Not Detected.					
35 Benzo(a)pyrene	252		Compound Not Detected.					
* 36 Perylene-d12	264		19.903	19.903	(1.000)	120210	200.000	
37 Perylene	252		Compound Not Detected.					

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/mL)
=====	=====	=====	=====	=====	=====	=====	
\$ 38 Dibenzo(a,h)anthracene-d14	292	22.306	22.305	(1.121)	82519	176.265	176
39 Dibenzo(a,h)anthracene	278				Compound Not Detected.		
40 Indeno(1,2,3-cd)pyrene	276				Compound Not Detected.		
41 Benzo(g,h,i)perylene	276				Compound Not Detected.		

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 24-MAR-2021
 Lab File ID: NT1121032406.D Calibration Time: 13:25
 Lab Smp Id: 21C0175-02
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20210324.b\lowsim.m
 Misc Info:

Test Mode:
 Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	211546	105773	423092	231532	9.45
11 Acenaphthene-d10	115033	57517	230066	118594	3.10
18 Phenanthrene-d10	167782	83891	335564	177429	5.75
28 Chrysene-d12	125684	62842	251368	119867	-4.63
36 Perylene-d12	145995	72998	291990	120210	-17.66

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	6.78	6.28	7.28	6.78	0.00
11 Acenaphthene-d10	9.77	9.27	10.27	9.77	0.00
18 Phenanthrene-d10	12.44	11.94	12.94	12.44	0.00
28 Chrysene-d12	17.16	16.66	17.66	17.16	0.00
36 Perylene-d12	19.90	19.40	20.40	19.90	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 - NT1121032406.D

Lab ID: 21C0175-02
nt11.i, 20210324.b\lowsim.m, 24-MAR-2021 16:10

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

RRT check based on Ccal File: NT1121032402.D

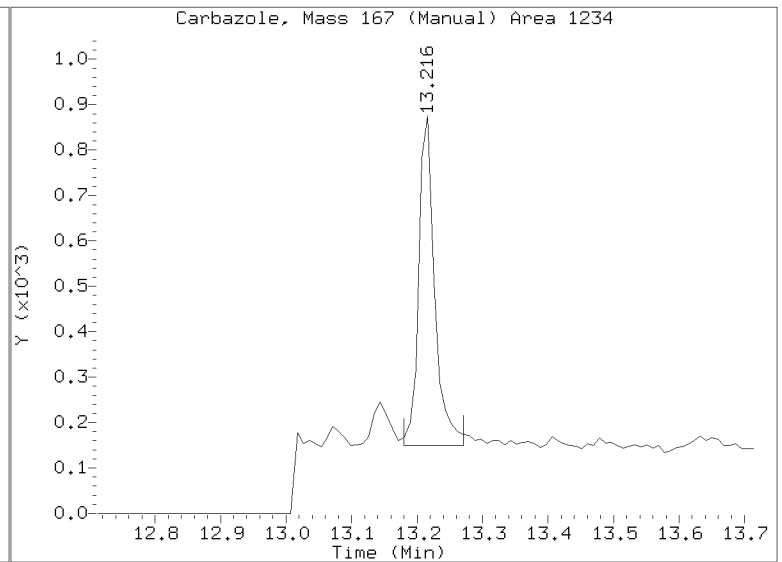
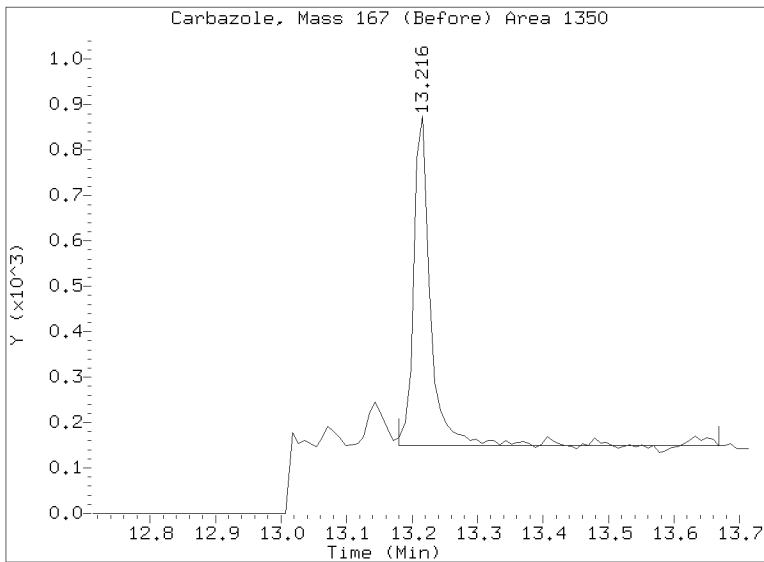
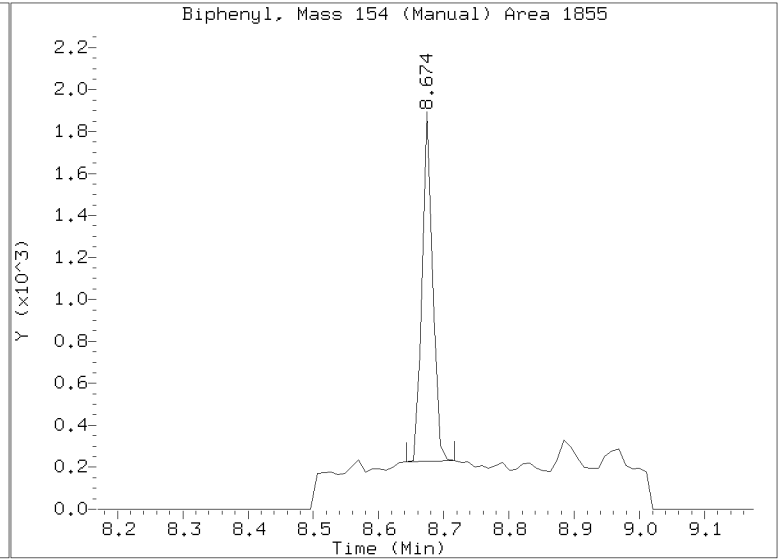
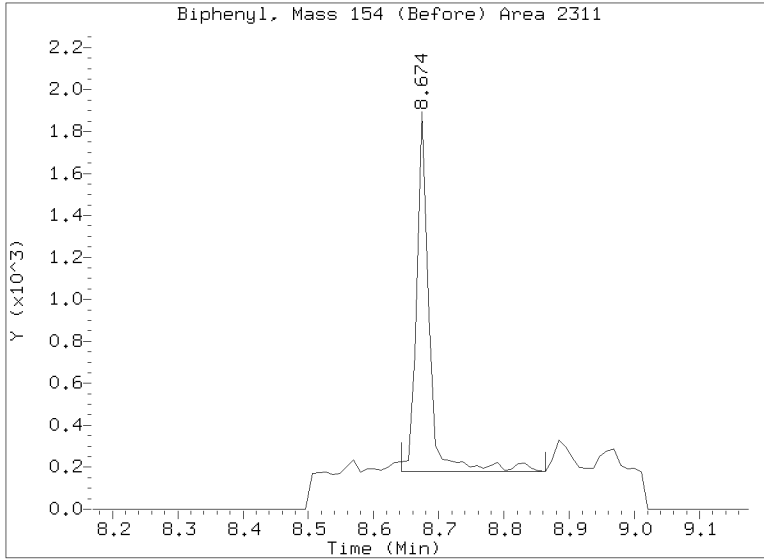
On Column LOD for nt11.i, 20210324.b\lowsim.m, PAH.sub = 0.0000

Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000

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

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20210324.b/NT1121032406.D
Injection Date: 24-MAR-2021 16:10
Lab ID: 21C0175-02 Client ID:
Report Date: 03/25/2021 07:02





PREPARATION BATCH SUMMARY

EPA 8270E-SIM

Laboratory: Analytical Resources, Inc. SDG: 21C0175
Client: Anchor QEA, LLC Project: GascoSiltronic: US Moorings
Batch: BJC0356 Batch Matrix: Water Preparation: EPA 3510C SepF

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
RAB-FB-2103091636	21C0175-01	NT1121032405.D	03/16/21 12:13	
RAB-RB-2103091709	21C0175-02	NT1121032406.D	03/16/21 12:13	
Blank	BJC0356-BLK1	NT1121032403.D	03/16/21 12:13	
LCS	BJC0356-BS1	NT1121032404.D	03/16/21 12:13	



Batch: BJC0356

Prepared using: EPA 3510C SepF

8270E-SIM PAH Low (0.01ug/L or 0.5ug/kg) in Water (Version:17 Targets)

Matrix: Water

Date Prepared: 3/16/2021

Balance ID: _____

Set Up By: CSO 3/18/21

The following standards may be missing from this batch!

Designator	Description
QLS 2	QLS Spike

Analysis: 8270E-SIM PAH Low (0.01ug/L or 0.5ug/kg)

Lab Number & Container	Initial (mL) Actual	Silica Gel Clean (1:1) (REQ)	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
21C0175-01 A	(500.00) <u>475</u>	(1:1)	0.5 _____	0.5 _____	
21C0175-02 A	(500.00) <u>500</u>	(1:1)	0.5 _____	0.5 _____	

Batch QC

Lab Number	Initial (mL) Actual	Silica Gel Clean (1:1) (REQ)	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
BJC0356-BLK1	(500.00) <u>500</u>	(1:1)	0.5 _____	0.5 _____	
BJC0356-BS1	(500.00) <u>↓</u>	(1:1)	0.5 _____	0.5 _____	

TW
Client ID verified By

3/16/2021
Date

DM
Preparation Reviewed By

3-24-21
Date

3/6/21 12:13
Extraction Date and Time



Batch: BJC0356

Prepared using: EPA 3510C SepF

8270E-SIM PAH Low (0.01ug/L or 0.5ug/kg) in Water (Version:17 Targets)

Prep Steps	Reagents Used	Surrogates & Spike Standards Used					
	Station/Reagent	Standard ID	Type	Vial ID / Standard ID	Vol uL	Analyst	Witness
KD 80°C 1 ② 3 4 5 ⑥ WB 3/23/21 Analyst/Date	Separatory Funnel Analyst: TW Date: 3/16/2021		Surrogate 1.5/7.5µg/mL	I J000841 Exp: 05/22/2021	100µL	TW	R ^u
	Methylene Chloride	J0002935					
	Anhydrous Sodium Sulfate	J0002597					
				Spike 1.5/7.5µg/mL	18 J000839 Exp: 10/03/2021	100µL	TW
TurboVap Post Silica Gel Shakeout 1 2 3 4 5 DM 3-24-21 Analyst/Date Vialing DM 3-24-21 Analyst/Date	KD Analyst: WB Date: 3/23/21		(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 in the 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).				
	Methylene Chloride	J0002138					
	Vialing Analyst: DM Date: 3-24-21						
	Methylene Chloride	J0002138					
	0% Silica Gel	J0011337					
Neutral Glass Wool	J0011300						
Anhydrous Sodium Sulfate	J0002722						



Batch: BJC0356

Prepared using: EPA 3510C SepF

8270E-SIM PAH Low (0.01ug/L or 0.5ug/kg) in Water (Version:17 Targets)

Prep Instructions	
<p>SPECIAL INSTRUCTIONS:</p> <ol style="list-style-type: none">1. USE ONLY NON-SCRATCHED GLASSWARE.2. Rinse all glassware with DCM.3. Add Surr/Spk4. Extract 3X with 30mL DCM.5. KD (no drying column) at 80°. (Thoroughly rinse Snyder Columns with DCM)!6. Transfer directly to Scintillation vials from KD.7. Silica Gel Clean-up Shakeout is REQUIRED. (Scintillation vial shakeout): Add one scoop (approx 0.5g) of LL Silica Gel. Vortex for 1min. Pass thru turbo drying column with glass wool and sodium sulfate plug and DCM.8. TurboVap.9. Vial in DCM. (Pre-clean vialing syringes thoroughly)!10. Post screen extracts with any color. <p>Archive: Y / <input type="checkbox"/></p>	



Extraction Parameter: LL SIM PNA Extraction Batch B0C0356

Total Solids Batch: NIA Work Order(s): 21C0175

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
<input type="checkbox"/> No Anomalies (standard soil/wet sediment/sand/gravel)=	
<input type="checkbox"/> Standing Water Decanted (Not shared)=	
<input type="checkbox"/> Standing Water Homogenized (Shared samples)=	
<input type="checkbox"/> Clay/Clumps (Difficult to homogenize)=	
<input type="checkbox"/> Rocks (%+size)?	
<input type="checkbox"/> Organics (Leaves/sticks/grass)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Received in 32oz jar(s)=Homogenized in Pyrex dish=	
<input type="checkbox"/> Previously Frozen =	
<input type="checkbox"/> Other (Details)=	
Aqueous:	
<input checked="" type="checkbox"/> No Anomalies	TW 3/16/21
<input type="checkbox"/> Turbid/Color=	
<input type="checkbox"/> Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
<input type="checkbox"/> Emulsions (%)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Other (Details)=	
<input type="checkbox"/> Received in 1.0L Bottle(s)=No Bottle Rinse=	
<input type="checkbox"/> Other Notes/Comments= (Note problems, concerns, corrective actions).	
<input type="checkbox"/> Share Samples Y / N	
<input type="checkbox"/> Multiple Jars Y / N	
<input type="checkbox"/> Sample Pre-Screens indicate analyte activity=	
<input type="checkbox"/> Sample weights/volumes reduced based on Pre-Screen=	



PREPARATION BATCH SUMMARY

EPA 8270E-SIM

Laboratory: Analytical Resources, Inc. SDG: 21C0175
Client: Anchor QEA, LLC Project: GascoSiltronic: US Moorings
Batch: BJC0357 Batch Matrix: Water Preparation: EPA 3510C SepF

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
RAB-FB-2103091636	21C0175-01	NT821031806.D	03/16/21 09:29	
RAB-RB-2103091709	21C0175-02	NT821031807.D	03/16/21 09:29	
Blank	BJC0357-BLK1	NT821031803.D	03/16/21 09:29	
LCS	BJC0357-BS1	NT821031804.D	03/16/21 09:29	
LCS Dup	BJC0357-BSD1	NT821031805.D	03/16/21 09:29	



Batch: BJC0357

Prepared using: EPA 3510C SepF

8270E-SIM Butyl Tins in Water (Version:TBT)

8270E-SIM Butyl Tins in Water

Matrix: Water Date Prepared: 3/16/2021 Balance ID: N/A Set Up By: CTO 3/13/21

Not enough volume for MS/MSD, BSD done instead.

The following standards may be missing from this batch!

Designator	Description
QLS 3	QLS Spike

Analysis: 8270E-SIM Butyl Tins

Lab Number & Container	Initial (mL) Actual	Actual	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
21C0175-01 C	100.00	<u>100</u>	0.5 _____	0.5 _____	
21C0175-02 C	100.00	<u>↓</u>	0.5 _____	0.5 _____	
21C0180-05 C	100.00	<u>↓</u>	0.5 _____	0.5 _____	
21C0180-06 C	100.00	<u>↓</u>	0.5 _____	0.5 _____	

Batch QC

Lab Number	Initial (mL) Actual	Actual	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
BJC0357-BLK1	100.00	<u>100</u>	0.5 _____	0.5 _____	
BJC0357-BS1	100.00	<u>↓</u>	0.5 _____	0.5 _____	
BJC0357-BSD1	100.00	<u>↓</u>	0.5 _____	0.5 _____	

TW 3/16/2021 CTO 3/17/21 3/16/21 9:29
Client ID verified By Date Preparation Reviewed By Date Extraction Date and Time



Batch: BJC0357

Prepared using: EPA 3510C SepF

8270E-SIM Butyl Tins in Water (Version: TBT)

8270E-SIM Butyl Tins in Water

Prep Steps

Reagents Used

Surrogates & Spike Standards Used

Prep Steps	Station/Reagent	Standard ID	Type	Vial ID / Standard ID	Vol uL	Analyst	Witness
KD 80°C Hexane Exchange (2 X 20 mL) 100°C 1 2 3 4 5 6 AR 3/16/21 Analyst/Date	Separatory Funnel Analyst: TW Date: 3/16/2021		Surrogate L 2.5µg/mL	J001177 Exp: 12/10/2021	100µL	TW	R ^a
	0.02% Tropolone in Methylene Chloride	J002134					
	Anhydrous Sodium Sulfate	J002597					
	Methylene Chloride	J002435					
TurboVap Pre Derivatization 1 2 3 4 5 AS 3/16/21 Analyst/Date	1:1 HCL	J011625					
	KD Analyst: AL Date: 3/16/21						
	0.02% Tropolone in Methylene Chloride	J002134					
HexMgBr Addition Vortex 45min+Overnight 1 2 3 4 5 AS 3/16/21 Analyst/Date	Hexane	J000231					
	Methylene Chloride	J002435					
	Derivatize Analyst: CW Date: 3/16/21						
	Hexane	J000231					
(REQ) Hydrolysis (4mL) Vortex 1 2 3 AS 3/17/21 Analyst/Date	HexylMagnesiumBromide	H011730					
	Hydrolysis/Silica/Final Vialing Analyst: AS Date: 3/17/21						
	Concentrated HCL	J001039					
	Anhydrous Sodium Sulfate	J000549					
(REQ) Silica Gel (SPE) (1mL) AS 3/17/21 Analyst/Date	Silica Gel (SPE) Dart	J006350					
	Hexane	J000231					
TurboVap Post Silica Gel 1 2 3 4 5 AS 3/17/21 Analyst/Date							
Vialing AS 3/17/21 Analyst/Date							

(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 in the 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).



Batch: BJC0357

Prepared using: EPA 3510C SepF

8270E-SIM Butyl Tins in Water (Version:TBT)

8270E-SIM Butyl Tins in Water

Prep Instructions	Cleaning Instructions
<p>SPECIAL INSTRUCTIONS: NOTE: TBT Extractions must be completed within 48 hours!</p> <ol style="list-style-type: none">1. Rinse all glassware with 0.02% Tropolone.2. Pre-wash blanks with 30mL DCM (2min shake) (Discard DCM)3. Add Surr/Spk.4. Acidify with 1:1 HCL.5. Check pH.6. Let sit 10 minutes-Check pH again.7. Extract 1 X with 30mL 0.02% Tropolone (4 min shake-SHAKE VIGOROUSLY). Plus 2 X 30mL DCM.8. KD rinsed with 0.02% Tropolone (NO Drying Column) at 80°.9. Exchange (2 X with 20mL) to Hexane at 100°.10. TurboVap to 3mL-Transfer with Hexane to 40mL VOA vial.11. Derivitize=1 pipet HexMgBr (Mix by hand) then Vortex. Let sit 45min (vortex every 10 min). Then let sit overnite.12. Hydrolysis: Add (1) pipet conc. HCL. Vortex. Draw off/discard HCL. Add 5mL DI H2O. Vortex. Draw off/discard H2O. Add 5mL DI H2O a second time. Vortex. Draw off/discard H2O.13. Add sodium sulfate-Let sit 15min.14. Turbovap to 1mL.15. SPE Clean, EPH darts.16. TurboVap.17. Vial in Hexane.18. NOTE: Derivitizations must be done in the hood to protect from potential chemical reactions, odors and fumes! <p>Archive: Y / <input type="checkbox"/></p>	<p>Vessel Cleaning Procedure:</p> <ol style="list-style-type: none">1. Rinse all glassware with 0.02% Tropolone.

Batch: BJC0357

Batch Comment: **NONE**

Project: GascoSiltronic

Project Comments: <G> MS/MSD per 20 samples, please batch with other work orders, SM2540 Needed </G>

Work Order:21C0175

Work Order Comments: <G> MS/MSD per 20 samples, please batch with other work orders, SM2540 Needed </G>

Sample: 21C0175-01

Sample Comments: **NONE**

Sample: 21C0175-02

Sample Comments: **NONE**

Project: South Park Marina

Project Comments: **NONE**

Work Order:21C0180

Work Order Comments: **NONE**

Sample: 21C0180-05

Sample Comments: **NONE**

Sample: 21C0180-06

Sample Comments: **NONE**



Extraction Parameter: TBT Extraction Batch BJC0357

Total Solids Batch: N/A Work Order(s): 21C0175, 180

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
<input type="checkbox"/> No Anomalies (standard soil/wet sediment/sand/gravel)=	
<input type="checkbox"/> Standing Water Decanted (Not shared)=	
<input type="checkbox"/> Standing Water Homogenized (Shared samples)=	
<input type="checkbox"/> Clay/Clumps (Difficult to homogenize)=	
<input type="checkbox"/> Rocks (%+size)?	
<input type="checkbox"/> Organics (Leaves/sticks/grass)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Received in 32oz jar(s)=Homogenized in Pyrex dish=	
<input type="checkbox"/> Previously Frozen =	
<input type="checkbox"/> Other (Details)=	
Aqueous:	
<input checked="" type="checkbox"/> No Anomalies	TW 3/16/21
<input type="checkbox"/> Turbid/Color=	
<input type="checkbox"/> Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
<input type="checkbox"/> Emulsions (%)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Other (Details)=	
<input type="checkbox"/> Received in 1.0L Bottle(s)=No Bottle Rinse=	
<input type="checkbox"/> Other Notes/Comments= (Note problems, concerns, corrective actions).	
<i>Small amount of BUK spilled before deriv.</i>	<i>CS 3/16/21</i>
<input type="checkbox"/> Share Samples Y / N	
<input type="checkbox"/> Multiple Jars Y / N	
<input type="checkbox"/> Sample Pre-Screens indicate analyte activity=	
<input type="checkbox"/> Sample weights/volumes reduced based on Pre-Screen=	



CLEANUP BATCH SUMMARY

Laboratory: Analytical Resources, Inc.

SDG: 21C0175

Client: Anchor QEA, LLC

Project: GascoSiltronic: US Moorings

Cleanup Batch: CJC0207

Cleanup Type: Silica Gel

Cleanup Method: EPA 3630C Silica Gel Cleanup

Analysis: EPA 8270E-SIM

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
RAB-FB-2103091636	21C0175-01	NT821031806.D	03/17/2021	
RAB-RB-2103091709	21C0175-02	NT821031807.D	03/17/2021	
Blank	BJC0357-BLK1	NT821031803.D	03/17/2021	
LCS	BJC0357-BS1	NT821031804.D	03/17/2021	
LCS Dup	BJC0357-BSD1	NT821031805.D	03/17/2021	



CLEANUP BENCH SHEET

CJC0207

Matrix: Water **Cleanup using: Organics - EPA 3630C Silica Gel Cleanup** **Printed: 3/17/2021 1:49:13PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
21C0175-01	C	RAB-FB-2103091636	C 01	0.5	0.5	8270E-SIM Butyl Tins	3/17/2021	CCT	
21C0175-02	C	RAB-RB-2103091709	C 01	0.5	0.5	8270E-SIM Butyl Tins	3/17/2021	CCT	
21C0180-05	C	EB-01-210311	C 01	0.5	0.5	8270E-SIM Butyl Tins	3/17/2021	CCT	
21C0180-06	C	EB-02-210311	C 01	0.5	0.5	8270E-SIM Butyl Tins	3/17/2021	CCT	
BJC0357-BLK1	-	Blank	-	0.5	0.5	-	3/17/2021	CCT	
BJC0357-BS1	-	LCS	-	0.5	0.5	-	3/17/2021	CCT	
BJC0357-BSD1	-	LCS Dup	-	0.5	0.5	-	3/17/2021	CCT	



CLEANUP BATCH SUMMARY

Laboratory: Analytical Resources, Inc.

SDG: 21C0175

Client: Anchor QEA, LLC

Project: GascoSiltronic: US Moorings

Cleanup Batch: CJC0246

Cleanup Type: Silica Gel

Cleanup Method: EPA 3630C Silica Gel Cleanup

Analysis: EPA 8270E-SIM

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
RAB-FB-2103091636	21C0175-01	NT1121032405.D	03/24/2021	
RAB-RB-2103091709	21C0175-02	NT1121032406.D	03/24/2021	
Blank	BJC0356-BLK1	NT1121032403.D	03/24/2021	
LCS	BJC0356-BS1	NT1121032404.D	03/24/2021	



CLEANUP BENCH SHEET

CJC0246

Printed: 3/24/2021 5:59:10AM

Cleanup using: Organics - EPA 3630C Silica Gel Cleanup

Matrix: Water

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
21C0175-01	A	RAB-FB-2103091636	A 01	0.5	0.5	70E-SIM PAH Low (0.01ug/L or 0.5ug/	3/24/2021	DDM	
21C0175-02	A	RAB-RB-2103091709	A 01	0.5	0.5	70E-SIM PAH Low (0.01ug/L or 0.5ug/	3/24/2021	DDM	
BJC0356-BLK1	-	Blank	-	0.5	0.5	-	3/24/2021	DDM	
BJC0356-BS1	-	LCS	-	0.5	0.5	-	3/24/2021	DDM	



Form I
METHOD BLANK DATA SHEET
EPA 8270E-SIM

Blank

Laboratory: Analytical Resources, Inc. SDG: 21C0175
 Client: Anchor QEA, LLC Project: GascoSiltronic: US Moorings
 Matrix: Water Laboratory ID: BJC0356-BLK1 File ID: NT1121032403.D
 Sampled: N/A Prepared: 03/16/21 12:13 Analyzed: 03/24/21 14:33
 Solids: Preparation: EPA 3510C SepF Initial/Final: 500 mL / 0.5 mL
 Batch: BJC0356 Sequence: SJC0391 Calibration: DH00073
 Instrument: NT11 Column: RXi-17Sil-MS Cleanups: Silica Gel

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
91-20-3	Naphthalene	1	0.004	J	0.001	0.010
91-57-6	2-Methylnaphthalene	1	0.002	J	0.001	0.010
208-96-8	Acenaphthylene	1	0.010	U	0.002	0.010
83-32-9	Acenaphthene	1	0.010	U	0.003	0.010
86-73-7	Fluorene	1	0.010	U	0.002	0.010
85-01-8	Phenanthrene	1	0.010	U	0.001	0.010
120-12-7	Anthracene	1	0.010	U	0.001	0.010
206-44-0	Fluoranthene	1	0.010	U	0.002	0.010
129-00-0	Pyrene	1	0.010	U	0.001	0.010
56-55-3	Benzo(a)anthracene	1	0.010	U	0.0008	0.010
218-01-9	Chrysene	1	0.010	U	0.0009	0.010
205-99-2	Benzo(b)fluoranthene	1	0.010	U	0.0005	0.010
207-08-9	Benzo(k)fluoranthene	1	0.010	U	0.003	0.010
205-82-3	Benzo(j)fluoranthene	1	0.010	U	0.002	0.010
50-32-8	Benzo(a)pyrene	1	0.010	U	0.002	0.010
193-39-5	Indeno(1,2,3-cd)pyrene	1	0.010	U	0.001	0.010
53-70-3	Dibenzo(a,h)anthracene	1	0.010	U	0.001	0.010
191-24-2	Benzo(g,h,i)perylene	1	0.010	U	0.001	0.010

SURROGATES	ADDED (ug/L)	CONC. (ug/L)	% REC	QC LIMITS	Q
2-Methylnaphthalene-d10	0.30000	0.211	70.3	42 - 120	
Dibenzo[a,h]anthracene-d14	0.30000	0.151	50.4	29 - 120	
Fluoranthene-d10	0.30000	0.215	71.7	57 - 120	

Data File: \\target\share\chem3\nt11.1\20210324.6\NT1121032403.D

Date : 24-MAR-2021 14:33

Client ID:

Sample Info: BJC0356-BLK1

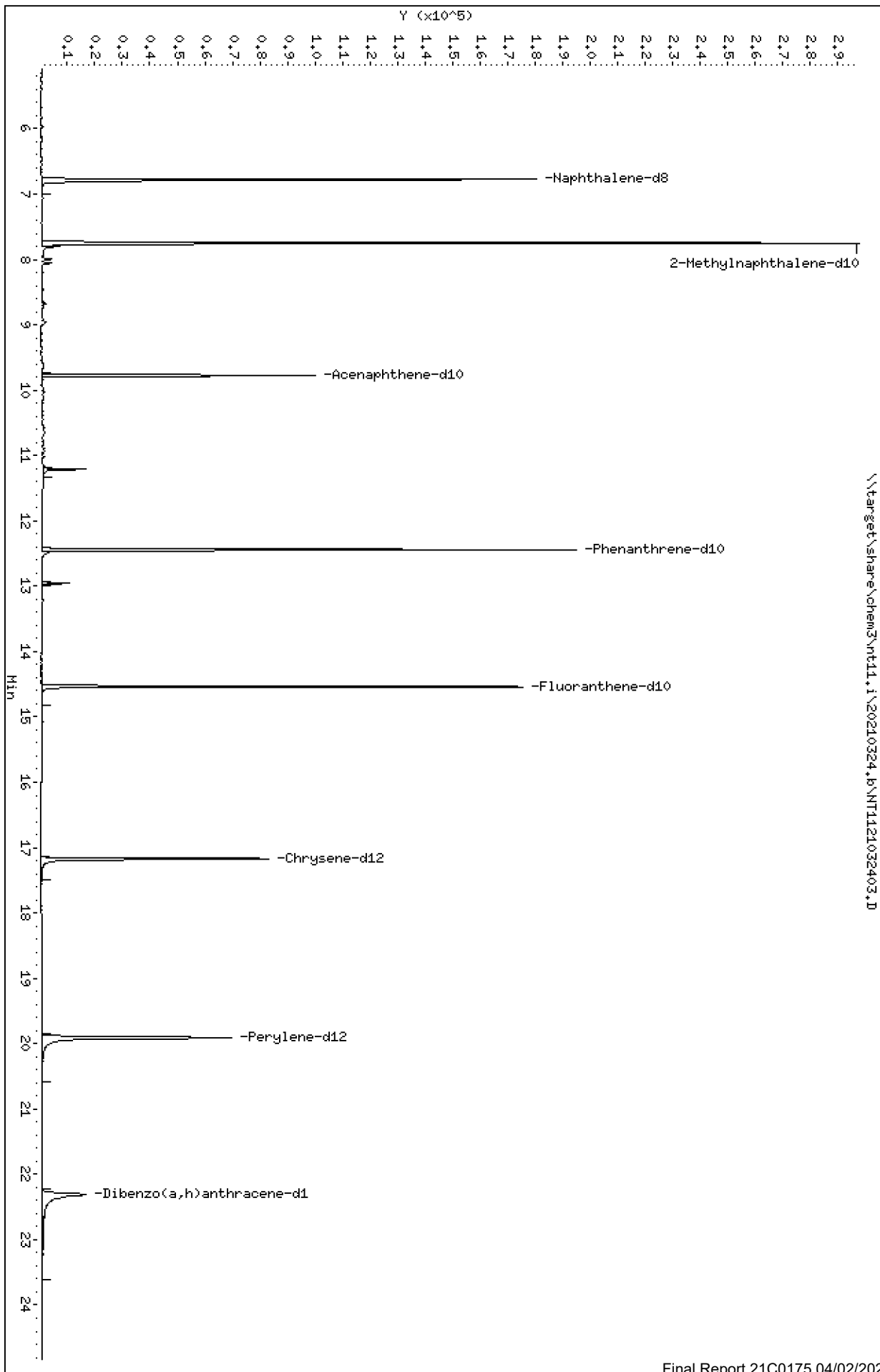
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

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Date : 24-MAR-2021 14:33

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BLK1

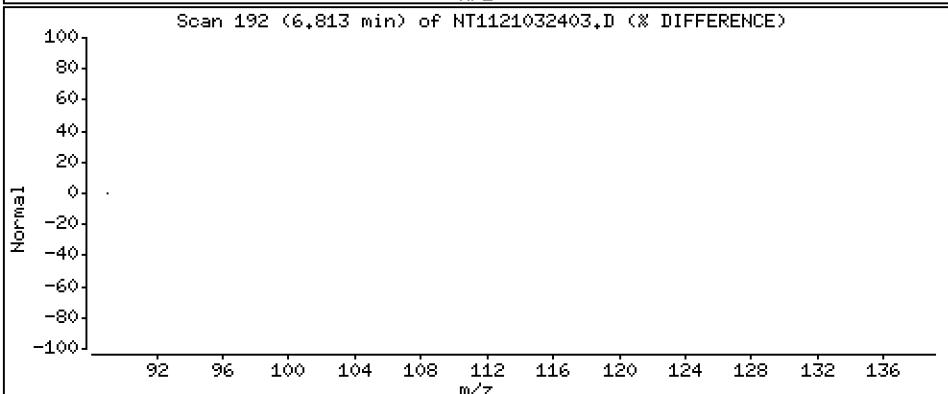
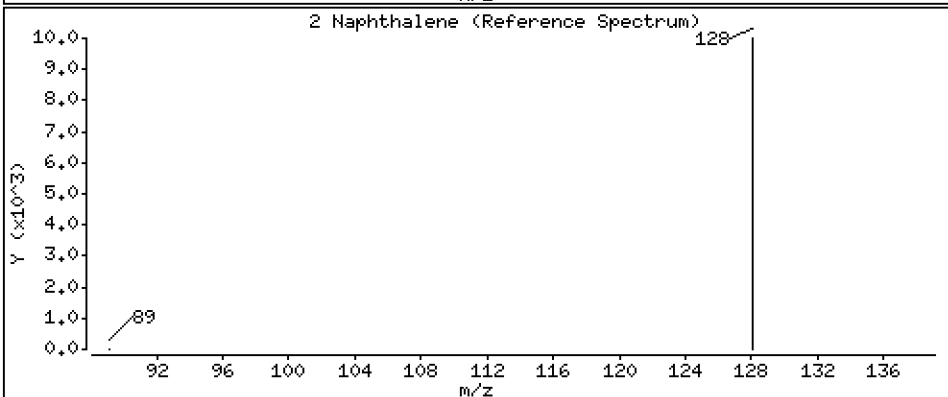
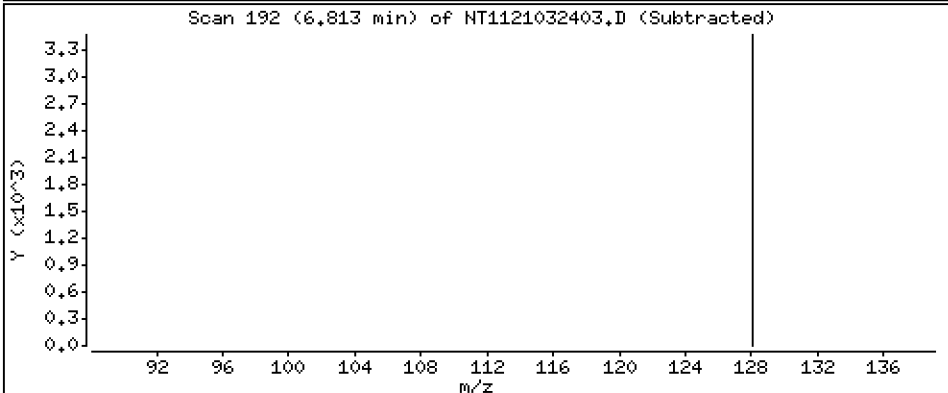
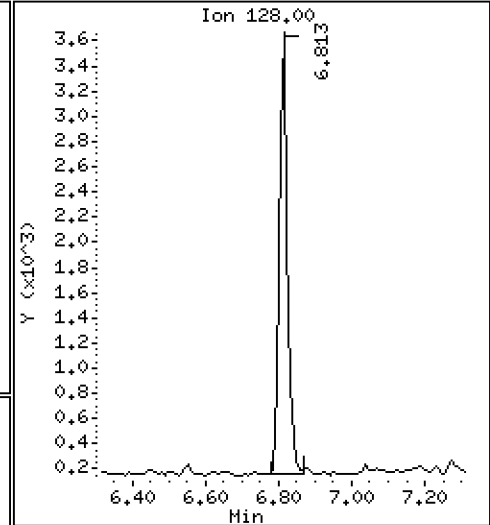
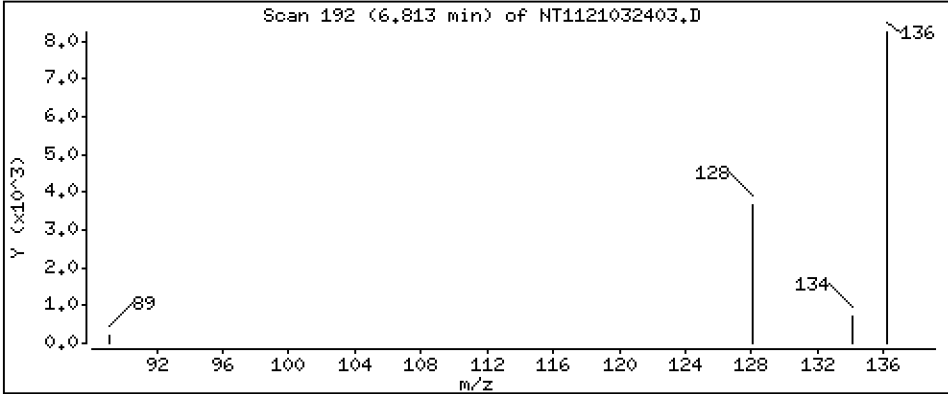
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 3,70 ng/mL



Date : 24-MAR-2021 14:33

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BLK1

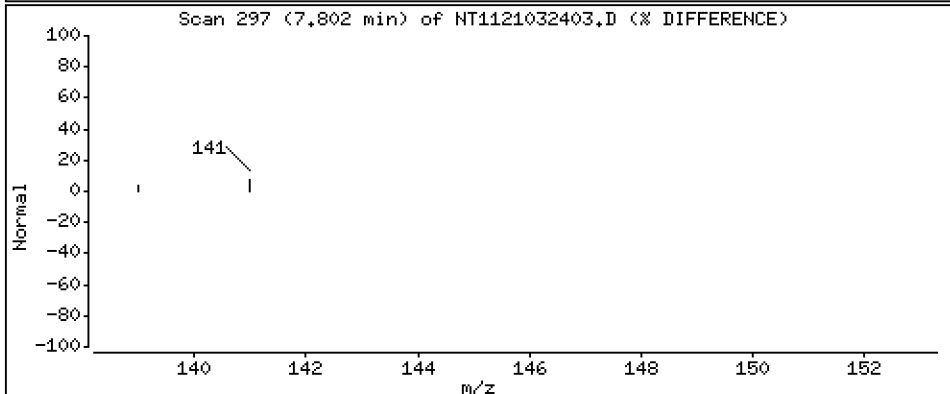
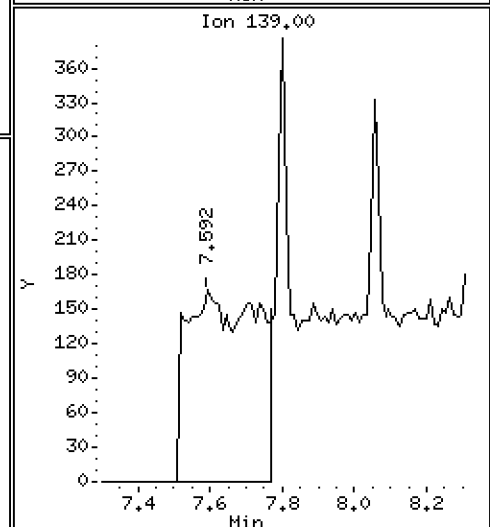
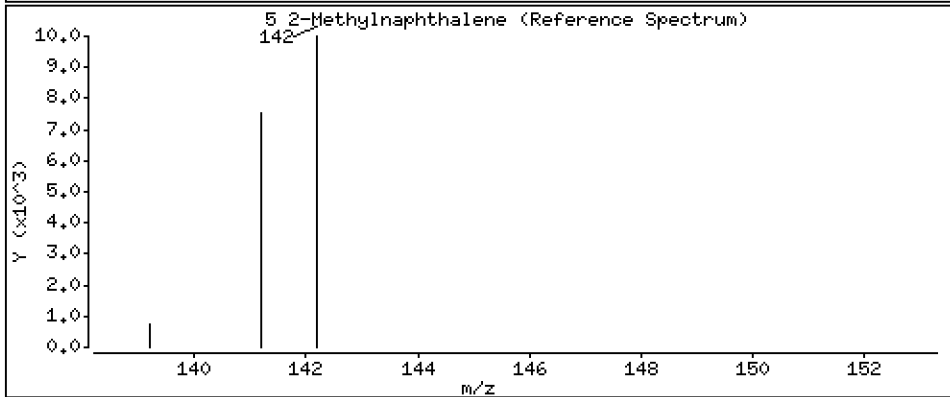
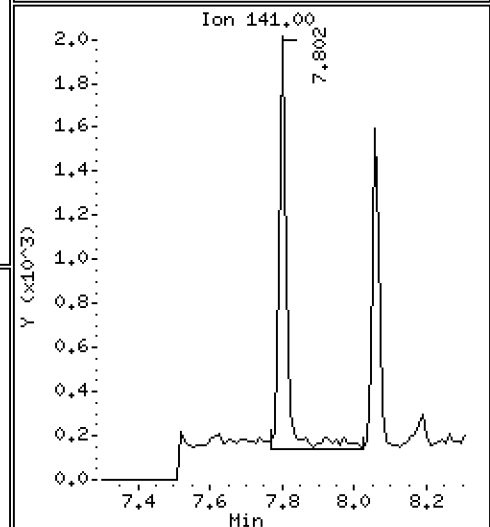
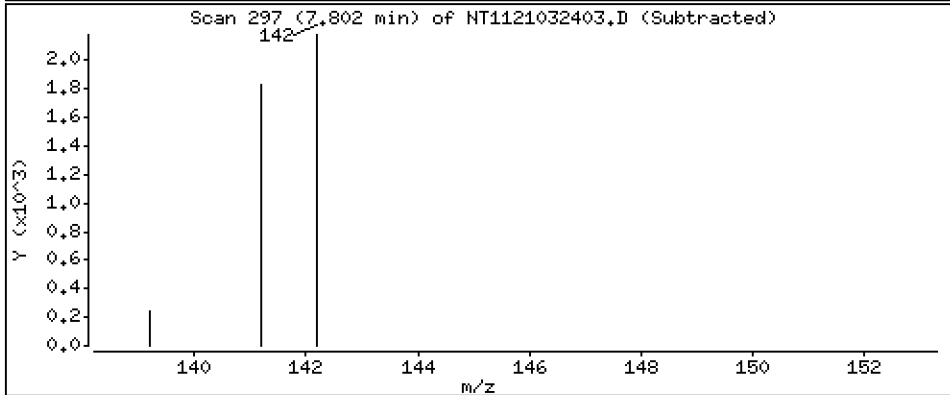
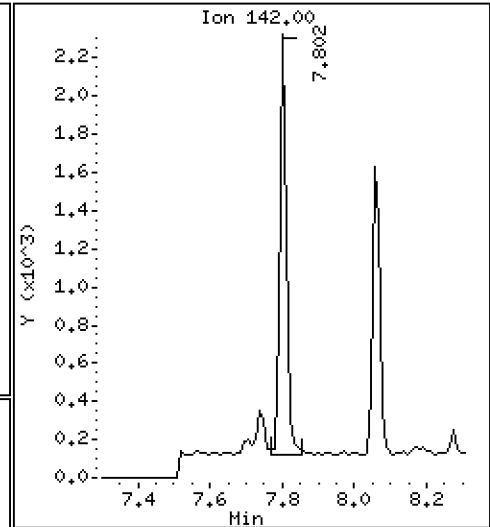
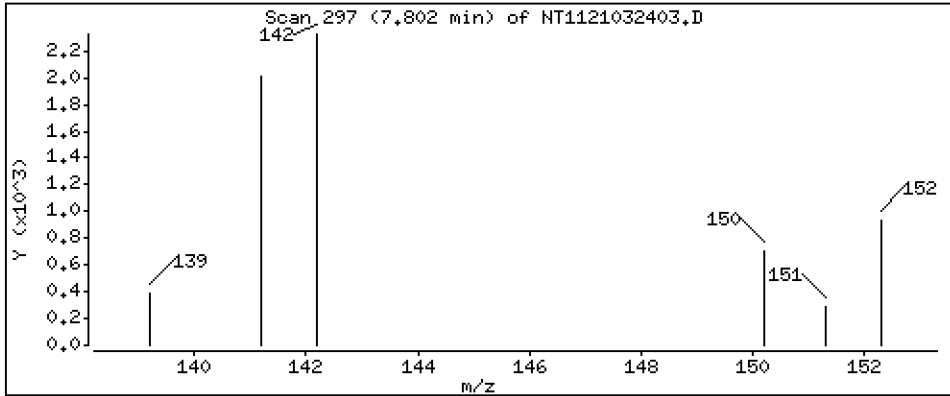
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5-2-Methylnaphthalene

Concentration: 2,35 ng/mL



Date : 24-MAR-2021 14:33

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BLK1

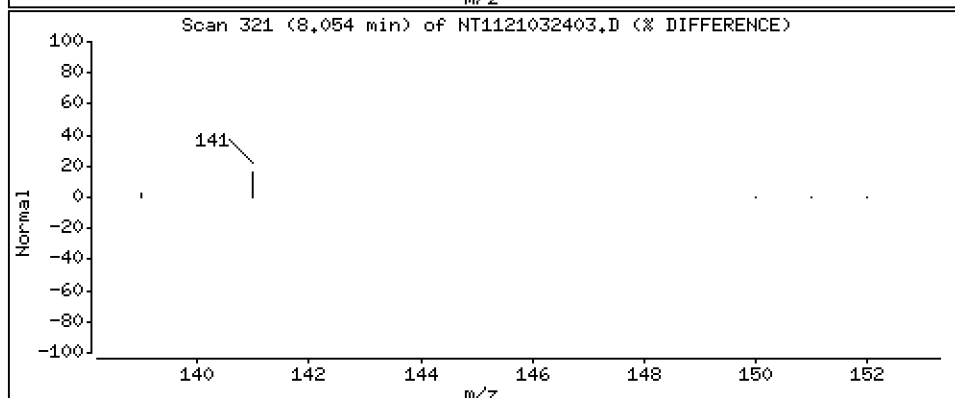
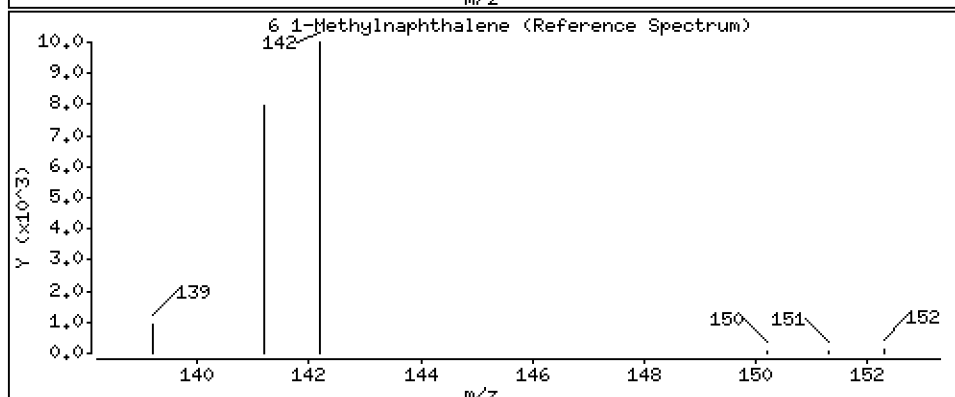
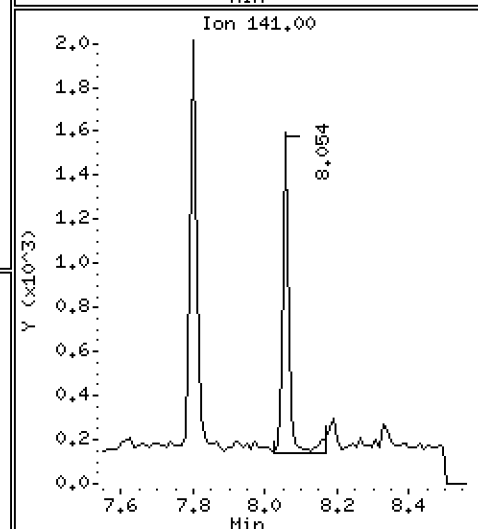
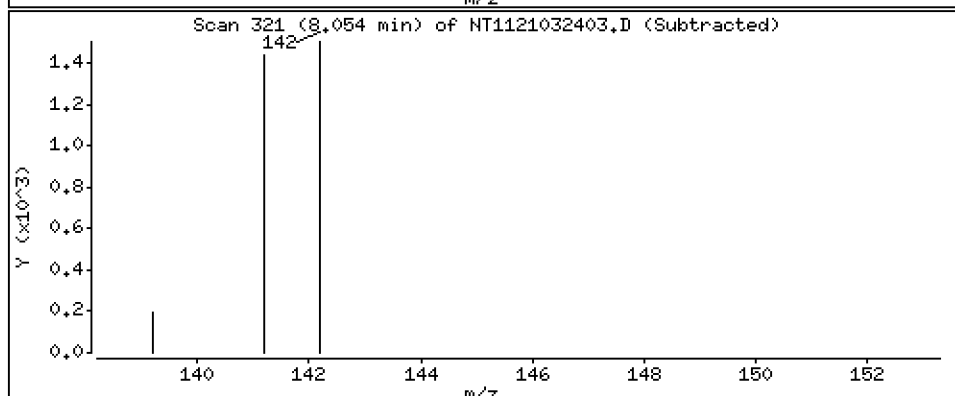
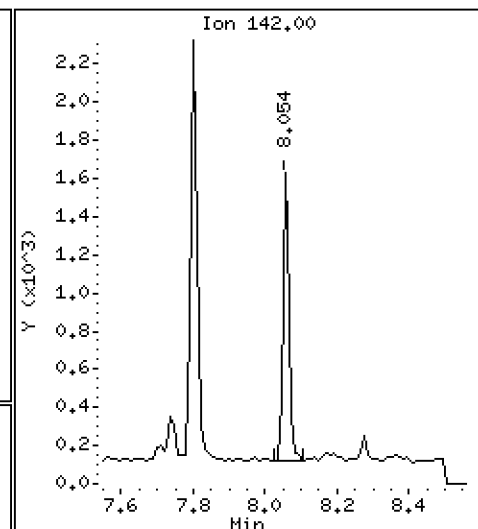
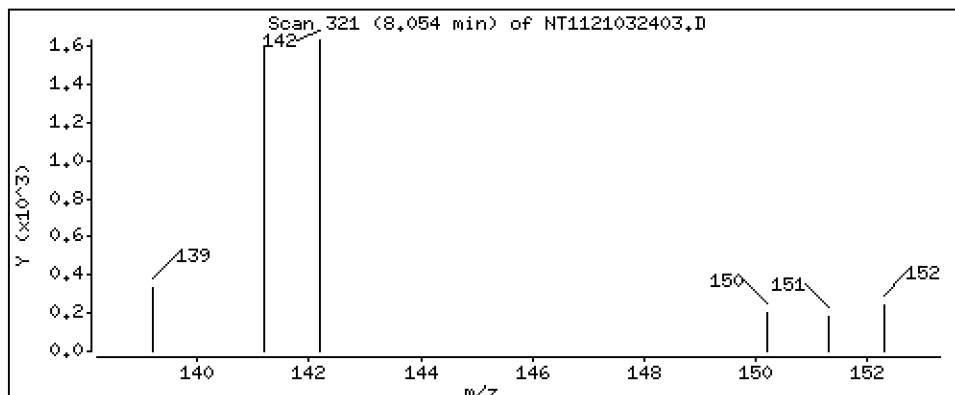
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 1,93 ng/mL



Date : 24-MAR-2021 14:33

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BLK1

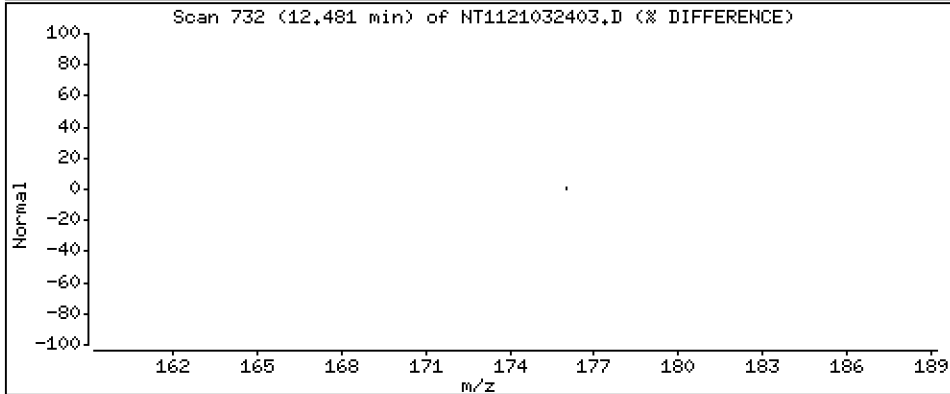
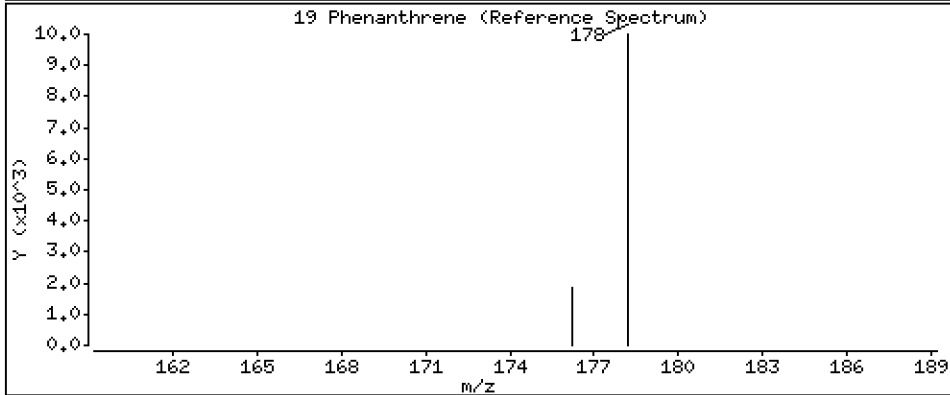
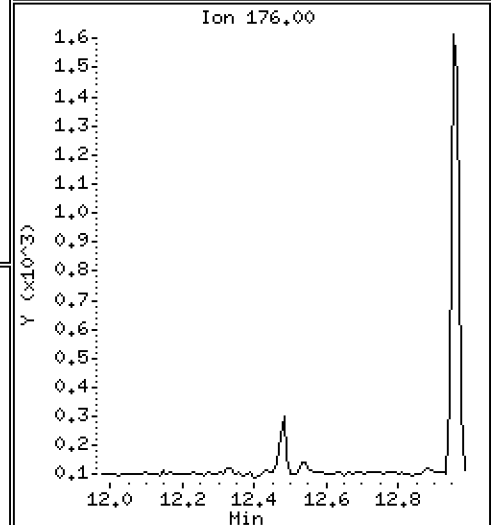
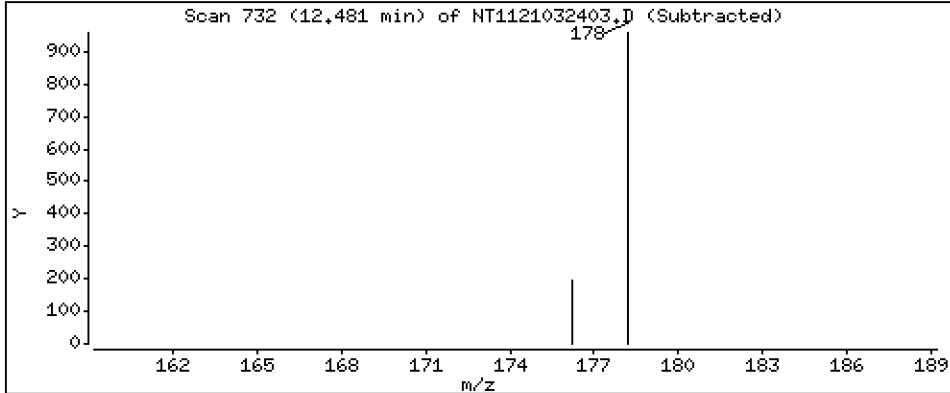
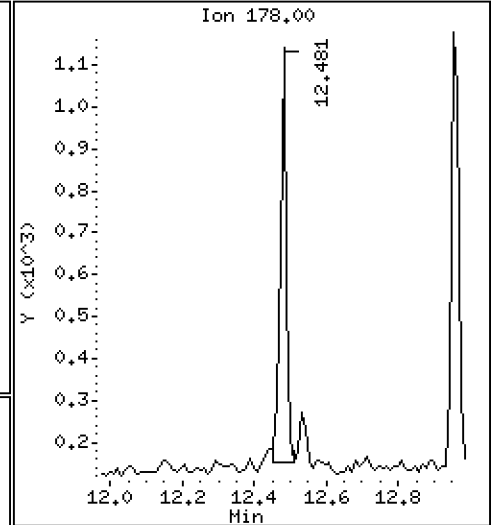
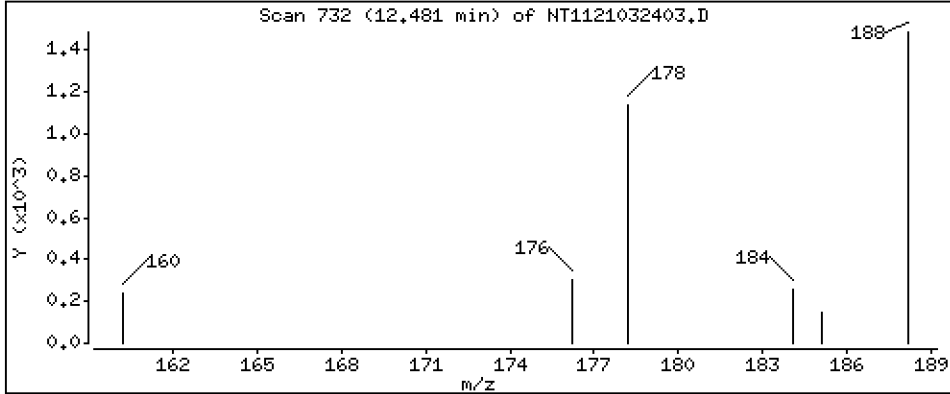
Operator: VTS

Column phase: Rxi-17Si11 MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 1,01 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20210324.b\NT1121032403.D
 Lab Smp Id: BJC0356-BLK1
 Inj Date : 24-MAR-2021 14:33 MS Autotune Date: 15-JAN-2015 16:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : BJC0356-BLK1
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20210324.b\lowsim.m
 Meth Date : 24-Mar-2021 14:23 van Quant Type: ISTD
 Cal Date : 27-AUG-2020 13:38 Cal File: NT1120082704.D
 Als bottle: 3
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PAH.sub
 Target Version: 4.14
 Processing Host: VANS-202011

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		6.777	6.777	(1.000)	253686	200.000	
2 Naphthalene	128		6.813	6.813	(1.005)	5452	3.70139	3.70 (M)
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		7.749	7.749	(1.143)	215142	210.913	211
5 2-Methylnaphthalene	142		7.801	7.801	(1.151)	2786	2.34625	2.35 (M)
6 1-Methylnaphthalene	142		8.054	8.054	(1.188)	2130	1.92969	1.93 (M)
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		Compound Not Detected.					
9 2,6-Dimethylnaphthalene	156		Compound Not Detected.					
10 Acenaphthylene	152		Compound Not Detected.					
* 11 Acenaphthene-d10	164		9.779	9.770	(1.000)	130836	200.000	
12 Acenaphthene	153		Compound Not Detected.					
13 Dibenzofuran	168		Compound Not Detected.					
14 2,3,5-Trimethylnaphthalene	170		Compound Not Detected.					
16 Fluorene	166		Compound Not Detected.					
17 Dibenzothiophene	184		Compound Not Detected.					
* 18 Phenanthrene-d10	188		12.439	12.439	(1.000)	201483	200.000	
19 Phenanthrene	178		12.481	12.481	(1.003)	1336	1.01364	1.01
21 Anthracene	178		Compound Not Detected.					
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		Compound Not Detected.					
\$ 24 Fluoranthene-d10	212		14.539	14.530	(1.169)	227272	215.151	215
25 Fluoranthene	202		Compound Not Detected.					
26 Pyrene	202		Compound Not Detected.					
27 Benzo(a)anthracene	228		Compound Not Detected.					
* 28 Chrysene-d12	240		17.172	17.163	(1.000)	140927	200.000	
29 Chrysene	228		Compound Not Detected.					
30 Benzo(b)fluoranthene	252		Compound Not Detected.					
31 Benzo(k)fluoranthene	252		Compound Not Detected.					
32 Benzo(j)fluoranthene	252		Compound Not Detected.					
34 Benzo(e)pyrene	252		Compound Not Detected.					
35 Benzo(a)pyrene	252		Compound Not Detected.					
* 36 Perylene-d12	264		19.903	19.903	(1.000)	156893	200.000	
37 Perylene	252		Compound Not Detected.					

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/mL)
=====	=====	=====	=====	=====	=====	=====	=====
\$ 38 Dibenzo(a,h)anthracene-d14	292	22.316	22.305	(1.121)	92217	151.282	151
39 Dibenzo(a,h)anthracene	278				Compound Not Detected.		
40 Indeno(1,2,3-cd)pyrene	276				Compound Not Detected.		
41 Benzo(g,h,i)perylene	276				Compound Not Detected.		

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 24-MAR-2021
 Lab File ID: NT1121032403.D Calibration Time: 13:25
 Lab Smp Id: BJC0356-BLK1
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20210324.b\lowsim.m
 Misc Info:

Test Mode:
 Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	211546	105773	423092	253686	19.92
11 Acenaphthene-d10	115033	57517	230066	130836	13.74
18 Phenanthrene-d10	167782	83891	335564	201483	20.09
28 Chrysene-d12	125684	62842	251368	140927	12.13
36 Perylene-d12	145995	72998	291990	156893	7.46

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	6.78	6.28	7.28	6.78	-0.00
11 Acenaphthene-d10	9.77	9.27	10.27	9.78	0.09
18 Phenanthrene-d10	12.44	11.94	12.94	12.44	-0.00
28 Chrysene-d12	17.16	16.66	17.66	17.17	0.05
36 Perylene-d12	19.90	19.40	20.40	19.90	-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 - NT1121032403.D

Lab ID: BJC0356-BLK1

nt11.i, 20210324.b\lowsim.m, 24-MAR-2021 14:33

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

RRT check based on Ccal File: NT1121032402.D

On Column LOD for nt11.i, 20210324.b\lowsim.m, PAH.sub = 0.0000

Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000

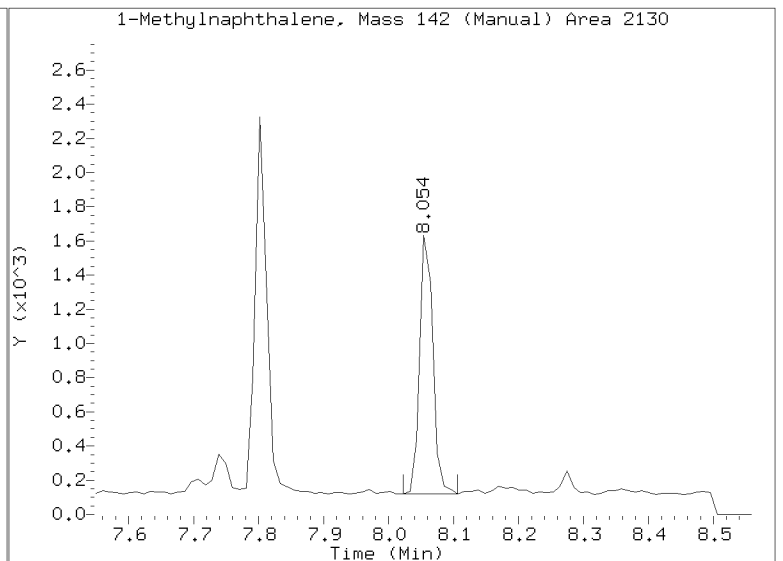
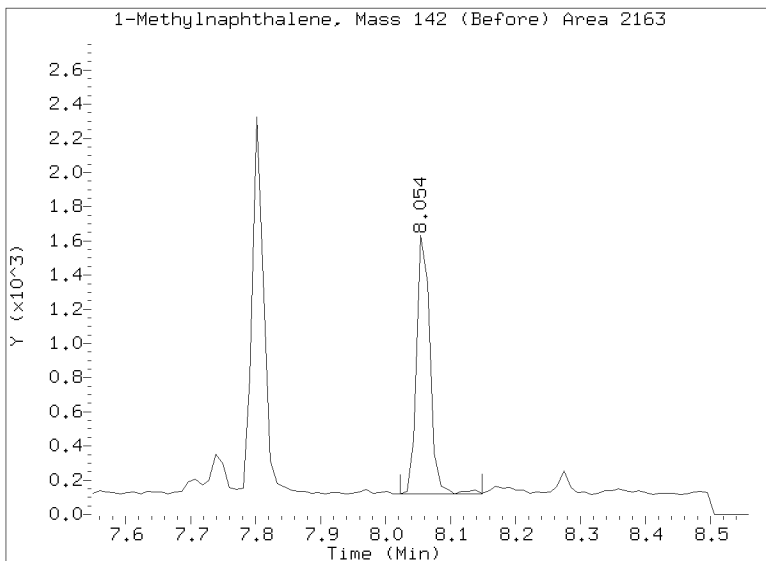
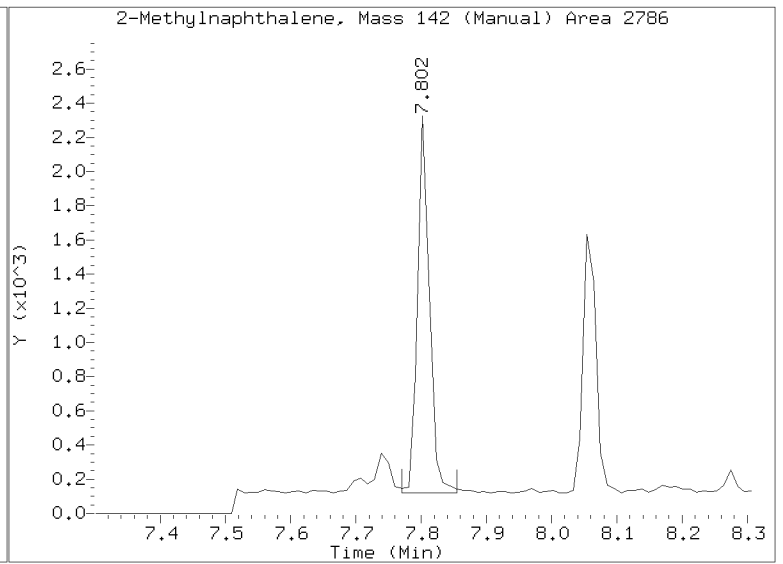
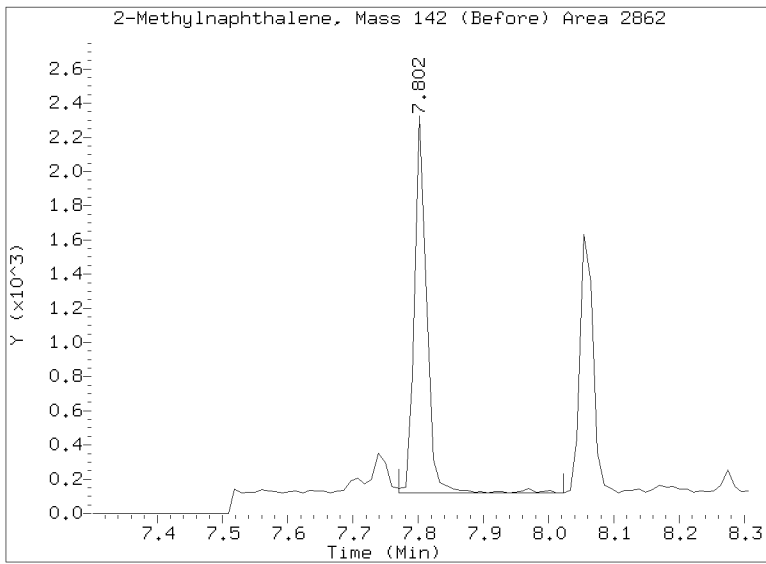
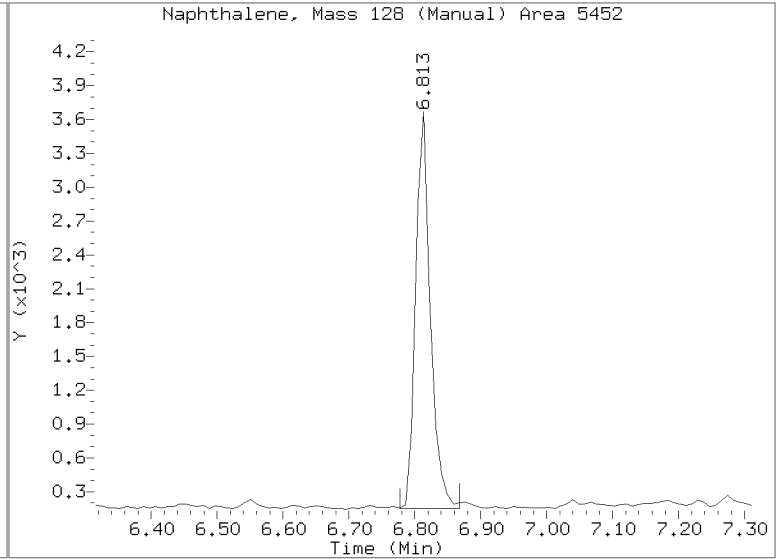
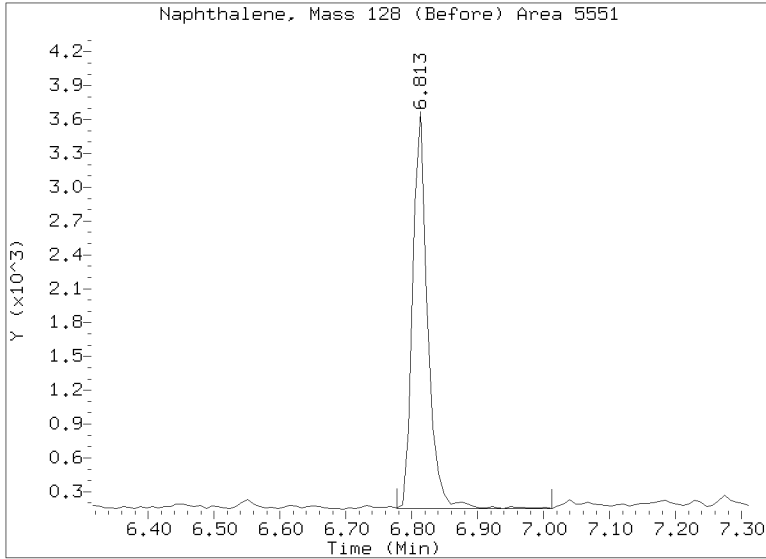
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000

Exception: Fluoranthene-d10 (Surr) 0.1000

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

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20210324.b/NT1121032403.D
Injection Date: 24-MAR-2021 14:33
Lab ID:BJC0356-BLK1 Client ID:
Report Date: 03/25/2021 07:02





Form I
METHOD BLANK DATA SHEET
EPA 8270E-SIM

Blank

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>21C0175</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>GascoSiltronic: US Moorings</u>
Matrix:	<u>Water</u>	Laboratory ID:	<u>BJC0357-BLK1</u>
Sampled:	<u>N/A</u>	Prepared:	<u>03/16/21 09:29</u>
Solids:		Preparation:	<u>EPA 3510C SepF</u>
Batch:	<u>BJC0357</u>	Sequence:	<u>SJC0283</u>
Instrument:	<u>NT8</u>	Column:	<u>RXI-17Sil ms</u>
		Cleanups:	<u>Silica Gel</u>

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
36643-28-4	Tributyltin Ion	1	0.193	U	0.043	0.193
SURROGATES		ADDED (ug/L)	CONC. (ug/L)	% REC	QC LIMITS	Q
Tripenyltin		2.2589	1.03	45.8	30 - 160	
Tripropyltin		2.1873	0.755	34.5	30 - 160	

Data File: \\target\share\chem3\nt8.1\20210318.6\NT821031803.D

Date: 18-MAR-2021 11:20

Client ID:

Sample Info: BJC0367-BLK1,

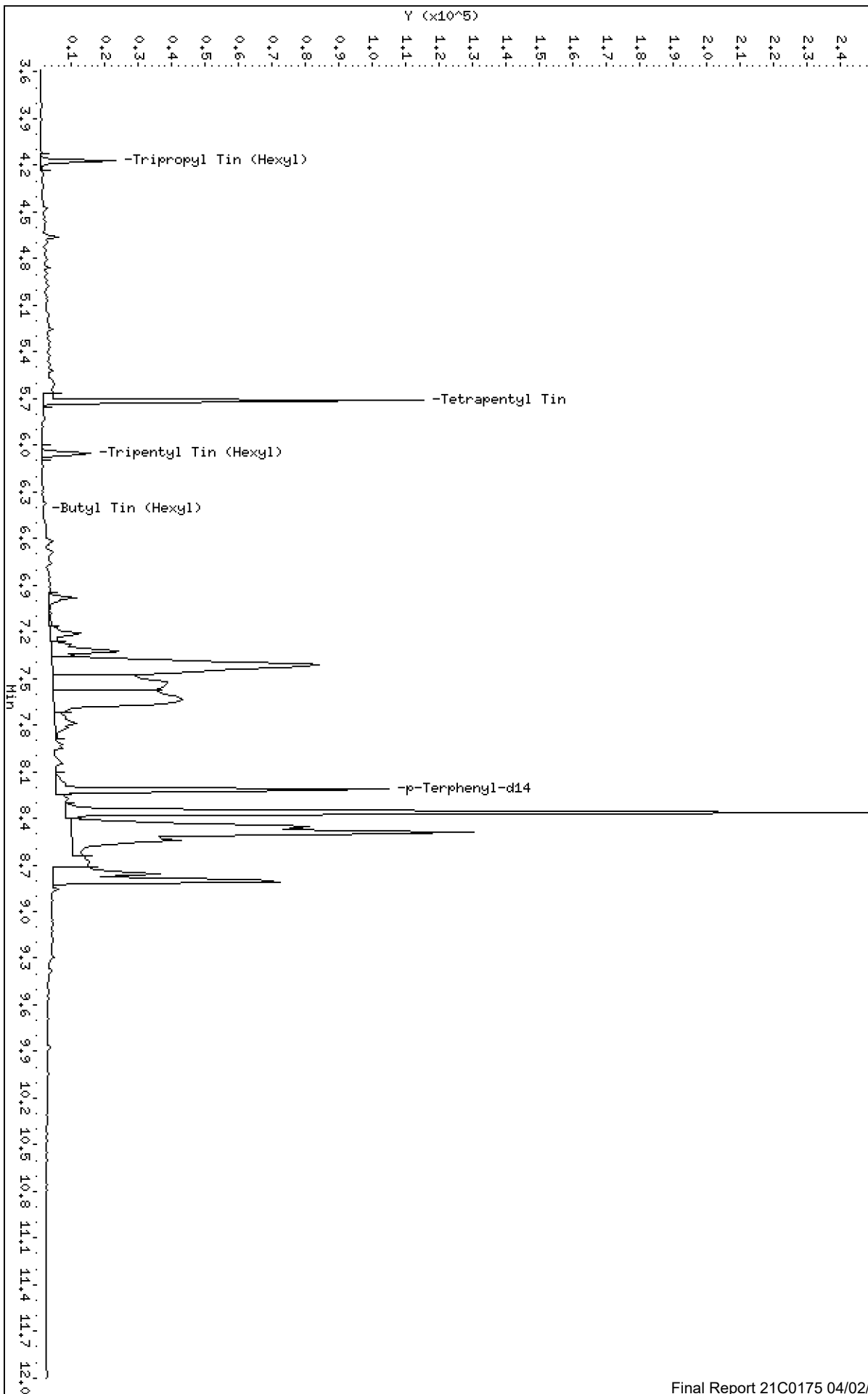
Column phase: ZB-5msi

Instrument: nt8.1

Operator: JZ

Column diameter: 0.25

\\target\share\chem3\nt8.1\20210318.6\NT821031803.D



Date : 18-MAR-2021 11:20

Client ID:

Instrument: nt8.i

Sample Info: BJC0357-BLK1,

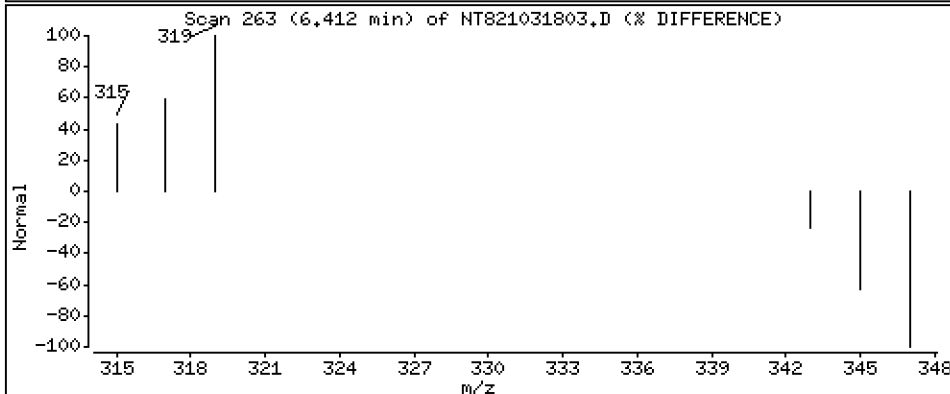
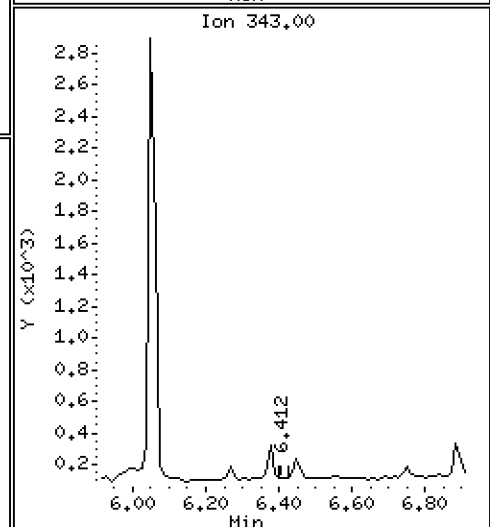
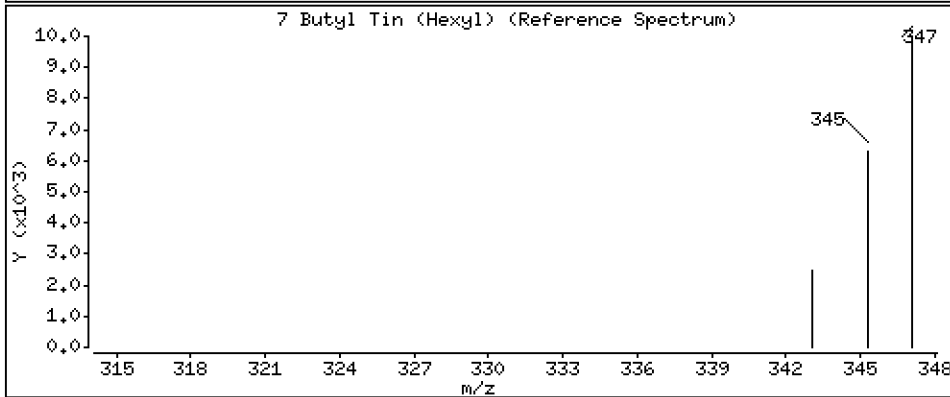
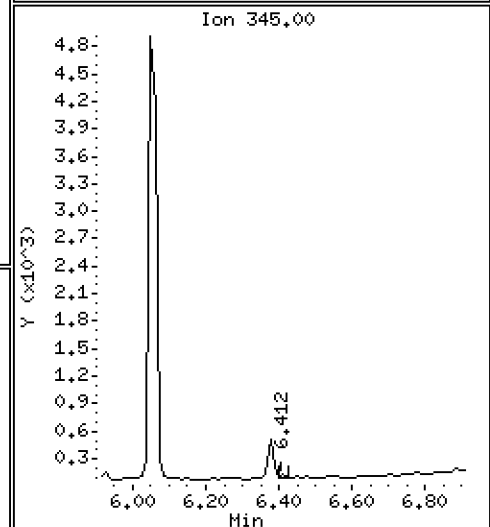
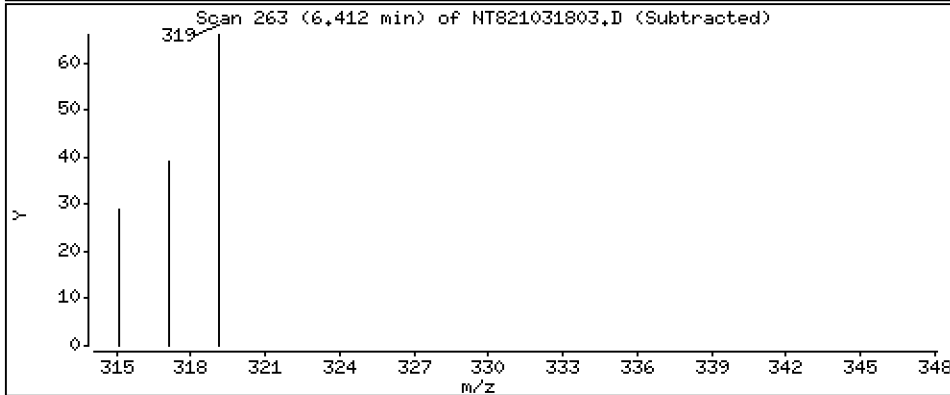
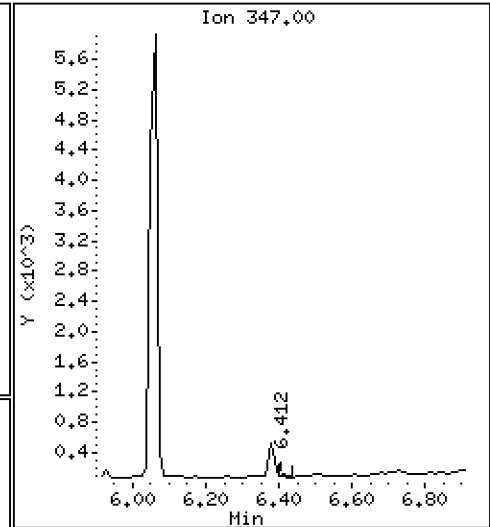
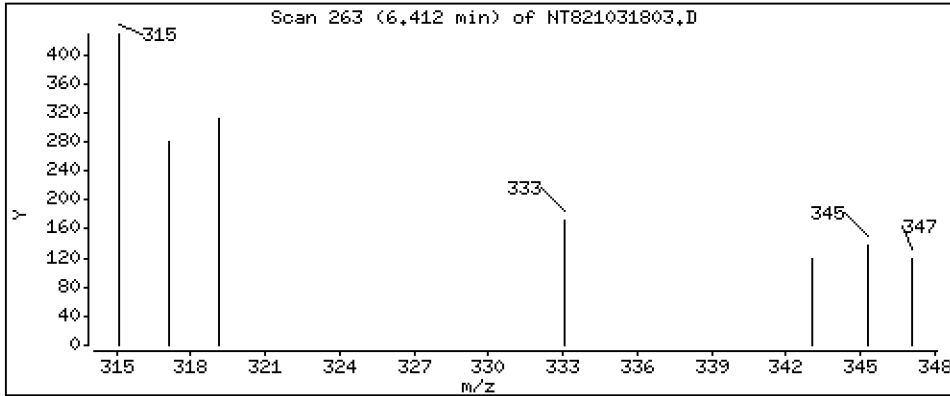
Operator: JZ

Column phase: ZB-5msi

Column diameter: 0.25

7 Butyl Tin (Hexyl)

Concentration: 0.001622 ug/mL



ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt8.i\20210318.b\NT821031803.D
 Lab Smp Id: BJC0357-BLK1
 Inj Date : 18-MAR-2021 11:20
 Operator : JZ Inst ID: nt8.i
 Smp Info : BJC0357-BLK1,
 Misc Info : 21-
 Comment : 2 ul Injection
 Method : \\target\share\chem3\nt8.i\20210318.b\TBT201215.m
 Meth Date : 18-Mar-2021 11:06 nt8.i Quant Type: ISTD
 Cal Date : 15-DEC-2020 11:33 Cal File: NT820121508.D
 Als bottle: 3
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: sedmdl.sub
 Target Version: 4.14
 Processing Host: ORGDATA22

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN	FINAL
	MASS						(ug/mL)	(ug/mL)
\$ 1 Tripropyl Tin (Hexyl)	291		4.169	4.138	(0.730)	12881	0.20276	0.2028
2 Tetrabutyl Tin	289		Compound Not Detected.					
3 Tributyl Tin (Hexyl)	319		Compound Not Detected.					
* 4 Tetrapentyl Tin	333		5.711	5.711	(1.000)	125019	2.00000	
5 Dibutyl Tin (Hexyl)	347		Compound Not Detected.					
\$ 6 Tripentyl Tin (Hexyl)	347		6.061	6.061	(0.738)	7658	0.25996	0.2600
7 Butyl Tin (Hexyl)	347		6.412	6.412	(0.781)	57	0.00162	0.001622 (M)
* 8 p-Terphenyl-d14	244		8.215	8.215	(1.000)	110913	0.20000	

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt8.i Calibration Date: 18-MAR-2021
 Lab File ID: NT821031803.D Calibration Time: 10:46
 Lab Smp Id: BJC0357-BLK1
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: JZ
 Method File: \\target\share\chem3\nt8.i\20210318.b\TBT201215.m
 Misc Info: 21-

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	72645	36323	145290	125019	72.10
8 p-Terphenyl-d14	65742	32871	131484	110913	68.71

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	5.71	5.21	6.21	5.71	0.00
8 p-Terphenyl-d14	8.22	7.72	8.72	8.22	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 - NT821031803.D

Lab ID: BJC0357-BLK1

nt8.i, 20210318.b\TBT201215.m, 18-MAR-2021 11:20

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.730	0.725	0.0055	Tripropyl Tin (Hexyl)

RRT check based on Ccal File: NT821031802.D

On Column LOD for nt8.i, 20210318.b\TBT201215.m, sedmdl.sub = 0.0000

Exception: Tripropyl Tin (Hexyl) (Surr) 0.0010

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

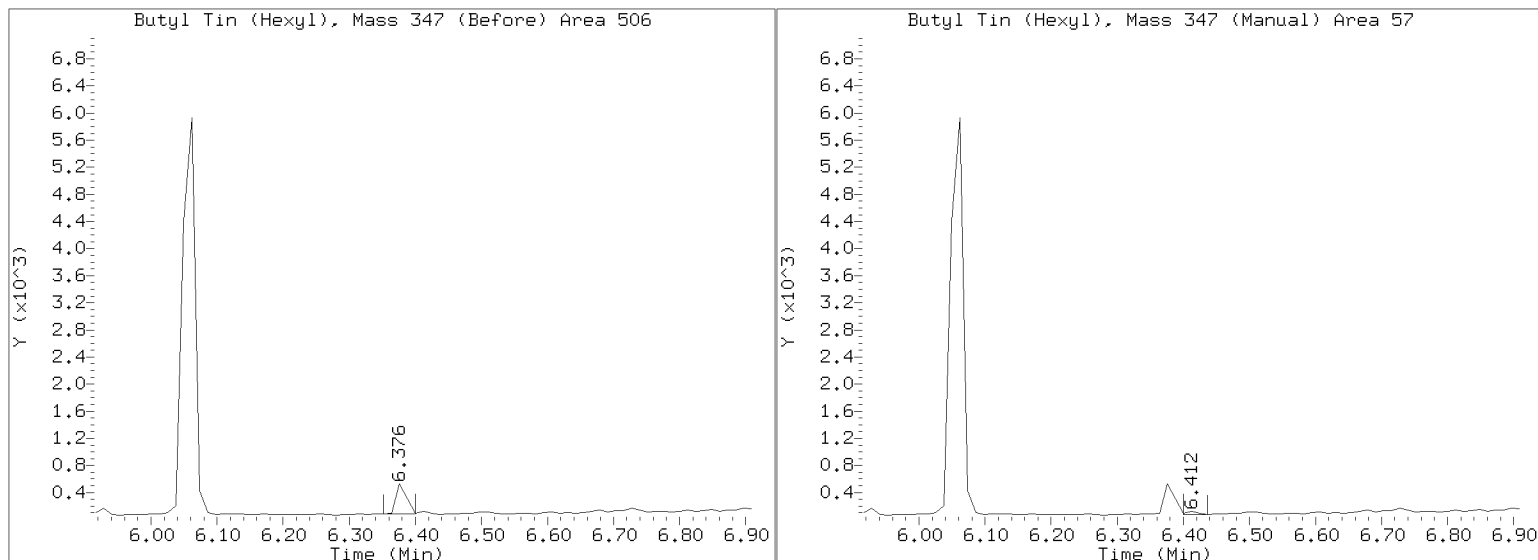
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt8.i/20210318.b/NT821031803.D

Injection Date: 18-MAR-2021 11:20

Lab ID:BJC0357-BLK1 Client ID:

Report Date: 03/18/2021 15:14





LCS / LCS DUPLICATE RECOVERY
EPA 8270E-SIM

Laboratory: Analytical Resources, Inc. SDG: 21C0175
 Client: Anchor QEA, LLC Project: GascoSiltronic: US Moorings
 Matrix: Water Analyzed: 03/24/21 15:05
 Batch: BJC0356 Laboratory ID: BJC0356-BS1
 Preparation: EPA 3510C SepF Sequence Name: LCS
 Initial/Final: 500 mL / 0.5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	Q	LCS % REC. #	QC LIMITS REC.
Naphthalene	0.300	0.202		67.2	37 - 120
2-Methylnaphthalene	0.300	0.203		67.7	37 - 120
Acenaphthylene	0.300	0.174		58.1	41 - 120
Acenaphthene	0.300	0.179		59.8	41 - 120
Fluorene	0.300	0.191		63.7	43 - 120
Phenanthrene	0.300	0.210		70.0	41 - 120
Anthracene	0.300	0.194		64.8	40 - 120
Fluoranthene	0.300	0.215		71.7	45 - 120
Pyrene	0.300	0.215		71.6	41 - 120
Benzo(a)anthracene	0.300	0.195		65.1	42 - 120
Chrysene	0.300	0.203		67.7	44 - 120
Benzo(b)fluoranthene	0.300	0.183		60.9	44 - 120
Benzo(k)fluoranthene	0.300	0.218		72.8	50 - 120
Benzo(j)fluoranthene	0.300	0.232		77.2	39 - 160
Benzo(a)pyrene	0.300	0.194		64.8	35 - 120
Indeno(1,2,3-cd)pyrene	0.300	0.212		70.8	37 - 120
Dibenzo(a,h)anthracene	0.300	0.204		68.0	34 - 120
Benzo(g,h,i)perylene	0.300	0.211		70.3	38 - 120

* Indicates values outside of QC limits

Data File: \\target\share\chem3\nt11.1\20210324.6\NT1121032404.D

Date: 24-MAR-2021 15:05

Client ID:

Sample Info: BJC0356-BS1

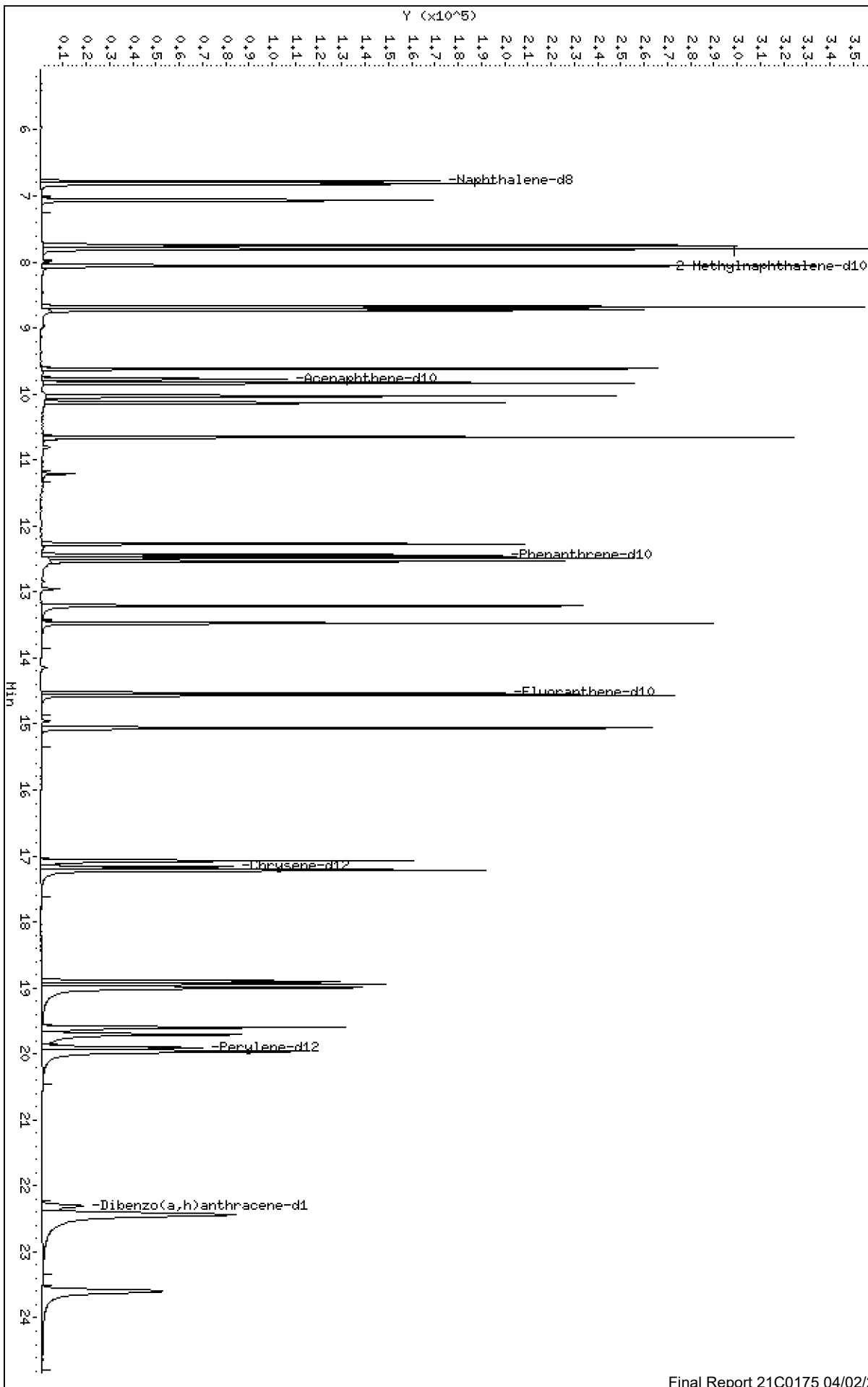
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

\\target\share\chem3\nt11.1\20210324.6\NT1121032404.D



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

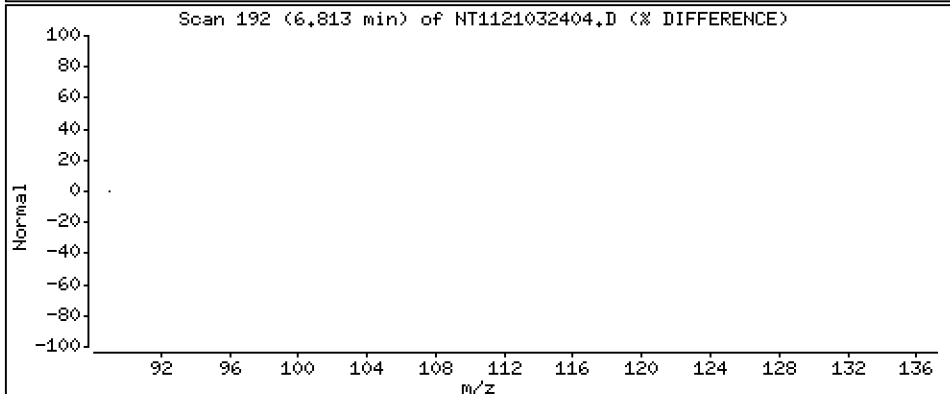
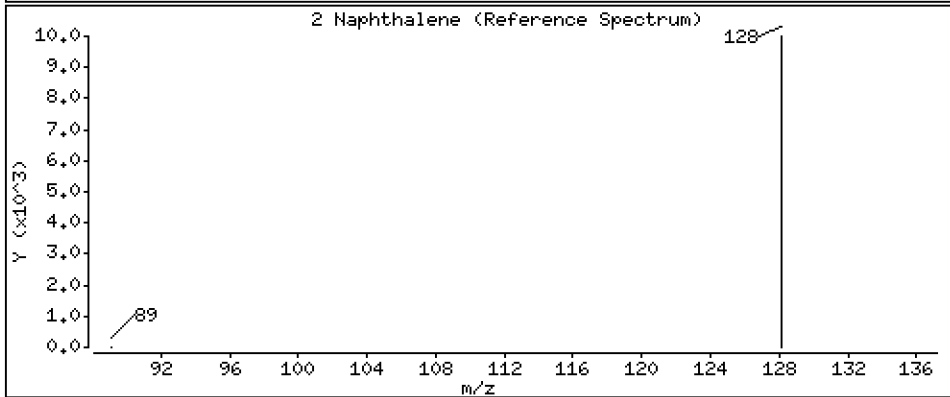
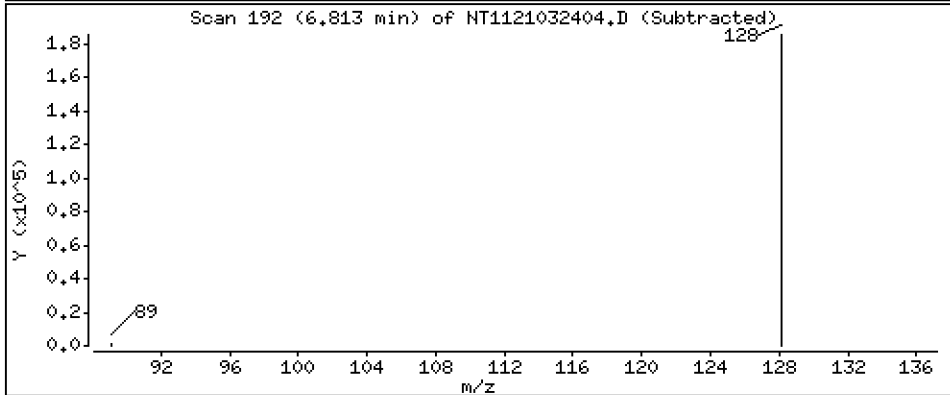
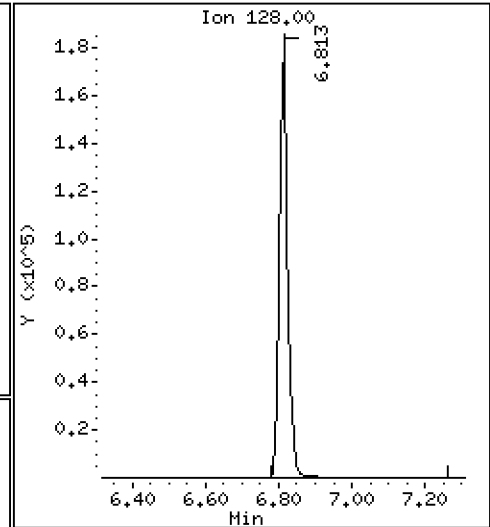
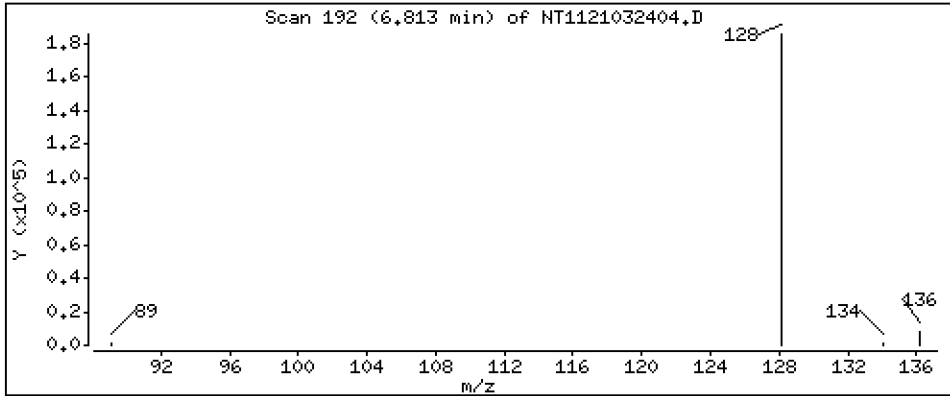
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 202 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

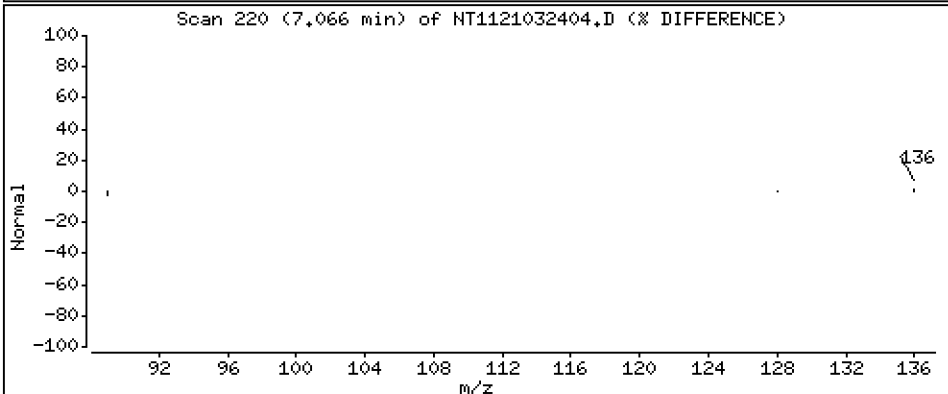
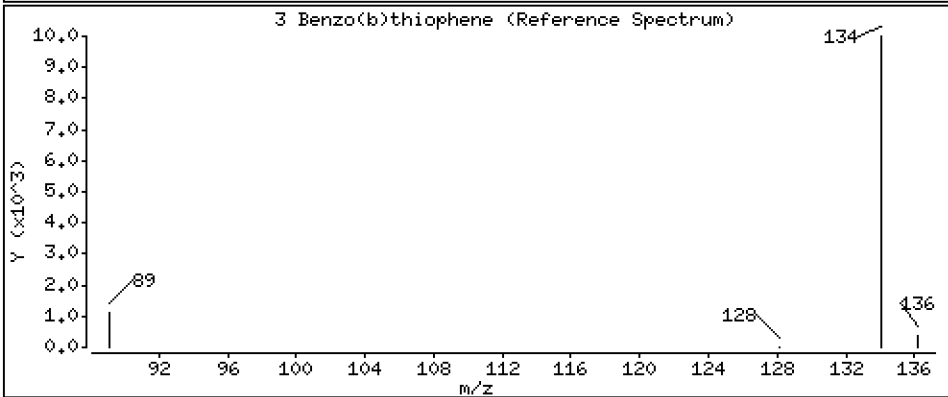
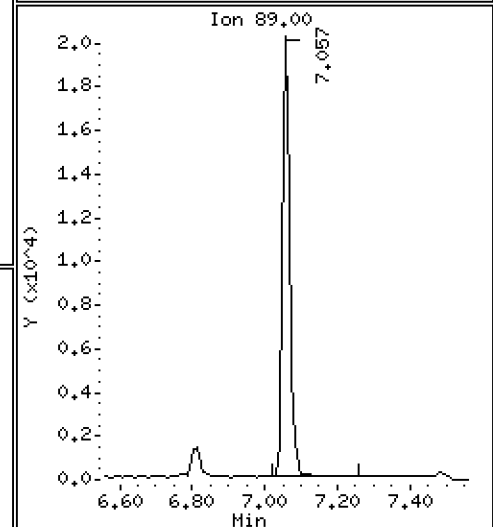
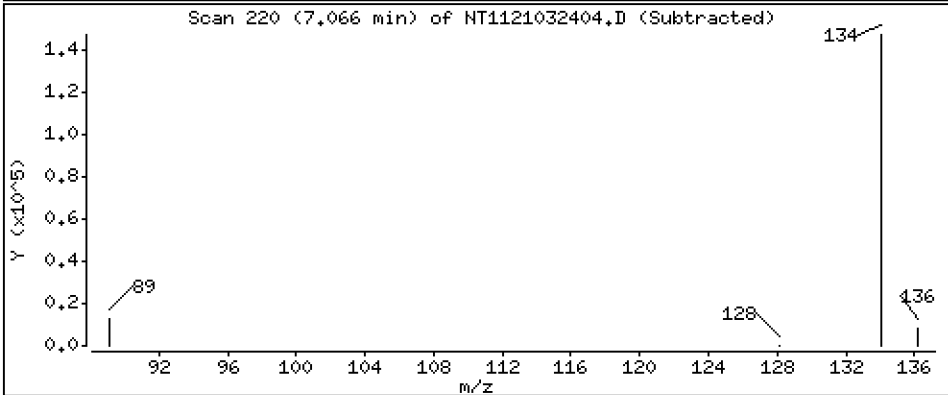
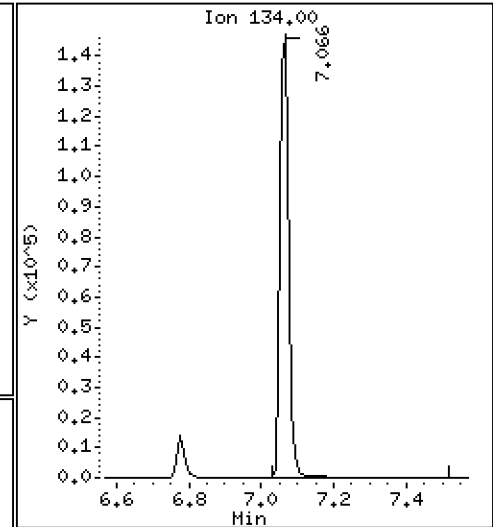
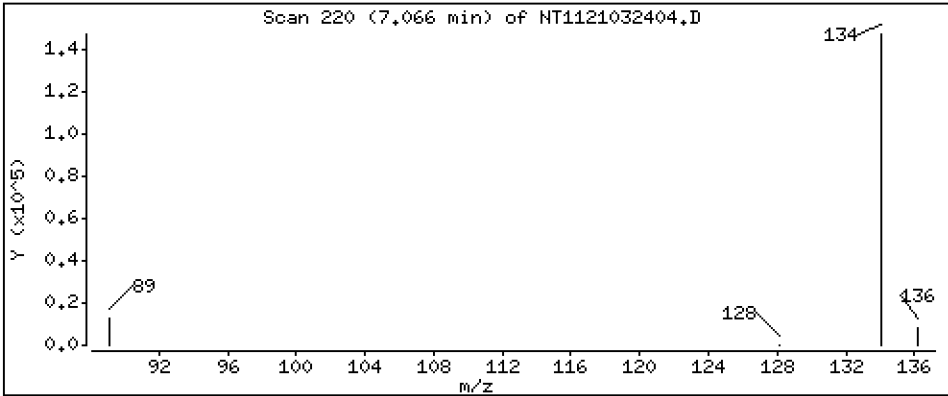
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

3 Benzo(b)thiophene

Concentration: 211 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

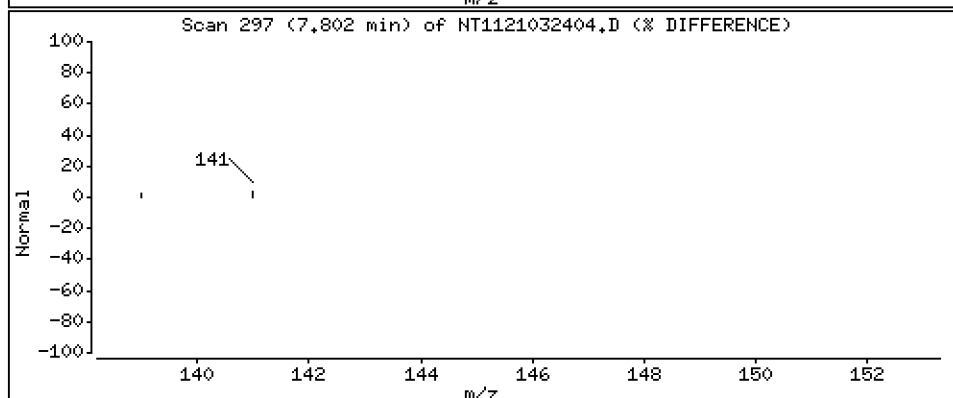
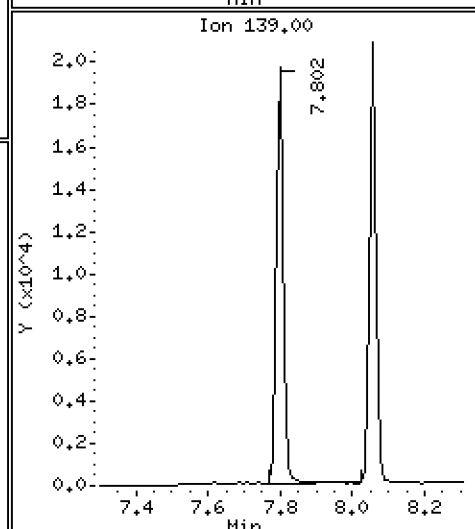
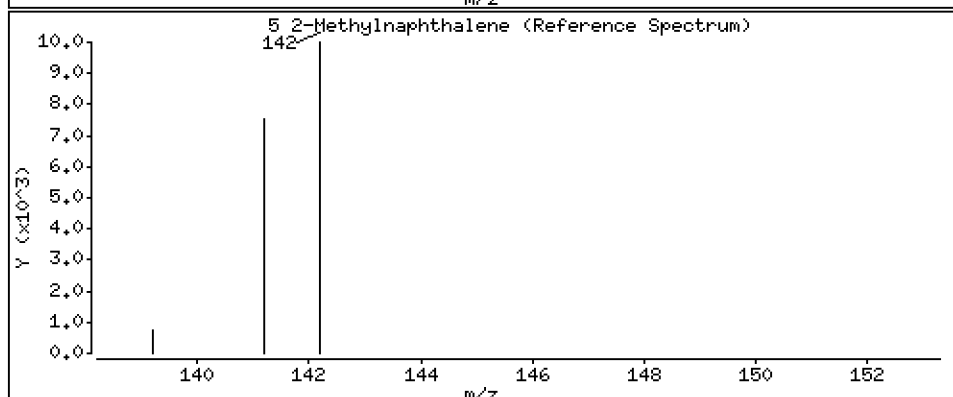
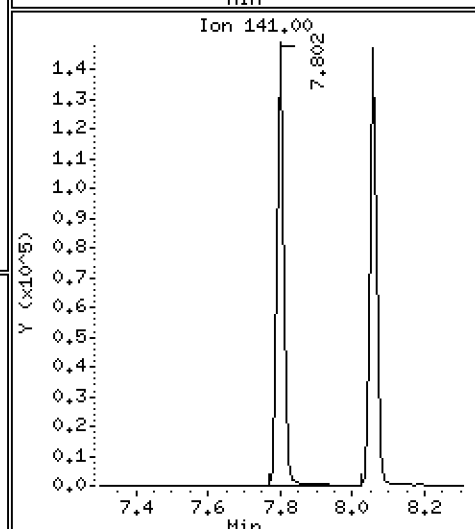
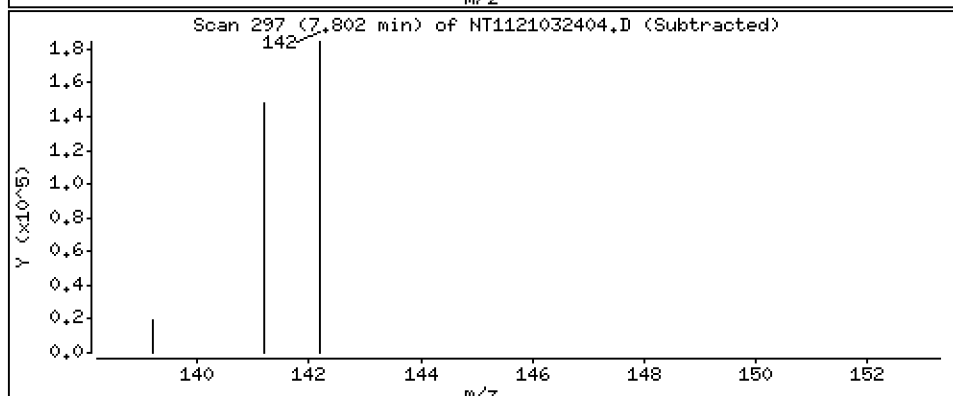
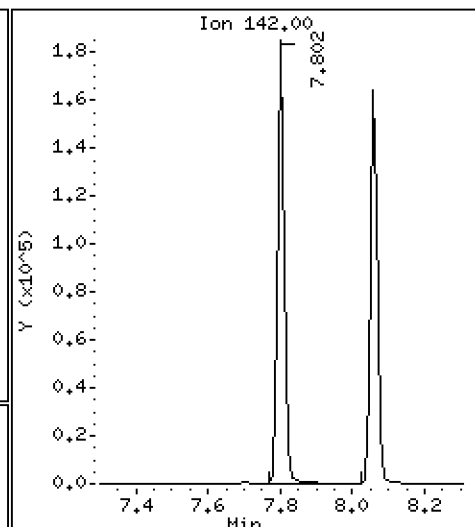
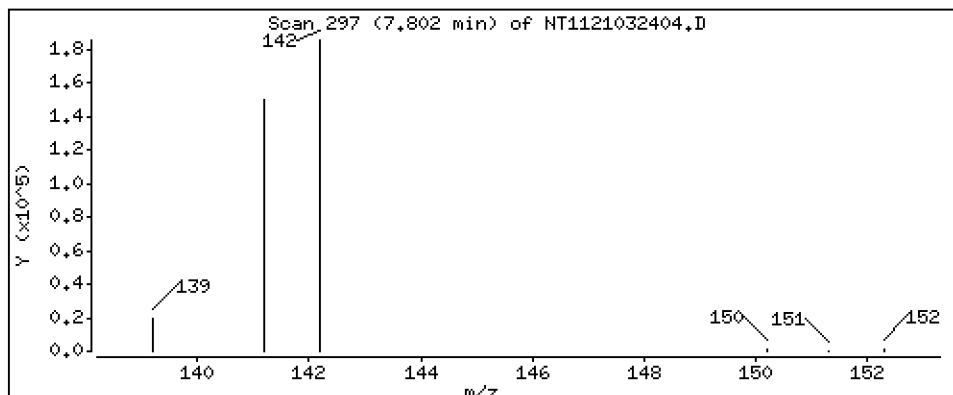
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5-2-Methylnaphthalene

Concentration: 203 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

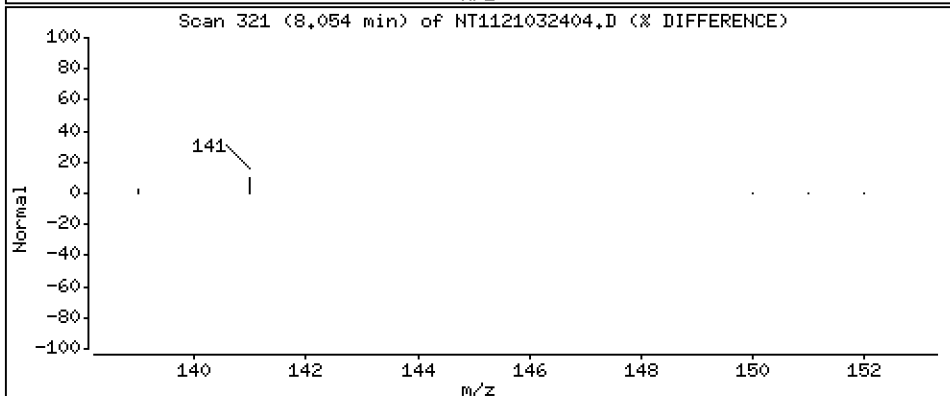
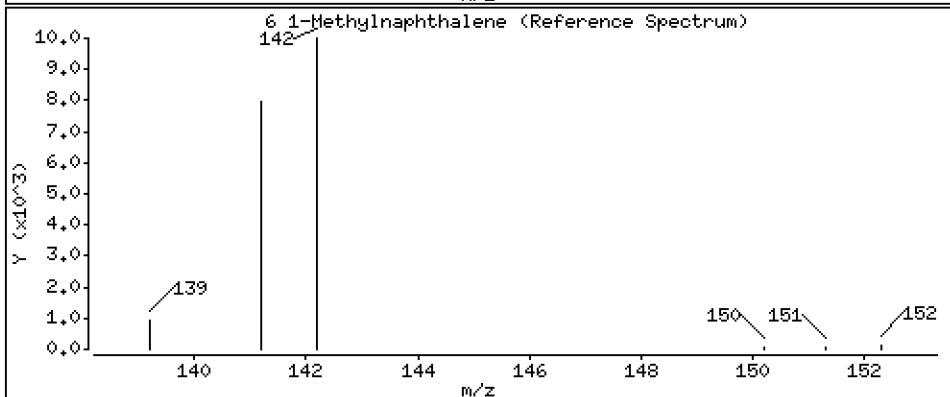
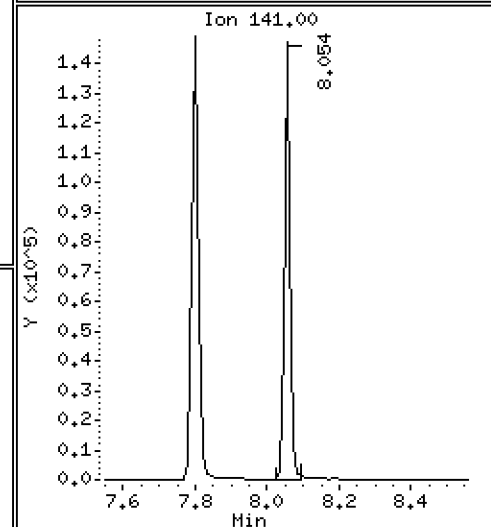
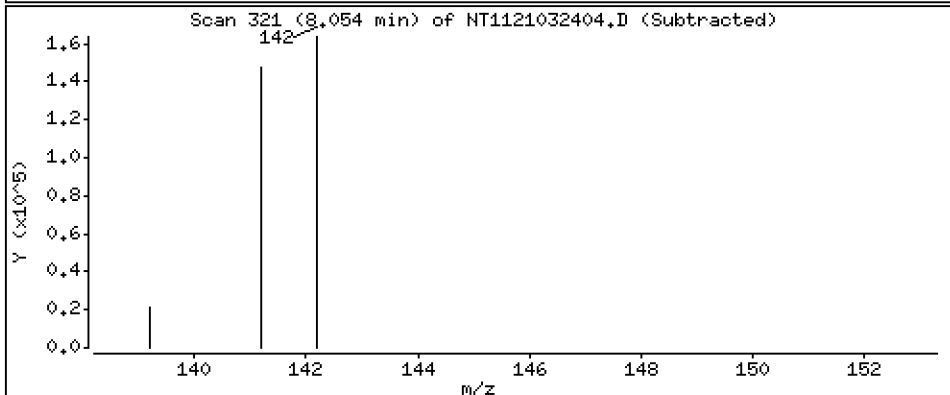
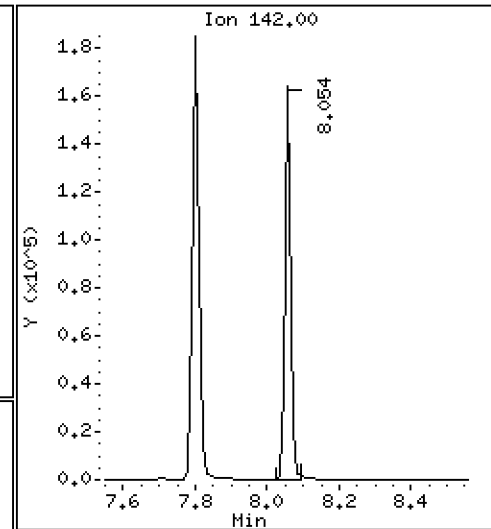
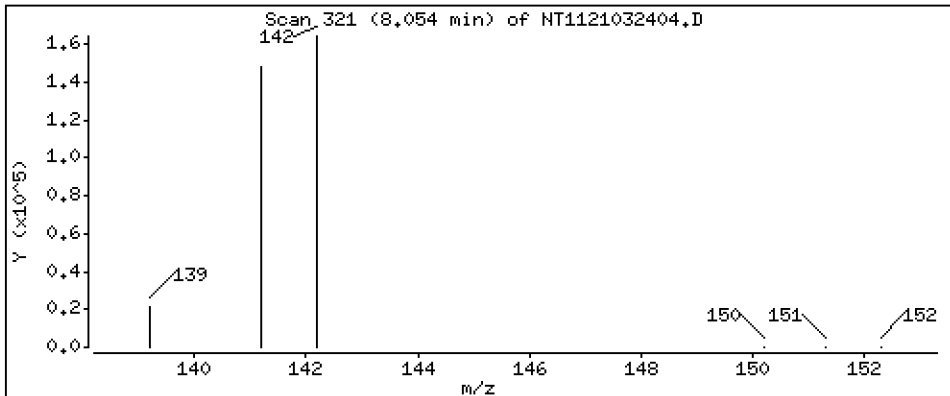
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 204 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

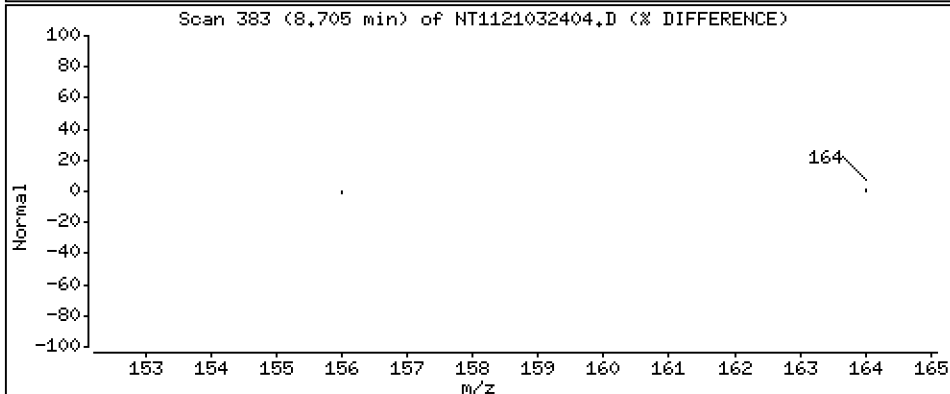
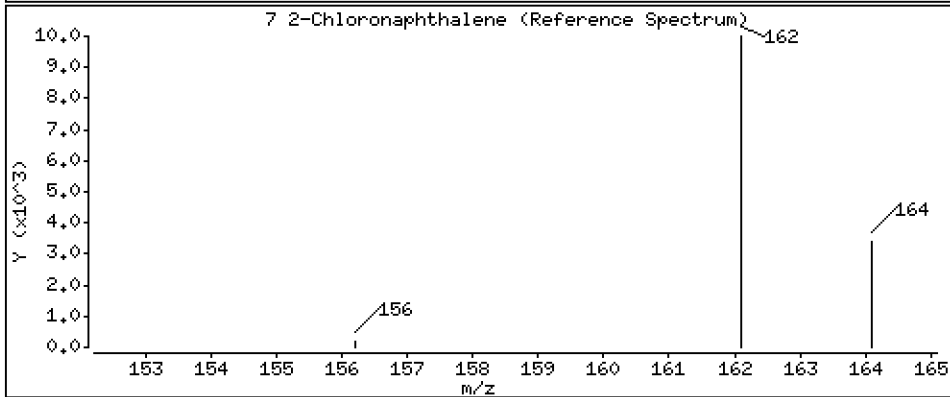
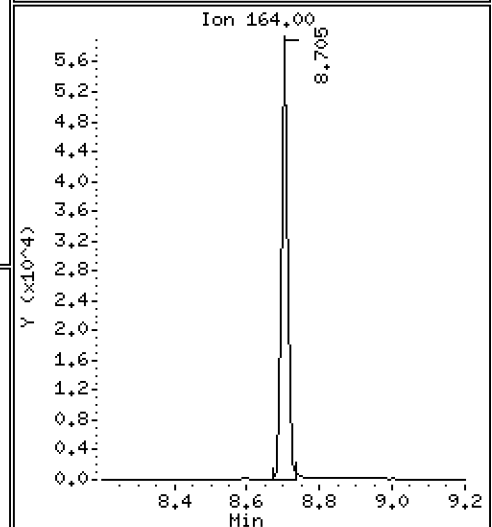
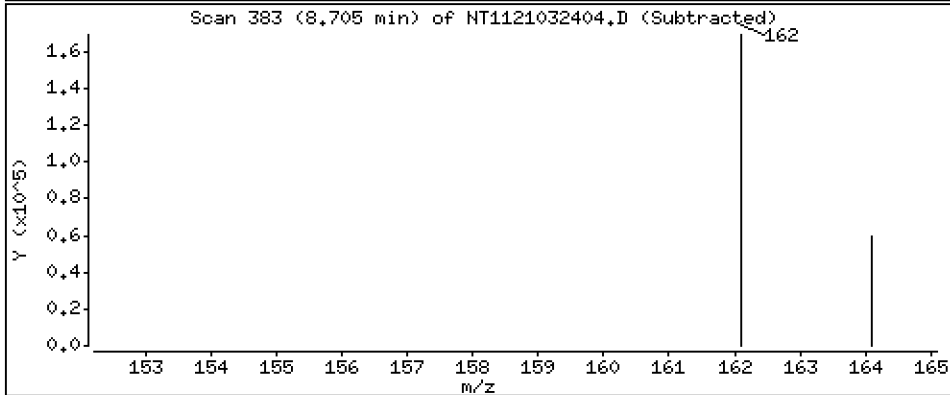
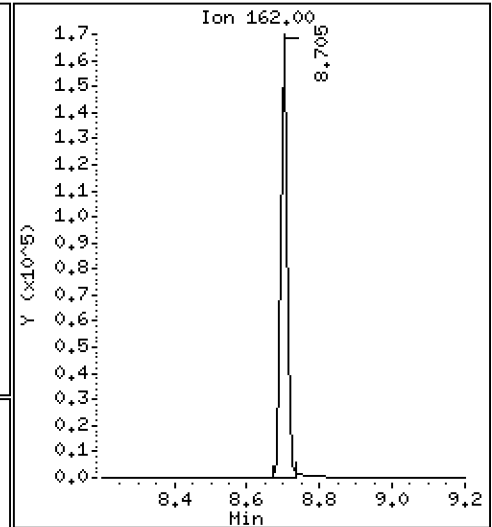
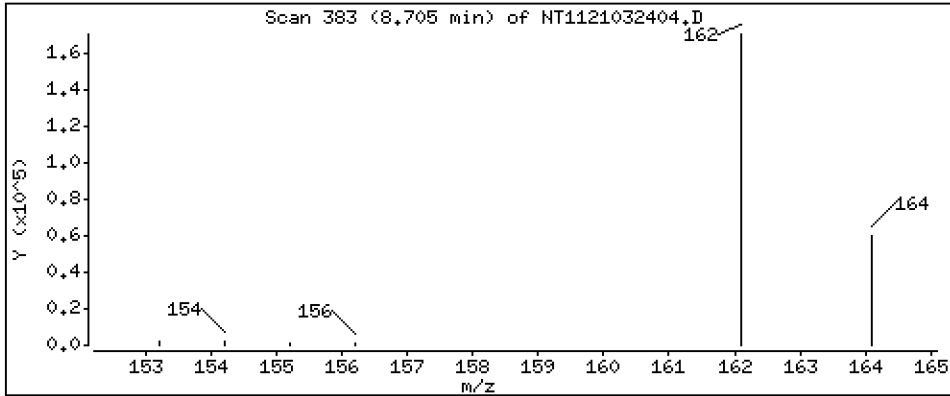
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

7 2-Chloronaphthalene

Concentration: 177 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

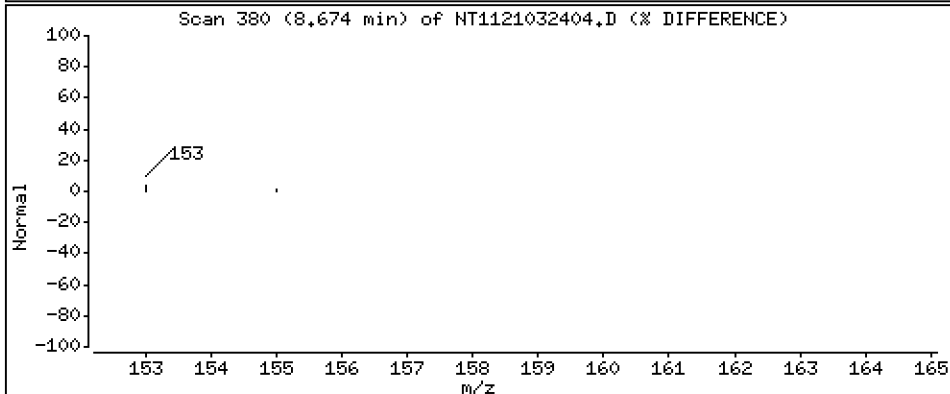
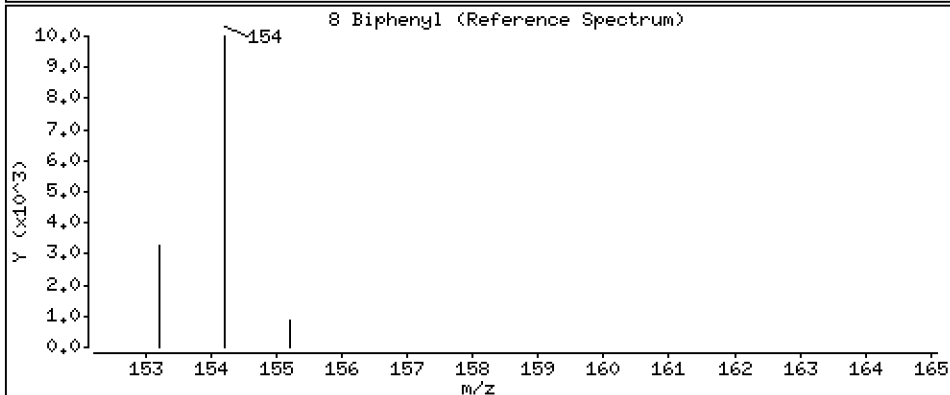
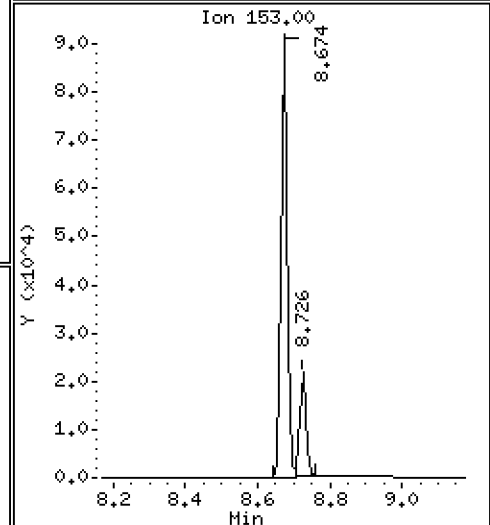
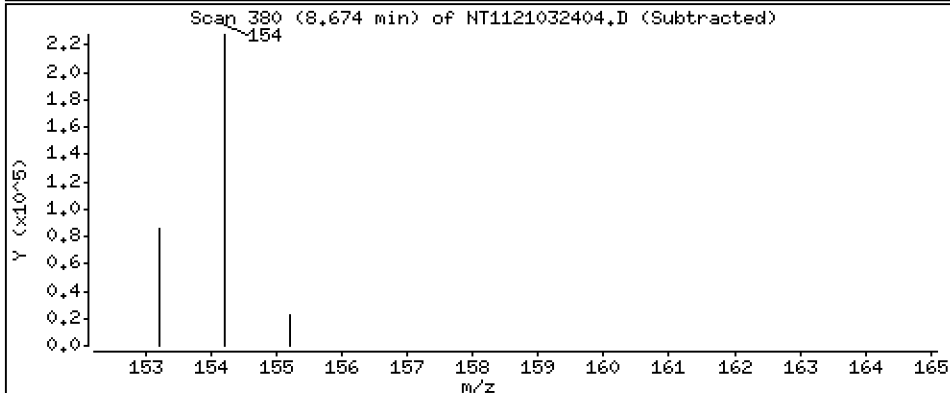
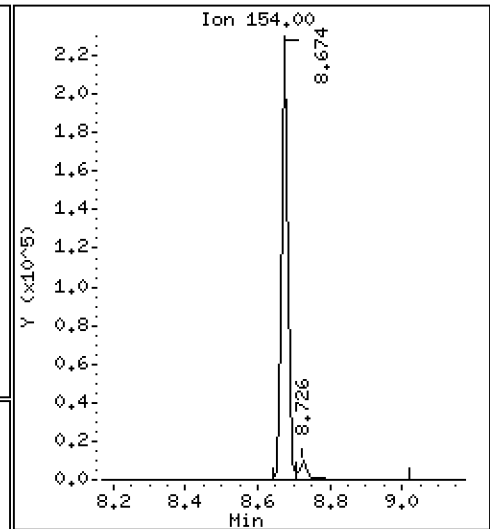
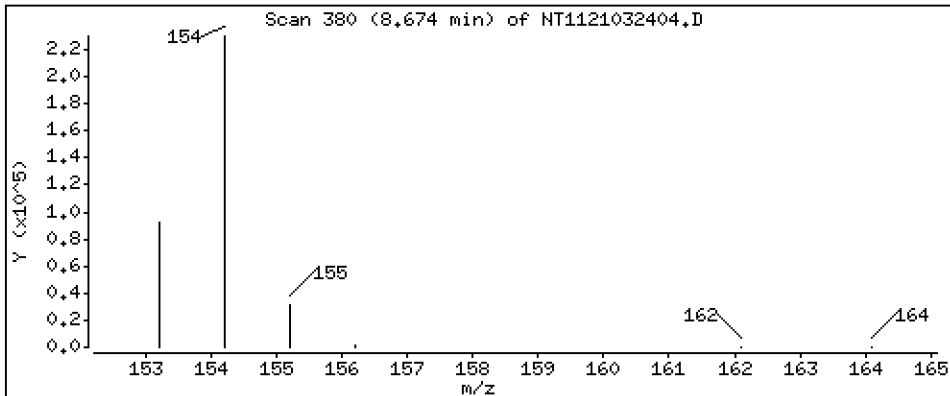
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

8 Biphenyl

Concentration: 175 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

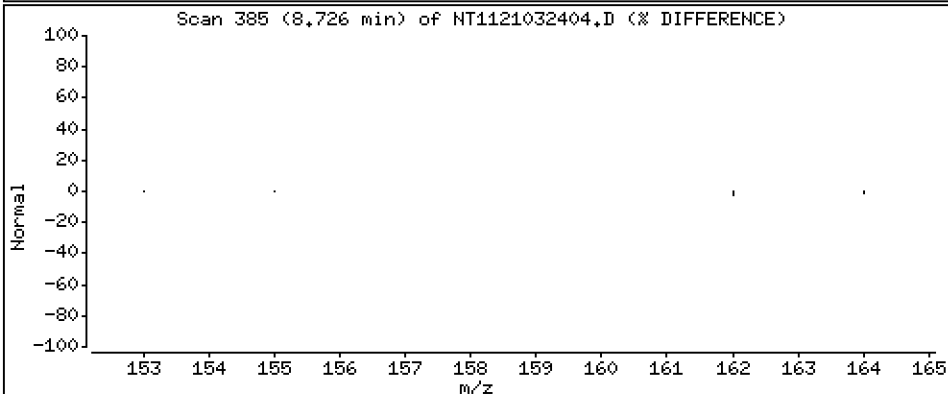
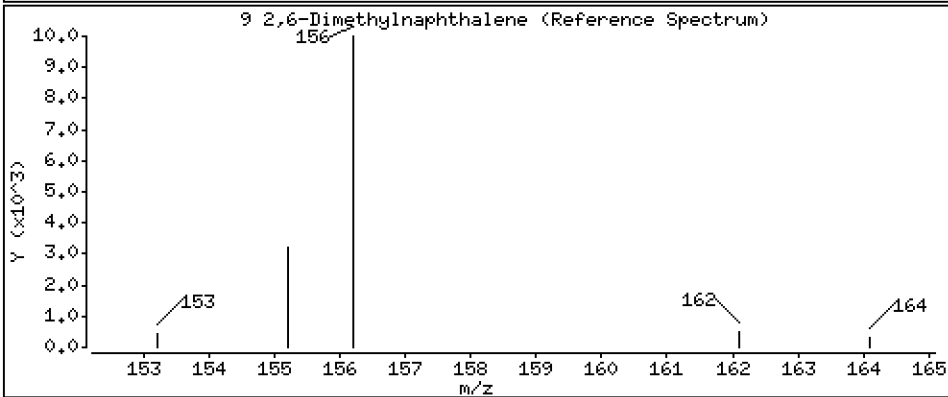
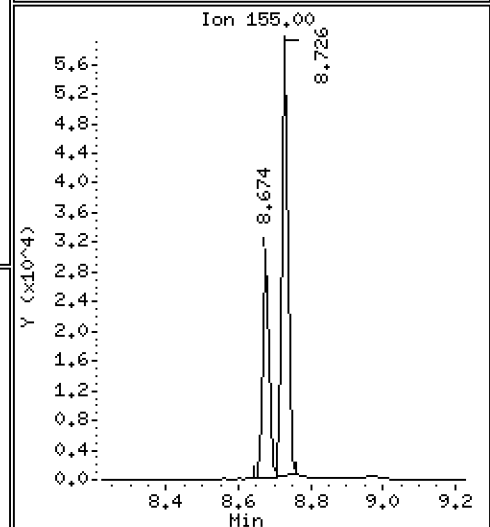
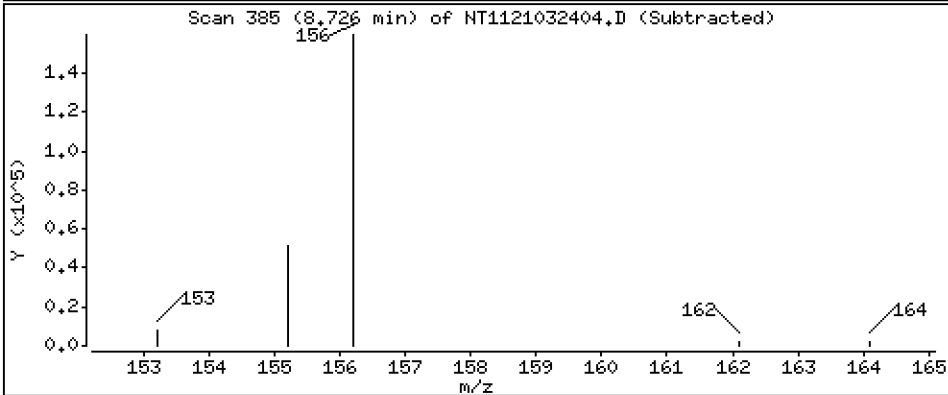
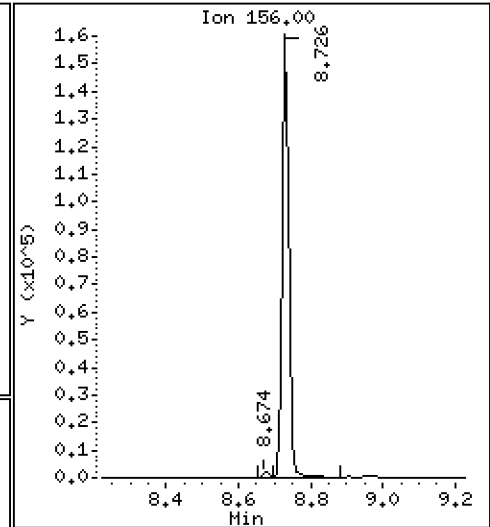
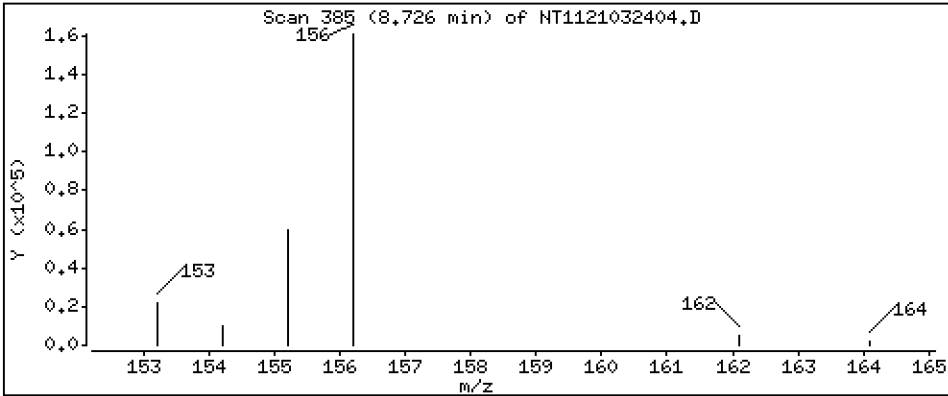
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

9,2,6-Dimethylnaphthalene

Concentration: 179 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

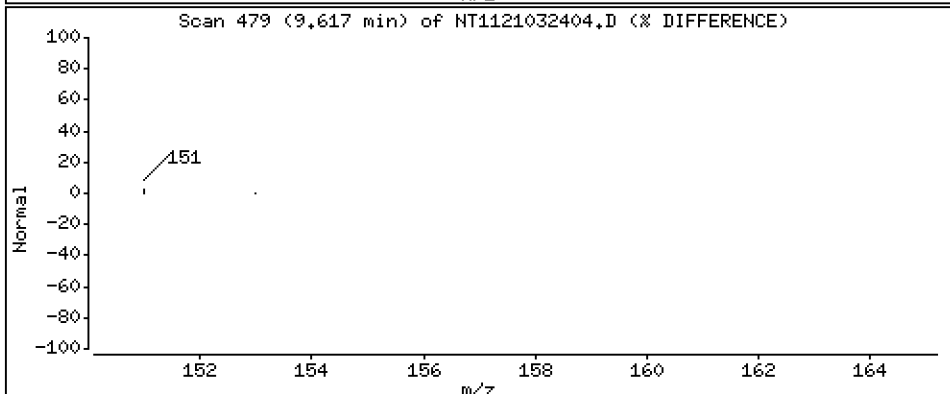
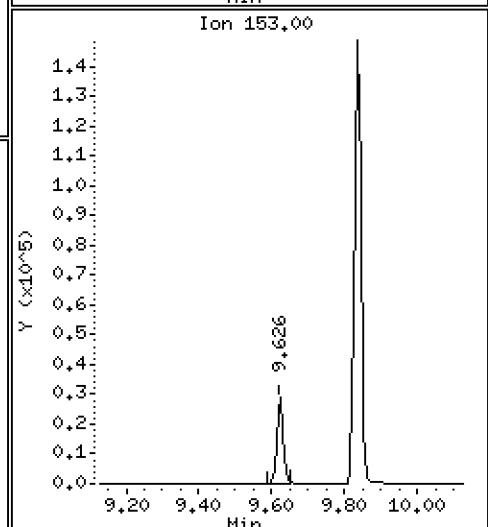
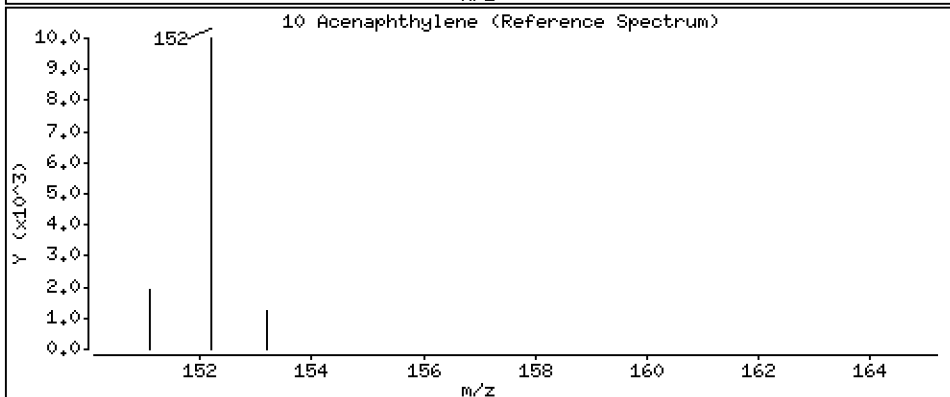
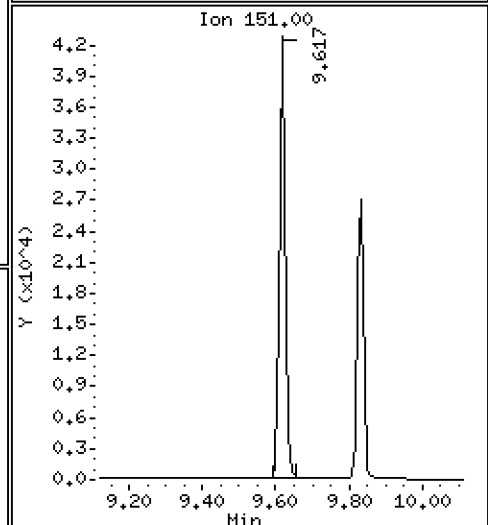
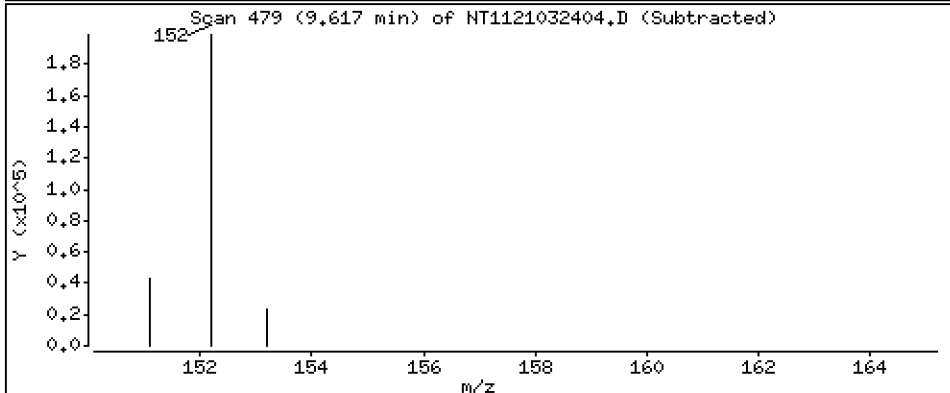
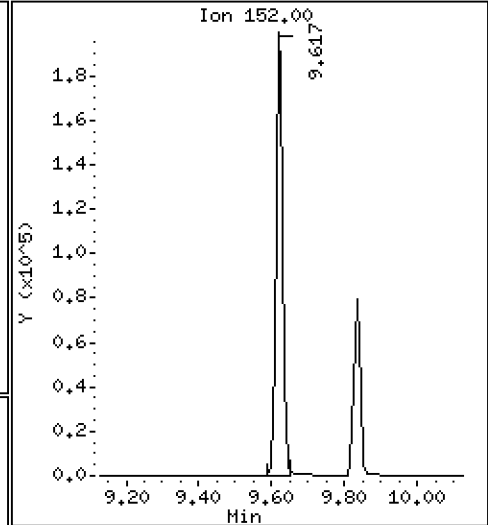
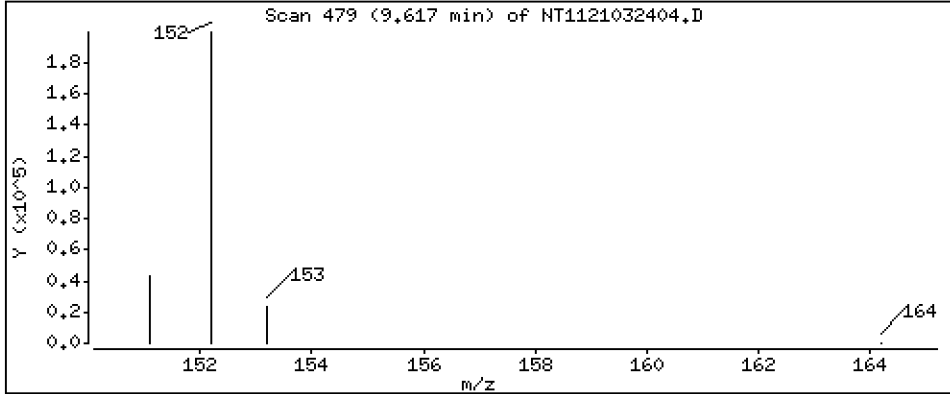
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

10 Acenaphthylene

Concentration: 174 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

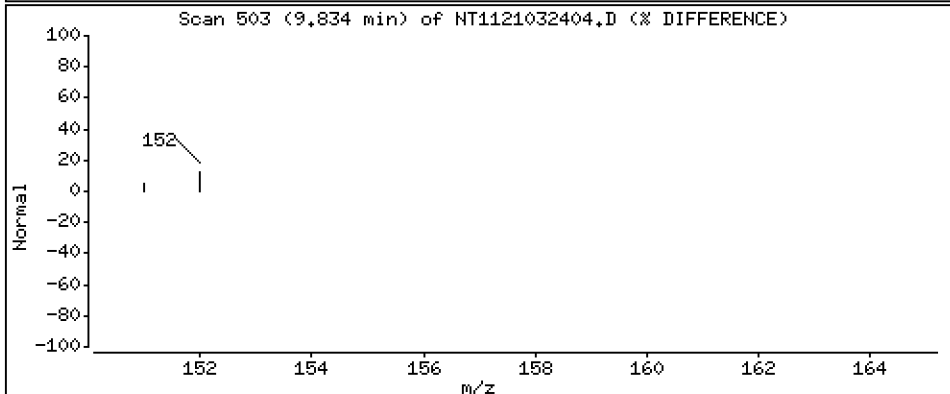
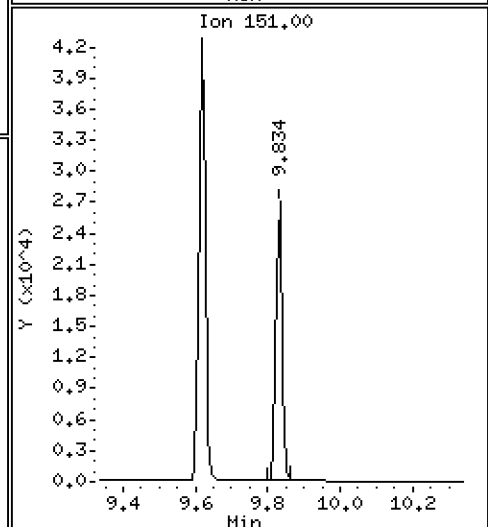
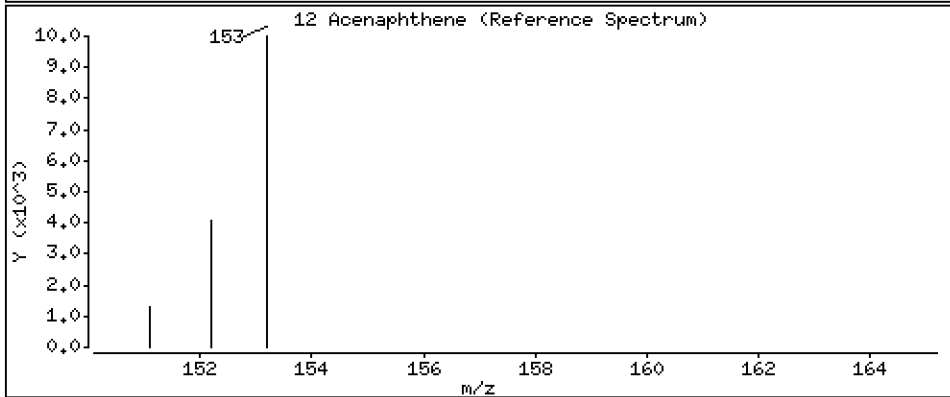
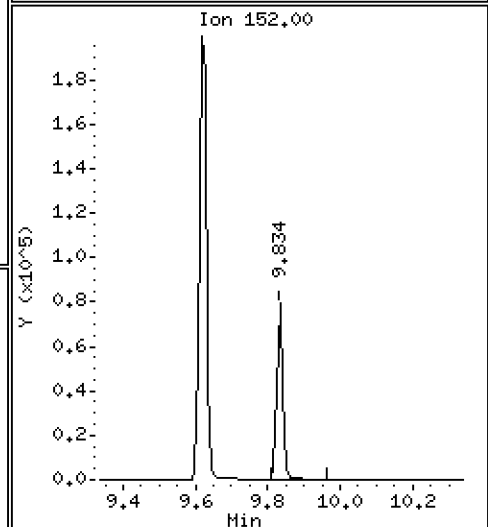
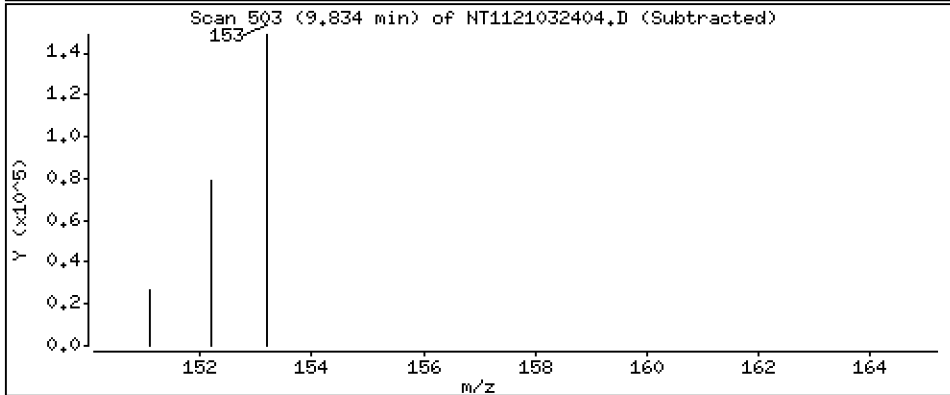
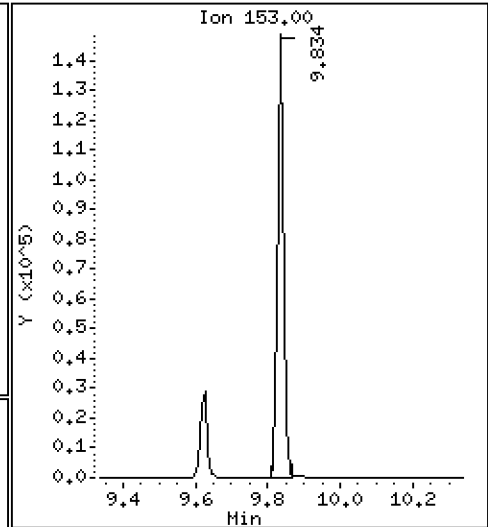
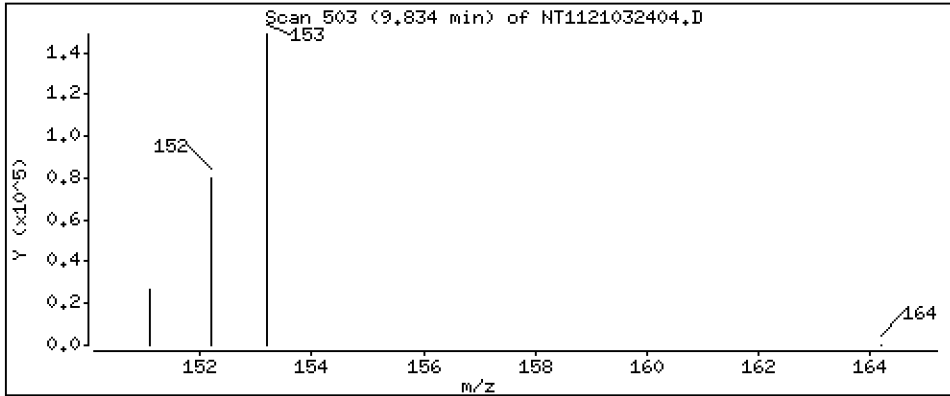
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

12 Acenaphthene

Concentration: 179 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

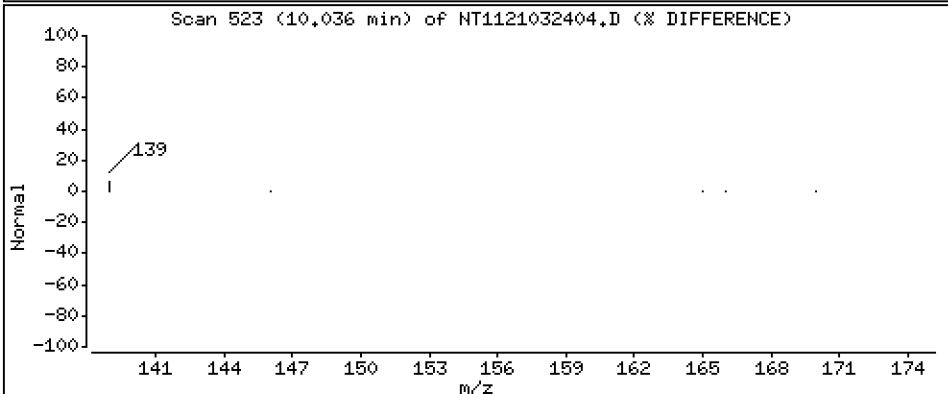
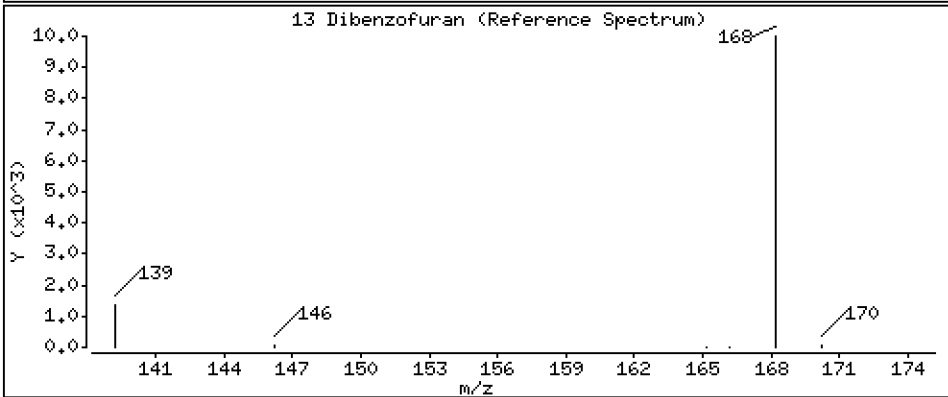
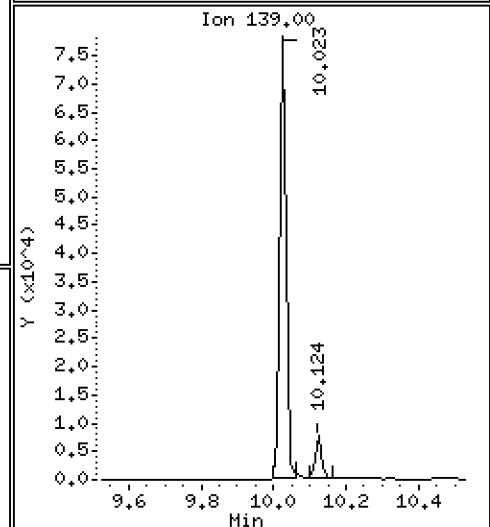
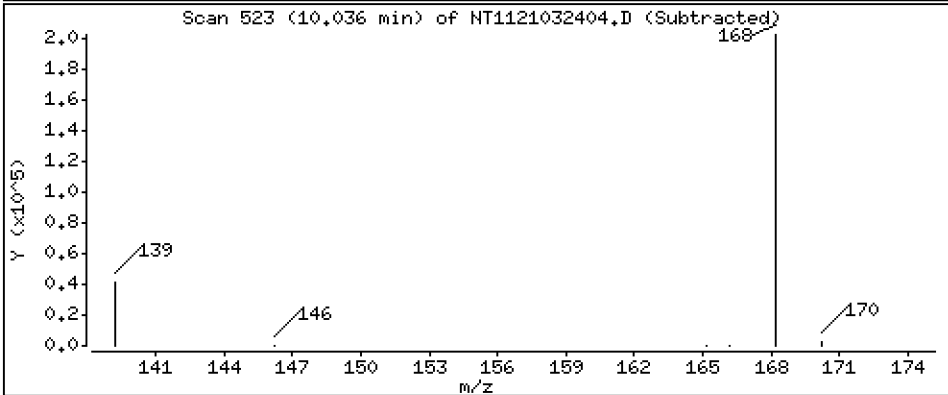
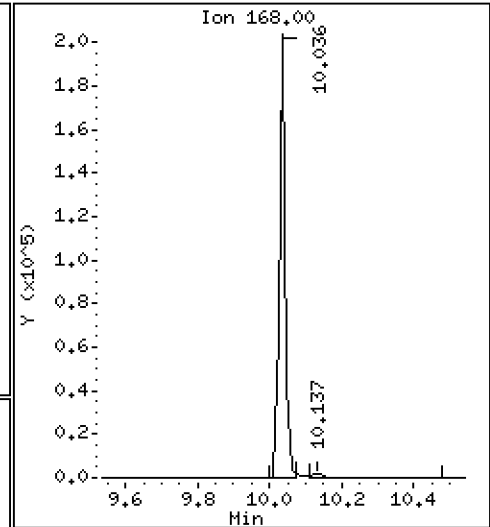
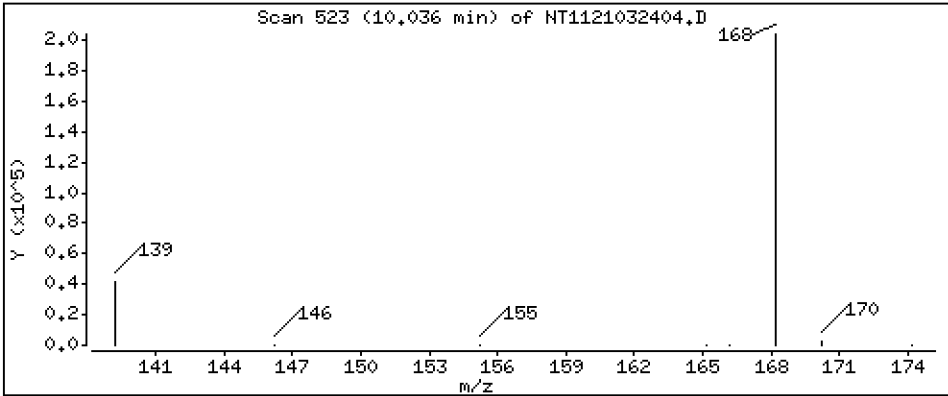
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 180 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

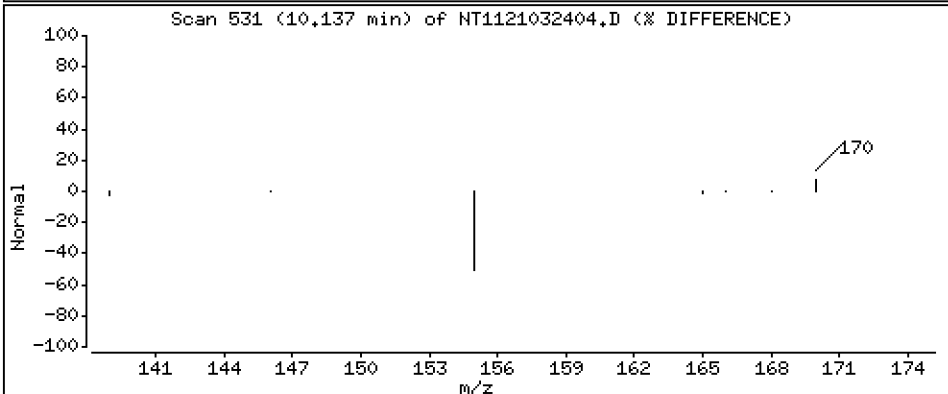
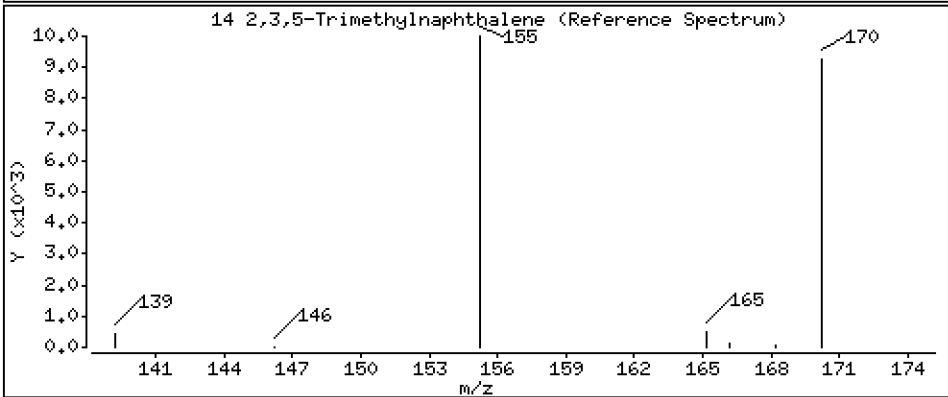
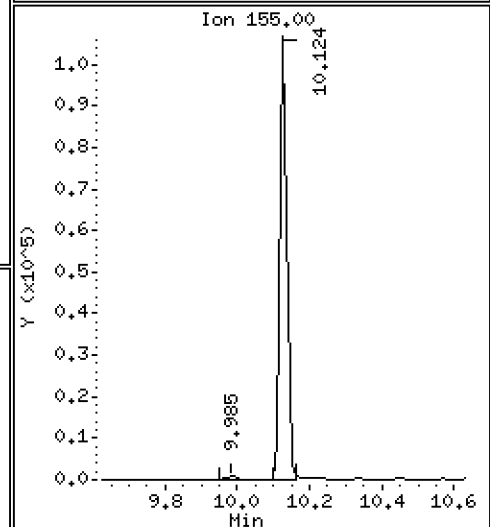
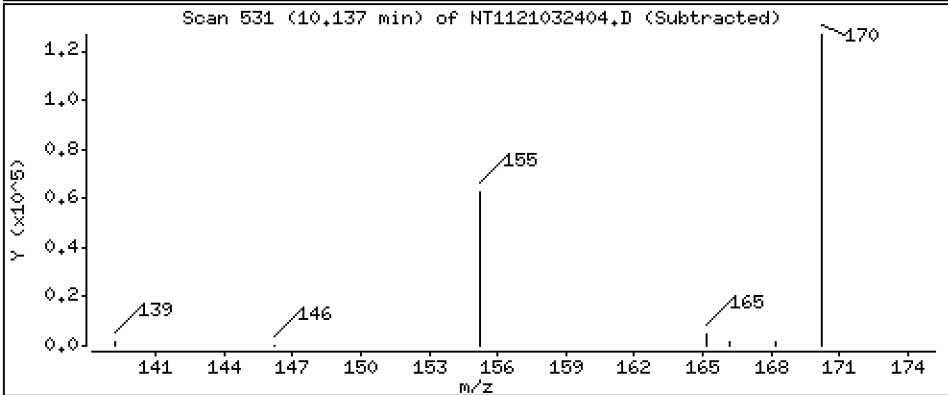
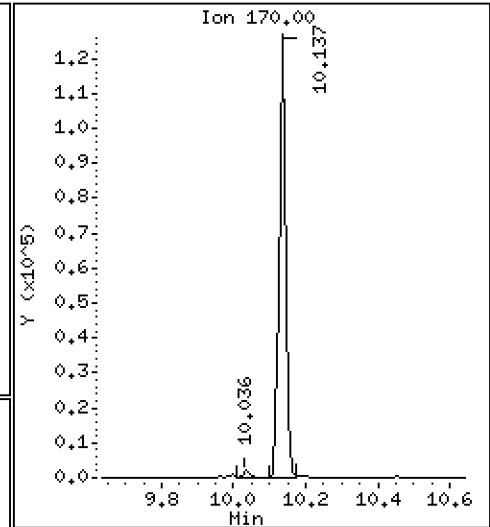
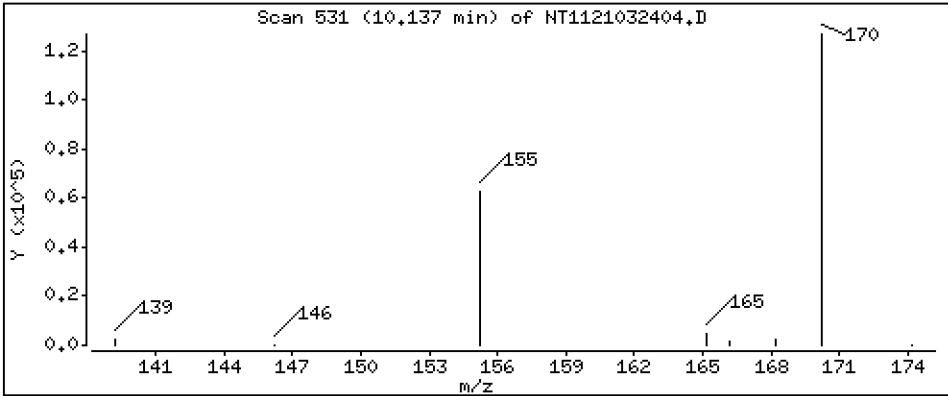
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

14 2,3,5-Trimethylnaphthalene

Concentration: 182 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

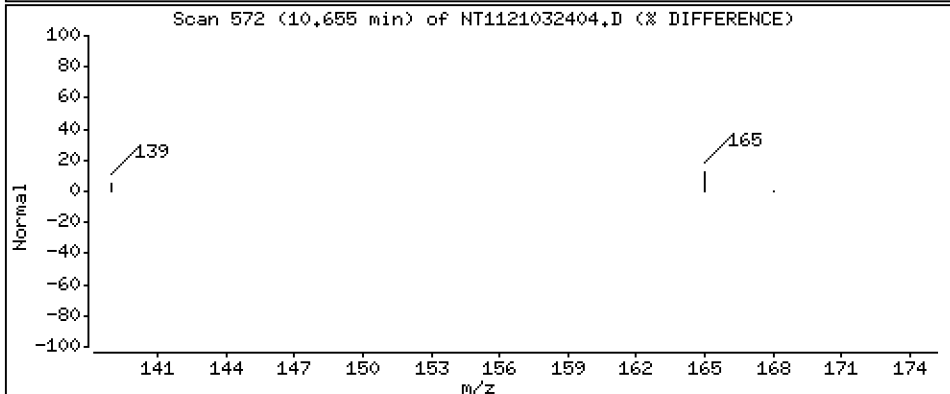
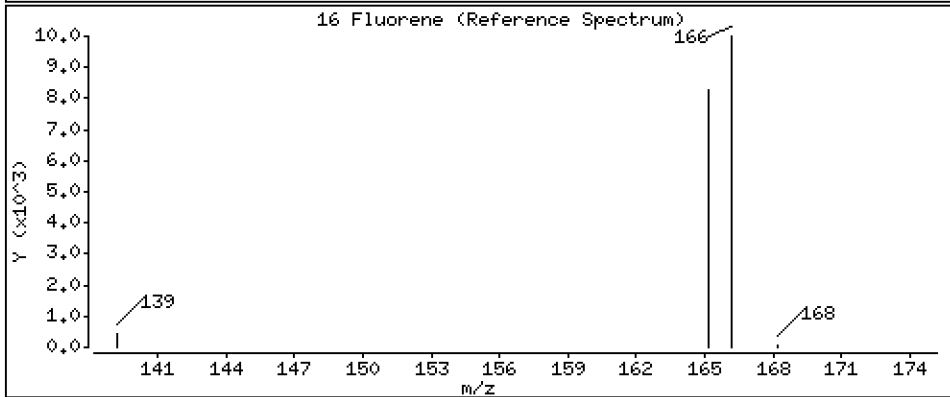
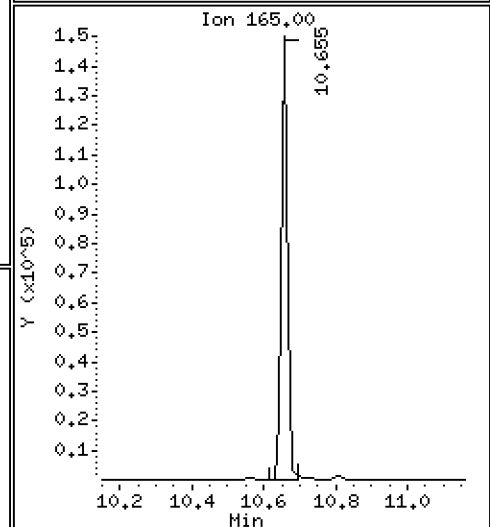
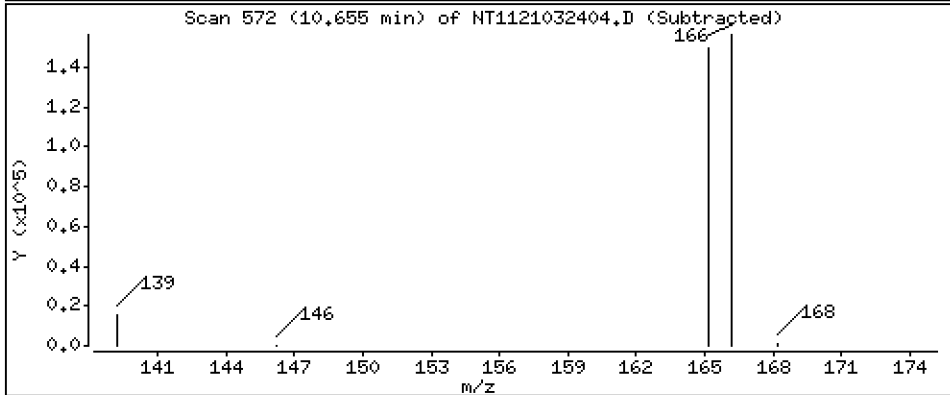
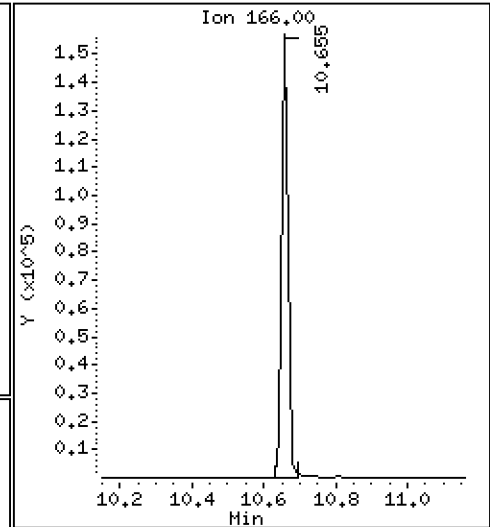
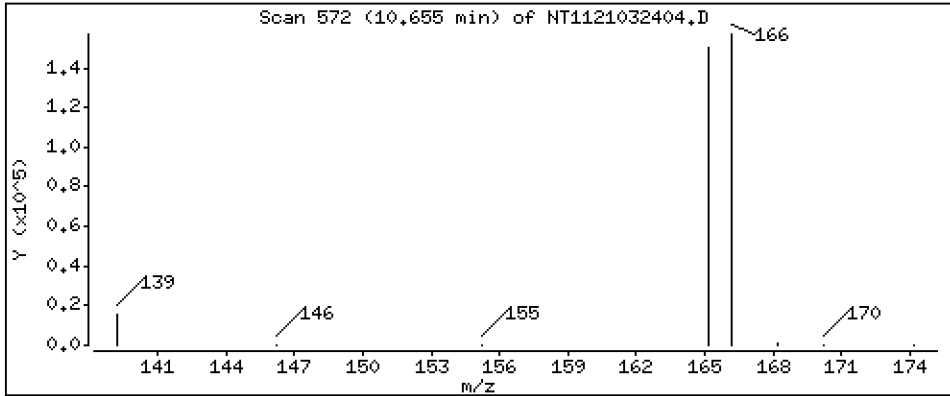
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 191 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

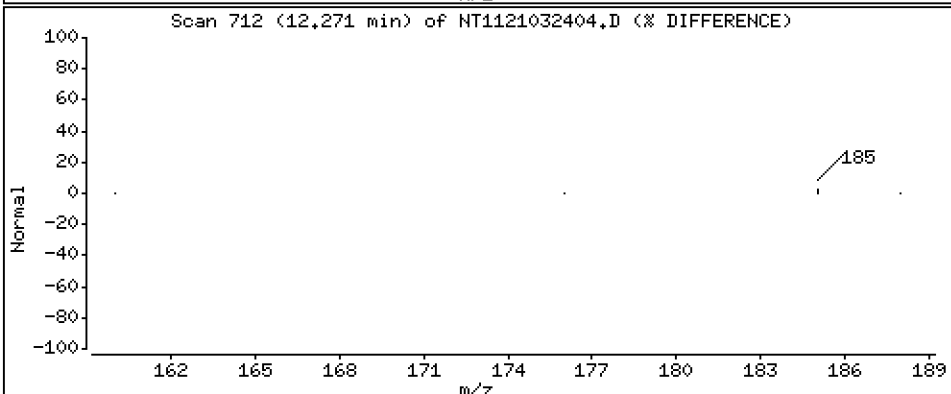
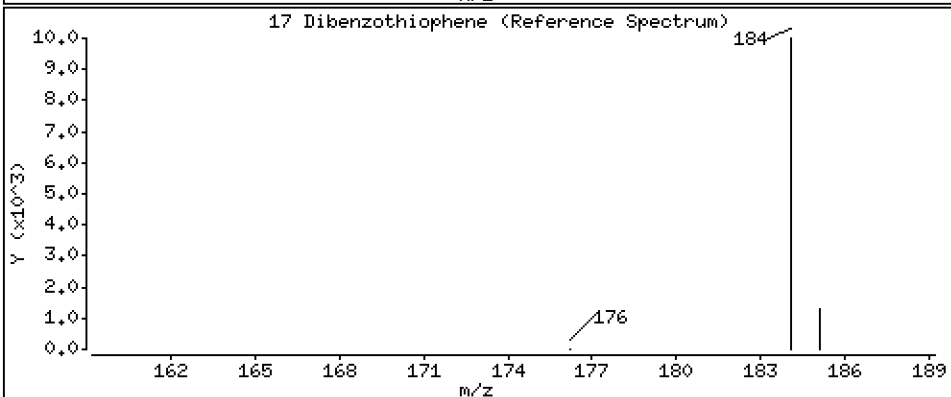
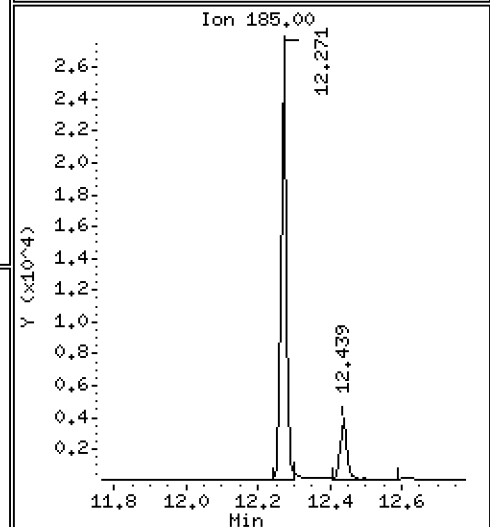
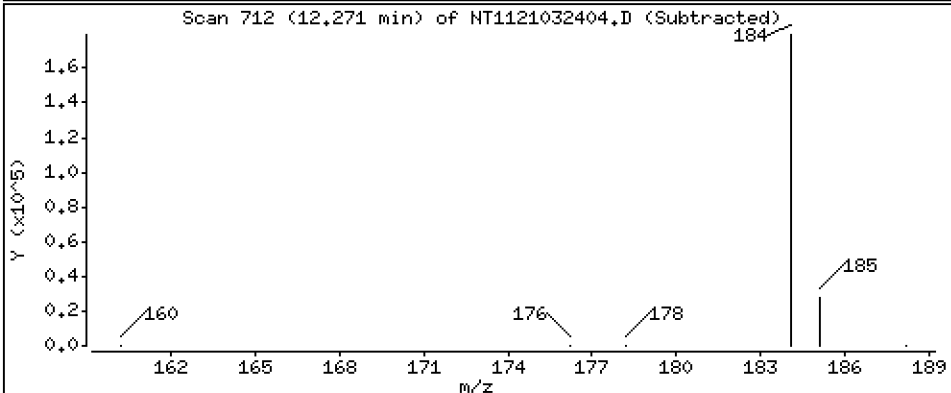
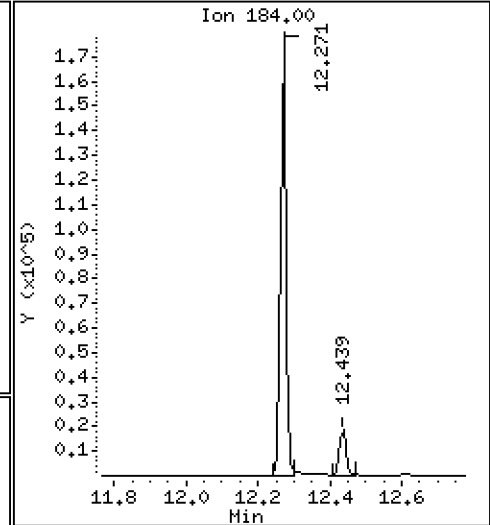
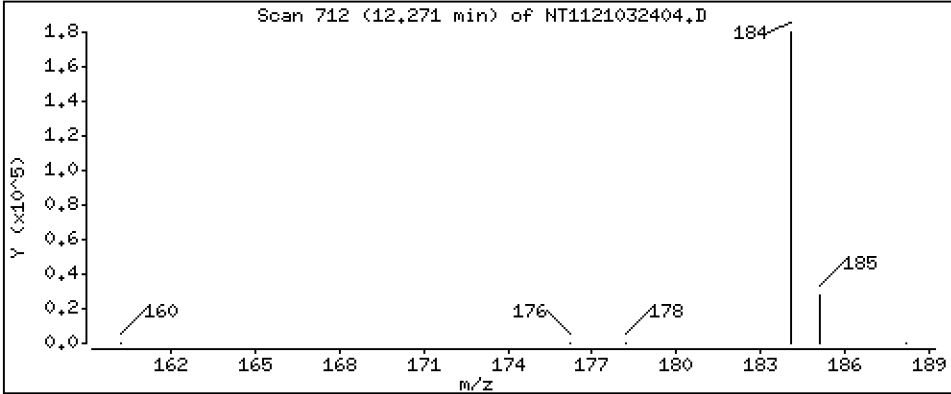
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 203 ng/mL

17 Dibenzothiophene



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

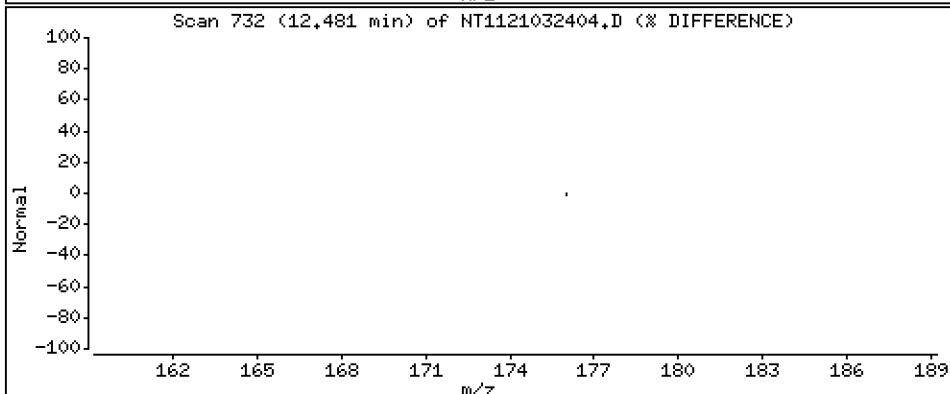
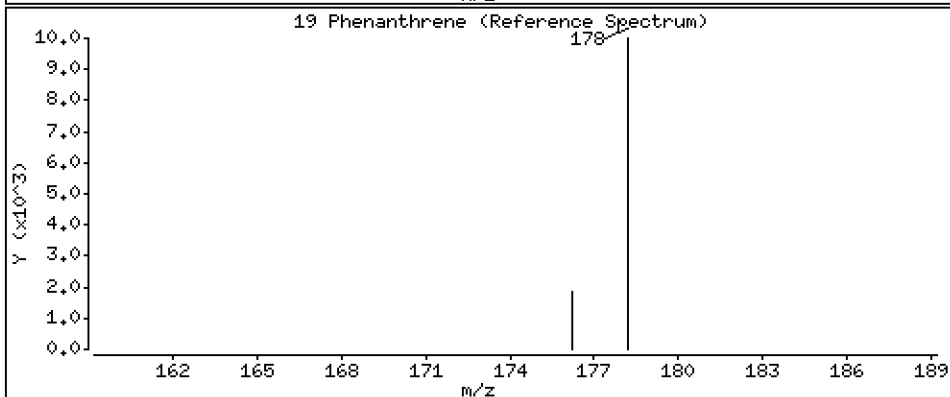
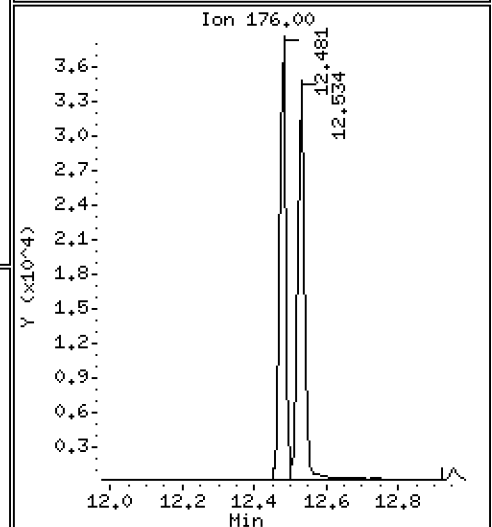
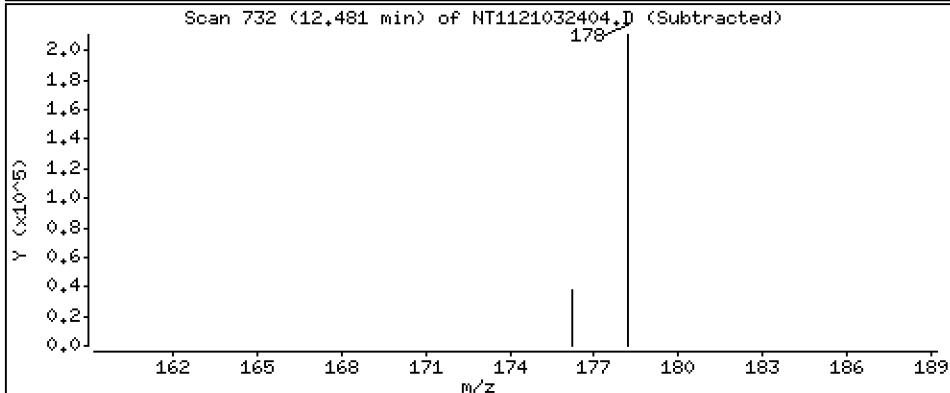
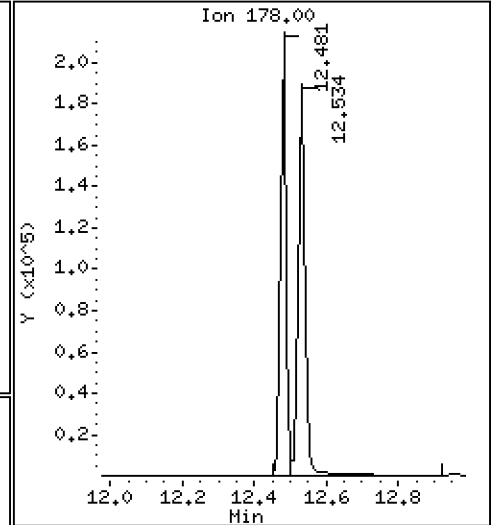
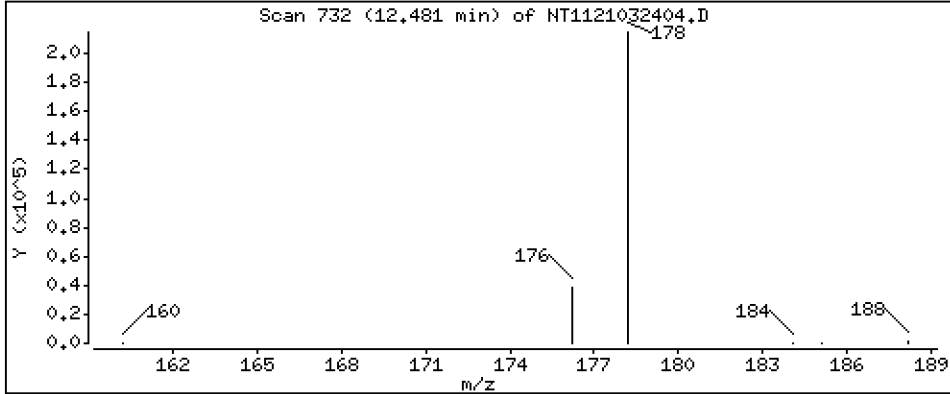
Operator: VTS

Column phase: Rxi-17Si11 MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 210 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

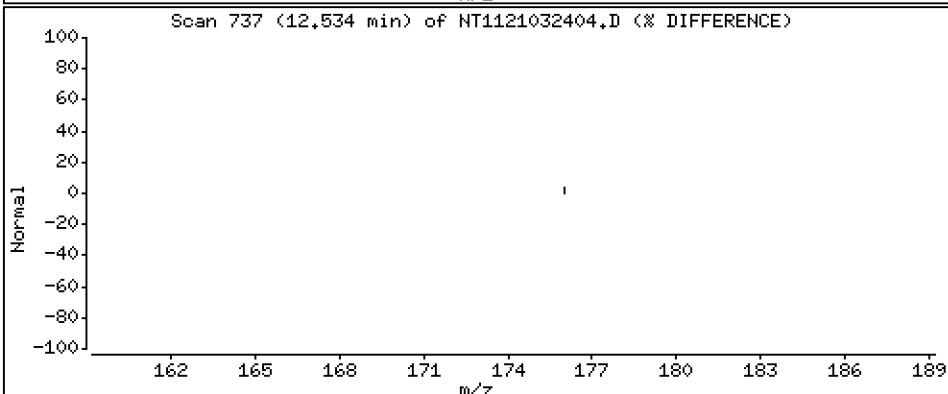
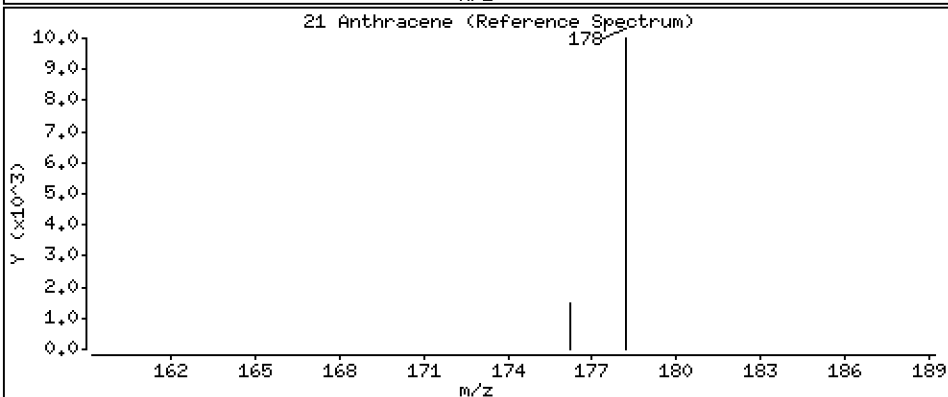
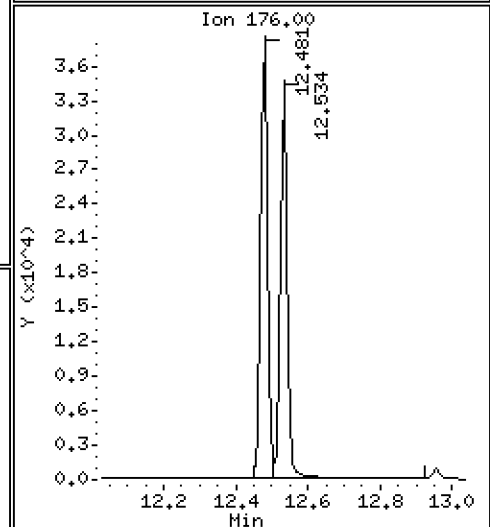
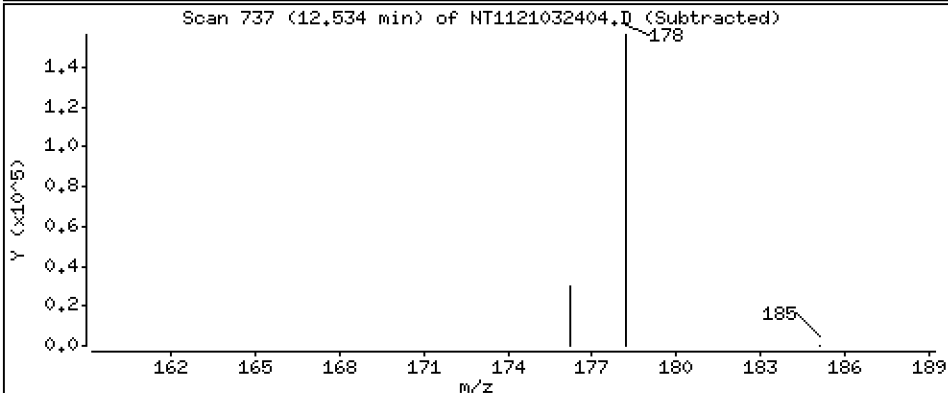
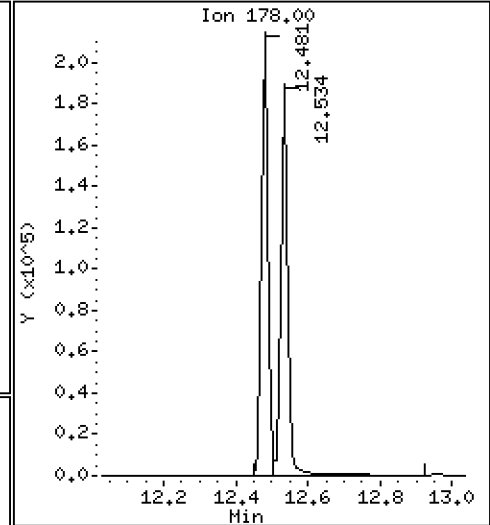
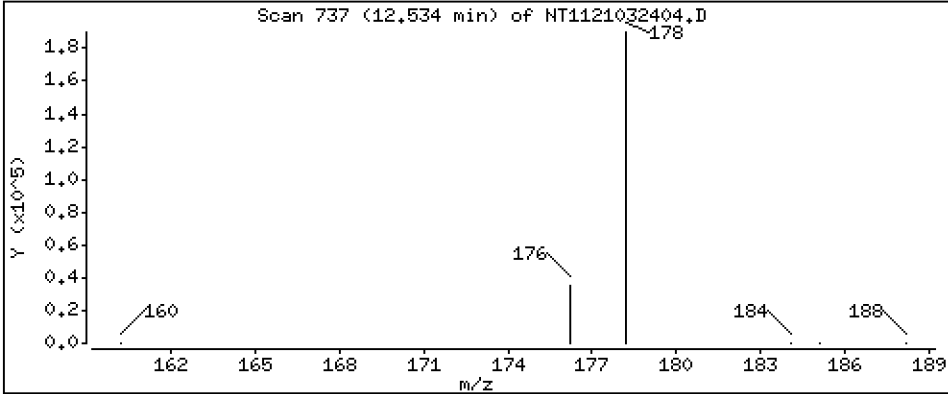
Operator: VTS

Column phase: Rxi-17Si11 MS

Column diameter: 0,25

21 Anthracene

Concentration: 194 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

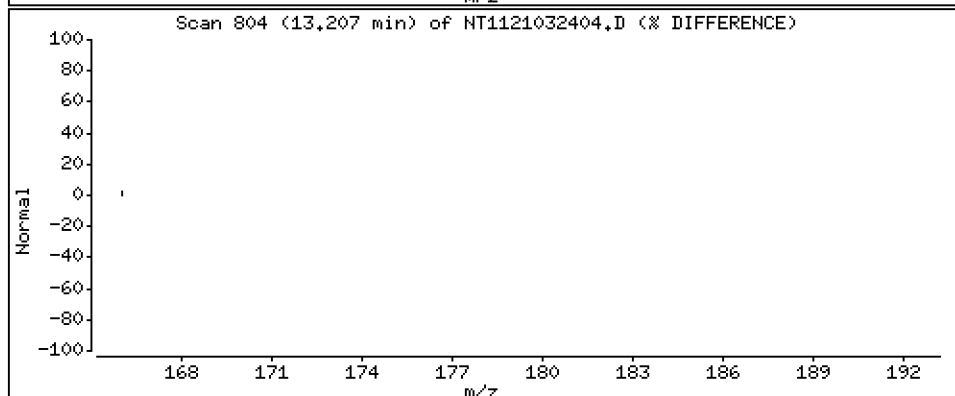
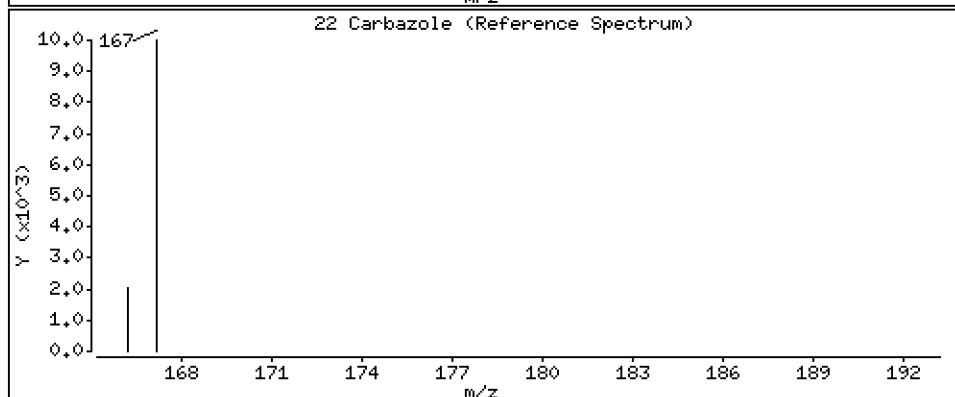
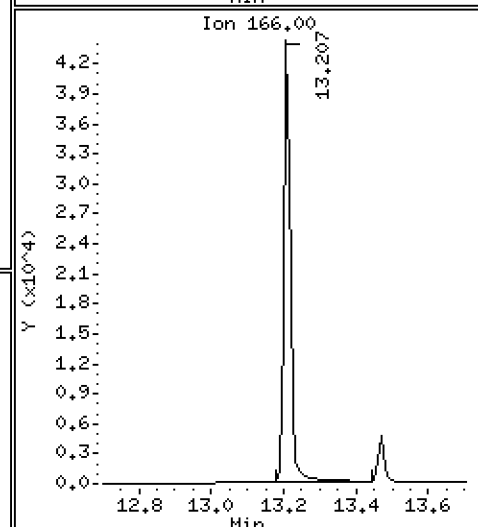
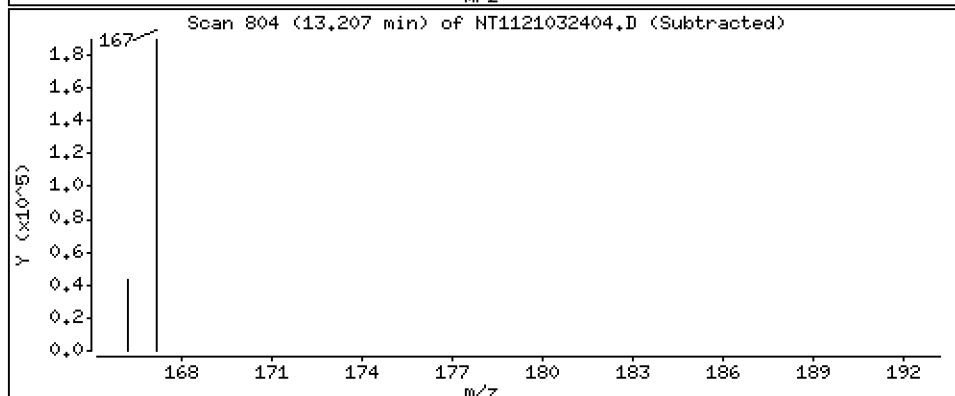
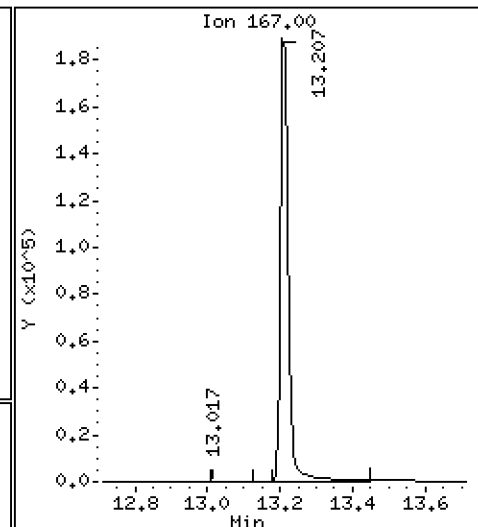
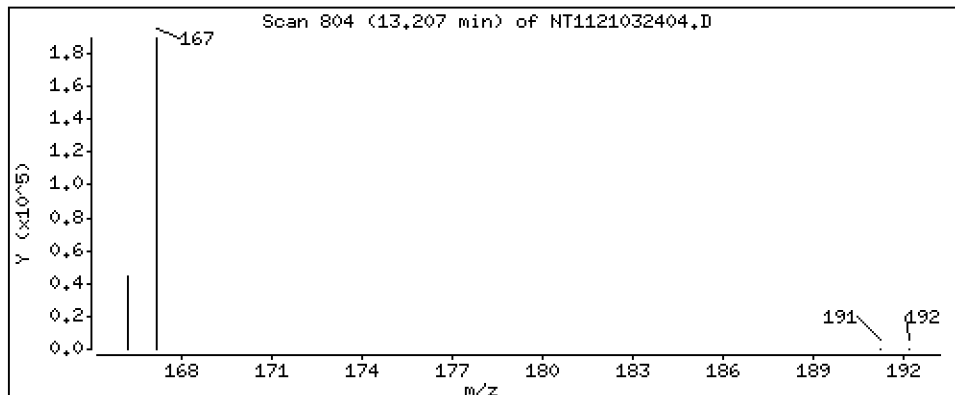
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

22 Carbazole

Concentration: 213 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

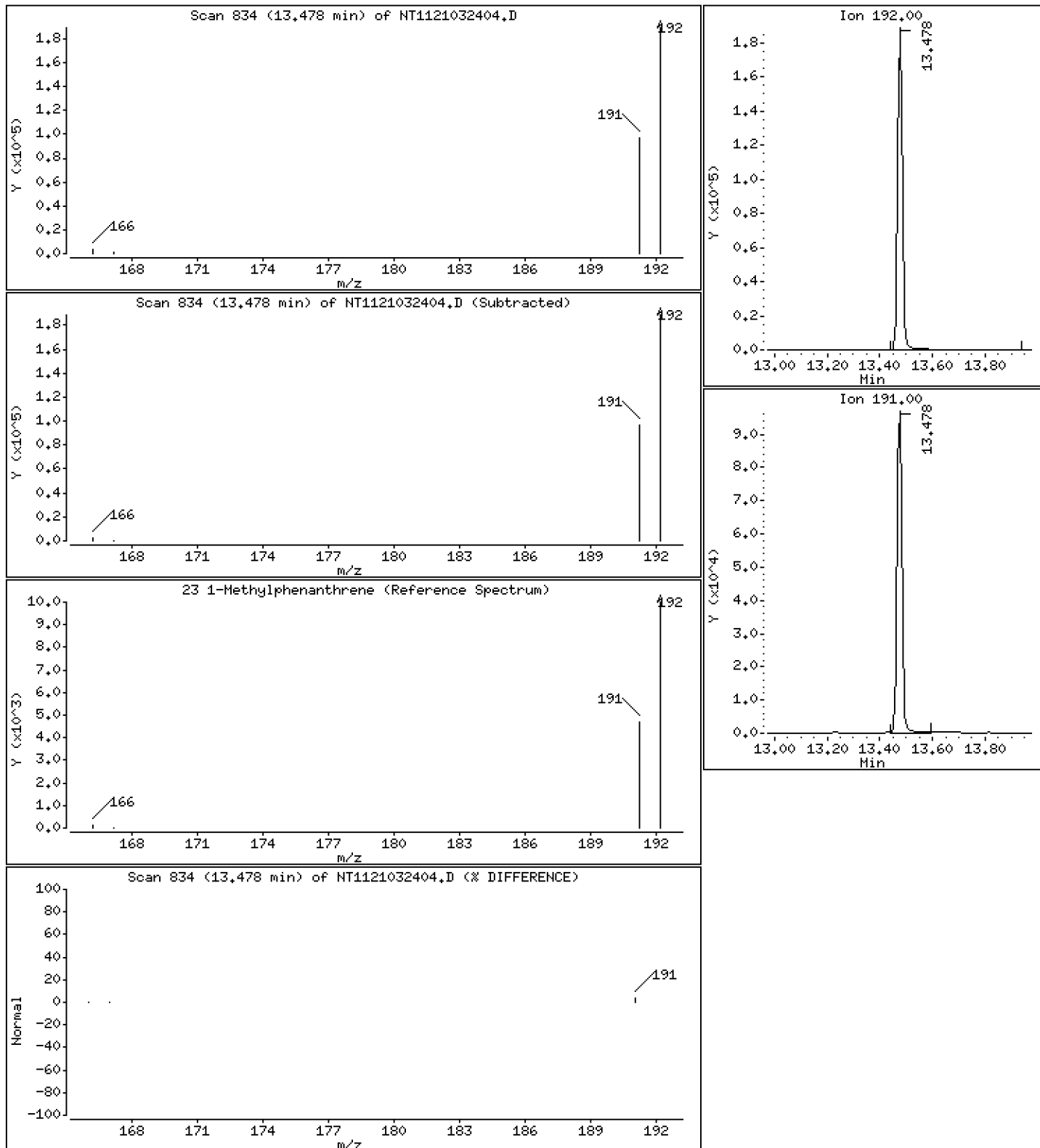
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

23 1-Methylphenanthrene

Concentration: 215 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

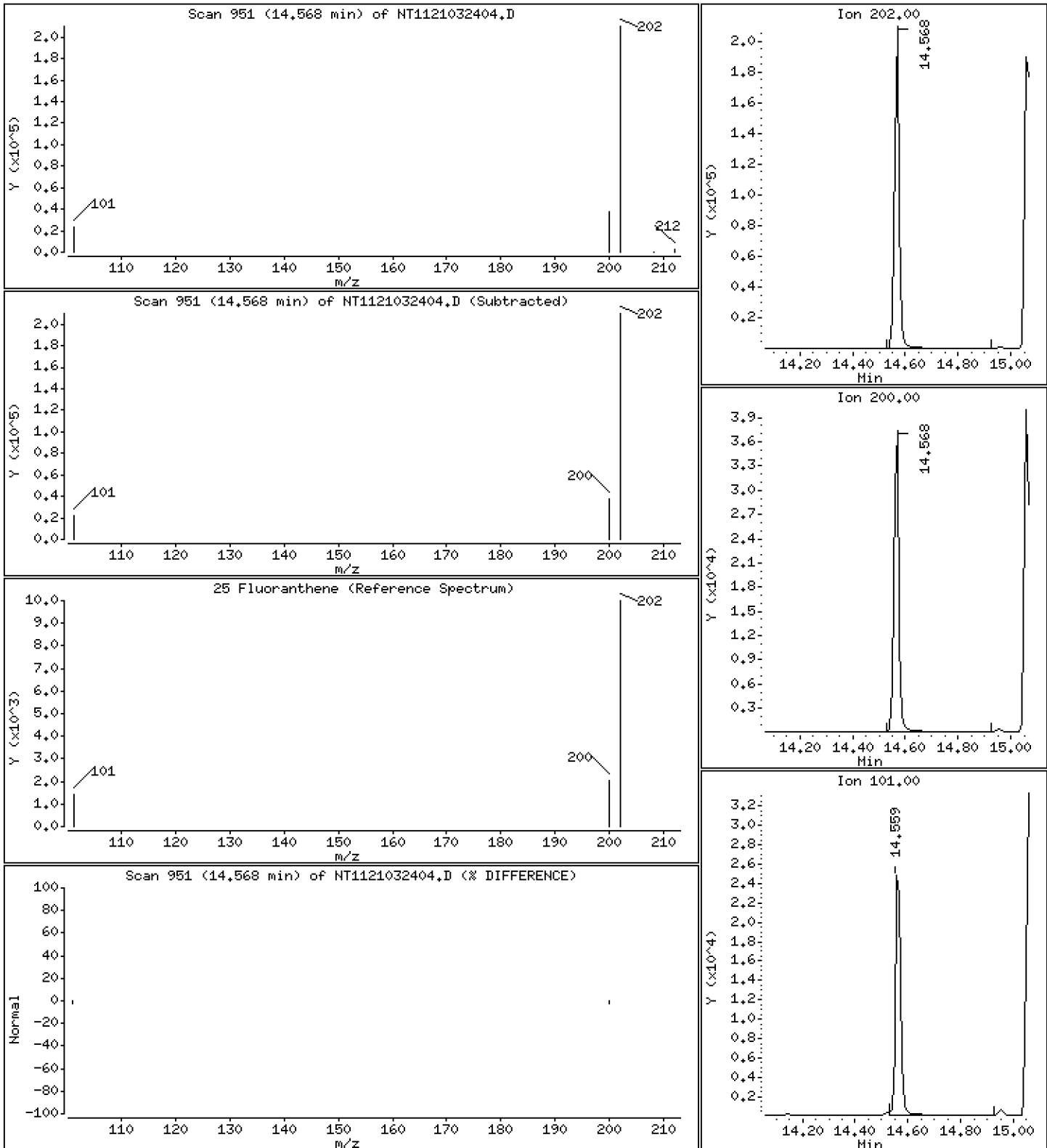
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 215 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

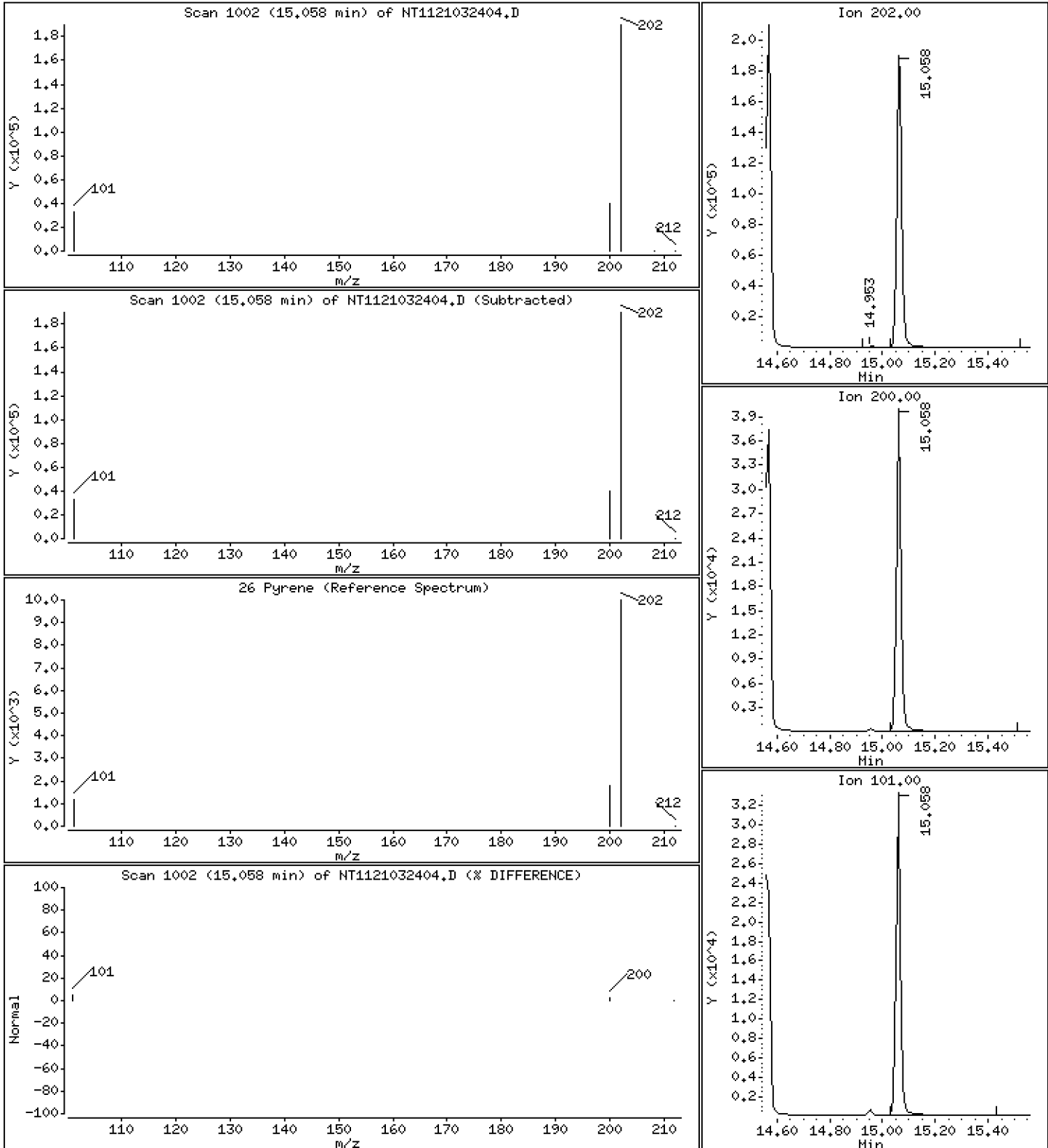
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 215 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

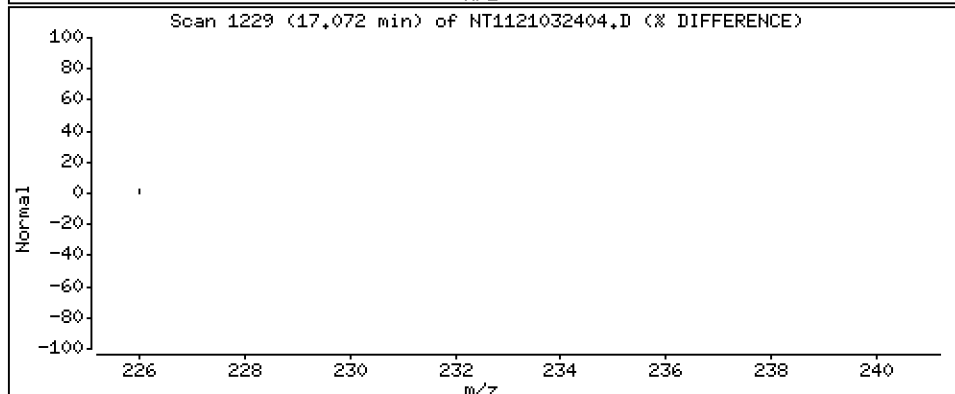
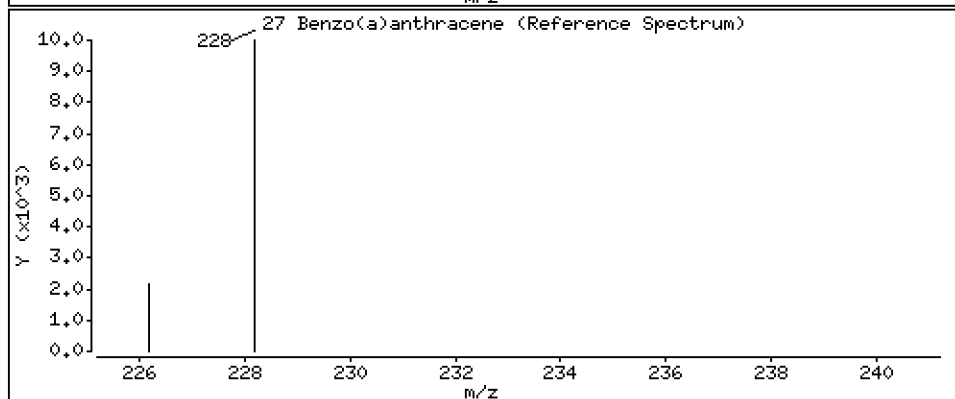
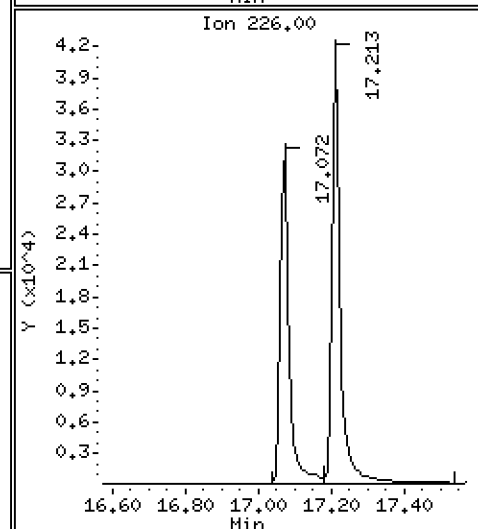
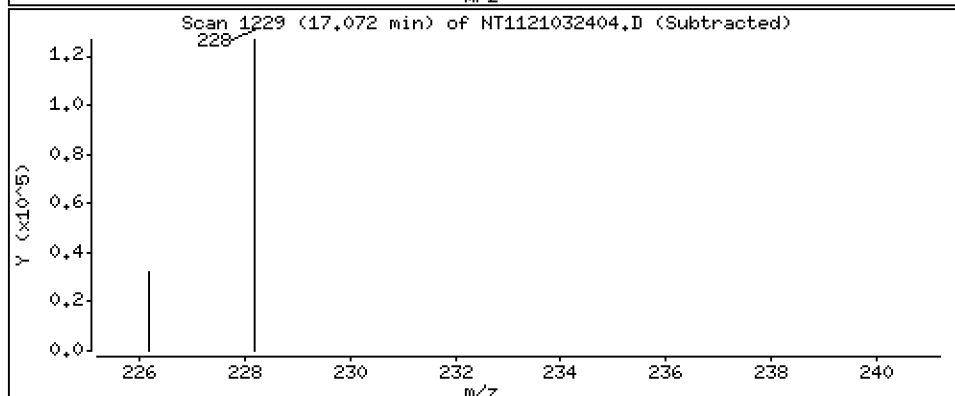
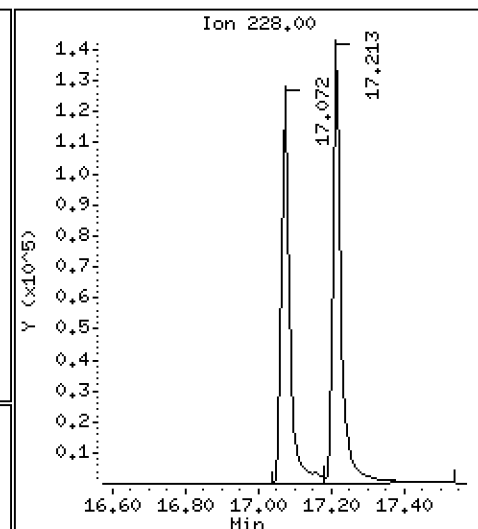
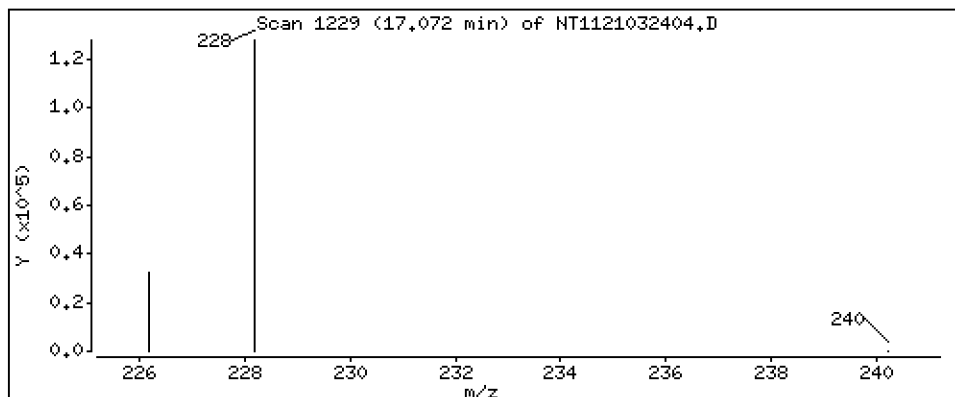
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 195 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

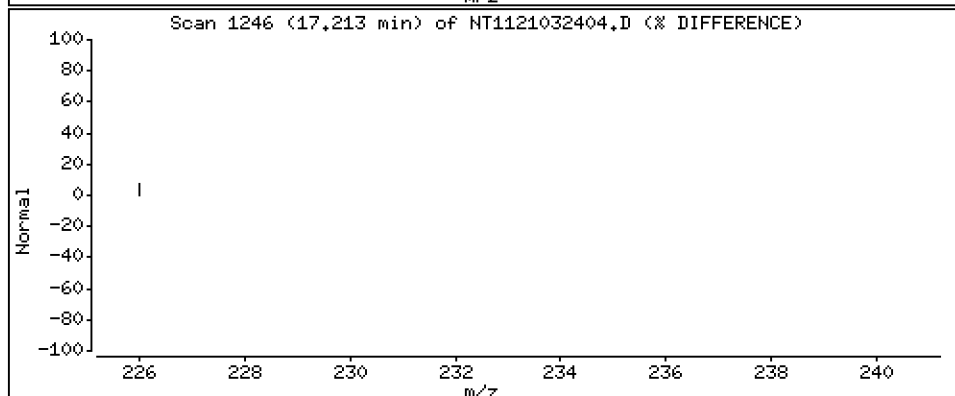
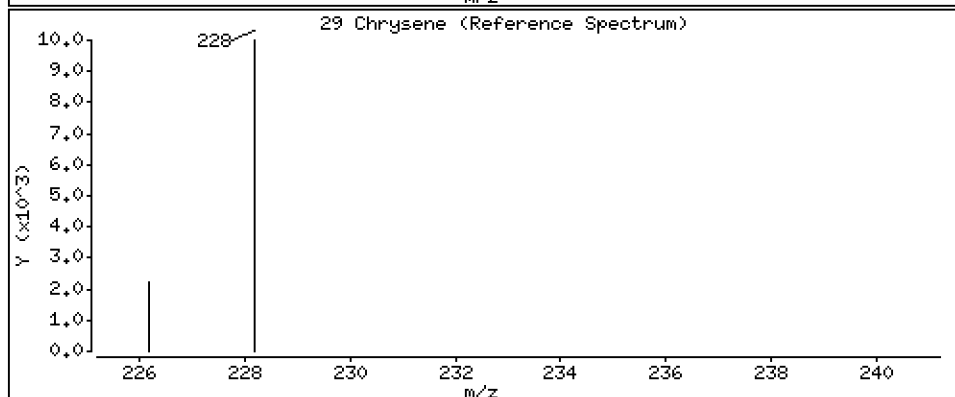
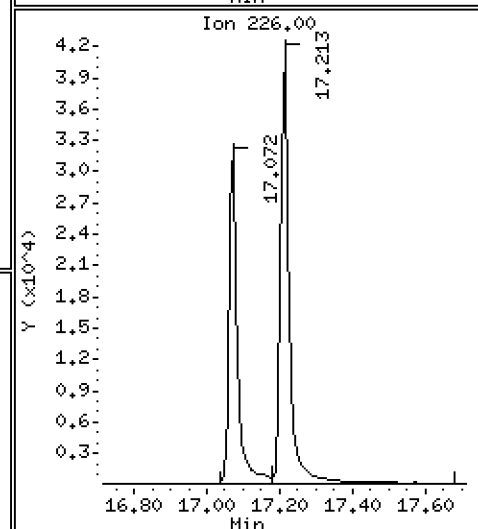
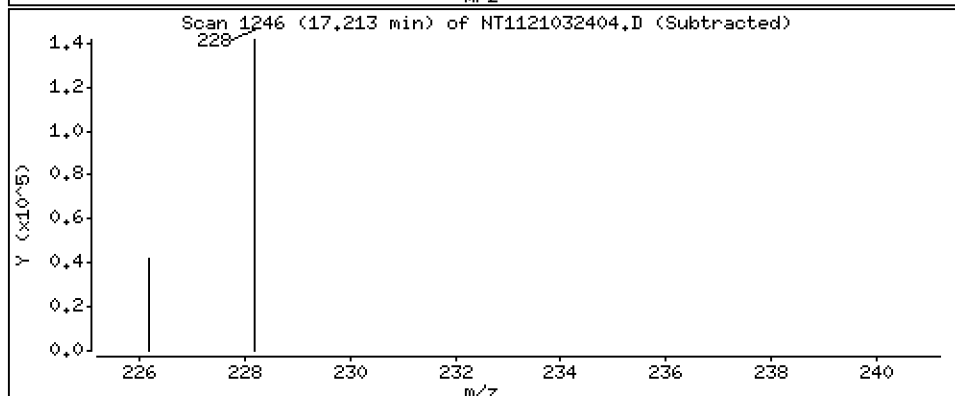
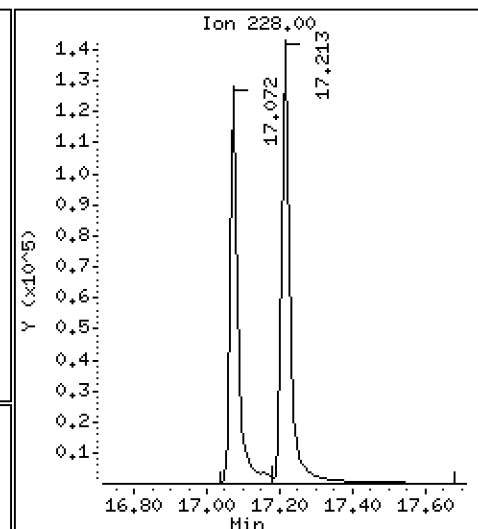
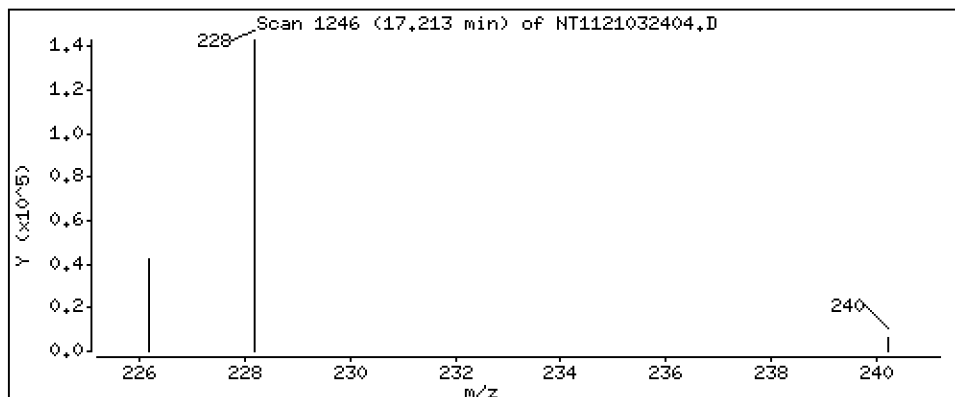
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 203 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

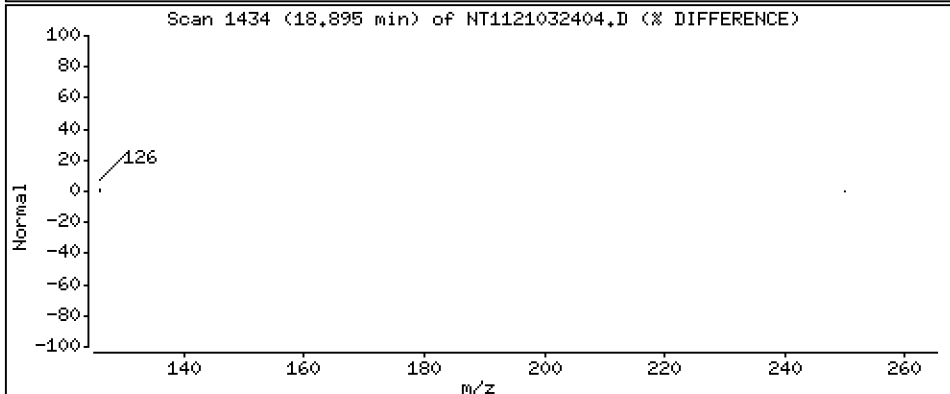
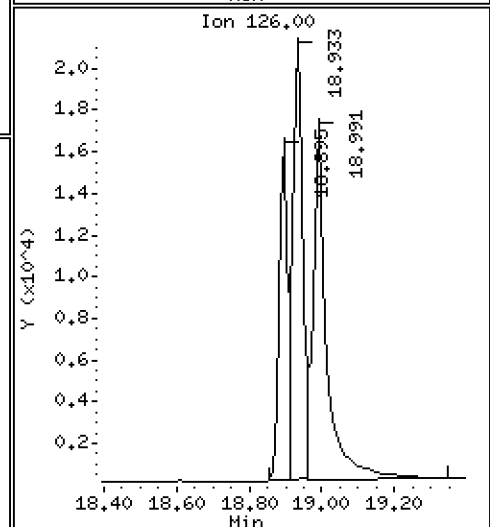
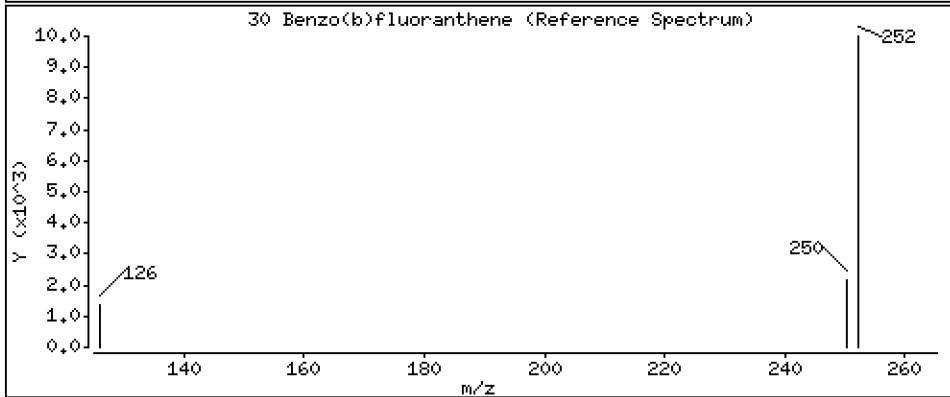
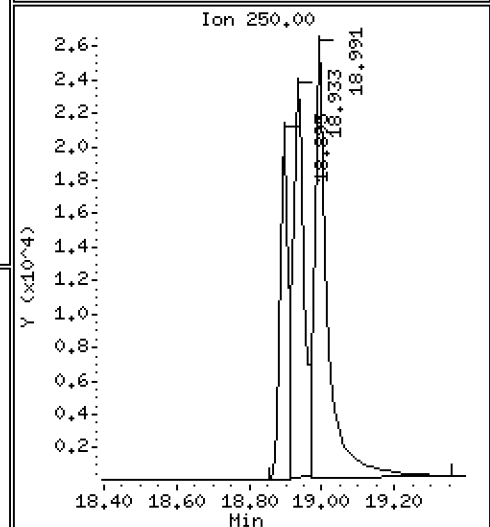
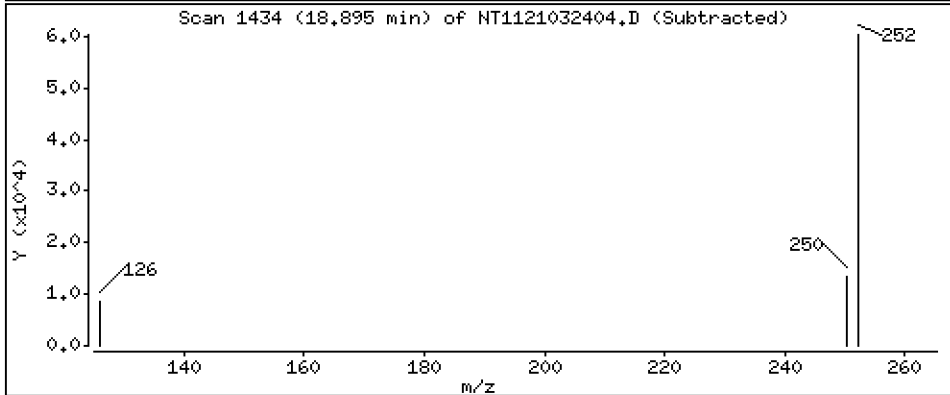
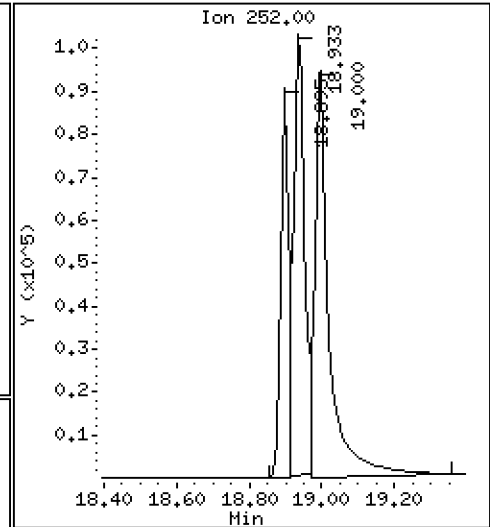
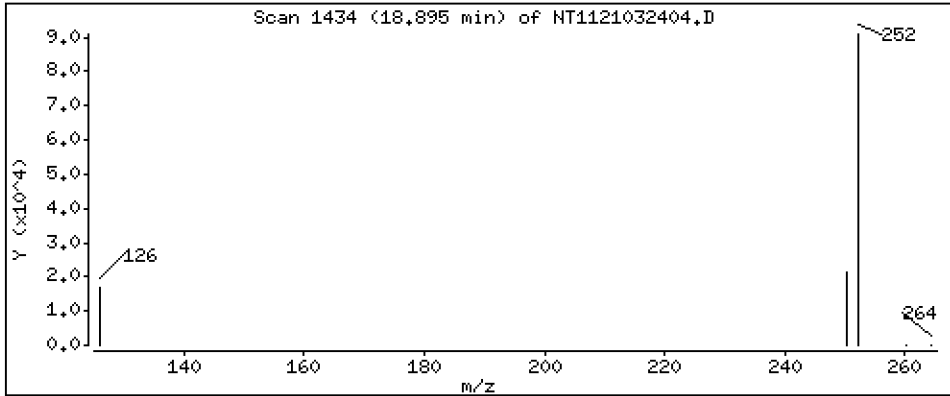
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 183 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

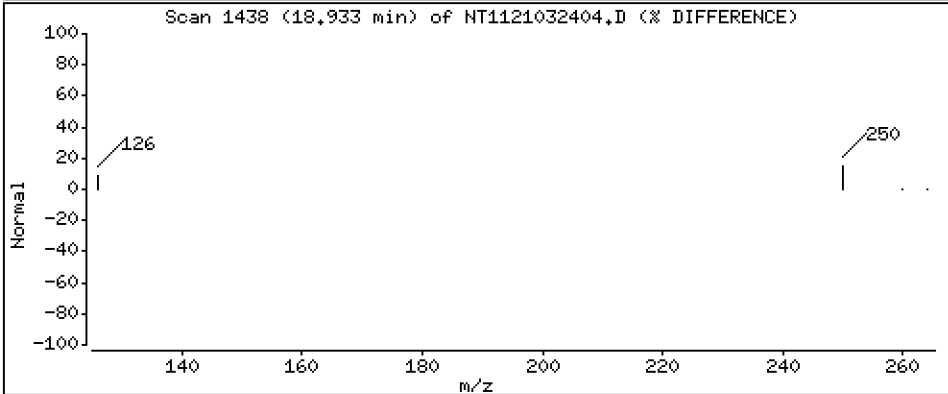
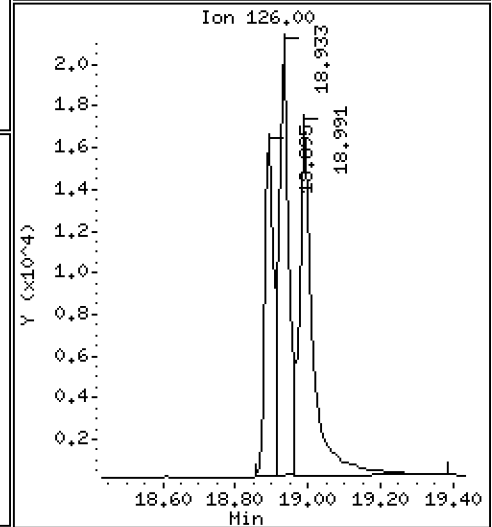
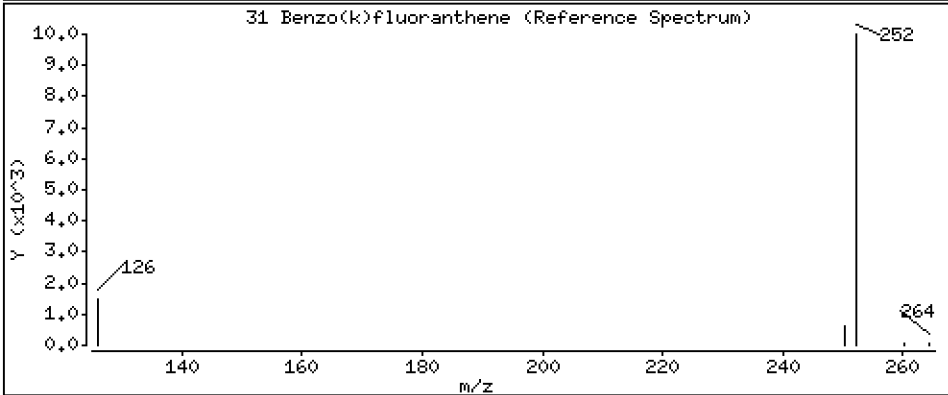
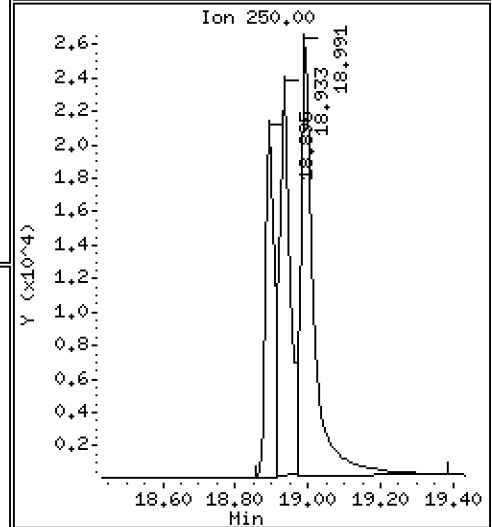
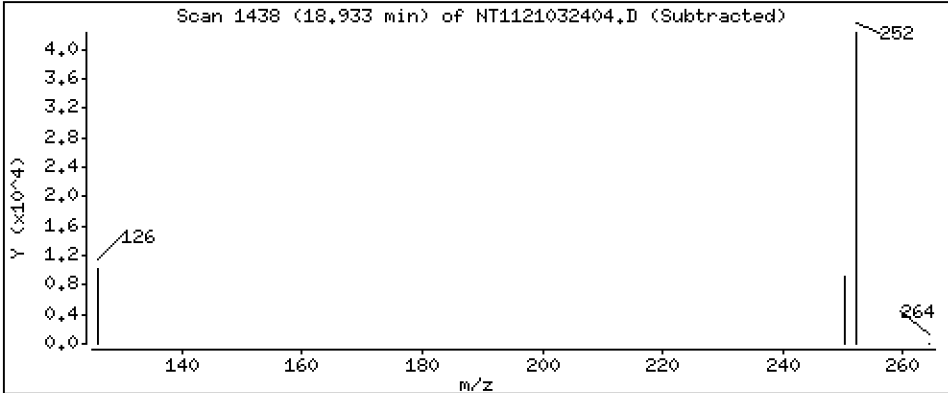
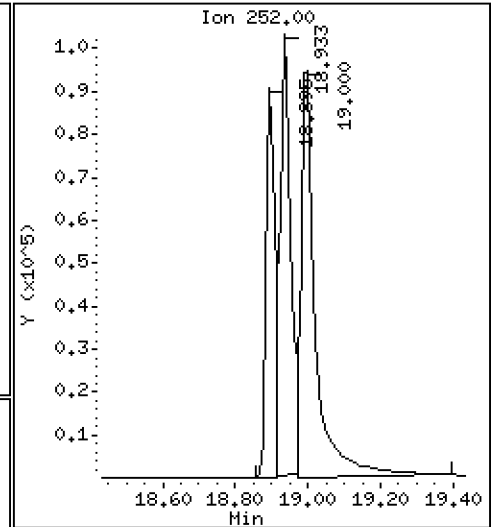
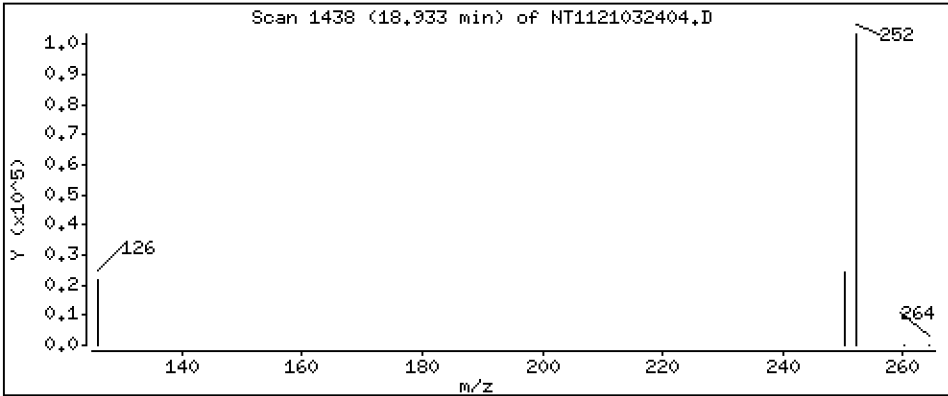
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 218 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

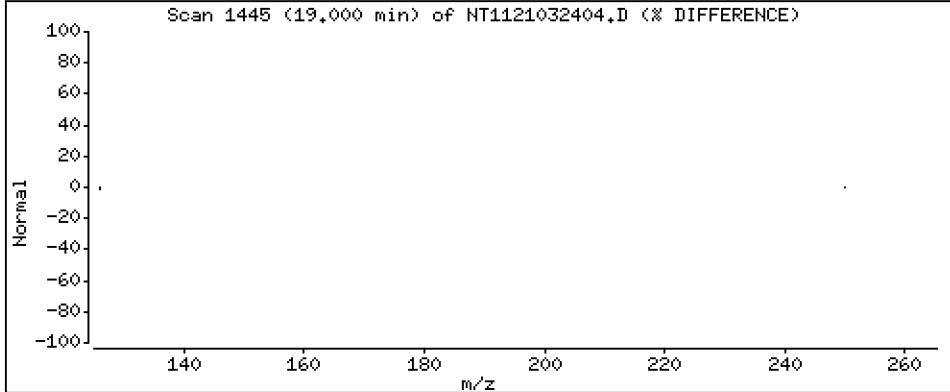
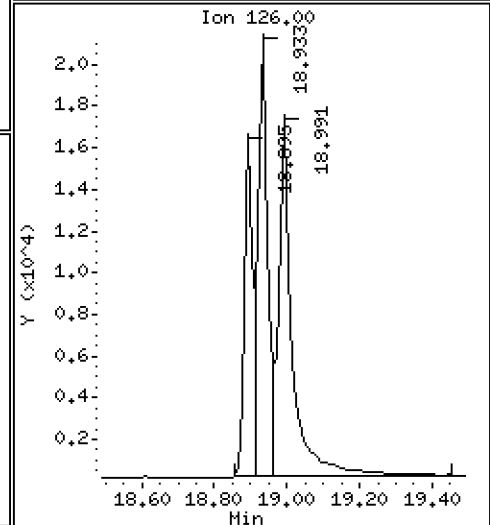
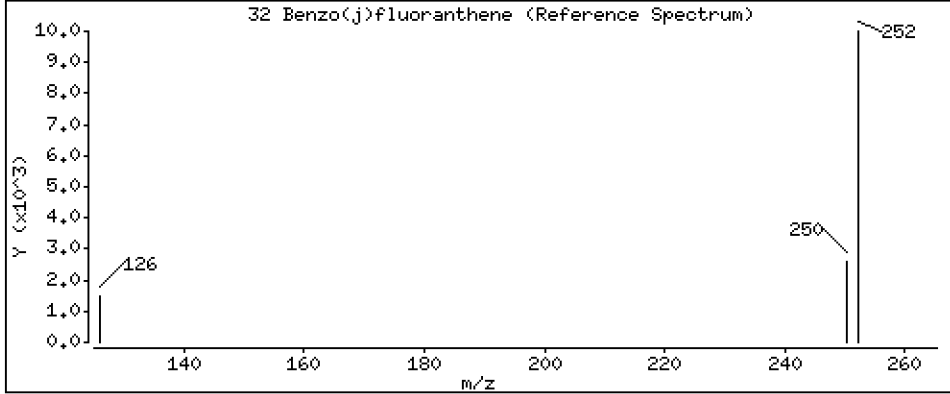
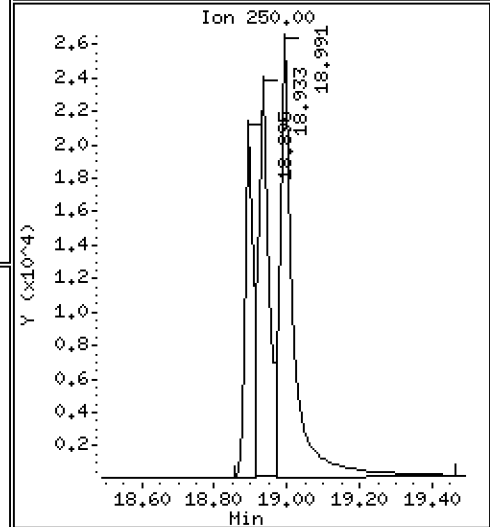
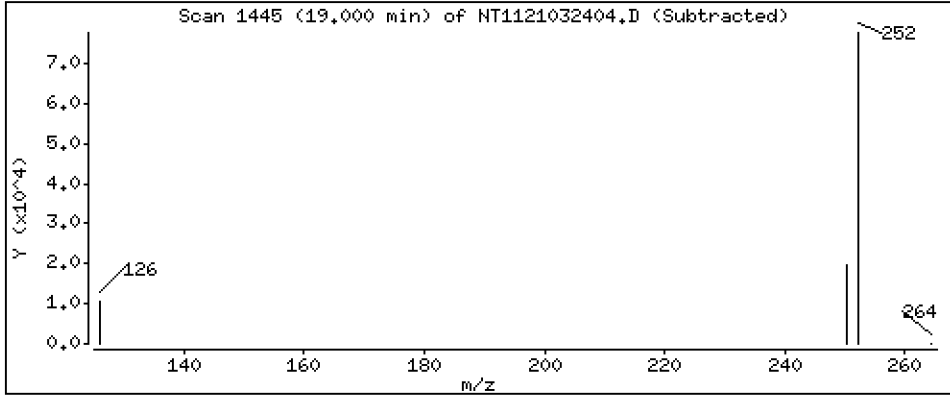
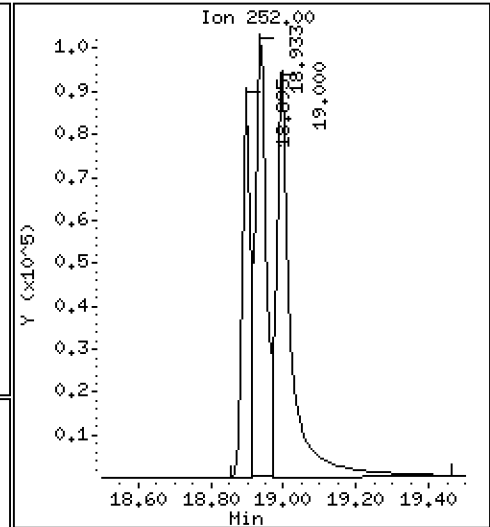
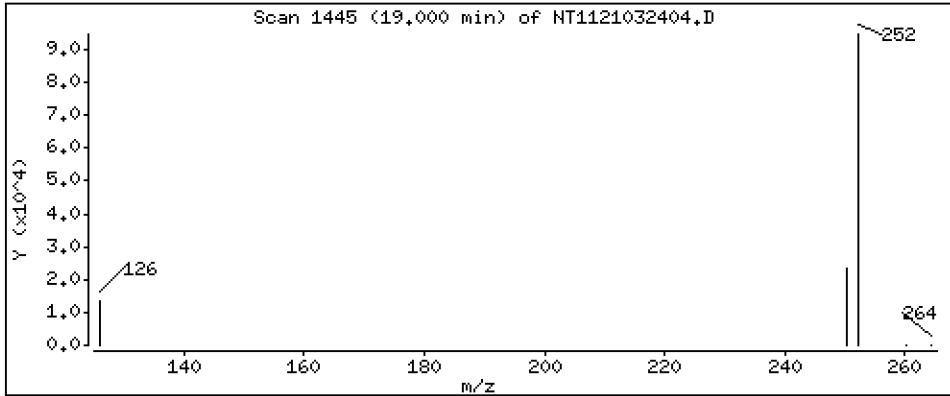
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 232 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

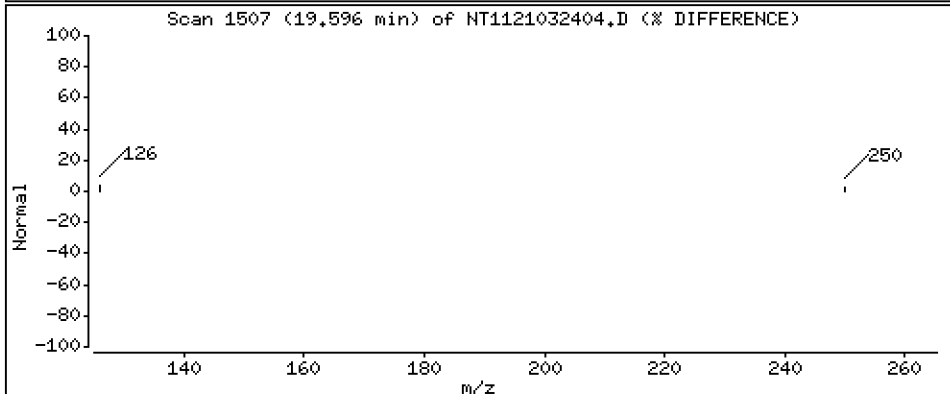
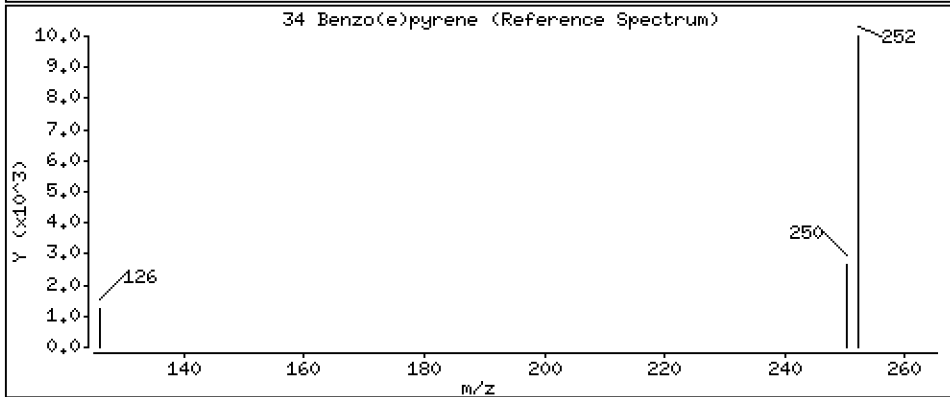
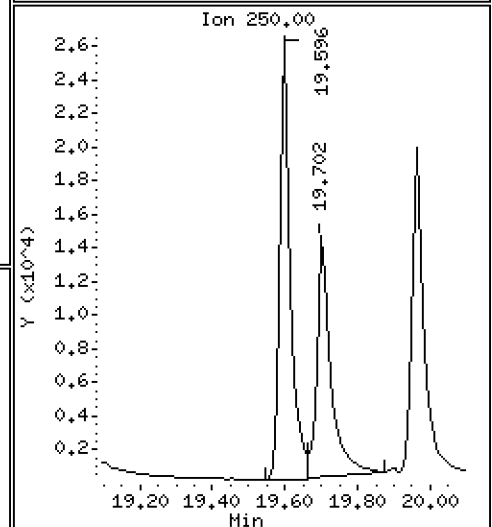
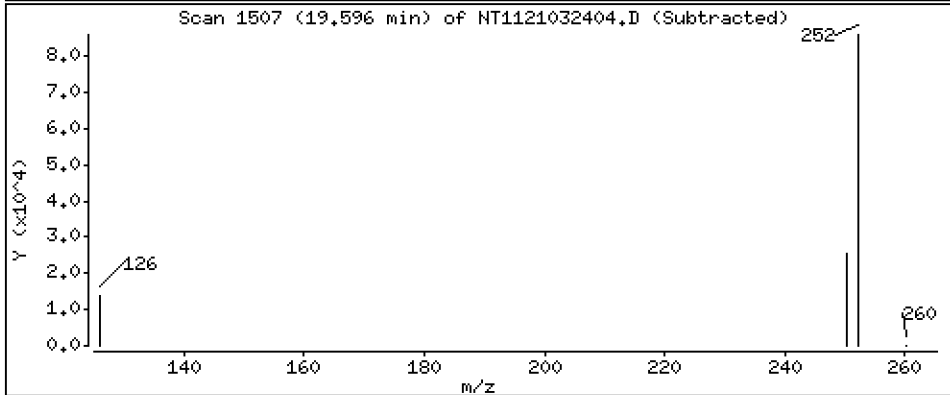
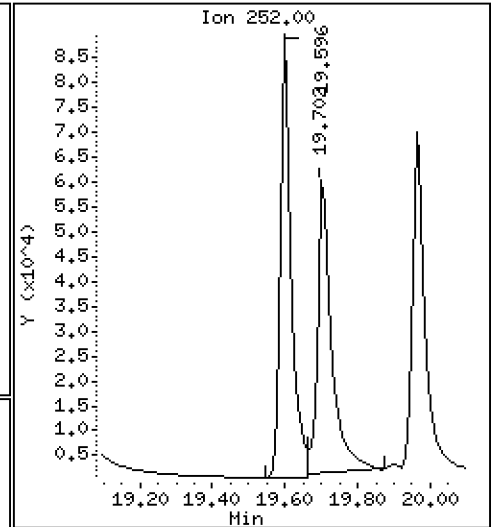
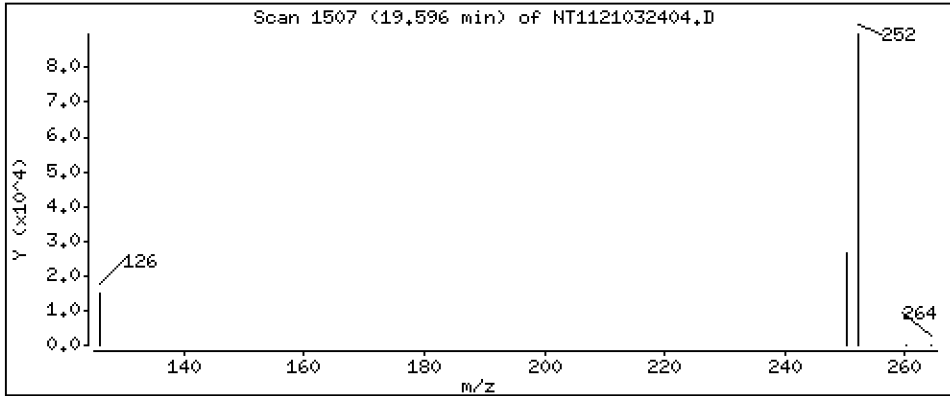
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 206 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

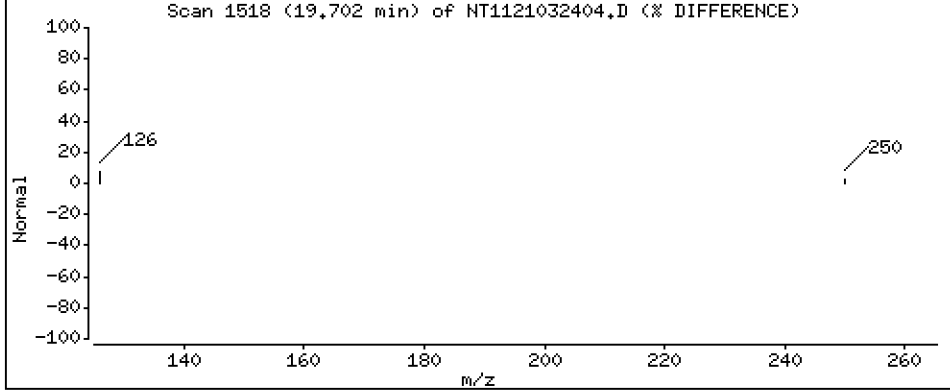
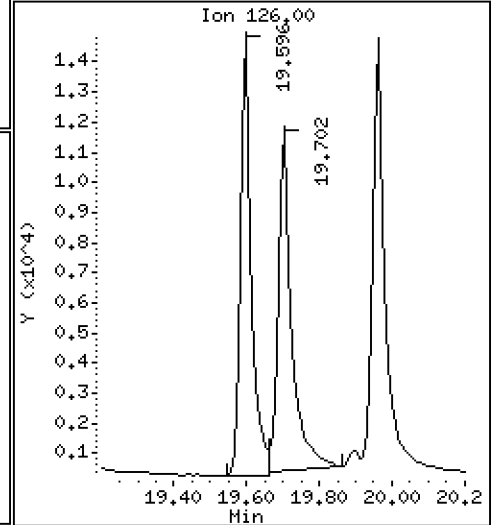
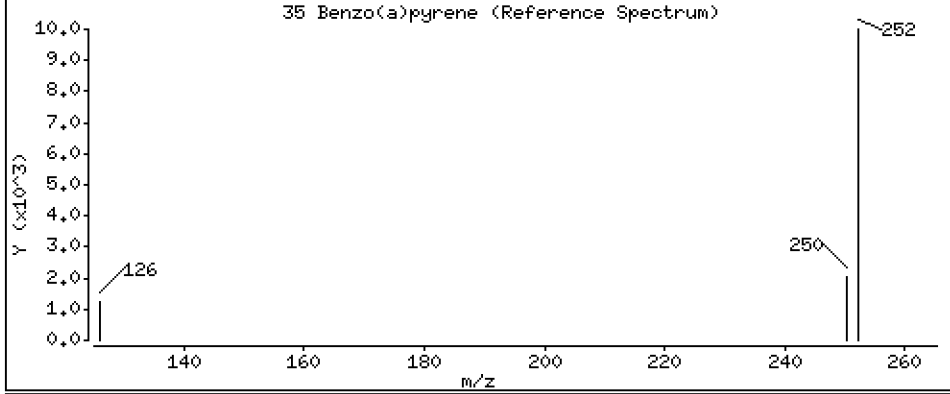
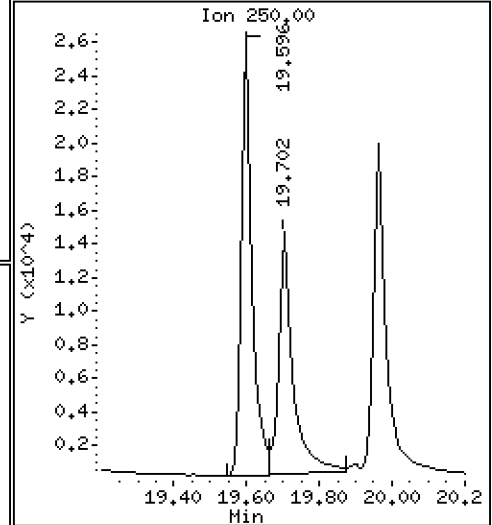
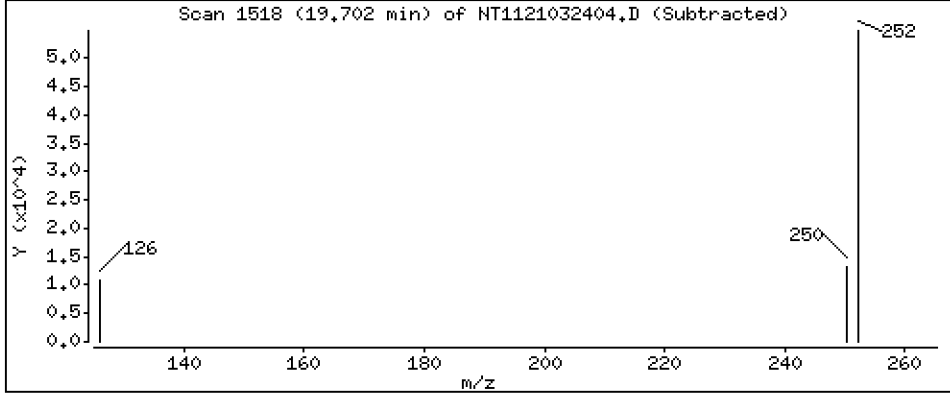
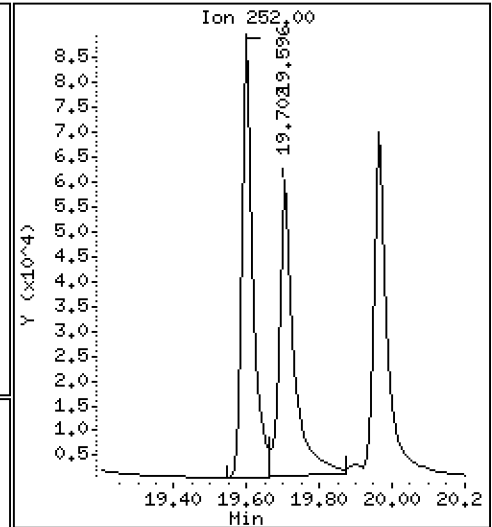
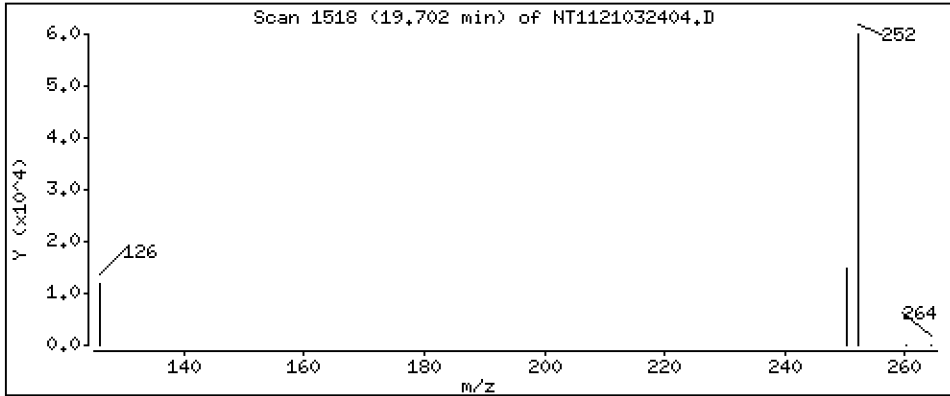
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 194 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

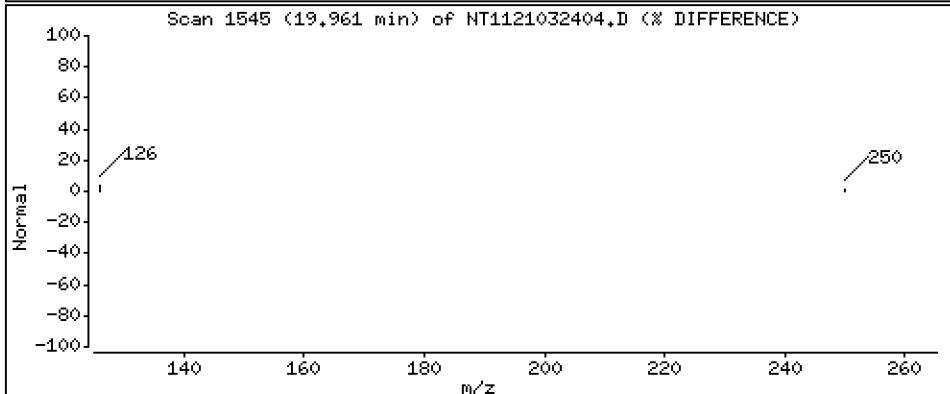
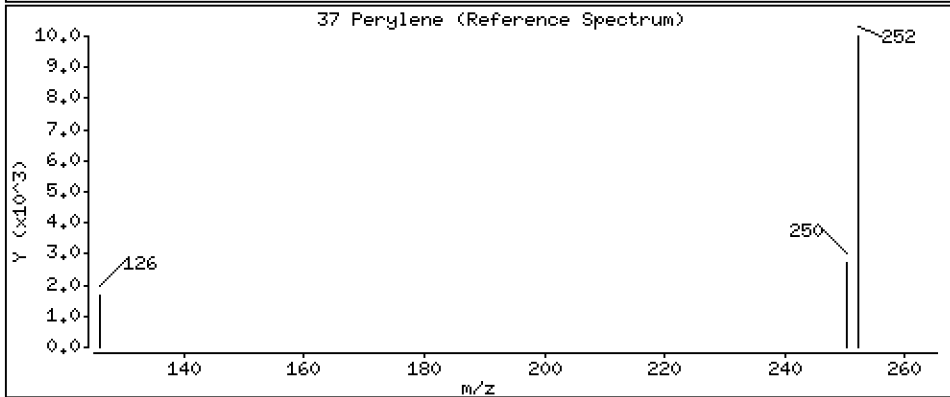
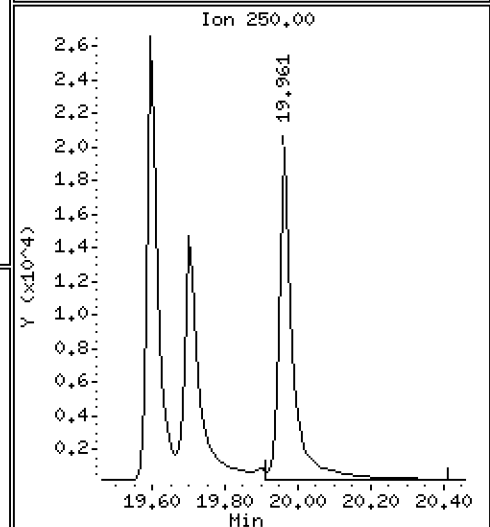
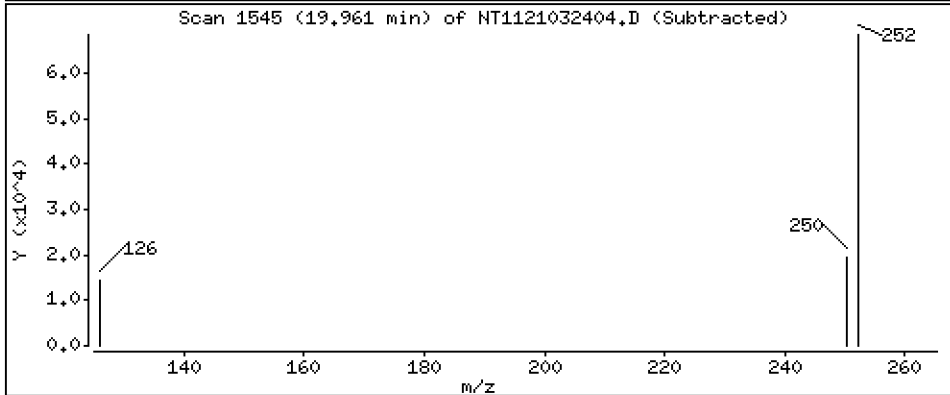
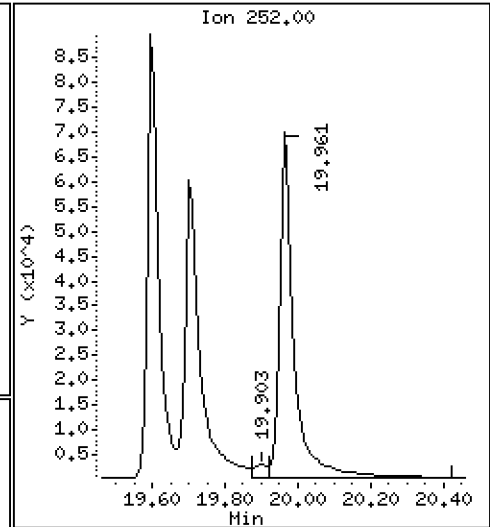
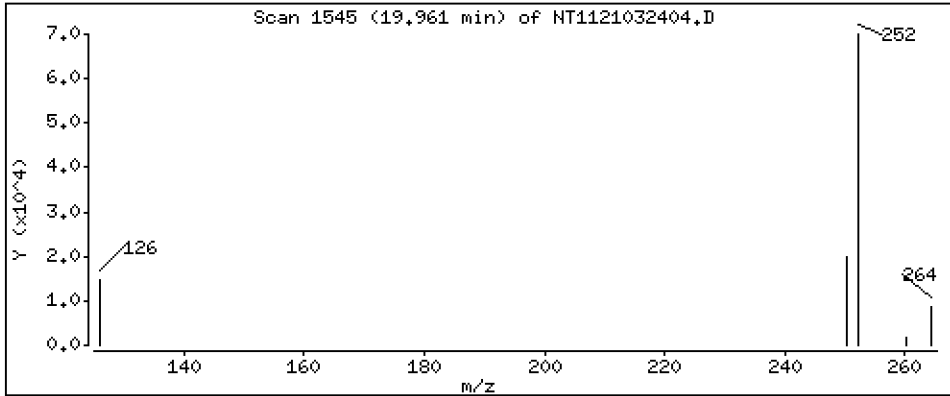
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

37 Perylene

Concentration: 195 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

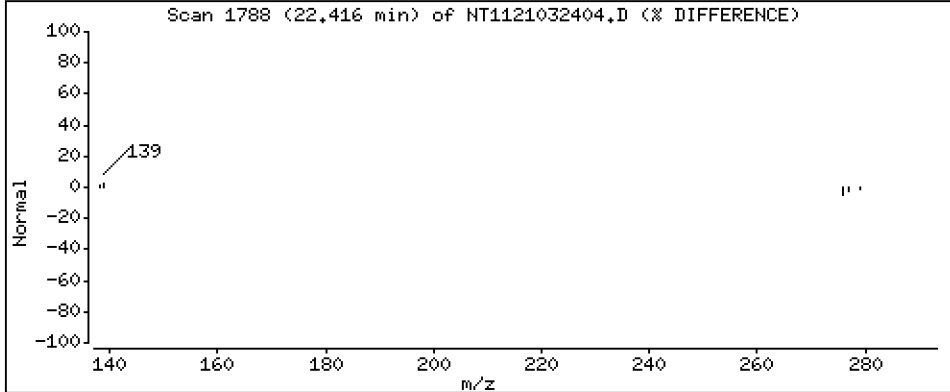
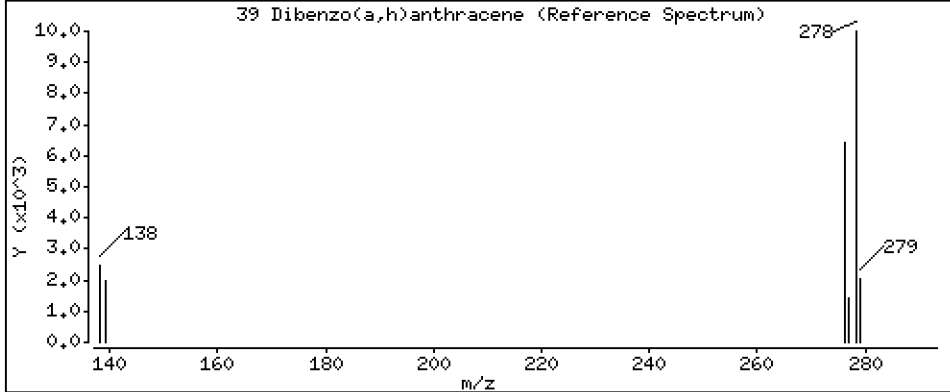
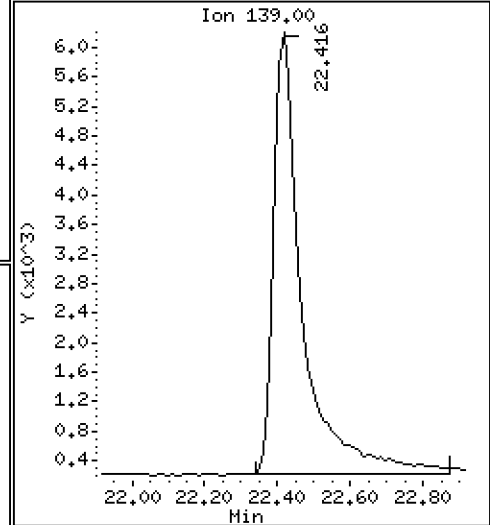
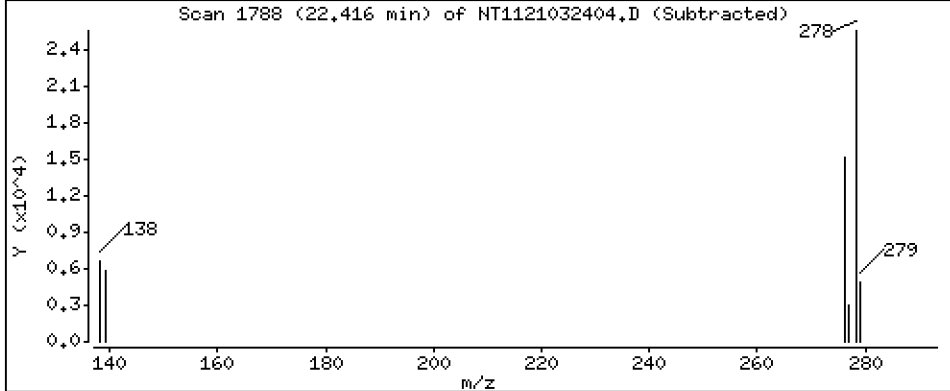
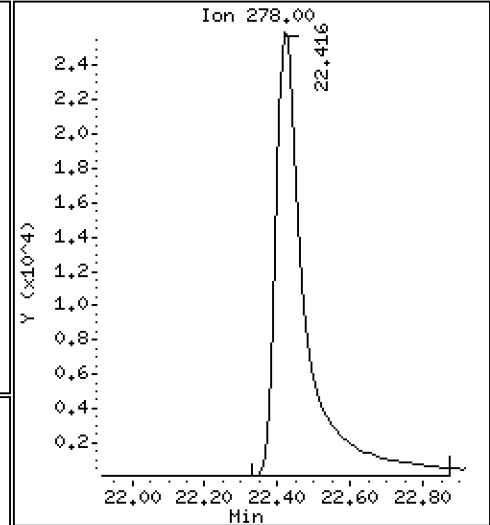
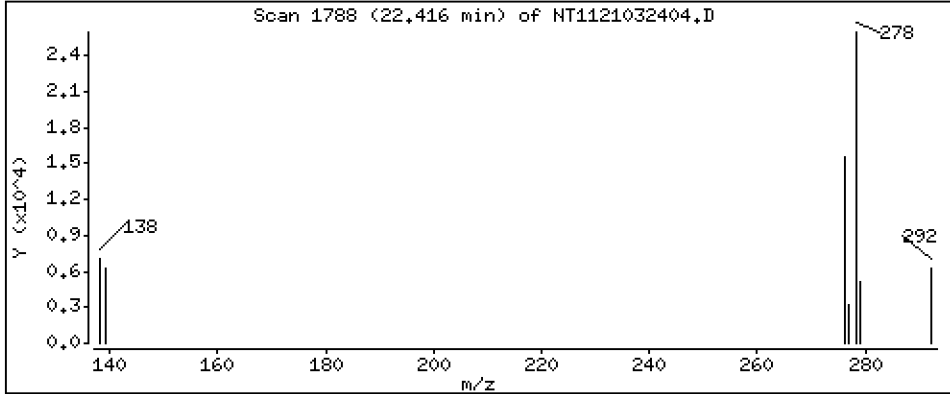
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

39 Dibenzo(a,h)anthracene

Concentration: 204 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

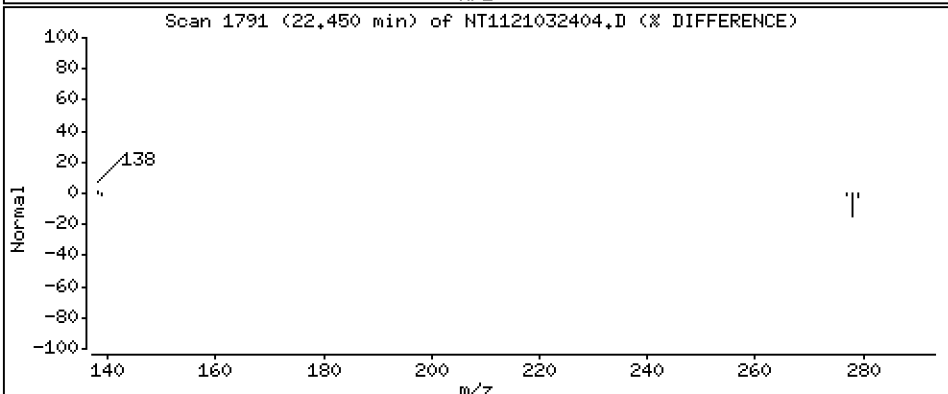
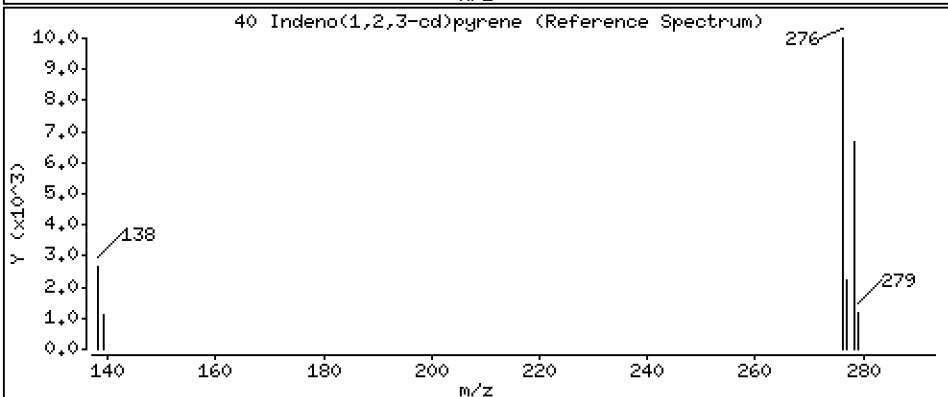
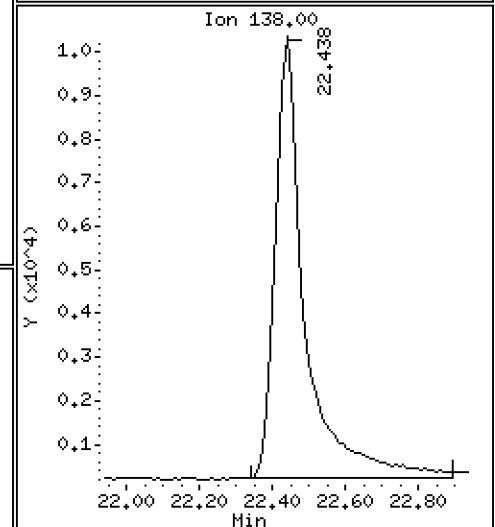
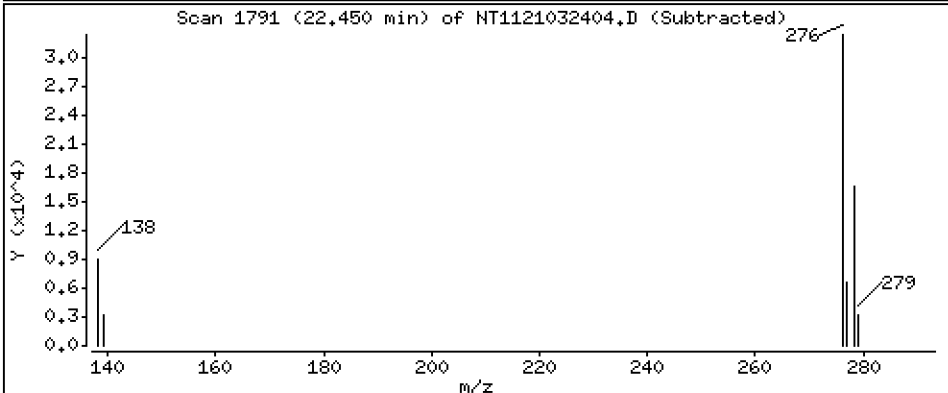
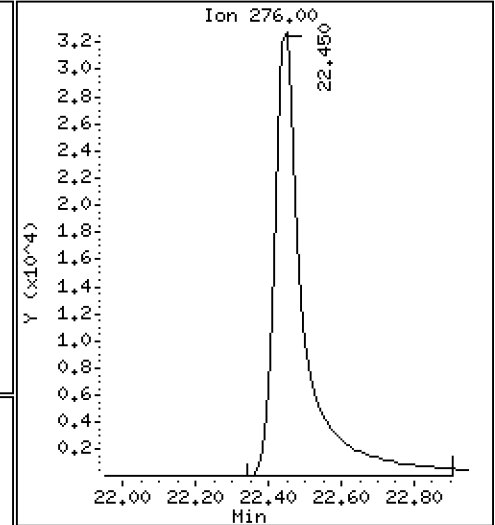
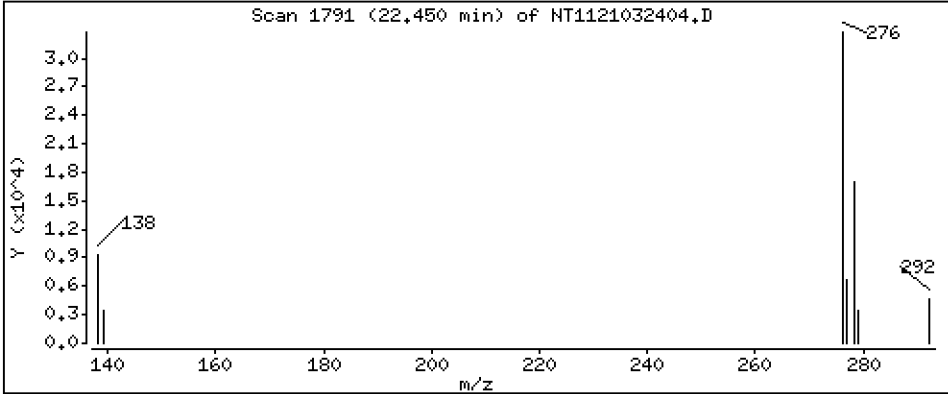
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

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

Concentration: 212 ng/mL



Date : 24-MAR-2021 15:05

Client ID:

Instrument: nt11.i

Sample Info: BJC0356-BS1

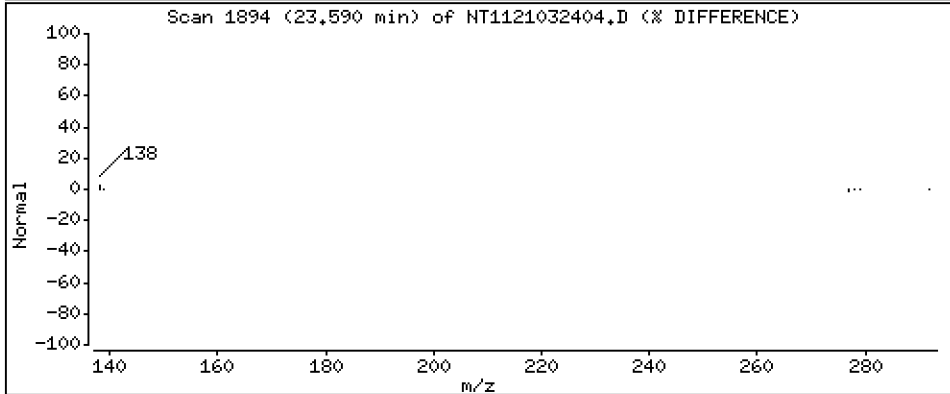
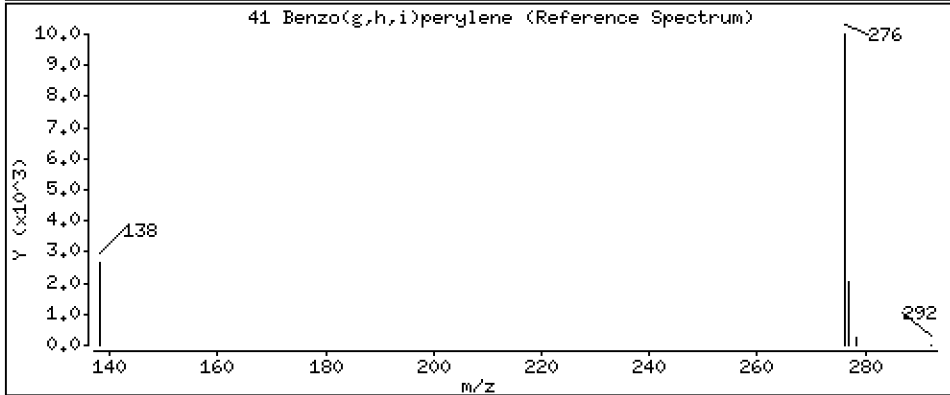
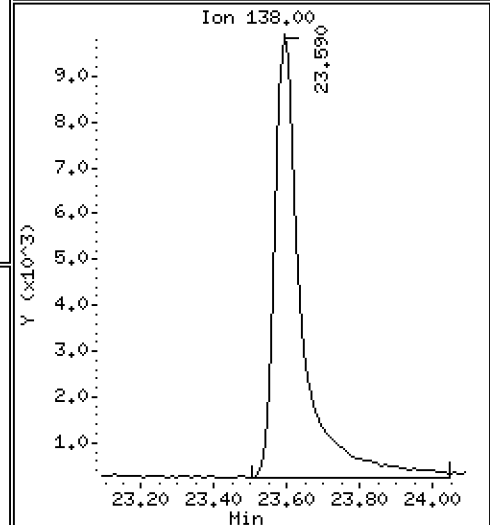
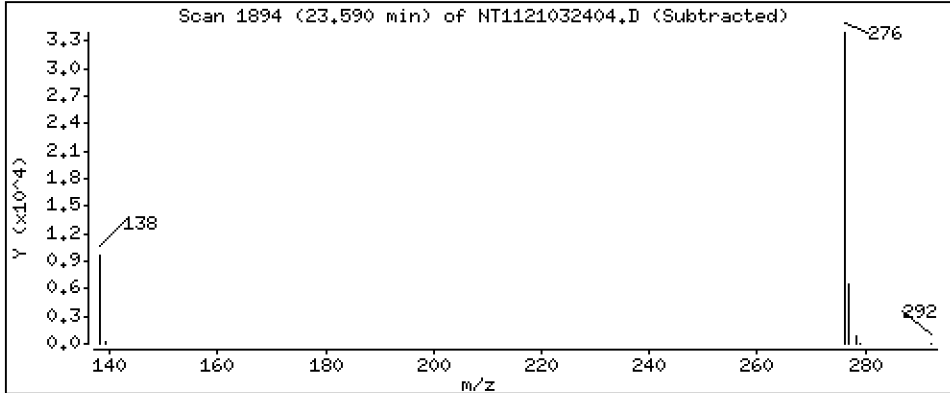
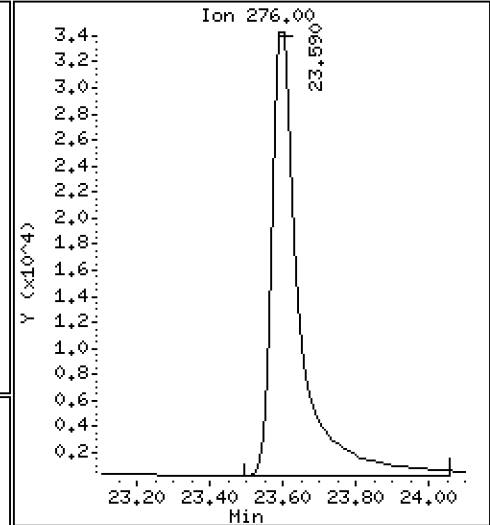
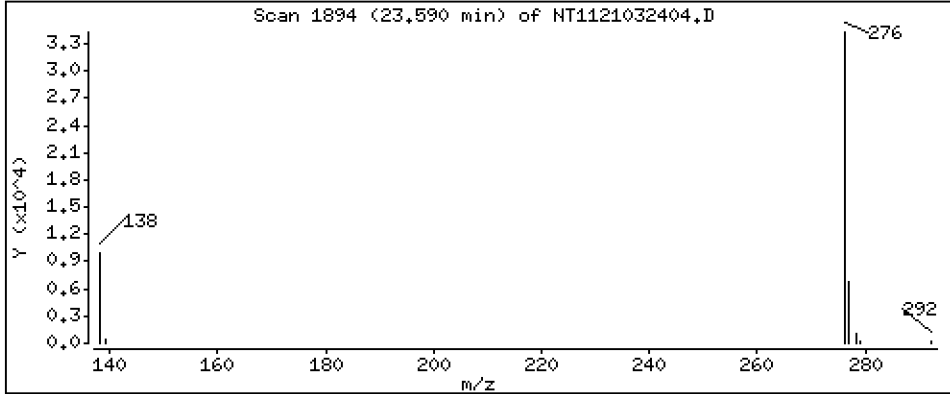
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 211 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20210324.b\NT1121032404.D
 Lab Smp Id: BJC0356-BS1
 Inj Date : 24-MAR-2021 15:05 MS Autotune Date: 15-JAN-2015 16:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : BJC0356-BS1
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20210324.b\lowsim.m
 Meth Date : 24-Mar-2021 14:23 van Quant Type: ISTD
 Cal Date : 27-AUG-2020 13:38 Cal File: NT1120082704.D
 Als bottle: 4
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PAH.sub
 Target Version: 4.14
 Processing Host: VANS-202011

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		6.777	6.777	(1.000)	243726	200.000	
2 Naphthalene	128		6.813	6.813	(1.005)	285272	201.587	202
3 Benzo(b)thiophene	134		7.066	7.066	(1.043)	235921	211.320	211
\$ 4 2-Methylnaphthalene-d10	152		7.749	7.749	(1.143)	223884	228.452	228
5 2-Methylnaphthalene	142		7.801	7.801	(1.151)	231868	203.249	203
6 1-Methylnaphthalene	142		8.053	8.054	(1.188)	216635	204.283	204
7 2-Chloronaphthalene	162		8.705	8.705	(0.891)	202497	176.661	177
8 Biphenyl	154		8.673	8.673	(0.888)	267403	175.210	175
9 2,6-Dimethylnaphthalene	156		8.726	8.726	(0.893)	202810	179.101	179
10 Acenaphthylene	152		9.616	9.625	(0.984)	263366	174.410	174
* 11 Acenaphthene-d10	164		9.770	9.770	(1.000)	131619	200.000	
12 Acenaphthene	153		9.833	9.833	(1.006)	179220	179.451	179
13 Dibenzofuran	168		10.035	10.036	(1.027)	240345	180.283	180
14 2,3,5-Trimethylnaphthalene	170		10.137	10.137	(1.038)	148827	181.501	182
16 Fluorene	166		10.655	10.655	(1.091)	196190	191.046	191
17 Dibenzothiophene	184		12.271	12.271	(0.986)	216427	202.554	203
* 18 Phenanthrene-d10	188		12.439	12.439	(1.000)	192996	200.000	
19 Phenanthrene	178		12.481	12.481	(1.003)	265162	210.028	210
21 Anthracene	178		12.533	12.534	(1.008)	245328	194.479	194
22 Carbazole	167		13.206	13.216	(1.062)	285861	212.665	213
23 1-Methylphenanthrene	192		13.477	13.478	(1.084)	239691	214.928	215
\$ 24 Fluoranthene-d10	212		14.529	14.530	(1.168)	229679	226.991	227
25 Fluoranthene	202		14.568	14.568	(1.171)	270580	214.968	215
26 Pyrene	202		15.058	15.058	(1.211)	277256	214.708	215
27 Benzo(a)anthracene	228		17.072	17.072	(0.995)	200021	195.248	195
* 28 Chrysene-d12	240		17.163	17.163	(1.000)	139461	200.000	
29 Chrysene	228		17.213	17.213	(1.003)	234149	202.986	203
30 Benzo(b)fluoranthene	252		18.894	18.894	(0.949)	152860	182.831	183
31 Benzo(k)fluoranthene	252		18.932	18.933	(0.951)	239917	218.387	218
32 Benzo(j)fluoranthene	252		19.000	19.000	(0.955)	274965	231.605	232
34 Benzo(e)pyrene	252		19.595	19.596	(0.985)	194765	205.712	206
35 Benzo(a)pyrene	252		19.701	19.701	(0.990)	169662	194.297	194
* 36 Perylene-d12	264		19.903	19.903	(1.000)	153602	200.000	

Compounds	QUANT	SIG						CONCENTRATIONS	
			MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/mL)
=====	=====	=====	=====	=====	=====	=====	=====	=====	
37 Perylene	252		19.961	19.961	(1.003)	193632	194.633	195	
\$ 38 Dibenzo(a,h)anthracene-d14	292		22.305	22.305	(1.121)	119607	199.503	200	
39 Dibenzo(a,h)anthracene	278		22.416	22.416	(1.126)	146687	203.913	204	
40 Indeno(1,2,3-cd)pyrene	276		22.449	22.449	(1.128)	180087	212.373	212	
41 Benzo(g,h,i)perylene	276		23.590	23.601	(1.185)	178925	211.033	211	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 24-MAR-2021
 Lab File ID: NT1121032404.D Calibration Time: 13:25
 Lab Smp Id: BJC0356-BS1
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20210324.b\lowsim.m
 Misc Info:

Test Mode:
 Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	211546	105773	423092	243726	15.21
11 Acenaphthene-d10	115033	57517	230066	131619	14.42
18 Phenanthrene-d10	167782	83891	335564	192996	15.03
28 Chrysene-d12	125684	62842	251368	139461	10.96
36 Perylene-d12	145995	72998	291990	153602	5.21

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	6.78	6.28	7.28	6.78	-0.00
11 Acenaphthene-d10	9.77	9.27	10.27	9.77	-0.00
18 Phenanthrene-d10	12.44	11.94	12.94	12.44	-0.00
28 Chrysene-d12	17.16	16.66	17.66	17.16	-0.00
36 Perylene-d12	19.90	19.40	20.40	19.90	-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 - NT1121032404.D

Lab ID: BJC0356-BS1
nt11.i, 20210324.b\lowsim.m, 24-MAR-2021 15:05

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

RRT check based on Ccal File: NT1121032402.D

On Column LOD for nt11.i, 20210324.b\lowsim.m, PAH.sub = 0.0000

Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000

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



LCS / LCS DUPLICATE RECOVERY
EPA 8270E-SIM

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>21C0175</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>GascoSiltronic: US Moorings</u>
Matrix:	<u>Water</u>	Analyzed:	<u>03/18/21 11:36</u>
Batch:	<u>BJC0357</u>	Laboratory ID:	<u>BJC0357-BS1</u>
Preparation:	<u>EPA 3510C SepF</u>	Sequence Name:	<u>LCS</u>
Initial/Final:	<u>100 mL / 0.5 mL</u>		

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	Q	LCS % REC. #	QC LIMITS REC.
Tributyltin Ion	2.23	1.00		44.9	30 - 160

* Indicates values outside of QC limits

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	Q	LCSD % REC. #	% RPD #	QC LIMITS	
						RPD	REC.
Tributyltin Ion	2.23	0.881		39.5	12.7	30	30 - 160

* Indicates values outside of QC limits

Data File: \\target\share\chem3\nt8.1\20210318.1\NT821031804.D

Date: 18-MAR-2021 11:36

Client ID:

Sample Info: BJC0367-BS1,

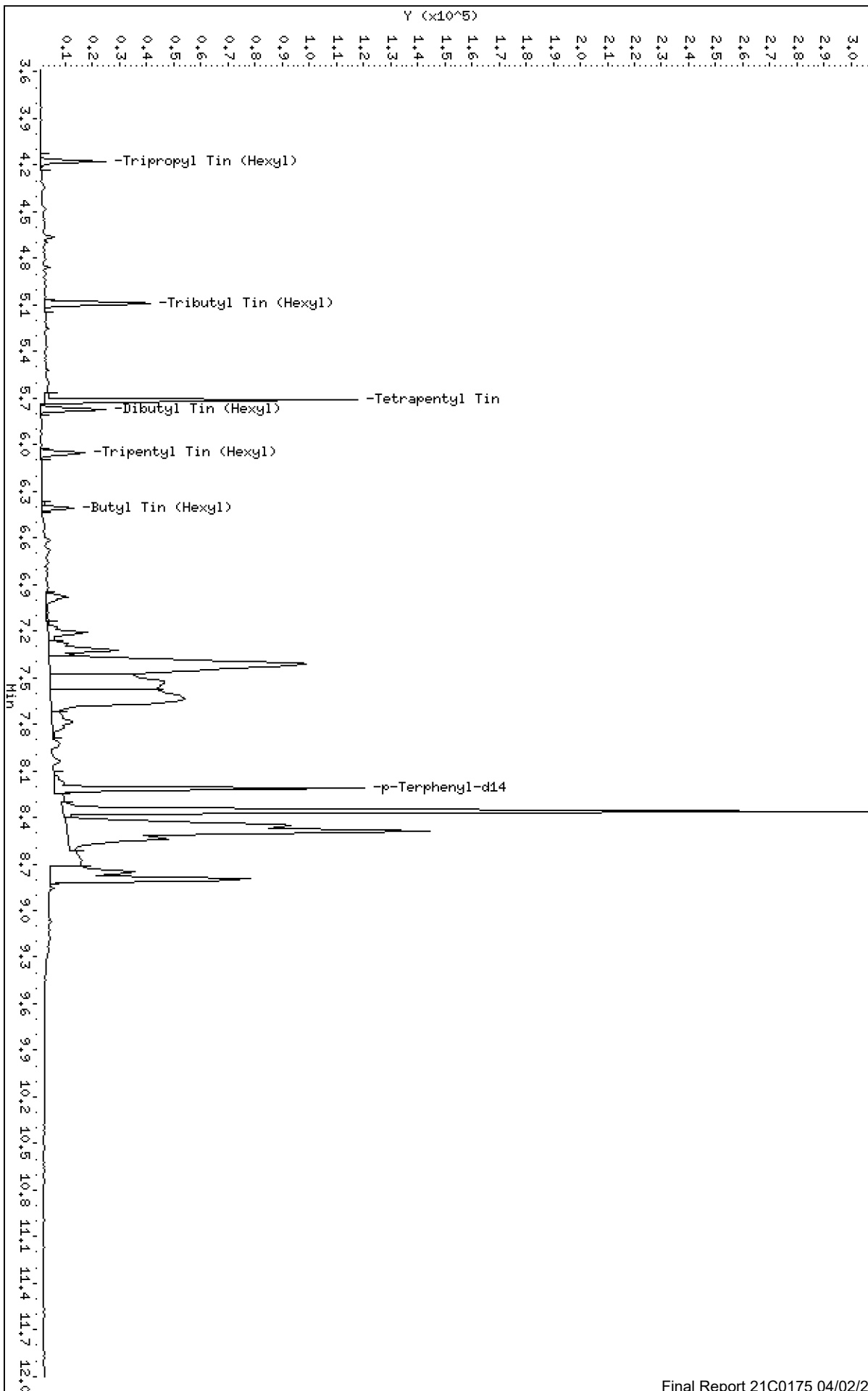
Column phase: ZB-5msi

Instrument: nt8.1

Operator: JZ

Column diameter: 0.25

\\target\share\chem3\nt8.1\20210318.1\NT821031804.D



Date : 18-MAR-2021 11:36

Client ID:

Instrument: nt8.i

Sample Info: BJC0357-BS1.

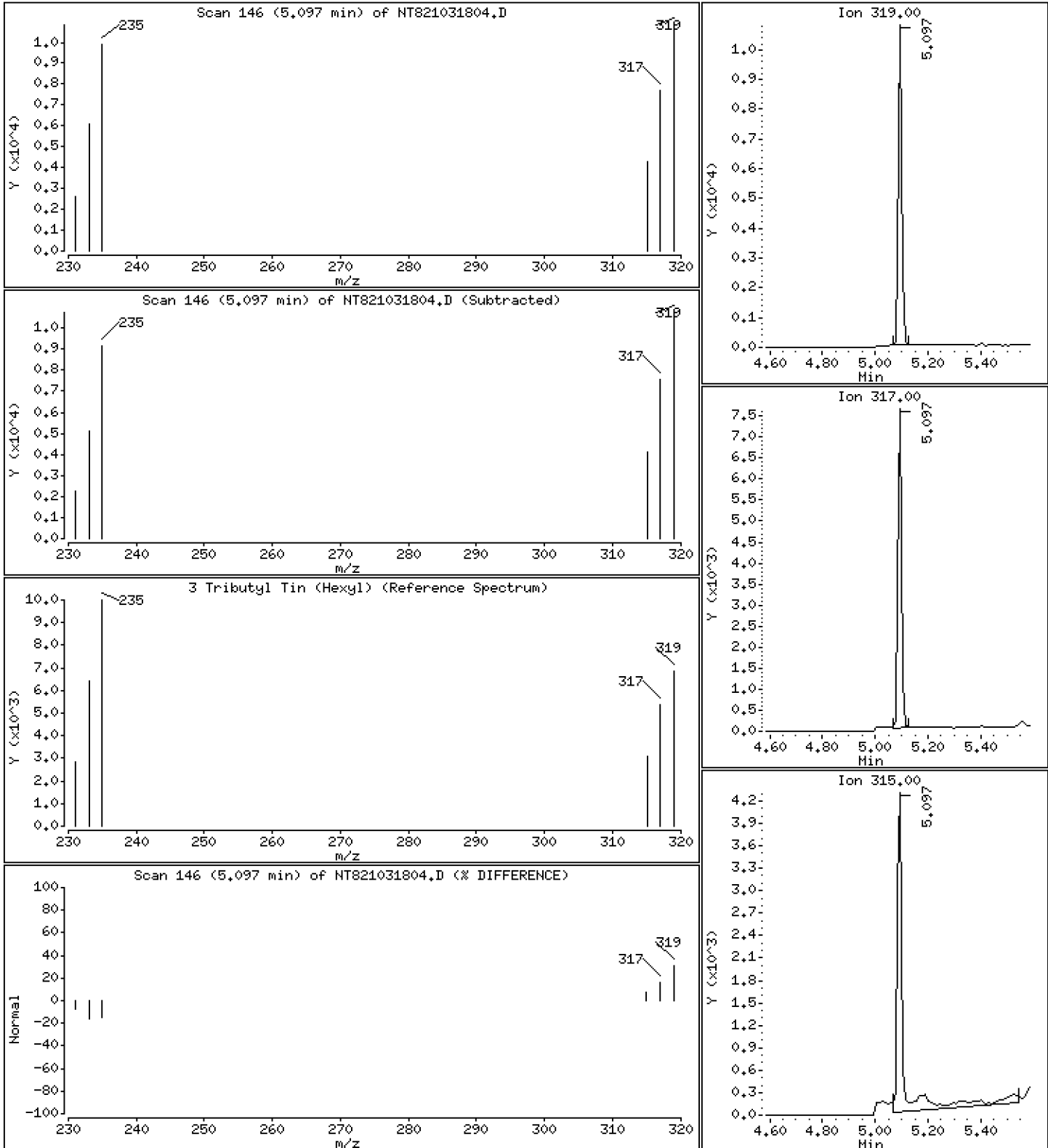
Operator: JZ

Column phase: ZB-5msi

Column diameter: 0.25

3 Tributyl Tin (Hexyl)

Concentration: 0.2587 ug/mL



Date : 18-MAR-2021 11:36

Client ID:

Instrument: nt8.i

Sample Info: BJC0357-BS1.

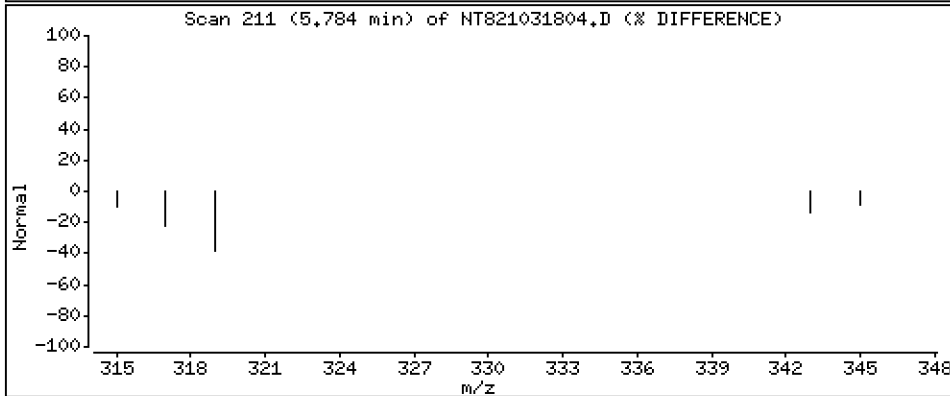
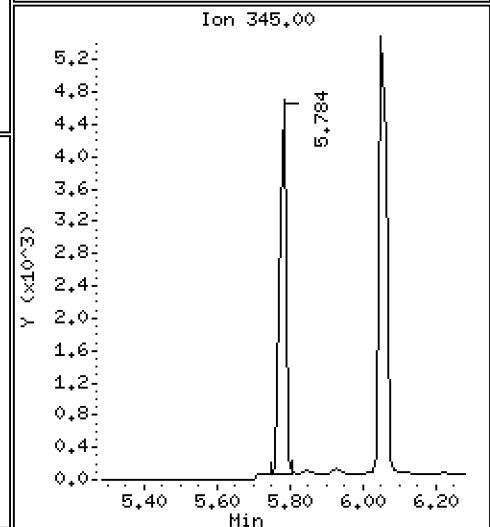
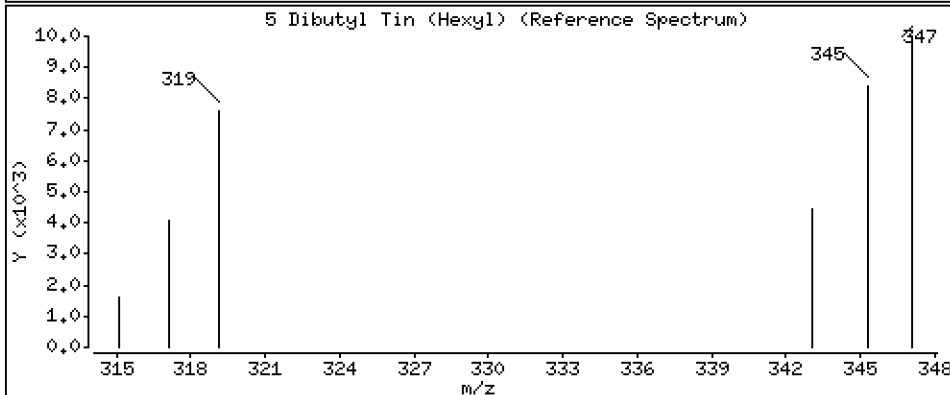
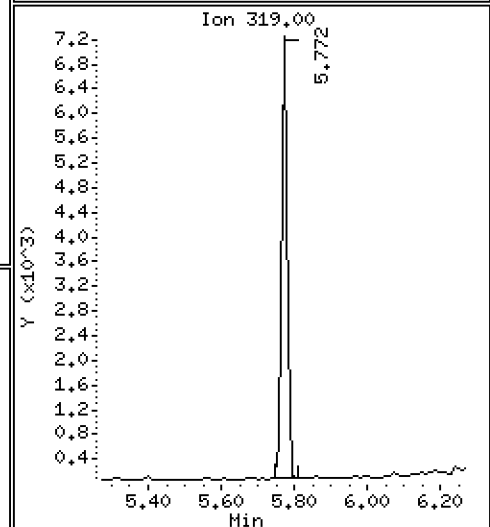
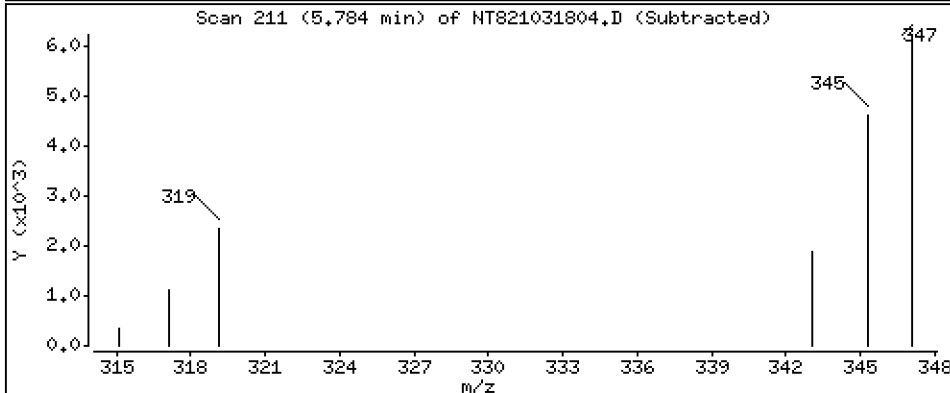
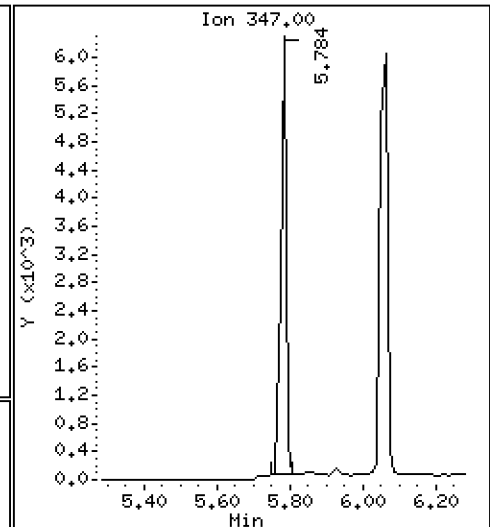
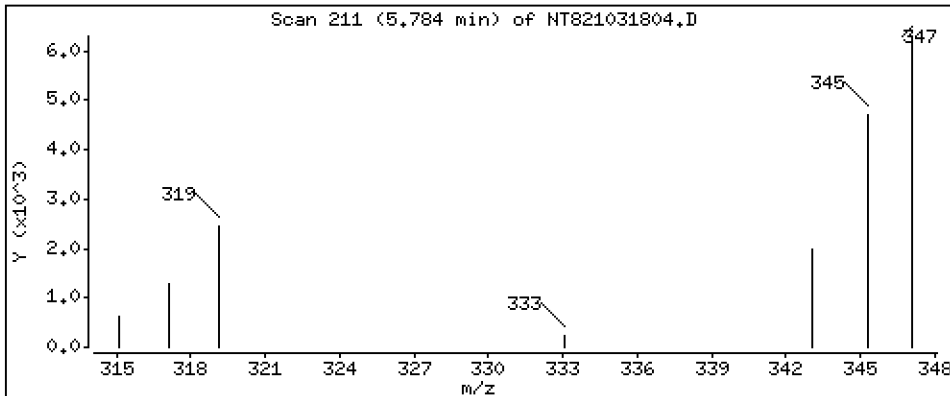
Operator: JZ

Column phase: ZB-5msi

Column diameter: 0.25

5 Dibutyl Tin (Hexyl)

Concentration: 0.2752 ug/mL



Date : 18-MAR-2021 11:36

Client ID:

Instrument: nt8.i

Sample Info: BJC0357-BS1.

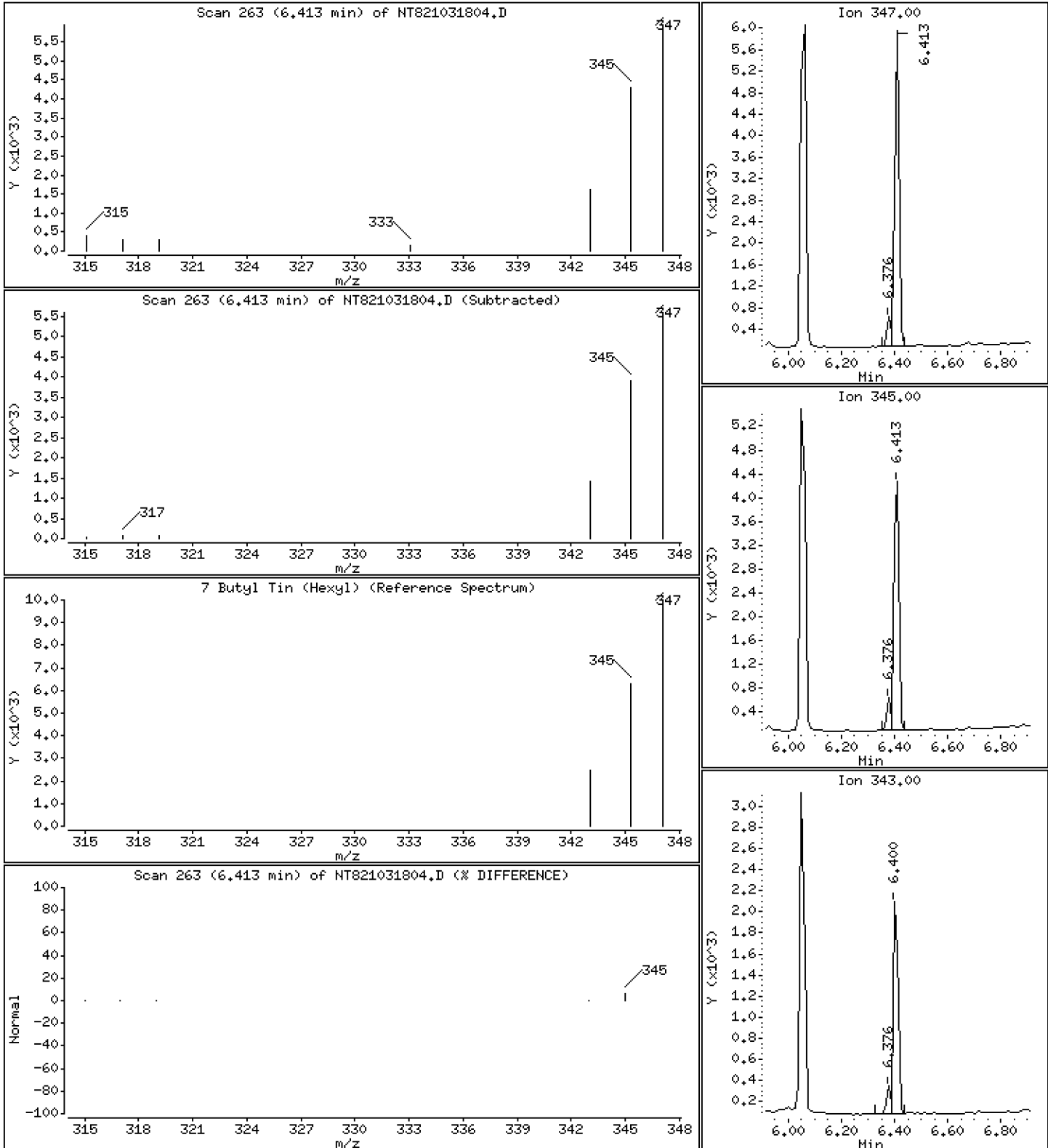
Operator: JZ

Column phase: ZB-5msi

Column diameter: 0.25

7 Butyl Tin (Hexyl)

Concentration: 0.1931 ug/mL



ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt8.i\20210318.b\NT821031804.D
 Lab Smp Id: BJC0357-BS1
 Inj Date : 18-MAR-2021 11:36
 Operator : JZ Inst ID: nt8.i
 Smp Info : BJC0357-BS1,
 Misc Info : 21-
 Comment : 2 ul Injection
 Method : \\target\share\chem3\nt8.i\20210318.b\TBT201215.m
 Meth Date : 18-Mar-2021 11:06 nt8.i Quant Type: ISTD
 Cal Date : 15-DEC-2020 11:33 Cal File: NT820121508.D
 Als bottle: 4
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: sedmdl.sub
 Target Version: 4.14
 Processing Host: ORGDATA22

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN	FINAL
	MASS						(ug/mL)	(ug/mL)
\$ 1 Tripropyl Tin (Hexyl)	291		4.180	4.138	(0.732)	12785	0.20400	0.2040
2 Tetrabutyl Tin	289		Compound Not Detected.					
3 Tributyl Tin (Hexyl)	319		5.096	5.086	(0.892)	10197	0.25874	0.2587
* 4 Tetrapentyl Tin	333		5.711	5.711	(1.000)	123332	2.00000	
5 Dibutyl Tin (Hexyl)	347		5.783	5.783	(0.704)	6755	0.27521	0.2752
\$ 6 Tripentyl Tin (Hexyl)	347		6.061	6.061	(0.738)	8263	0.28405	0.2840
7 Butyl Tin (Hexyl)	347		6.412	6.412	(0.781)	6702	0.19309	0.1931
* 8 p-Terphenyl-d14	244		8.215	8.215	(1.000)	109527	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt8.i Calibration Date: 18-MAR-2021
 Lab File ID: NT821031804.D Calibration Time: 10:46
 Lab Smp Id: BJC0357-BS1
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: JZ
 Method File: \\target\share\chem3\nt8.i\20210318.b\TBT201215.m
 Misc Info: 21-

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	72645	36323	145290	123332	69.77
8 p-Terphenyl-d14	65742	32871	131484	109527	66.60

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	5.71	5.21	6.21	5.71	0.00
8 p-Terphenyl-d14	8.22	7.72	8.72	8.22	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 - NT821031804.D

Lab ID: BJC0357-BS1

nt8.i, 20210318.b\TBT201215.m, 18-MAR-2021 11:36

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.732	0.725	0.0073	Tripropyl Tin (Hexyl)

RRT check based on Ccal File: NT821031802.D

On Column LOD for nt8.i, 20210318.b\TBT201215.m, sedmdl.sub = 0.0000

Exception: Tripropyl Tin (Hexyl) (Surr) 0.0010

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

Data File: \\target\share\chem3\nt8.1\20210318.1\NT821031805.D

Date: 18-MAR-2021 11:53

Client ID:

Sample Info: BJC0357-BSM1,

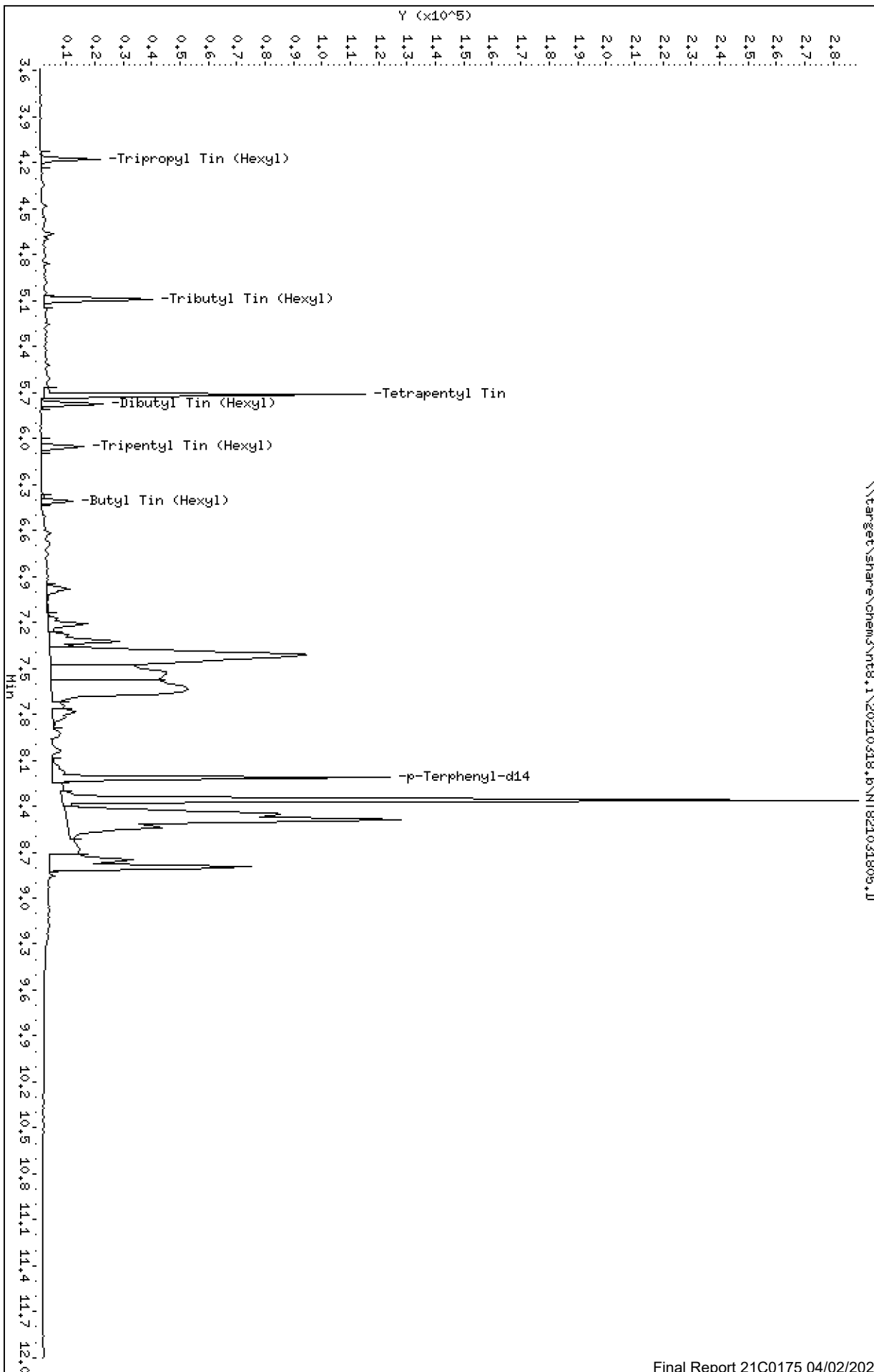
Column phase: ZB-5msi

Instrument: nt8.1

Operator: JZ

Column diameter: 0.25

\\target\share\chem3\nt8.1\20210318.1\NT821031805.D



Date : 18-MAR-2021 11:53

Client ID:

Instrument: nt8.i

Sample Info: BJC0357-BSD1,

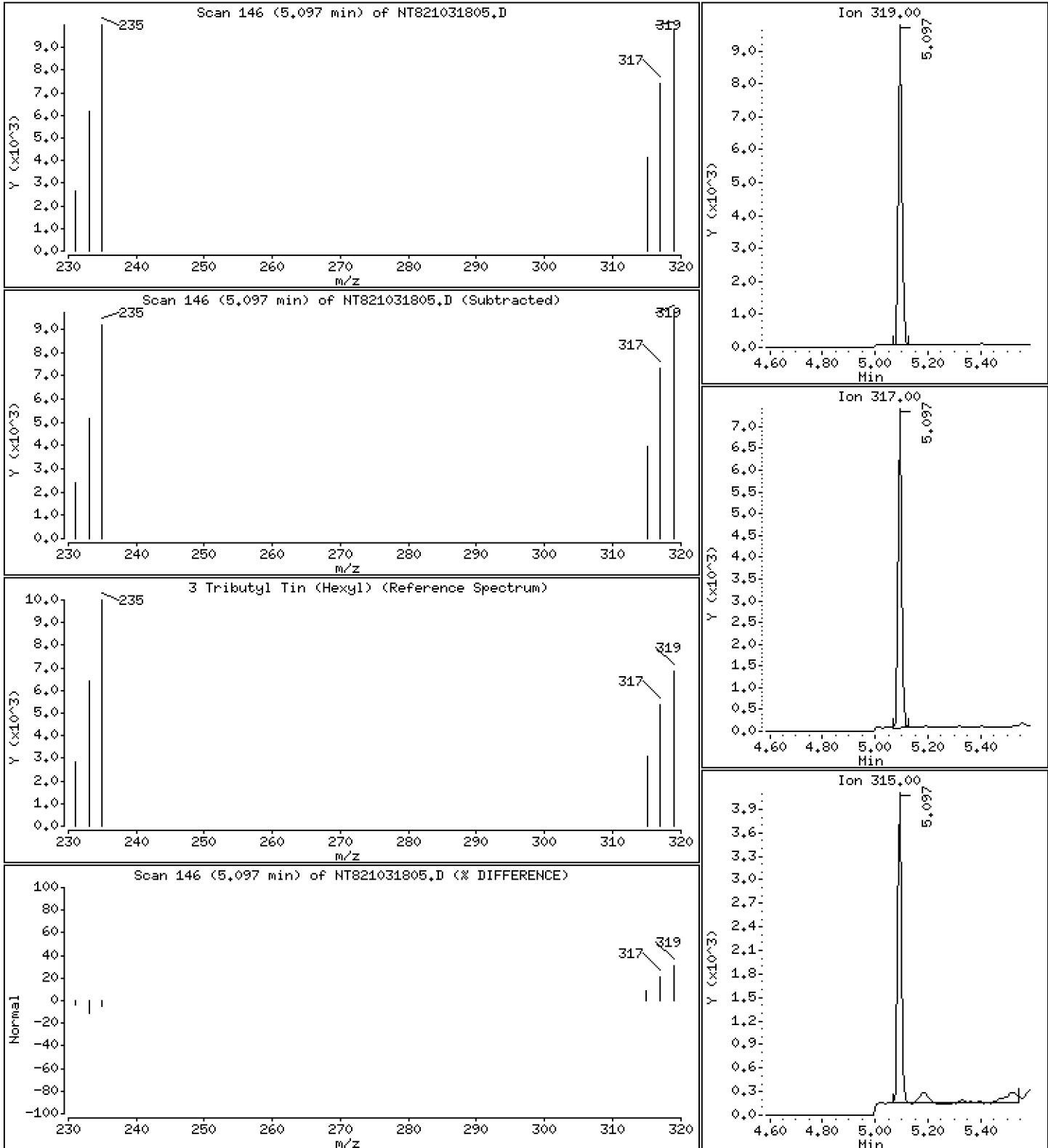
Operator: JZ

Column phase: ZB-5msi

Column diameter: 0,25

3 Tributyl Tin (Hexyl)

Concentration: 0,2279 ug/mL



Date : 18-MAR-2021 11:53

Client ID:

Instrument: nt8.i

Sample Info: BJC0357-BSD1,

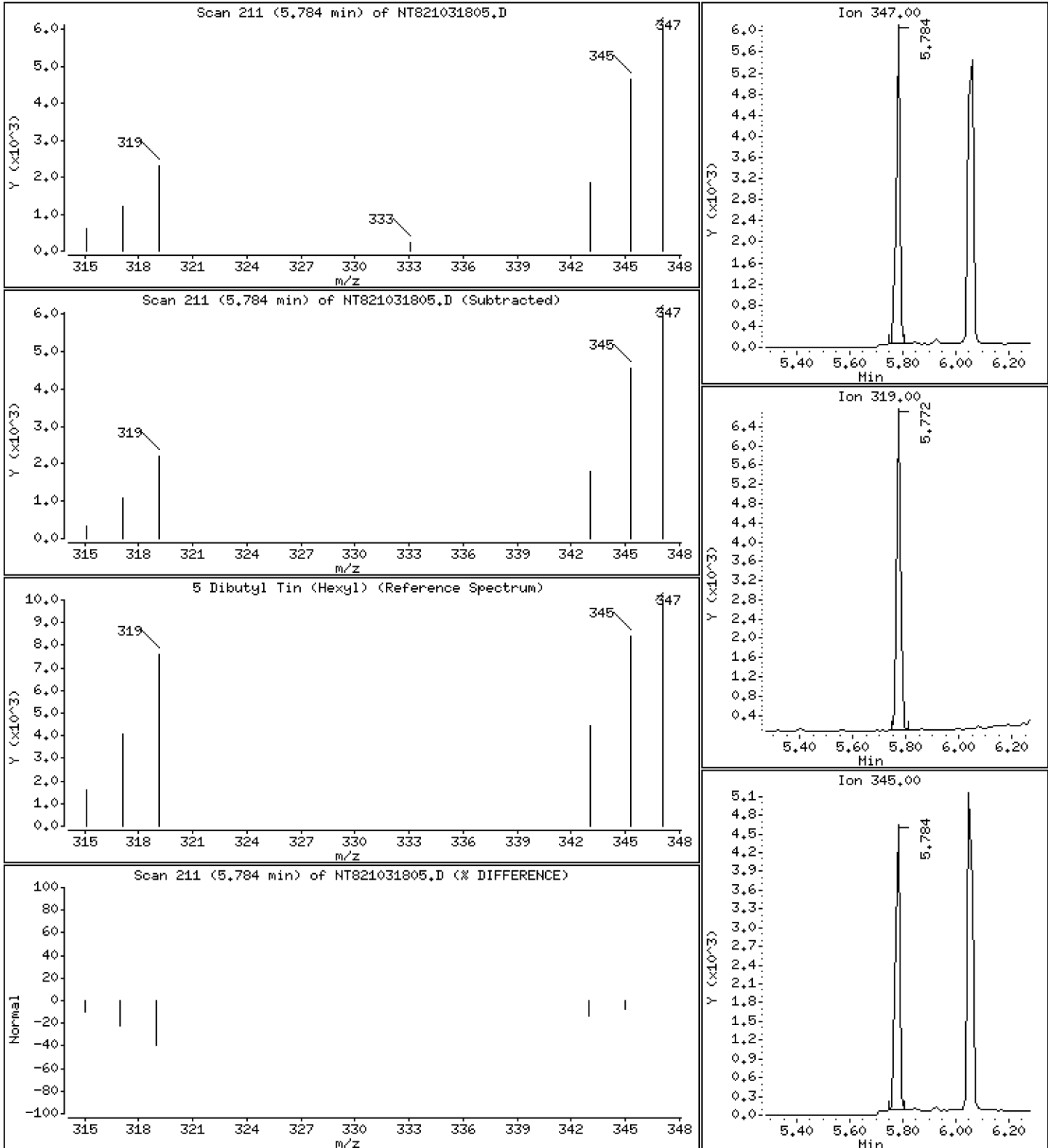
Operator: JZ

Column phase: ZB-5msi

Column diameter: 0.25

5 Dibutyl Tin (Hexyl)

Concentration: 0.2520 ug/mL



Date : 18-MAR-2021 11:53

Client ID:

Instrument: nt8.i

Sample Info: BJC0357-BSD1,

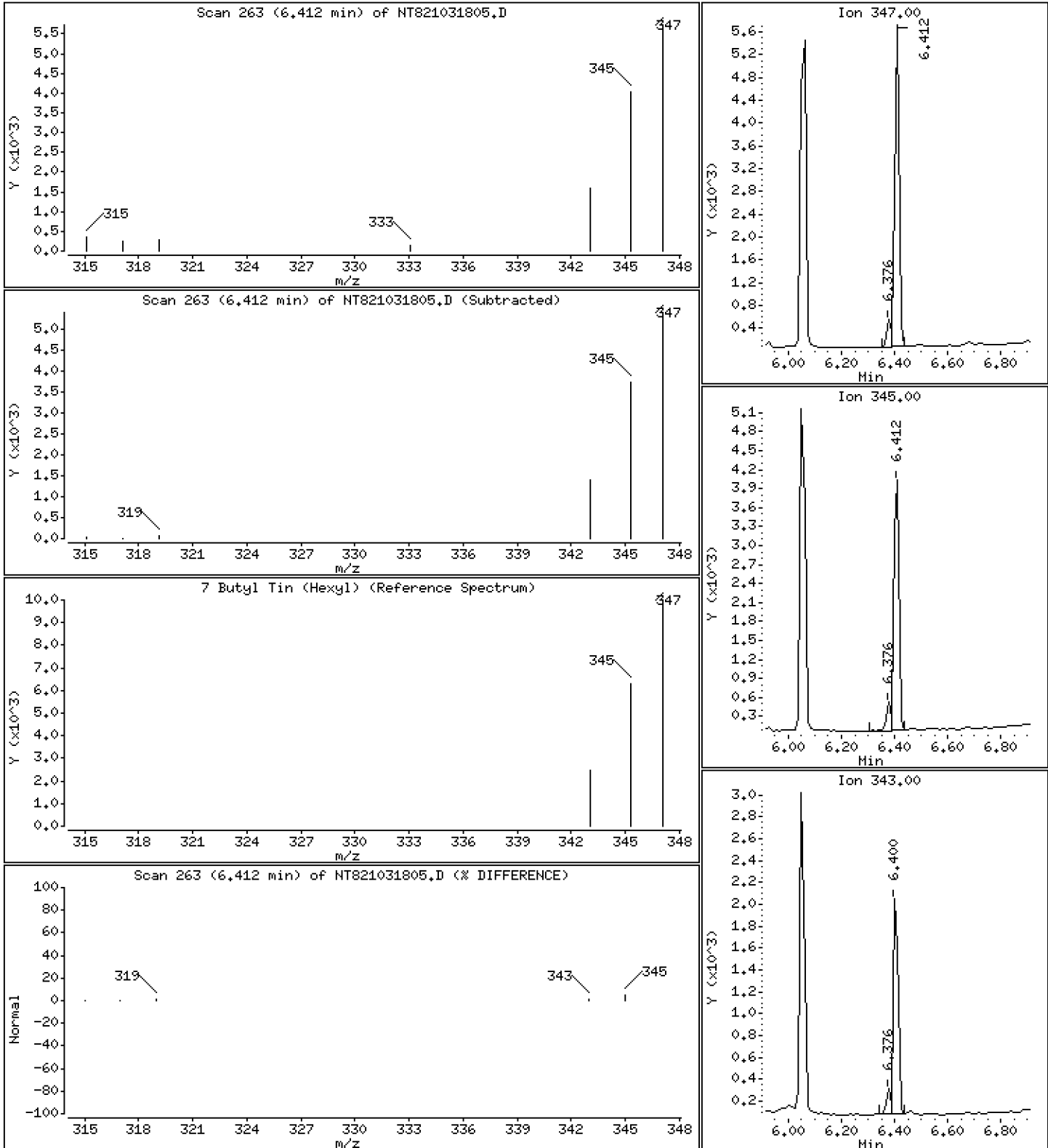
Operator: JZ

Column phase: ZB-5msi

Column diameter: 0,25

7 Butyl Tin (Hexyl)

Concentration: 0,1807 ug/mL



ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt8.i\20210318.b\NT821031805.D
 Lab Smp Id: BJC0357-BSD1
 Inj Date : 18-MAR-2021 11:53
 Operator : JZ Inst ID: nt8.i
 Smp Info : BJC0357-BSD1,
 Misc Info : 21-
 Comment : 2 ul Injection
 Method : \\target\share\chem3\nt8.i\20210318.b\TBT201215.m
 Meth Date : 18-Mar-2021 11:06 nt8.i Quant Type: ISTD
 Cal Date : 15-DEC-2020 11:33 Cal File: NT820121508.D
 Als bottle: 5
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: sedmdl.sub
 Target Version: 4.14
 Processing Host: ORGDATA22

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN	FINAL
	MASS						(ug/mL)	(ug/mL)
\$ 1 Tripropyl Tin (Hexyl)	291		4.180	4.138	(0.732)	11347	0.17614	0.1761
2 Tetrabutyl Tin	289		Compound Not Detected.					
3 Tributyl Tin (Hexyl)	319		5.096	5.086	(0.892)	9233	0.22792	0.2279
* 4 Tetrapentyl Tin	333		5.711	5.711	(1.000)	126769	2.00000	
5 Dibutyl Tin (Hexyl)	347		5.783	5.783	(0.704)	6336	0.25201	0.2520
\$ 6 Tripentyl Tin (Hexyl)	347		6.061	6.061	(0.738)	7444	0.24982	0.2498
7 Butyl Tin (Hexyl)	347		6.412	6.412	(0.781)	6425	0.18071	0.1807
* 8 p-Terphenyl-d14	244		8.215	8.215	(1.000)	112192	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt8.i Calibration Date: 18-MAR-2021
 Lab File ID: NT821031805.D Calibration Time: 10:46
 Lab Smp Id: BJC0357-BSD1
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: JZ
 Method File: \\target\share\chem3\nt8.i\20210318.b\TBT201215.m
 Misc Info: 21-

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	72645	36323	145290	126769	74.50
8 p-Terphenyl-d14	65742	32871	131484	112192	70.65

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	5.71	5.21	6.21	5.71	0.00
8 p-Terphenyl-d14	8.22	7.72	8.72	8.22	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 - NT821031805.D

Lab ID: BJC0357-BSD1

nt8.i, 20210318.b\TBT201215.m, 18-MAR-2021 11:53

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.732	0.725	0.0073	Tripropyl Tin (Hexyl)

RRT check based on Ccal File: NT821031802.D

On Column LOD for nt8.i, 20210318.b\TBT201215.m, sedmdl.sub = 0.0000

Exception: Tripropyl Tin (Hexyl) (Surr) 0.0010

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



**MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8270E-SIM**

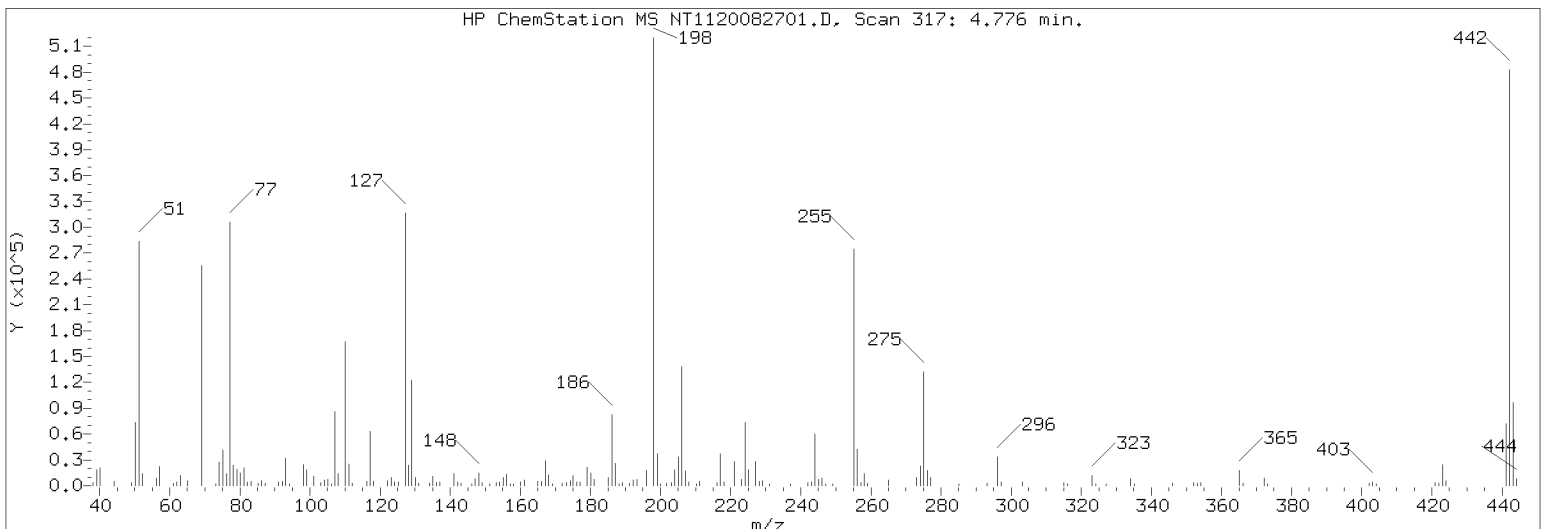
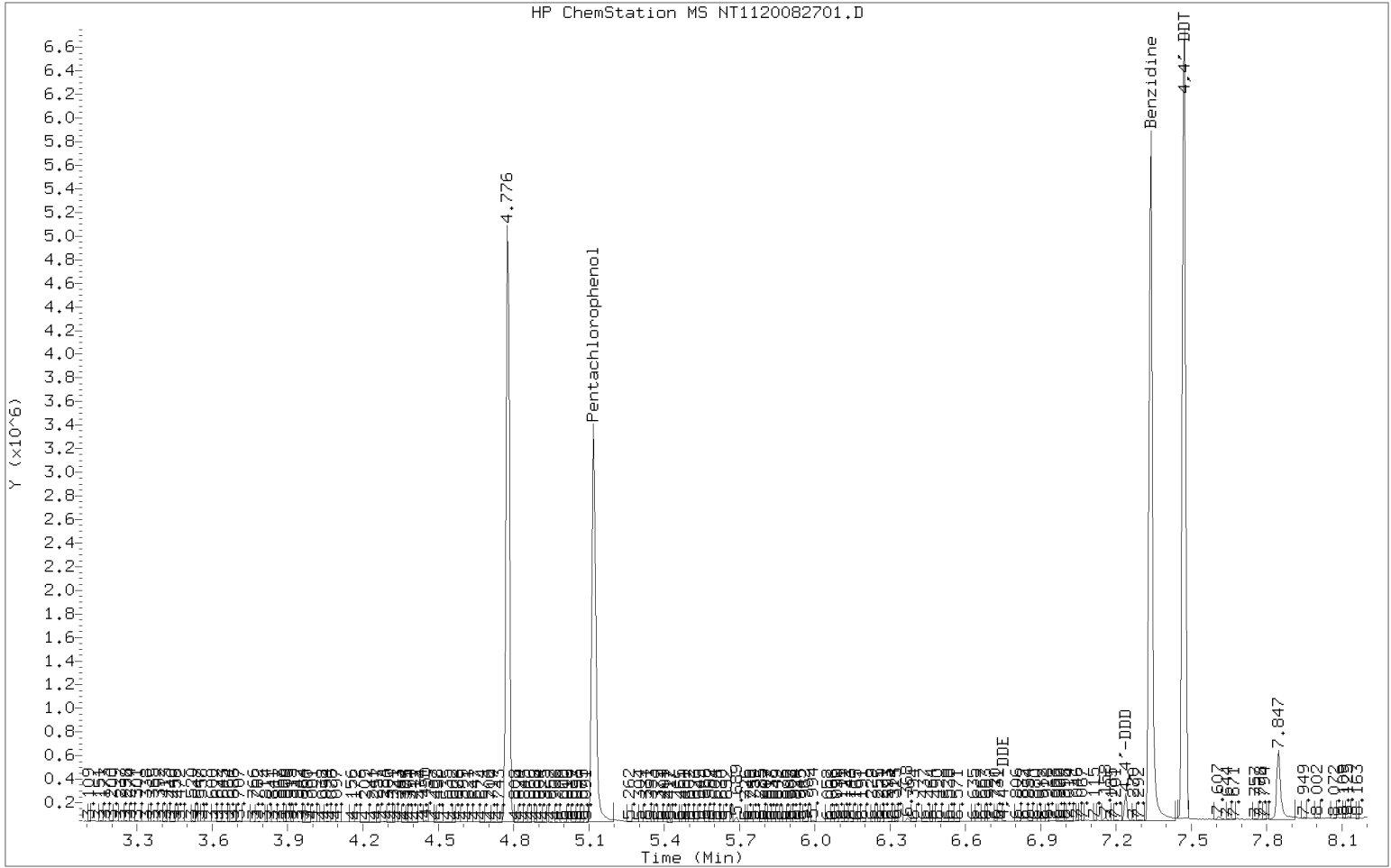
Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>21C0175</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>GascoSiltronic: US Moorings</u>
Lab File ID:	<u>NT1120082701.D</u>	Injection Date:	<u>08/27/20</u>
Instrument ID:	<u>NT11</u>	Injection Time:	<u>12:20</u>
Sequence:	<u>SIH0304</u>	Lab Sample ID:	<u>SIH0304-TUN1</u>

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
68	Less than 2% of 69	0	PASS
69	Less than 100% of 198	48.1	PASS
70	Less than 2% of 69	0	PASS
197	Less than 2% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	7.19	PASS
365	1 - 100% of 198	3.42	PASS
441	Less than 150% of 443	75.1	PASS
442	1 - 200% of 198	98.2	PASS
443	15 - 24% of 442	20.3	PASS
4,4'-DDD	Less than 20% of 4,4'-DDT		
4,4'-DDE	Less than 20% of 4,4'-DDT		
4,4'-DDT	Base peak, 100% relative abundance		

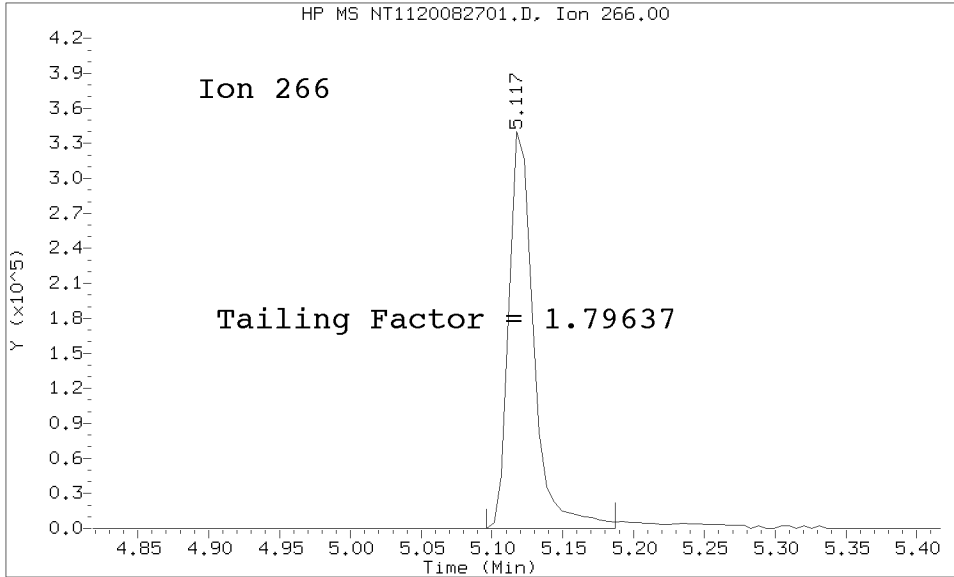
Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SIH0304-TUN1	NT1120082701.D	08/27/2020	12:20
Cal Standard	SIH0304-CAL4	NT1120082702.D	08/27/2020	12:35
Cal Standard	SIH0304-CAL6	NT1120082703.D	08/27/2020	13:07
Cal Standard	SIH0304-CAL1	NT1120082704.D	08/27/2020	13:38
Cal Standard	SIH0304-CAL5	NT1120082705.D	08/27/2020	14:08
Cal Standard	SIH0304-CAL2	NT1120082706.D	08/27/2020	14:38
Cal Standard	SIH0304-CAL3	NT1120082707.D	08/27/2020	15:08
Secondary Cal Check	SIH0304-SCV1	NT1120082708.D	08/27/2020	15:38
Initial Cal Blank	SIH0304-ICB1	NT1120082709.D	08/27/2020	16:09

DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20200827.b/NT1120082701.D/NT1120082701.D
Method Used: \20200827.b\DFTPP8270E.m Inst: nt11
Injection Date: 27-AUG-2020 12:20 Operator: VTS
Sample Info: SIH0304-TUN1 SIH0304-TUN1
Report Date: 08/28/2020 09:13



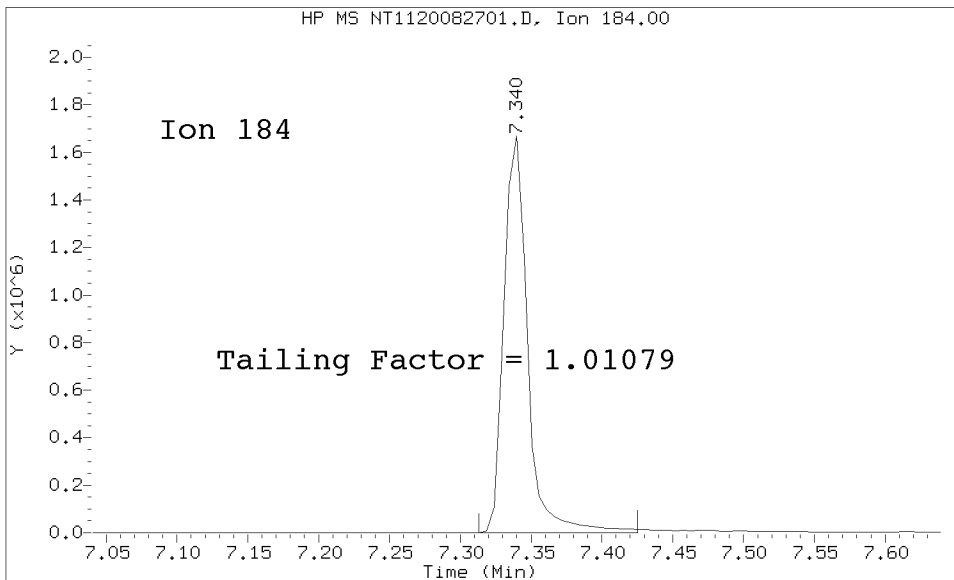
Datafile Analyzed: /20200827.b/NT1120082701.D/NT1120082701.D
Method Used: \20200827.b\DFTPP8270E.m\sw846ddt.m Inst: nt11
Injection Date: 27-AUG-2020 12:20 Operator: JZ
Sample Info: SIH0304-TUN1
Report Date: 08/28/2020 09:13



Pentachlorophenol

=====
Exp. RT = 5.123
Found RT = 5.117

Tail Factor = 1.796 Maximum Allowed = 2.0



Benzidine

=====
Exp. RT = 7.345
Found RT = 7.340

Tail Factor = 1.011 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	1.7963738	2.000	PASS
Benzidine	1.0107875	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	998892			N/A
4,4-DDE	1889	0.2	20.0	PASS
4,4-DDD	41313	4.0	20.0	PASS
4,4-DDD + DDE	43202	4.1	20.0	PASS

Tuning Sample, nt11.i/20200827.b/NT1120082701.D, *** PASSED ***

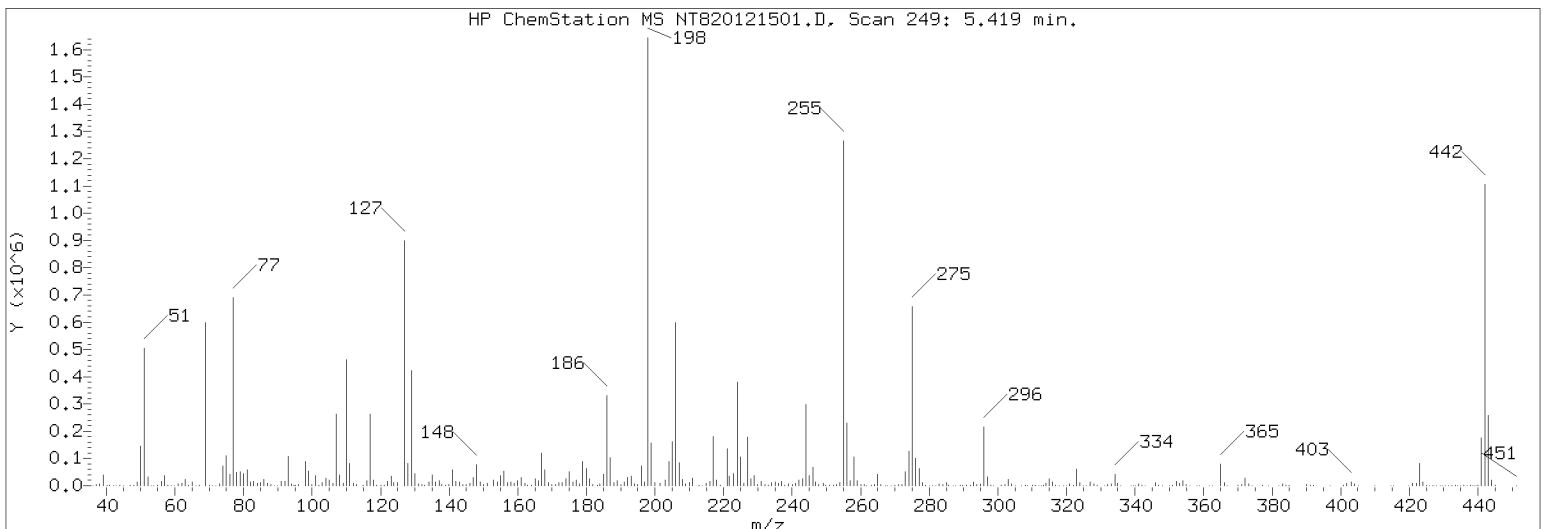
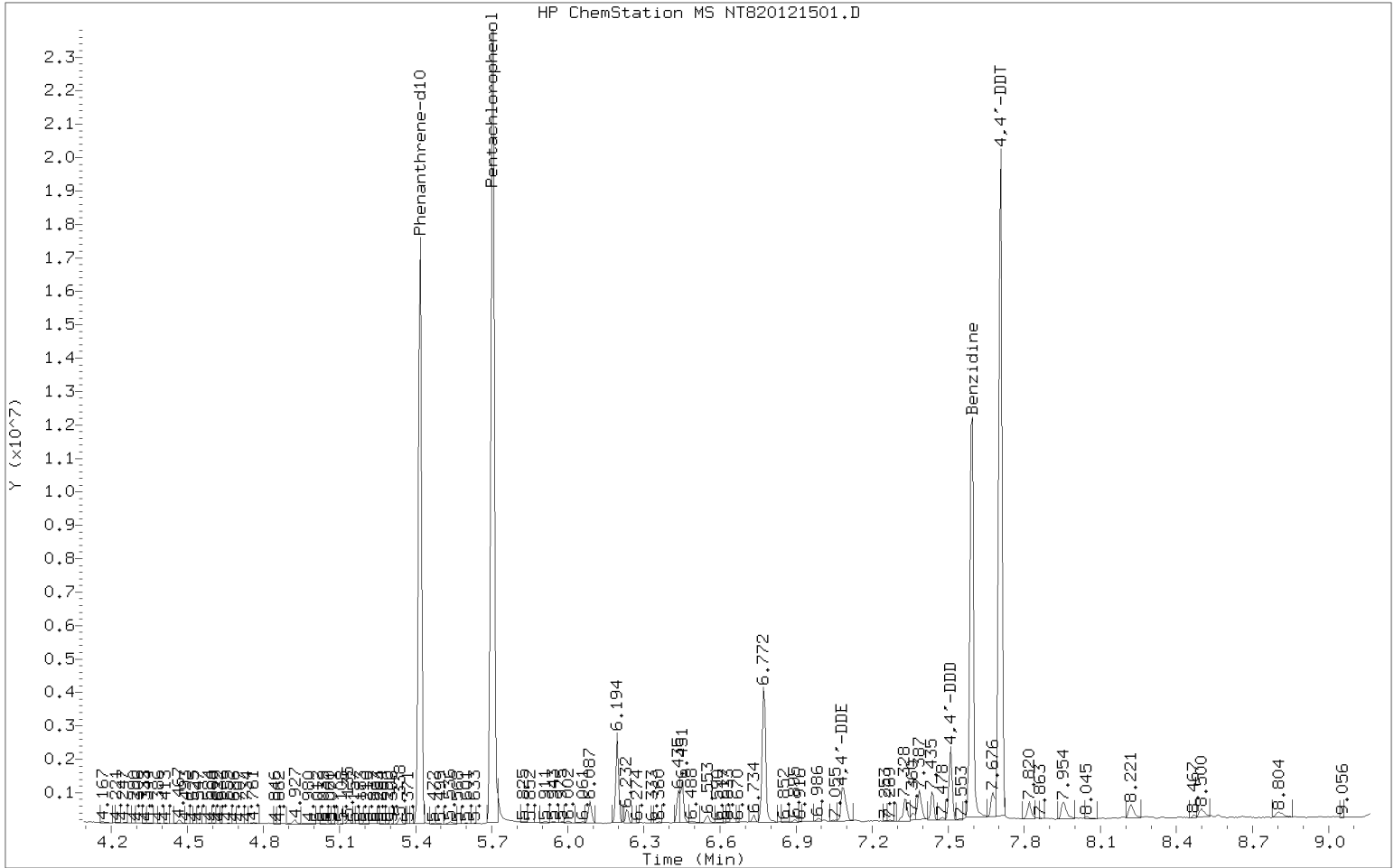
m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	48.14
70	Less than 2.00% of mass 69	0.00 (0.00)
197	Less than 2.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	7.19
365	1.00 - 100.00% of mass 198	3.42
441	Less than 150.00% of mass 443	14.99 (75.09)
442	Less than 200.00% of mass 198	98.16
443	15.00 - 24.00% of mass 442	19.96 (20.34)

Data File: NT1120082701.D
 Spectrum: Avg. Scans 316-318 (4.78), Background Scan 312
 Location of Maximum: 198.00
 Number of points: 174

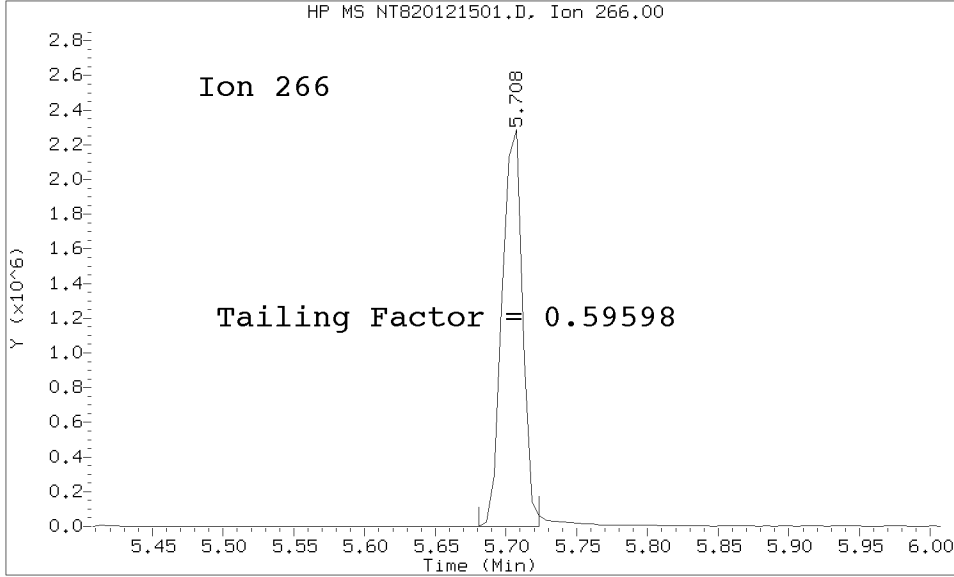
m/z	Y	m/z	Y	m/z	Y	m/z	Y
38.00	1941	117.00	50320	181.00	6022	256.00	34600
39.00	15485	118.00	4195	185.00	8139	257.00	2333
49.00	2696	122.00	4235	186.00	66480	258.00	12282
50.00	58784	123.00	7120	187.00	19448	259.00	1560
51.00	232000	124.00	3163	188.00	863	265.00	5119
52.00	11752	125.00	3394	189.00	3482	273.00	7663
56.00	7248	127.00	261888	191.00	1743	274.00	19792
57.00	17960	128.00	19768	192.00	5434	275.00	108560
61.00	2132	129.00	98776	193.00	5882	276.00	14774
62.00	3434	130.00	8462	196.00	14144	277.00	8657
63.00	9639	131.00	1030	198.00	427584	285.00	827
65.00	4977	134.00	2918	199.00	30744	293.00	1754
69.00	205824	135.00	8793	200.00	1923	296.00	28640
73.00	741	136.00	2894	201.00	1926	297.00	3772
74.00	21400	137.00	4091	203.00	3001	303.00	3540
75.00	33352	141.00	11851	204.00	15126	315.00	2477
76.00	11950	142.00	4210	205.00	25776	316.00	1506
77.00	251584	143.00	2814	206.00	113792	323.00	10571
78.00	17936	146.00	1656	207.00	14203	324.00	1453
79.00	14518	147.00	6952	208.00	3651	327.00	1524
80.00	11761	148.00	12680	210.00	739	334.00	6431
81.00	17192	149.00	2872	211.00	4346	335.00	1429
82.00	3943	151.00	833	216.00	2822	346.00	2166
83.00	4206	153.00	3641	217.00	28896	352.00	3275
85.00	2620	154.00	3375	218.00	3980	353.00	1910
86.00	4622	155.00	7357	221.00	23072	354.00	2621
87.00	1664	156.00	10070	222.00	1872	365.00	14621
91.00	3958	157.00	1498	223.00	6518	366.00	2204
92.00	4127	158.00	1417	224.00	61440	372.00	6406
93.00	24808	160.00	3642	225.00	14926	373.00	1390
94.00	1588	161.00	5920	227.00	23088	383.00	671
98.00	18864	165.00	4518	228.00	3791	402.00	2025
99.00	16217	166.00	3866	229.00	4874	403.00	3639
101.00	9486	167.00	23472	231.00	1648	404.00	703
103.00	2079	168.00	11061	235.00	745	421.00	3401
104.00	5375	169.00	1468	237.00	1492	422.00	2551
105.00	5151	172.00	887	242.00	2576	423.00	23288
106.00	1478	173.00	2891	243.00	3821	424.00	4186
107.00	70976	174.00	5335	244.00	48984	441.00	64096
108.00	10848	175.00	9807	245.00	6111	442.00	419712
110.00	135360	176.00	3189	246.00	7978	443.00	85360
111.00	20792	177.00	3727	247.00	704	444.00	7482
112.00	919	179.00	17984	249.00	1459		
116.00	4001	180.00	11984	255.00	224128		

DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20201215.b/tune.b/NT820121501.D/NT820121501.D
 Method Used: \20201215.b\tune.b\DFTPP.m Inst: nt8
 Injection Date: 15-DEC-2020 09:35 Operator: JZ
 Sample Info: SIL0206-TUN1 DFTPP201215
 Report Date: 12/15/2020 13:12



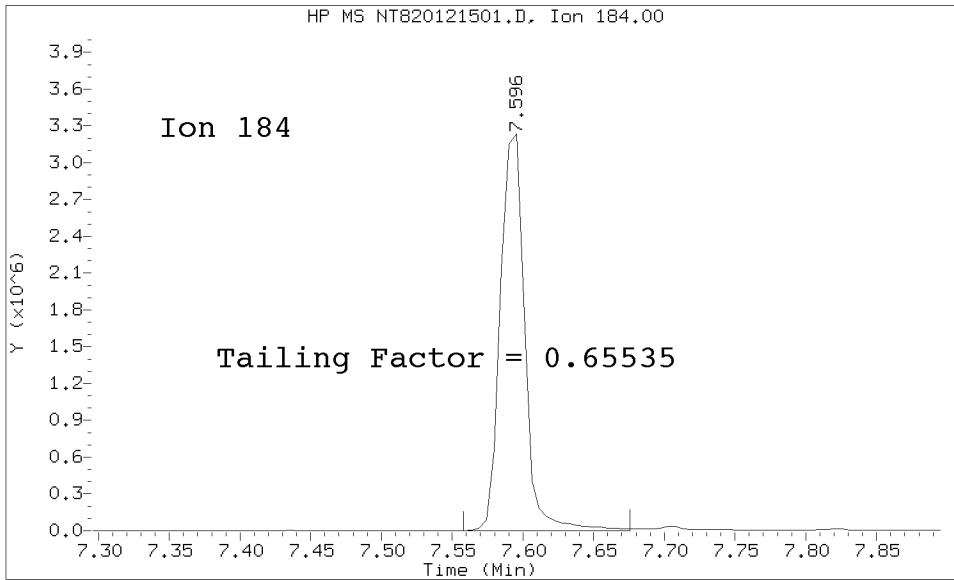
Datafile Analyzed: /20201215.b/tune.b/NT820121501.D/NT820121501.D
Method Used: \20201215.b\tune.b\DFTPP.m\sw846ddt.m Inst: nt8
Injection Date: 15-DEC-2020 09:35 Operator: JZ
Sample Info: DFTPP201215
Report Date: 12/15/2020 13:12



Pentachlorophenol

=====
Exp. RT = 5.708
Found RT = 5.708

Tail Factor = 0.596 Maximum Allowed = 2.0



Benzidine

=====
Exp. RT = 7.596
Found RT = 7.596

Tail Factor = 0.655 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	30.00
68	Less than 2.00% of mass 69	0.45 (1.28)
69	Mass 69 relative abundance	35.51
70	Less than 2.00% of mass 69	0.22 (0.63)
127	10.00 - 80.00% of mass 198	52.17
197	Less than 2.00% of mass 198	0.83
199	5.00 - 9.00% of mass 198	8.92
275	10.00 - 60.00% of mass 198	36.84
365	Greater than 1.00% of mass 198	4.65
441	0.01 - 24.00% of mass 442	9.82 (15.24)
442	50.00 - 200.00% of mass 198	64.40
443	15.00 - 24.00% of mass 442	14.42 (22.39)

Data File: NT820121501.D
 Spectrum: Avg. Scans 248-250 (5.42), Background Scan 242
 Location of Maximum: 198.00
 Number of points: 368

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	195	136.00	9848	230.00	3709	324.00	9330
37.00	2336	137.00	12850	231.00	11874	325.00	977
38.00	6072	138.00	3260	232.00	2909	326.00	897
39.00	31784	139.00	1556	233.00	2189	327.00	9346
40.00	1859	140.00	4293	234.00	8931	328.00	4820
41.00	771	141.00	43872	235.00	9843	329.00	927
42.00	299	142.00	11702	236.00	6273	331.00	66
43.00	193	143.00	9090	237.00	11712	332.00	3874
45.00	686	144.00	3288	238.00	1378	333.00	4426
49.00	2801	145.00	2411	239.00	4491	334.00	30568
50.00	111704	146.00	7226	240.00	3586	335.00	6878
51.00	387584	147.00	20672	241.00	7145	336.00	865
52.00	23184	148.00	53928	242.00	15152	339.00	1219
53.00	461	149.00	10364	243.00	15745	340.00	542
54.00	372	150.00	3411	244.00	214912	341.00	5105
55.00	1845	151.00	6079	245.00	27976	342.00	1498
56.00	11368	152.00	1271	246.00	49712	343.00	102
57.00	28896	153.00	14243	247.00	9496	346.00	9159
58.00	1349	154.00	9293	248.00	2433	347.00	1996
59.00	476	155.00	25216	249.00	7982	348.00	309
60.00	241	156.00	36984	250.00	1591	350.00	287
61.00	5712	157.00	7759	251.00	2223	351.00	1344
62.00	7129	158.00	9112	252.00	2413	352.00	12382
63.00	18824	159.00	6537	253.00	4775	353.00	7862
64.00	2116	160.00	14552	254.00	10247	354.00	12383
65.00	8695	161.00	20952	255.00	953472	355.00	2970
66.00	864	162.00	5978	256.00	163072	356.00	276
67.00	1523	163.00	2116	257.00	13397	358.00	399
68.00	5850	164.00	2305	258.00	77736	359.00	1291
69.00	458752	165.00	17712	259.00	12341	361.00	159
70.00	2894	166.00	12609	260.00	2970	362.00	125
71.00	515	167.00	89632	261.00	2950	363.00	255
72.00	225	168.00	42032	262.00	603	364.00	510
73.00	4590	169.00	7560	263.00	974	365.00	60056
74.00	57856	170.00	4188	264.00	2682	366.00	8709
75.00	84152	171.00	4183	265.00	30536	367.00	291
76.00	33464	172.00	8608	266.00	5238	370.00	1290
77.00	528768	173.00	10291	267.00	441	371.00	3154
78.00	39968	174.00	18392	268.00	568	372.00	19968
79.00	40736	175.00	37000	269.00	336	373.00	5008
80.00	32576	176.00	10925	270.00	2008	374.00	706
81.00	44128	177.00	16496	271.00	2381	377.00	1336
82.00	10129	178.00	5732	272.00	3579	379.00	180
83.00	11197	179.00	66056	273.00	35272	382.00	114
85.00	7797	180.00	45128	274.00	93032	383.00	5082
86.00	10755	181.00	19528	275.00	475904	384.00	1771
87.00	7399	182.00	3595	276.00	74184	385.00	671
88.00	2197	183.00	2048	277.00	48984	389.00	311
89.00	991	184.00	5302	278.00	9441	390.00	2285

90.00	425	185.00	30544	279.00	2382	391.00	1497
91.00	11528	186.00	237888	280.00	472	392.00	966
92.00	13764	187.00	75112	281.00	759	393.00	101
93.00	81816	188.00	8537	282.00	1058	397.00	383
94.00	5356	189.00	16384	283.00	4821	400.00	193
95.00	1179	190.00	2829	284.00	3345	401.00	1247
96.00	3712	191.00	9484	285.00	7704	402.00	6845
98.00	66592	192.00	20024	286.00	1716	403.00	10076
99.00	44088	193.00	24240	287.00	263	404.00	4200
100.00	3778	194.00	5381	288.00	933	405.00	474
101.00	25680	195.00	2371	289.00	2250	408.00	129
102.00	1178	196.00	47856	290.00	1780	410.00	180
103.00	8178	197.00	10687	291.00	1222	415.00	834
104.00	19192	198.00	1291776	292.00	2191	420.00	108
105.00	16052	199.00	115288	293.00	10882	421.00	7440
106.00	6447	200.00	9262	294.00	2135	422.00	7122
107.00	203712	201.00	6856	295.00	4216	423.00	55096
108.00	29032	203.00	15060	296.00	162560	424.00	12383
109.00	6591	204.00	69008	297.00	23688	425.00	1448
110.00	342656	205.00	118368	298.00	1747	426.00	441
111.00	58992	206.00	446912	299.00	360	427.00	537
112.00	7035	207.00	61864	301.00	2357	428.00	190
113.00	3132	208.00	18080	302.00	3170	429.00	822
114.00	787	209.00	5081	303.00	18704	430.00	374
115.00	1347	210.00	8396	304.00	4836	431.00	412
116.00	13534	211.00	19984	305.00	1042	432.00	850
117.00	199424	212.00	2793	306.00	104	433.00	807
118.00	15285	213.00	1670	307.00	447	434.00	559
119.00	1499	214.00	482	308.00	2464	435.00	947
120.00	2440	215.00	6597	309.00	438	436.00	1151
121.00	1172	216.00	11282	310.00	2170	437.00	734
122.00	13272	217.00	132992	311.00	836	438.00	1570
123.00	24288	218.00	16656	312.00	695	439.00	1059
124.00	9152	219.00	2208	313.00	1781	440.00	793
125.00	9532	220.00	18	314.00	7573	441.00	126800
127.00	673984	221.00	96096	315.00	16984	442.00	831936
128.00	60328	222.00	15539	316.00	8935	443.00	186304
129.00	320064	223.00	32392	317.00	1672	444.00	16832
130.00	30856	224.00	283456	318.00	192	445.00	1305
131.00	4898	225.00	75712	319.00	282	451.00	136
132.00	2757	226.00	7828	320.00	510		
133.00	1645	227.00	130784	321.00	5153		
134.00	10264	228.00	19216	322.00	1839		
135.00	27688	229.00	27048	323.00	44144		



INITIAL CALIBRATION DATA
EPA 8270E-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	21C0175
Client:	Anchor QEA, LLC	Project:	GascoSiltronic: US Moorings
Calibration:	DH00073	Instrument:	NT11
Calibration Date:	08/27/2020	Column (1):	RXi-17Sil-MS

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Naphthalene	1.161247	12.4			RSD (15)	
2-Methylnaphthalene	0.9361384	9.8			RSD (15)	
Acenaphthylene	2.294563	12.6			RSD (15)	
Acenaphthene	1.517583	12.0			RSD (15)	
Fluorene	1.56045	11.4			RSD (15)	
Phenanthrene	1.308325	12.3			RSD (15)	
Anthracene	1.307239	12.0			RSD (15)	
Fluoranthene	1.304381	10.5			RSD (15)	
Pyrene	1.338182	12.7			RSD (15)	
Benzo(a)anthracene	1.469153	10.4			RSD (15)	
Chrysene	1.654261	13.0			RSD (15)	
Benzo(b)fluoranthene	1.088621	14.4			RSD (15)	
Benzo(k)fluoranthene	1.430432	10.7			RSD (15)	
Benzo(j)fluoranthene	1.54583	14.7			RSD (15)	
Benzo(a)pyrene	1.136978	9.9			RSD (15)	
Indeno(1,2,3-cd)pyrene	1.104117	12.6			RSD (15)	
Dibenzo(a,h)anthracene	0.8775199	15.1		0.9992	QCOD (0.99)	
Benzo(g,h,i)perylene	1.103964	10.9			RSD (15)	
2-Methylnaphthalene-d10	0.8041846	6.2			RSD (15)	
Dibenzo[a,h]anthracene-d14	0.7035414	18.4		0.9989	QCOD (0.99)	
Fluoranthene-d10	1.048562	6.2			RSD (15)	



ANALYSIS SEQUENCE

SIH0304

Instrument: NT11 Element Column ID: I005862
 Calibration ID: DH00073 Tune File: 190904.U
 EM Voltage: 1247

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SIH0304-TUN1	DFTPP	QC		1	1007631		
SIH0304-CAL4	PAH 250	QC		2	1004578	1002616	
SIH0304-CAL6	PAH 1000	QC		3	1004580	1002616	
SIH0304-CAL1	PAH 10	QC		4	1004575	1002616	
SIH0304-CAL5	PAH 500	QC		5	1004579	1002616	
SIH0304-CAL2	PAH 50	QC		6	1004576	1002616	
SIH0304-CAL3	PAH 100	QC		7	1004577	1002616	
SIH0304-SCV1	PAH 250 SCV	QC		8	1004581	1002616	
SIH0304-ICB1	Initial Cal Blank	QC		9	1007632	1002616	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20200827.b

Time	Filename	LabID	ClientID	DF																	
1	1220	NT1120082701.D	SIH0304-TUN1		1	NO	ISTDS	FOUND													
2	1235	NT1120082702.D	SIH0304-CAL4		1	6.81	215332	9.81	102217	12.48	170387	17.21	116138	19.98	139038						
3	1307	NT1120082703.D	SIH0304-CAL6		1	6.81	211863	9.81	104596	12.48	173851	17.21	118274	19.98	139375						
4	1338	NT1120082704.D	SIH0304-CAL1		1	6.80	218979	9.81	96342	12.48	152977	17.21	94808	19.98	108221						
5	1408	NT1120082705.D	SIH0304-CAL5		1	6.80	205773	9.81	98118	12.48	160808	17.21	104617	19.98	121661						
6	1438	NT1120082706.D	SIH0304-CAL2		1	6.80	206491	9.81	90319	12.48	134229	17.21	84619	19.98	93566						
7	1508	NT1120082707.D	SIH0304-CAL3		1	6.80	198254	9.81	88696	12.48	133333	17.21	84043	19.98	92362						
8	1538	NT1120082708.D	SIH0304-SCV1		1	6.80	202035	9.81	90189	12.48	142829	17.22	104063	19.98	119273						
9	1609	NT1120082709.D	SIH0304-ICB1		1	6.80	216694	9.81	94656	12.48	145070	17.22	97049	19.98	107633						

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20200827.b

Instrument: nt11.i Date: 27-AUG-2020

Time	Filename	LabID	DF	Manually Integrated	Compounds
1220	NT1120082701.D	SIH0304-TUN1	1	NO MANUAL INTEGRATION	
1235	NT1120082702.D	SIH0304-CAL4	1	NO MANUAL INTEGRATION	
1307	NT1120082703.D	SIH0304-CAL6	1	NO MANUAL INTEGRATION	
1338	NT1120082704.D	SIH0304-CAL1	1	Dibenzc(a,h)anthracene-cl14,	
1408	NT1120082705.D	SIH0304-CAL5	1	NO MANUAL INTEGRATION	
1438	NT1120082706.D	SIH0304-CAL2	1	NO MANUAL INTEGRATION	
1508	NT1120082707.D	SIH0304-CAL3	1	NO MANUAL INTEGRATION	
1538	NT1120082708.D	SIH0304-SCV1	1	NO MANUAL INTEGRATION	
1609	NT1120082709.D	SIH0304-ICB1	1	NO MANUAL INTEGRATION	

Security Status Report

Date: 28-Aug-2020 09:31

NT1120082701.D	Data Locked	van,	28-Aug-2020	09:31
NT1120082702.D	Data Locked	van,	28-Aug-2020	09:31
NT1120082703.D	Data Locked	van,	28-Aug-2020	09:31
NT1120082704.D	Data Locked	van,	28-Aug-2020	09:31
NT1120082705.D	Data Locked	van,	28-Aug-2020	09:31
NT1120082706.D	Data Locked	van,	28-Aug-2020	09:31
NT1120082707.D	Data Locked	van,	28-Aug-2020	09:31
NT1120082708.D	Data Locked	van,	28-Aug-2020	09:31
NT1120082709.D	Data Locked	van,	28-Aug-2020	09:31

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-AUG-2020 12:35
 End Cal Date : 27-AUG-2020 15:08
 Quant Method : ISTD
 Target Version : 4.14
 Integrator : HP RTE
 Method file : \\target\share\chem3\nt11.i\20200827.b\lowsim.m
 Last Edit : 28-Aug-2020 06:57 van

Calibration File Names:

- Level 1: \\target\share\chem3\nt11.i\20200827.b\NT1120082704.D
- Level 2: \\target\share\chem3\nt11.i\20200827.b\NT1120082706.D
- Level 3: \\target\share\chem3\nt11.i\20200827.b\NT1120082707.D
- Level 4: \\target\share\chem3\nt11.i\20200827.b\NT1120082702.D
- Level 5: \\target\share\chem3\nt11.i\20200827.b\NT1120082705.D
- Level 6: \\target\share\chem3\nt11.i\20200827.b\NT1120082703.D

Compound	10.0000		50.0000		100.0000		250.0000		500.0000		1000.0000		Coefficients		m2	or R^2	%RSD
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 6	Curve	b	m1							
1 Naphthalene	1.43621	1.14060	1.17661	1.10851	1.08175	1.02380	AVRG	1.16125	12.43511								
2 Benzo(b)thiophene	1.01982	0.89891	0.92051	0.90965	0.89317	0.85470	AVRG	0.91612	6.06011								
3 2-Methylnaphthalene	1.11846	0.88608	0.93669	0.90890	0.89646	0.86994	AVRG	0.93614	9.84242								
4 1-Methylnaphthalene	1.04229	0.82438	0.87082	0.84063	0.83489	0.80825	AVRG	0.87021	9.97489								
5 2-Chloronaphthalene	2.16915	1.70967	1.79402	1.62895	1.62617	1.52260	AVRG	1.74176	13.10572								
6 Biphenyl	2.71263	2.38098	2.39149	2.23582	2.20287	1.99081	AVRG	2.31910	10.42321								
7 2,6-Dimethylnaphthalene	1.92979	1.70950	1.73631	1.69093	1.68439	1.57322	AVRG	1.72069	6.77971								
8 Acenaphthylene	2.83781	2.22367	2.35109	2.20763	2.14616	2.00101	AVRG	2.29456	12.61731								
9 Acenaphthene	1.86315	1.47030	1.55349	1.43733	1.42937	1.35187	AVRG	1.51758	11.95682								
10 Dibenzofuran	2.49839	1.99577	2.10053	1.92945	1.88910	1.74104	AVRG	2.02578	12.85253								
11 2,3,5-Trimethylnaphthalene	1.37053	1.18930	1.24903	1.25307	1.23113	1.18286	AVRG	1.24599	5.44230								
12 Fluorene	1.90135	1.48040	1.58650	1.50470	1.48961	1.39974	AVRG	1.56045	11.36570								
13 Dibenzothiophene	1.24764	1.12307	1.13522	1.07953	1.06202	0.99612	AVRG	1.10727	7.65313								
14 Phenanthrene	1.59357	1.28160	1.37535	1.23811	1.23454	1.12677	AVRG	1.30833	12.32026								

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-AUG-2020 12:35
 End Cal Date : 27-AUG-2020 15:08
 Quant Method : ISTD
 Target Version : 4.14
 Integrator : HP RTE
 Method file : \\target\share\chem3\nt11.i\20200827.b\lowsim.m
 Last Edit : 28-Aug-2020 06:57 van

Compound	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Curve	b	m1	m2	%RSD
21 Anthracene	1.57043	1.30979	1.40025	1.21461	1.20516	1.14319	AVRG	1.20516	1.30724		12.03906
22 Carbazole	1.66195	1.28917	1.39778	1.39382	1.35147	1.26363	AVRG	1.35147	1.39297		10.23339
23 1-Methylphenanthrene	1.25849	1.16163	1.19639	1.12489	1.12424	1.06849	AVRG	1.12424	1.15569		5.71372
25 Fluoranthene	1.53526	1.26610	1.39548	1.23415	1.23492	1.16036	AVRG	1.23492	1.30438		10.48767
26 Pyrene	1.64443	1.29275	1.41759	1.25973	1.24465	1.16994	AVRG	1.24465	1.33818		12.74184
27 Benzo(a)anthracene	1.75386	1.29474	1.45033	1.44286	1.46770	1.40542	AVRG	1.46770	1.46915		10.39375
29 Chrysene	2.05679	1.56825	1.72338	1.51943	1.58325	1.47446	AVRG	1.58325	1.65426		12.95809
30 Benzo(b)fluoranthene	1.29513	0.84962	0.97033	1.11751	1.15744	1.14168	AVRG	1.15744	1.08862		14.35727
31 Benzo(k)fluoranthene	1.69006	1.29795	1.48756	1.27279	1.45552	1.37871	AVRG	1.45552	1.43043		10.66547
32 Benzo(j)fluoranthene	1.87561	1.63974	1.69312	1.34601	1.43025	1.29025	AVRG	1.43025	1.54583		14.69110
4 Benzo(e)pyrene	1.41322	1.15563	1.20266	1.17341	1.25451	1.19724	AVRG	1.25451	1.23278		7.66778
5 Benzo(a)pyrene	1.32229	0.98463	1.10400	1.08650	1.17985	1.14459	AVRG	1.17985	1.13698		9.87912
7 Perylene	1.52262	1.25785	1.28425	1.19787	1.28341	1.22621	AVRG	1.28341	1.29537		8.97678
9 Dibenzo(a,h)anthracene	4871	1562	35961	160223	299103	707781	QUAD	0.000e+000	1.08730	-0.02060	0.99951
10 Indeno(1,2,3-cd)pyrene	1.24301	0.88575	0.99779	1.10124	1.18814	1.20877	AVRG	1.18814	1.10412		12.56950
1 Benzo(g,h,i)perylene	1.32082	0.95834	1.07523	1.04934	1.12164	1.09842	AVRG	1.12164	1.10396		10.89886
2-Methylnaphthalene-d10	0.90292	0.78649	0.79196	0.79138	0.78992	0.76243	AVRG	0.78992	0.80418		6.17291
5 Fluorene-d10	++++	++++	++++	++++	++++	++++	AVRG	++++	0.000e+000		0.000e+000
10 Anthracene-d10	++++	++++	++++	++++	++++	++++	AVRG	++++	0.000e+000		0.000e+000
4 Fluoranthene-d10	1.15599	1.05095	1.07921	1.02859	1.01017	0.96647	AVRG	1.01017	1.04856		6.19505
3 Benzo(e)pyrene-d12	++++	++++	++++	++++	++++	++++	AVRG	++++	0.000e+000		0.000e+000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-AUG-2020 12:35
 End Cal Date : 27-AUG-2020 15:08
 Quant Method : ISTD
 Target Version : 4.14
 Integrator : HP RTE
 Method file : \\target\share\chem3\nt11.i\20200827.b\lowsim.m
 Last Edit : 28-Aug-2020 06:57 van

Compound	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Curve	b	Coefficients	m2	or R^2	%RSD
38 Dibenzo(a,h)anthracene-d14	3390	12845	27361	136475	248647	592614	QUAD	0.0000e+000	1.30503	-0.03082	0.99933	

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 27-AUG-2020 12:35
 End Cal Date : 27-AUG-2020 15:08
 Quant Method : ISTD
 Target Version : 4.14
 Integrator : HP RTE
 Method file : \\target\share\chem3\nt11.i\20200827.b\lowsim.m
 Last Edit : 28-Aug-2020 06:57 van

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

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt11.i\20200827.b\lowsim.m
Batch File: \\target\share\chem3\nt11.i\20200827.b
Inst ID: nt11.i

Compound	RT01	RT02	RT03	RT04	RT05	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 18 Phenanthrene-d10	12.482	12.482	12.482	12.482	12.482	12.482	12.282-12.682	12.482	0.000
19 Phenanthrene	12.524	12.524	12.514	12.514	12.524	12.524	12.324-12.724	12.520	0.006
\$ 20 Anthracene-d10	+++++	+++++	+++++	+++++	+++++	14.341	14.141-14.541	+++++	+++++
21 Anthracene	12.577	12.577	12.577	12.577	12.577	12.577	12.377-12.777	12.577	0.000
22 Carbazole	13.253	13.253	13.253	13.253	13.253	13.253	13.053-13.453	13.253	0.000
23 1-Methylphenanthrene	13.515	13.515	13.515	13.515	13.515	13.515	13.315-13.715	13.515	0.000
\$ 24 Fluoranthene-d10	14.579	14.579	14.579	14.579	14.579	14.579	14.379-14.779	14.579	0.000
25 Fluoranthene	14.608	14.608	14.608	14.608	14.608	14.608	14.408-14.808	14.608	0.000
26 Pyrene	15.107	15.107	15.107	15.107	15.107	15.107	14.907-15.307	15.107	0.000
27 Benzo(a)anthracene	17.123	17.123	17.123	17.123	17.123	17.123	16.923-17.323	17.123	0.000
* 28 Chrysene-d12	17.214	17.214	17.214	17.214	17.214	17.214	17.014-17.414	17.214	0.000
29 Chrysene	17.264	17.264	17.264	17.264	17.264	17.264	17.064-17.464	17.264	0.000
30 Benzo(b)fluoranthene	18.963	18.963	18.963	18.963	18.963	18.963	18.763-19.163	18.963	0.000
31 Benzo(k)fluoranthene	19.001	19.001	19.001	19.001	19.001	19.001	18.801-19.201	19.001	0.000
32 Benzo(j)fluoranthene	19.059	19.059	19.059	19.059	19.059	19.059	18.859-19.259	19.059	0.000
\$ 33 Benzo(e)pyrene-d12	+++++	+++++	+++++	+++++	+++++	22.353	22.153-22.553	+++++	+++++
4 Benzo(e)pyrene	19.674	19.674	19.674	19.674	19.674	19.674	19.474-19.874	19.674	0.000
5 Benzo(a)pyrene	19.779	19.779	19.779	19.779	19.779	19.779	19.579-19.979	19.779	0.000
6 Perylene-d12	19.981	19.981	19.981	19.981	19.981	19.981	19.781-20.181	19.981	0.000
7 Perylene	20.049	20.048	20.048	20.048	20.048	20.048	19.848-20.248	20.048	0.000
8 Dibenzo(a,h)anthracene	22.419	22.418	22.418	22.418	22.418	22.418	22.218-22.618	22.418	0.000
9 Dibenzo(a,h)anthracene	22.529	22.540	22.540	22.529	22.540	22.540	22.340-22.740	22.536	0.000

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt11.i\20200827.b\lowsim.m
Batch File: \\target\share\chem3\nt11.i\20200827.b
Inst ID: nt11.i

Compound	RT01	RT02	RT03	RT04	RT05	EXPEC RT	RT WINDOW	AVG RT	STD DEV
40 Indeno(1,2,3-cd)pyrene	22.562	22.562	22.562	22.562	22.562	22.562	22.362-22.762	22.562	0.000
41 Benzo(g,h,i)perylene	23.725	23.725	23.725	23.725	23.725	23.725	23.525-23.925	23.725	0.000

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt11.i\20200827.b\LOWSIM.m
Batch File: \\target\share\chem3\nt11.i\20200827.b
Inst ID: nt11.i

ID: RT01
FILENAME: NT1120082703
INJ.DATE: 27-AUG-2020
INJ.TIME: 13:07

Compound	RT01	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 1 Naphthalene-d8	6.813	6.804	6.604-7.004	6.813	0.000
2 Naphthalene	6.840	6.840	6.640-7.040	6.840	0.000
3 Benzo(b)thiophene	7.094	7.093	6.893-7.293	7.094	0.000
4 2-Methylnaphthalene-d1	7.781	7.781	7.581-7.981	7.781	0.000
5 2-Methylnaphthalene	7.833	7.833	7.633-8.033	7.833	0.000
6 1-Methylnaphthalene	8.086	8.085	7.885-8.285	8.086	0.000
7 2-Chloronaphthalene	8.737	8.737	8.537-8.937	8.737	0.000
8 Biphenyl	8.705	8.705	8.505-8.905	8.705	0.000
9 2,6-Dimethylnaphthalen	8.758	8.758	8.558-8.958	8.758	0.000
10 Acenaphthylene	9.654	9.654	9.454-9.854	9.654	0.000
* 11 Acenaphthene-d10	9.807	9.807	9.607-10.007	9.807	0.000
12 Acenaphthene	9.871	9.871	9.671-10.071	9.871	0.000
3 Dibenzofuran	10.075	10.075	9.875-10.275	10.075	0.000
4 2,3,5-Trimethylnaphtha	10.176	10.176	9.976-10.376	10.176	0.000
5 Fluorene-d10	16.449	16.449	16.249-16.649	16.449	0.000
6 Fluorene	10.694	10.694	10.494-10.894	10.694	0.000
7 Dibenzothiophene	12.314	12.304	12.104-12.504	12.314	0.000
8 Phenanthrene-d10	12.482	12.482	12.282-12.682	12.482	0.000
9 Phenanthrene	12.524	12.524	12.324-12.724	12.524	0.000
10 Anthracene-d10	14.341	14.341	14.141-14.541	14.341	0.000

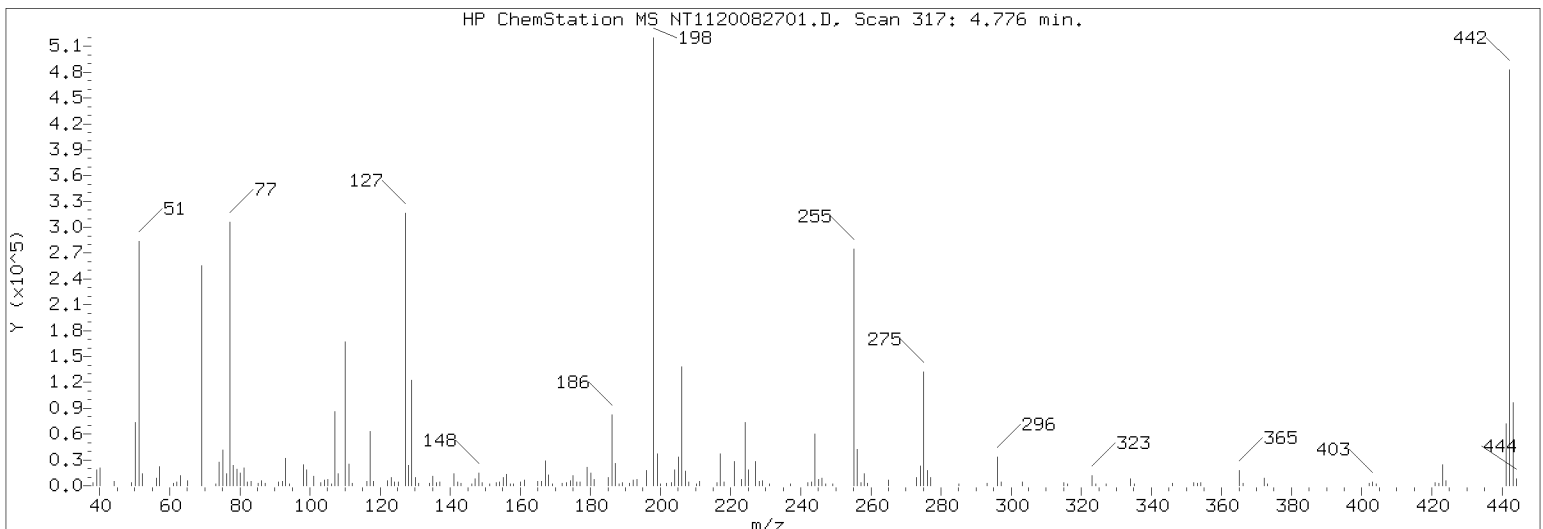
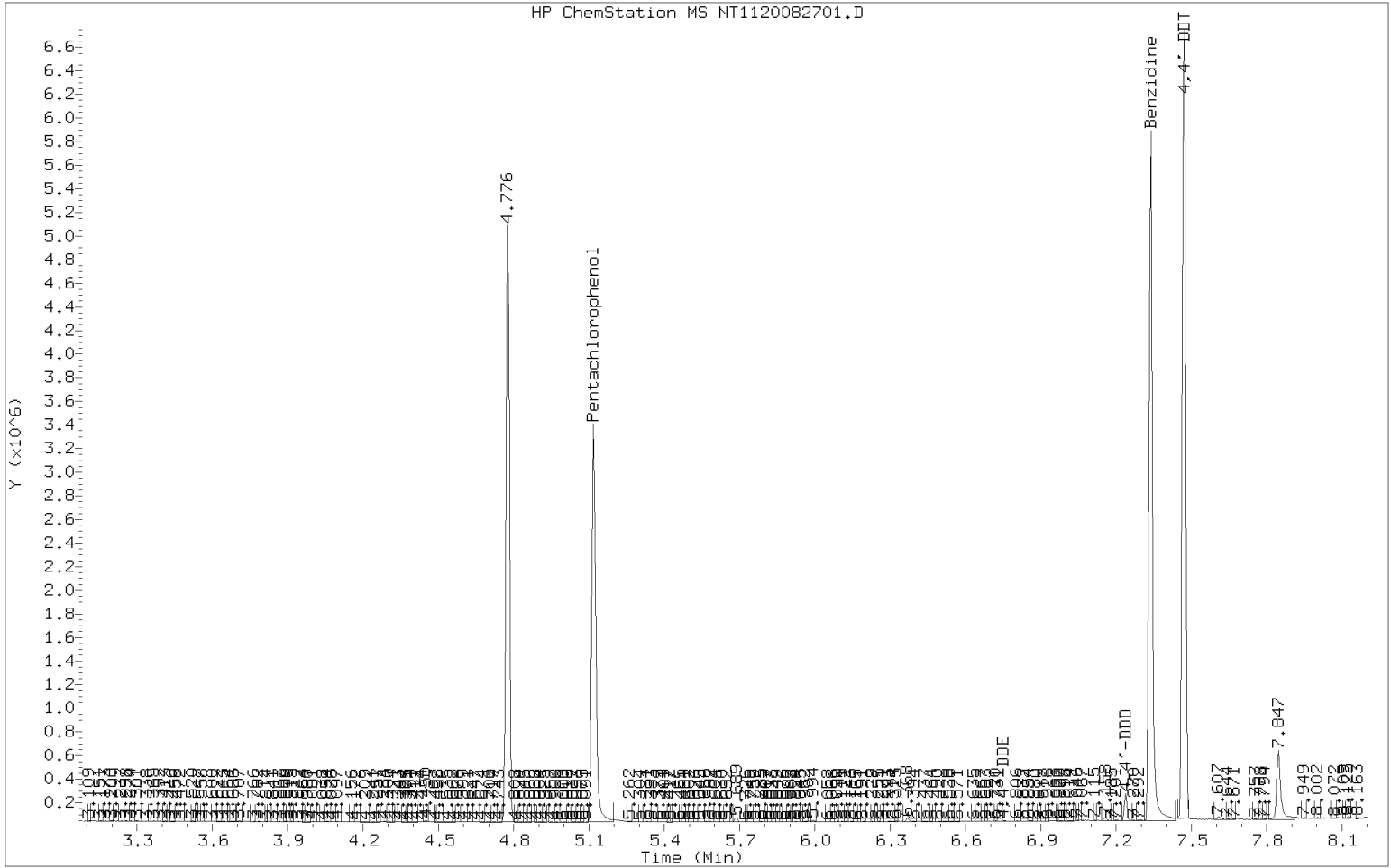
ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt11.i\20200827.b\LOWSIM.m
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Inst ID: nt11.i

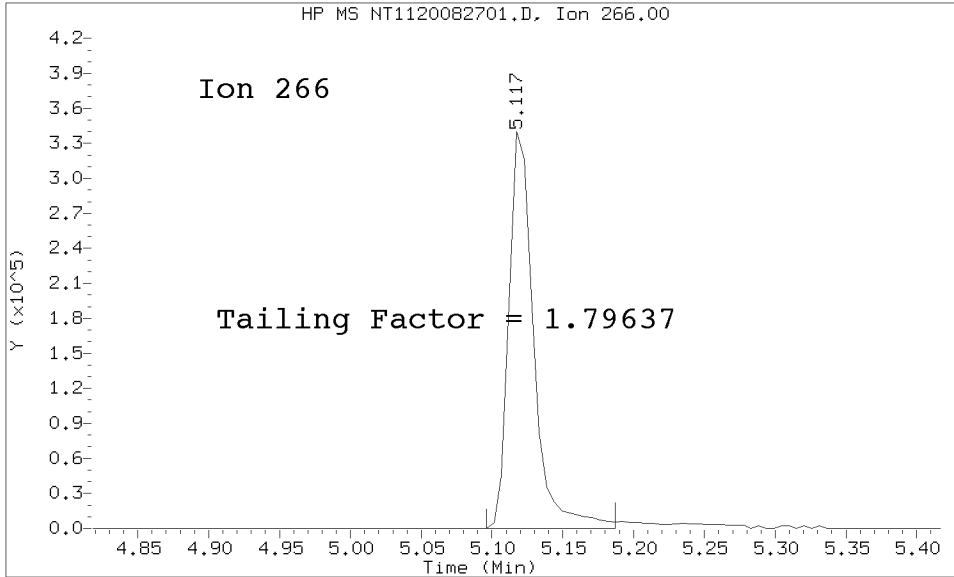
Compound	RT01	EXPEC RT	RT WINDOW	AVG RT	STD DEVI
21 Anthracene	12.577	12.577	12.377-12.777	12.577	0.000
22 Carbazole	13.253	13.253	13.053-13.453	13.253	0.000
23 1-Methylphenanthrene	13.524	13.515	13.315-13.715	13.524	0.000
24 Fluoranthene-d10	14.579	14.579	14.379-14.779	14.579	0.000
25 Fluoranthene	14.608	14.608	14.408-14.808	14.608	0.000
26 Pyrene	15.107	15.107	14.907-15.307	15.107	0.000
27 Benzo(a)anthracene	17.123	17.123	16.923-17.323	17.123	0.000
* 28 Chrysene-d12	17.214	17.214	17.014-17.414	17.214	0.000
29 Chrysene	17.264	17.264	17.064-17.464	17.264	0.000
30 Benzo(b)fluoranthene	18.963	18.963	18.763-19.163	18.963	0.000
31 Benzo(k)fluoranthene	19.001	19.001	18.801-19.201	19.001	0.000
32 Benzo(j)fluoranthene	19.059	19.059	18.859-19.259	19.059	0.000
33 Benzo(e)pyrene-d12	19.674	19.674	19.474-19.874	19.674	0.000
34 Benzo(e)pyrene	19.674	19.674	19.474-19.874	19.674	0.000
35 Benzo(a)pyrene	19.779	19.779	19.579-19.979	19.779	0.000
* 36 Perylene-d12	19.981	19.981	19.781-20.181	19.981	0.000
37 Perylene	20.049	20.048	19.848-20.248	20.049	0.000
38 Dibenzo(a,h)anthracene	22.418	22.418	22.218-22.618	22.418	0.000
39 Dibenzo(a,h)anthracene	22.540	22.540	22.340-22.740	22.540	0.000
40 Indeno(1,2,3-cd)pyrene	22.562	22.562	22.362-22.762	22.562	0.000
41 Benzo(g,h,i)perylene	23.725	23.725	23.525-23.925	23.725	0.000

DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20200827.b/NT1120082701.D/NT1120082701.D
Method Used: \20200827.b\DFTPP8270E.m Inst: nt11
Injection Date: 27-AUG-2020 12:20 Operator: VTS
Sample Info: SIH0304-TUN1 SIH0304-TUN1
Report Date: 08/28/2020 09:13



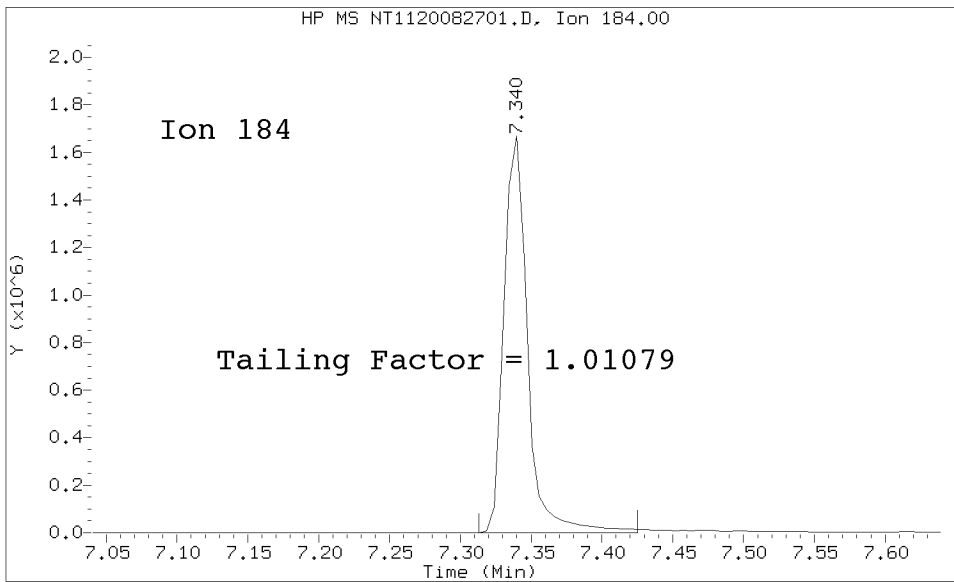
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Method Used: \20200827.b\DFTPP8270E.m\sw846ddt.m Inst: nt11
Injection Date: 27-AUG-2020 12:20 Operator: JZ
Sample Info: SIH0304-TUN1
Report Date: 08/28/2020 09:13



Pentachlorophenol

=====
Exp. RT = 5.123
Found RT = 5.117

Tail Factor = 1.796 Maximum Allowed = 2.0



Benzidine

=====
Exp. RT = 7.345
Found RT = 7.340

Tail Factor = 1.011 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	1.7963738	2.000	PASS
Benzidine	1.0107875	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	998892			N/A
4,4-DDE	1889	0.2	20.0	PASS
4,4-DDD	41313	4.0	20.0	PASS
4,4-DDD + DDE	43202	4.1	20.0	PASS

Tuning Sample, nt11.i/20200827.b/NT1120082701.D, *** PASSED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Mass 69 relative abundance	48.14
70	Less than 2.00% of mass 69	0.00 (0.00)
197	Less than 2.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	7.19
365	1.00 - 100.00% of mass 198	3.42
441	Less than 150.00% of mass 443	14.99 (75.09)
442	Less than 200.00% of mass 198	98.16
443	15.00 - 24.00% of mass 442	19.96 (20.34)

Data File: NT1120082701.D
 Spectrum: Avg. Scans 316-318 (4.78), Background Scan 312
 Location of Maximum: 198.00
 Number of points: 174

m/z	Y	m/z	Y	m/z	Y	m/z	Y
38.00	1941	117.00	50320	181.00	6022	256.00	34600
39.00	15485	118.00	4195	185.00	8139	257.00	2333
49.00	2696	122.00	4235	186.00	66480	258.00	12282
50.00	58784	123.00	7120	187.00	19448	259.00	1560
51.00	232000	124.00	3163	188.00	863	265.00	5119
52.00	11752	125.00	3394	189.00	3482	273.00	7663
56.00	7248	127.00	261888	191.00	1743	274.00	19792
57.00	17960	128.00	19768	192.00	5434	275.00	108560
61.00	2132	129.00	98776	193.00	5882	276.00	14774
62.00	3434	130.00	8462	196.00	14144	277.00	8657
63.00	9639	131.00	1030	198.00	427584	285.00	827
65.00	4977	134.00	2918	199.00	30744	293.00	1754
69.00	205824	135.00	8793	200.00	1923	296.00	28640
73.00	741	136.00	2894	201.00	1926	297.00	3772
74.00	21400	137.00	4091	203.00	3001	303.00	3540
75.00	33352	141.00	11851	204.00	15126	315.00	2477
76.00	11950	142.00	4210	205.00	25776	316.00	1506
77.00	251584	143.00	2814	206.00	113792	323.00	10571
78.00	17936	146.00	1656	207.00	14203	324.00	1453
79.00	14518	147.00	6952	208.00	3651	327.00	1524
80.00	11761	148.00	12680	210.00	739	334.00	6431
81.00	17192	149.00	2872	211.00	4346	335.00	1429
82.00	3943	151.00	833	216.00	2822	346.00	2166
83.00	4206	153.00	3641	217.00	28896	352.00	3275
85.00	2620	154.00	3375	218.00	3980	353.00	1910
86.00	4622	155.00	7357	221.00	23072	354.00	2621
87.00	1664	156.00	10070	222.00	1872	365.00	14621
91.00	3958	157.00	1498	223.00	6518	366.00	2204
92.00	4127	158.00	1417	224.00	61440	372.00	6406
93.00	24808	160.00	3642	225.00	14926	373.00	1390
94.00	1588	161.00	5920	227.00	23088	383.00	671
98.00	18864	165.00	4518	228.00	3791	402.00	2025
99.00	16217	166.00	3866	229.00	4874	403.00	3639
101.00	9486	167.00	23472	231.00	1648	404.00	703
103.00	2079	168.00	11061	235.00	745	421.00	3401
104.00	5375	169.00	1468	237.00	1492	422.00	2551
105.00	5151	172.00	887	242.00	2576	423.00	23288
106.00	1478	173.00	2891	243.00	3821	424.00	4186
107.00	70976	174.00	5335	244.00	48984	441.00	64096
108.00	10848	175.00	9807	245.00	6111	442.00	419712
110.00	135360	176.00	3189	246.00	7978	443.00	85360
111.00	20792	177.00	3727	247.00	704	444.00	7482
112.00	919	179.00	17984	249.00	1459		
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Date : 27-AUG-2020 12:35

Client ID:

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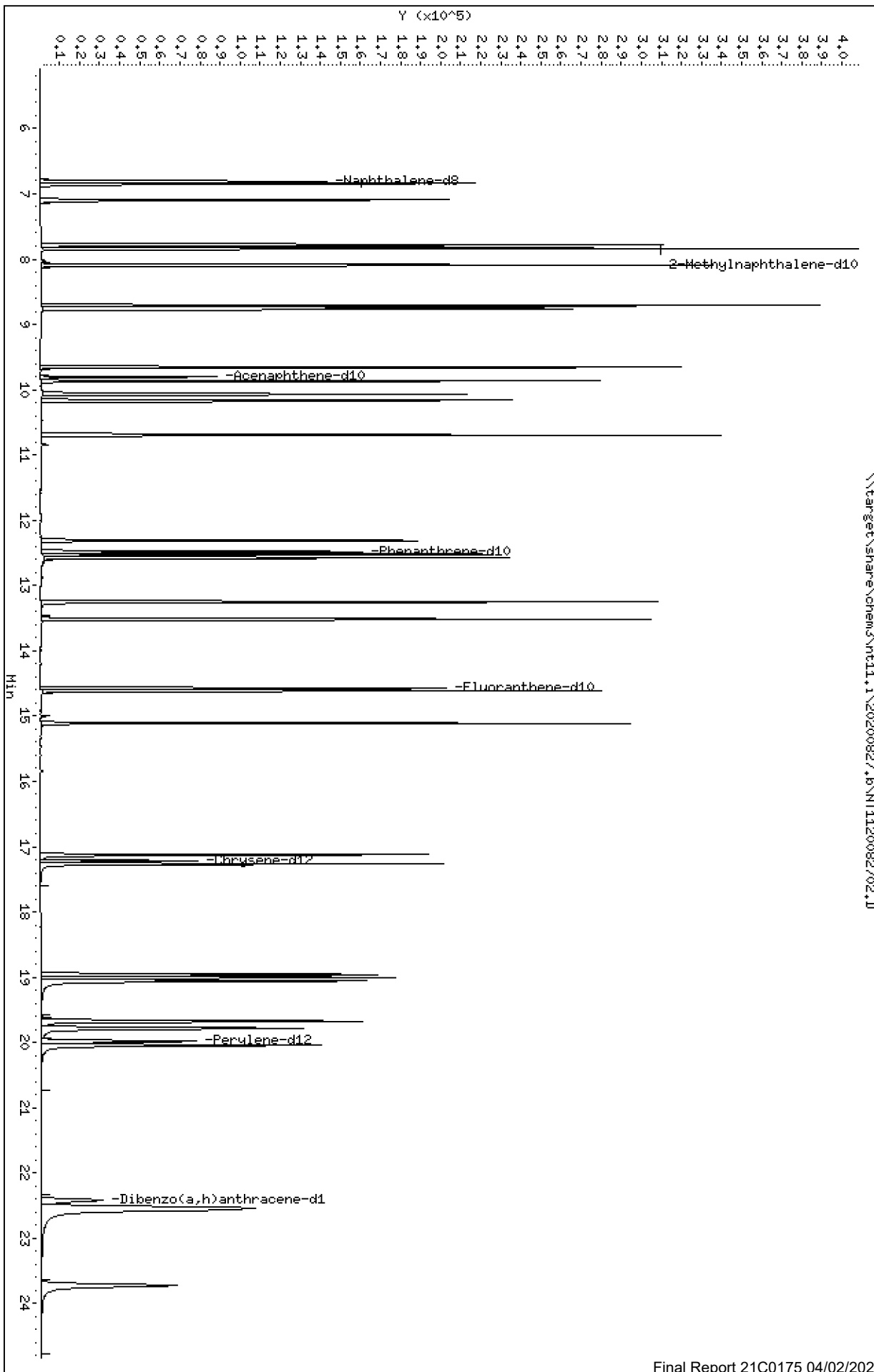
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Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20200827.b\NT1120082702.D
 Lab Smp Id: SIH0304-CAL4
 Inj Date : 27-AUG-2020 12:35 MS Autotune Date: 15-JAN-2015 16:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : SIH0304-CAL4
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20200827.b\lowsim.m
 Meth Date : 28-Aug-2020 07:11 van Quant Type: ISTD
 Cal Date : 27-AUG-2020 13:38 Cal File: NT1120082704.D
 Als bottle: 2 Calibration Sample, Level: 4
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PAH.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
							CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 1 Naphthalene-d8	136		6.813	6.804	(1.000)	215332	200.000	
2 Naphthalene	128		6.840	6.840	(1.004)	298371	250.000	239
3 Benzo(b)thiophene	134		7.093	7.093	(1.041)	244845	250.000	248
\$ 4 2-Methylnaphthalene-d10	152		7.780	7.780	(1.142)	213012	250.000	246
5 2-Methylnaphthalene	142		7.833	7.833	(1.150)	244643	250.000	243
6 1-Methylnaphthalene	142		8.085	8.085	(1.187)	226269	250.000	242
7 2-Chloronaphthalene	162		8.736	8.736	(0.891)	208133	250.000	234
8 Biphenyl	154		8.705	8.705	(0.888)	285674	250.000	241
9 2,6-Dimethylnaphthalene	156		8.757	8.757	(0.893)	216052	250.000	246
10 Acenaphthylene	152		9.653	9.653	(0.984)	282072	250.000	241
* 11 Acenaphthene-d10	164		9.807	9.807	(1.000)	102217	200.000	
12 Acenaphthene	153		9.870	9.870	(1.006)	183649	250.000	237
13 Dibenzofuran	168		10.074	10.074	(1.027)	246528	250.000	238
14 2,3,5-Trimethylnaphthalene	170		10.175	10.175	(1.038)	160106	250.000	251
16 Fluorene	166		10.694	10.694	(1.090)	192257	250.000	241
17 Dibenzothiophene	184		12.314	12.303	(0.987)	229922	250.000	244
* 18 Phenanthrene-d10	188		12.482	12.482	(1.000)	170387	200.000	
19 Phenanthrene	178		12.524	12.524	(1.003)	263698	250.000	237
21 Anthracene	178		12.576	12.576	(1.008)	258692	250.000	232
22 Carbazole	167		13.253	13.252	(1.062)	296860	250.000	250
23 1-Methylphenanthrene	192		13.515	13.514	(1.083)	239584	250.000	243
\$ 24 Fluoranthene-d10	212		14.578	14.578	(1.168)	219073	250.000	245
25 Fluoranthene	202		14.607	14.607	(1.170)	262853	250.000	237
26 Pyrene	202		15.107	15.107	(1.210)	268303	250.000	235
27 Benzo(a)anthracene	228		17.123	17.122	(0.995)	209464	250.000	246
* 28 Chrysene-d12	240		17.214	17.214	(1.000)	116138	200.000	
29 Chrysene	228		17.264	17.264	(1.003)	220580	250.000	230
30 Benzo(b)fluoranthene	252		18.962	18.962	(0.949)	194221	250.000	257
31 Benzo(k)fluoranthene	252		19.001	19.001	(0.951)	221208	250.000	222
32 Benzo(j)fluoranthene	252		19.058	19.058	(0.954)	233934	250.000	218
34 Benzo(e)pyrene	252		19.673	19.673	(0.985)	203936	250.000	238
35 Benzo(a)pyrene	252		19.779	19.779	(0.990)	188831	250.000	239
* 36 Perylene-d12	264		19.981	19.981	(1.000)	139038	200.000	

Compounds	QUANT SIG		AMOUNTS					
	MASS		RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
=====	=====		=====	=====	=====	=====	=====	=====
37 Perylene	252		20.048	20.048	(1.003)	208187	250.000	231
\$ 38 Dibenzo(a,h)anthracene-d14	292		22.418	22.418	(1.122)	136475	250.000	250
39 Dibenzo(a,h)anthracene	278		22.529	22.540	(1.128)	160223	250.000	245
40 Indeno(1,2,3-cd)pyrene	276		22.562	22.562	(1.129)	191393	250.000	249
41 Benzo(g,h,i)perylene	276		23.725	23.725	(1.187)	182373	250.000	238

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 27-AUG-2020
 Lab File ID: NT1120082702.D Calibration Time: 12:35
 Lab Smp Id: SIH0304-CAL4
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20200827.b\lowsim.m
 Misc Info:

Test Mode:
 Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	215332	107666	430664	215332	0.00
11 Acenaphthene-d10	102217	51109	204434	102217	0.00
18 Phenanthrene-d10	170387	85194	340774	170387	0.00
28 Chrysene-d12	116138	58069	232276	116138	0.00
36 Perylene-d12	139038	69519	278076	139038	0.00

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	6.81	6.31	7.31	6.81	0.00
11 Acenaphthene-d10	9.81	9.31	10.31	9.81	0.00
18 Phenanthrene-d10	12.48	11.98	12.98	12.48	0.00
28 Chrysene-d12	17.21	16.71	17.71	17.21	0.00
36 Perylene-d12	19.98	19.48	20.48	19.98	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 - NT1120082702.D

Lab ID: SIH0304-CAL4

nt11.i, 20200827.b\lowsim.m, 27-AUG-2020 12:35

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

RRT check based on Ccal File: NT1120082704.D

On Column LOD for nt11.i, 20200827.b\lowsim.m, PAH.sub = 0.0000

Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000

Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000

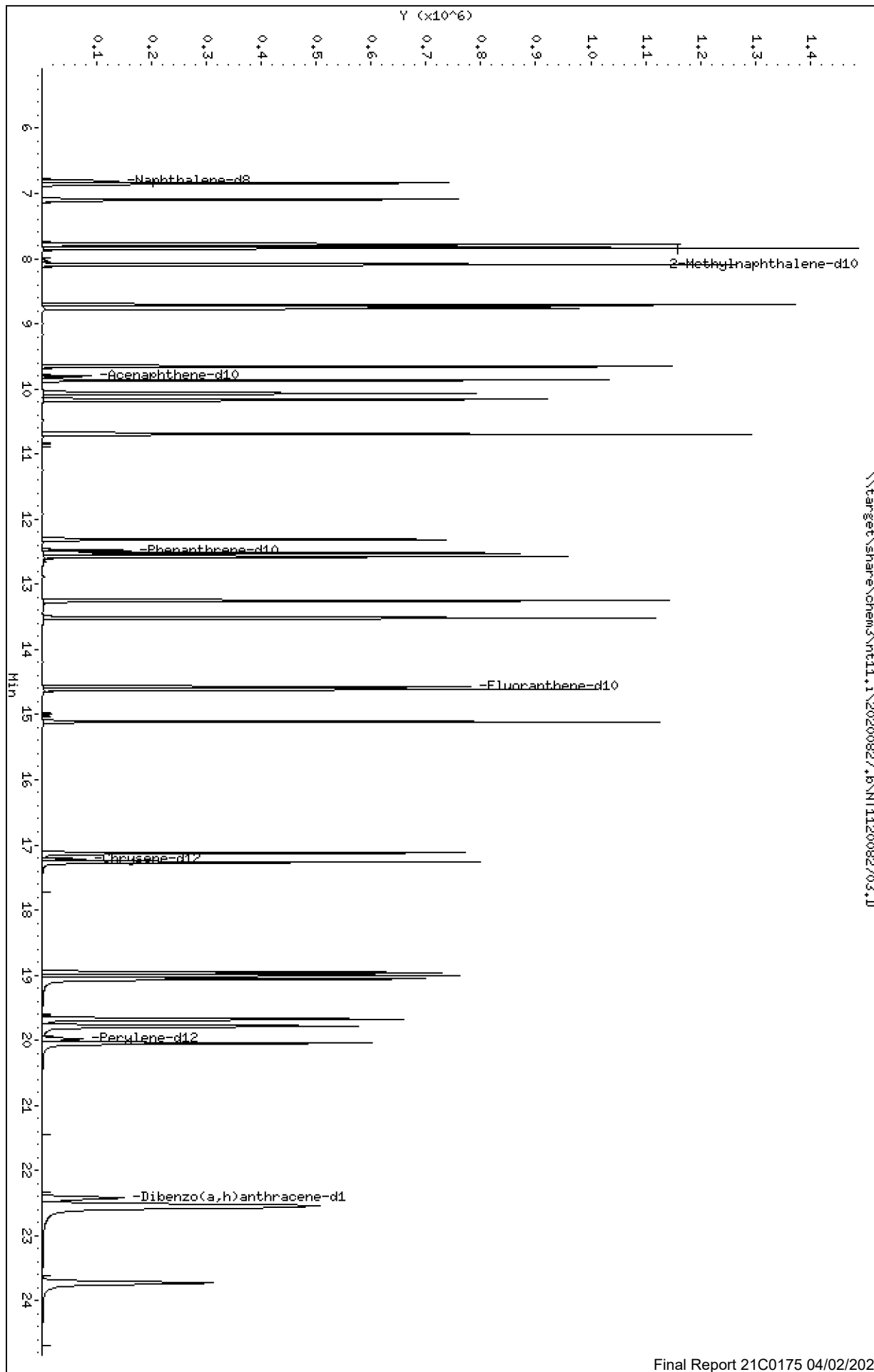
Exception: Fluoranthene-d10 (Surr) 0.1000

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

Data File: \\target\share\chem3\nt11.1\20200827.6\NT1120082703.D
Date : 27-AUG-2020 13:07
Client ID:
Sample Info: SIH0304-CAL6
Column phase: Rxi-17S11 MS

Instrument: nt11.1
Operator: VTS
Column diameter: 0.25

\\target\share\chem3\nt11.1\20200827.6\NT1120082703.D



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20200827.b\NT1120082703.D
 Lab Smp Id: SIH0304-CAL6
 Inj Date : 27-AUG-2020 13:07 MS Autotune Date: 15-JAN-2015 16:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : SIH0304-CAL6
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20200827.b\LOWSIM.m
 Meth Date : 28-Aug-2020 07:11 van Quant Type: ISTD
 Cal Date : 27-AUG-2020 13:38 Cal File: NT1120082704.D
 Als bottle: 1 Calibration Sample, Level: 6
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PAH.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
							CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 1 Naphthalene-d8	136		6.813	6.804	(1.000)	211963	200.000	
2 Naphthalene	128		6.840	6.840	(1.004)	1085040	1000.00	882
3 Benzo(b)thiophene	134		7.093	7.093	(1.041)	905823	1000.00	933
\$ 4 2-Methylnaphthalene-d10	152		7.780	7.780	(1.142)	808033	1000.00	948
5 2-Methylnaphthalene	142		7.833	7.833	(1.150)	921973	1000.00	929
6 1-Methylnaphthalene	142		8.085	8.085	(1.187)	856598	1000.00	929
7 2-Chloronaphthalene	162		8.736	8.736	(0.891)	796291	1000.00	874
8 Biphenyl	154		8.705	8.705	(0.888)	1041154	1000.00	858
9 2,6-Dimethylnaphthalene	156		8.757	8.757	(0.893)	822760	1000.00	914
10 Acenaphthylene	152		9.653	9.653	(0.984)	1046489	1000.00	872
* 11 Acenaphthene-d10	164		9.807	9.807	(1.000)	104596	200.000	
12 Acenaphthene	153		9.870	9.870	(1.006)	706999	1000.00	891
13 Dibenzofuran	168		10.074	10.074	(1.027)	910528	1000.00	859
14 2,3,5-Trimethylnaphthalene	170		10.175	10.175	(1.038)	618611	1000.00	949
16 Fluorene	166		10.694	10.694	(1.090)	732038	1000.00	897
17 Dibenzothiophene	184		12.314	12.303	(0.987)	865885	1000.00	900
* 18 Phenanthrene-d10	188		12.482	12.482	(1.000)	173851	200.000	
19 Phenanthrene	178		12.524	12.524	(1.003)	979449	1000.00	861
21 Anthracene	178		12.576	12.576	(1.008)	993726	1000.00	875
22 Carbazole	167		13.252	13.252	(1.062)	1098417	1000.00	907
23 1-Methylphenanthrene	192		13.524	13.514	(1.083)	928787	1000.00	925
\$ 24 Fluoranthene-d10	212		14.578	14.578	(1.168)	840106	1000.00	922
25 Fluoranthene	202		14.607	14.607	(1.170)	1008651	1000.00	890
26 Pyrene	202		15.107	15.107	(1.210)	1016974	1000.00	874
27 Benzo(a)anthracene	228		17.123	17.122	(0.995)	831121	1000.00	957
* 28 Chrysene-d12	240		17.214	17.214	(1.000)	118274	200.000	
29 Chrysene	228		17.264	17.264	(1.003)	871953	1000.00	891
30 Benzo(b)fluoranthene	252		18.962	18.962	(0.949)	795610	1000.00	1050
31 Benzo(k)fluoranthene	252		19.001	19.001	(0.951)	960792	1000.00	964
32 Benzo(j)fluoranthene	252		19.058	19.058	(0.954)	899146	1000.00	835
34 Benzo(e)pyrene	252		19.673	19.673	(0.985)	834330	1000.00	971
35 Benzo(a)pyrene	252		19.779	19.779	(0.990)	797637	1000.00	1010(H)
* 36 Perylene-d12	264		19.981	19.981	(1.000)	139375	200.000	

Compounds	QUANT SIG						AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)	
=====	=====	=====	=====	=====	=====	=====	=====	
37 Perylene	252	20.048	20.048	(1.003)	854516	1000.00	947	
\$ 38 Dibenzo(a,h)anthracene-d14	292	22.418	22.418	(1.122)	592614	1000.00	998	
39 Dibenzo(a,h)anthracene	278	22.540	22.540	(1.128)	707781	1000.00	998	
40 Indeno(1,2,3-cd)pyrene	276	22.562	22.562	(1.129)	842364	1000.00	1090	
41 Benzo(g,h,i)perylene	276	23.725	23.725	(1.187)	765460	1000.00	995	

QC Flag Legend

H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 27-AUG-2020
 Lab File ID: NT1120082703.D Calibration Time: 12:35
 Lab Smp Id: SIH0304-CAL6
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20200827.b\LOWSIM.m
 Misc Info:

Test Mode:
 Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	215332	107666	430664	211963	-1.56
11 Acenaphthene-d10	102217	51109	204434	104596	2.33
18 Phenanthrene-d10	170387	85194	340774	173851	2.03
28 Chrysene-d12	116138	58069	232276	118274	1.84
36 Perylene-d12	139038	69519	278076	139375	0.24

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	6.81	6.31	7.31	6.81	-0.00
11 Acenaphthene-d10	9.81	9.31	10.31	9.81	-0.00
18 Phenanthrene-d10	12.48	11.98	12.98	12.48	-0.00
28 Chrysene-d12	17.21	16.71	17.71	17.21	-0.00
36 Perylene-d12	19.98	19.48	20.48	19.98	-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 - NT1120082703.D

Lab ID: SIH0304-CAL6

nt11.i, 20200827.b\LOWSIM.m, 27-AUG-2020 13:07

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

RRT check based on Ccal File: NT1120082704.D

On Column LOD for nt11.i, 20200827.b\LOWSIM.m, PAH.sub = 0.0000

Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000

Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000

Exception: Fluoranthene-d10 (Surr) 0.1000

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

Data File: \\target\share\chem3\nt11.1\20200827.6\NT1120082704.D

Date: 27-AUG-2020 13:38

Client ID:

Sample Info: SIH0304-CAL1

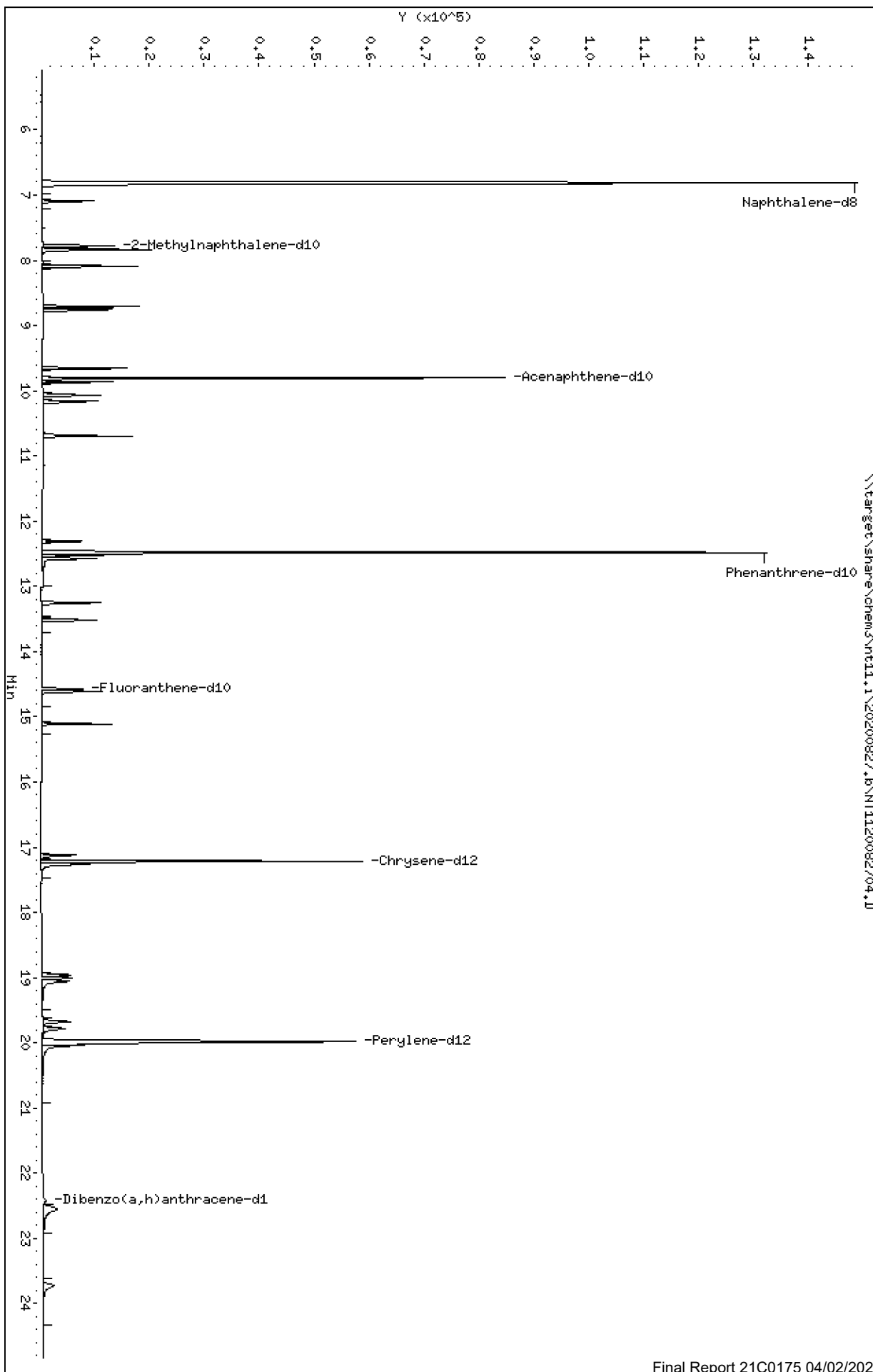
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20200827.b\NT1120082704.D
 Lab Smp Id: SIH0304-CAL1
 Inj Date : 27-AUG-2020 13:38 MS Autotune Date: 15-JAN-2015 16:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : SIH0304-CAL1
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20200827.b\lowsim.m
 Meth Date : 28-Aug-2020 07:11 van Quant Type: ISTD
 Cal Date : 27-AUG-2020 13:38 Cal File: NT1120082704.D
 Als bottle: 4 Calibration Sample, Level: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PAH.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
							CAL-AMT	ON-COL
	MASS						(ng/mL)	(ng/mL)
* 1 Naphthalene-d8	136		6.804	6.804	(1.000)	218979	200.000	
2 Naphthalene	128		6.840	6.840	(1.005)	15725	10.0000	12.4
3 Benzo(b)thiophene	134		7.093	7.093	(1.043)	11166	10.0000	11.1
\$ 4 2-Methylnaphthalene-d10	152		7.780	7.780	(1.144)	9886	10.0000	11.2
5 2-Methylnaphthalene	142		7.833	7.833	(1.151)	12246	10.0000	11.9
6 1-Methylnaphthalene	142		8.085	8.085	(1.188)	11412	10.0000	12.0
7 2-Chloronaphthalene	162		8.736	8.736	(0.891)	10449	10.0000	12.5
8 Biphenyl	154		8.705	8.705	(0.888)	13067	10.0000	11.7
9 2,6-Dimethylnaphthalene	156		8.757	8.757	(0.893)	9296	10.0000	11.2
10 Acenaphthylene	152		9.653	9.653	(0.984)	13670	10.0000	12.4
* 11 Acenaphthene-d10	164		9.807	9.807	(1.000)	96342	200.000	
12 Acenaphthene	153		9.870	9.870	(1.006)	8975	10.0000	12.3
13 Dibenzofuran	168		10.074	10.074	(1.027)	12035	10.0000	12.3
14 2,3,5-Trimethylnaphthalene	170		10.175	10.175	(1.038)	6602	10.0000	11.0
16 Fluorene	166		10.694	10.694	(1.090)	9159	10.0000	12.2
17 Dibenzothiophene	184		12.303	12.303	(0.986)	9543	10.0000	11.3
* 18 Phenanthrene-d10	188		12.482	12.482	(1.000)	152977	200.000	
19 Phenanthrene	178		12.524	12.524	(1.003)	12189	10.0000	12.2
21 Anthracene	178		12.576	12.576	(1.008)	12012	10.0000	12.0
22 Carbazole	167		13.252	13.252	(1.062)	12712	10.0000	11.9
23 1-Methylphenanthrene	192		13.514	13.514	(1.083)	9626	10.0000	10.9
\$ 24 Fluoranthene-d10	212		14.578	14.578	(1.168)	8842	10.0000	11.0
25 Fluoranthene	202		14.607	14.607	(1.170)	11743	10.0000	11.8
26 Pyrene	202		15.107	15.107	(1.210)	12578	10.0000	12.3
27 Benzo(a)anthracene	228		17.122	17.122	(0.995)	8314	10.0000	11.9
* 28 Chrysene-d12	240		17.214	17.214	(1.000)	94808	200.000	
29 Chrysene	228		17.264	17.264	(1.003)	9750	10.0000	12.4
30 Benzo(b)fluoranthene	252		18.962	18.962	(0.949)	7008	10.0000	11.9
31 Benzo(k)fluoranthene	252		19.001	19.001	(0.951)	9145	10.0000	11.8
32 Benzo(j)fluoranthene	252		19.058	19.058	(0.954)	10149	10.0000	12.1
34 Benzo(e)pyrene	252		19.673	19.673	(0.985)	7647	10.0000	11.5
35 Benzo(a)pyrene	252		19.779	19.779	(0.990)	7155	10.0000	11.6
* 36 Perylene-d12	264		19.981	19.981	(1.000)	108221	200.000	

Compounds	QUANT SIG							AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT	ON-COL		
=====	=====	=====	=====	=====	=====	=====	=====		
37 Perylene	252	20.048	20.048	(1.003)	8239	10.0000	11.8		
\$ 38 Dibenzo(a,h)anthracene-d14	292	22.418	22.418	(1.122)	3390	10.0000	8.17 (M)		
39 Dibenzo(a,h)anthracene	278	22.540	22.540	(1.128)	4871	10.0000	9.78		
40 Indeno(1,2,3-cd)pyrene	276	22.562	22.562	(1.129)	6726	10.0000	11.3		
41 Benzo(g,h,i)perylene	276	23.725	23.725	(1.187)	7147	10.0000	12.0		

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 27-AUG-2020
 Lab File ID: NT1120082704.D Calibration Time: 12:35
 Lab Smp Id: SIH0304-CAL1
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20200827.b\lowsim.m
 Misc Info:

Test Mode:
 Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	215332	107666	430664	218979	1.69
11 Acenaphthene-d10	102217	51109	204434	96342	-5.75
18 Phenanthrene-d10	170387	85194	340774	152977	-10.22
28 Chrysene-d12	116138	58069	232276	94808	-18.37
36 Perylene-d12	139038	69519	278076	108221	-22.16

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	6.81	6.31	7.31	6.80	-0.13
11 Acenaphthene-d10	9.81	9.31	10.31	9.81	-0.00
18 Phenanthrene-d10	12.48	11.98	12.98	12.48	-0.00
28 Chrysene-d12	17.21	16.71	17.71	17.21	-0.00
36 Perylene-d12	19.98	19.48	20.48	19.98	-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 - NT1120082704.D

Lab ID: SIH0304-CAL1

nt11.i, 20200827.b\lowsim.m, 27-AUG-2020 13:38

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
-----	-----	-----	-------	----------

NONE

RRT check based on Ccal File: NT1120082704.D

On Column LOD for nt11.i, 20200827.b\lowsim.m, PAH.sub = 0.0000

Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000

Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000

Exception: Fluoranthene-d10 (Surr) 0.1000

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

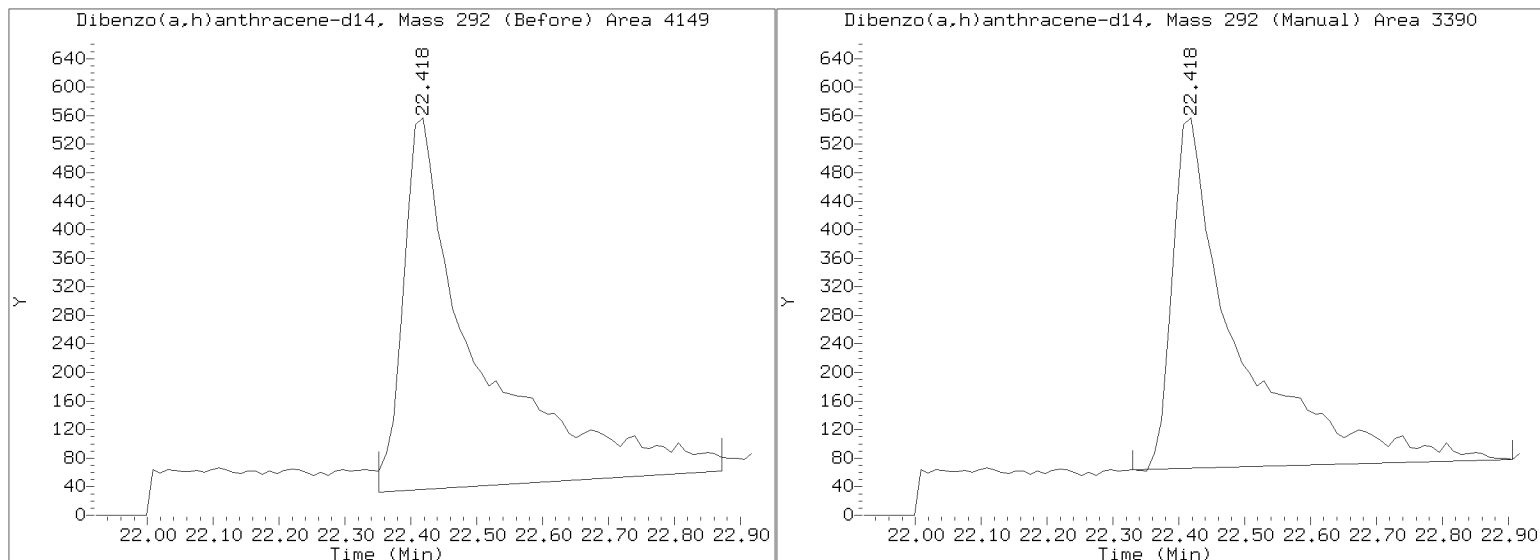
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20200827.b/NT1120082704.D

Injection Date: 27-AUG-2020 13:38

Lab ID:SIH0304-CAL1 Client ID:

Report Date: 08/28/2020 09:10



Data File: \\target\share\chem3\nt11.1\20200827.6\NT1120082705.D

Date : 27-AUG-2020 14:08

Client ID:

Sample Info: SIH0304-CALS

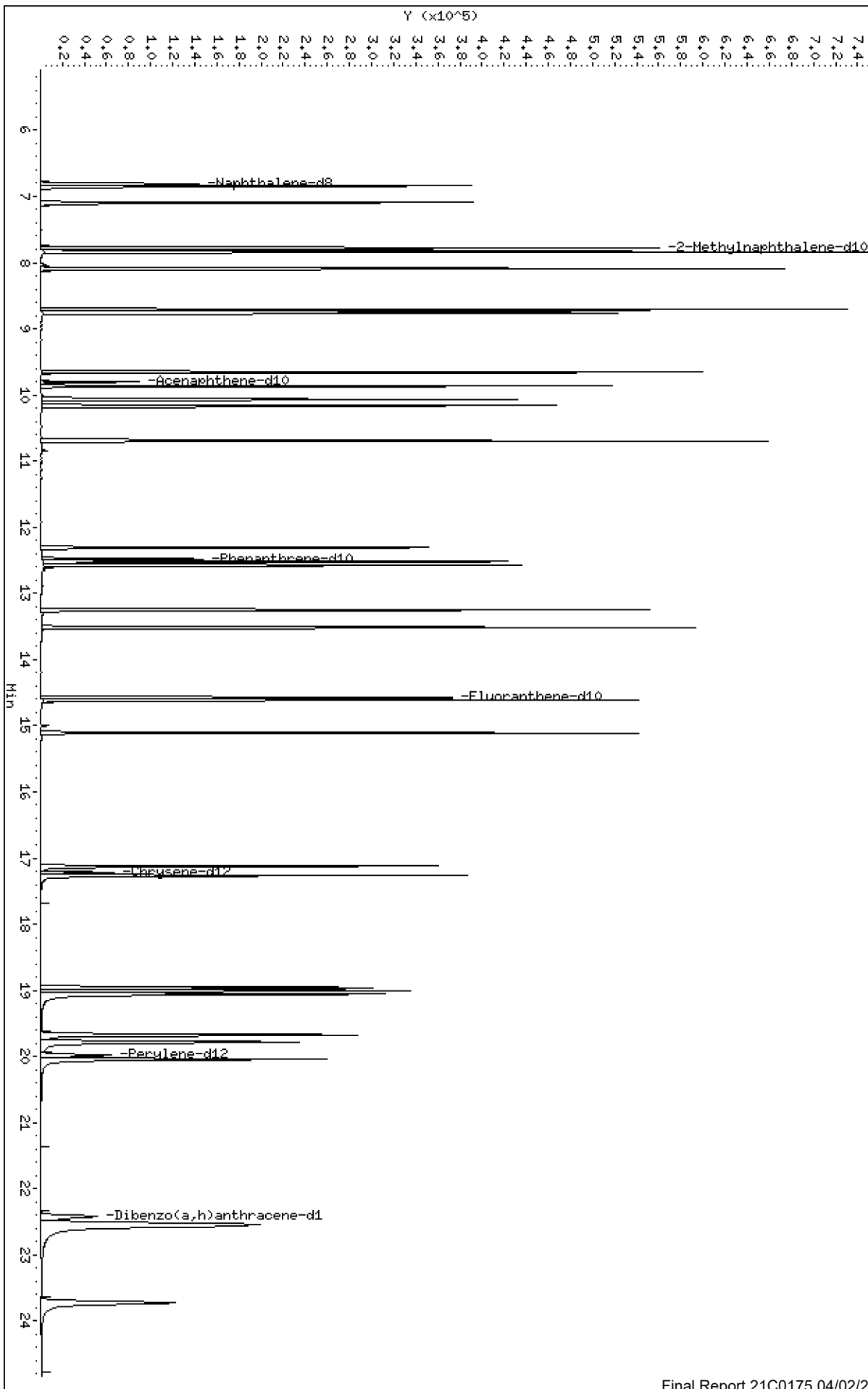
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

\\target\share\chem3\nt11.1\20200827.6\NT1120082705.D



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20200827.b\NT1120082705.D
 Lab Smp Id: SIH0304-CAL5
 Inj Date : 27-AUG-2020 14:08 MS Autotune Date: 15-JAN-2015 16:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : SIH0304-CAL5
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20200827.b\lowsim.m
 Meth Date : 28-Aug-2020 07:11 van Quant Type: ISTD
 Cal Date : 27-AUG-2020 13:38 Cal File: NT1120082704.D
 Als bottle: 5 Calibration Sample, Level: 5
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PAH.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
							CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 1 Naphthalene-d8	136		6.804	6.804	(1.000)	205773	200.000	
2 Naphthalene	128		6.840	6.840	(1.005)	556487	500.000	466
3 Benzo(b)thiophene	134		7.093	7.093	(1.043)	459474	500.000	487
\$ 4 2-Methylnaphthalene-d10	152		7.780	7.780	(1.144)	406362	500.000	491
5 2-Methylnaphthalene	142		7.833	7.833	(1.151)	461169	500.000	479
6 1-Methylnaphthalene	142		8.085	8.085	(1.188)	429494	500.000	480
7 2-Chloronaphthalene	162		8.736	8.736	(0.891)	398892	500.000	467
8 Biphenyl	154		8.705	8.705	(0.888)	540352	500.000	475
9 2,6-Dimethylnaphthalene	156		8.757	8.757	(0.893)	413173	500.000	489
10 Acenaphthylene	152		9.653	9.653	(0.984)	526443	500.000	468
* 11 Acenaphthene-d10	164		9.807	9.807	(1.000)	98118	200.000	
12 Acenaphthene	153		9.870	9.870	(1.006)	350617	500.000	471
13 Dibenzofuran	168		10.074	10.074	(1.027)	463388	500.000	466
14 2,3,5-Trimethylnaphthalene	170		10.175	10.175	(1.038)	301991	500.000	494
16 Fluorene	166		10.694	10.694	(1.090)	365393	500.000	477
17 Dibenzothiophene	184		12.303	12.303	(0.986)	426953	500.000	480
* 18 Phenanthrene-d10	188		12.482	12.482	(1.000)	160808	200.000	
19 Phenanthrene	178		12.513	12.524	(1.003)	496311	500.000	472
21 Anthracene	178		12.576	12.576	(1.008)	484497	500.000	461
22 Carbazole	167		13.252	13.252	(1.062)	543316	500.000	485
23 1-Methylphenanthrene	192		13.515	13.514	(1.083)	451966	500.000	486
\$ 24 Fluoranthene-d10	212		14.578	14.578	(1.168)	406108	500.000	482
25 Fluoranthene	202		14.607	14.607	(1.170)	496464	500.000	473
26 Pyrene	202		15.107	15.107	(1.210)	500375	500.000	465
27 Benzo(a)anthracene	228		17.123	17.122	(0.995)	383867	500.000	500
* 28 Chrysene-d12	240		17.214	17.214	(1.000)	104617	200.000	
29 Chrysene	228		17.264	17.264	(1.003)	414086	500.000	479
30 Benzo(b)fluoranthene	252		18.962	18.962	(0.949)	352039	500.000	532
31 Benzo(k)fluoranthene	252		19.001	19.001	(0.951)	442699	500.000	509
32 Benzo(j)fluoranthene	252		19.058	19.058	(0.954)	435013	500.000	463
34 Benzo(e)pyrene	252		19.673	19.673	(0.985)	381561	500.000	509
35 Benzo(a)pyrene	252		19.779	19.779	(0.990)	358854	500.000	519
* 36 Perylene-d12	264		19.981	19.981	(1.000)	121661	200.000	

Compounds	QUANT SIG		AMOUNTS					
	MASS		RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
=====	=====		=====	=====	=====	=====	=====	=====
37 Perylene	252		20.048	20.048	(1.003)	390353	500.000	495
\$ 38 Dibenzo(a,h)anthracene-d14	292		22.418	22.418	(1.122)	248647	500.000	508
39 Dibenzo(a,h)anthracene	278		22.540	22.540	(1.128)	299103	500.000	510
40 Indeno(1,2,3-cd)pyrene	276		22.562	22.562	(1.129)	361375	500.000	538
41 Benzo(g,h,i)perylene	276		23.725	23.725	(1.187)	341150	500.000	508

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 27-AUG-2020
 Lab File ID: NT1120082705.D Calibration Time: 12:35
 Lab Smp Id: SIH0304-CAL5
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20200827.b\lowsim.m
 Misc Info:

Test Mode:
 Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	215332	107666	430664	205773	-4.44
11 Acenaphthene-d10	102217	51109	204434	98118	-4.01
18 Phenanthrene-d10	170387	85194	340774	160808	-5.62
28 Chrysene-d12	116138	58069	232276	104617	-9.92
36 Perylene-d12	139038	69519	278076	121661	-12.50

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	6.81	6.31	7.31	6.80	-0.13
11 Acenaphthene-d10	9.81	9.31	10.31	9.81	-0.00
18 Phenanthrene-d10	12.48	11.98	12.98	12.48	-0.00
28 Chrysene-d12	17.21	16.71	17.71	17.21	-0.00
36 Perylene-d12	19.98	19.48	20.48	19.98	-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 - NT1120082705.D

Lab ID: SIH0304-CAL5

nt11.i, 20200827.b\lowsim.m, 27-AUG-2020 14:08

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

RRT check based on Ccal File: NT1120082704.D

On Column LOD for nt11.i, 20200827.b\lowsim.m, PAH.sub = 0.0000

Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000

Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000

Exception: Fluoranthene-d10 (Surr) 0.1000

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

Data File: \\target\share\chem3\nt11.1\20200827.6\NT1120082706.D

Date: 27-AUG-2020 14:38

Client ID:

Sample Info: SIH0304-CAL2

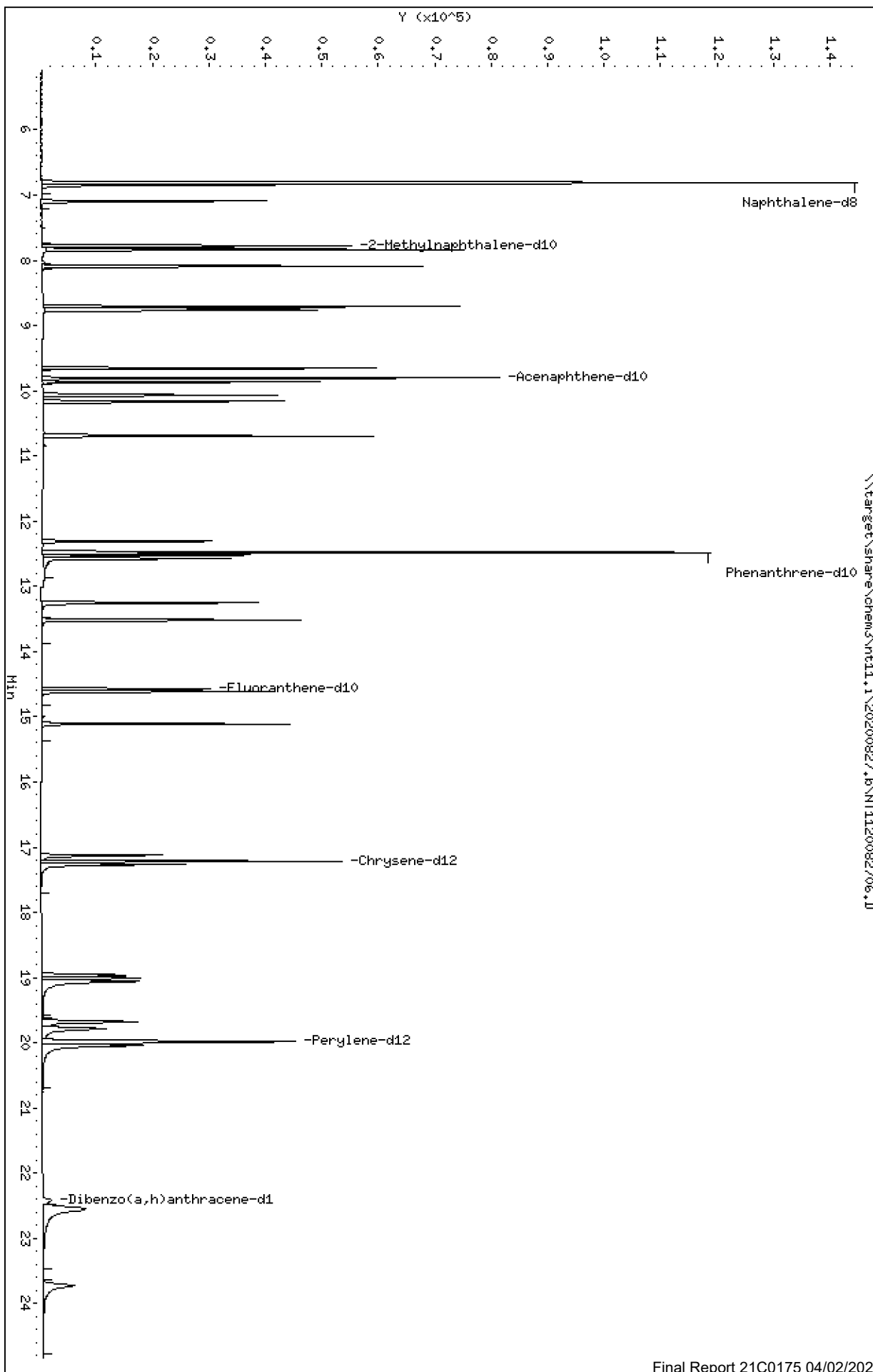
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20200827.b\NT1120082706.D
 Lab Smp Id: SIH0304-CAL2
 Inj Date : 27-AUG-2020 14:38 MS Autotune Date: 15-JAN-2015 16:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : SIH0304-CAL2
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20200827.b\lowsim.m
 Meth Date : 28-Aug-2020 07:11 van Quant Type: ISTD
 Cal Date : 27-AUG-2020 13:38 Cal File: NT1120082704.D
 Als bottle: 6 Calibration Sample, Level: 2
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PAH.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
							CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 1 Naphthalene-d8	136		6.804	6.804	(1.000)	206491	200.000	
2 Naphthalene	128		6.840	6.840	(1.005)	58881	50.0000	49.1
3 Benzo(b)thiophene	134		7.093	7.093	(1.043)	46404	50.0000	49.1
\$ 4 2-Methylnaphthalene-d10	152		7.780	7.780	(1.144)	40601	50.0000	48.9
5 2-Methylnaphthalene	142		7.833	7.833	(1.151)	45742	50.0000	47.3
6 1-Methylnaphthalene	142		8.085	8.085	(1.188)	42557	50.0000	47.4
7 2-Chloronaphthalene	162		8.736	8.736	(0.891)	38604	50.0000	49.1
8 Biphenyl	154		8.705	8.705	(0.888)	53762	50.0000	51.3
9 2,6-Dimethylnaphthalene	156		8.757	8.757	(0.893)	38600	50.0000	49.7
10 Acenaphthylene	152		9.653	9.653	(0.984)	50210	50.0000	48.5
* 11 Acenaphthene-d10	164		9.807	9.807	(1.000)	90319	200.000	
12 Acenaphthene	153		9.870	9.870	(1.006)	33199	50.0000	48.4
13 Dibenzofuran	168		10.074	10.074	(1.027)	45064	50.0000	49.3
14 2,3,5-Trimethylnaphthalene	170		10.175	10.175	(1.038)	26854	50.0000	47.7
16 Fluorene	166		10.694	10.694	(1.090)	33427	50.0000	47.4
17 Dibenzothiophene	184		12.303	12.303	(0.986)	37687	50.0000	50.7
* 18 Phenanthrene-d10	188		12.482	12.482	(1.000)	134229	200.000	
19 Phenanthrene	178		12.513	12.524	(1.003)	43007	50.0000	49.0
21 Anthracene	178		12.576	12.576	(1.008)	43953	50.0000	50.1
22 Carbazole	167		13.252	13.252	(1.062)	43261	50.0000	46.3
23 1-Methylphenanthrene	192		13.514	13.514	(1.083)	38981	50.0000	50.3
\$ 24 Fluoranthene-d10	212		14.578	14.578	(1.168)	35267	50.0000	50.1
25 Fluoranthene	202		14.607	14.607	(1.170)	42487	50.0000	48.5
26 Pyrene	202		15.107	15.107	(1.210)	43381	50.0000	48.3
27 Benzo(a)anthracene	228		17.123	17.122	(0.995)	27390	50.0000	44.1
* 28 Chrysene-d12	240		17.214	17.214	(1.000)	84619	200.000	
29 Chrysene	228		17.264	17.264	(1.003)	33176	50.0000	47.4
30 Benzo(b)fluoranthene	252		18.962	18.962	(0.949)	19874	50.0000	39.0
31 Benzo(k)fluoranthene	252		19.001	19.001	(0.951)	30361	50.0000	45.4
32 Benzo(j)fluoranthene	252		19.058	19.058	(0.954)	38356	50.0000	53.0
34 Benzo(e)pyrene	252		19.673	19.673	(0.985)	27032	50.0000	46.9
35 Benzo(a)pyrene	252		19.779	19.779	(0.990)	23032	50.0000	43.3
* 36 Perylene-d12	264		19.981	19.981	(1.000)	93566	200.000	

Compounds	QUANT SIG		AMOUNTS					
	MASS		RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
=====	=====		=====	=====	=====	=====	=====	=====
37 Perylene	252		20.048	20.048	(1.003)	29423	50.0000	48.6
\$ 38 Dibenzo(a,h)anthracene-d14	292		22.418	22.418	(1.122)	12845	50.0000	35.7
39 Dibenzo(a,h)anthracene	278		22.529	22.540	(1.128)	15562	50.0000	36.1
40 Indeno(1,2,3-cd)pyrene	276		22.562	22.562	(1.129)	20719	50.0000	40.1
41 Benzo(g,h,i)perylene	276		23.725	23.725	(1.187)	22417	50.0000	43.4

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 27-AUG-2020
 Lab File ID: NT1120082706.D Calibration Time: 12:35
 Lab Smp Id: SIH0304-CAL2
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20200827.b\lowsim.m
 Misc Info:

Test Mode:
 Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	215332	107666	430664	206491	-4.11
11 Acenaphthene-d10	102217	51109	204434	90319	-11.64
18 Phenanthrene-d10	170387	85194	340774	134229	-21.22
28 Chrysene-d12	116138	58069	232276	84619	-27.14
36 Perylene-d12	139038	69519	278076	93566	-32.70

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	6.81	6.31	7.31	6.80	-0.13
11 Acenaphthene-d10	9.81	9.31	10.31	9.81	-0.00
18 Phenanthrene-d10	12.48	11.98	12.98	12.48	-0.00
28 Chrysene-d12	17.21	16.71	17.71	17.21	-0.00
36 Perylene-d12	19.98	19.48	20.48	19.98	-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 - NT1120082706.D

Lab ID: SIH0304-CAL2

nt11.i, 20200827.b\lowsim.m, 27-AUG-2020 14:38

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

RRT check based on Ccal File: NT1120082704.D

On Column LOD for nt11.i, 20200827.b\lowsim.m, PAH.sub = 0.0000

Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000

Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000

Exception: Fluoranthene-d10 (Surr) 0.1000

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

Data File: \\target\share\chem3\nt11.1\20200827.6\NT1120082707.D

Date : 27-AUG-2020 15:08

Client ID:

Sample Info: SIH0304-CAL3

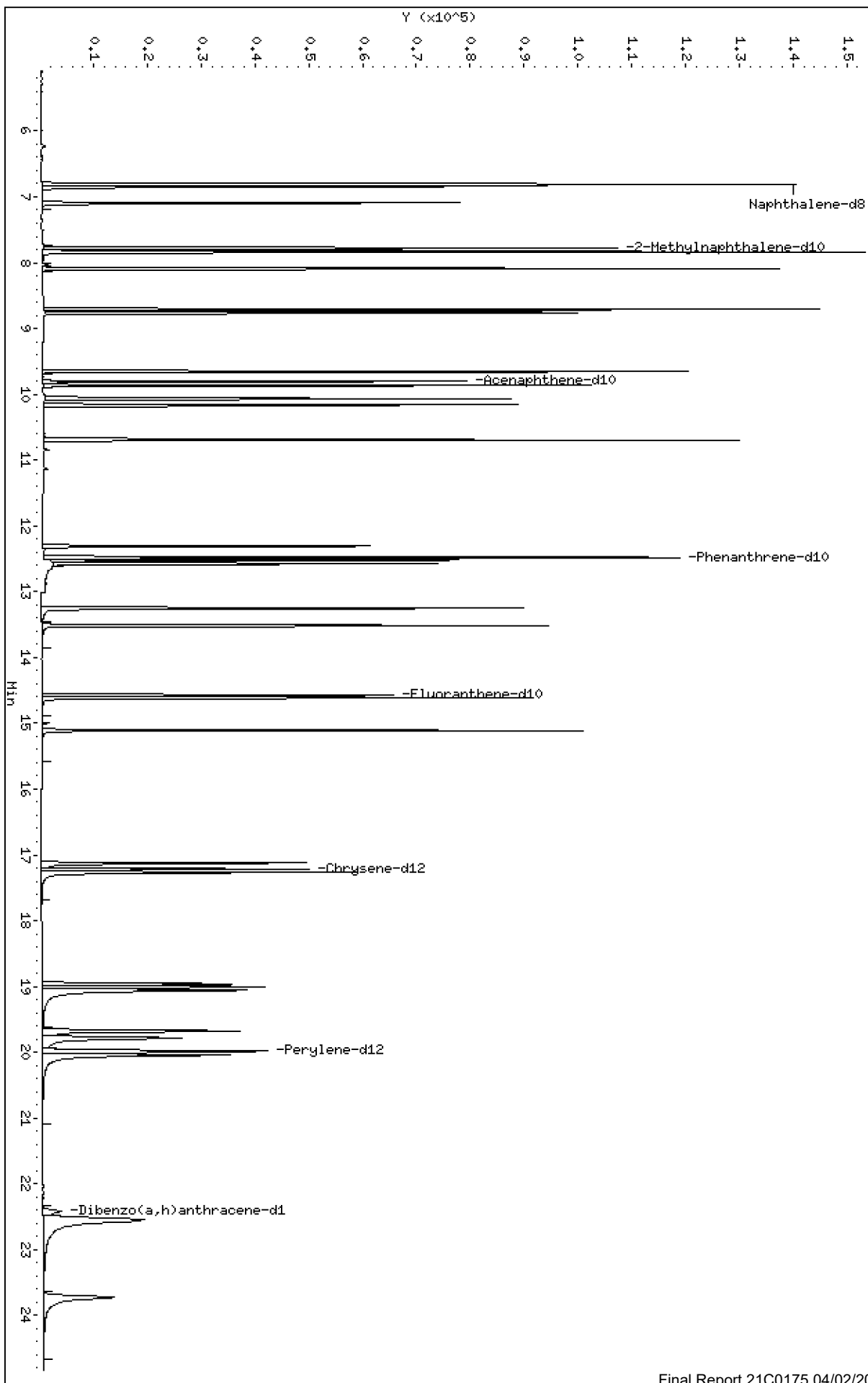
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

\\target\share\chem3\nt11.1\20200827.6\NT1120082707.D



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20200827.b\NT1120082707.D
 Lab Smp Id: SIH0304-CAL3
 Inj Date : 27-AUG-2020 15:08 MS Autotune Date: 15-JAN-2015 16:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : SIH0304-CAL3
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20200827.b\lowsim.m
 Meth Date : 28-Aug-2020 07:11 van Quant Type: ISTD
 Cal Date : 27-AUG-2020 13:38 Cal File: NT1120082704.D
 Als bottle: 7 Calibration Sample, Level: 3
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PAH.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
							CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 1 Naphthalene-d8	136		6.804	6.804	(1.000)	198254	200.000	
2 Naphthalene	128		6.840	6.840	(1.005)	116634	100.000	101
3 Benzo(b)thiophene	134		7.093	7.093	(1.043)	91247	100.000	100
\$ 4 2-Methylnaphthalene-d10	152		7.780	7.780	(1.144)	78505	100.000	98.5
5 2-Methylnaphthalene	142		7.833	7.833	(1.151)	92881	100.000	100
6 1-Methylnaphthalene	142		8.085	8.085	(1.188)	86322	100.000	100
7 2-Chloronaphthalene	162		8.736	8.736	(0.891)	79561	100.000	103
8 Biphenyl	154		8.705	8.705	(0.888)	106058	100.000	103
9 2,6-Dimethylnaphthalene	156		8.757	8.757	(0.893)	77002	100.000	101
10 Acenaphthylene	152		9.653	9.653	(0.984)	104266	100.000	102
* 11 Acenaphthene-d10	164		9.807	9.807	(1.000)	88696	200.000	
12 Acenaphthene	153		9.870	9.870	(1.006)	68894	100.000	102
13 Dibenzofuran	168		10.074	10.074	(1.027)	93172	100.000	104
14 2,3,5-Trimethylnaphthalene	170		10.163	10.175	(1.036)	55392	100.000	100
16 Fluorene	166		10.693	10.694	(1.090)	70376	100.000	102
17 Dibenzothiophene	184		12.303	12.303	(0.986)	75681	100.000	103
* 18 Phenanthrene-d10	188		12.482	12.482	(1.000)	133333	200.000	
19 Phenanthrene	178		12.524	12.524	(1.003)	91690	100.000	105
21 Anthracene	178		12.576	12.576	(1.008)	93350	100.000	107
22 Carbazole	167		13.252	13.252	(1.062)	93185	100.000	100
23 1-Methylphenanthrene	192		13.514	13.514	(1.083)	79759	100.000	104
\$ 24 Fluoranthene-d10	212		14.578	14.578	(1.168)	71947	100.000	103
25 Fluoranthene	202		14.607	14.607	(1.170)	93032	100.000	107
26 Pyrene	202		15.107	15.107	(1.210)	94506	100.000	106
27 Benzo(a)anthracene	228		17.122	17.122	(0.995)	60945	100.000	98.7
* 28 Chrysene-d12	240		17.214	17.214	(1.000)	84043	200.000	
29 Chrysene	228		17.264	17.264	(1.003)	72419	100.000	104
30 Benzo(b)fluoranthene	252		18.962	18.962	(0.949)	44811	100.000	89.1
31 Benzo(k)fluoranthene	252		19.001	19.001	(0.951)	68697	100.000	104
32 Benzo(j)fluoranthene	252		19.058	19.058	(0.954)	78190	100.000	110
34 Benzo(e)pyrene	252		19.673	19.673	(0.985)	55540	100.000	97.6
35 Benzo(a)pyrene	252		19.779	19.779	(0.990)	50984	100.000	97.1
* 36 Perylene-d12	264		19.981	19.981	(1.000)	92362	200.000	

Compounds	QUANT SIG		AMOUNTS				
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
37 Perylene	252	20.048	20.048	(1.003)	59308	100.000	99.1
\$ 38 Dibenzo(a,h)anthracene-d14	292	22.418	22.418	(1.122)	27361	100.000	76.8
39 Dibenzo(a,h)anthracene	278	22.540	22.540	(1.128)	35961	100.000	84.0
40 Indeno(1,2,3-cd)pyrene	276	22.562	22.562	(1.129)	46079	100.000	90.4
41 Benzo(g,h,i)perylene	276	23.725	23.725	(1.187)	49655	100.000	97.4

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 27-AUG-2020
 Lab File ID: NT1120082707.D Calibration Time: 12:35
 Lab Smp Id: SIH0304-CAL3
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20200827.b\lowsim.m
 Misc Info:

Test Mode:
 Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	215332	107666	430664	198254	-7.93
11 Acenaphthene-d10	102217	51109	204434	88696	-13.23
18 Phenanthrene-d10	170387	85194	340774	133333	-21.75
28 Chrysene-d12	116138	58069	232276	84043	-27.64
36 Perylene-d12	139038	69519	278076	92362	-33.57

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	6.81	6.31	7.31	6.80	-0.13
11 Acenaphthene-d10	9.81	9.31	10.31	9.81	-0.00
18 Phenanthrene-d10	12.48	11.98	12.98	12.48	-0.00
28 Chrysene-d12	17.21	16.71	17.71	17.21	-0.00
36 Perylene-d12	19.98	19.48	20.48	19.98	-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 - NT1120082707.D

Lab ID: SIH0304-CAL3

nt11.i, 20200827.b\lowsim.m, 27-AUG-2020 15:08

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
-----	-----	-----	-------	----------

NONE

RRT check based on Ccal File: NT1120082704.D

On Column LOD for nt11.i, 20200827.b\lowsim.m, PAH.sub = 0.0000

Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000

Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000

Exception: Fluoranthene-d10 (Surr) 0.1000

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

Data File: \\target\share\chem3\nt11.1\20200827.6\NT1120082708.D

Date : 27-AUG-2020 15:38

Client ID:

Sample Info: SIH0304-SCW1

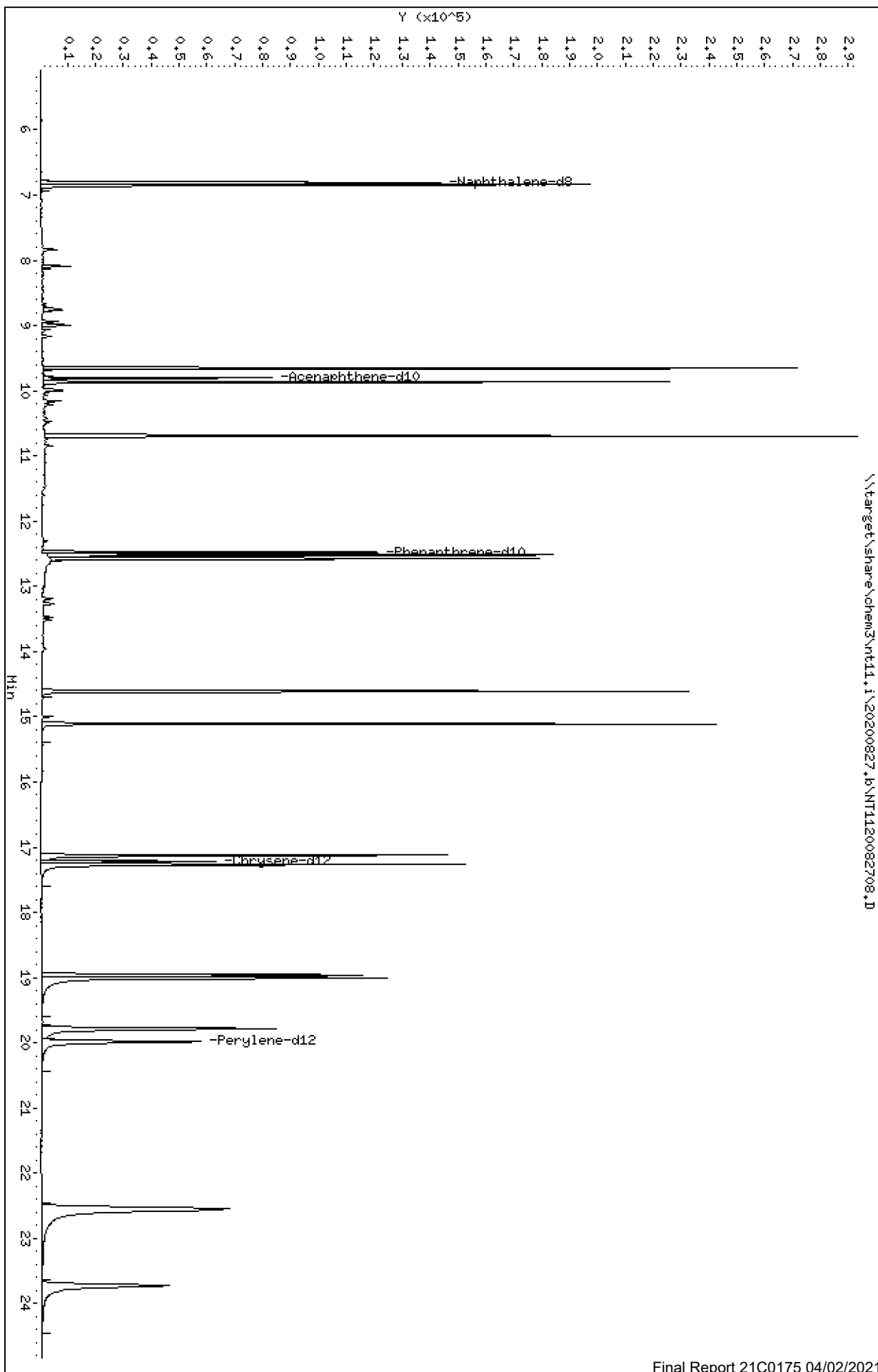
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

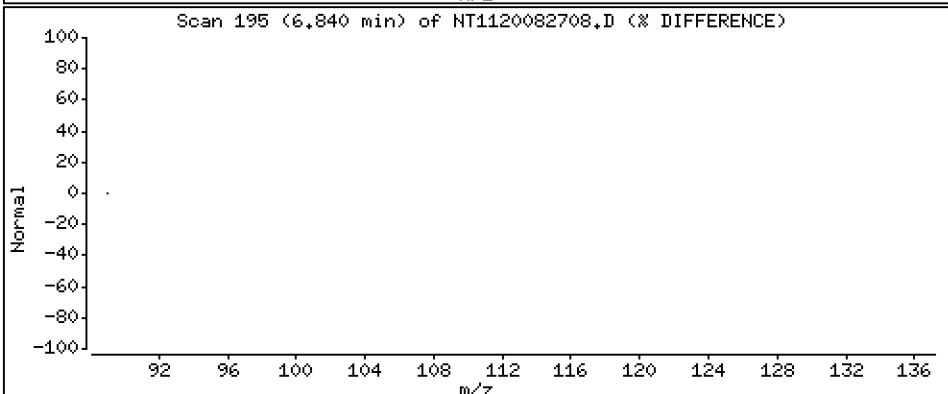
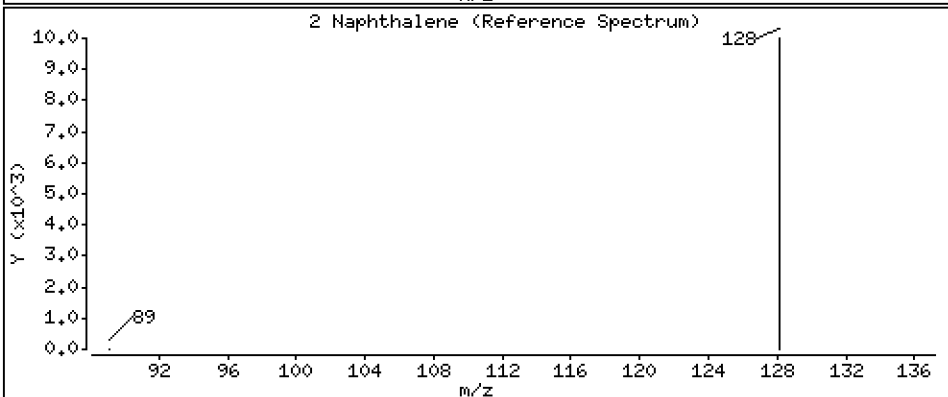
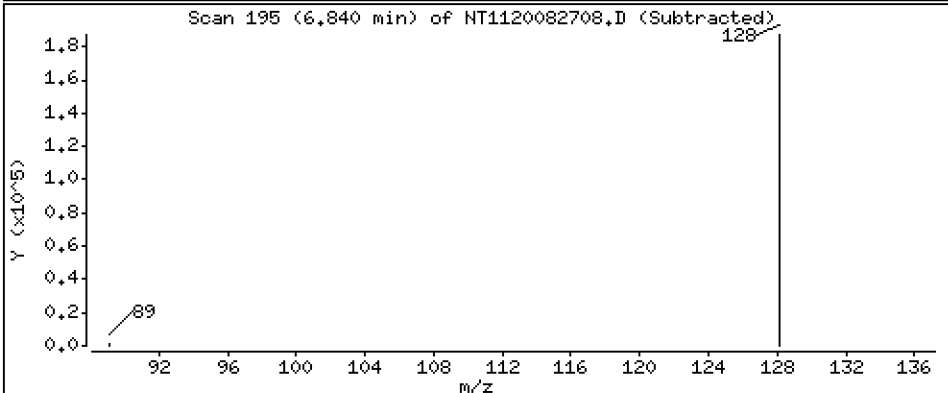
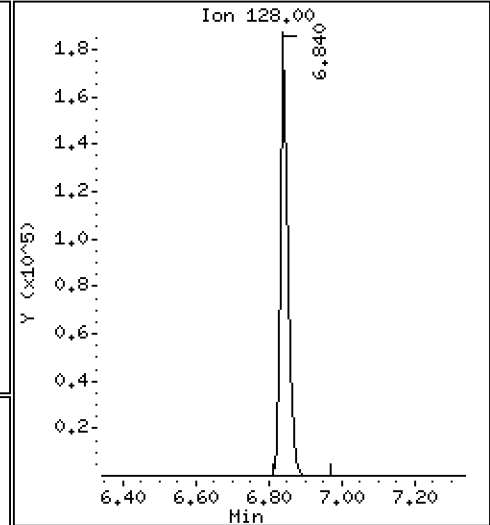
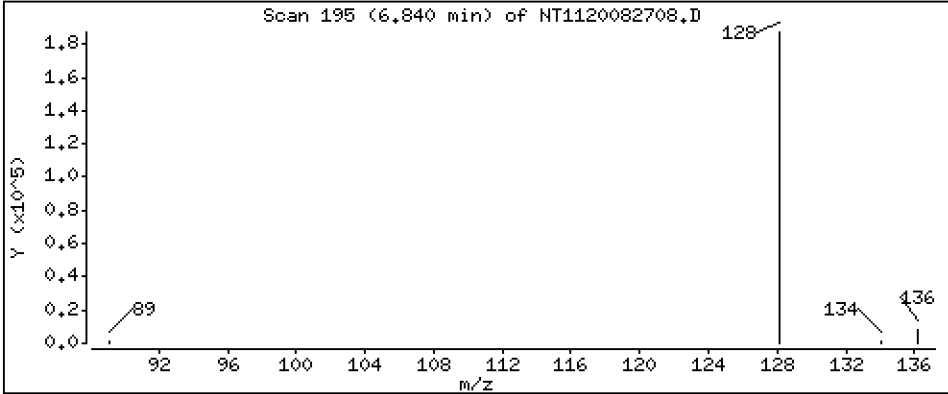
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 224 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

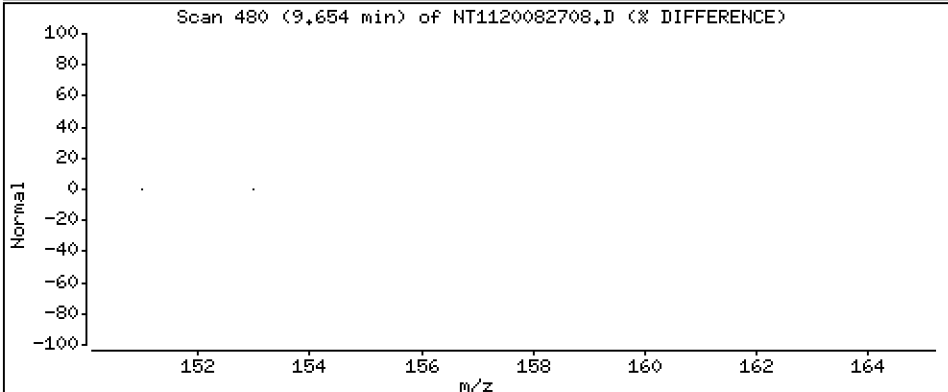
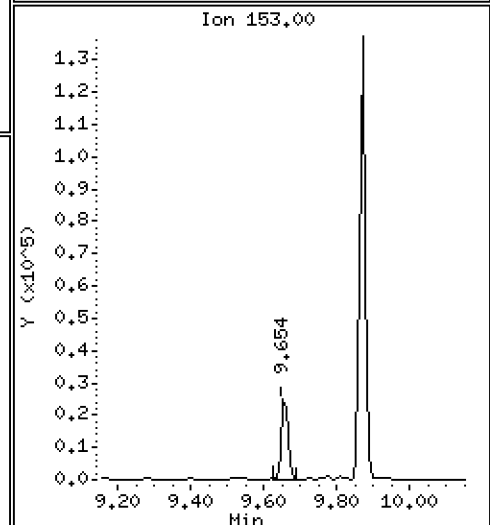
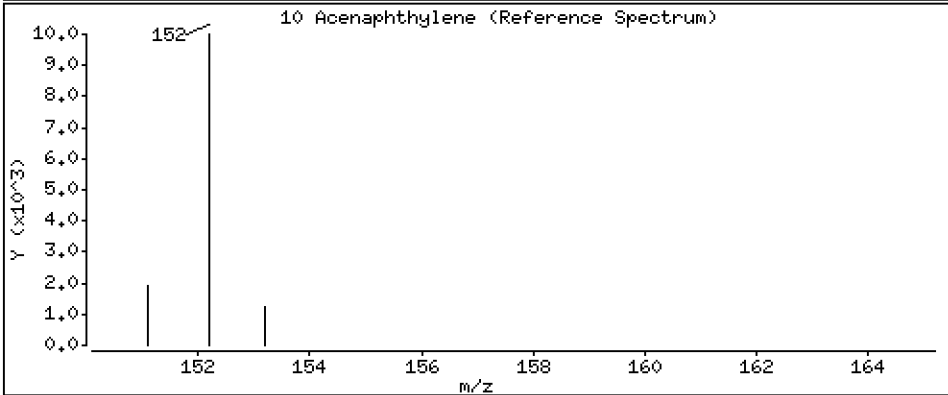
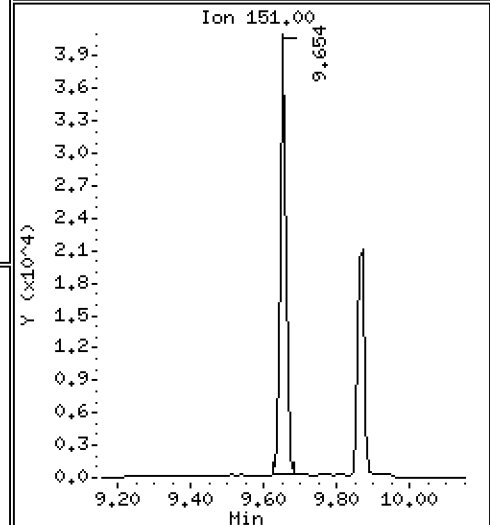
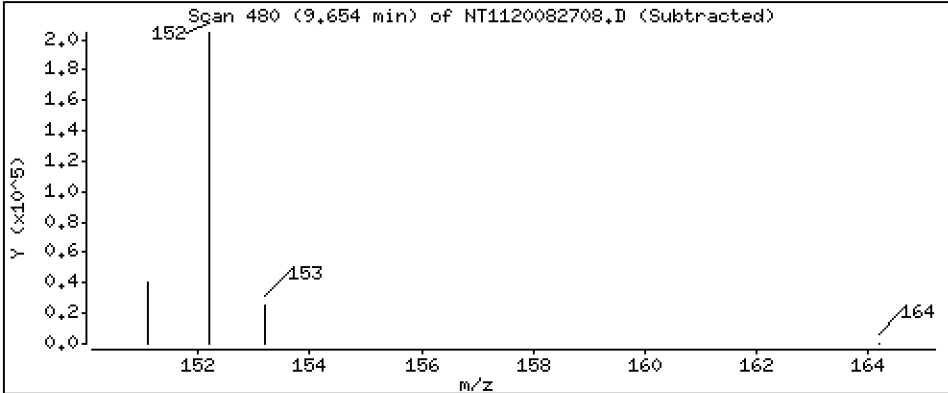
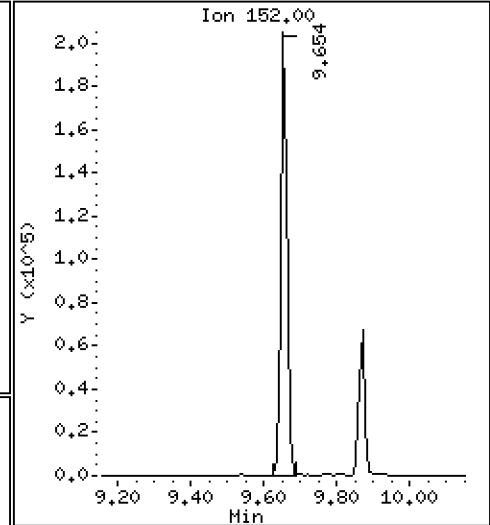
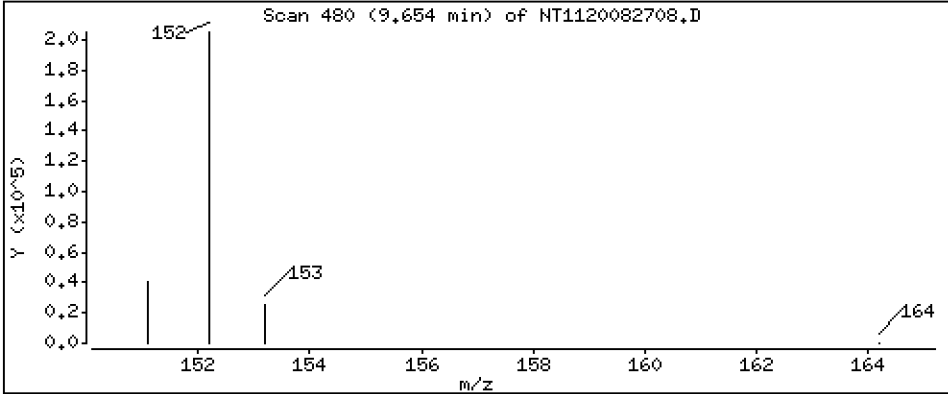
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

10 Acenaphthylene

Concentration: 233 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

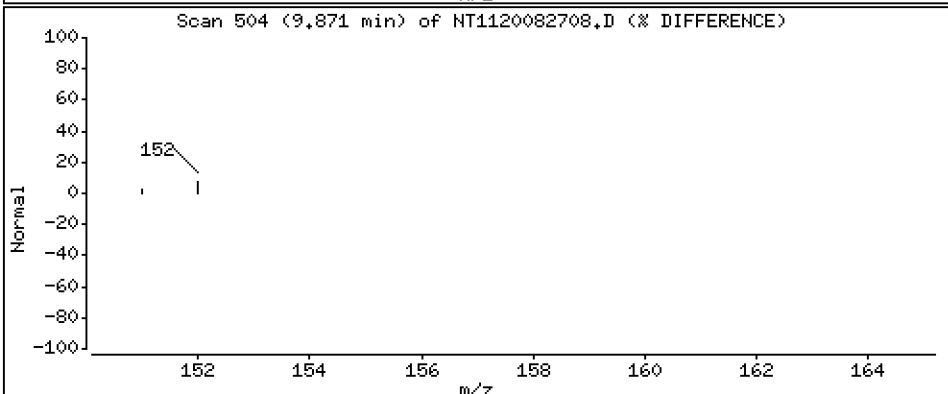
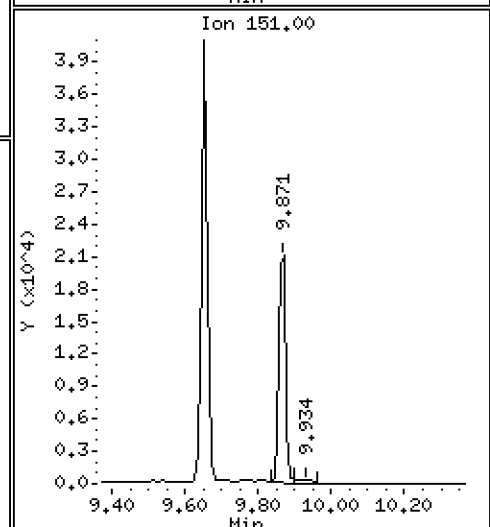
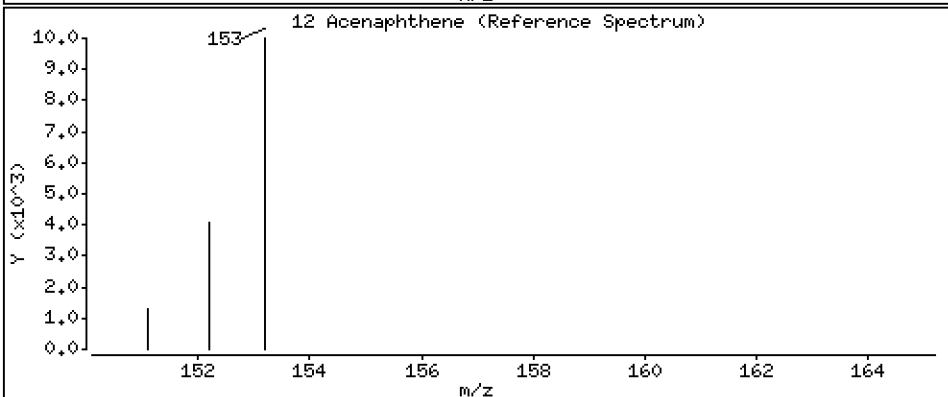
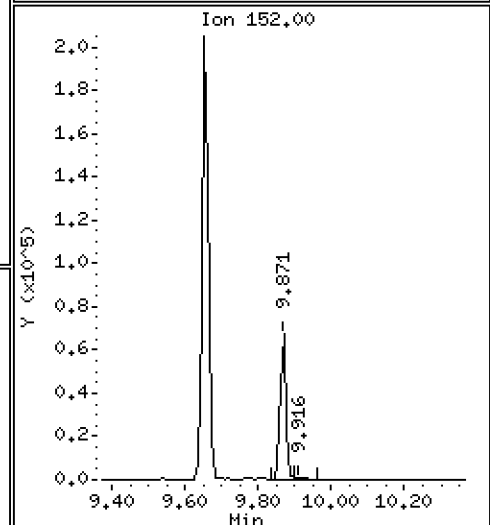
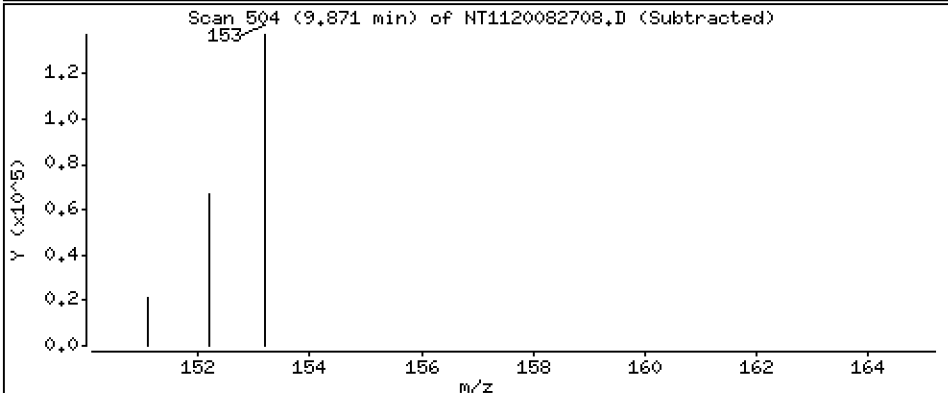
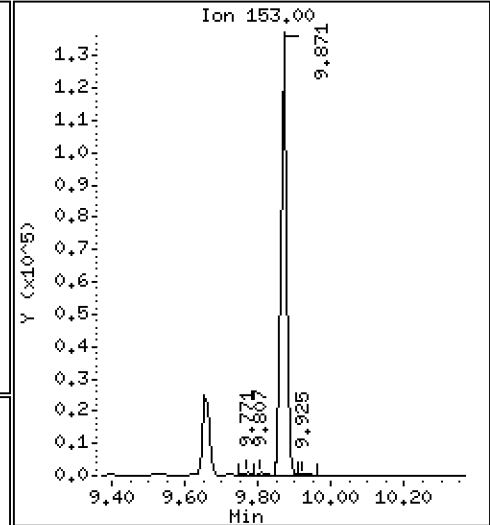
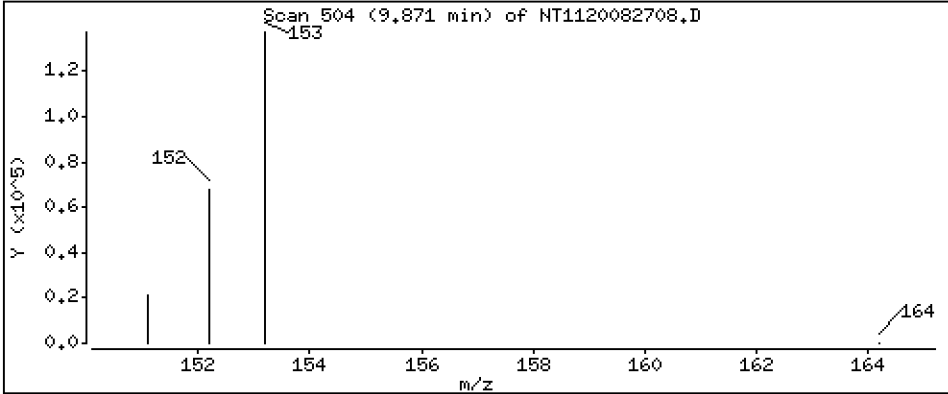
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

12 Acenaphthene

Concentration: 222 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

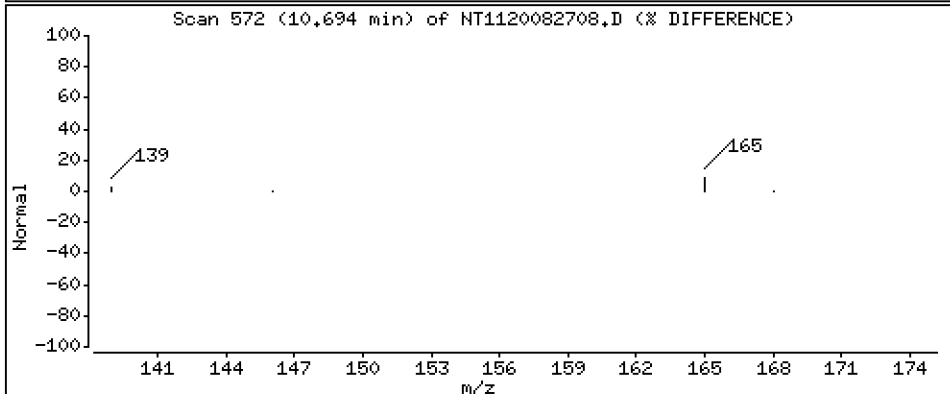
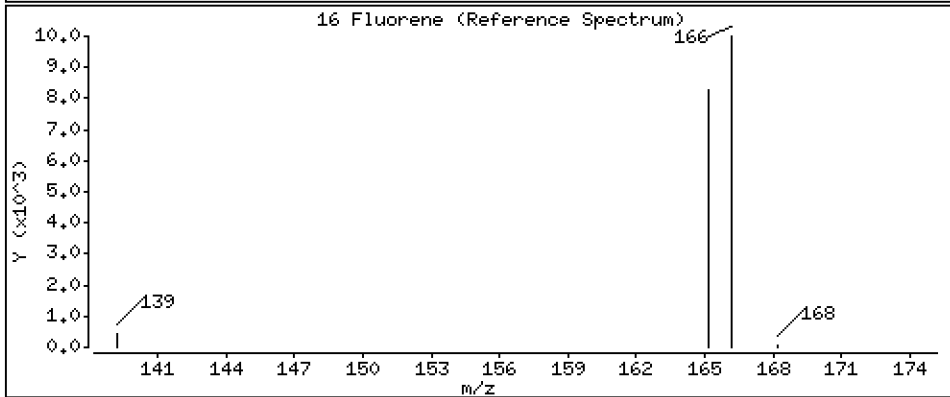
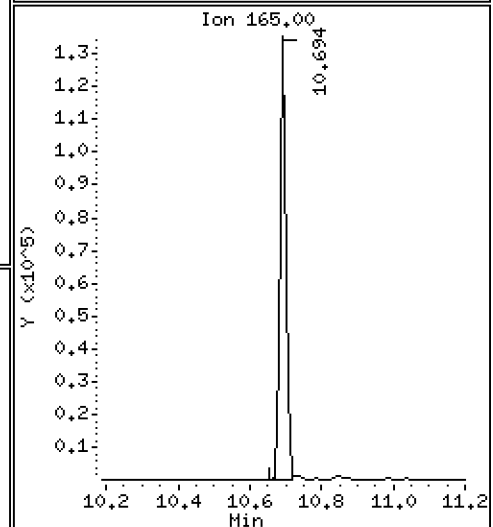
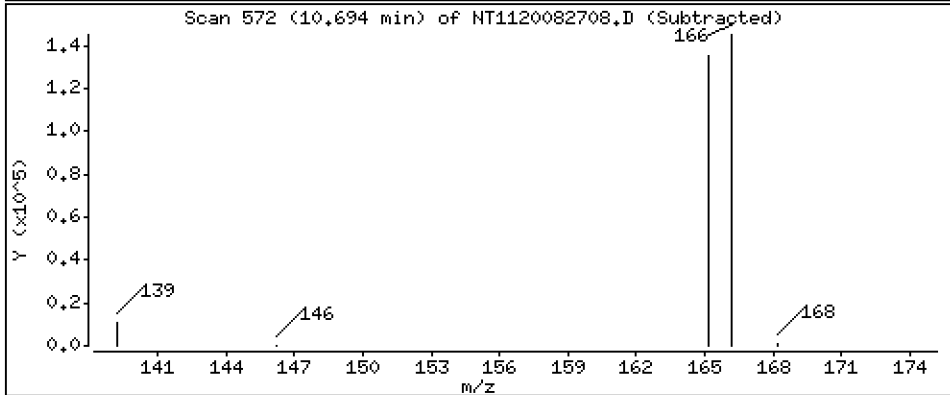
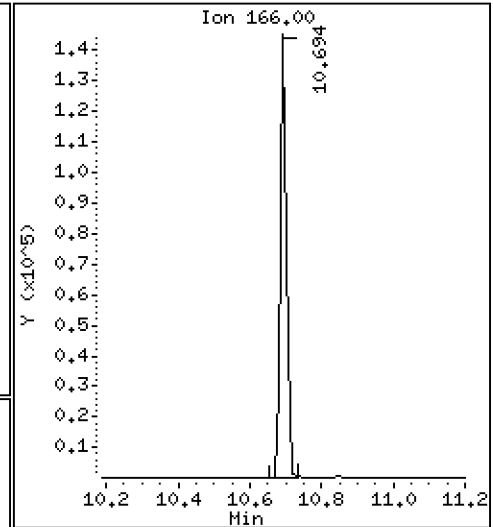
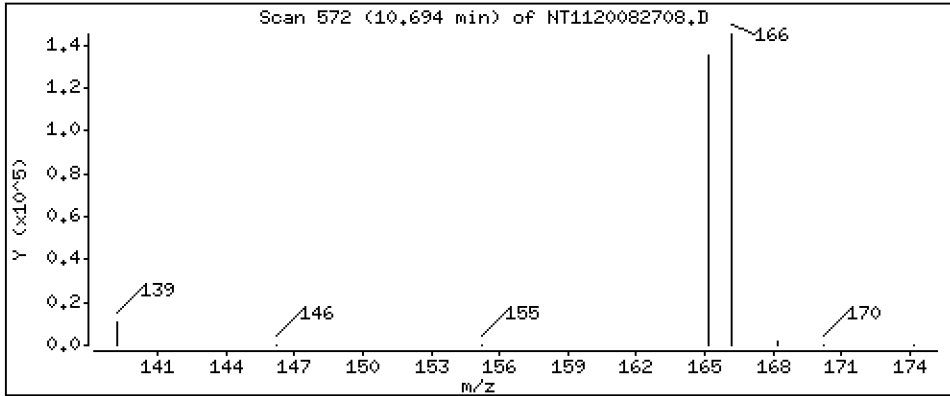
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 233 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

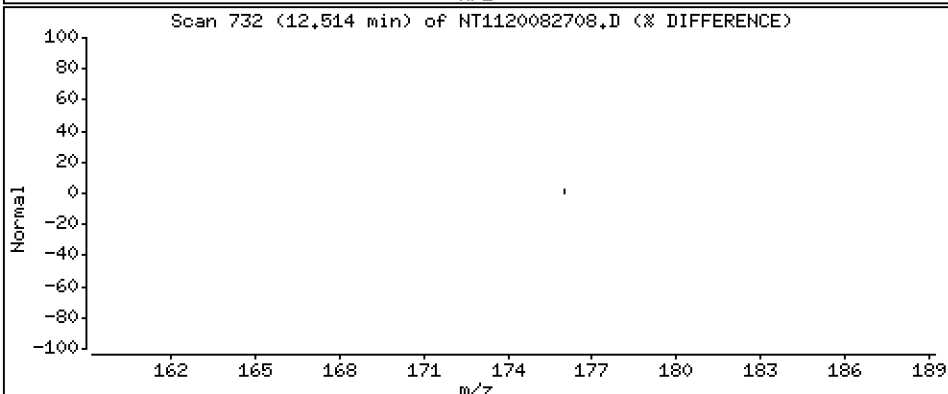
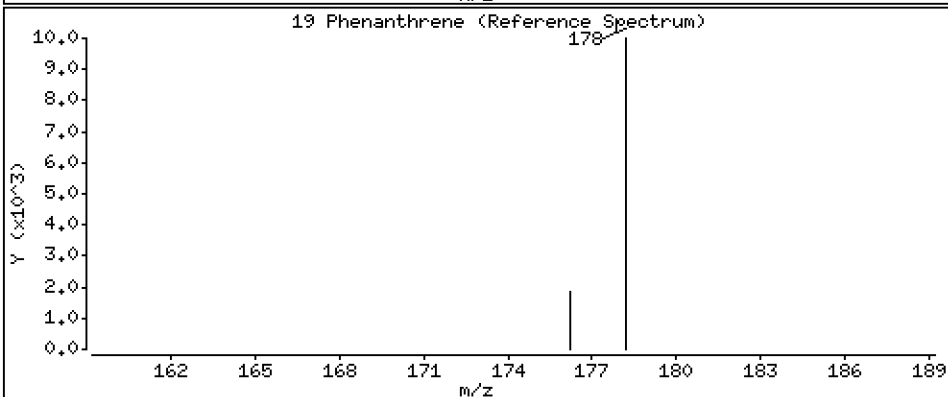
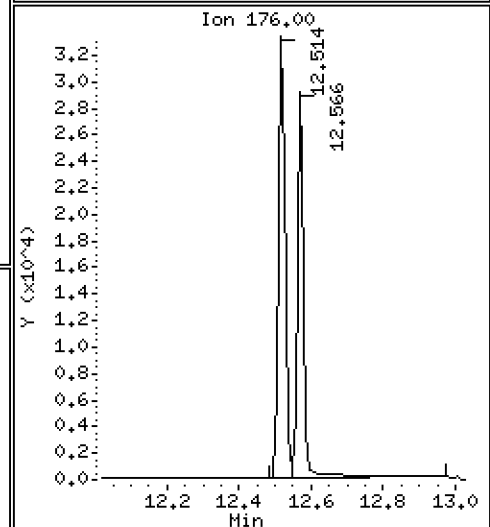
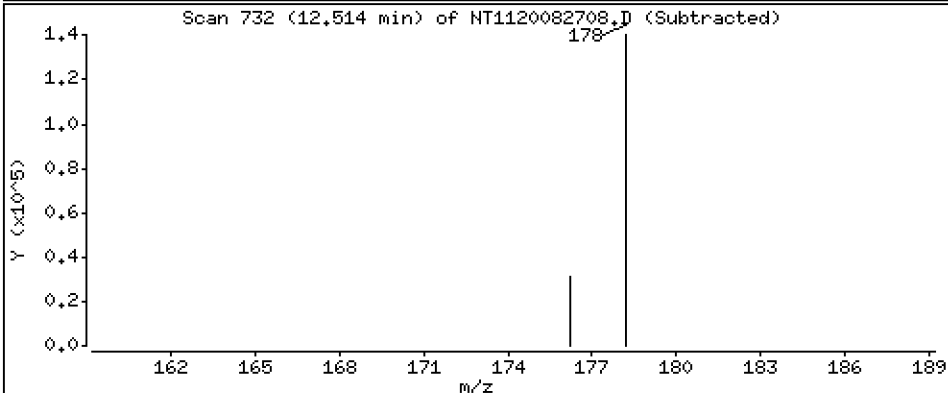
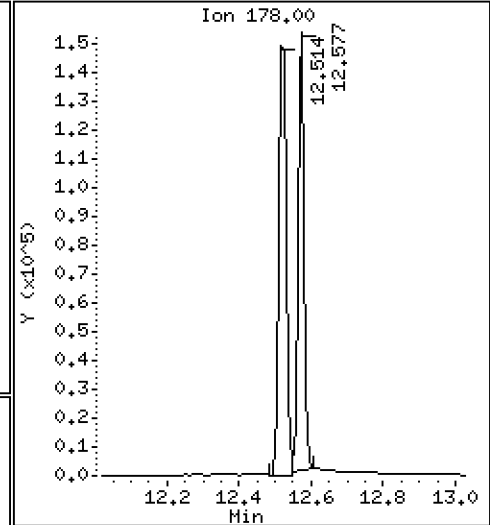
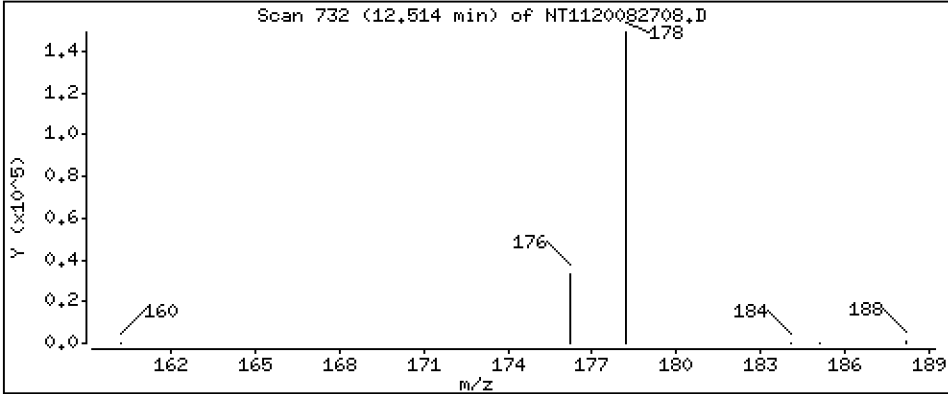
Operator: VTS

Column phase: Rxi-17Si11 MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 233 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

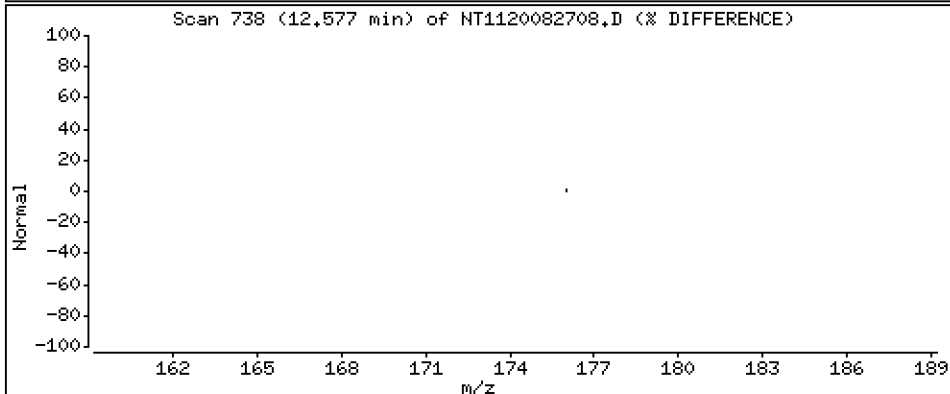
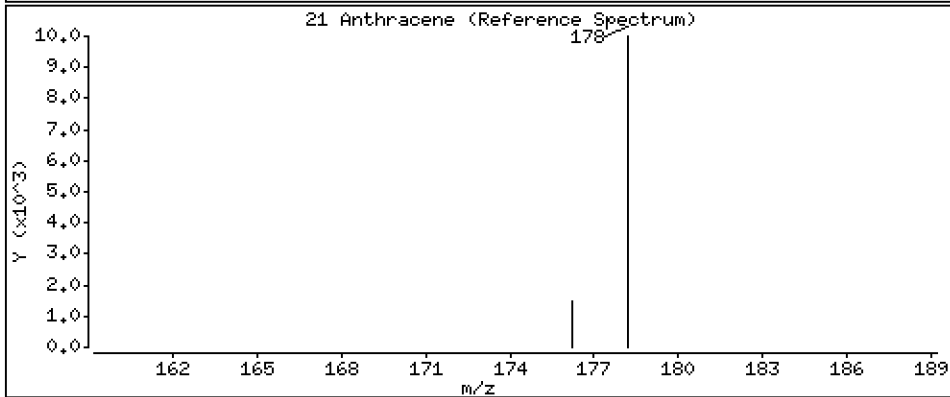
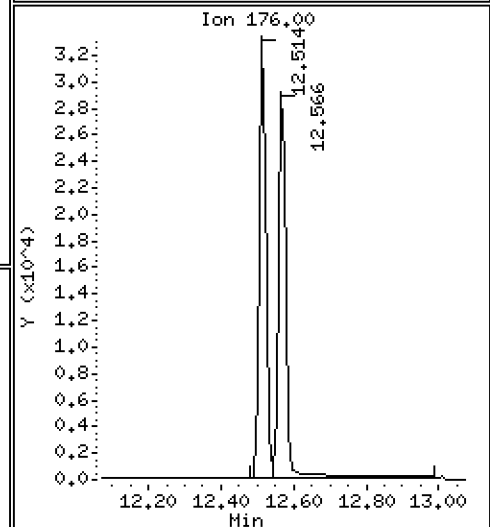
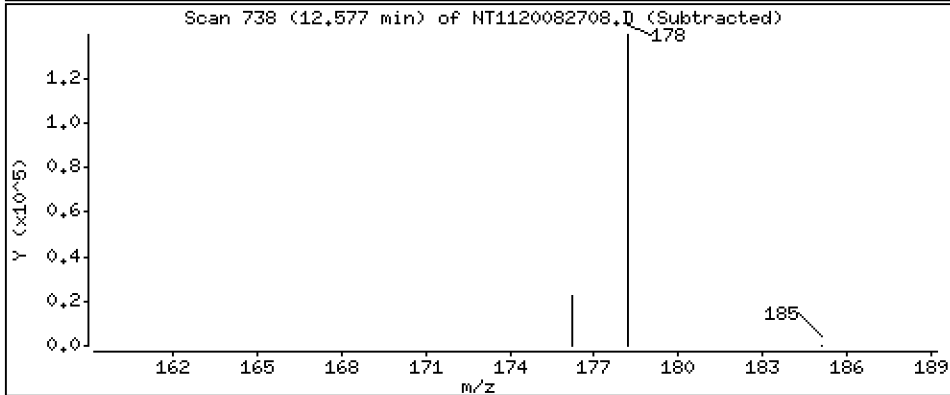
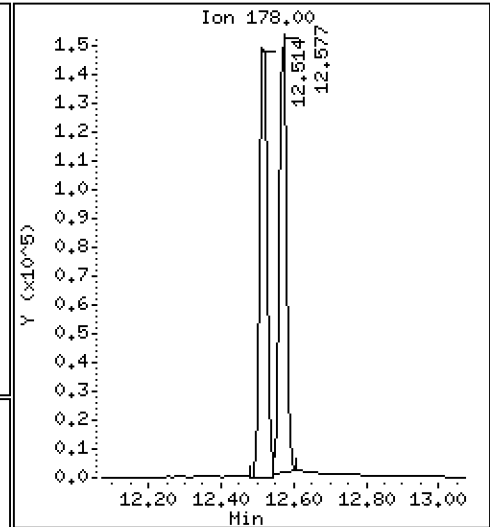
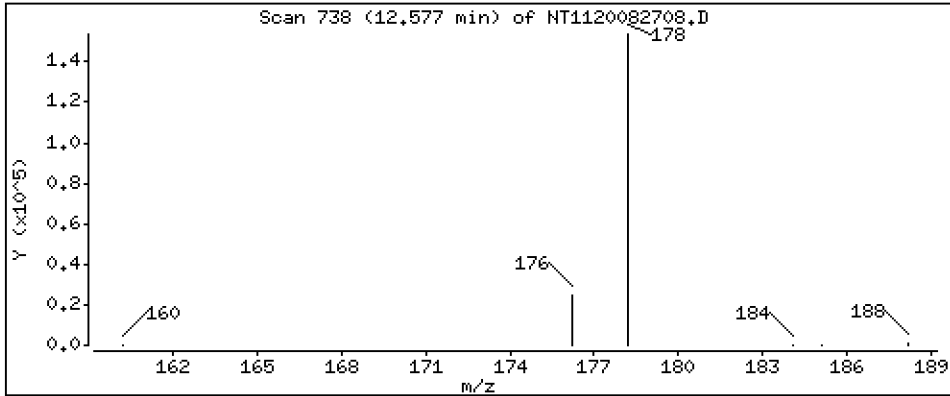
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 223 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

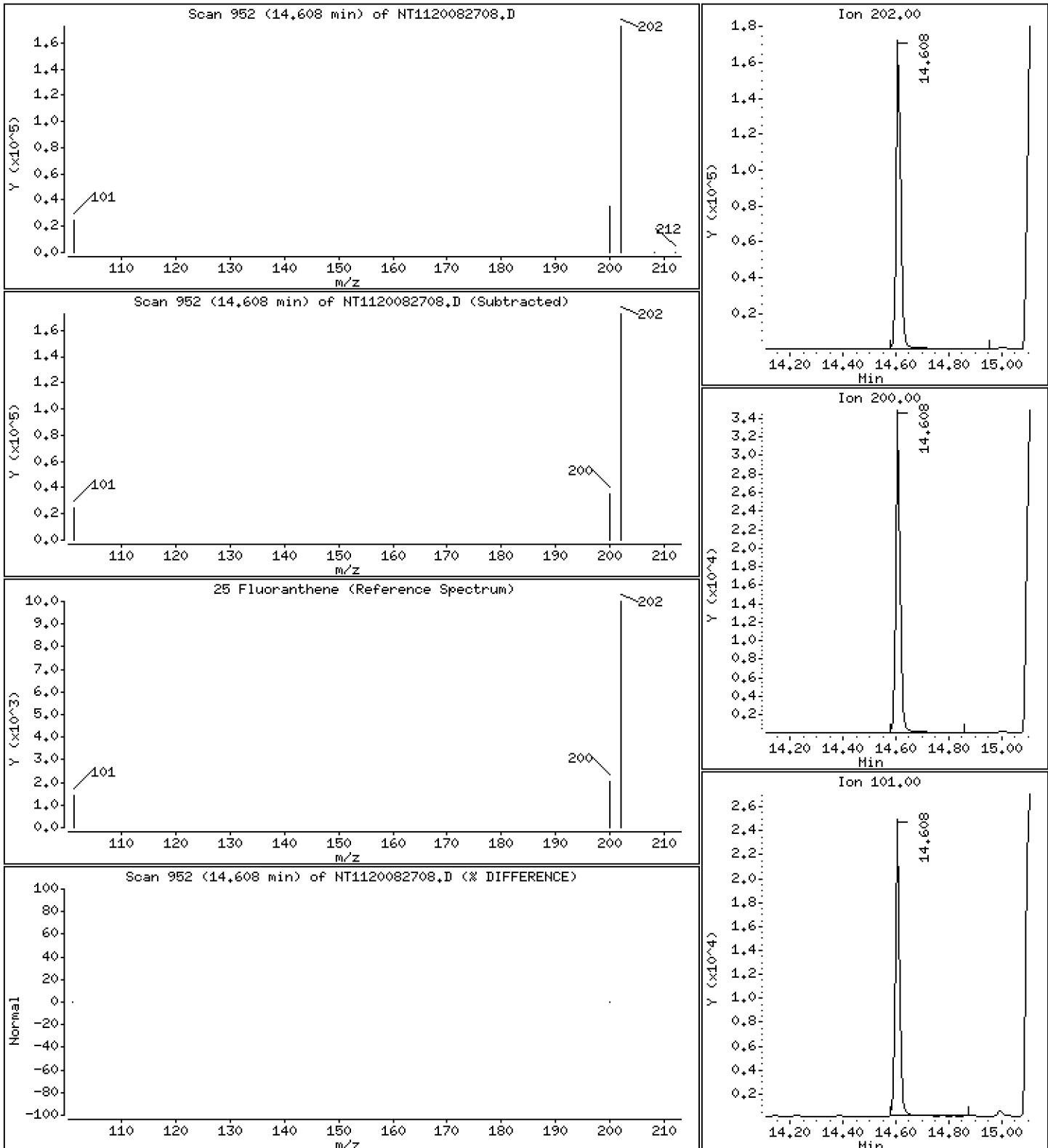
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 236 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

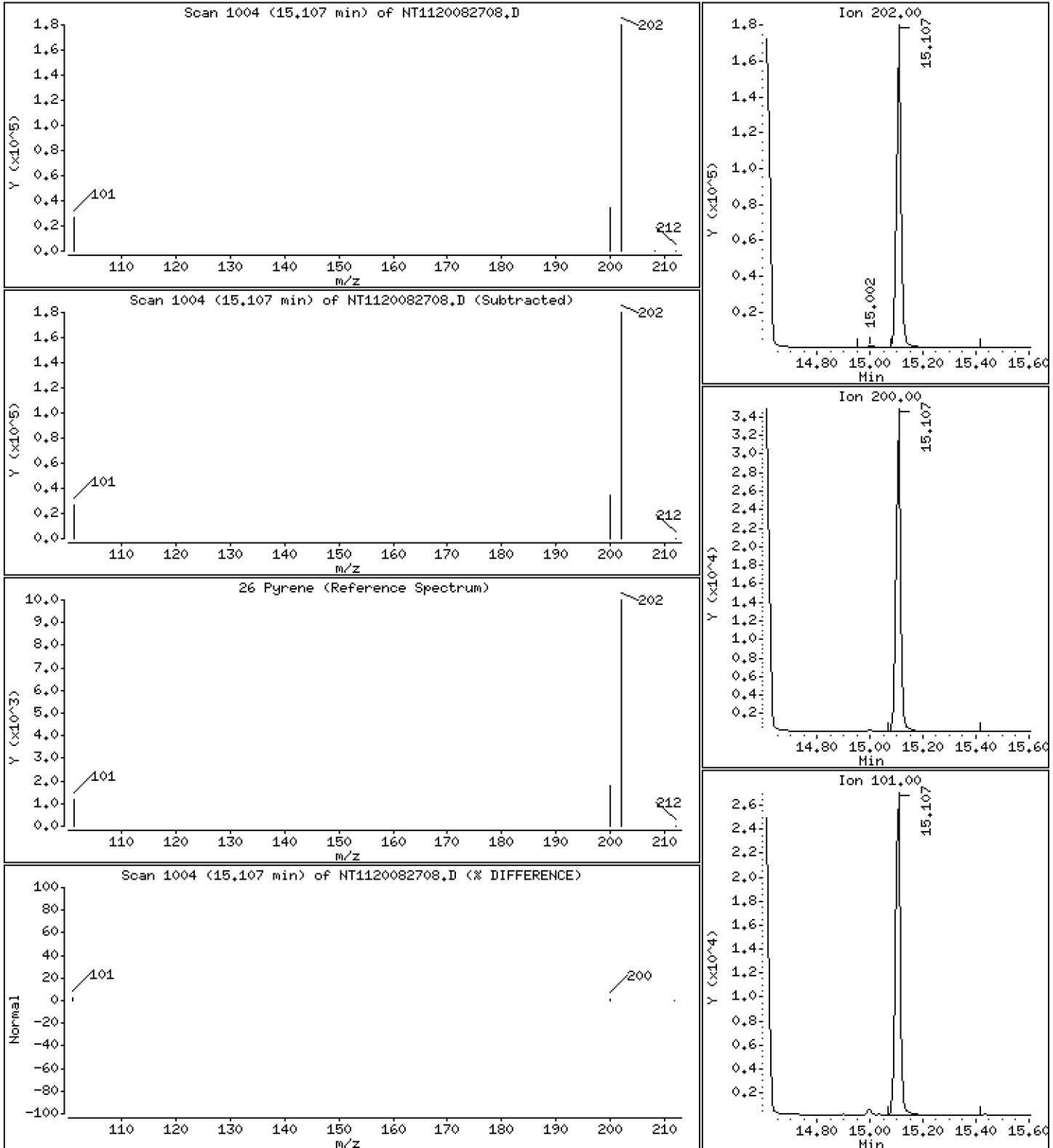
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 235 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

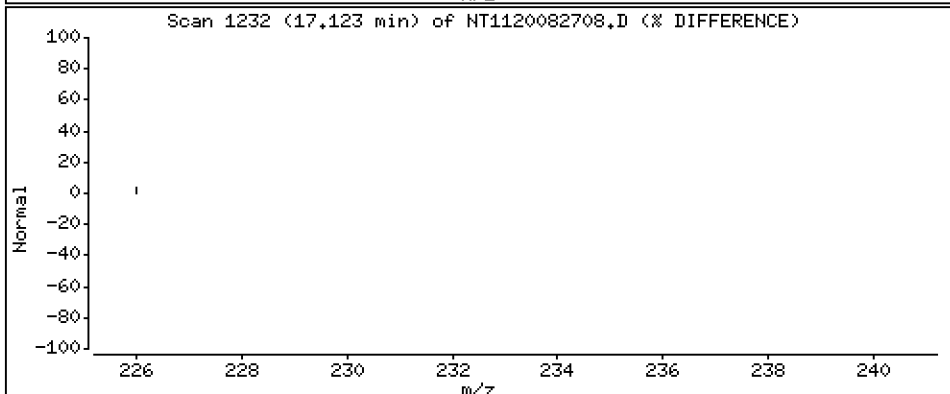
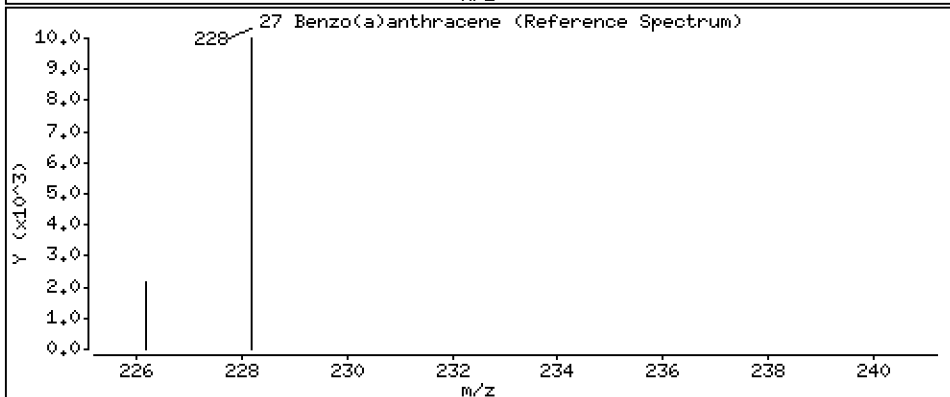
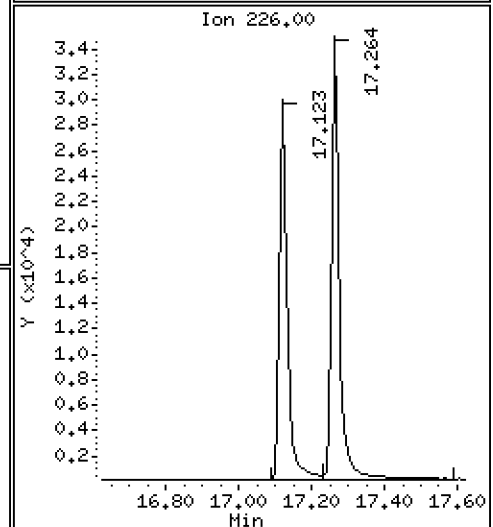
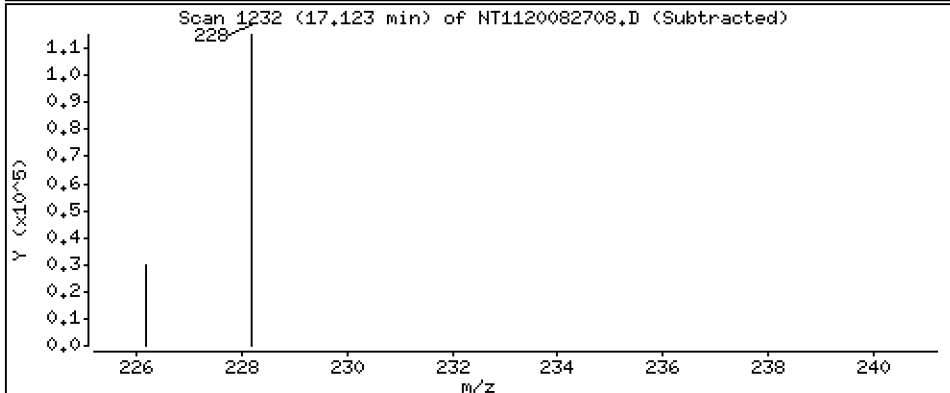
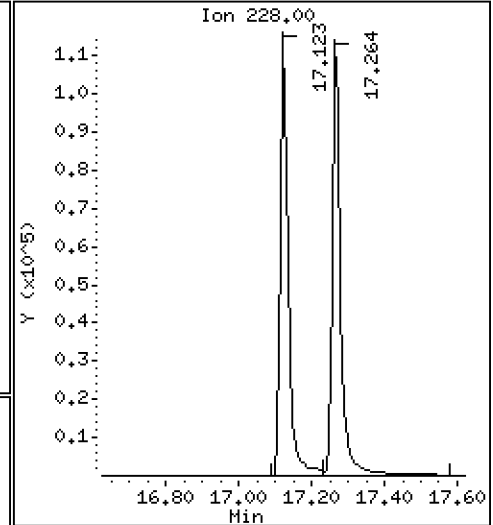
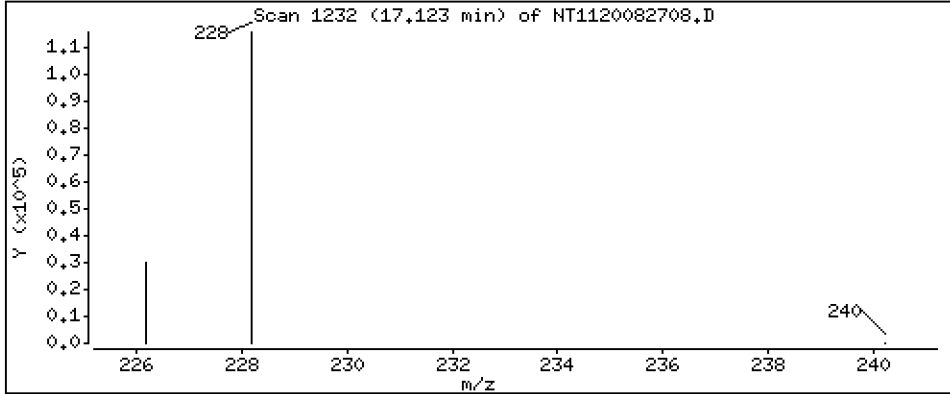
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 223 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

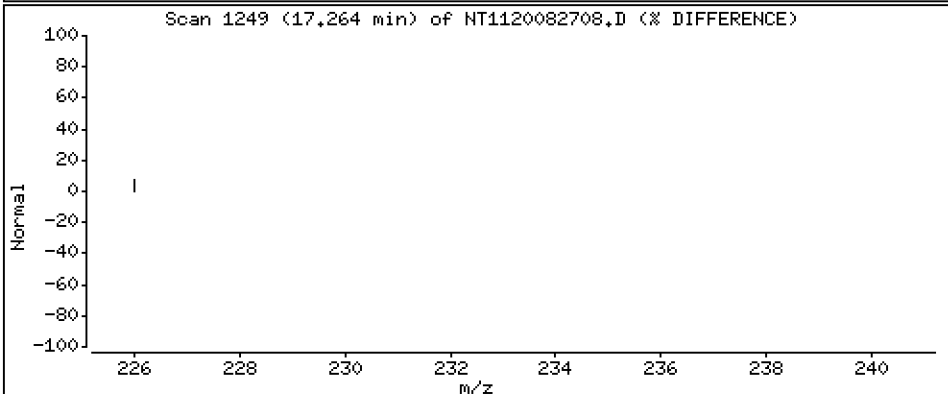
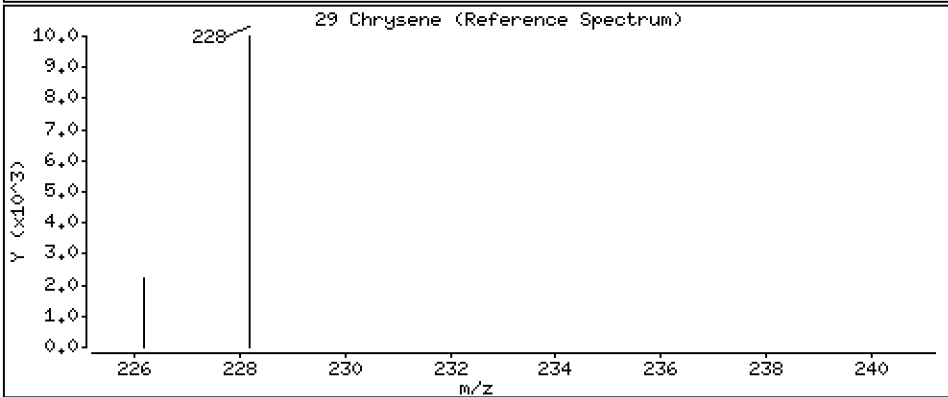
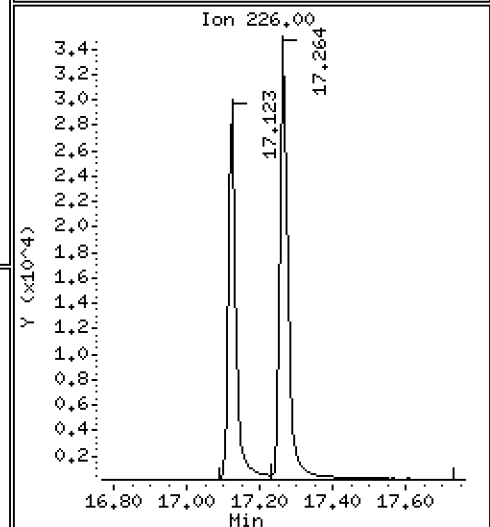
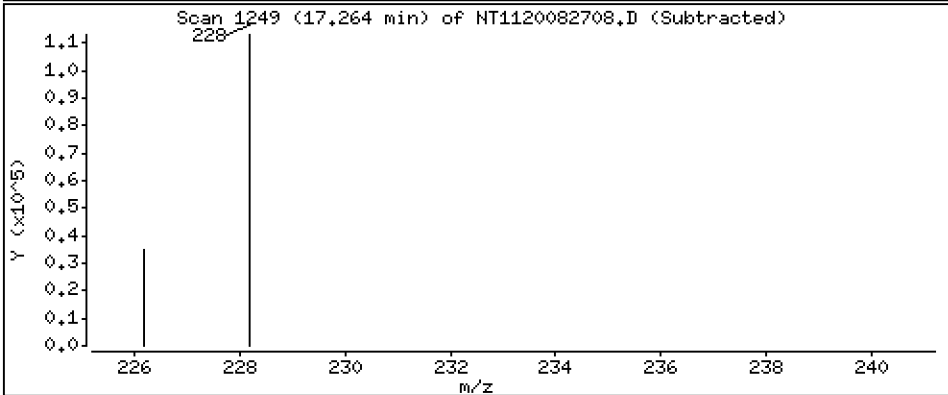
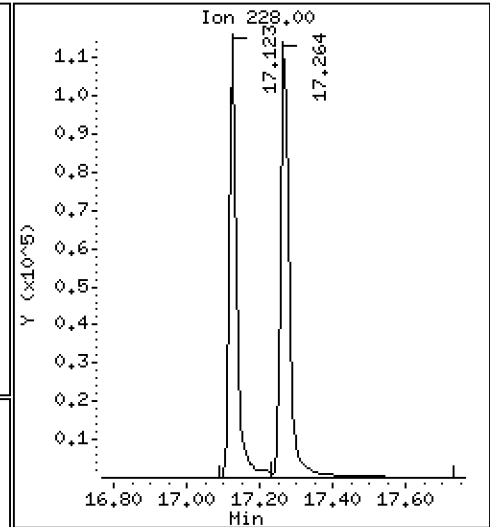
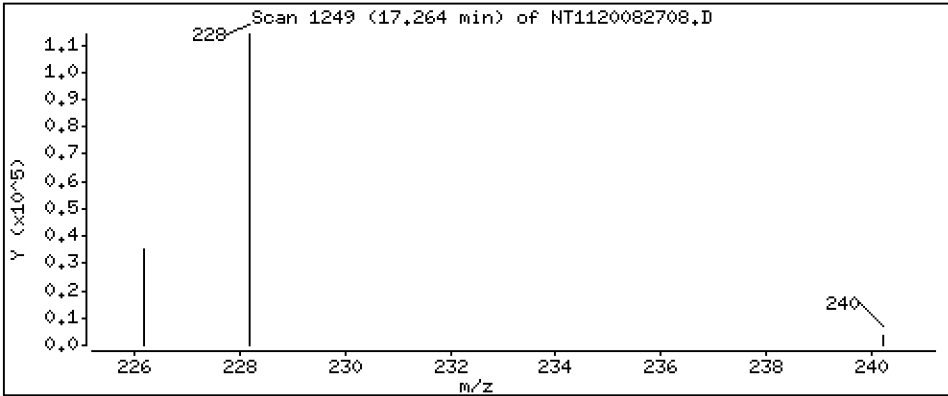
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 215 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

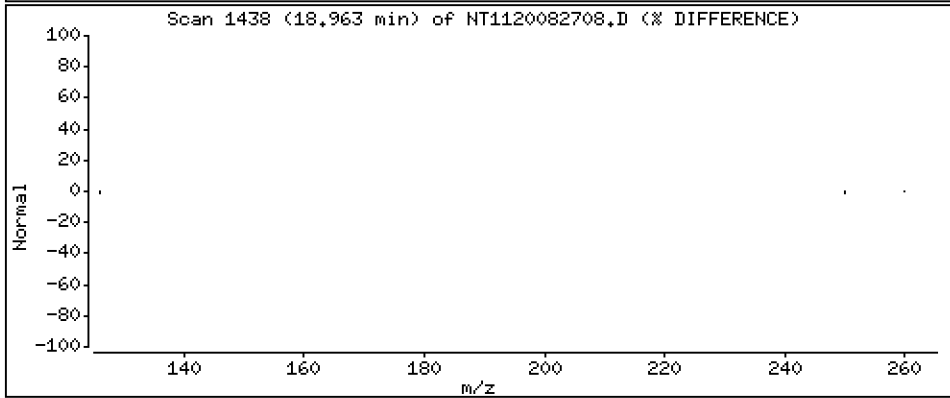
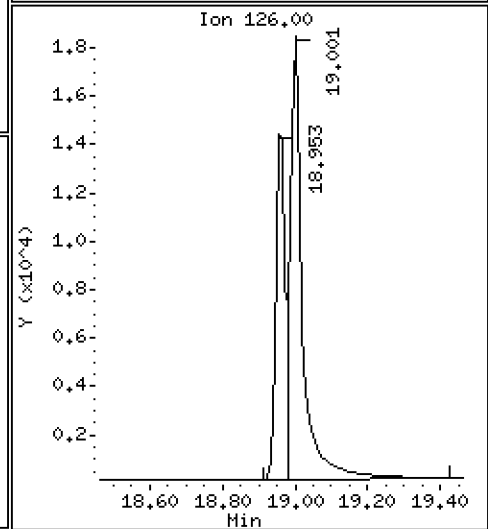
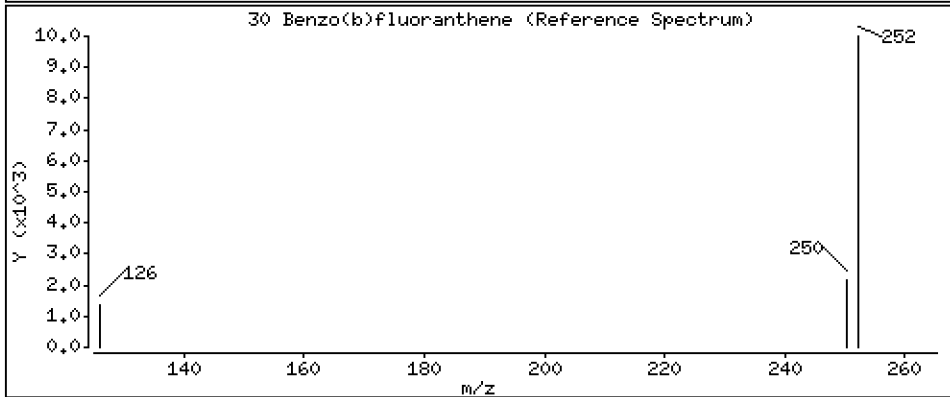
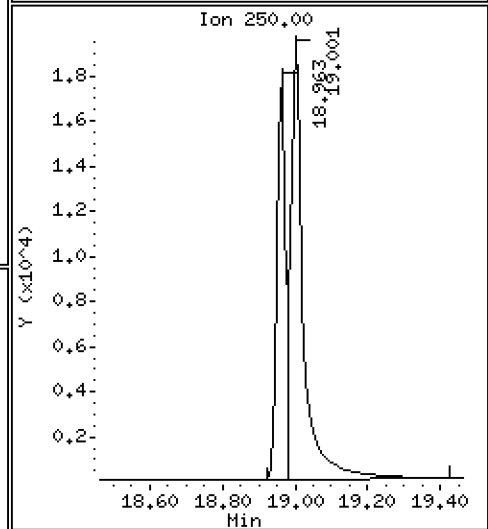
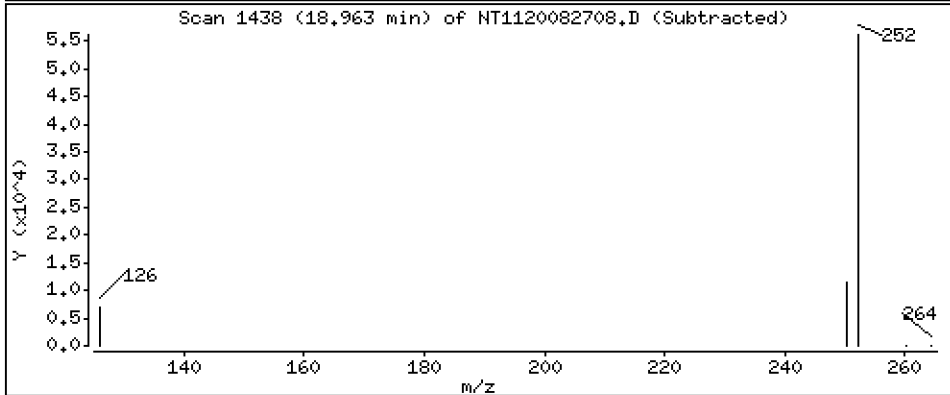
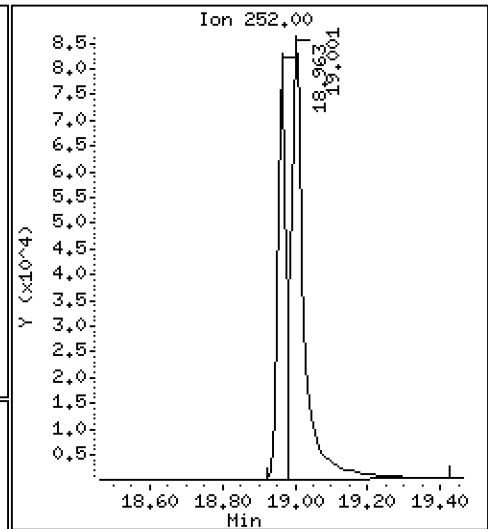
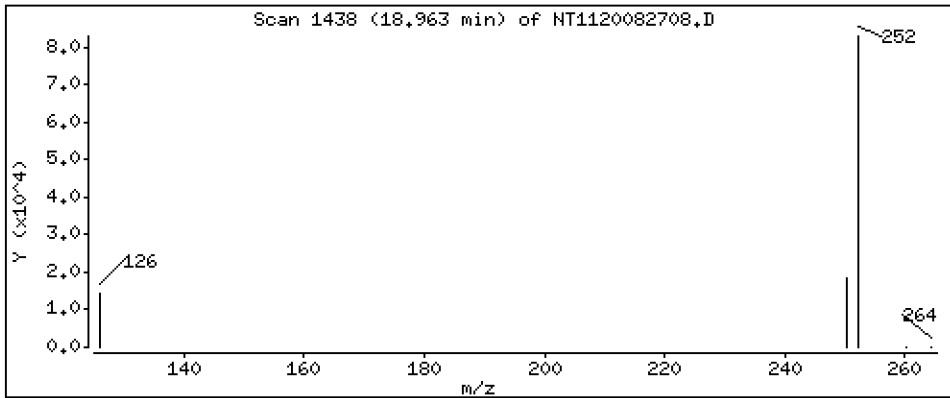
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 212 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

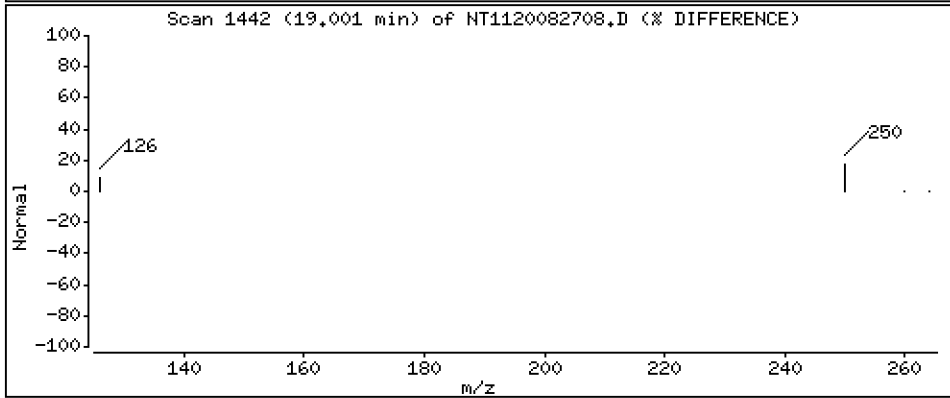
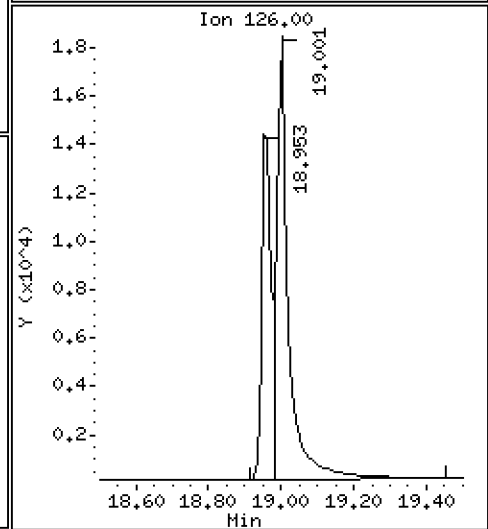
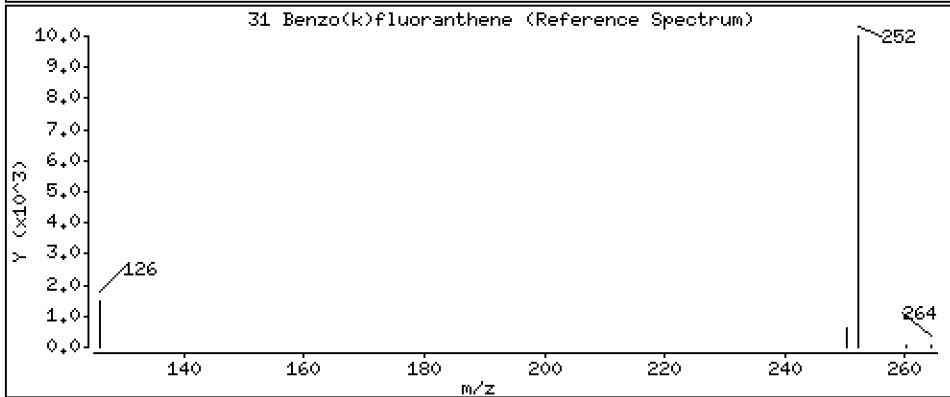
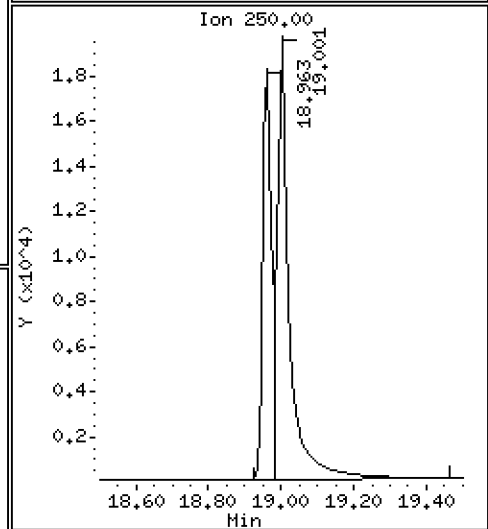
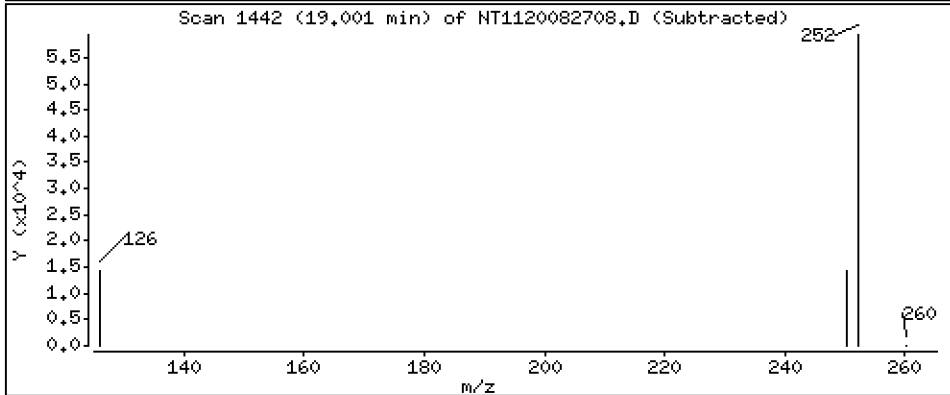
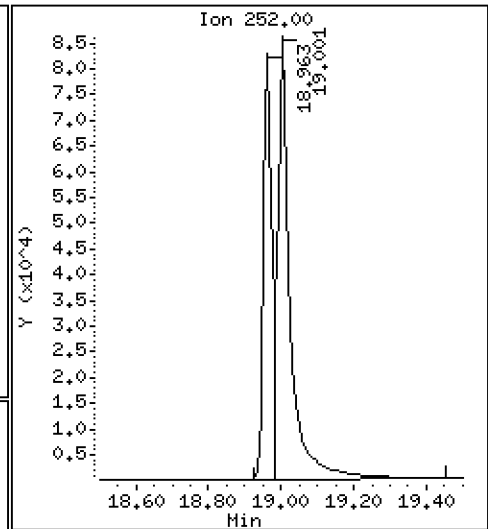
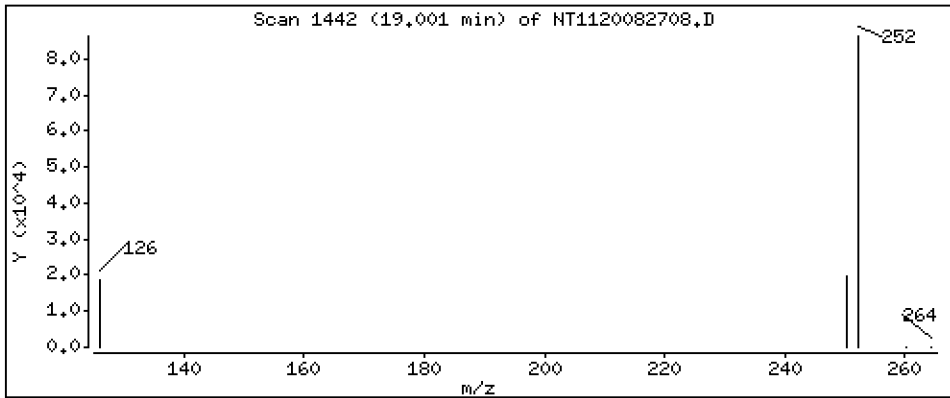
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 260 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

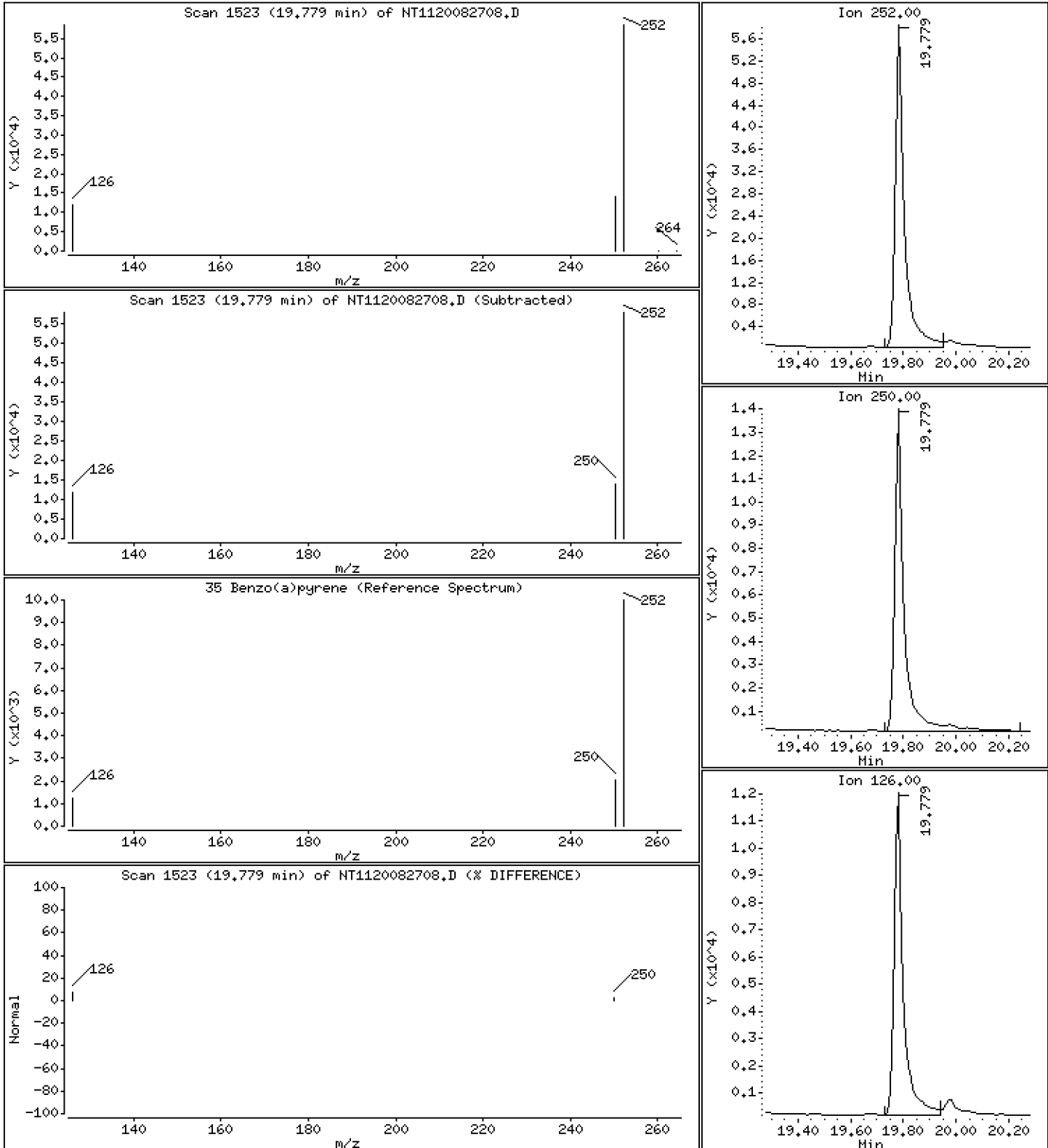
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 213 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

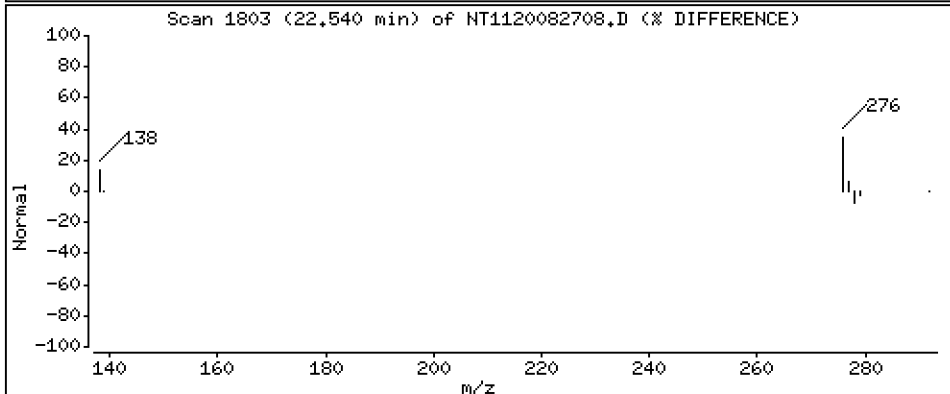
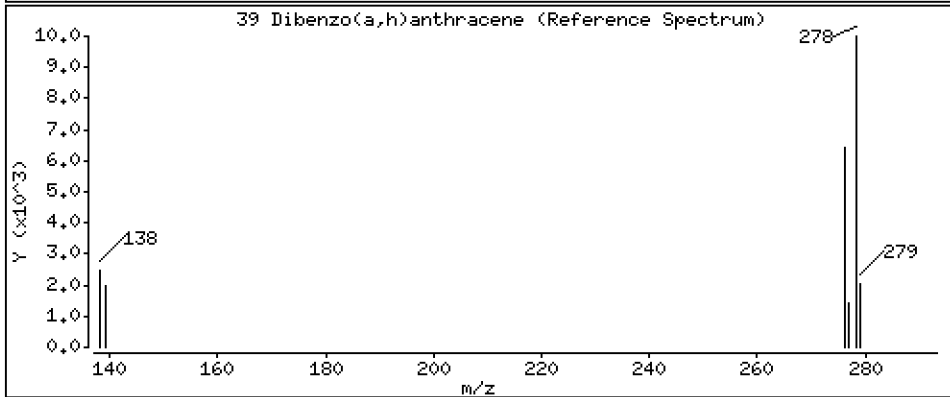
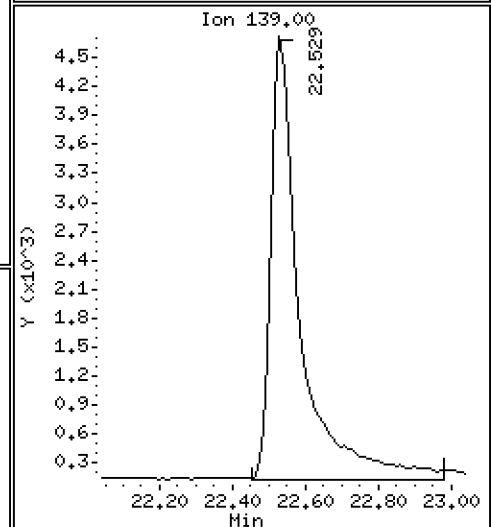
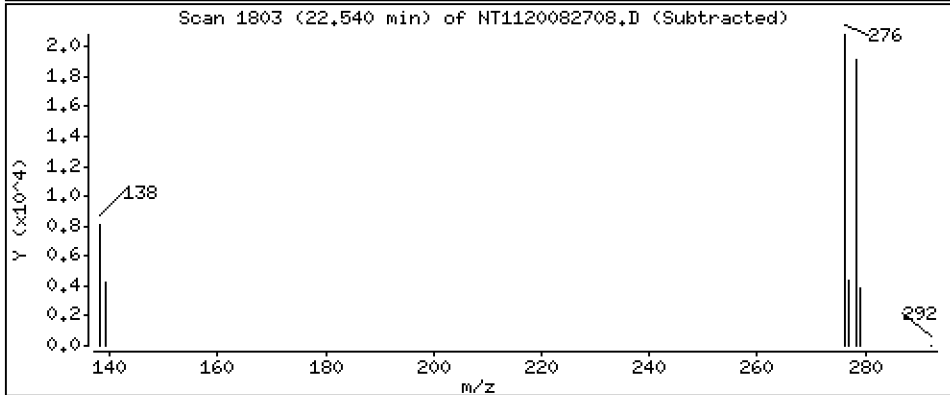
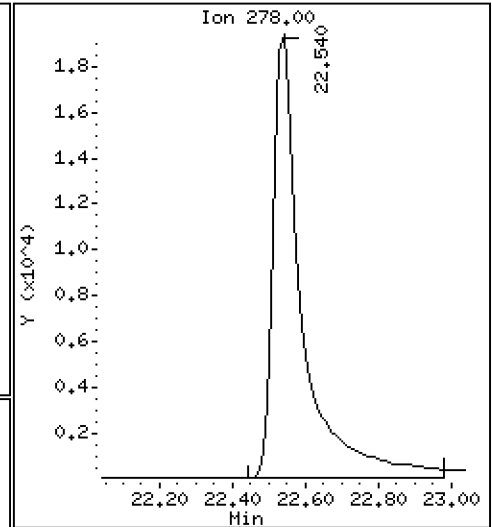
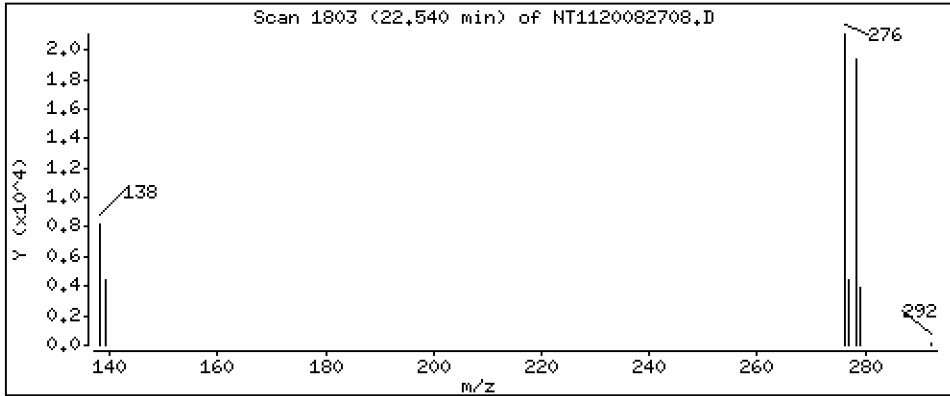
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

39 Dibenzo(a,h)anthracene

Concentration: 192 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

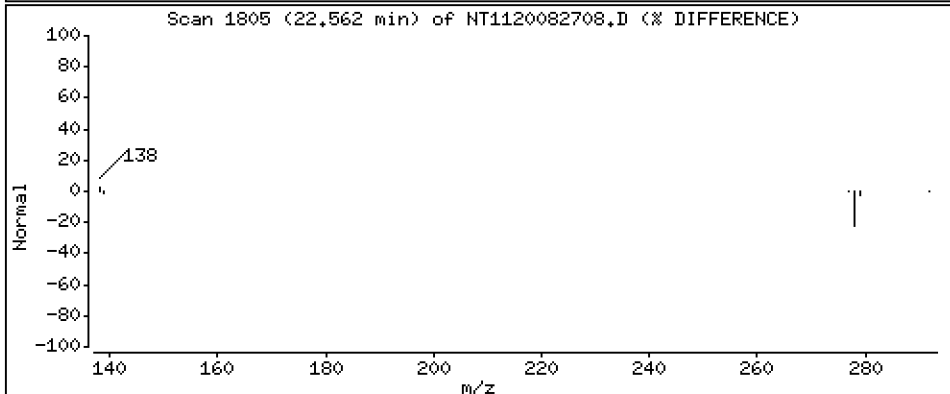
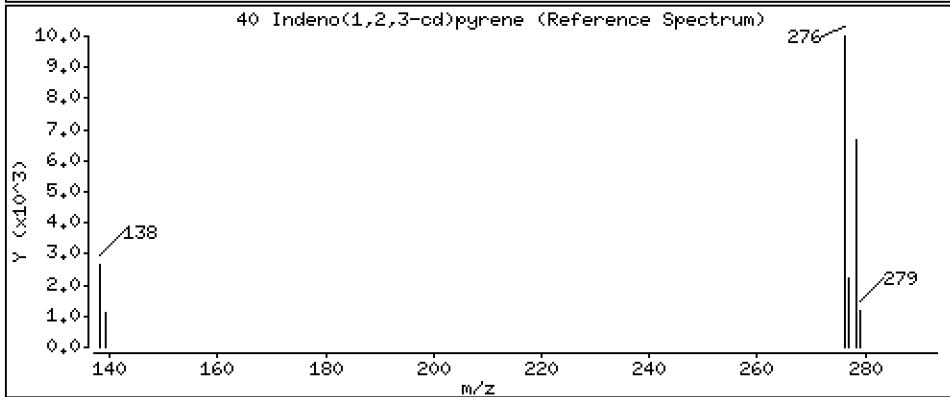
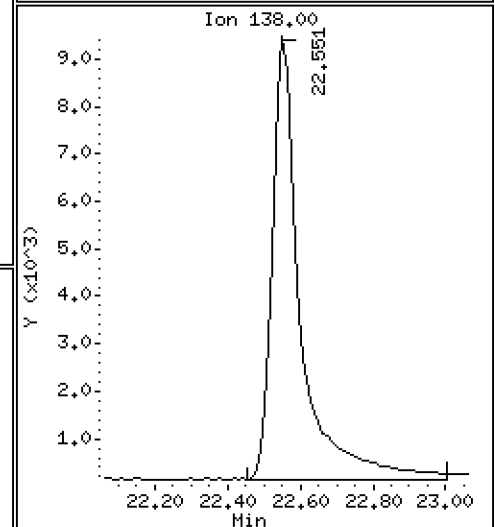
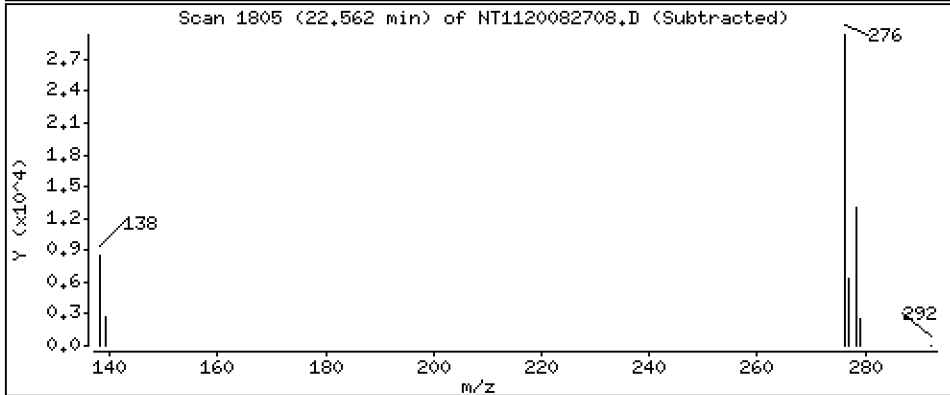
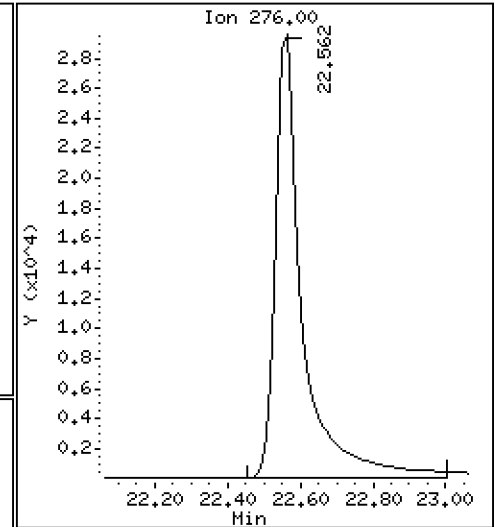
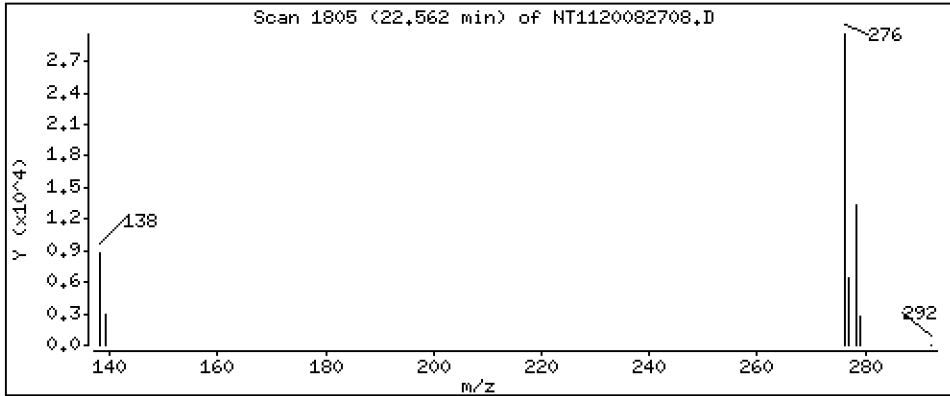
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

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

Concentration: 227 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

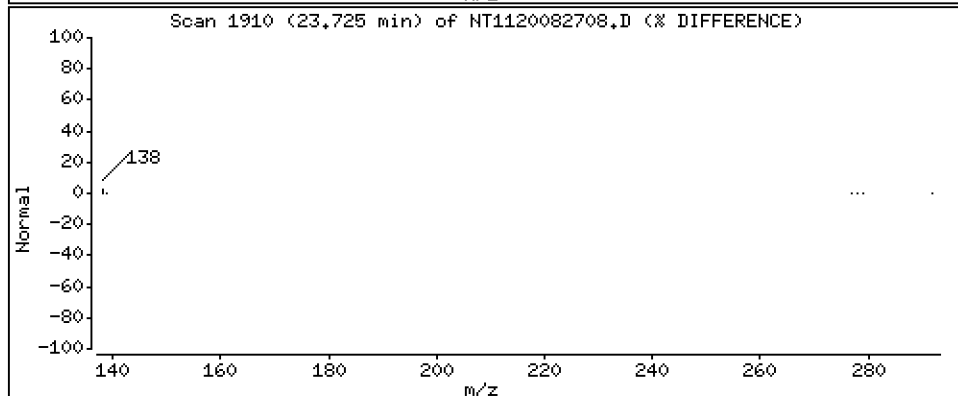
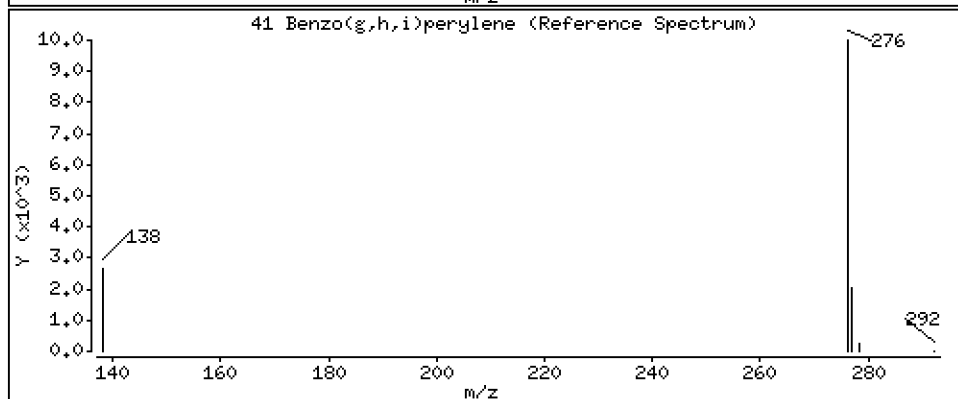
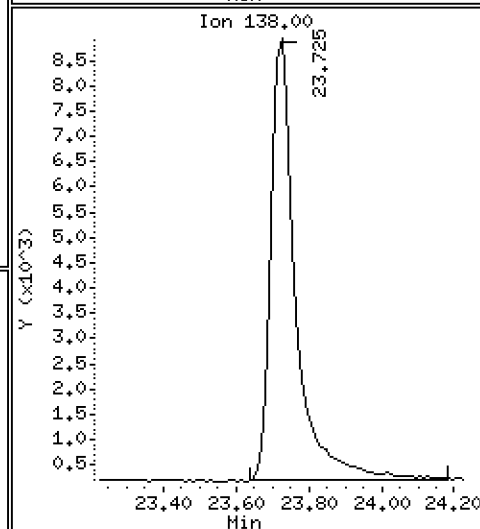
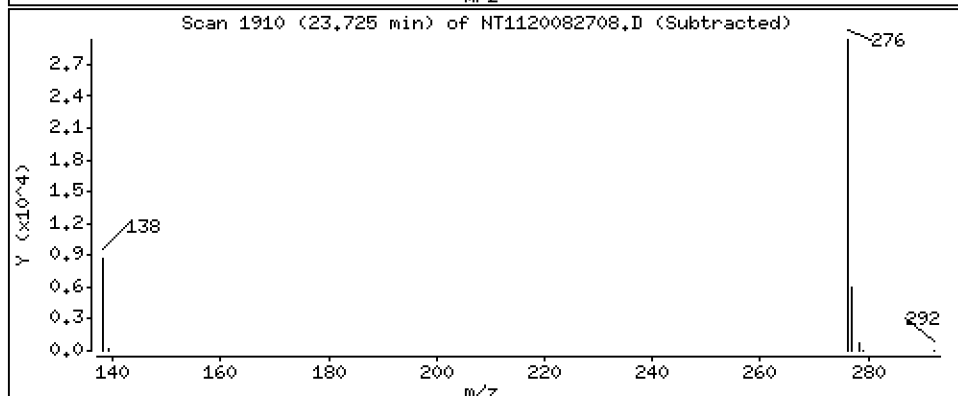
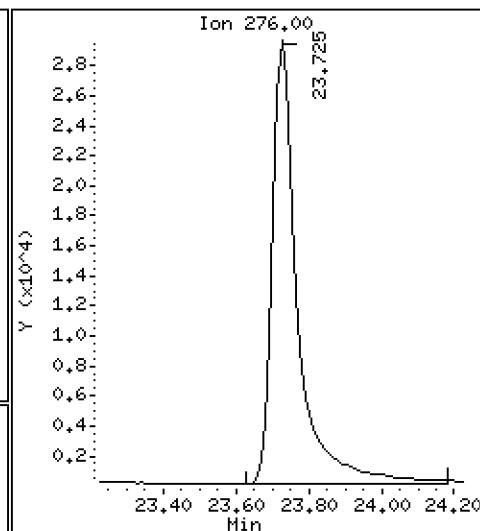
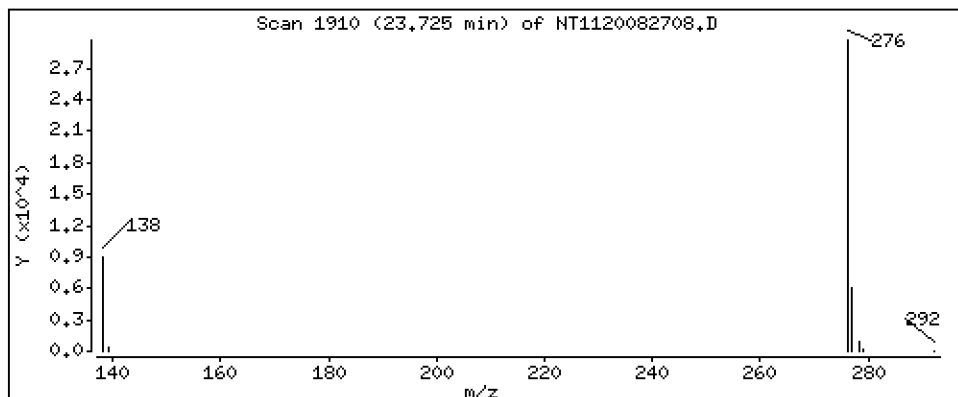
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 214 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20200827.b\NT1120082708.D
 Lab Smp Id: SIH0304-SCV1
 Inj Date : 27-AUG-2020 15:38 MS Autotune Date: 15-JAN-2015 16:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : SIH0304-SCV1
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20200827.b\lowsim.m
 Meth Date : 28-Aug-2020 07:11 van Quant Type: ISTD
 Cal Date : 27-AUG-2020 13:38 Cal File: NT1120082704.D
 Als bottle: 8
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PAH.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		6.804	6.804	(1.000)	202035	200.000	
2 Naphthalene	128		6.840	6.840	(1.005)	263329	224.480	224
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		Compound Not Detected.					
5 2-Methylnaphthalene	142		Compound Not Detected.					
6 1-Methylnaphthalene	142		Compound Not Detected.					
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		Compound Not Detected.					
9 2,6-Dimethylnaphthalene	156		Compound Not Detected.					
10 Acenaphthylene	152		9.653	9.653	(0.984)	241360	233.261	233
* 11 Acenaphthene-d10	164		9.807	9.807	(1.000)	90189	200.000	
12 Acenaphthene	153		9.870	9.870	(1.006)	151880	221.934	222
13 Dibenzofuran	168		Compound Not Detected.					
14 2,3,5-Trimethylnaphthalene	170		Compound Not Detected.					
16 Fluorene	166		10.694	10.694	(1.090)	164299	233.486	233
17 Dibenzothiophene	184		Compound Not Detected.					
* 18 Phenanthrene-d10	188		12.482	12.482	(1.000)	142829	200.000	
19 Phenanthrene	178		12.513	12.524	(1.003)	217246	232.514	233
21 Anthracene	178		12.576	12.576	(1.008)	207807	222.597	223
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		Compound Not Detected.					
\$ 24 Fluoranthene-d10	212		Compound Not Detected.					
25 Fluoranthene	202		14.607	14.607	(1.170)	220035	236.211	236
26 Pyrene	202		15.107	15.107	(1.210)	224689	235.115	235
27 Benzo(a)anthracene	228		17.123	17.122	(0.994)	170476	223.013	223
* 28 Chrysene-d12	240		17.222	17.214	(1.000)	104063	200.000	
29 Chrysene	228		17.264	17.264	(1.002)	185336	215.323	215
30 Benzo(b)fluoranthene	252		18.962	18.962	(0.949)	137886	212.389	212
31 Benzo(k)fluoranthene	252		19.001	19.001	(0.951)	222044	260.291	260
32 Benzo(j)fluoranthene	252		Compound Not Detected.					
34 Benzo(e)pyrene	252		Compound Not Detected.					
35 Benzo(a)pyrene	252		19.779	19.779	(0.990)	144487	213.091	213
* 36 Perylene-d12	264		19.981	19.981	(1.000)	119273	200.000	
37 Perylene	252		Compound Not Detected.					

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/mL)
=====	=====	=====	=====	=====	=====	=====	
\$ 38 Dibenzo(a,h)anthracene-d14	292	Compound Not Detected.					
39 Dibenzo(a,h)anthracene	278	22.540	22.540	(1.128)	107076	191.902	192
40 Indeno(1,2,3-cd)pyrene	276	22.562	22.562	(1.129)	149356	226.827	227
41 Benzo(g,h,i)perylene	276	23.725	23.725	(1.187)	141191	214.457	214

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 27-AUG-2020
 Lab File ID: NT1120082708.D Calibration Time: 12:35
 Lab Smp Id: SIH0304-SCV1
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20200827.b\lowsim.m
 Misc Info:

Test Mode:
 Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	215332	107666	430664	202035	-6.18
11 Acenaphthene-d10	102217	51109	204434	90189	-11.77
18 Phenanthrene-d10	170387	85194	340774	142829	-16.17
28 Chrysene-d12	116138	58069	232276	104063	-10.40
36 Perylene-d12	139038	69519	278076	119273	-14.22

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	6.81	6.31	7.31	6.80	-0.13
11 Acenaphthene-d10	9.81	9.31	10.31	9.81	-0.00
18 Phenanthrene-d10	12.48	11.98	12.98	12.48	-0.00
28 Chrysene-d12	17.21	16.71	17.71	17.22	0.05
36 Perylene-d12	19.98	19.48	20.48	19.98	-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 - NT1120082708.D

Lab ID: SIH0304-SCV1

nt11.i, 20200827.b\lowsim.m, 27-AUG-2020 15:38

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

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

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

RRT check based on Ccal File: NT1120082704.D

On Column LOD for nt11.i, 20200827.b\lowsim.m, PAH.sub = 0.0000

Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000

Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000

Exception: Fluoranthene-d10 (Surr) 0.1000

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

Data File: \\target\share\chem3\nt11.1\20200827.6\NT1120082709.D

Date: 27-AUG-2020 16:09

Client ID:

Sample Info: SIH0304-ICB1

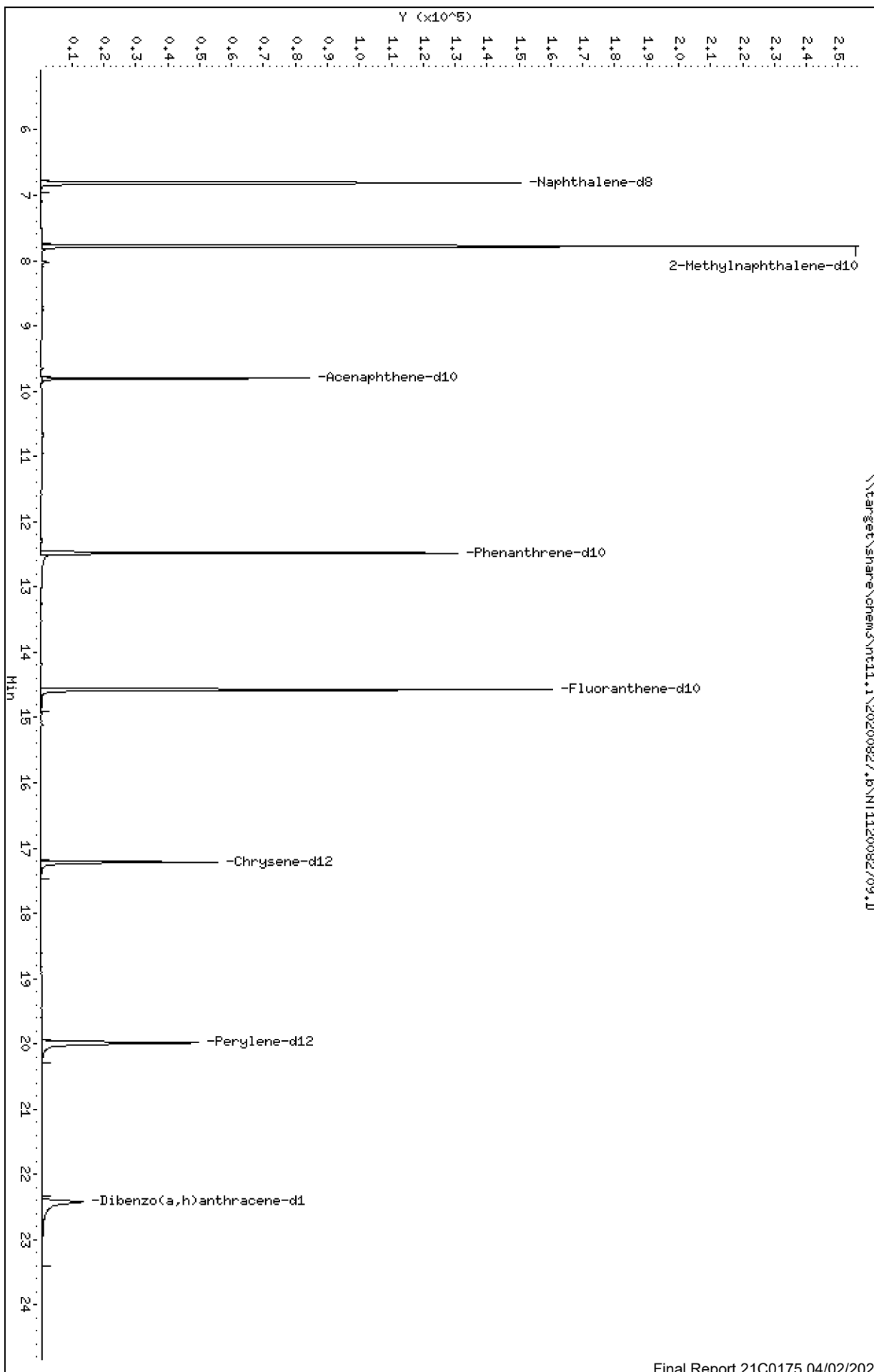
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

\\target\share\chem3\nt11.1\20200827.6\NT1120082709.D



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20200827.b\NT1120082709.D
 Lab Smp Id: SIH0304-ICB1
 Inj Date : 27-AUG-2020 16:09 MS Autotune Date: 15-JAN-2015 16:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : SIH0304-ICB1
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20200827.b\lowsim.m
 Meth Date : 28-Aug-2020 07:11 van Quant Type: ISTD
 Cal Date : 27-AUG-2020 13:38 Cal File: NT1120082704.D
 Als bottle: 9
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PAH.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		6.804	6.804	(1.000)	216694	200.000	
2 Naphthalene	128		Compound Not Detected.					
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		7.780	7.780	(1.144)	189652	217.663	218
5 2-Methylnaphthalene	142		Compound Not Detected.					
6 1-Methylnaphthalene	142		Compound Not Detected.					
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		Compound Not Detected.					
9 2,6-Dimethylnaphthalene	156		Compound Not Detected.					
10 Acenaphthylene	152		Compound Not Detected.					
* 11 Acenaphthene-d10	164		9.807	9.807	(1.000)	94656	200.000	
12 Acenaphthene	153		Compound Not Detected.					
13 Dibenzofuran	168		Compound Not Detected.					
14 2,3,5-Trimethylnaphthalene	170		Compound Not Detected.					
16 Fluorene	166		Compound Not Detected.					
17 Dibenzothiophene	184		Compound Not Detected.					
* 18 Phenanthrene-d10	188		12.482	12.482	(1.000)	145070	200.000	
19 Phenanthrene	178		Compound Not Detected.					
21 Anthracene	178		Compound Not Detected.					
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		Compound Not Detected.					
\$ 24 Fluoranthene-d10	212		14.578	14.578	(1.168)	176038	231.454	231
25 Fluoranthene	202		Compound Not Detected.					
26 Pyrene	202		Compound Not Detected.					
27 Benzo(a)anthracene	228		Compound Not Detected.					
* 28 Chrysene-d12	240		17.222	17.214	(1.000)	97049	200.000	
29 Chrysene	228		Compound Not Detected.					
30 Benzo(b)fluoranthene	252		Compound Not Detected.					
31 Benzo(k)fluoranthene	252		Compound Not Detected.					
32 Benzo(j)fluoranthene	252		Compound Not Detected.					
34 Benzo(e)pyrene	252		Compound Not Detected.					
35 Benzo(a)pyrene	252		Compound Not Detected.					
* 36 Perylene-d12	264		19.981	19.981	(1.000)	107633	200.000	
37 Perylene	252		Compound Not Detected.					

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN	FINAL
	MASS					(ng/mL)	(ng/mL)	
=====	=====		=====	=====	=====	=====	=====	
\$ 38 Dibenzo(a,h)anthracene-d14	292		22.418	22.418	(1.122)	74753	178.300	178
39 Dibenzo(a,h)anthracene	278					Compound Not Detected.		
40 Indeno(1,2,3-cd)pyrene	276					Compound Not Detected.		
41 Benzo(g,h,i)perylene	276					Compound Not Detected.		

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 27-AUG-2020
 Lab File ID: NT1120082709.D Calibration Time: 12:35
 Lab Smp Id: SIH0304-ICB1
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20200827.b\lowsim.m
 Misc Info:

Test Mode:
 Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	215332	107666	430664	216694	0.63
11 Acenaphthene-d10	102217	51109	204434	94656	-7.40
18 Phenanthrene-d10	170387	85194	340774	145070	-14.86
28 Chrysene-d12	116138	58069	232276	97049	-16.44
36 Perylene-d12	139038	69519	278076	107633	-22.59

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	6.81	6.31	7.31	6.80	-0.13
11 Acenaphthene-d10	9.81	9.31	10.31	9.81	-0.00
18 Phenanthrene-d10	12.48	11.98	12.98	12.48	-0.00
28 Chrysene-d12	17.21	16.71	17.71	17.22	0.05
36 Perylene-d12	19.98	19.48	20.48	19.98	-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 - NT1120082709.D

Lab ID: SIH0304-ICB1
nt11.i, 20200827.b\lowsim.m, 27-AUG-2020 16:09

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

RRT check based on Ccal File: NT1120082704.D

On Column LOD for nt11.i, 20200827.b\lowsim.m, PAH.sub = 0.0000

Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000

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



INITIAL CALIBRATION DATA
EPA 8270E-SIM

Laboratory:	Analytical Resources, Inc.	SDG:	21C0175
Client:	Anchor QEA, LLC	Project:	GascoSiltronic: US Moorings
Calibration:	DL00046	Instrument:	NT8
Calibration Date:	12/15/2020	Column (1):	RXI-17Sil ms

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RRF		RRF		RRF		RRF		RRF		RRF
Tributyltin Ion	0.03865	35.6528	0.1546	32.63424	0.3865	32.60681	0.773	30.64216	1.546	31.34675	3.092	28.84797
Tripentyltin	0.07959	2.531462	0.31836	2.602295	0.7959	2.779933	1.5918	2.655228	3.1836	2.705189	6.3672	2.66171
Tripropyltin	0.037215	57.44064	0.14886	54.99099	0.37215	53.40565	0.7443	48.35846	1.4886	48.13101	2.9772	42.56831



ANALYSIS SEQUENCE

SIL0206

Instrument: NT8 Element Column ID: I008812
 Calibration ID: DL00046 Tune File: 200729.U
 EM Voltage: 1965

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SIL0206-TUN1	MS Tune	QC		1	1007631		
SIL0206-ICB1	Initial Cal Blank	QC		2		1011478	
SIL0206-CAL1	SIM TBT	QC		3	1006650	1011478	
SIL0206-CAL2	SIM TBT	QC		4	1006651	1011478	
SIL0206-CAL3	SIM TBT	QC		5	1006652	1011478	
SIL0206-CAL4	SIM TBT	QC		6	1006653	1011478	
SIL0206-CAL5	SIM TBT	QC		7	1006654	1011478	
SIL0206-CAL6	SIM TBT	QC		8	1006655	1011478	
SIL0206-SCV1	SIM TBT	QC		9	1011506	1011478	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20201215.b

Time	Filename	LabID	ClientID	DF	
1 0935	NT820121501.D	SIL0206-TUN1		1	NO ISTDs FOUND
2 0954	NT820121502.D	SIL0206-ICB1		1	6.06 68323 8.64 77549
3 1010	NT820121503.D	SIL0206-CAL4		1	6.05 72645 8.63 65742
4 1027	NT820121504.D	SIL0206-CAL1		1	6.05 65633 8.63 62059
5 1043	NT820121505.D	SIL0206-CAL2		1	6.05 69375 8.63 66230
6 1100	NT820121506.D	SIL0206-CAL3		1	6.05 72629 8.63 67052
7 1116	NT820121507.D	SIL0206-CAL5		1	6.05 72419 8.63 64465
8 1133	NT820121508.D	SIL0206-CAL6		1	6.05 80315 8.63 67459
9 1149	NT820121509.D	SIL0206-SCV1		1	6.05 78512 8.63 69992

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20201215.b

ARI Job No.: SILO Method: TBT201215.m Instrument: nt8.i Date: 15-DEC-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0954	NT820121502.D	SIL0206-ICB1		1	NO MANUAL INTEGRATION
1010	NT820121503.D	SIL0206-CAL4		1	NO MANUAL INTEGRATION
1027	NT820121504.D	SIL0206-CAL1		1	NO MANUAL INTEGRATION
1043	NT820121505.D	SIL0206-CAL2		1	NO MANUAL INTEGRATION
1100	NT820121506.D	SIL0206-CAL3		1	NO MANUAL INTEGRATION
1116	NT820121507.D	SIL0206-CAL5		1	NO MANUAL INTEGRATION
1133	NT820121508.D	SIL0206-CAL6		1	NO MANUAL INTEGRATION
1149	NT820121509.D	SIL0206-SCV1		1	NO MANUAL INTEGRATION

Security Status Report

Date: 15-Dec-2020 18:36

NT820121501.D	Data Locked	jiangqing,	15-Dec-2020	18:36
NT820121502.D	Data Locked	jiangqing,	15-Dec-2020	18:36
NT820121503.D	Data Locked	jiangqing,	15-Dec-2020	18:36
NT820121504.D	Data Locked	jiangqing,	15-Dec-2020	18:36
NT820121505.D	Data Locked	jiangqing,	15-Dec-2020	18:36
NT820121506.D	Data Locked	jiangqing,	15-Dec-2020	18:36
NT820121507.D	Data Locked	jiangqing,	15-Dec-2020	18:36
NT820121508.D	Data Locked	jiangqing,	15-Dec-2020	18:36
NT820121509.D	Data Locked	jiangqing,	15-Dec-2020	18:36

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 15-DEC-2020 10:10
 End Cal Date : 15-DEC-2020 11:33
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : HP RTE
 Method file : \\target\share\chem3\nt8.i\20201215.b\TBT201215.m
 Last Edit : 15-Dec-2020 13:27 nt8.i
 Curve Type : Average

Calibration File Names:

Level 1: \\target\share\chem3\nt8.i\20201215.b\NT820121504.D
 Level 2: \\target\share\chem3\nt8.i\20201215.b\NT820121505.D
 Level 3: \\target\share\chem3\nt8.i\20201215.b\NT820121506.D
 Level 4: \\target\share\chem3\nt8.i\20201215.b\NT820121503.D
 Level 5: \\target\share\chem3\nt8.i\20201215.b\NT820121507.D
 Level 6: \\target\share\chem3\nt8.i\20201215.b\NT820121508.D

Compound	0.05000	0.20000	0.50000	1.000	2.000	4.000	RRF	% RSD
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6		
2 Tetrabutyl Tin	1.05374	0.98695	0.91539	0.83268	0.83859	0.77004	0.89957	11.830
3 Tributyl Tin (Hexyl)	0.71306	0.65268	0.65214	0.61284	0.62693	0.57696	0.63910	7.178
5 Dibutyl Tin (Hexyl)	0.04612	0.04634	0.04711	0.04195	0.04354	0.04386	0.04482	4.464
7 Butyl Tin (Hexyl)	0.05981	0.06258	0.06782	0.06114	0.06465	0.06428	0.06338	4.493
1 Tripropyl Tin (Hexyl)	1.14881	1.09982	1.06811	0.96717	0.96262	0.85137	1.01632	10.753
6 Tripentyl Tin (Hexyl)	0.05063	0.05205	0.05560	0.05310	0.05410	0.05323	0.05312	3.204

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt8.i\20201215.b\TBT201215.m
 Batch File: \\target\share\chem3\nt8.i\20201215.b
 Inst ID: nt8.i

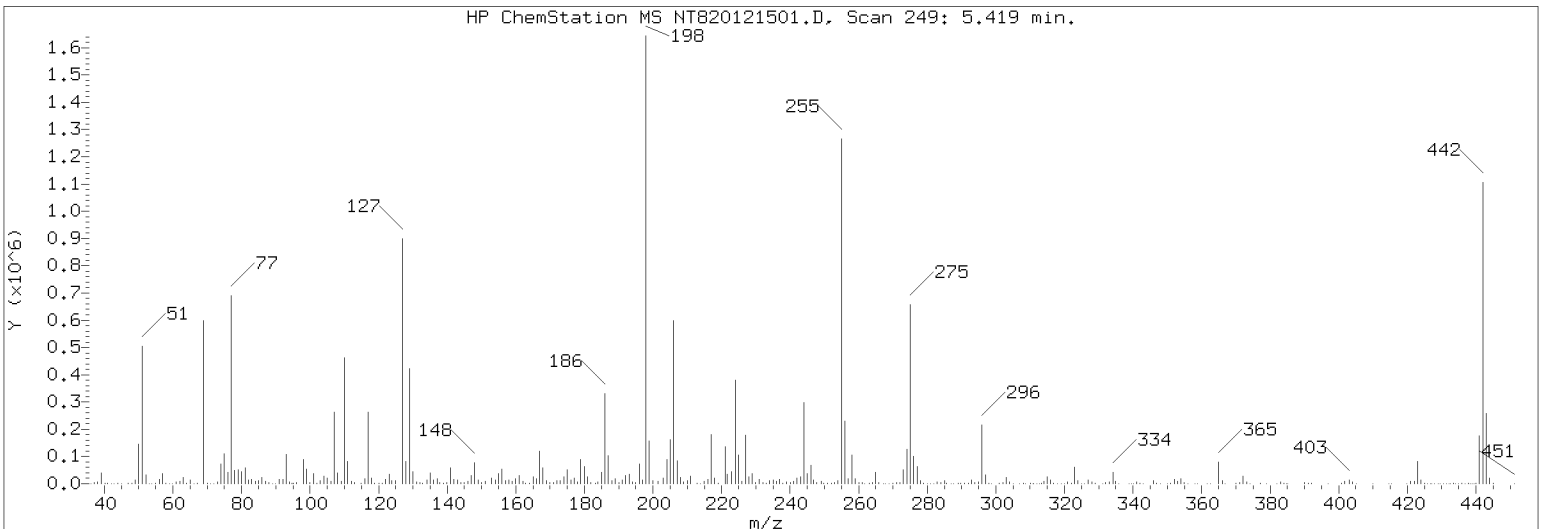
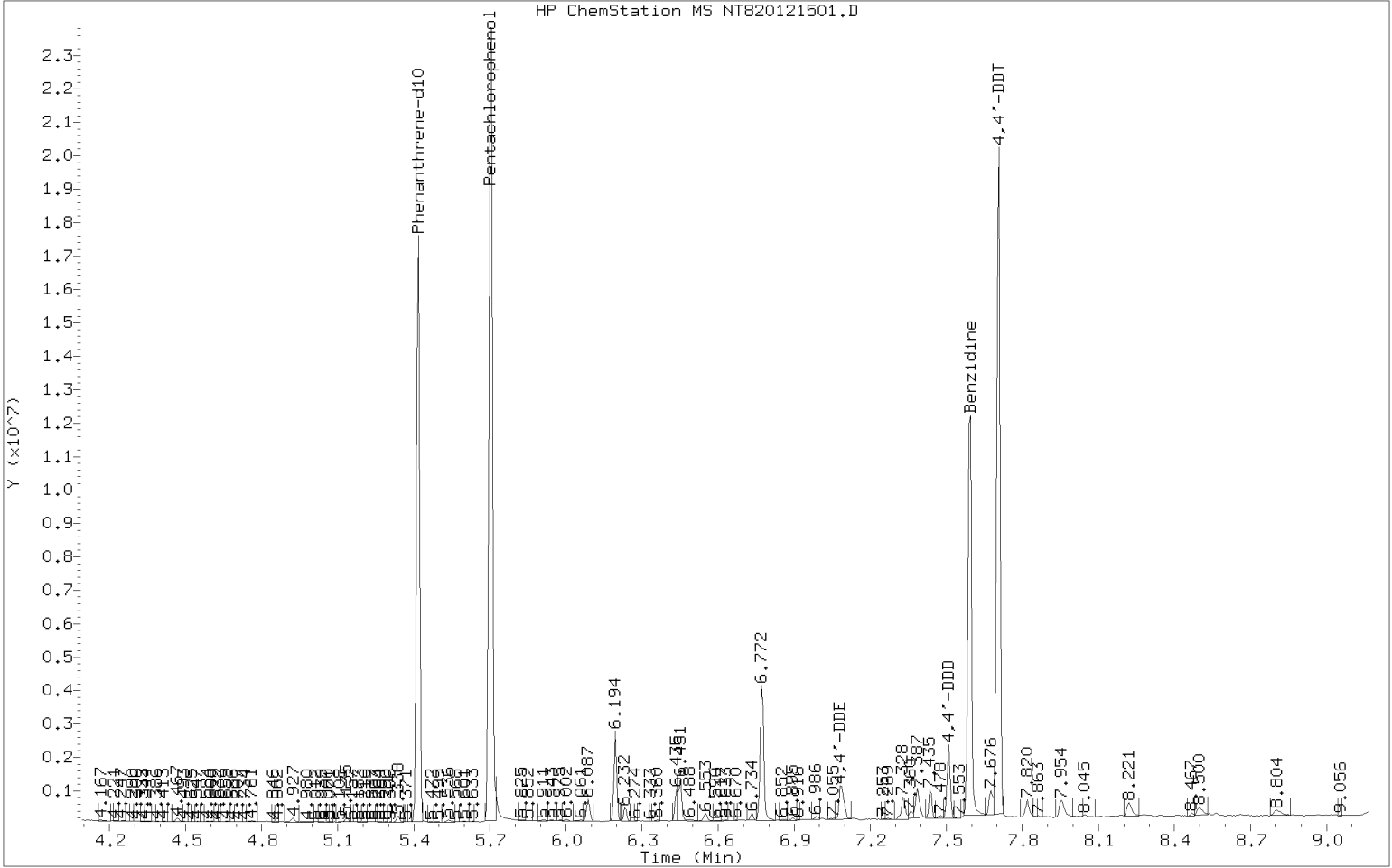
ID	RT01	RT02	RT03	RT04	RT05	RT06	RT06
FILENAME:	NT820121503	NT820121504	NT820121505	NT820121506	NT820121507	NT820121508	NT820121508
INJ. DATE:	15-DEC-2020	15-DEC-2020	15-DEC-2020	15-DEC-2020	15-DEC-2020	15-DEC-2020	15-DEC-2020
INJ. TIME:	10:10	10:27	10:43	11:00	11:16	11:33	11:33

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
1 Tripropyl Tin (Hexyl)	4.441	4.441	4.441	4.441	4.441	4.441	4.441	4.352-4.530	4.441	0.000
2 Tetrabutyl Tin	4.618	4.618	4.618	4.618	4.618	4.618	4.618	4.525-4.710	4.618	0.000
3 Tributyl Tin (Hexyl)	5.409	5.409	5.409	5.409	5.409	5.409	5.409	5.301-5.518	5.409	0.000
4 Tetrapentyl Tin	6.050	6.050	6.050	6.050	6.050	6.050	6.050	5.929-6.171	6.050	0.000
5 Dibutyl Tin (Hexyl)	6.122	6.122	6.110	6.110	6.122	6.122	6.122	6.000-6.245	6.118	0.006
6 Tripentyl Tin (Hexyl)	6.400	6.400	6.400	6.400	6.400	6.400	6.400	6.272-6.528	6.400	0.000
7 Butyl Tin (Hexyl)	6.751	6.751	6.751	6.751	6.751	6.763	6.751	6.616-6.886	6.753	0.005
8 p-Terphenyl-d14	8.627	8.627	8.627	8.627	8.627	8.626	8.627	8.454-8.799	8.627	0.000

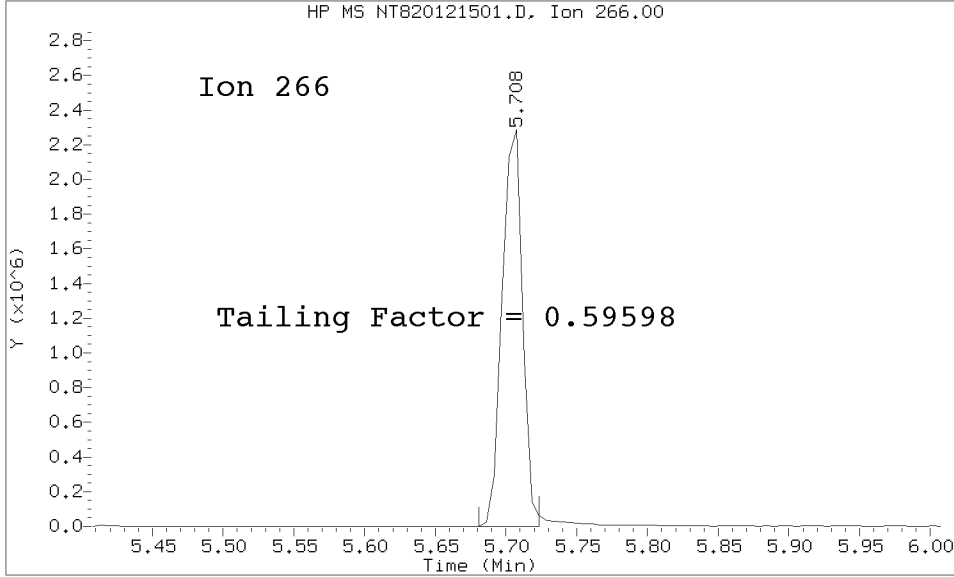
Reviewer 1 _____ Date: _____
 Reviewer 2 _____ Date: _____

DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20201215.b/tune.b/NT820121501.D/NT820121501.D
Method Used: \20201215.b\tune.b\DFTPP.m Inst: nt8
Injection Date: 15-DEC-2020 09:35 Operator: JZ
Sample Info: SIL0206-TUN1 DFTPP201215
Report Date: 12/15/2020 14:11



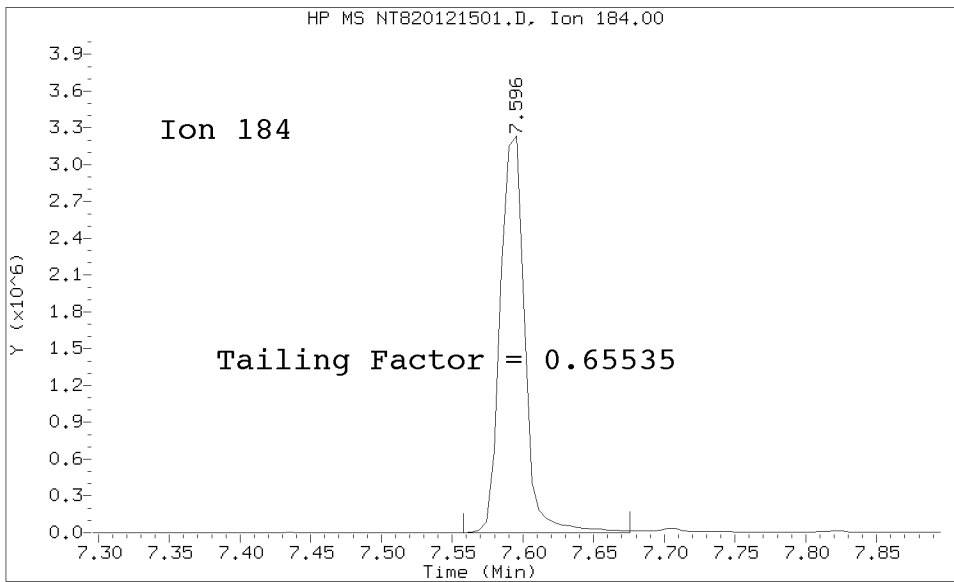
Datafile Analyzed: /20201215.b/tune.b/NT820121501.D/NT820121501.D
Method Used: \20201215.b\tune.b\DFTPP.m\sw846ddt.m Inst: nt8
Injection Date: 15-DEC-2020 09:35 Operator: JZ
Sample Info: DFTPP201215
Report Date: 12/15/2020 14:11



Pentachlorophenol

=====
Exp. RT = 5.708
Found RT = 5.708

Tail Factor = 0.596 Maximum Allowed = 2.0



Benzidine

=====
Exp. RT = 7.596
Found RT = 7.596

Tail Factor = 0.655 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	30.00
68	Less than 2.00% of mass 69	0.45 (1.28)
69	Mass 69 relative abundance	35.51
70	Less than 2.00% of mass 69	0.22 (0.63)
127	10.00 - 80.00% of mass 198	52.17
197	Less than 2.00% of mass 198	0.83
199	5.00 - 9.00% of mass 198	8.92
275	10.00 - 60.00% of mass 198	36.84
365	Greater than 1.00% of mass 198	4.65
441	0.01 - 24.00% of mass 442	9.82 (15.24)
442	50.00 - 200.00% of mass 198	64.40
443	15.00 - 24.00% of mass 442	14.42 (22.39)

Data File: NT820121501.D
 Spectrum: Avg. Scans 248-250 (5.42), Background Scan 242
 Location of Maximum: 198.00
 Number of points: 368

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	195	136.00	9848	230.00	3709	324.00	9330
37.00	2336	137.00	12850	231.00	11874	325.00	977
38.00	6072	138.00	3260	232.00	2909	326.00	897
39.00	31784	139.00	1556	233.00	2189	327.00	9346
40.00	1859	140.00	4293	234.00	8931	328.00	4820
41.00	771	141.00	43872	235.00	9843	329.00	927
42.00	299	142.00	11702	236.00	6273	331.00	66
43.00	193	143.00	9090	237.00	11712	332.00	3874
45.00	686	144.00	3288	238.00	1378	333.00	4426
49.00	2801	145.00	2411	239.00	4491	334.00	30568
50.00	111704	146.00	7226	240.00	3586	335.00	6878
51.00	387584	147.00	20672	241.00	7145	336.00	865
52.00	23184	148.00	53928	242.00	15152	339.00	1219
53.00	461	149.00	10364	243.00	15745	340.00	542
54.00	372	150.00	3411	244.00	214912	341.00	5105
55.00	1845	151.00	6079	245.00	27976	342.00	1498
56.00	11368	152.00	1271	246.00	49712	343.00	102
57.00	28896	153.00	14243	247.00	9496	346.00	9159
58.00	1349	154.00	9293	248.00	2433	347.00	1996
59.00	476	155.00	25216	249.00	7982	348.00	309
60.00	241	156.00	36984	250.00	1591	350.00	287
61.00	5712	157.00	7759	251.00	2223	351.00	1344
62.00	7129	158.00	9112	252.00	2413	352.00	12382
63.00	18824	159.00	6537	253.00	4775	353.00	7862
64.00	2116	160.00	14552	254.00	10247	354.00	12383
65.00	8695	161.00	20952	255.00	953472	355.00	2970
66.00	864	162.00	5978	256.00	163072	356.00	276
67.00	1523	163.00	2116	257.00	13397	358.00	399
68.00	5850	164.00	2305	258.00	77736	359.00	1291
69.00	458752	165.00	17712	259.00	12341	361.00	159
70.00	2894	166.00	12609	260.00	2970	362.00	125
71.00	515	167.00	89632	261.00	2950	363.00	255
72.00	225	168.00	42032	262.00	603	364.00	510
73.00	4590	169.00	7560	263.00	974	365.00	60056
74.00	57856	170.00	4188	264.00	2682	366.00	8709
75.00	84152	171.00	4183	265.00	30536	367.00	291
76.00	33464	172.00	8608	266.00	5238	370.00	1290
77.00	528768	173.00	10291	267.00	441	371.00	3154
78.00	39968	174.00	18392	268.00	568	372.00	19968
79.00	40736	175.00	37000	269.00	336	373.00	5008
80.00	32576	176.00	10925	270.00	2008	374.00	706
81.00	44128	177.00	16496	271.00	2381	377.00	1336
82.00	10129	178.00	5732	272.00	3579	379.00	180
83.00	11197	179.00	66056	273.00	35272	382.00	114
85.00	7797	180.00	45128	274.00	93032	383.00	5082
86.00	10755	181.00	19528	275.00	475904	384.00	1771
87.00	7399	182.00	3595	276.00	74184	385.00	671
88.00	2197	183.00	2048	277.00	48984	389.00	311
89.00	991	184.00	5302	278.00	9441	390.00	2285

90.00	425	185.00	30544	279.00	2382	391.00	1497
91.00	11528	186.00	237888	280.00	472	392.00	966
92.00	13764	187.00	75112	281.00	759	393.00	101
93.00	81816	188.00	8537	282.00	1058	397.00	383
94.00	5356	189.00	16384	283.00	4821	400.00	193
95.00	1179	190.00	2829	284.00	3345	401.00	1247
96.00	3712	191.00	9484	285.00	7704	402.00	6845
98.00	66592	192.00	20024	286.00	1716	403.00	10076
99.00	44088	193.00	24240	287.00	263	404.00	4200
100.00	3778	194.00	5381	288.00	933	405.00	474
101.00	25680	195.00	2371	289.00	2250	408.00	129
102.00	1178	196.00	47856	290.00	1780	410.00	180
103.00	8178	197.00	10687	291.00	1222	415.00	834
104.00	19192	198.00	1291776	292.00	2191	420.00	108
105.00	16052	199.00	115288	293.00	10882	421.00	7440
106.00	6447	200.00	9262	294.00	2135	422.00	7122
107.00	203712	201.00	6856	295.00	4216	423.00	55096
108.00	29032	203.00	15060	296.00	162560	424.00	12383
109.00	6591	204.00	69008	297.00	23688	425.00	1448
110.00	342656	205.00	118368	298.00	1747	426.00	441
111.00	58992	206.00	446912	299.00	360	427.00	537
112.00	7035	207.00	61864	301.00	2357	428.00	190
113.00	3132	208.00	18080	302.00	3170	429.00	822
114.00	787	209.00	5081	303.00	18704	430.00	374
115.00	1347	210.00	8396	304.00	4836	431.00	412
116.00	13534	211.00	19984	305.00	1042	432.00	850
117.00	199424	212.00	2793	306.00	104	433.00	807
118.00	15285	213.00	1670	307.00	447	434.00	559
119.00	1499	214.00	482	308.00	2464	435.00	947
120.00	2440	215.00	6597	309.00	438	436.00	1151
121.00	1172	216.00	11282	310.00	2170	437.00	734
122.00	13272	217.00	132992	311.00	836	438.00	1570
123.00	24288	218.00	16656	312.00	695	439.00	1059
124.00	9152	219.00	2208	313.00	1781	440.00	793
125.00	9532	220.00	18	314.00	7573	441.00	126800
127.00	673984	221.00	96096	315.00	16984	442.00	831936
128.00	60328	222.00	15539	316.00	8935	443.00	186304
129.00	320064	223.00	32392	317.00	1672	444.00	16832
130.00	30856	224.00	283456	318.00	192	445.00	1305
131.00	4898	225.00	75712	319.00	282	451.00	136
132.00	2757	226.00	7828	320.00	510		
133.00	1645	227.00	130784	321.00	5153		
134.00	10264	228.00	19216	322.00	1839		
135.00	27688	229.00	27048	323.00	44144		

Data File: \\target\share\chem3\nt8.1\20201215.b\NT820121502.D

Date: 15-DEC-2020 09:54

Client ID:

Sample Info: IRL201215

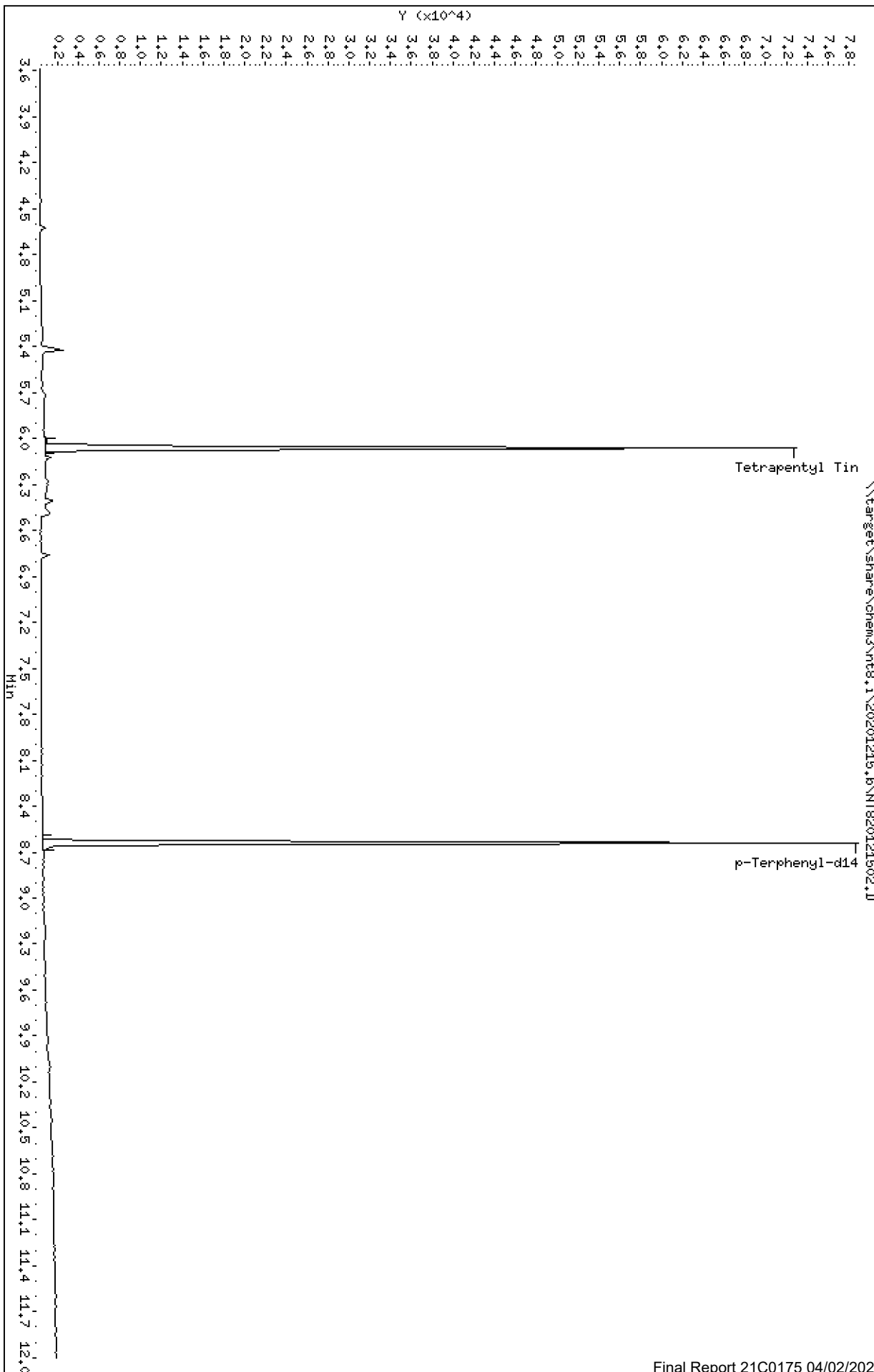
Column phase: ZB-5msi

Instrument: nt8.1

Operator: JZ

Column diameter: 0.25

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ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt8.i\20201215.b\NT820121502.D
 Lab Smp Id: SIL0206-ICB1
 Inj Date : 15-DEC-2020 09:54
 Operator : JZ Inst ID: nt8.i
 Smp Info : IBL201215
 Misc Info : 20-
 Comment : 2 ul Injection
 Method : \\target\share\chem3\nt8.i\20201215.b\TBT201215.m
 Meth Date : 15-Dec-2020 14:04 jianqing Quant Type: ISTD
 Cal Date : 15-DEC-2020 11:33 Cal File: NT820121508.D
 Als bottle: 2
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: sed.sub
 Target Version: 4.14
 Processing Host: ORGDATA22

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN	FINAL
	MASS						(ug/mL)	(ug/mL)
=====	=====		=====	=====	=====	=====	=====	=====
\$ 1 Tripropyl Tin (Hexyl)	291					Compound Not Detected.		
2 Tetrabutyl Tin	289					Compound Not Detected.		
3 Tributyl Tin (Hexyl)	319					Compound Not Detected.		
* 4 Tetrapentyl Tin	333		6.061	6.049	(1.000)	68323	2.00000	
5 Dibutyl Tin (Hexyl)	347					Compound Not Detected.		
\$ 6 Tripentyl Tin (Hexyl)	347					Compound Not Detected.		
7 Butyl Tin (Hexyl)	347					Compound Not Detected.		
* 8 p-Terphenyl-d14	244		8.638	8.626	(1.000)	77549	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt8.i Calibration Date: 15-DEC-2020
 Lab File ID: NT820121502.D Calibration Time: 10:10
 Lab Smp Id: SIL0206-ICB1
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: JZ
 Method File: \\target\share\chem3\nt8.i\20201215.b\TBT201215.m
 Misc Info: 20-

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	72645	36323	145290	68323	-5.95
8 p-Terphenyl-d14	65742	32871	131484	77549	17.96

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	6.05	5.55	6.55	6.06	0.20
8 p-Terphenyl-d14	8.63	8.13	9.13	8.64	0.14

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 - NT820121502.D

Lab ID: SIL0206-ICB1

nt8.i, 20201215.b\TBT201215.m, 15-DEC-2020 09:54

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

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

RRT CHECK

RRT CCV RRT DELTA COMPOUND

NONE

RRT check based on Ccal File: NT820121503.D

On Column LOD for nt8.i, 20201215.b\TBT201215.m, sed.sub = 0.0300

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

Data File: \\target\share\chem3\nt8.1\20201215.6\NT820121503.D

Date: 15-DEC-2020 10:10

Client ID:

Sample Info: IC1201215

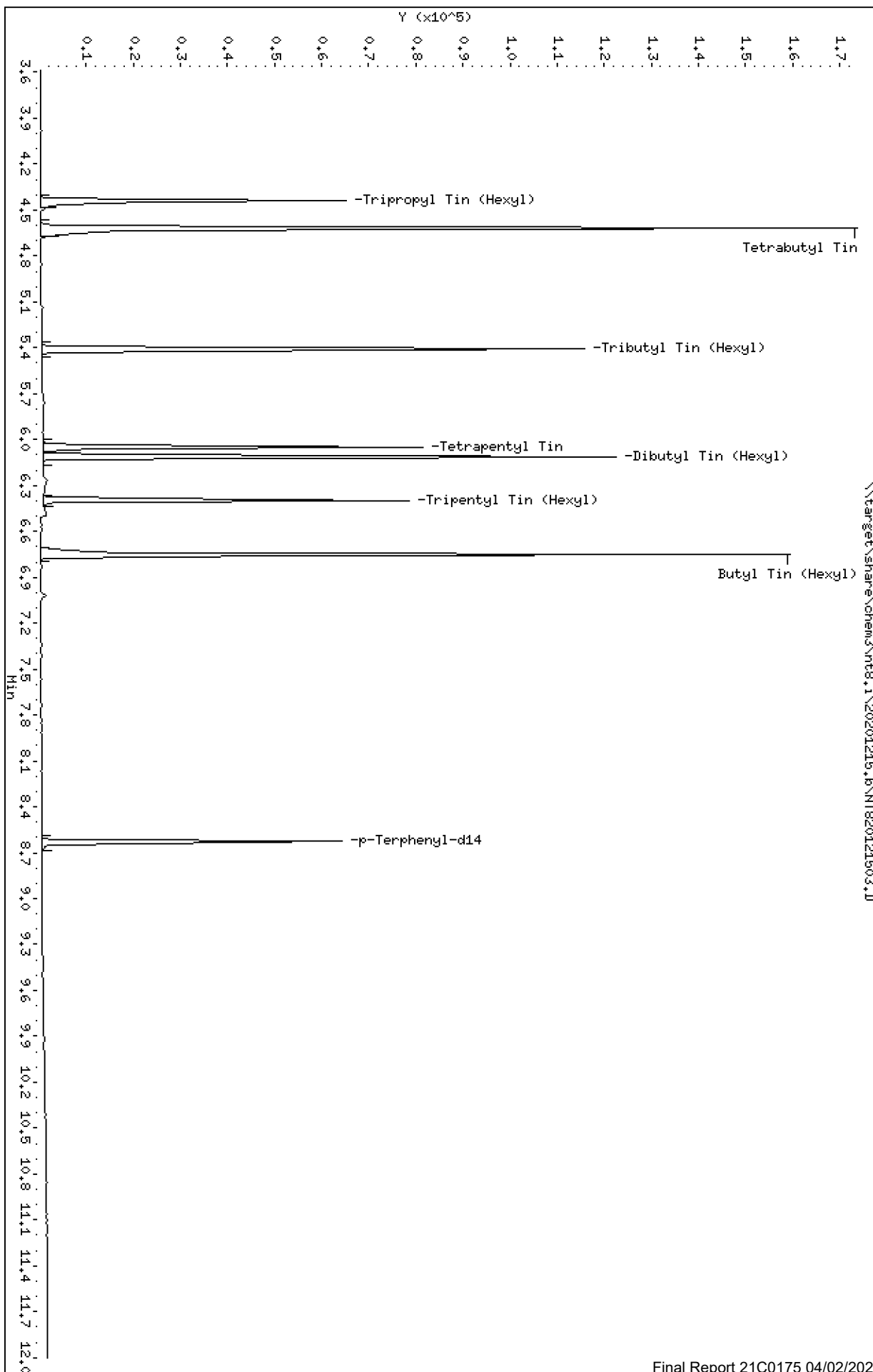
Column phase: ZB-5msi

Instrument: nt8.1

Operator: JZ

Column diameter: 0.25

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ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt8.i\20201215.b\NT820121503.D
 Lab Smp Id: SIL0206-CAL4
 Inj Date : 15-DEC-2020 10:10
 Operator : JZ Inst ID: nt8.i
 Smp Info : IC1201215
 Misc Info : 20-
 Comment : 2 ul Injection
 Method : \\target\share\chem3\nt8.i\20201215.b\TBT201215.m
 Meth Date : 15-Dec-2020 13:11 nt8.i Quant Type: ISTD
 Cal Date : 15-DEC-2020 11:33 Cal File: NT820121508.D
 Als bottle: 3 Calibration Sample, Level: 4
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: ICAL.sub
 Target Version: 4.14
 Processing Host: ORGDATA22

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
							CAL-AMT	ON-COL
	MASS						(ug/mL)	(ug/mL)
\$ 1 Tripropyl Tin (Hexyl)	291		4.440	4.440	(0.734)	35130	1.00000	0.9516
2 Tetrabutyl Tin	289		4.617	4.617	(0.763)	30245	1.00000	0.9256
3 Tributyl Tin (Hexyl)	319		5.409	5.409	(0.894)	22260	1.00000	0.9589
* 4 Tetrapentyl Tin	333		6.049	6.049	(1.000)	72645	2.00000	
5 Dibutyl Tin (Hexyl)	347		6.122	6.122	(0.710)	27577	2.00000	1.872
\$ 6 Tripentyl Tin (Hexyl)	347		6.400	6.400	(0.742)	34912	2.00000	1.999
7 Butyl Tin (Hexyl)	347		6.751	6.751	(0.783)	40194	2.00000	1.929
* 8 p-Terphenyl-d14	244		8.626	8.626	(1.000)	65742	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt8.i Calibration Date: 15-DEC-2020
 Lab File ID: NT820121503.D Calibration Time: 10:10
 Lab Smp Id: SIL0206-CAL4
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: JZ
 Method File: \\target\share\chem3\nt8.i\20201215.b\TBT201215.m
 Misc Info: 20-

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	72645	36323	145290	72645	0.00
8 p-Terphenyl-d14	65742	32871	131484	65742	0.00

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	6.05	5.55	6.55	6.05	0.00
8 p-Terphenyl-d14	8.63	8.13	9.13	8.63	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 - NT820121503.D

Lab ID: SIL0206-CAL4

nt8.i, 20201215.b\TBT201215.m, 15-DEC-2020 10:10

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

NONE

RRT check based on Ccal File: NT820121508.D

On Column LOD for nt8.i, 20201215.b\TBT201215.m, ICAL.sub = 0.0000

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

Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20201215.b

Instrument: nt8.i Date: 15-DEC-2020 Method: 20201215.b\TBT201215.m

INITIAL CAL: 15-DEC-2020

Compound	%RSD or R ²

NO Q-FLAGS	

ICV CAL: NT820121503.D 15-DEC-2020 10:10

Compound	%D

NO Q-FLAGS	

Data File: \\target\share\chem3\nt8,1\20201215,b\NT820121504.D

Date: 15-DEC-2020 10:27

Client ID:

Sample Info: IC0005201215,

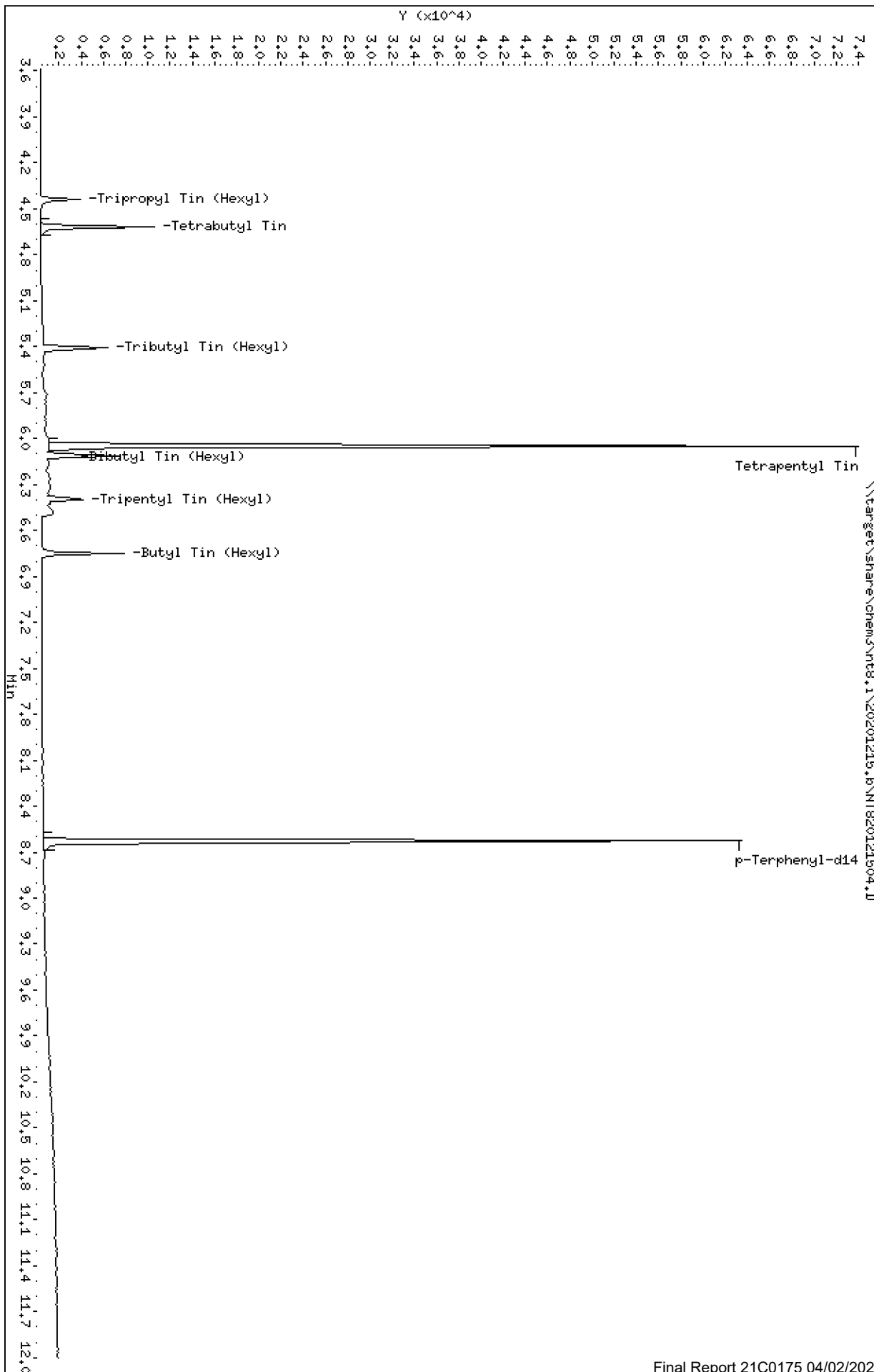
Column phase: ZB-5msi

Instrument: nt8,1

Operator: JZ

Column diameter: 0.25

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ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt8.i\20201215.b\NT820121504.D
 Lab Smp Id: SIL0206-CAL1
 Inj Date : 15-DEC-2020 10:27
 Operator : JZ Inst ID: nt8.i
 Smp Info : IC005201215,
 Misc Info : 20-
 Comment : 2 ul Injection
 Method : \\target\share\chem3\nt8.i\20201215.b\TBT201215.m
 Meth Date : 15-Dec-2020 13:11 nt8.i Quant Type: ISTD
 Cal Date : 15-DEC-2020 10:10 Cal File: NT820121503.D
 Als bottle: 4 Calibration Sample, Level: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: ICAL.sub
 Target Version: 4.14
 Processing Host: ORGDATA22

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
						CAL-AMT (ug/mL)	ON-COL (ug/mL)
\$ 1 Tripropyl Tin (Hexyl)	291	4.440	4.440	(0.734)	1885	0.05000	0.05652
2 Tetrabutyl Tin	289	4.617	4.617	(0.763)	1729	0.05000	0.05857
3 Tributyl Tin (Hexyl)	319	5.409	5.409	(0.894)	1170	0.05000	0.05579
* 4 Tetrapentyl Tin	333	6.049	6.049	(1.000)	65633	2.00000	
5 Dibutyl Tin (Hexyl)	347	6.122	6.122	(0.710)	1431	0.10000	0.1029
\$ 6 Tripentyl Tin (Hexyl)	347	6.400	6.400	(0.742)	1571	0.10000	0.09531
7 Butyl Tin (Hexyl)	347	6.751	6.751	(0.783)	1856	0.10000	0.09437
* 8 p-Terphenyl-d14	244	8.626	8.626	(1.000)	62059	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt8.i Calibration Date: 15-DEC-2020
 Lab File ID: NT820121504.D Calibration Time: 10:10
 Lab Smp Id: SIL0206-CAL1
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: JZ
 Method File: \\target\share\chem3\nt8.i\20201215.b\TBT201215.m
 Misc Info: 20-

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	72645	36323	145290	65633	-9.65
8 p-Terphenyl-d14	65742	32871	131484	62059	-5.60

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	6.05	5.55	6.55	6.05	-0.00
8 p-Terphenyl-d14	8.63	8.13	9.13	8.63	-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 - NT820121504.D

Lab ID: SIL0206-CAL1

nt8.i, 20201215.b\TBT201215.m, 15-DEC-2020 10:27

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

NONE

RRT check based on Ccal File: NT820121508.D

On Column LOD for nt8.i, 20201215.b\TBT201215.m, ICAL.sub = 0.0000

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

Data File: \\target\share\chem3\nt8,1\20201215,b\NT820121505.D

Date: 15-DEC-2020 10:43

Client ID:

Sample Info: IC02201215,

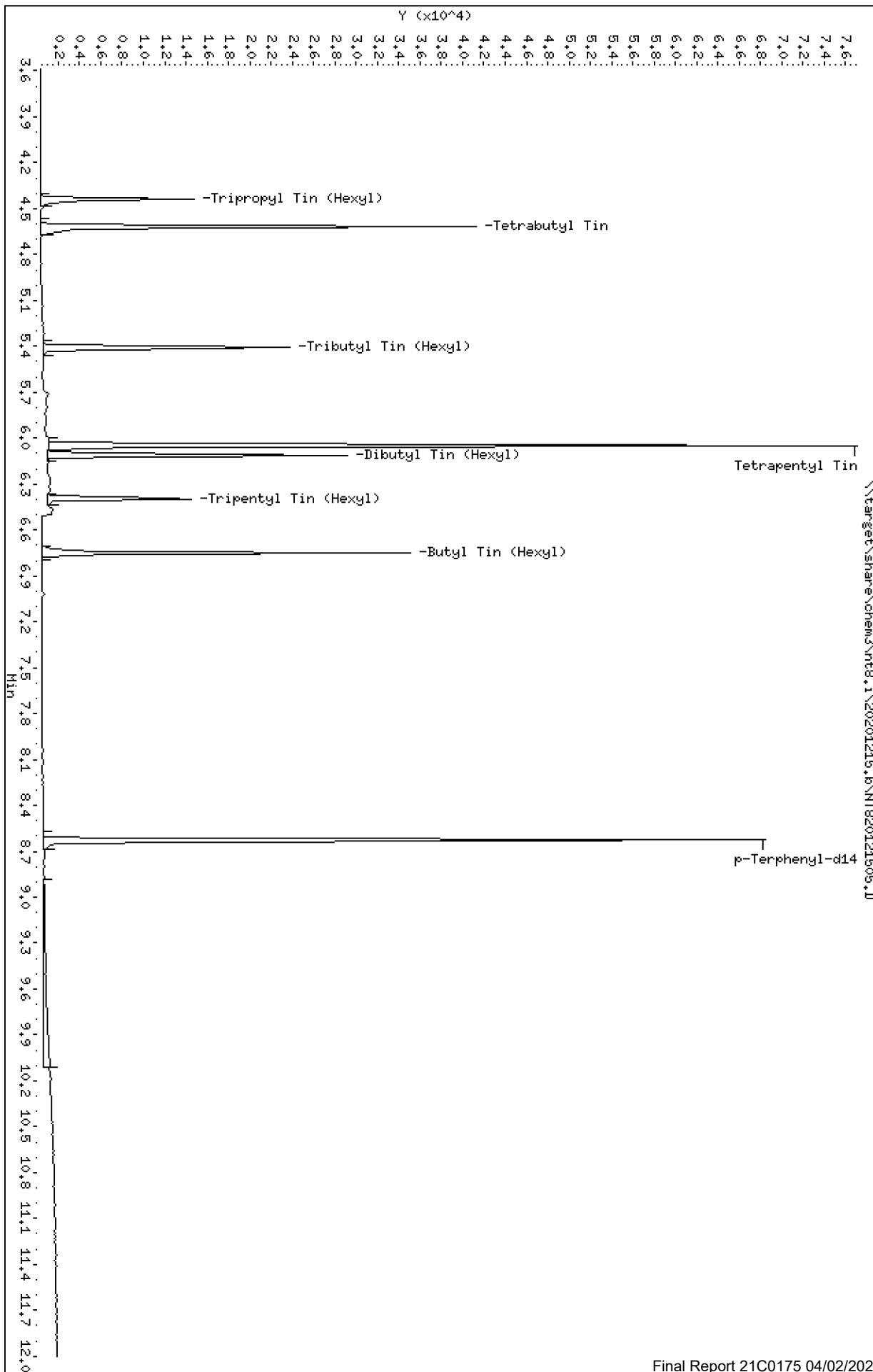
Column phase: ZB-5msi

Instrument: nt8,1

Operator: JZ

Column diameter: 0.25

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ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt8.i\20201215.b\NT820121505.D
 Lab Smp Id: SIL0206-CAL2
 Inj Date : 15-DEC-2020 10:43
 Operator : JZ Inst ID: nt8.i
 Smp Info : IC02201215,
 Misc Info : 20-
 Comment : 2 ul Injection
 Method : \\target\share\chem3\nt8.i\20201215.b\TBT201215.m
 Meth Date : 15-Dec-2020 13:11 nt8.i Quant Type: ISTD
 Cal Date : 15-DEC-2020 10:27 Cal File: NT820121504.D
 Als bottle: 5 Calibration Sample, Level: 2
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: ICAL.sub
 Target Version: 4.14
 Processing Host: ORGDATA22

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
						CAL-AMT (ug/mL)	ON-COL (ug/mL)
\$ 1 Tripropyl Tin (Hexyl)	291	4.440	4.440	(0.734)	7630	0.20000	0.2164
2 Tetrabutyl Tin	289	4.617	4.617	(0.763)	6847	0.20000	0.2194
3 Tributyl Tin (Hexyl)	319	5.409	5.409	(0.894)	4528	0.20000	0.2043
* 4 Tetrapentyl Tin	333	6.049	6.049	(1.000)	69375	2.00000	
5 Dibutyl Tin (Hexyl)	347	6.110	6.122	(0.708)	6138	0.40000	0.4136
\$ 6 Tripentyl Tin (Hexyl)	347	6.400	6.400	(0.742)	6894	0.40000	0.3919
7 Butyl Tin (Hexyl)	347	6.751	6.751	(0.783)	8290	0.40000	0.3950
* 8 p-Terphenyl-d14	244	8.626	8.626	(1.000)	66230	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt8.i Calibration Date: 15-DEC-2020
 Lab File ID: NT820121505.D Calibration Time: 10:10
 Lab Smp Id: SIL0206-CAL2
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: JZ
 Method File: \\target\share\chem3\nt8.i\20201215.b\TBT201215.m
 Misc Info: 20-

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	72645	36323	145290	69375	-4.50
8 p-Terphenyl-d14	65742	32871	131484	66230	0.74

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	6.05	5.55	6.55	6.05	-0.00
8 p-Terphenyl-d14	8.63	8.13	9.13	8.63	-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 - NT820121505.D

Lab ID: SIL0206-CAL2

nt8.i, 20201215.b\TBT201215.m, 15-DEC-2020 10:43

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

RRT check based on Ccal File: NT820121508.D

On Column LOD for nt8.i, 20201215.b\TBT201215.m, ICAL.sub = 0.0000

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

Data File: \\target\share\chem3\nt8,1\20201215,b\NT820121506.D

Date: 15-DEC-2020 11:00

Client ID:

Sample Info: IC05201215,

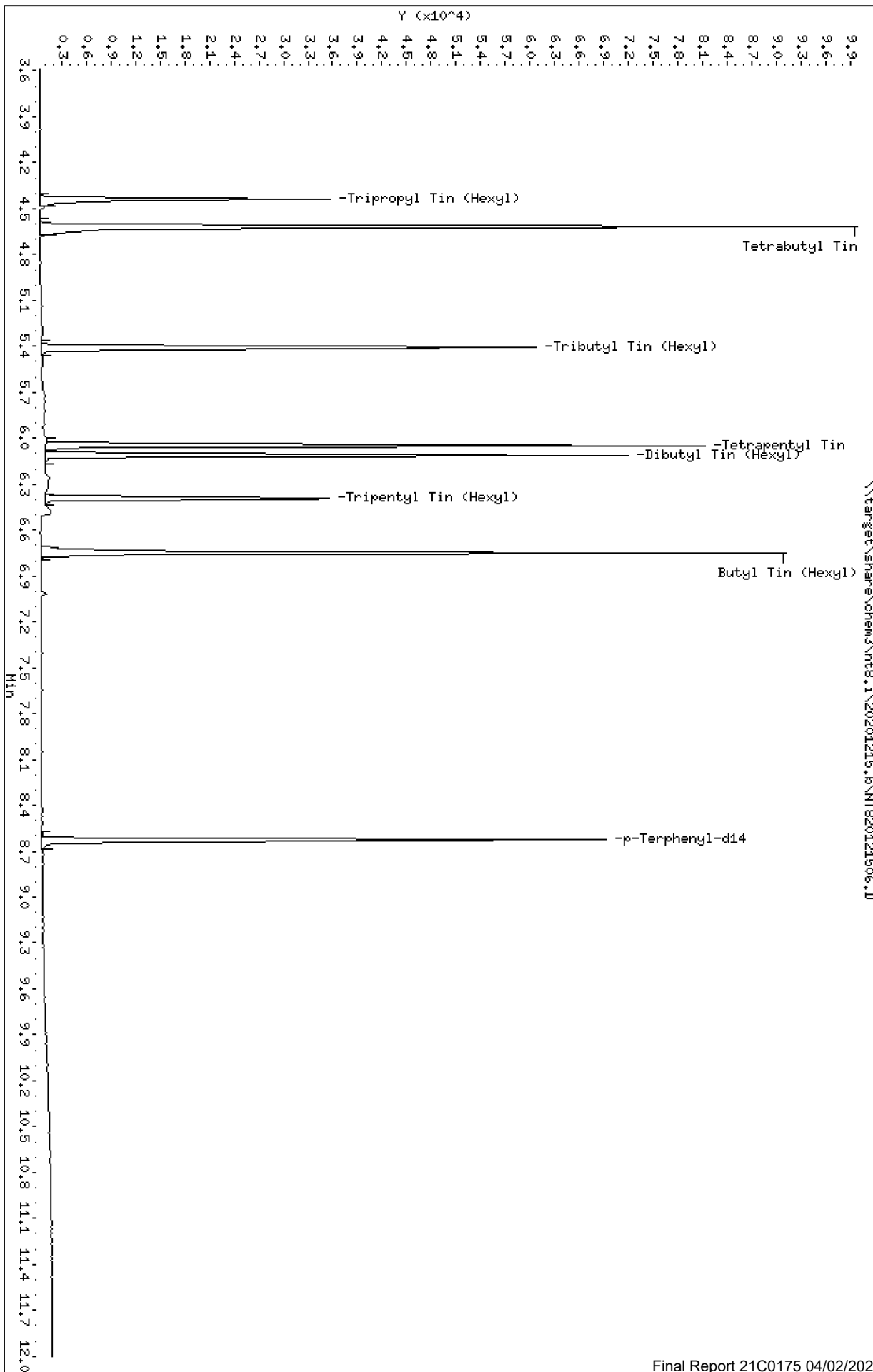
Column phase: ZB-5msi

Instrument: nt8,1

Operator: JZ

Column diameter: 0.25

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ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt8.i\20201215.b\NT820121506.D
 Lab Smp Id: SIL0206-CAL3
 Inj Date : 15-DEC-2020 11:00
 Operator : JZ Inst ID: nt8.i
 Smp Info : IC05201215,
 Misc Info : 20-
 Comment : 2 ul Injection
 Method : \\target\share\chem3\nt8.i\20201215.b\TBT201215.m
 Meth Date : 15-Dec-2020 13:11 nt8.i Quant Type: ISTD
 Cal Date : 15-DEC-2020 10:43 Cal File: NT820121505.D
 Als bottle: 6 Calibration Sample, Level: 3
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: ICAL.sub
 Target Version: 4.14
 Processing Host: ORGDATA22

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
							CAL-AMT	ON-COL
	MASS						(ug/mL)	(ug/mL)
\$ 1 Tripropyl Tin (Hexyl)	291		4.440	4.440	(0.734)	19394	0.50000	0.5255
2 Tetrabutyl Tin	289		4.617	4.617	(0.763)	16621	0.50000	0.5088
3 Tributyl Tin (Hexyl)	319		5.409	5.409	(0.894)	11841	0.50000	0.5102
* 4 Tetrapentyl Tin	333		6.049	6.049	(1.000)	72629	2.00000	
5 Dibutyl Tin (Hexyl)	347		6.110	6.122	(0.708)	15793	1.00000	1.051
\$ 6 Tripentyl Tin (Hexyl)	347		6.400	6.400	(0.742)	18640	1.00000	1.047
7 Butyl Tin (Hexyl)	347		6.751	6.751	(0.783)	22739	1.00000	1.070
* 8 p-Terphenyl-d14	244		8.626	8.626	(1.000)	67052	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt8.i Calibration Date: 15-DEC-2020
 Lab File ID: NT820121506.D Calibration Time: 10:10
 Lab Smp Id: SIL0206-CAL3
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: JZ
 Method File: \\target\share\chem3\nt8.i\20201215.b\TBT201215.m
 Misc Info: 20-

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	72645	36323	145290	72629	-0.02
8 p-Terphenyl-d14	65742	32871	131484	67052	1.99

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	6.05	5.55	6.55	6.05	-0.00
8 p-Terphenyl-d14	8.63	8.13	9.13	8.63	-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 - NT820121506.D

Lab ID: SIL0206-CAL3

nt8.i, 20201215.b\TBT201215.m, 15-DEC-2020 11:00

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

RRT check based on Ccal File: NT820121508.D

On Column LOD for nt8.i, 20201215.b\TBT201215.m, ICAL.sub = 0.0000

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

Data File: \\target\share\chem3\nt8,1\20201215,6\NT820121507.D

Date: 15-DEC-2020 11:16

Client ID:

Sample Info: IC2201215,

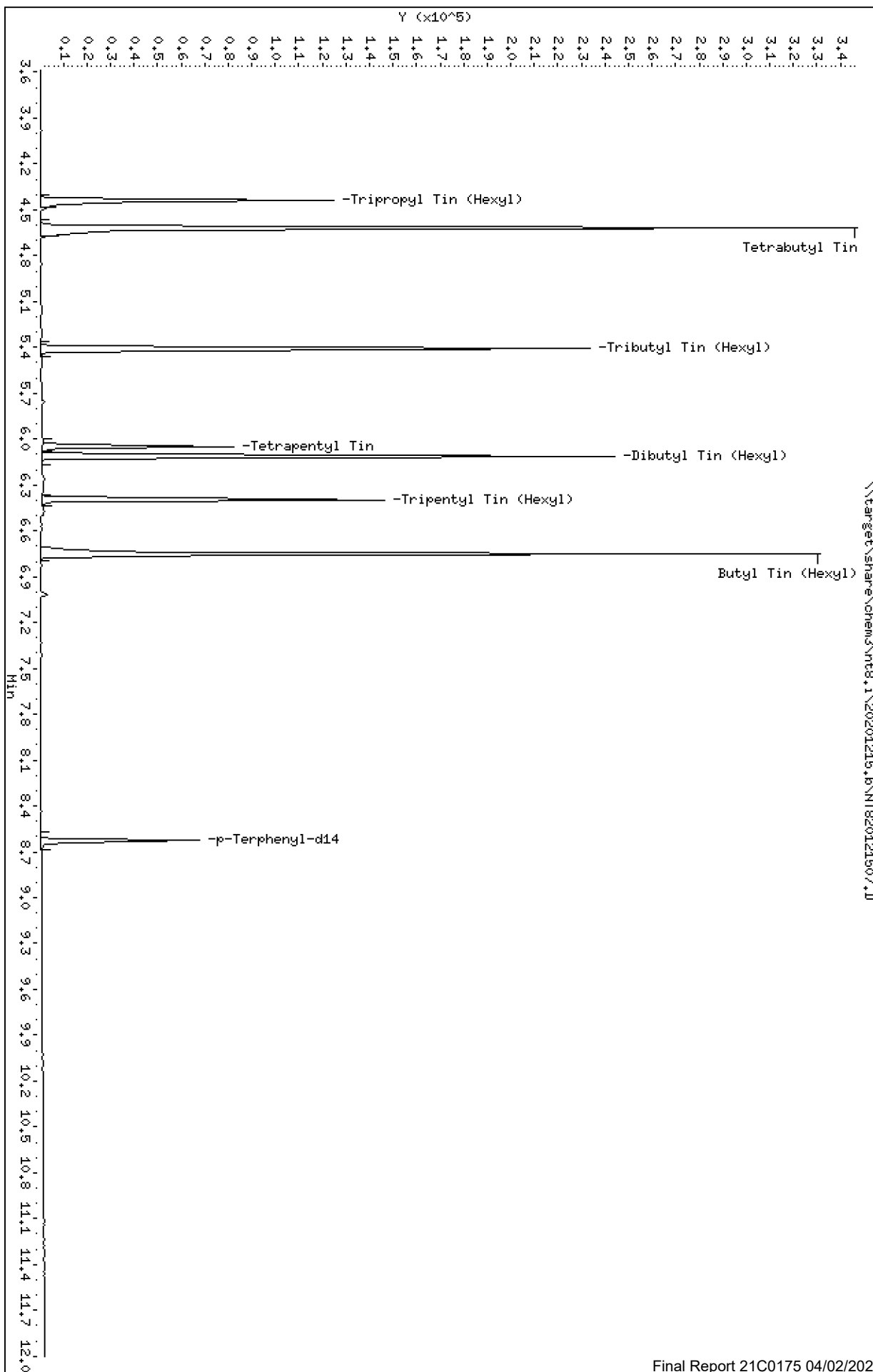
Column phase: ZB-5msi

Instrument: nt8,1

Operator: JZ

Column diameter: 0.25

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ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt8.i\20201215.b\NT820121507.D
 Lab Smp Id: SIL0206-CAL5
 Inj Date : 15-DEC-2020 11:16
 Operator : JZ Inst ID: nt8.i
 Smp Info : IC2201215,
 Misc Info : 20-
 Comment : 2 ul Injection
 Method : \\target\share\chem3\nt8.i\20201215.b\TBT201215.m
 Meth Date : 15-Dec-2020 13:11 nt8.i Quant Type: ISTD
 Cal Date : 15-DEC-2020 11:00 Cal File: NT820121506.D
 Als bottle: 7 Calibration Sample, Level: 5
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: ICAL.sub
 Target Version: 4.14
 Processing Host: ORGDATA22

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
							CAL-AMT	ON-COL
	MASS						(ug/mL)	(ug/mL)
=====	=====		=====	=====	=====	=====	=====	=====
\$ 1 Tripropyl Tin (Hexyl)	291		4.440	4.440	(0.734)	69712	2.00000	1.894
2 Tetrabutyl Tin	289		4.617	4.617	(0.763)	60730	2.00000	1.864
3 Tributyl Tin (Hexyl)	319		5.409	5.409	(0.894)	45402	2.00000	1.962
* 4 Tetrapentyl Tin	333		6.049	6.049	(1.000)	72419	2.00000	
5 Dibutyl Tin (Hexyl)	347		6.122	6.122	(0.710)	56140	4.00000	3.886
\$ 6 Tripentyl Tin (Hexyl)	347		6.400	6.400	(0.742)	69756	4.00000	4.074
7 Butyl Tin (Hexyl)	347		6.751	6.751	(0.783)	83353	4.00000	4.080
* 8 p-Terphenyl-d14	244		8.626	8.626	(1.000)	64465	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt8.i Calibration Date: 15-DEC-2020
 Lab File ID: NT820121507.D Calibration Time: 10:10
 Lab Smp Id: SIL0206-CAL5
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: JZ
 Method File: \\target\share\chem3\nt8.i\20201215.b\TBT201215.m
 Misc Info: 20-

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	72645	36323	145290	72419	-0.31
8 p-Terphenyl-d14	65742	32871	131484	64465	-1.94

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	6.05	5.55	6.55	6.05	0.00
8 p-Terphenyl-d14	8.63	8.13	9.13	8.63	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 - NT820121507.D

Lab ID: SIL0206-CAL5

nt8.i, 20201215.b\TBT201215.m, 15-DEC-2020 11:16

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

RRT check based on Ccal File: NT820121508.D

On Column LOD for nt8.i, 20201215.b\TBT201215.m, ICAL.sub = 0.0000

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

Data File: \\target\share\chem3\nt8.1\20201215.6\NT820121508.D

Date: 15-DEC-2020 11:33

Client ID:

Sample Info: IC4201215,

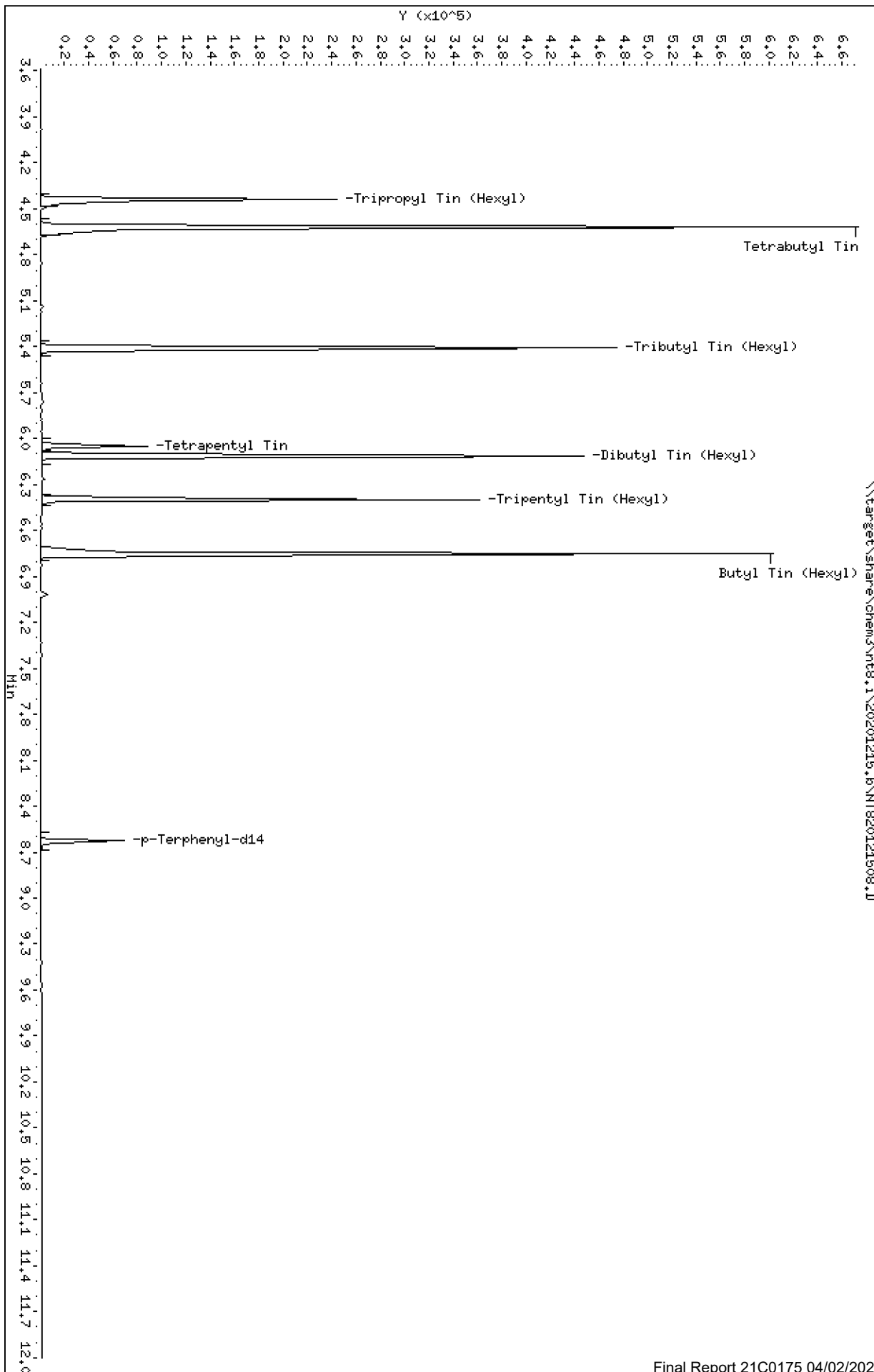
Column phase: ZB-5msi

Instrument: nt8.1

Operator: JZ

Column diameter: 0.25

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ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt8.i\20201215.b\NT820121508.D
 Lab Smp Id: SIL0206-CAL6
 Inj Date : 15-DEC-2020 11:33
 Operator : JZ Inst ID: nt8.i
 Smp Info : IC4201215,
 Misc Info : 20-
 Comment : 2 ul Injection
 Method : \\target\share\chem3\nt8.i\20201215.b\TBT201215.m
 Meth Date : 15-Dec-2020 13:11 nt8.i Quant Type: ISTD
 Cal Date : 15-DEC-2020 11:16 Cal File: NT820121507.D
 Als bottle: 8 Calibration Sample, Level: 6
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: ICAL.sub
 Target Version: 4.14
 Processing Host: ORGDATA22

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
							CAL-AMT	ON-COL
	MASS						(ug/mL)	(ug/mL)
=====	=====		=====	=====	=====	=====	=====	=====
\$ 1 Tripropyl Tin (Hexyl)	291		4.440	4.440	(0.734)	136755	4.00000	3.351
2 Tetrabutyl Tin	289		4.617	4.617	(0.763)	123691	4.00000	3.424
3 Tributyl Tin (Hexyl)	319		5.409	5.409	(0.894)	92677	4.00000	3.611
* 4 Tetrapentyl Tin	333		6.049	6.049	(1.000)	80315	2.00000	
5 Dibutyl Tin (Hexyl)	347		6.122	6.122	(0.710)	118357	8.00000	7.829
\$ 6 Tripentyl Tin (Hexyl)	347		6.400	6.400	(0.742)	143645	8.00000	8.017
7 Butyl Tin (Hexyl)	347		6.763	6.751	(0.784)	173439	8.00000	8.113
* 8 p-Terphenyl-d14	244		8.626	8.626	(1.000)	67459	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt8.i Calibration Date: 15-DEC-2020
 Lab File ID: NT820121508.D Calibration Time: 10:10
 Lab Smp Id: SIL0206-CAL6
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: JZ
 Method File: \\target\share\chem3\nt8.i\20201215.b\TBT201215.m
 Misc Info: 20-

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	72645	36323	145290	80315	10.56
8 p-Terphenyl-d14	65742	32871	131484	67459	2.61

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	6.05	5.55	6.55	6.05	-0.00
8 p-Terphenyl-d14	8.63	8.13	9.13	8.63	-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 - NT820121508.D

Lab ID: SIL0206-CAL6

nt8.i, 20201215.b\TBT201215.m, 15-DEC-2020 11:33

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

RRT check based on Ccal File: NT820121508.D

On Column LOD for nt8.i, 20201215.b\TBT201215.m, ICAL.sub = 0.0000

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

Data File: \\target\share\chem3\nt8.1\20201215.6\NT820121509.D

Date: 15-DEC-2020 11:49

Client ID:

Sample Info: SCV201215,

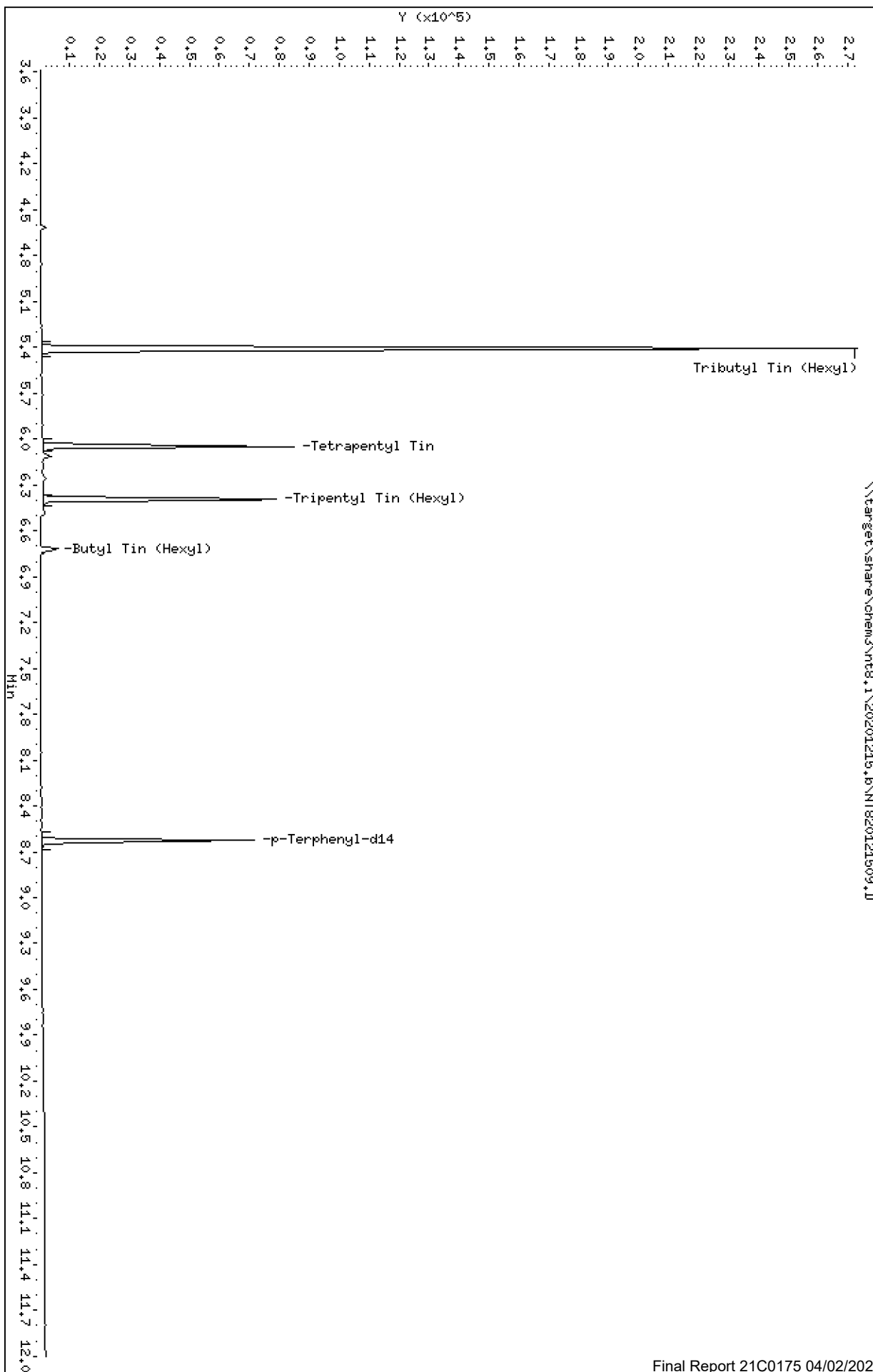
Column phase: ZB-5msi

Instrument: nt8.1

Operator: JZ

Column diameter: 0.25

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Date : 15-DEC-2020 11:49

Client ID:

Instrument: nt8.i

Sample Info: SCV201215,

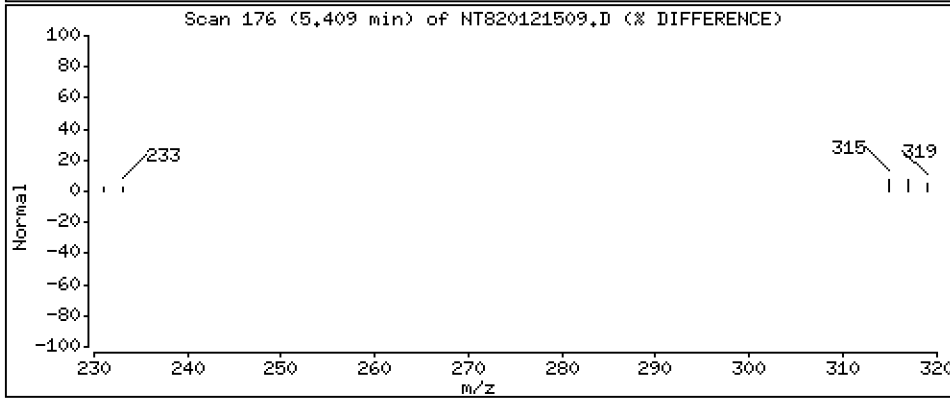
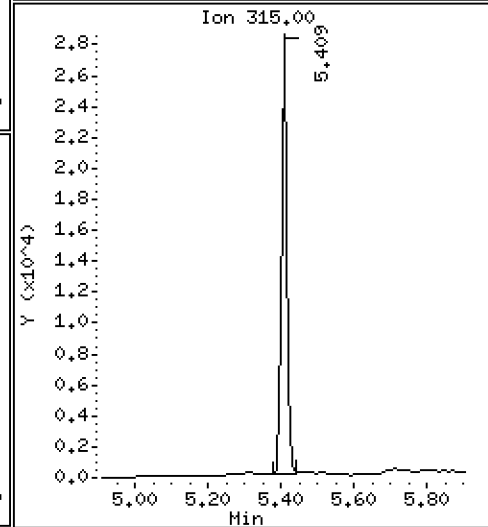
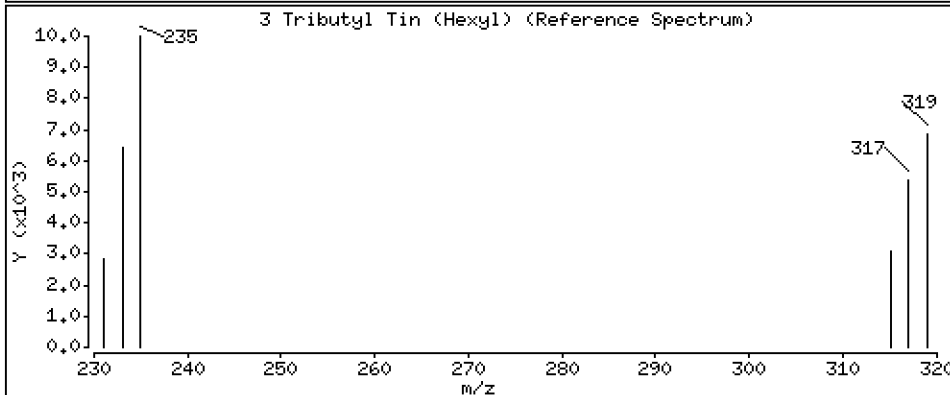
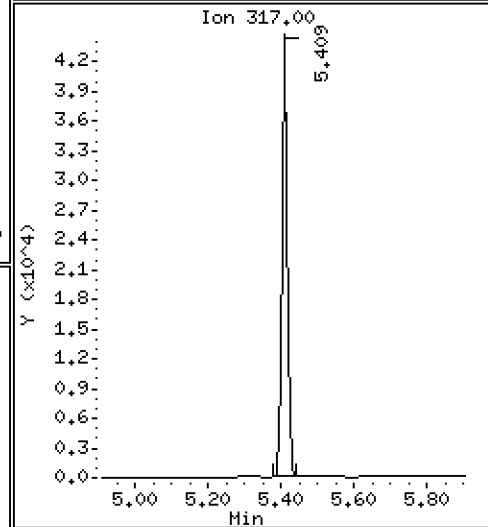
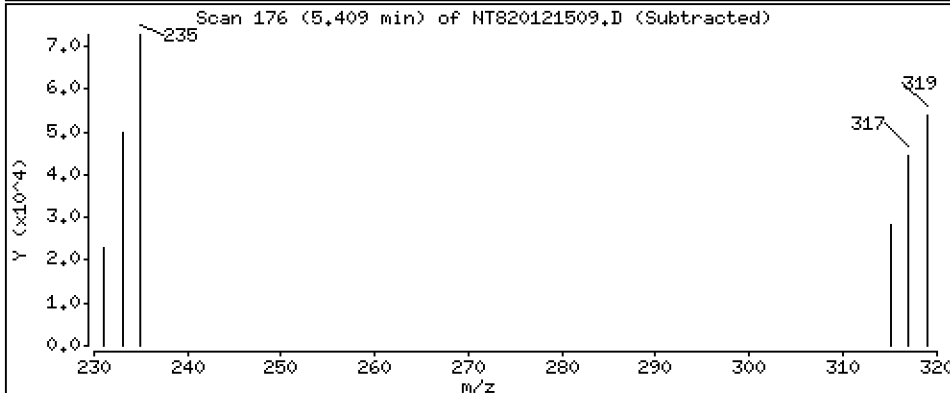
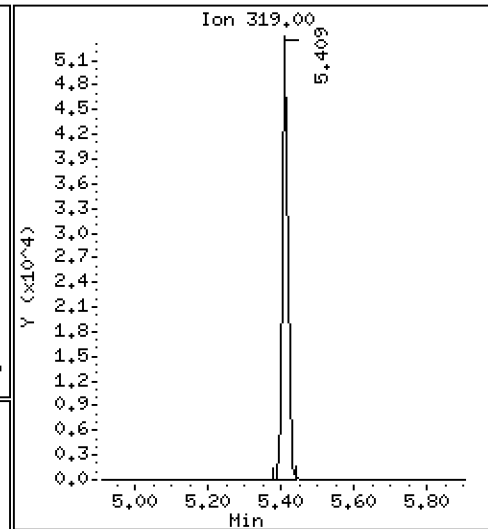
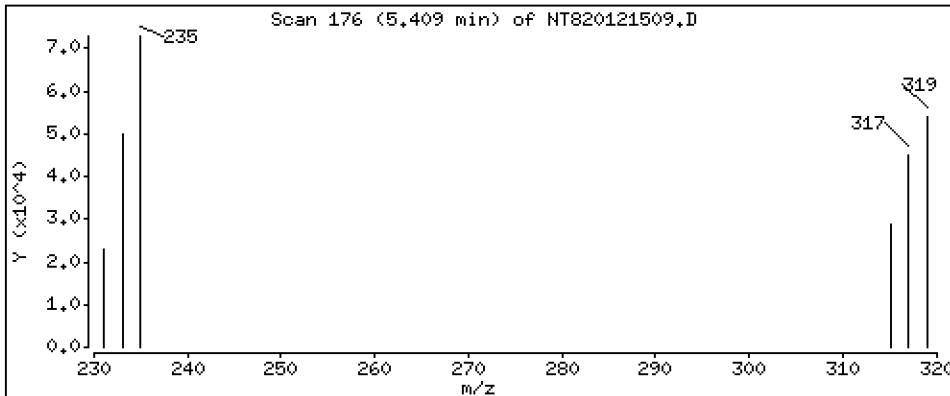
Operator: JZ

Column phase: ZB-5msi

Column diameter: 0,25

3 Tributyl Tin (Hexyl)

Concentration: 2,186 ug/mL



Date : 15-DEC-2020 11:49

Client ID:

Instrument: nt8.i

Sample Info: SCV201215,

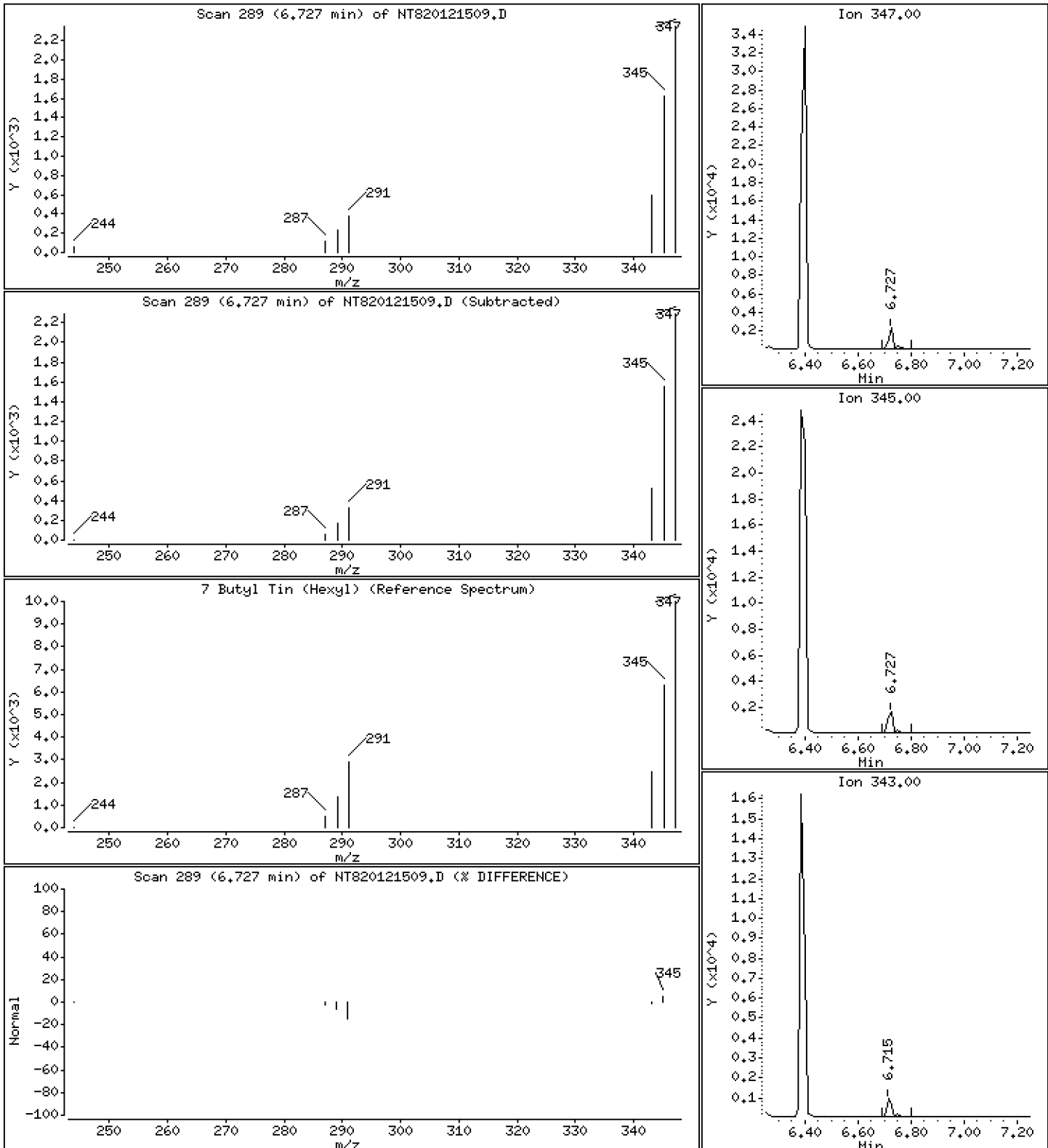
Operator: JZ

Column phase: ZB-5msi

Column diameter: 0.25

7 Butyl Tin (Hexyl)

Concentration: 0.1224 ug/mL



ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt8.i\20201215.b\NT820121509.D
 Lab Smp Id: SIL0206-SCV1
 Inj Date : 15-DEC-2020 11:49
 Operator : JZ Inst ID: nt8.i
 Smp Info : SCV201215,
 Misc Info : 20-
 Comment : 2 ul Injection
 Method : \\target\share\chem3\nt8.i\20201215.b\TBT201215.m
 Meth Date : 15-Dec-2020 14:04 jianqing Quant Type: ISTD
 Cal Date : 15-DEC-2020 11:33 Cal File: NT820121508.D
 Als bottle: 9
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: sed.sub
 Target Version: 4.14
 Processing Host: ORGDATA22

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ug/mL)	FINAL (ug/mL)
\$ 1 Tripropyl Tin (Hexyl)	291				Compound Not Detected.		
2 Tetrabutyl Tin	289				Compound Not Detected.		
3 Tributyl Tin (Hexyl)	319	5.409	5.409	(0.894)	54848	2.18617	2.186
* 4 Tetrapentyl Tin	333	6.049	6.049	(1.000)	78512	2.00000	
5 Dibutyl Tin (Hexyl)	347				Compound Not Detected.		
\$ 6 Tripentyl Tin (Hexyl)	347	6.400	6.400	(0.742)	41293	2.22129	2.221
7 Butyl Tin (Hexyl)	347	6.726	6.751	(0.780)	2715	0.12240	0.1224
* 8 p-Terphenyl-d14	244	8.626	8.626	(1.000)	69992	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt8.i Calibration Date: 15-DEC-2020
 Lab File ID: NT820121509.D Calibration Time: 10:10
 Lab Smp Id: SIL0206-SCV1
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: JZ
 Method File: \\target\share\chem3\nt8.i\20201215.b\TBT201215.m
 Misc Info: 20-

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	72645	36323	145290	78512	8.08
8 p-Terphenyl-d14	65742	32871	131484	69992	6.46

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	6.05	5.55	6.55	6.05	-0.00
8 p-Terphenyl-d14	8.63	8.13	9.13	8.63	-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 - NT820121509.D

Lab ID: SIL0206-SCV1

nt8.i, 20201215.b\TBT201215.m, 15-DEC-2020 11:49

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

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

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

RRT check based on Ccal File: NT820121503.D

On Column LOD for nt8.i, 20201215.b\TBT201215.m, sed.sub = 0.0300

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



SECOND-SOURCE CALIBRATION VERIFICATION
EPA 8270E-SIM

Laboratory: Analytical Resources, Inc.

SDG: 21C0175

Client: Anchor QEA, LLC

Project: GascoSiltronic: US Moorings

Calibration: DH00073

Laboratory ID: SIH0304-SCV1

Sequence: SIH0304

Sequence Name: PAH 250 SCV

Standard ID: I004581

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
Naphthalene	250.00	224	-10.2	20.00
Acenaphthylene	250.00	233	-6.7	20.00
Acenaphthene	250.00	222	-11.2	20.00
Fluorene	250.00	233	-6.6	20.00
Phenanthrene	250.00	233	-7.0	20.00
Anthracene	250.00	223	-11.0	20.00
Fluoranthene	250.00	236	-5.5	20.00
Pyrene	250.00	235	-6.0	20.00
Benzo(a)anthracene	250.00	223	-10.8	20.00
Chrysene	250.00	215	-13.9	20.00
Benzo(b)fluoranthene	250.00	212	-15.0	20.00
Benzo(k)fluoranthene	250.00	260	4.1	20.00
Benzo(a)pyrene	250.00	213	-14.8	20.00
Indeno(1,2,3-cd)pyrene	250.00	227	-9.3	20.00
Dibenzo(a,h)anthracene	250.00	192	-23.2 *	20.00
Benzo(g,h,i)perylene	250.00	214	-14.2	20.00

* Indicates values outside of QC limits

Data File: \\target\share\chem3\nt11.1\20200827.6\NT1120082708.D

Date : 27-AUG-2020 15:38

Client ID:

Sample Info: SIH0304-SCW1

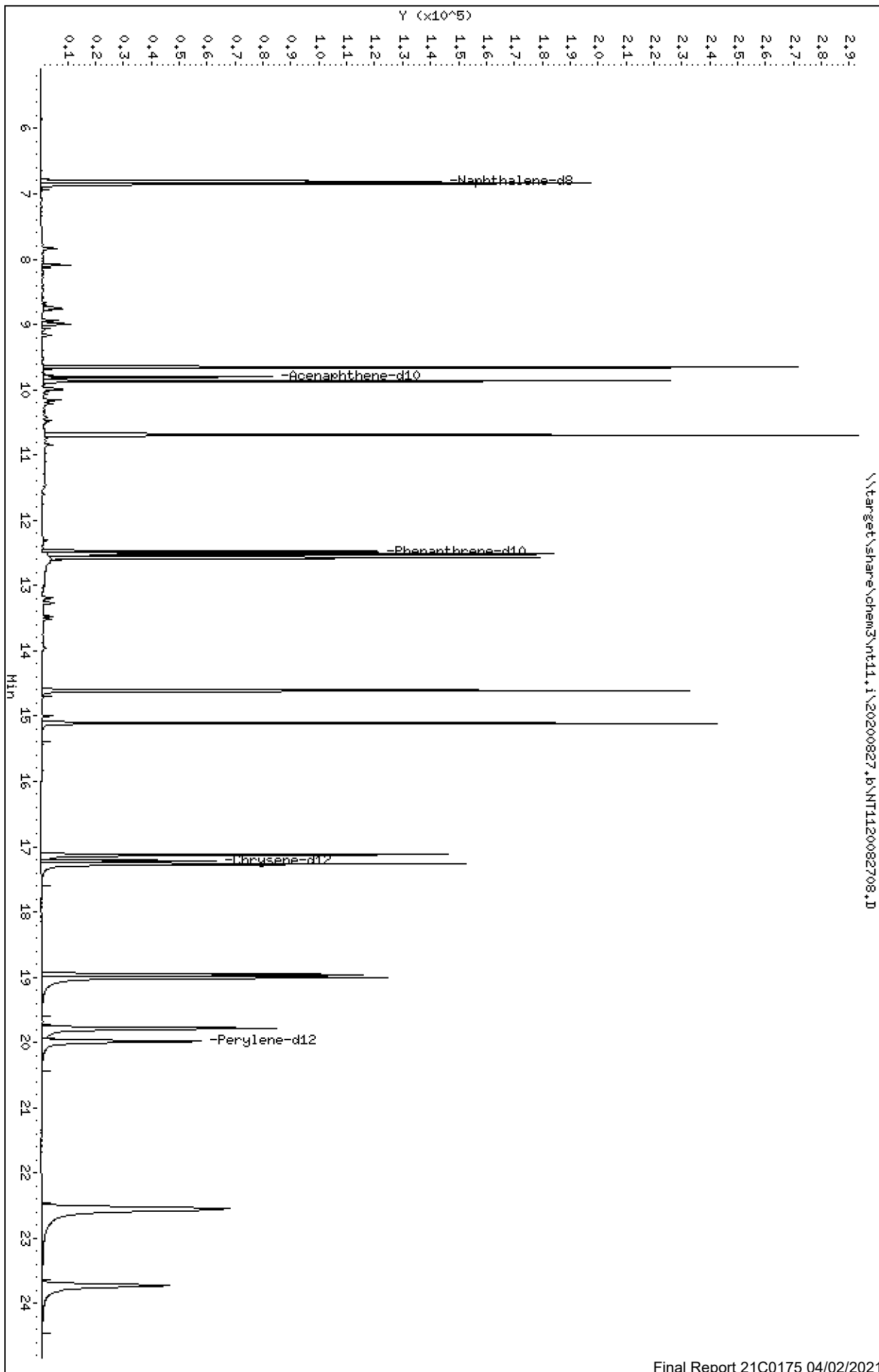
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

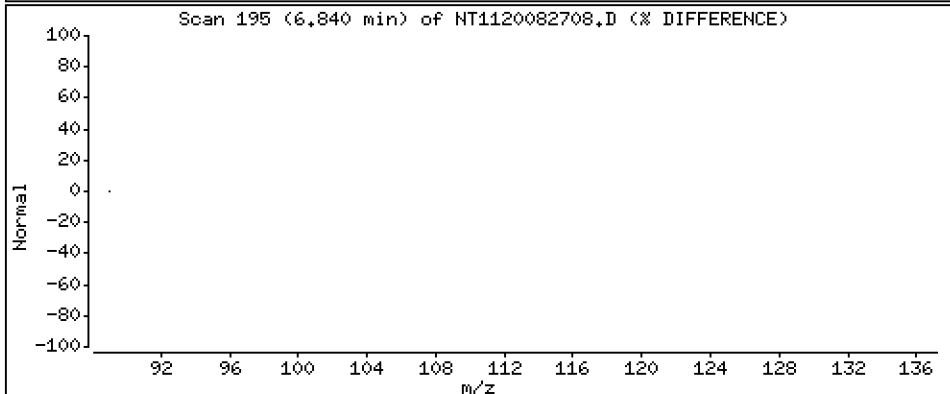
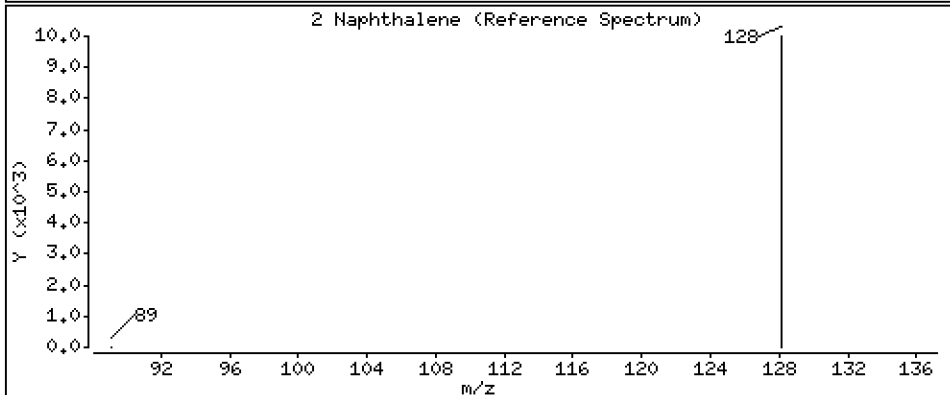
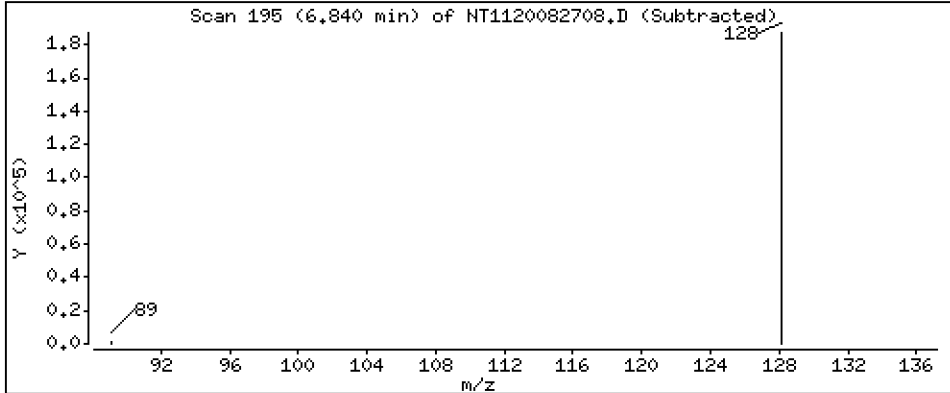
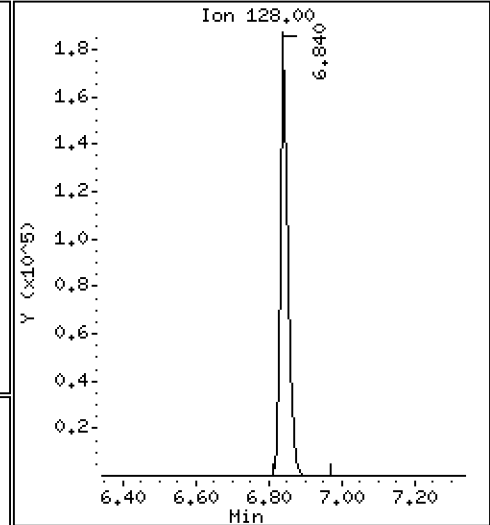
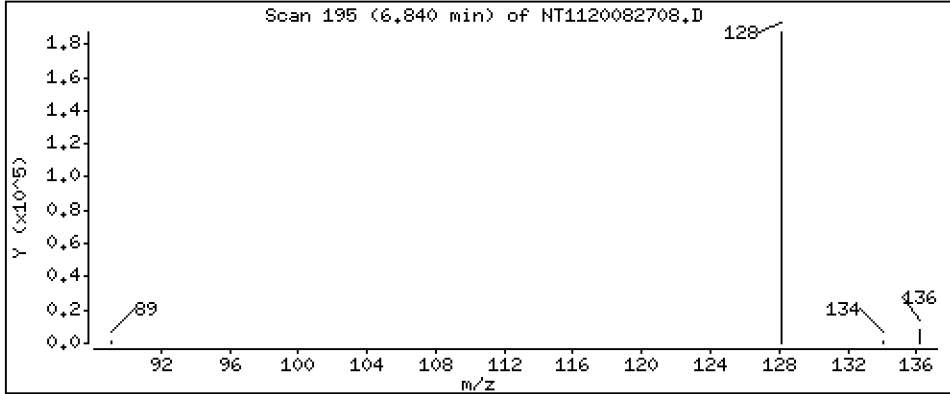
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 224 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

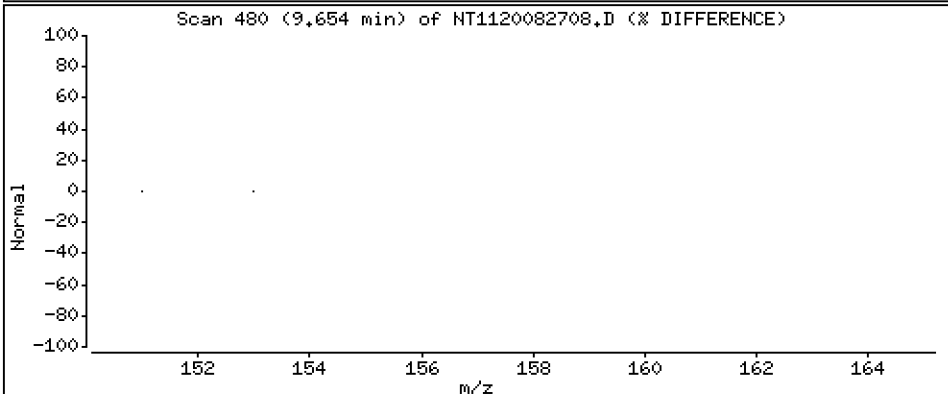
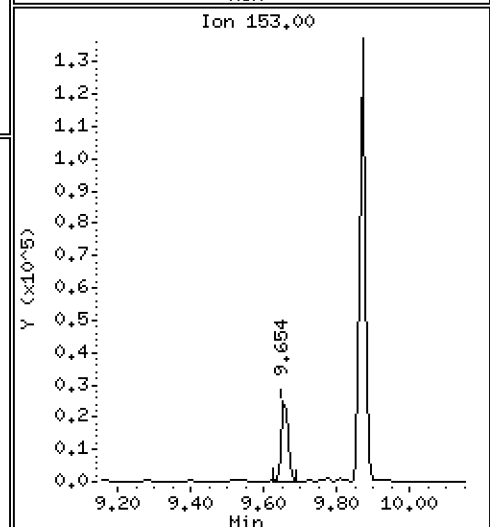
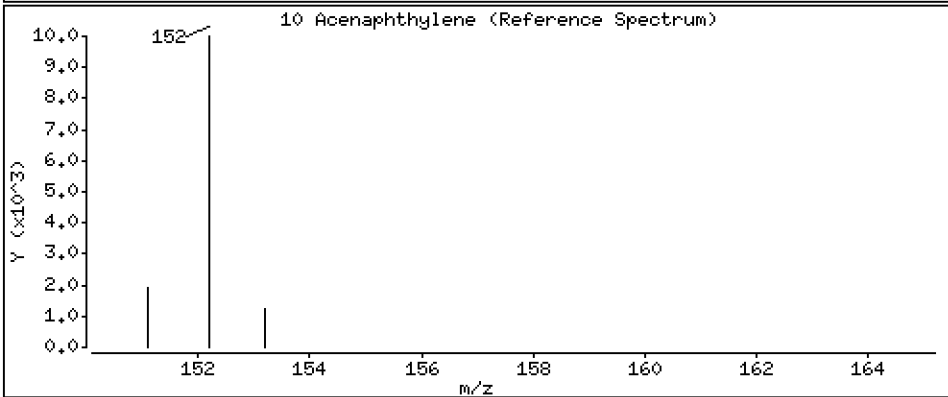
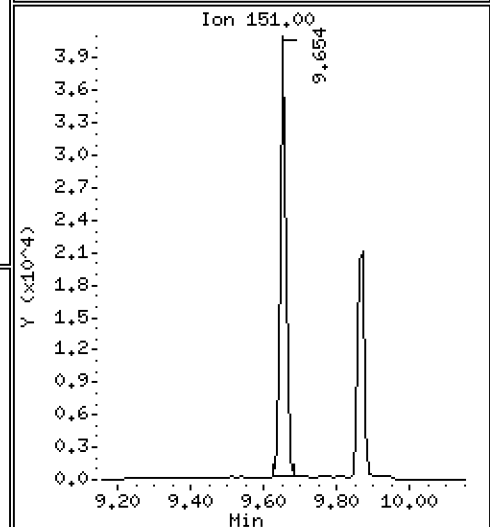
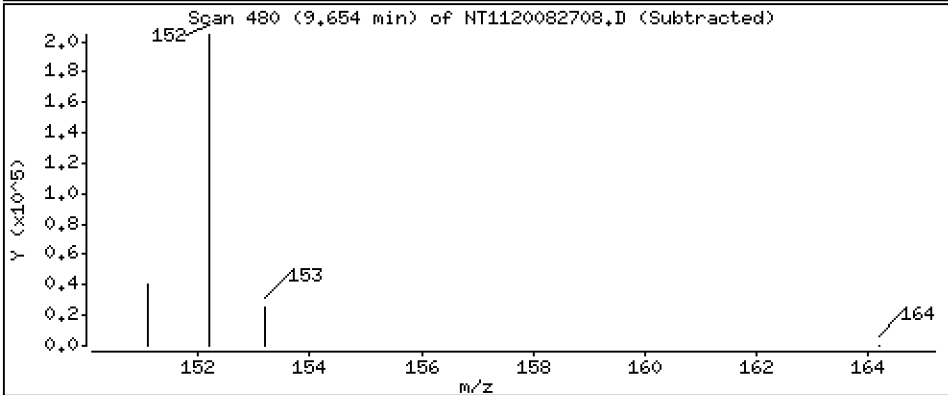
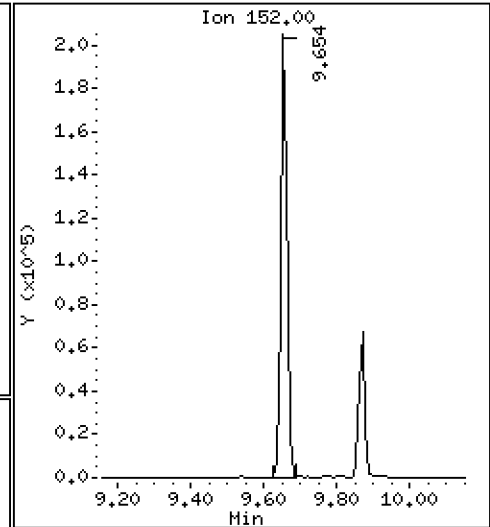
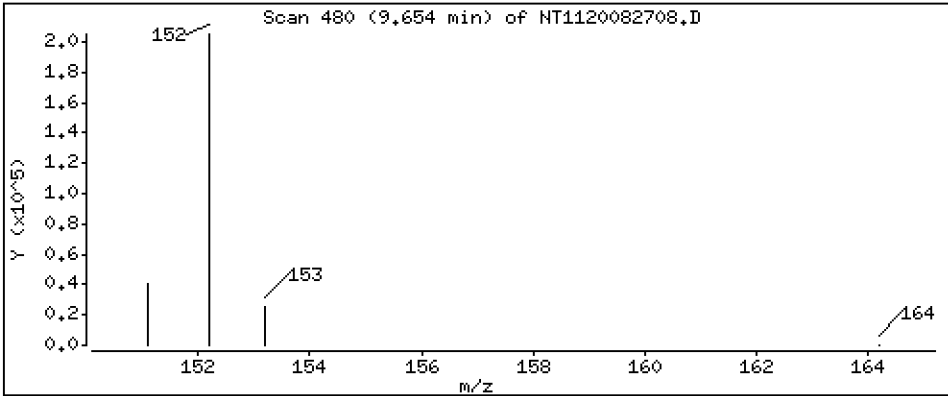
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

10 Acenaphthylene

Concentration: 233 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

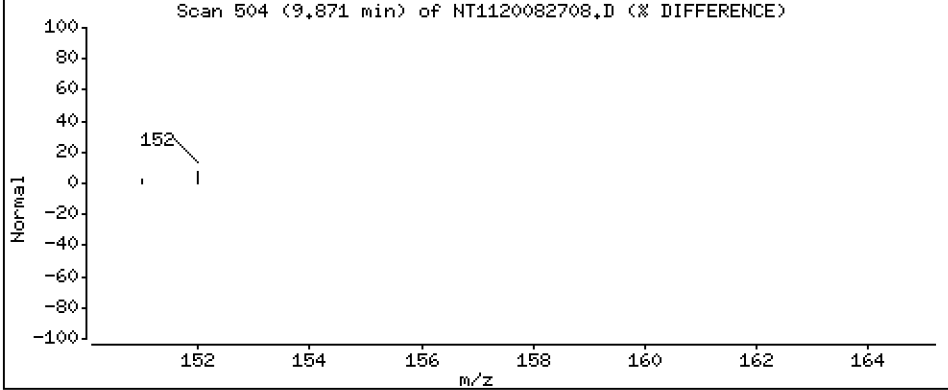
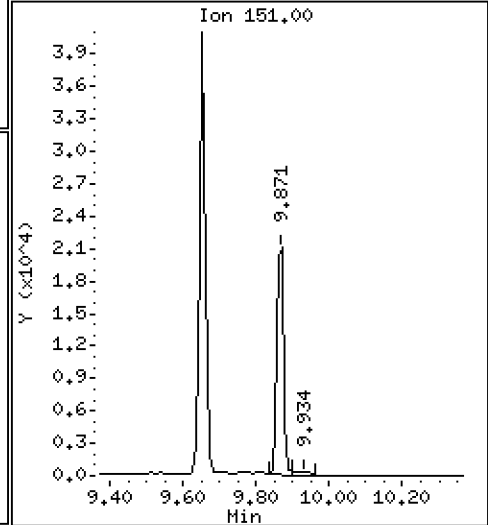
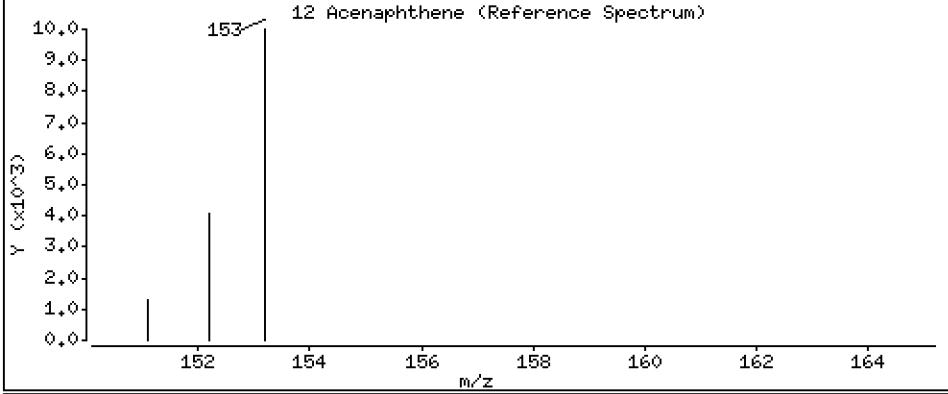
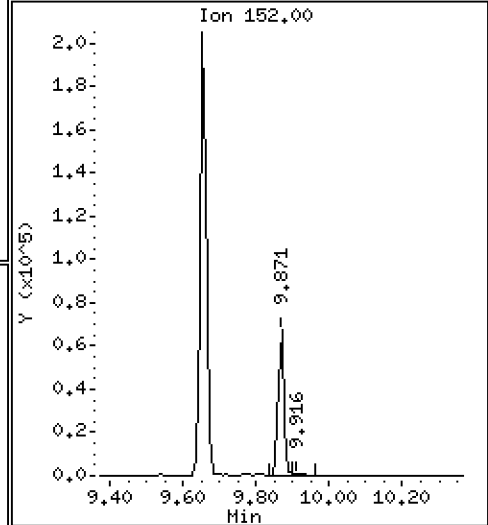
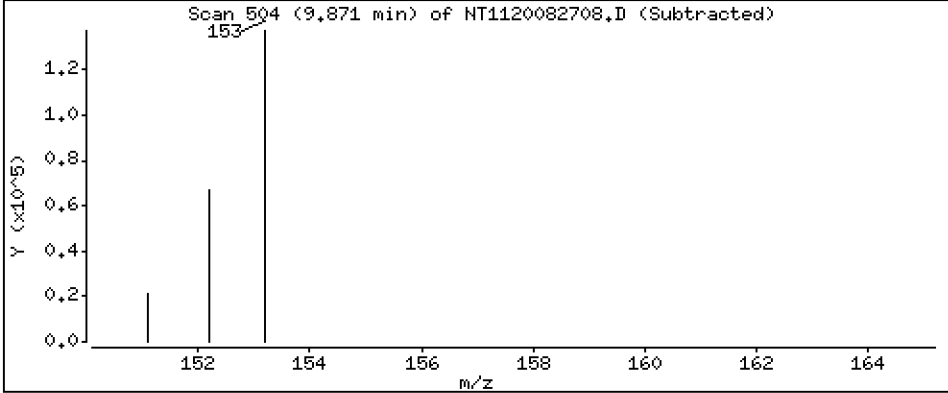
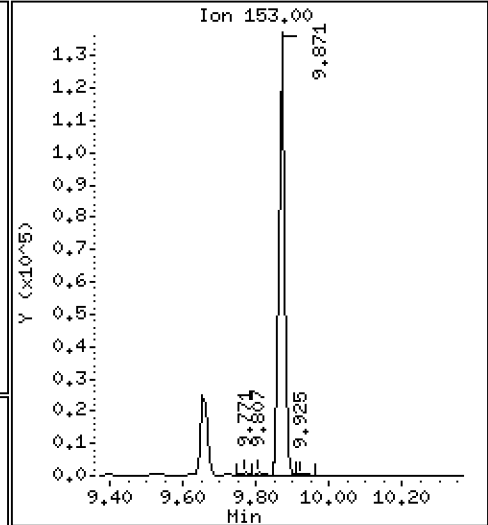
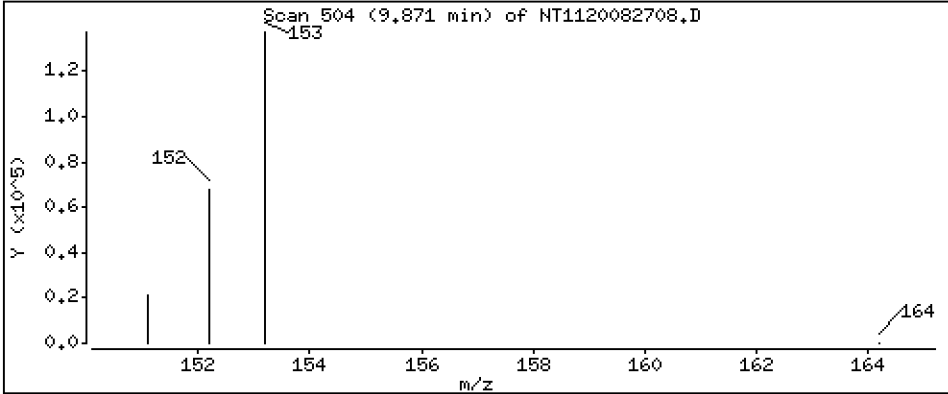
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

12 Acenaphthene

Concentration: 222 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

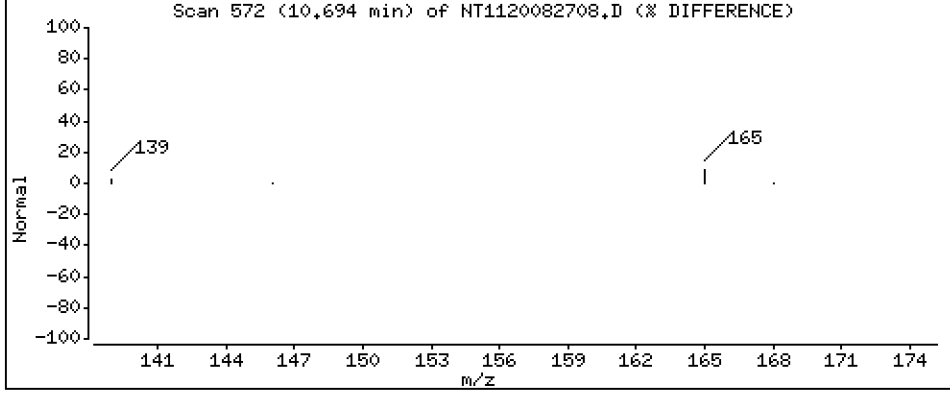
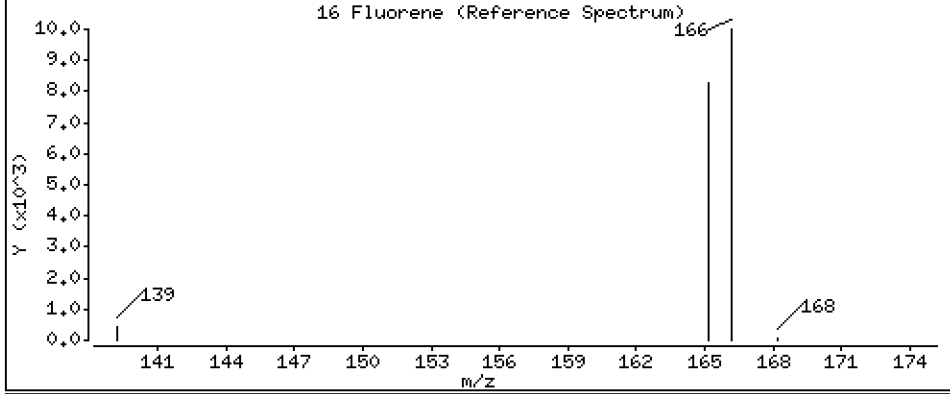
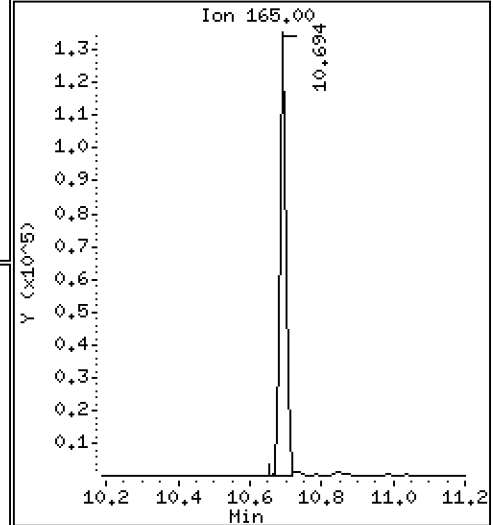
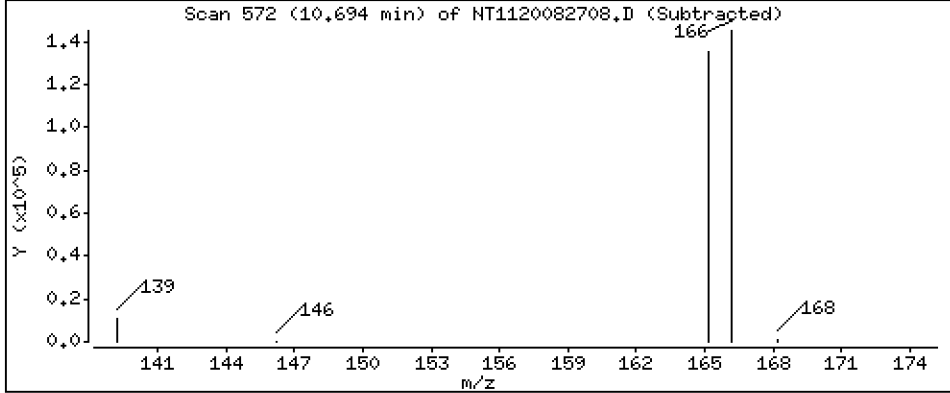
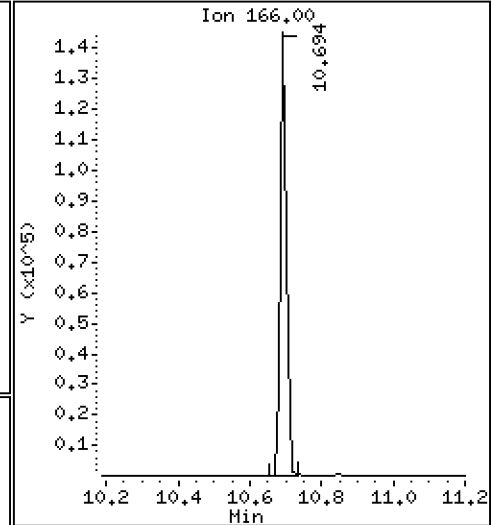
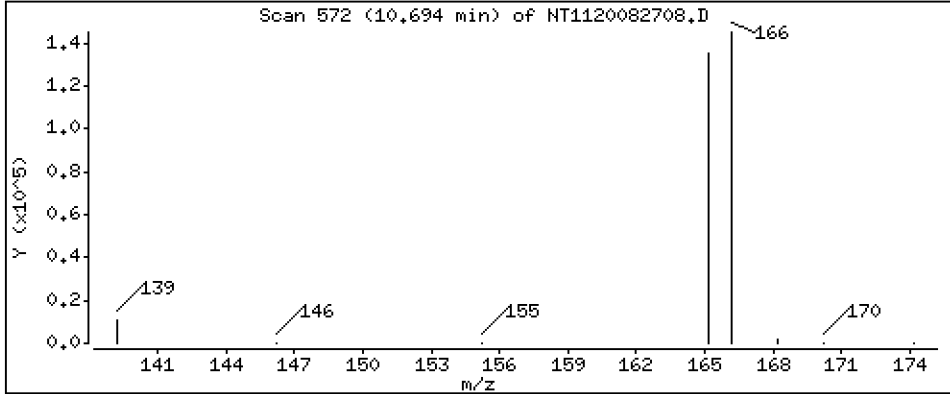
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 233 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

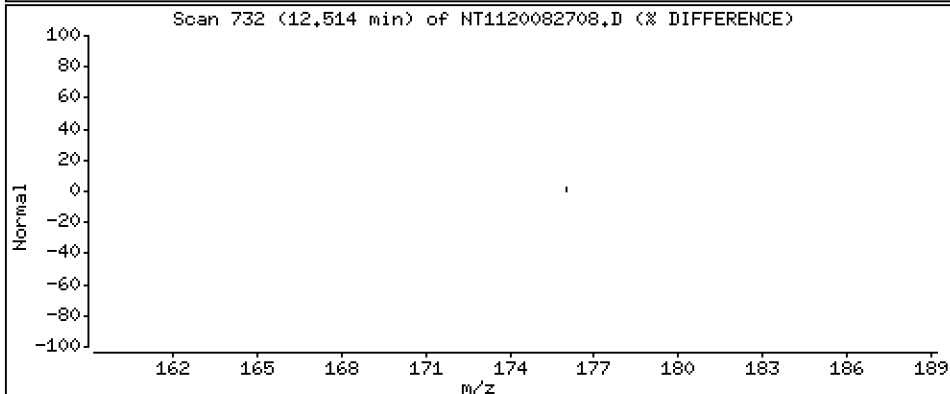
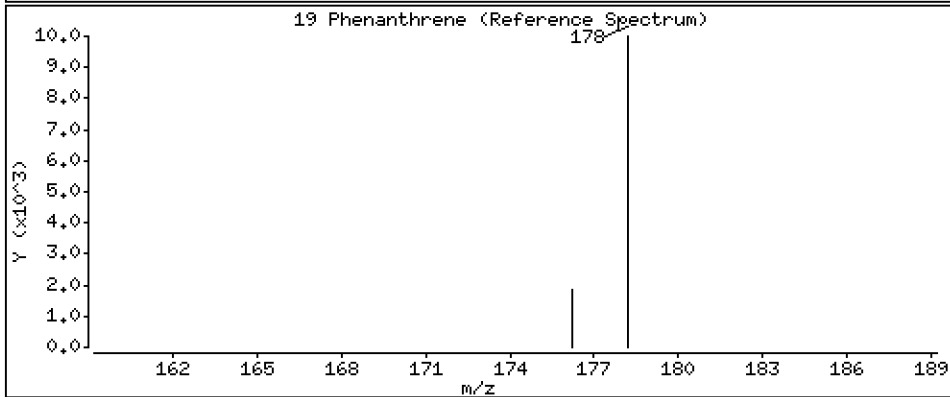
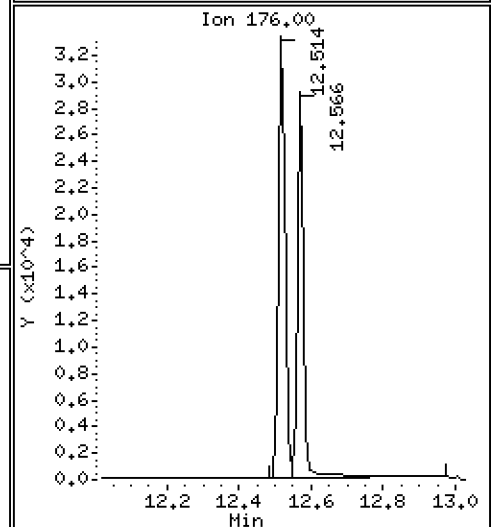
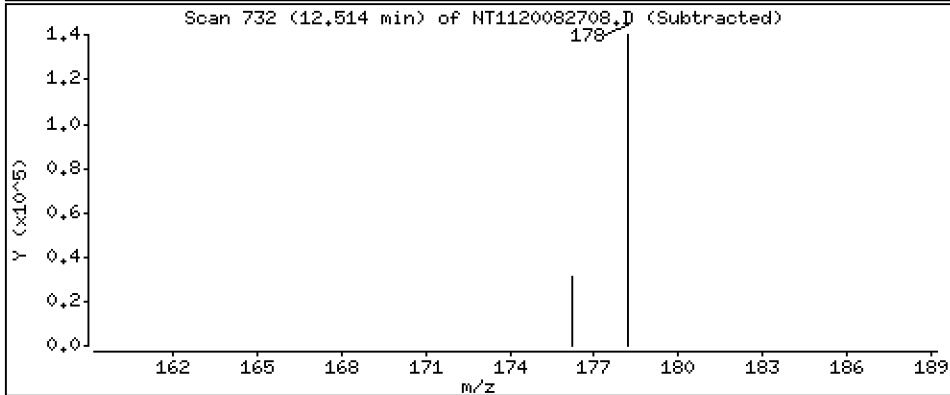
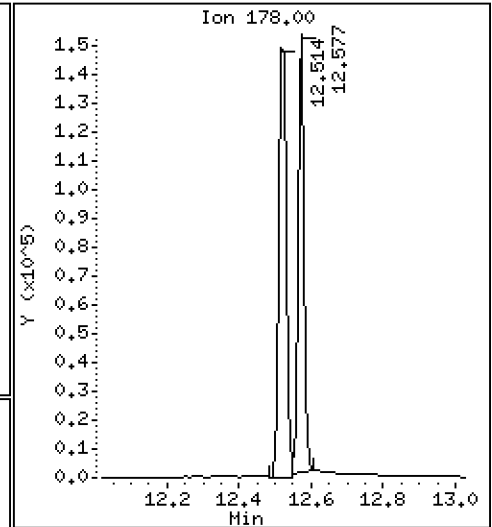
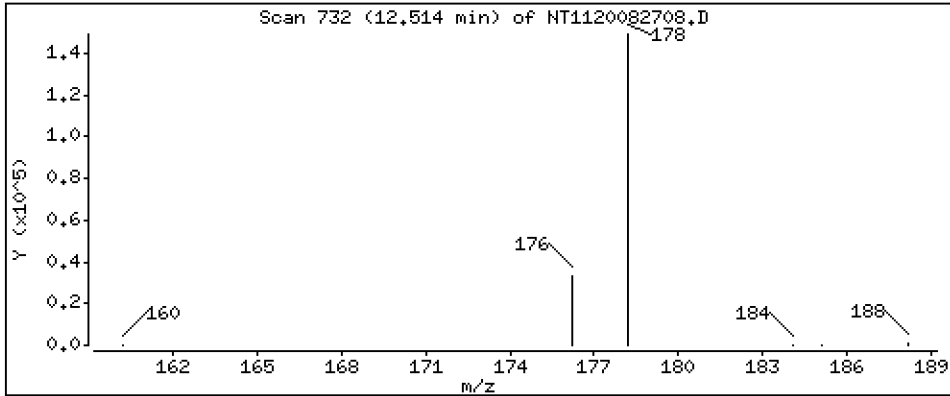
Operator: VTS

Column phase: Rxi-17Si1 MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 233 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

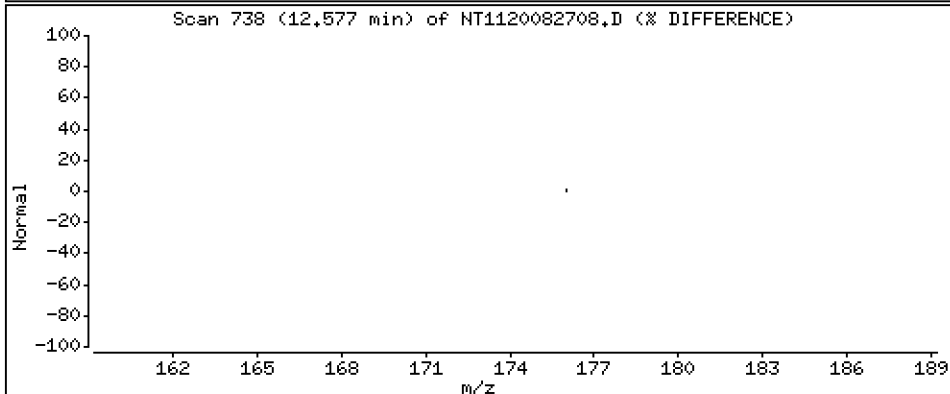
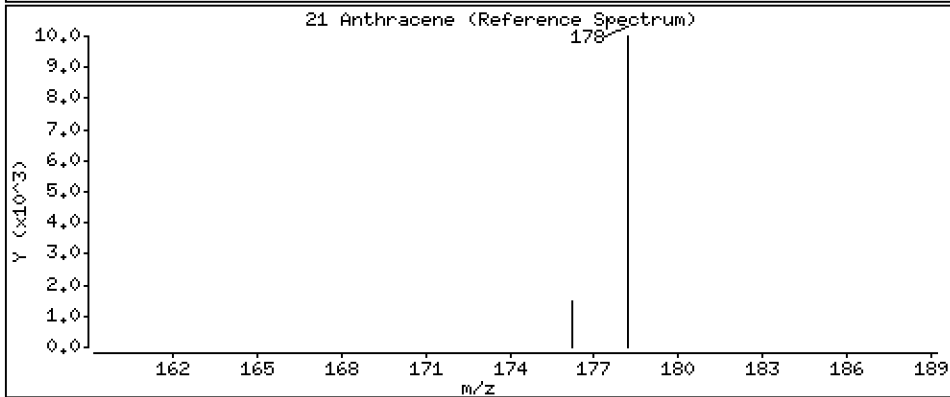
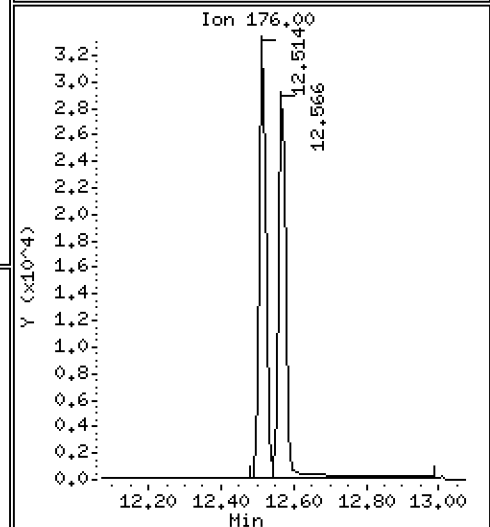
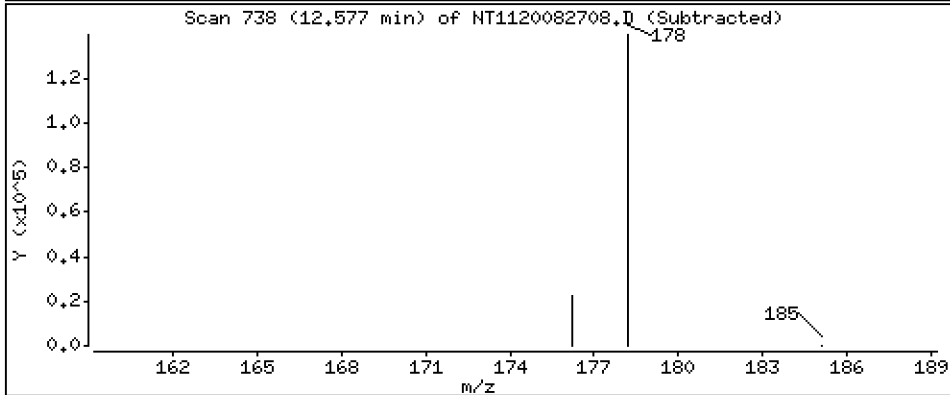
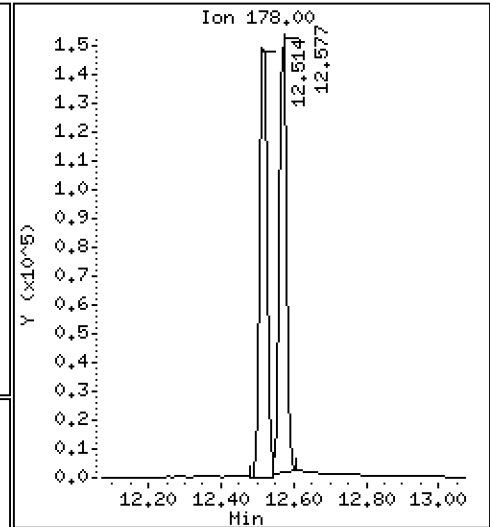
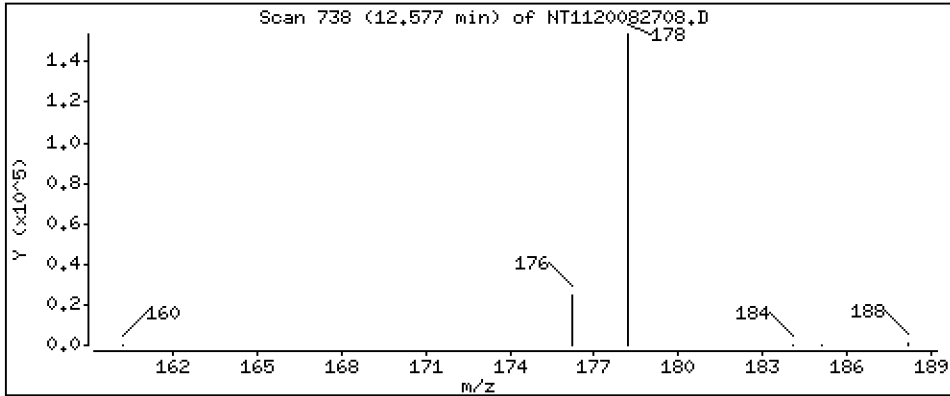
Operator: VTS

Column phase: Rxi-17Si11 MS

Column diameter: 0,25

21 Anthracene

Concentration: 223 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

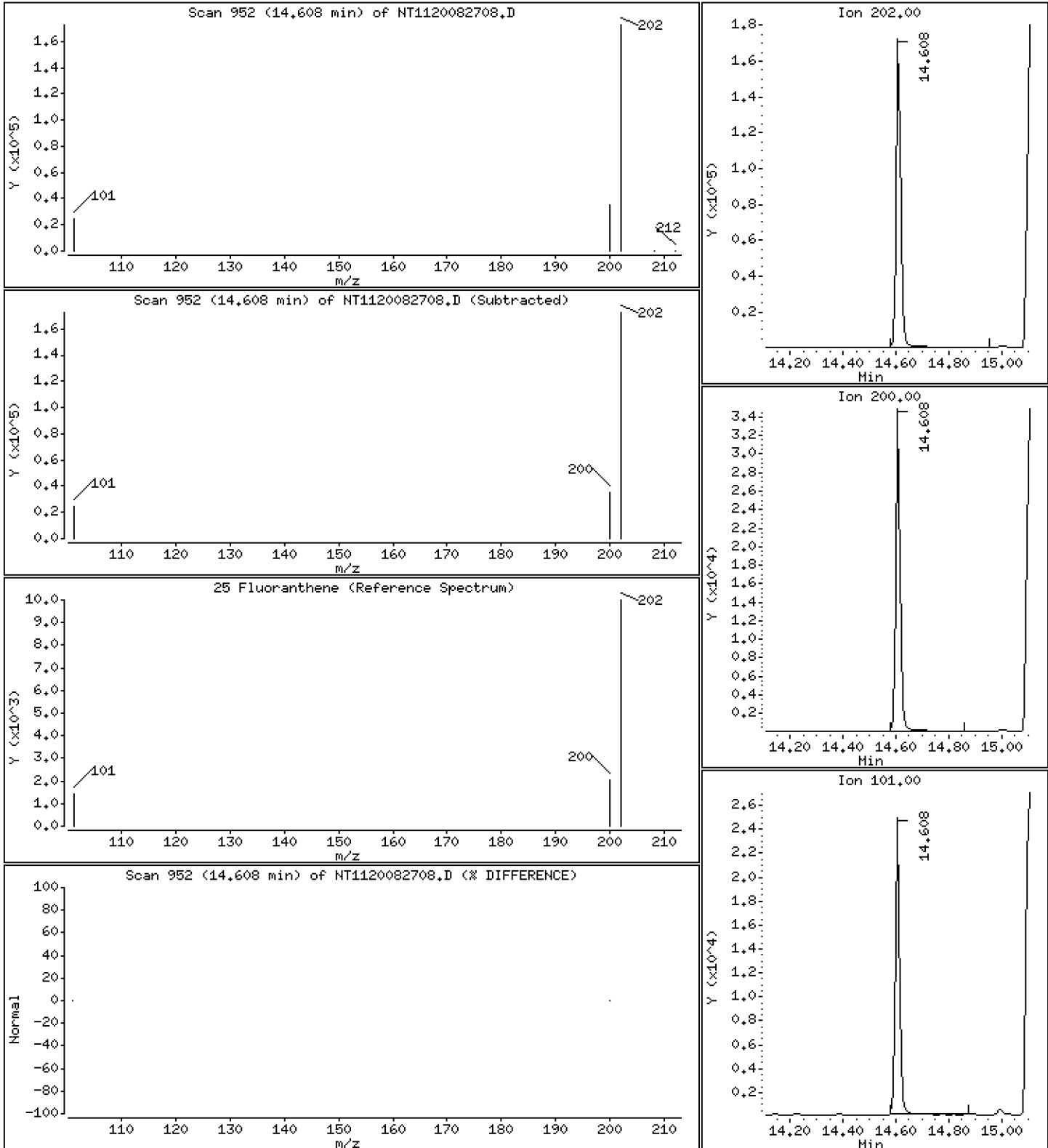
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 236 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

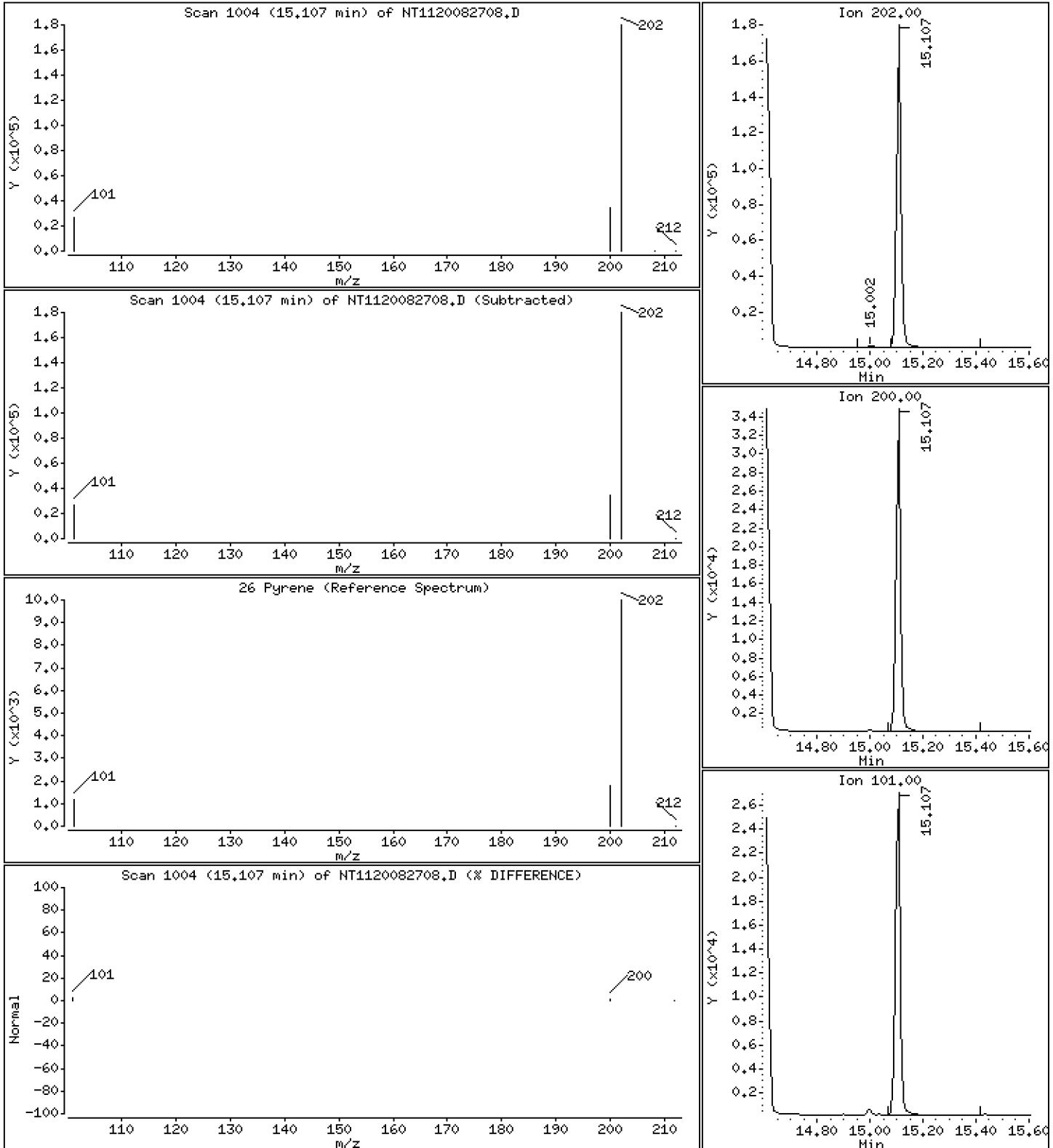
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 235 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

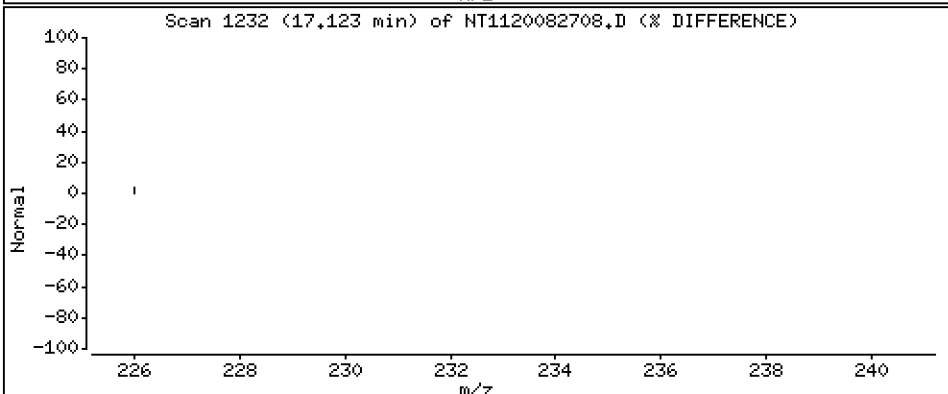
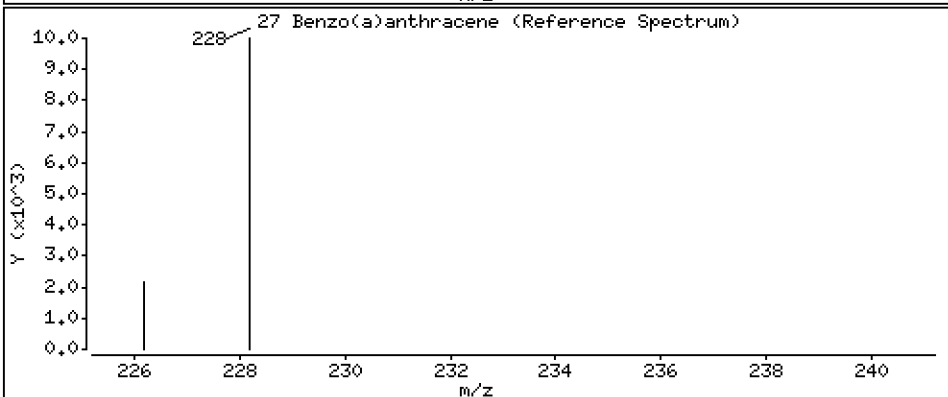
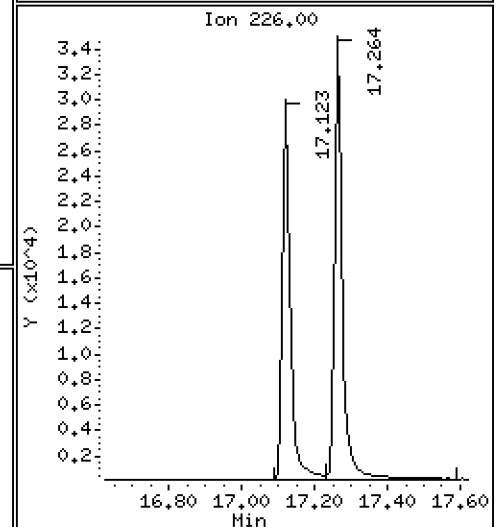
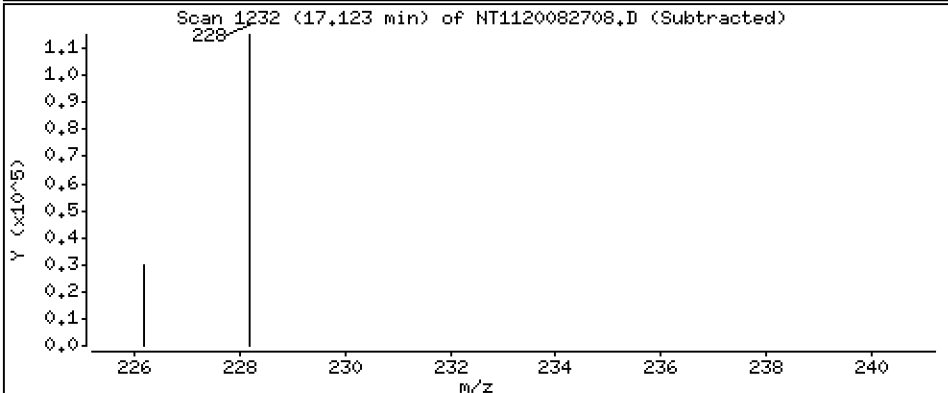
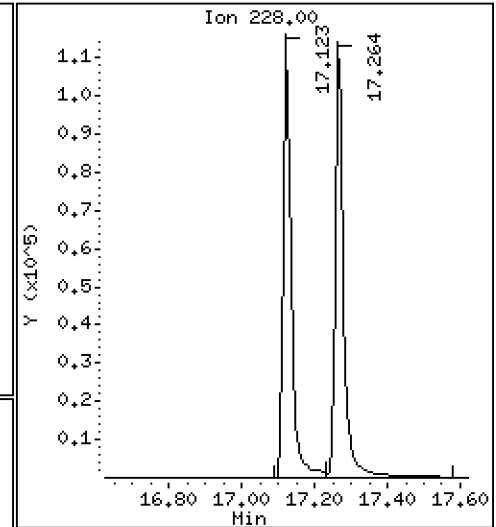
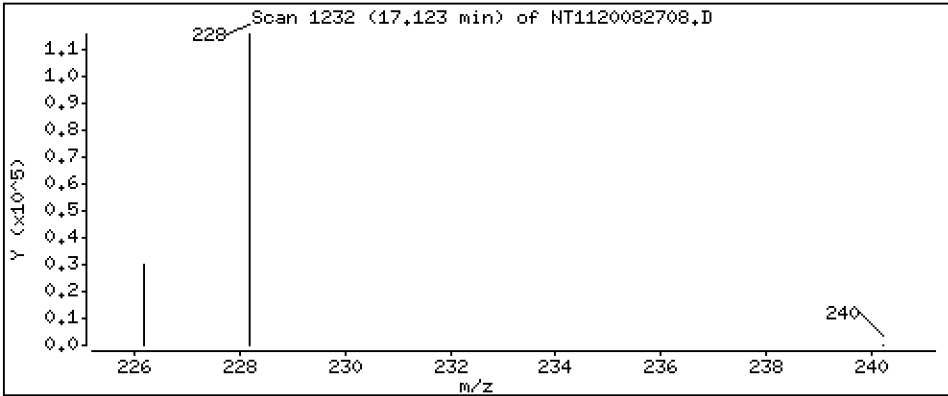
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 223 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

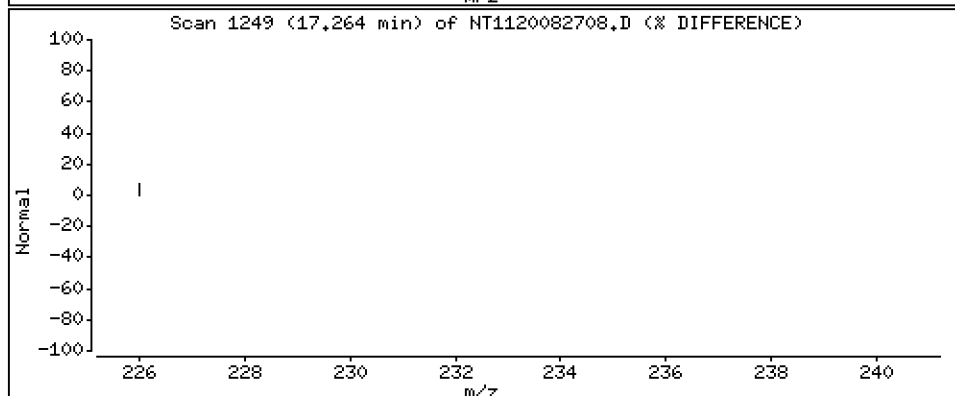
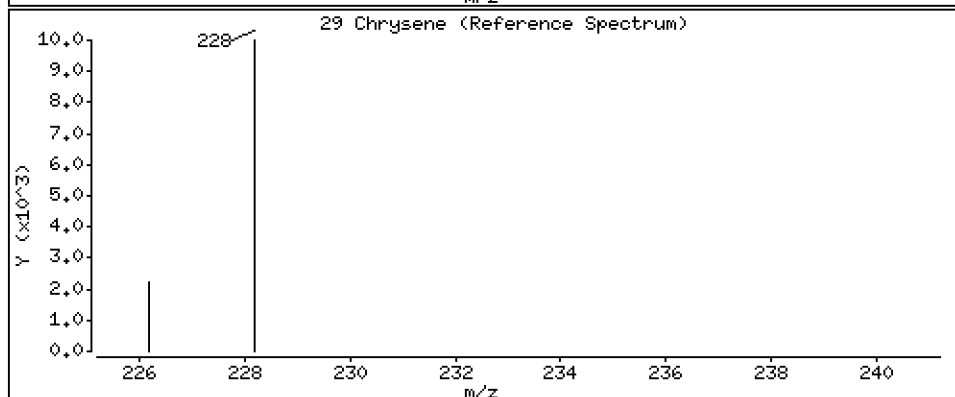
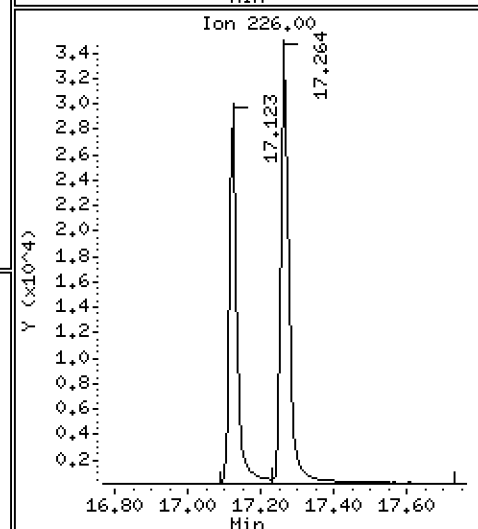
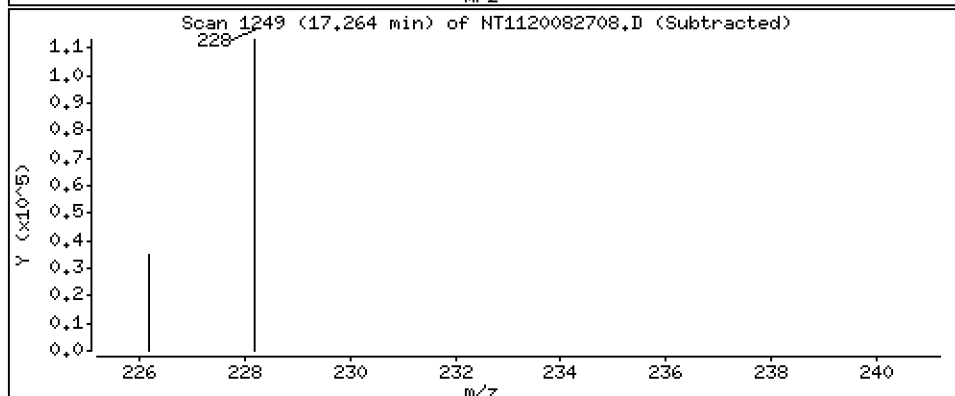
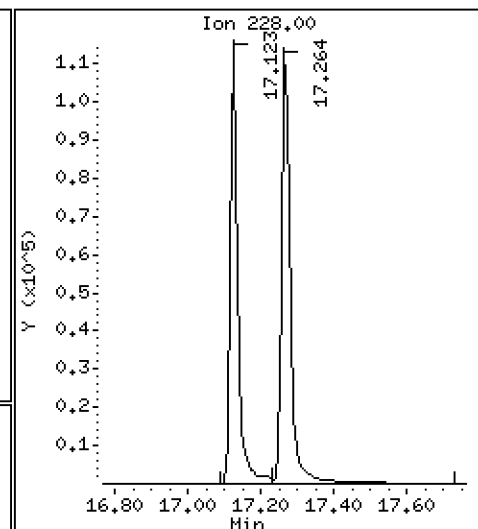
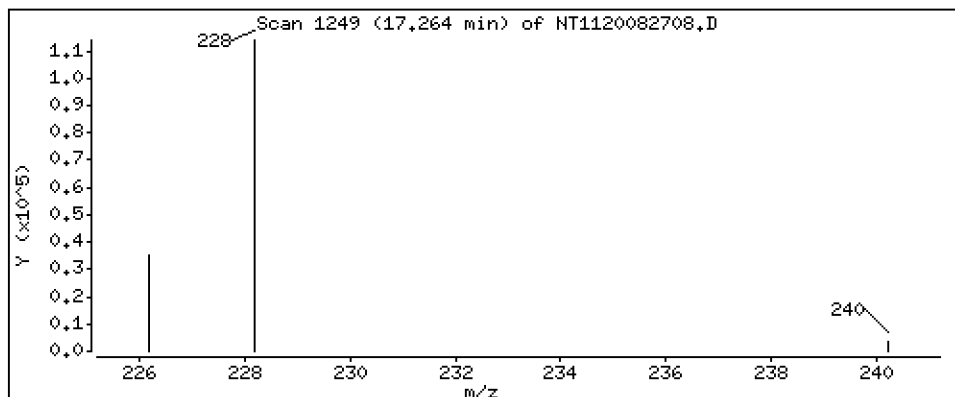
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 215 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

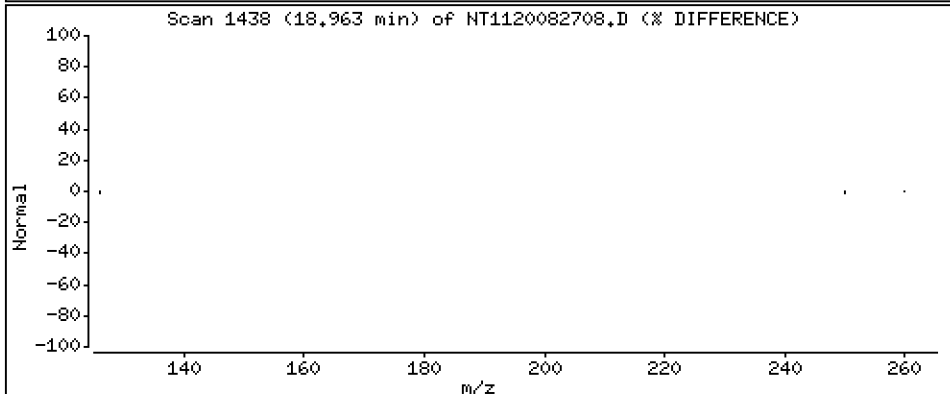
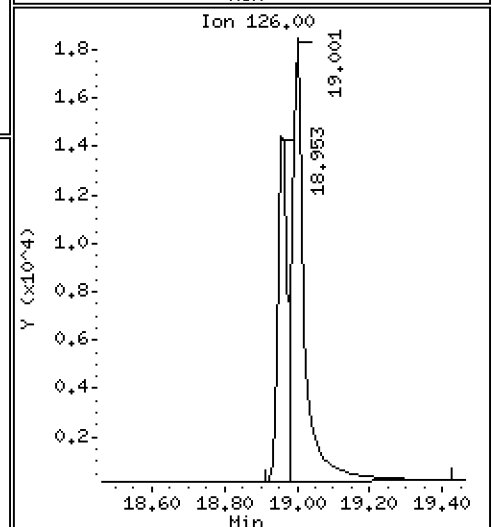
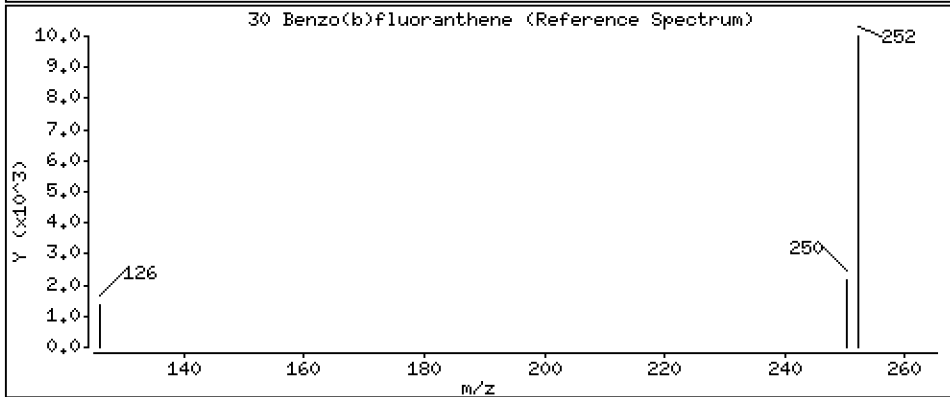
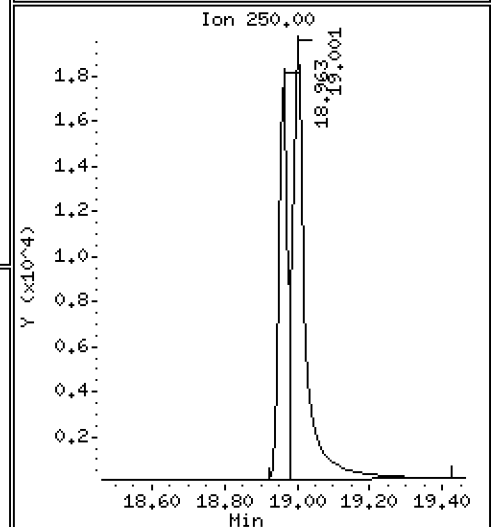
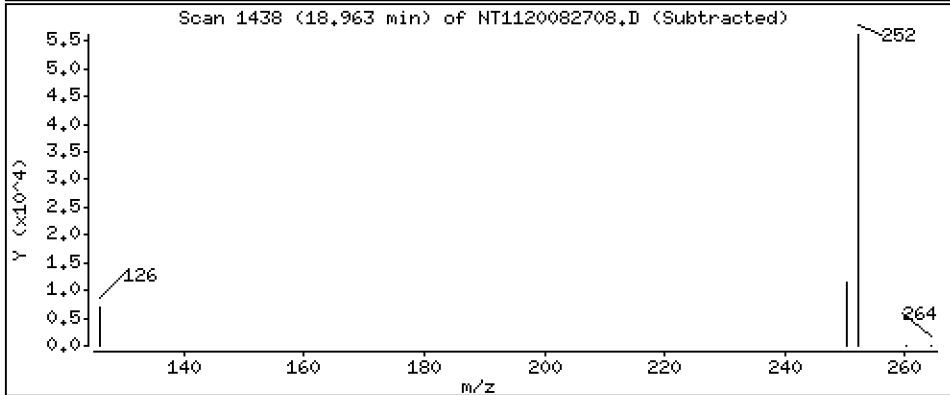
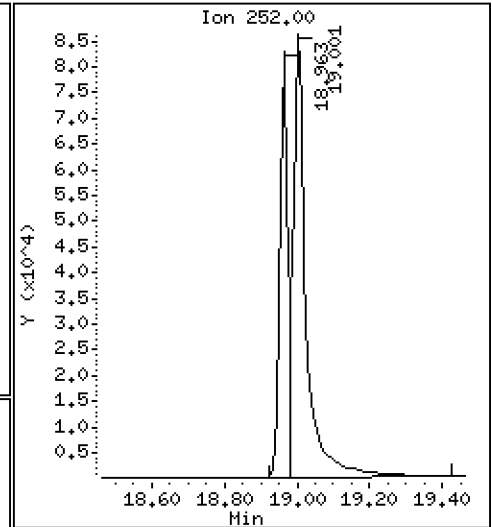
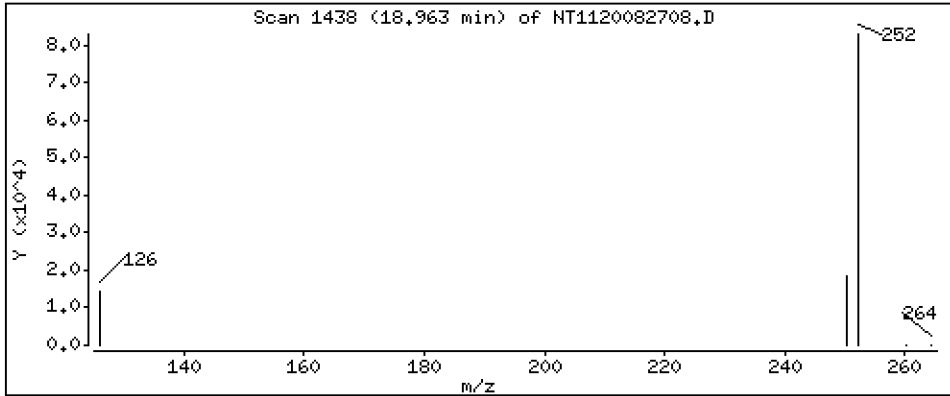
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 212 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

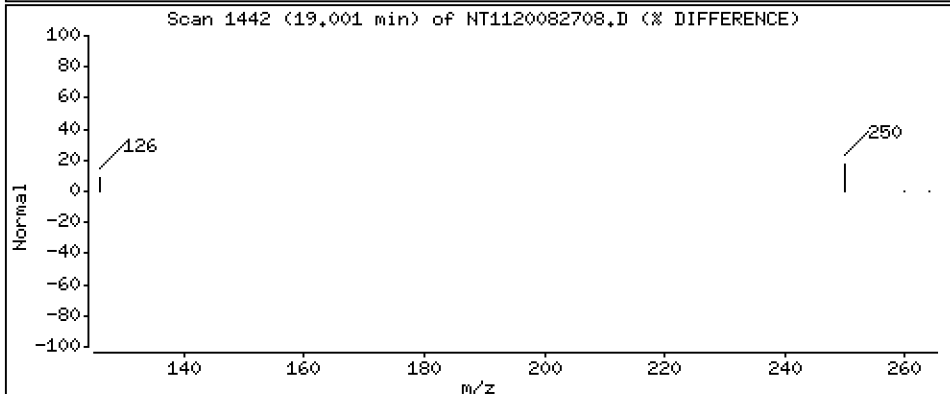
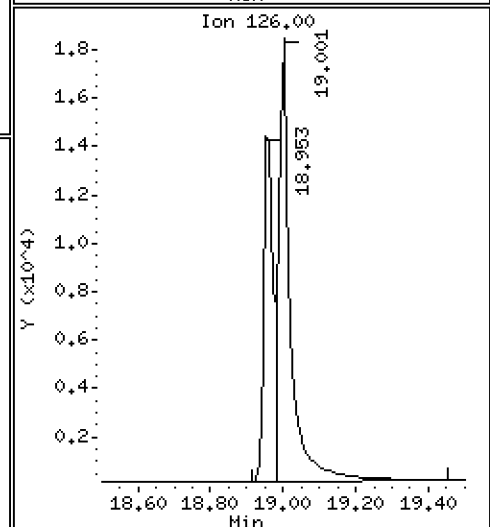
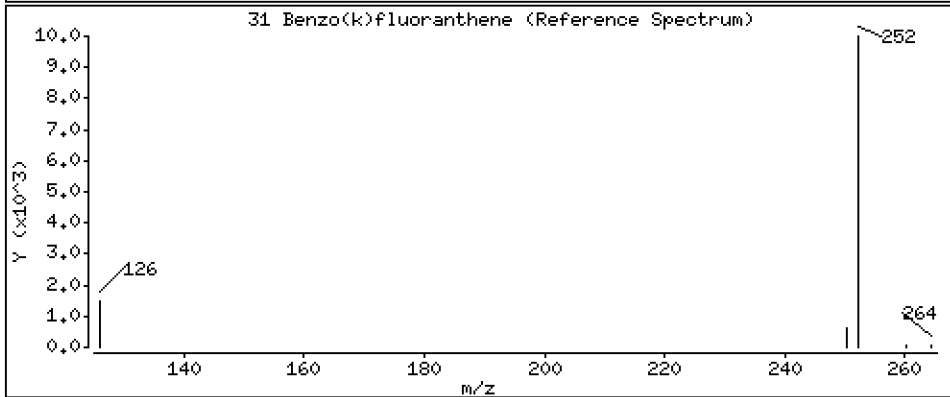
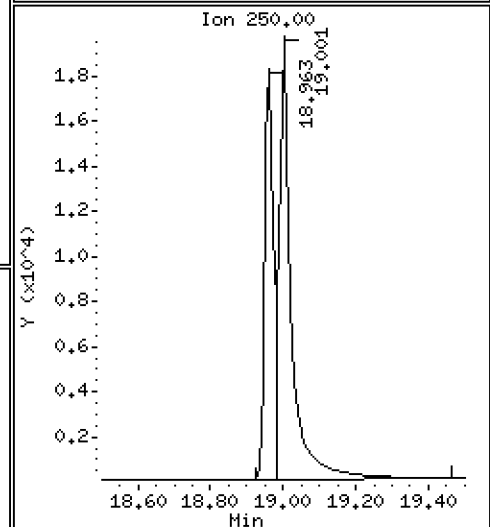
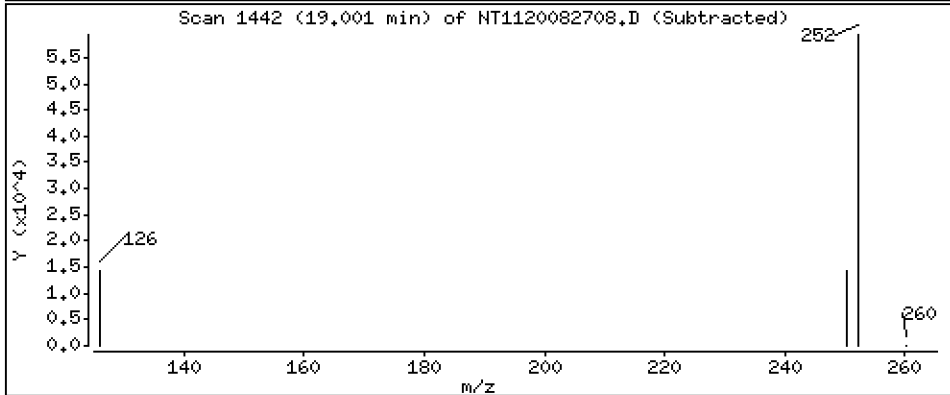
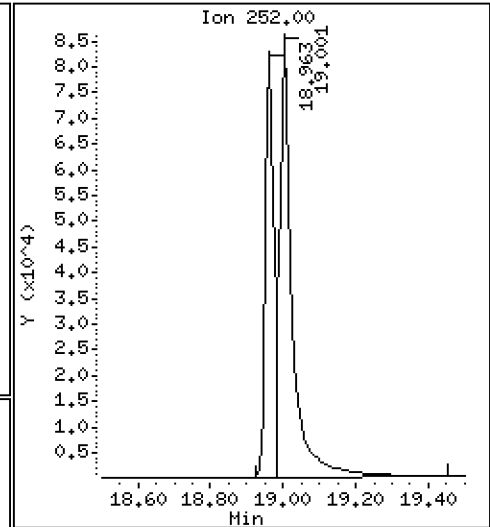
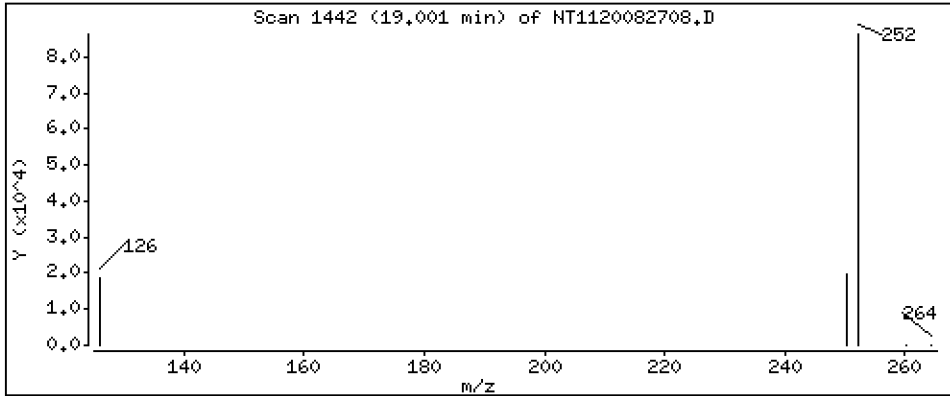
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 260 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

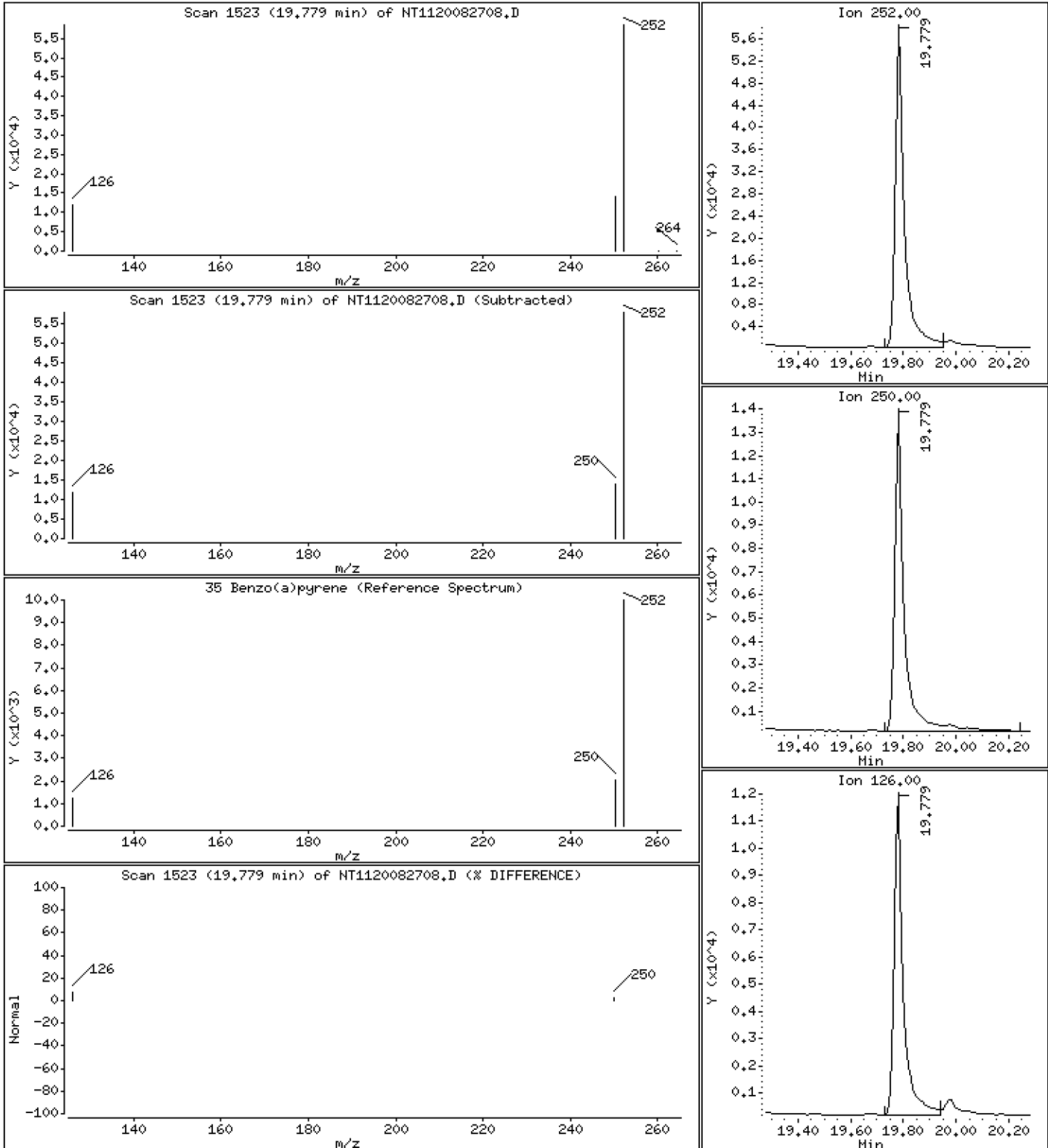
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 213 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

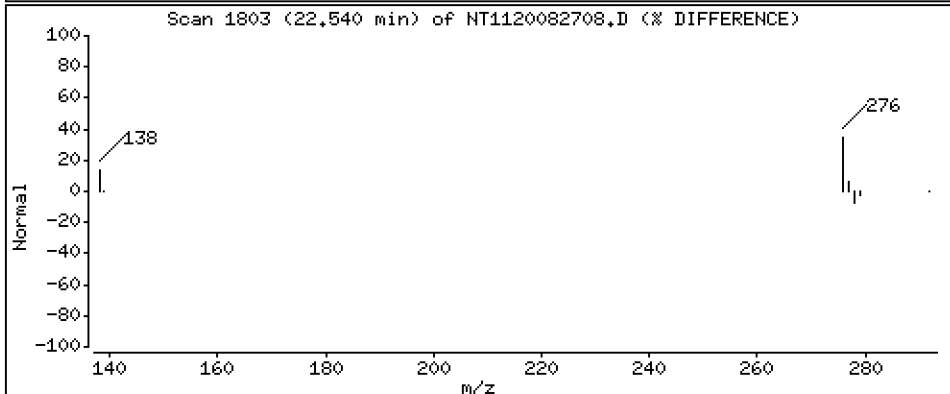
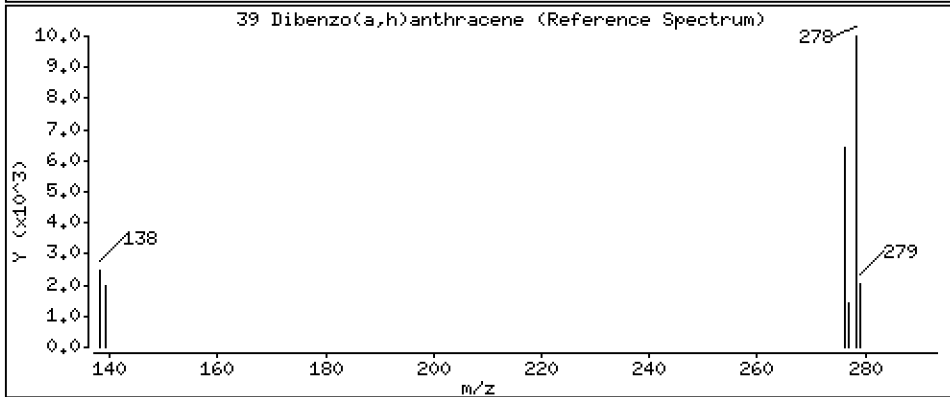
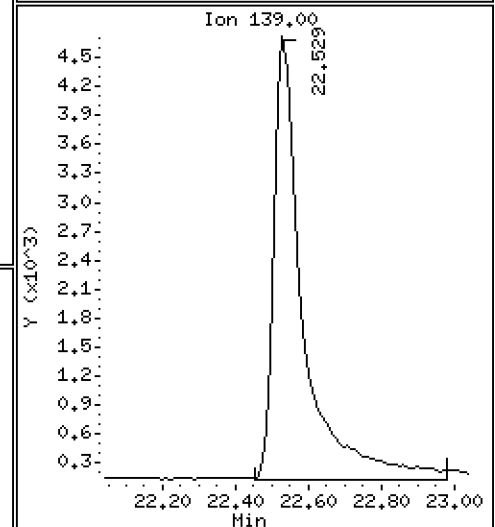
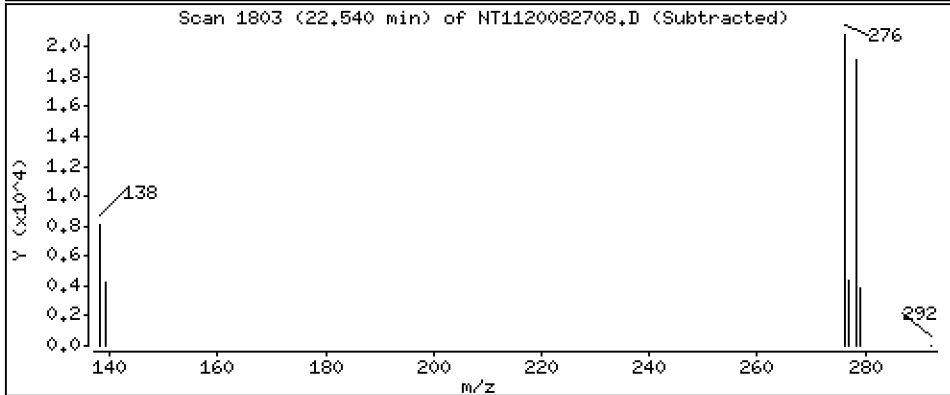
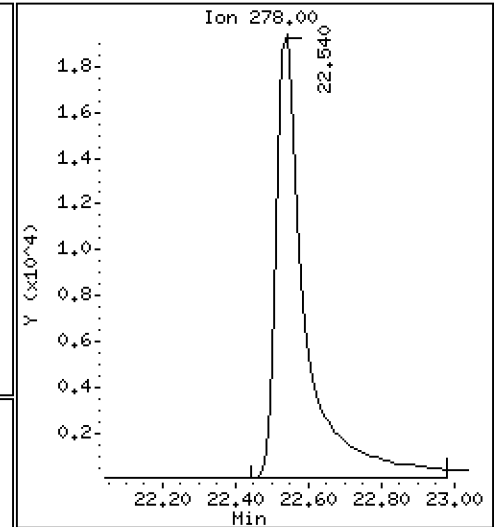
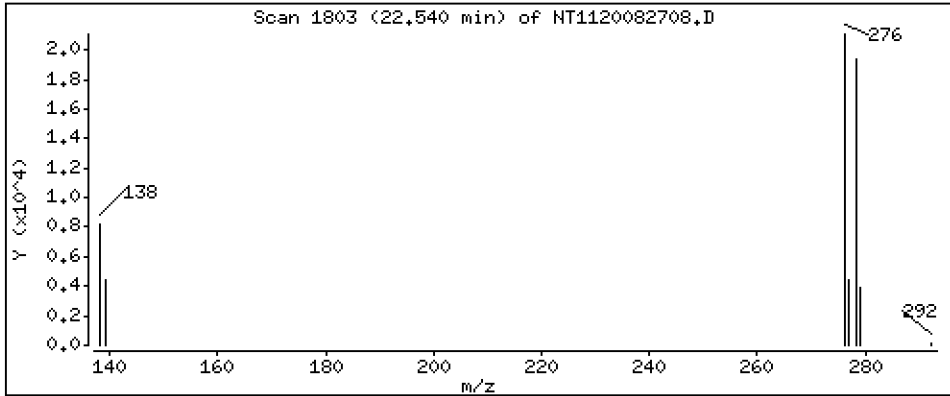
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

39 Dibenzo(a,h)anthracene

Concentration: 192 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

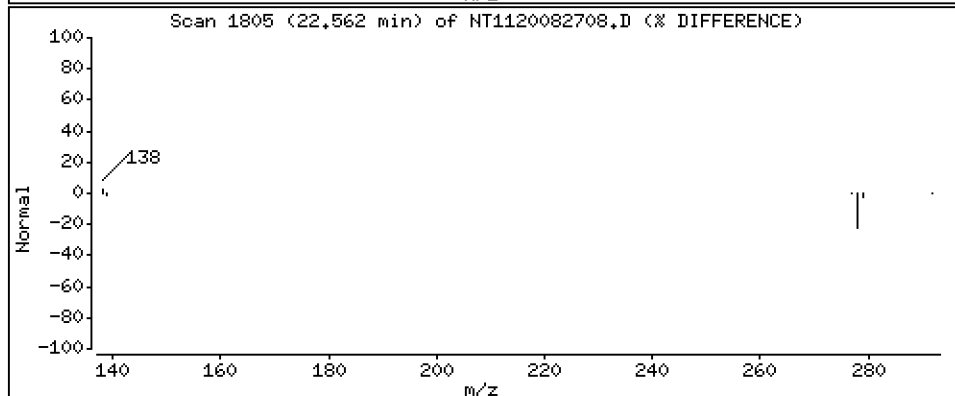
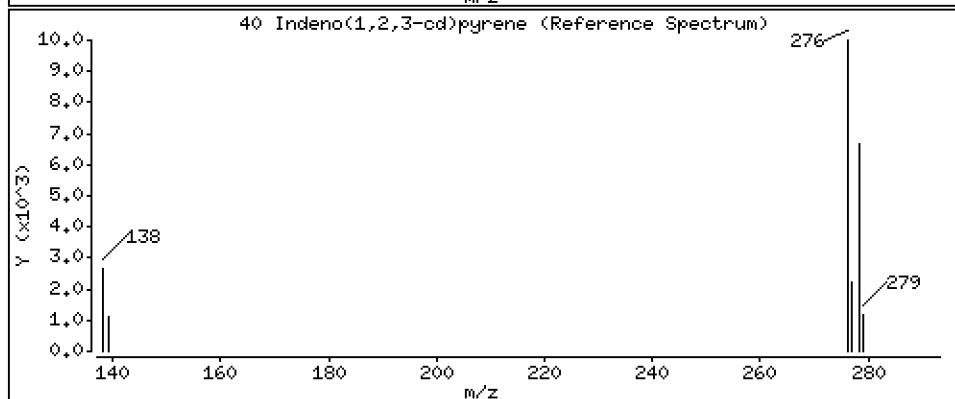
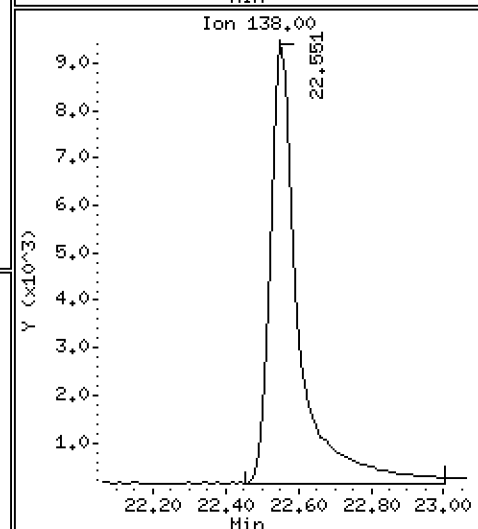
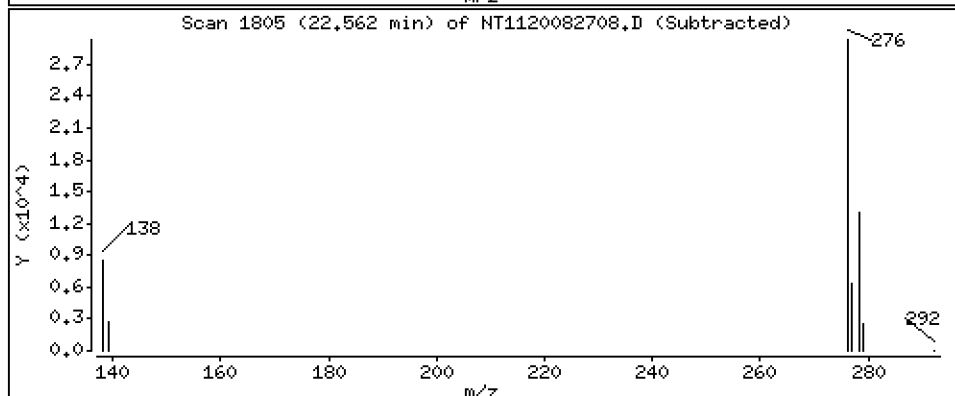
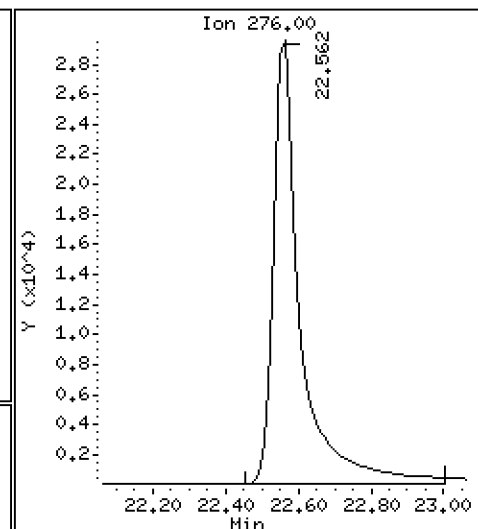
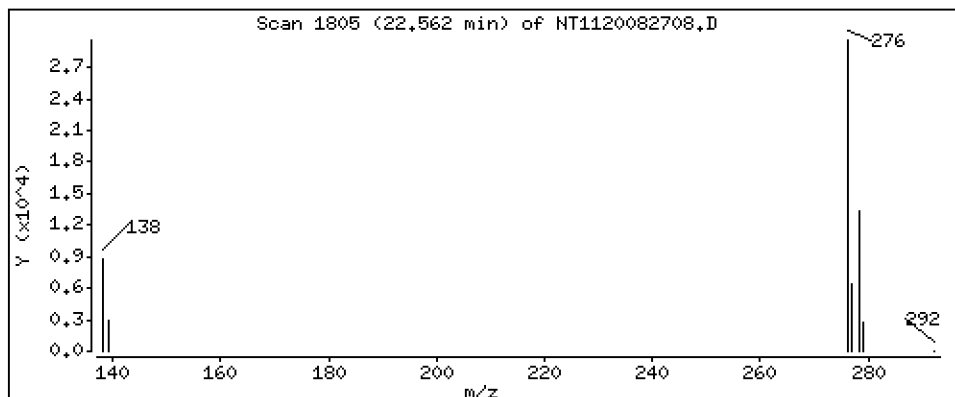
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

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

Concentration: 227 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

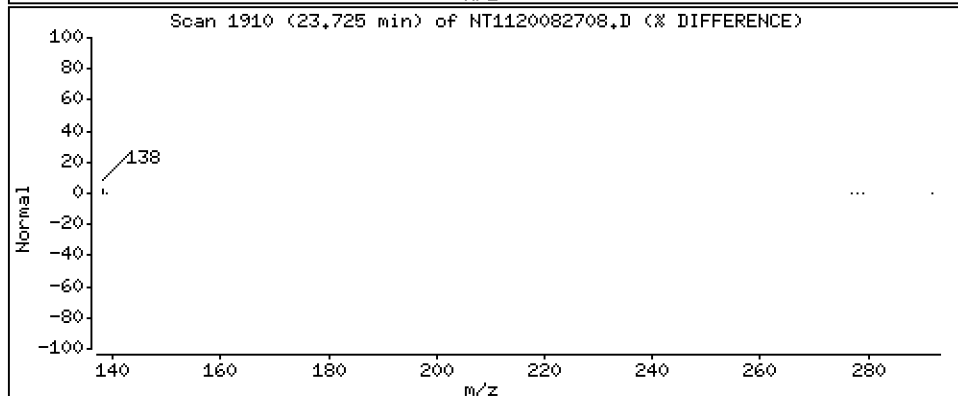
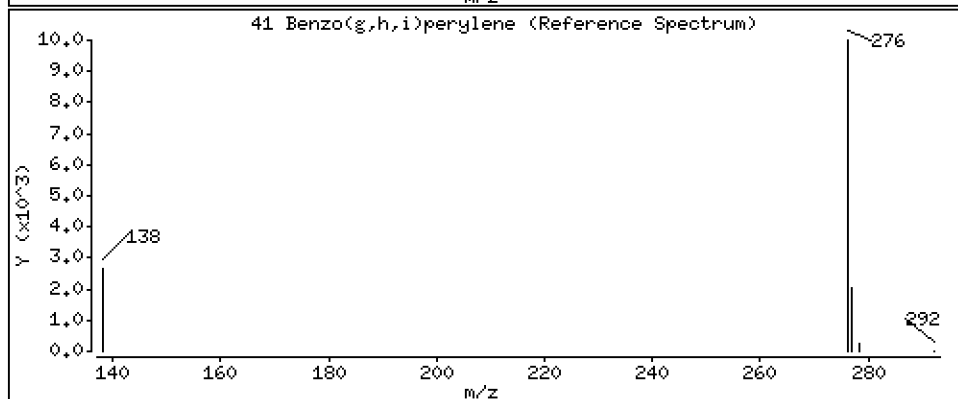
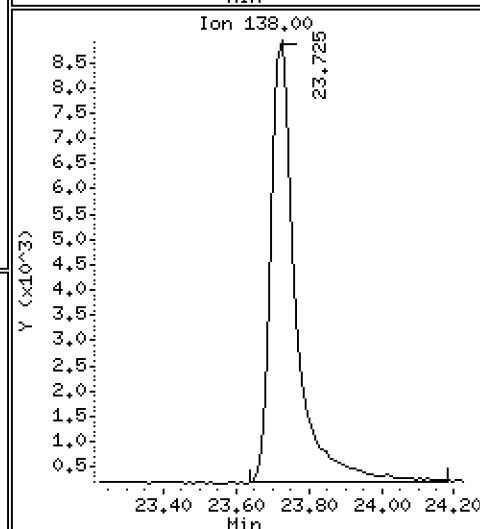
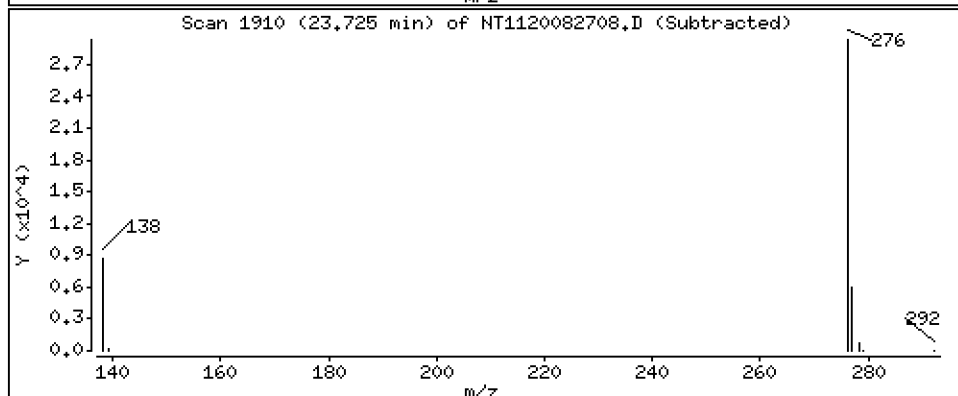
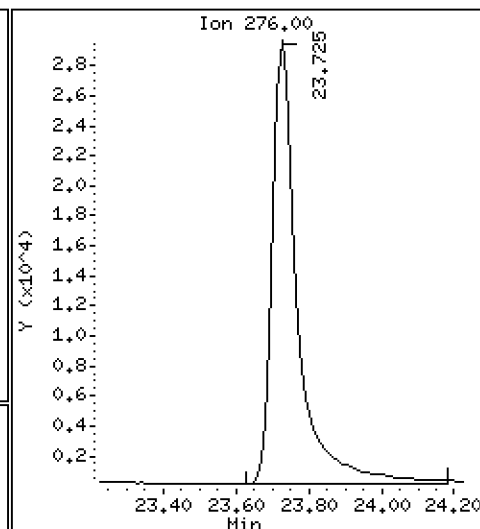
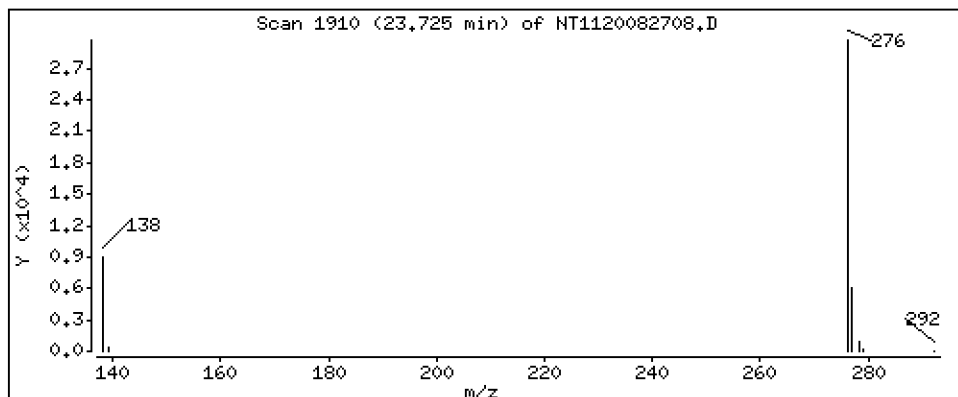
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 214 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20200827.b\NT1120082708.D
 Lab Smp Id: SIH0304-SCV1
 Inj Date : 27-AUG-2020 15:38 MS Autotune Date: 15-JAN-2015 16:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : SIH0304-SCV1
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20200827.b\lowsim.m
 Meth Date : 28-Aug-2020 07:11 van Quant Type: ISTD
 Cal Date : 27-AUG-2020 13:38 Cal File: NT1120082704.D
 Als bottle: 8
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PAH.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		6.804	6.804	(1.000)	202035	200.000	
2 Naphthalene	128		6.840	6.840	(1.005)	263329	224.480	224
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		Compound Not Detected.					
5 2-Methylnaphthalene	142		Compound Not Detected.					
6 1-Methylnaphthalene	142		Compound Not Detected.					
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		Compound Not Detected.					
9 2,6-Dimethylnaphthalene	156		Compound Not Detected.					
10 Acenaphthylene	152		9.653	9.653	(0.984)	241360	233.261	233
* 11 Acenaphthene-d10	164		9.807	9.807	(1.000)	90189	200.000	
12 Acenaphthene	153		9.870	9.870	(1.006)	151880	221.934	222
13 Dibenzofuran	168		Compound Not Detected.					
14 2,3,5-Trimethylnaphthalene	170		Compound Not Detected.					
16 Fluorene	166		10.694	10.694	(1.090)	164299	233.486	233
17 Dibenzothiophene	184		Compound Not Detected.					
* 18 Phenanthrene-d10	188		12.482	12.482	(1.000)	142829	200.000	
19 Phenanthrene	178		12.513	12.524	(1.003)	217246	232.514	233
21 Anthracene	178		12.576	12.576	(1.008)	207807	222.597	223
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		Compound Not Detected.					
\$ 24 Fluoranthene-d10	212		Compound Not Detected.					
25 Fluoranthene	202		14.607	14.607	(1.170)	220035	236.211	236
26 Pyrene	202		15.107	15.107	(1.210)	224689	235.115	235
27 Benzo(a)anthracene	228		17.123	17.122	(0.994)	170476	223.013	223
* 28 Chrysene-d12	240		17.222	17.214	(1.000)	104063	200.000	
29 Chrysene	228		17.264	17.264	(1.002)	185336	215.323	215
30 Benzo(b)fluoranthene	252		18.962	18.962	(0.949)	137886	212.389	212
31 Benzo(k)fluoranthene	252		19.001	19.001	(0.951)	222044	260.291	260
32 Benzo(j)fluoranthene	252		Compound Not Detected.					
34 Benzo(e)pyrene	252		Compound Not Detected.					
35 Benzo(a)pyrene	252		19.779	19.779	(0.990)	144487	213.091	213
* 36 Perylene-d12	264		19.981	19.981	(1.000)	119273	200.000	
37 Perylene	252		Compound Not Detected.					

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/mL)
=====	=====	=====	=====	=====	=====	=====	
\$ 38 Dibenzo(a,h)anthracene-d14	292	Compound Not Detected.					
39 Dibenzo(a,h)anthracene	278	22.540	22.540	(1.128)	107076	191.902	192
40 Indeno(1,2,3-cd)pyrene	276	22.562	22.562	(1.129)	149356	226.827	227
41 Benzo(g,h,i)perylene	276	23.725	23.725	(1.187)	141191	214.457	214

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 27-AUG-2020
 Lab File ID: NT1120082708.D Calibration Time: 12:35
 Lab Smp Id: SIH0304-SCV1
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20200827.b\lowsim.m
 Misc Info:

Test Mode:
 Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	215332	107666	430664	202035	-6.18
11 Acenaphthene-d10	102217	51109	204434	90189	-11.77
18 Phenanthrene-d10	170387	85194	340774	142829	-16.17
28 Chrysene-d12	116138	58069	232276	104063	-10.40
36 Perylene-d12	139038	69519	278076	119273	-14.22

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	6.81	6.31	7.31	6.80	-0.13
11 Acenaphthene-d10	9.81	9.31	10.31	9.81	-0.00
18 Phenanthrene-d10	12.48	11.98	12.98	12.48	-0.00
28 Chrysene-d12	17.21	16.71	17.71	17.22	0.05
36 Perylene-d12	19.98	19.48	20.48	19.98	-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 - NT1120082708.D

Lab ID: SIH0304-SCV1

nt11.i, 20200827.b\lowsim.m, 27-AUG-2020 15:38

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

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

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

RRT check based on Ccal File: NT1120082704.D

On Column LOD for nt11.i, 20200827.b\lowsim.m, PAH.sub = 0.0000

Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000

Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000

Exception: Fluoranthene-d10 (Surr) 0.1000

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



SECOND-SOURCE CALIBRATION VERIFICATION
EPA 8270E-SIM

Laboratory: Analytical Resources, Inc.

SDG: 21C0175

Client: Anchor QEA, LLC

Project: GascoSiltronic: US Moorings

Calibration: DL00046

Laboratory ID: SIL0206-SCV1

Sequence: SIL0206

Sequence Name: SIM TBT

Standard ID: I011506

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DRIFT	QC LIMIT
Tributyltin Ion	1.5460	1.69	9.3	20.00
Tripentyltin	1.5918	1.77	11.1	20.00

* Indicates values outside of QC limits

Data File: \\target\share\chem3\nt8.1\20201215.6\NT820121509.D

Date: 15-DEC-2020 11:49

Client ID:

Sample Info: SCV201215,

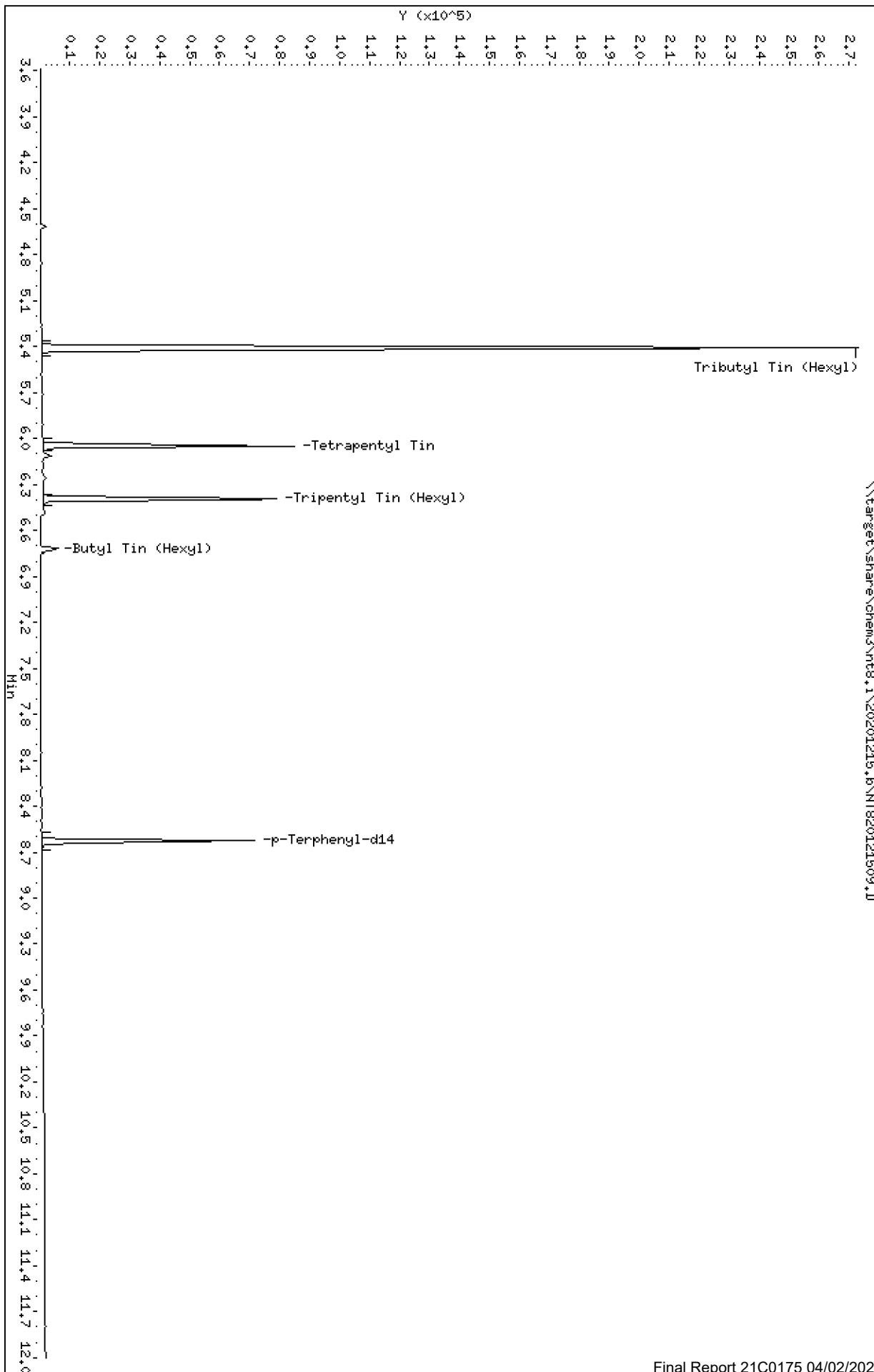
Column phase: ZB-5msi

Instrument: nt8.1

Operator: JZ

Column diameter: 0.25

Page 1



Date : 15-DEC-2020 11:49

Client ID:

Instrument: nt8.i

Sample Info: SCV201215,

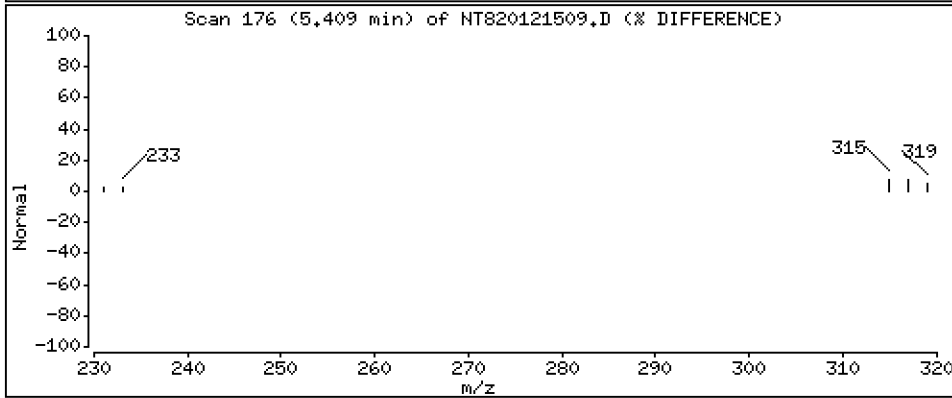
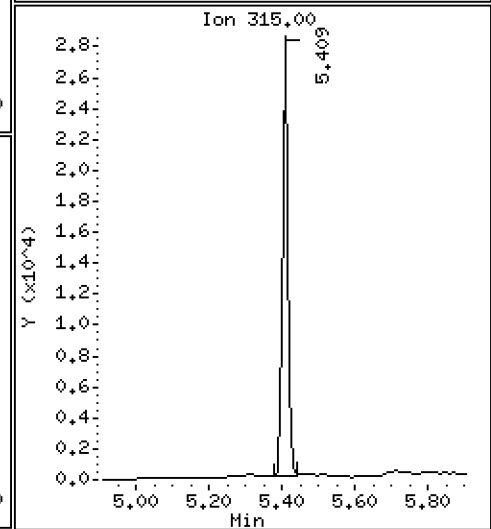
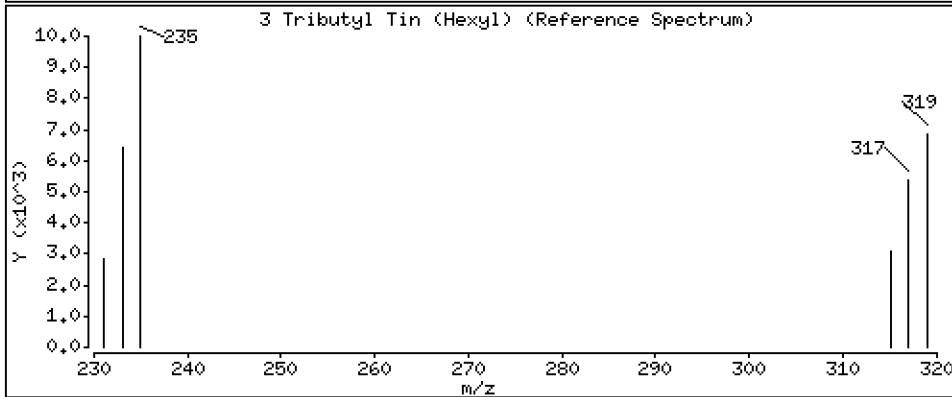
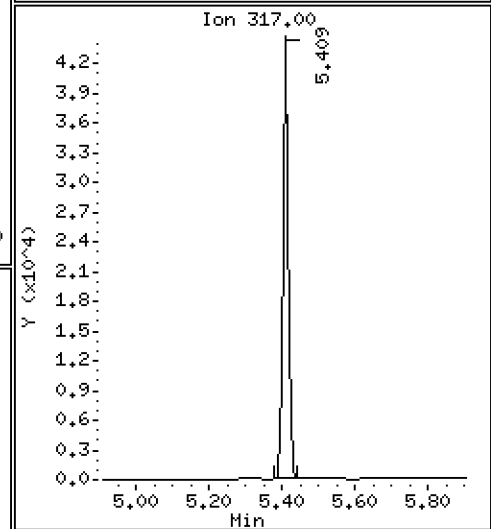
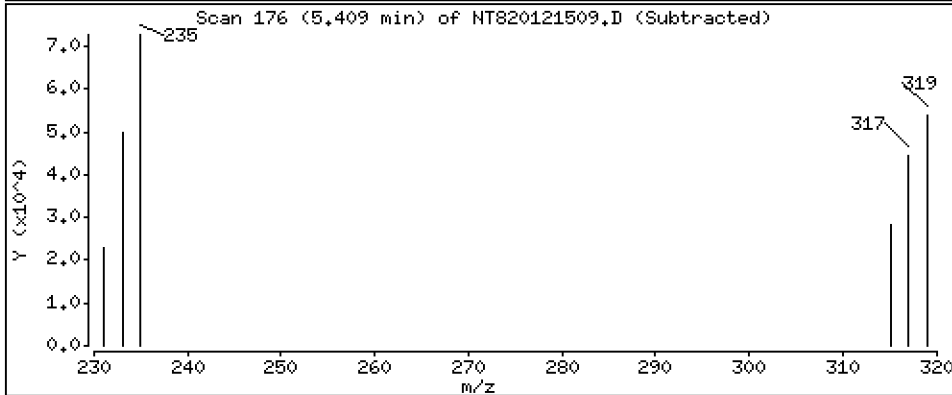
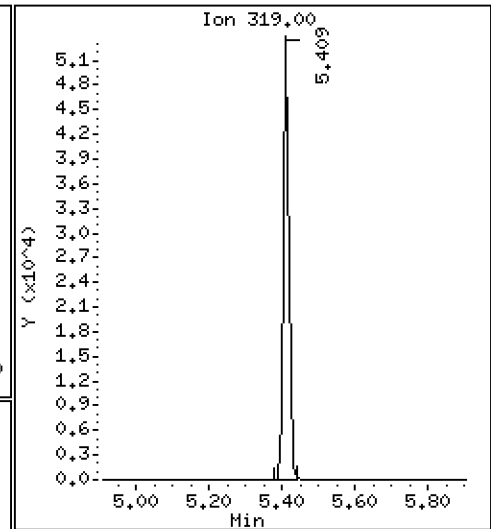
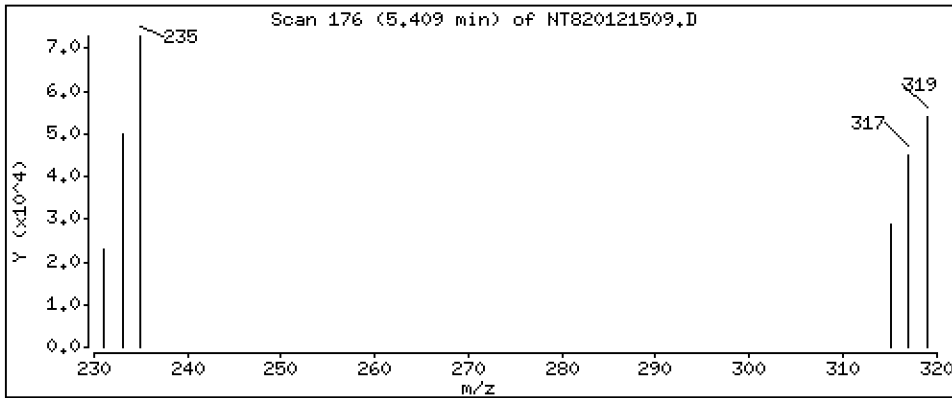
Operator: JZ

Column phase: ZB-5msi

Column diameter: 0,25

3 Tributyl Tin (Hexyl)

Concentration: 2,186 ug/mL



Date : 15-DEC-2020 11:49

Client ID:

Instrument: nt8.i

Sample Info: SCV201215,

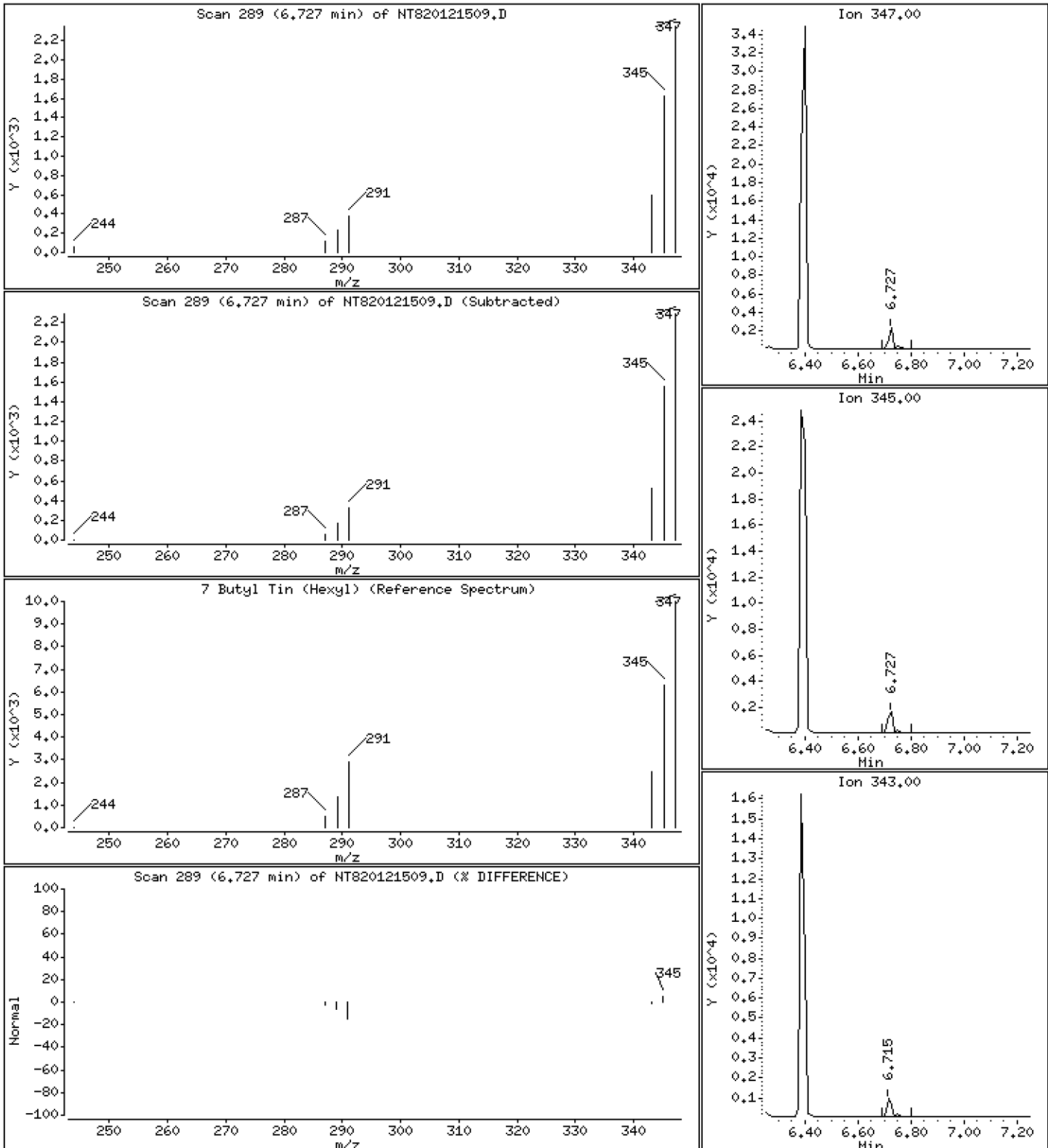
Operator: JZ

Column phase: ZB-5msi

Column diameter: 0.25

7 Butyl Tin (Hexyl)

Concentration: 0.1224 ug/mL



ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt8.i\20201215.b\NT820121509.D
 Lab Smp Id: SIL0206-SCV1
 Inj Date : 15-DEC-2020 11:49
 Operator : JZ Inst ID: nt8.i
 Smp Info : SCV201215,
 Misc Info : 20-
 Comment : 2 ul Injection
 Method : \\target\share\chem3\nt8.i\20201215.b\TBT201215.m
 Meth Date : 15-Dec-2020 14:04 jianqing Quant Type: ISTD
 Cal Date : 15-DEC-2020 11:33 Cal File: NT820121508.D
 Als bottle: 9
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: sed.sub
 Target Version: 4.14
 Processing Host: ORGDATA22

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ug/mL)	FINAL (ug/mL)
\$ 1 Tripropyl Tin (Hexyl)	291				Compound Not Detected.		
2 Tetrabutyl Tin	289				Compound Not Detected.		
3 Tributyl Tin (Hexyl)	319	5.409	5.409	(0.894)	54848	2.18617	2.186
* 4 Tetrapentyl Tin	333	6.049	6.049	(1.000)	78512	2.00000	
5 Dibutyl Tin (Hexyl)	347				Compound Not Detected.		
\$ 6 Tripentyl Tin (Hexyl)	347	6.400	6.400	(0.742)	41293	2.22129	2.221
7 Butyl Tin (Hexyl)	347	6.726	6.751	(0.780)	2715	0.12240	0.1224
* 8 p-Terphenyl-d14	244	8.626	8.626	(1.000)	69992	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt8.i Calibration Date: 15-DEC-2020
 Lab File ID: NT820121509.D Calibration Time: 10:10
 Lab Smp Id: SIL0206-SCV1
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: JZ
 Method File: \\target\share\chem3\nt8.i\20201215.b\TBT201215.m
 Misc Info: 20-

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	72645	36323	145290	78512	8.08
8 p-Terphenyl-d14	65742	32871	131484	69992	6.46

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	6.05	5.55	6.55	6.05	-0.00
8 p-Terphenyl-d14	8.63	8.13	9.13	8.63	-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 - NT820121509.D

Lab ID: SIL0206-SCV1

nt8.i, 20201215.b\TBT201215.m, 15-DEC-2020 11:49

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

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

RRT CHECK

RRT CCV RRT DELTA COMPOUND

NONE

RRT check based on Ccal File: NT820121503.D

On Column LOD for nt8.i, 20201215.b\TBT201215.m, sed.sub = 0.0300

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



SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270E-SIM

Laboratory: Analytical Resources, Inc.

SDG: 21C0175

Client: Anchor QEA, LLC

Project: GascoSiltronic: US Moorings

Calibration: DH00073

Laboratory ID: SIH0304-SCV1

Sequence: SIH0304

Standard ID: I004581

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
Naphthalene	250.00	224	-10.2	20.00
Acenaphthylene	250.00	233	-6.7	20.00
Acenaphthene	250.00	222	-11.2	20.00
Fluorene	250.00	233	-6.6	20.00
Phenanthrene	250.00	233	-7.0	20.00
Anthracene	250.00	223	-11.0	20.00
Fluoranthene	250.00	236	-5.5	20.00
Pyrene	250.00	235	-6.0	20.00
Benzo(a)anthracene	250.00	223	-10.8	20.00
Chrysene	250.00	215	-13.9	20.00
Benzo(b)fluoranthene	250.00	212	-15.0	20.00
Benzo(k)fluoranthene	250.00	260	4.1	20.00
Benzo(a)pyrene	250.00	213	-14.8	20.00
Indeno(1,2,3-cd)pyrene	250.00	227	-9.3	20.00
Dibenzo(a,h)anthracene	250.00	192	-23.2 *	20.00
Benzo(g,h,i)perylene	250.00	214	-14.2	20.00

* Values outside of QC limits

Data File: \\target\share\chem3\nt11.1\20200827.6\NT1120082708.D

Date : 27-AUG-2020 15:38

Client ID:

Sample Info: SIH0304-SCW1

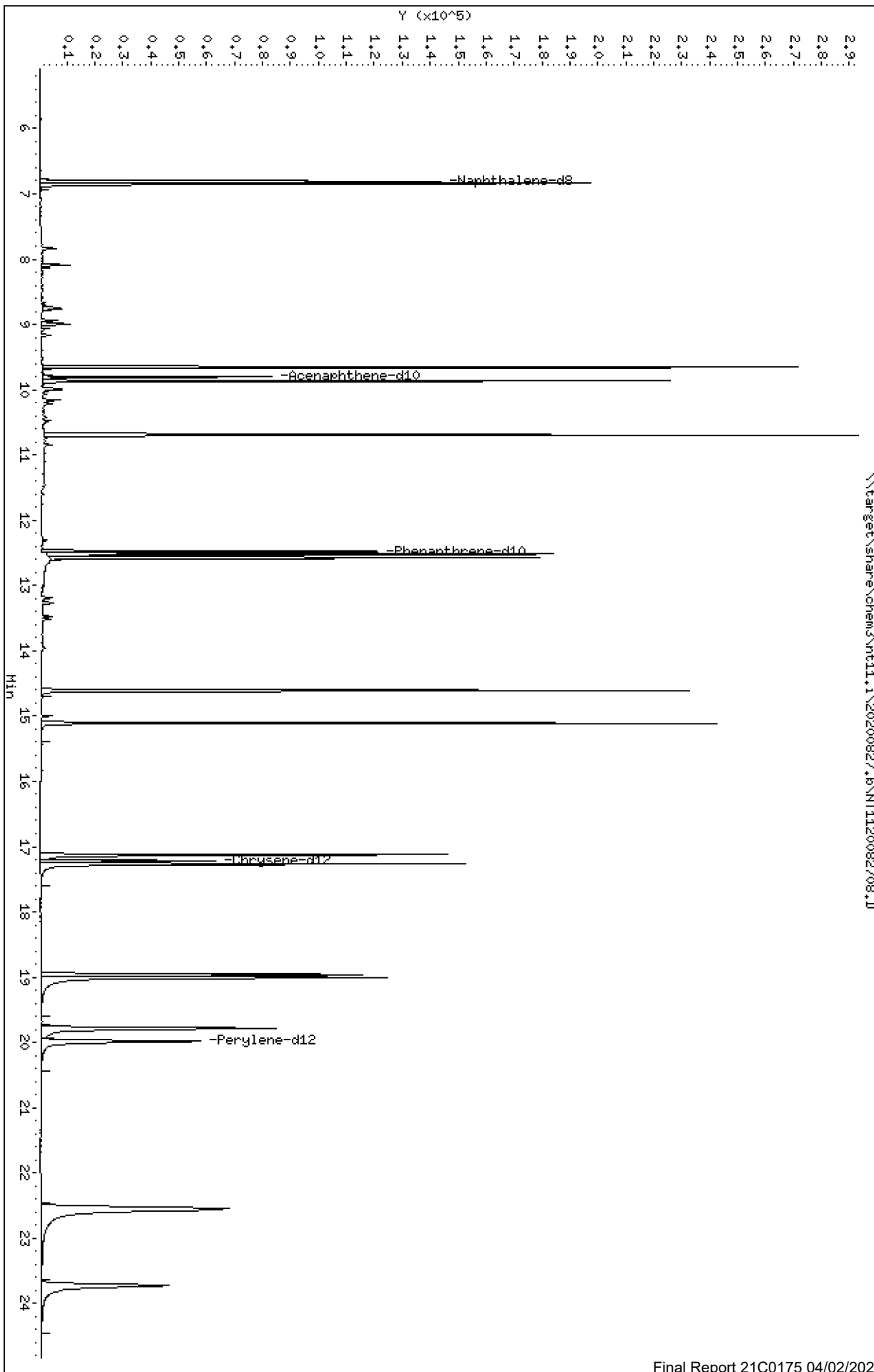
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

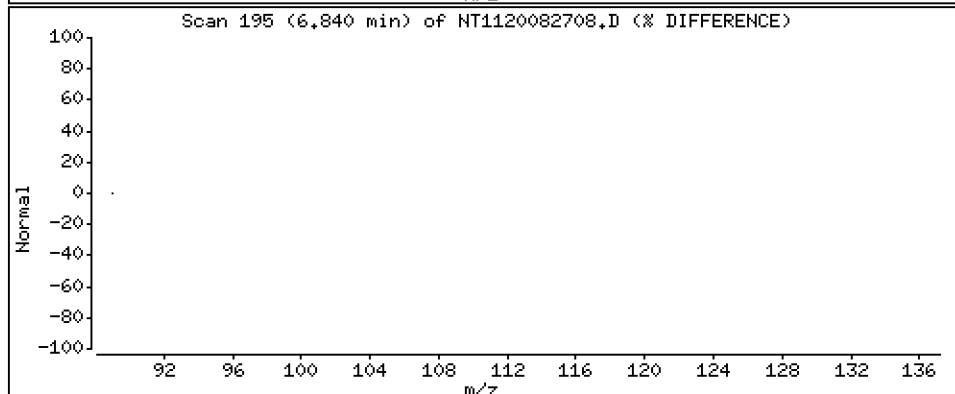
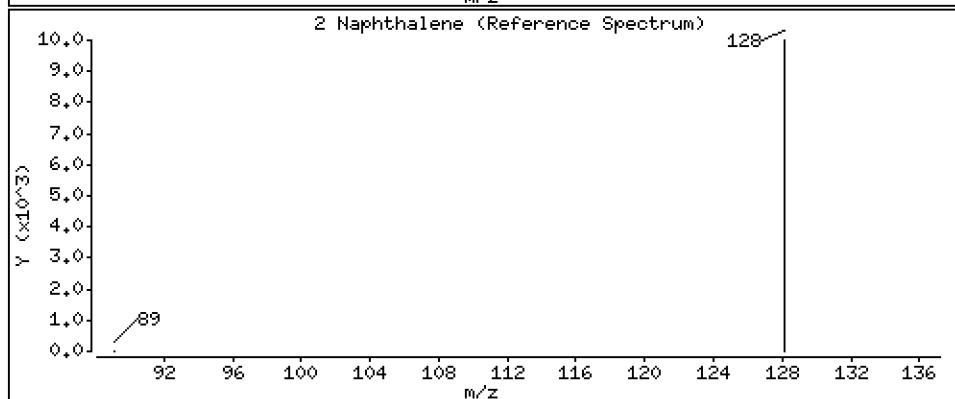
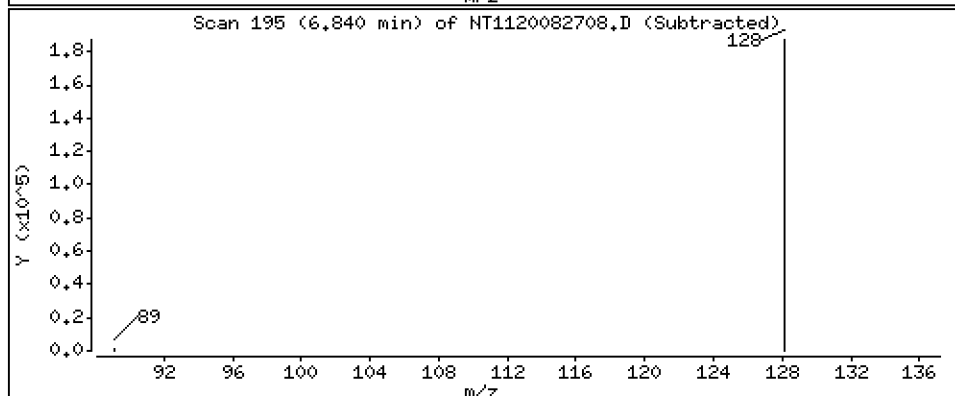
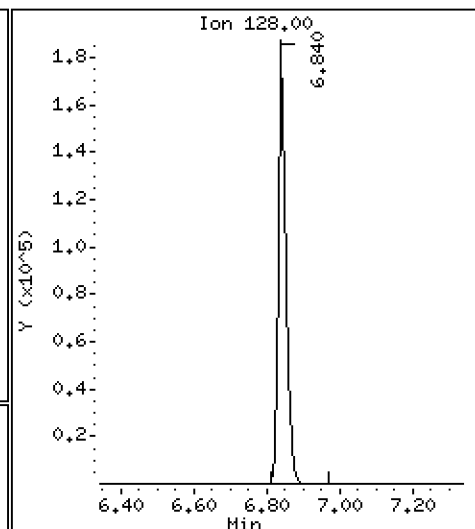
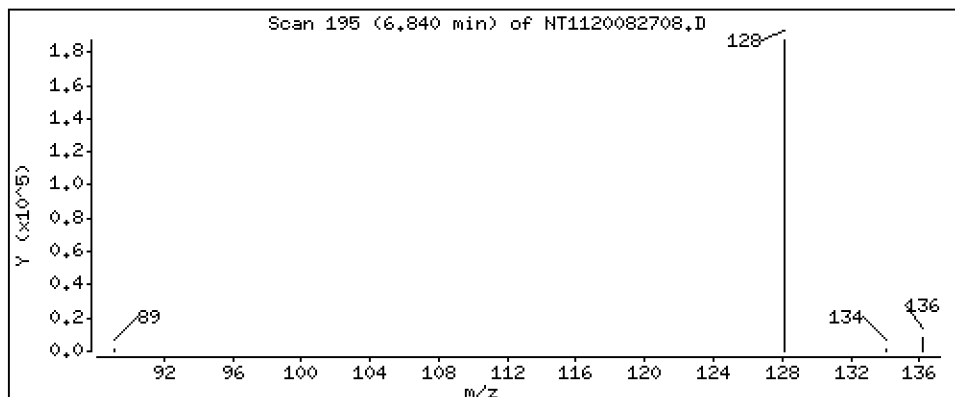
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 224 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

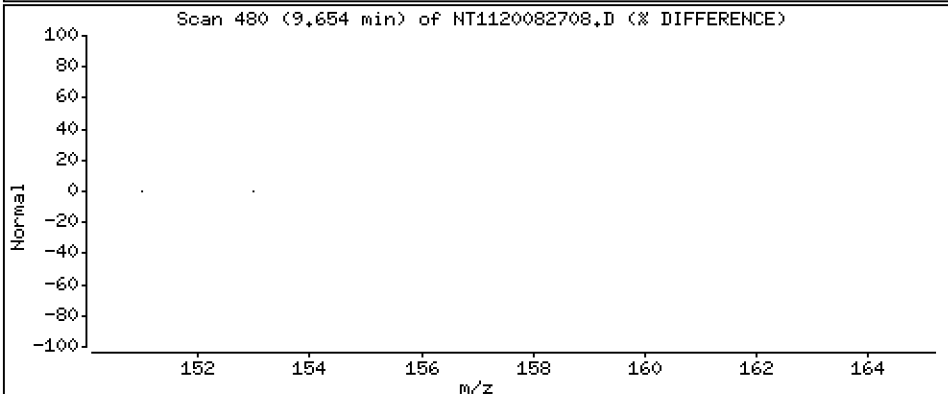
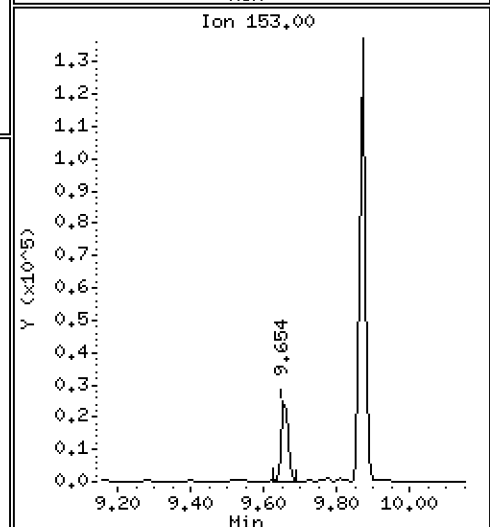
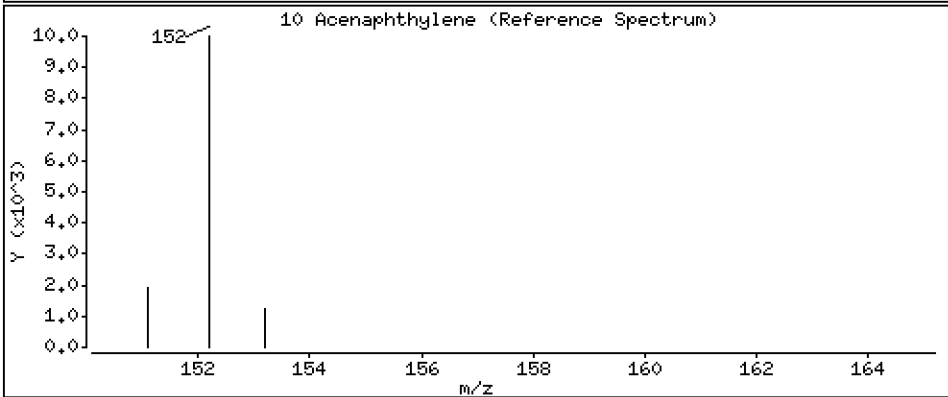
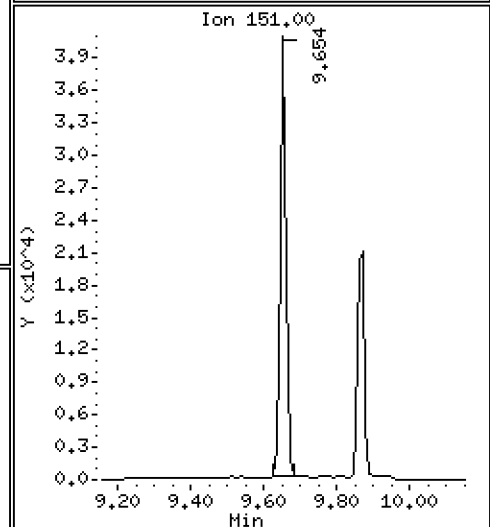
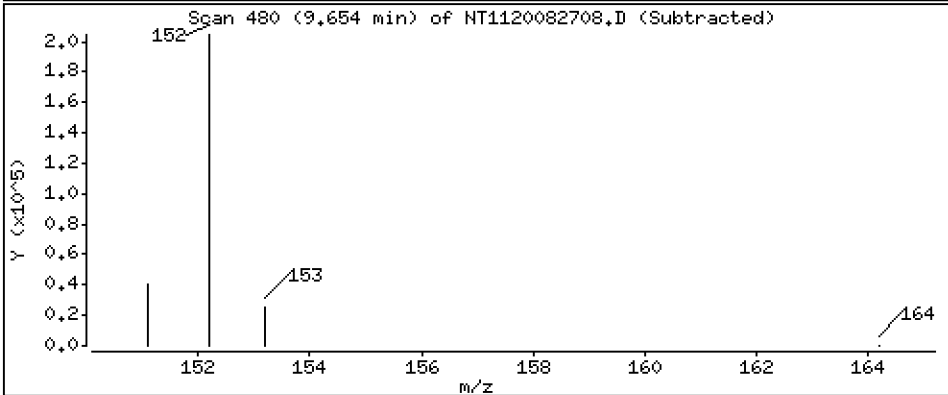
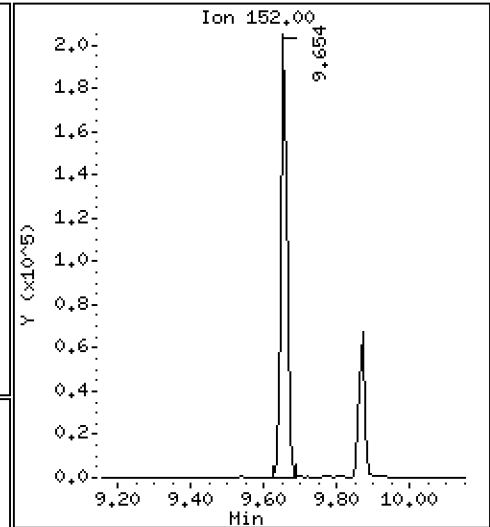
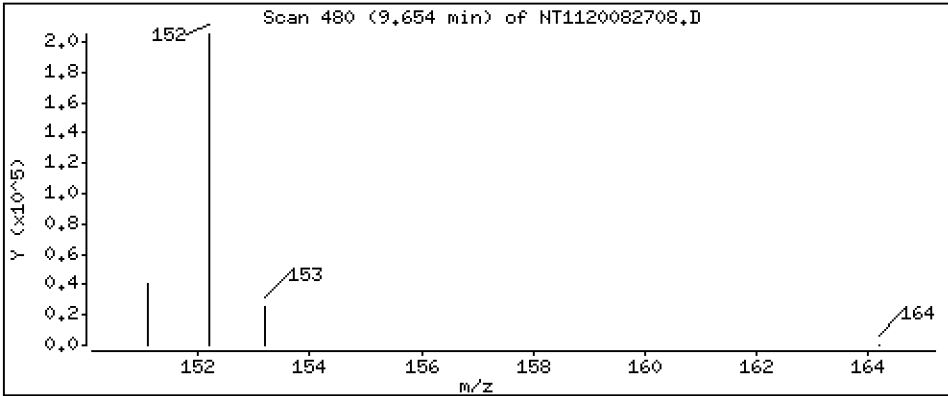
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

10 Acenaphthylene

Concentration: 233 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

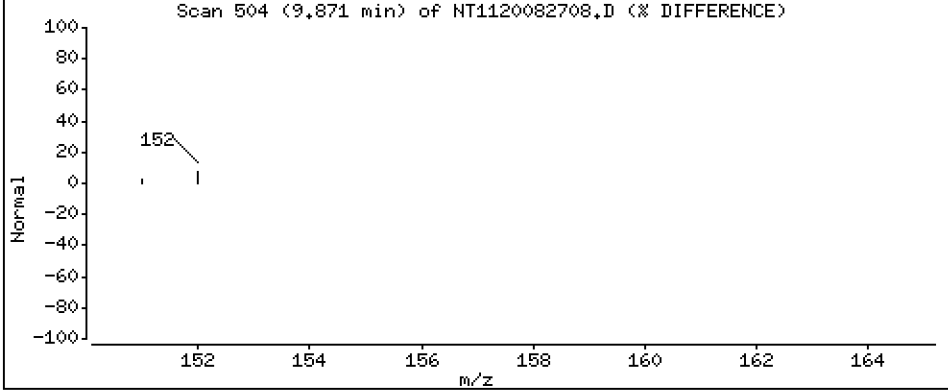
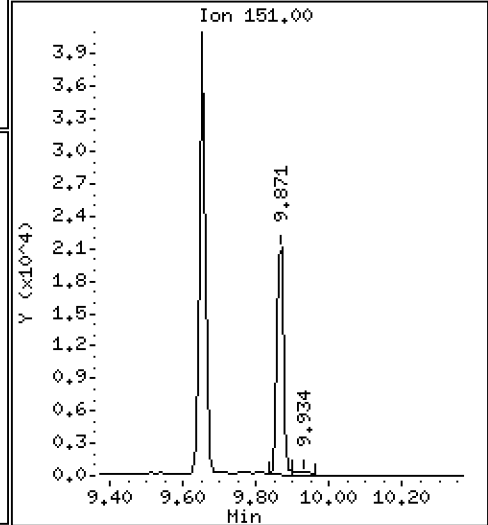
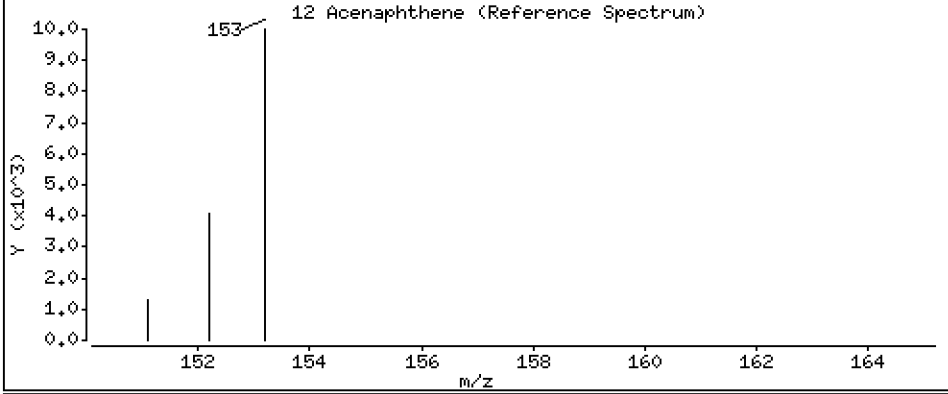
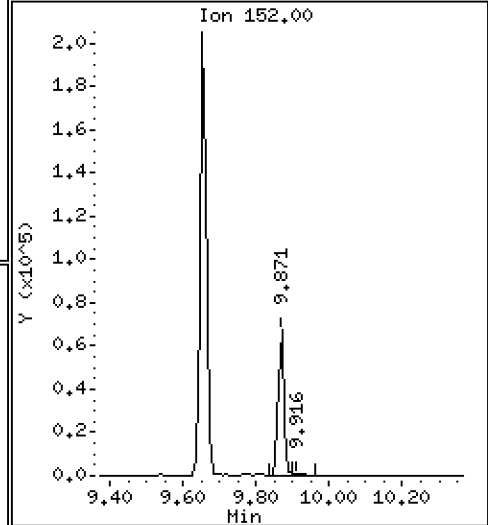
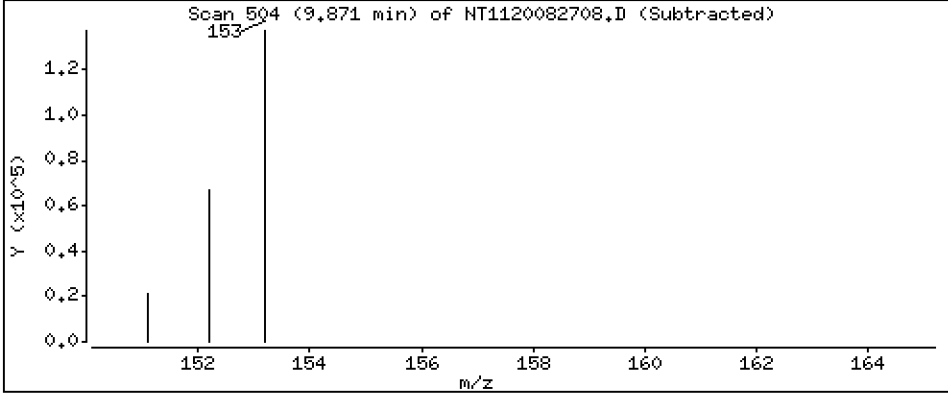
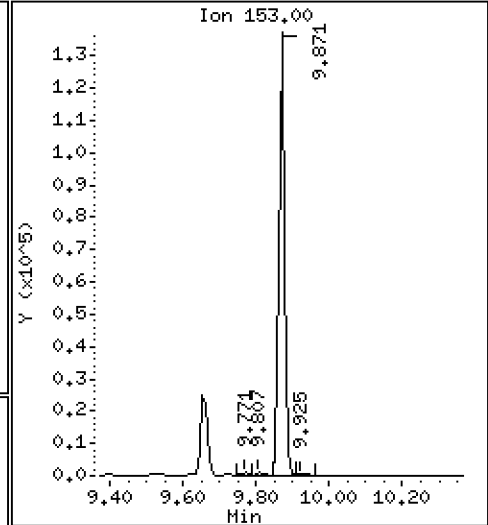
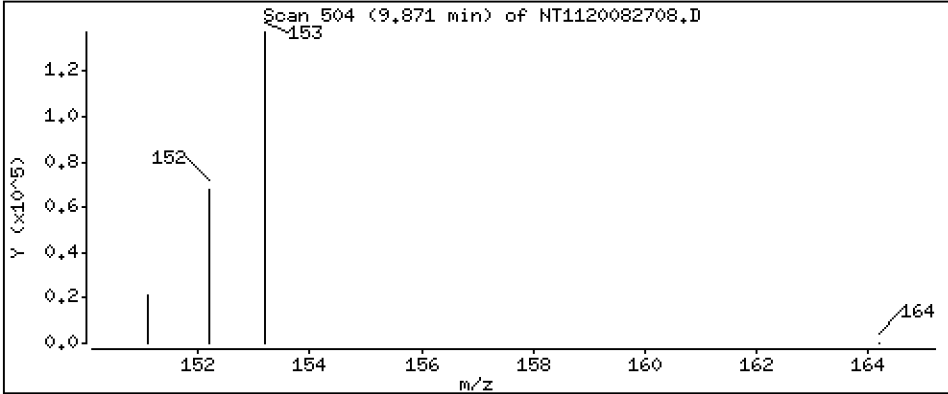
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

12 Acenaphthene

Concentration: 222 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

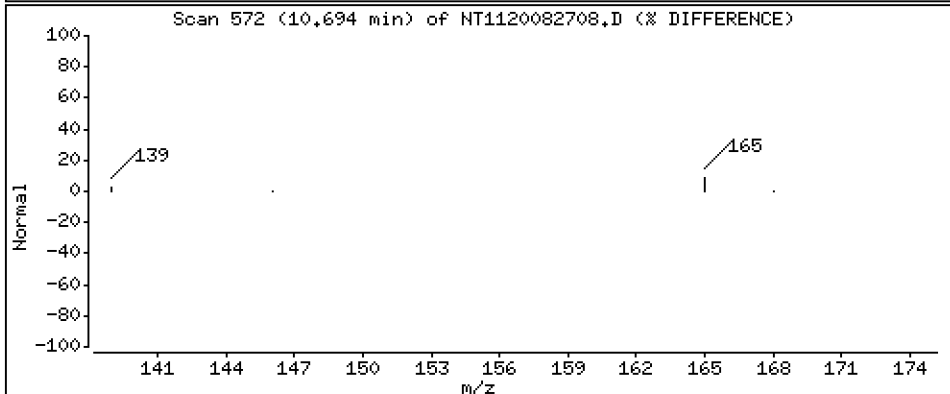
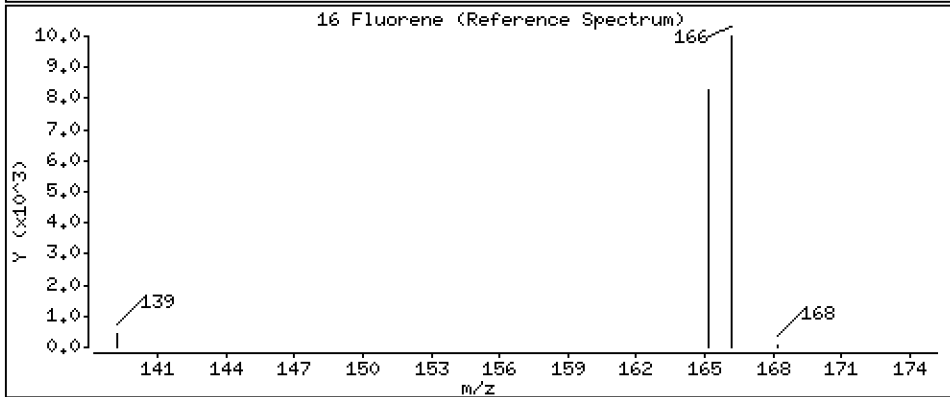
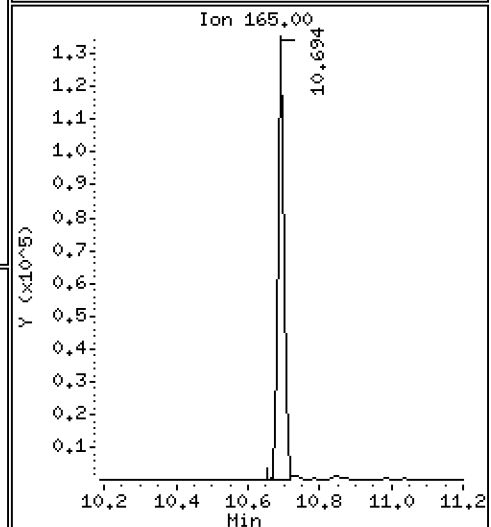
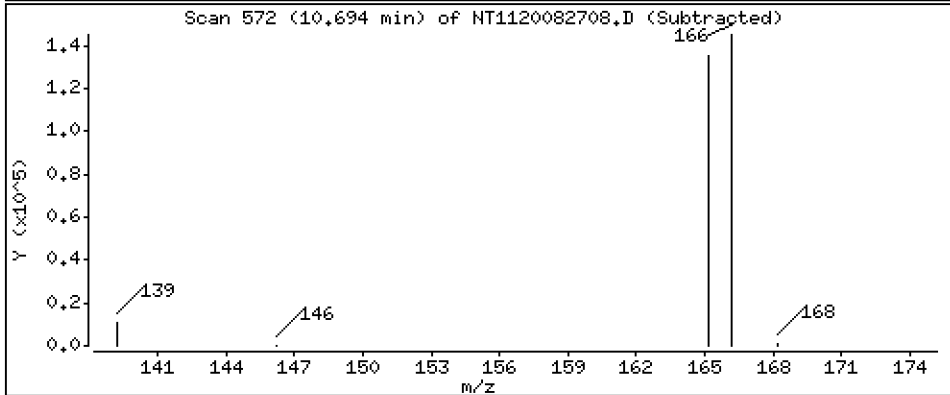
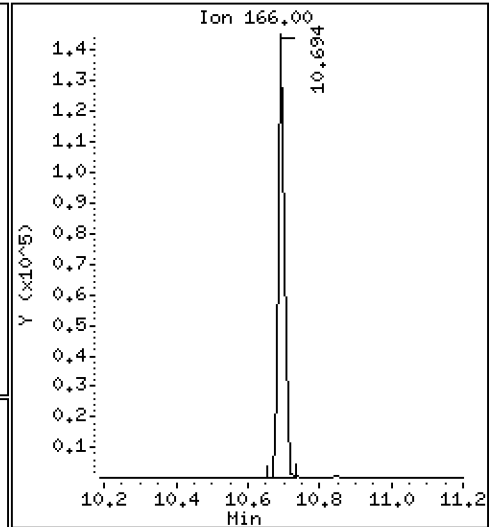
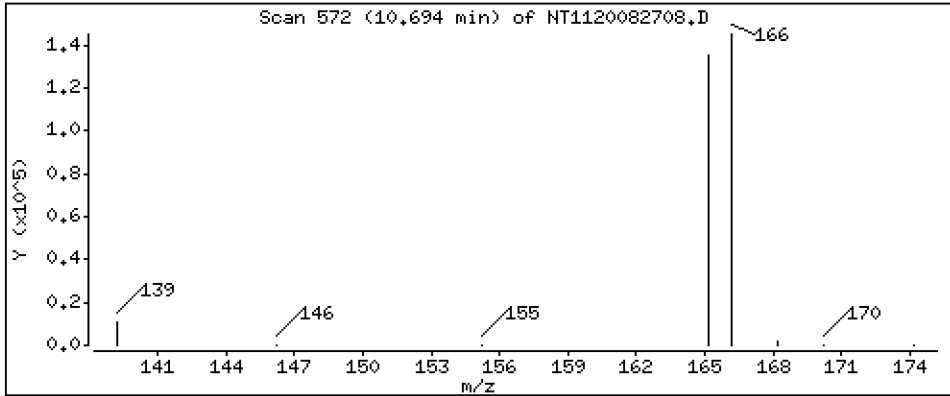
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 233 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

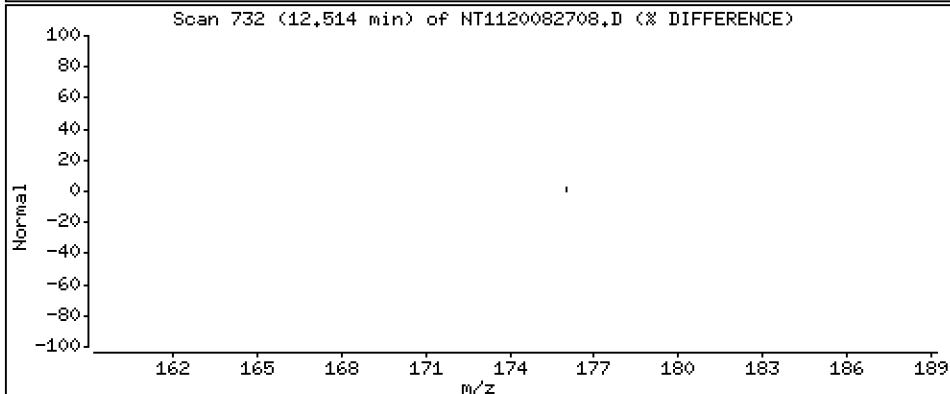
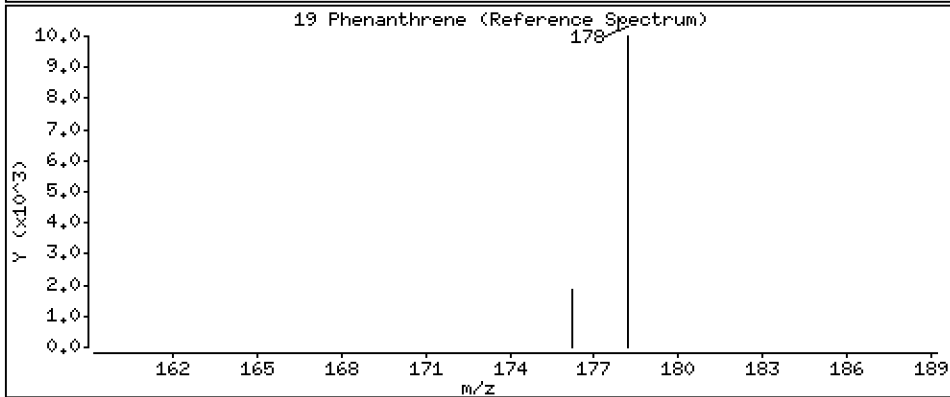
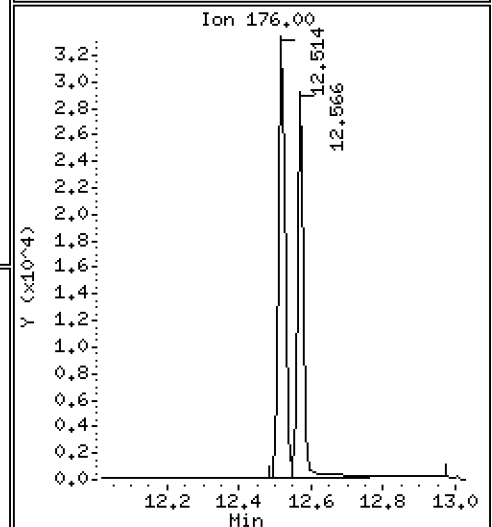
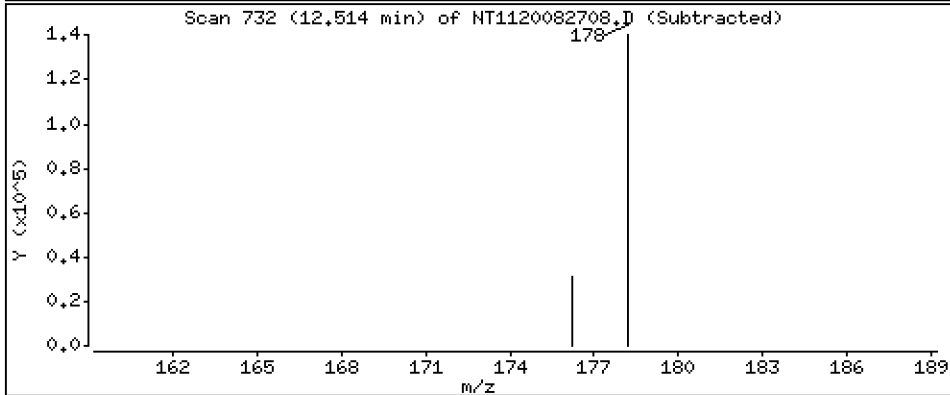
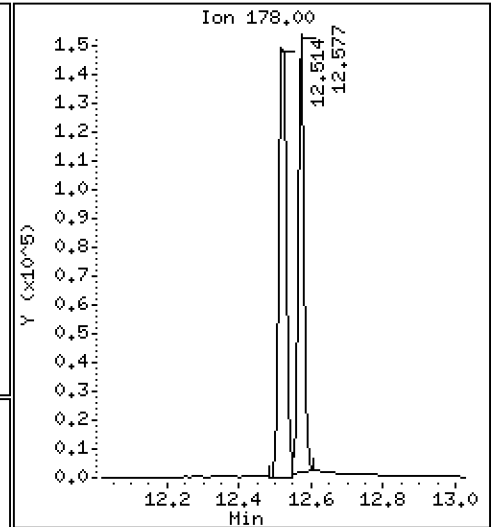
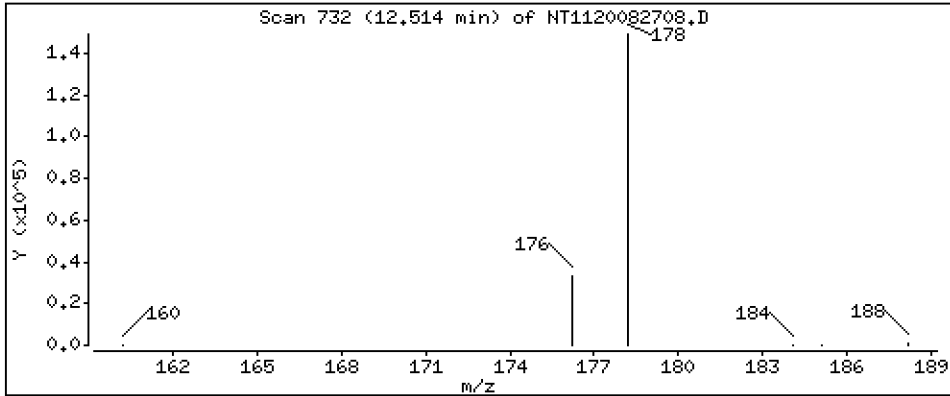
Operator: VTS

Column phase: Rxi-17Si11 MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 233 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

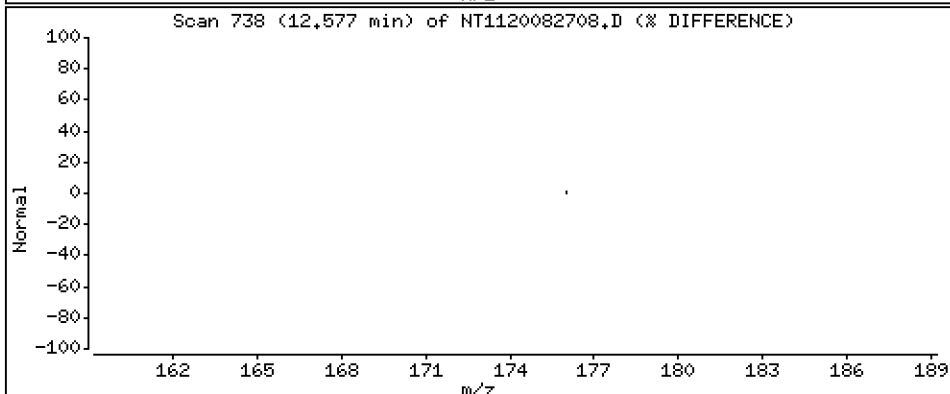
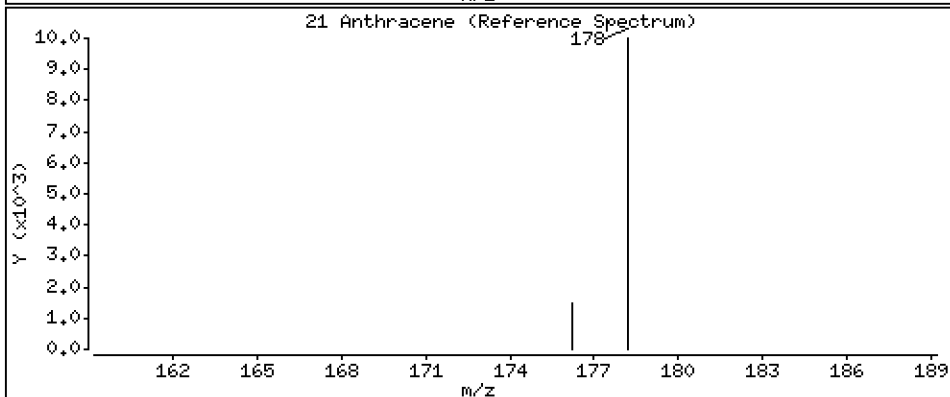
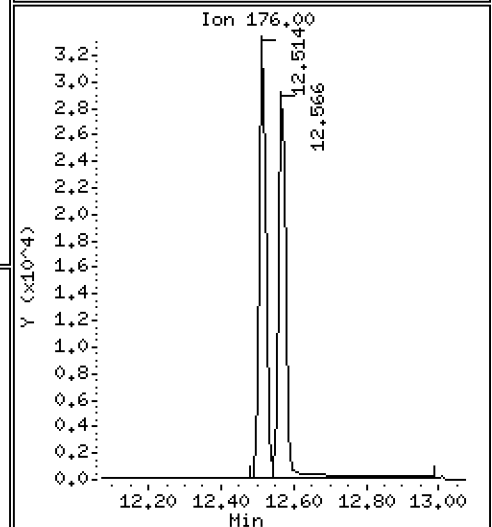
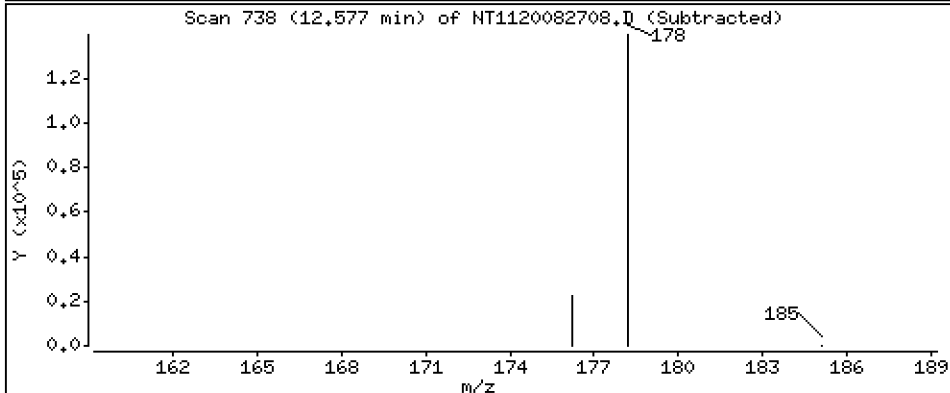
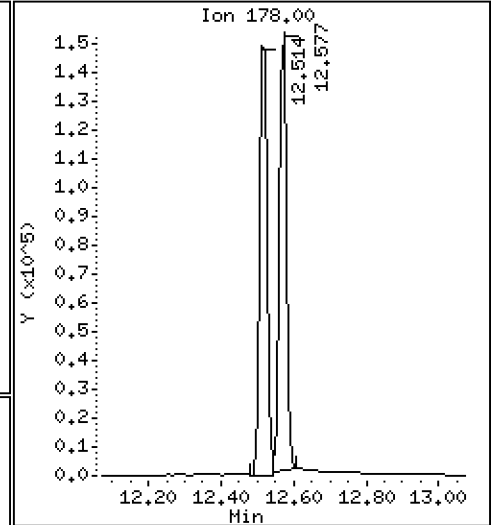
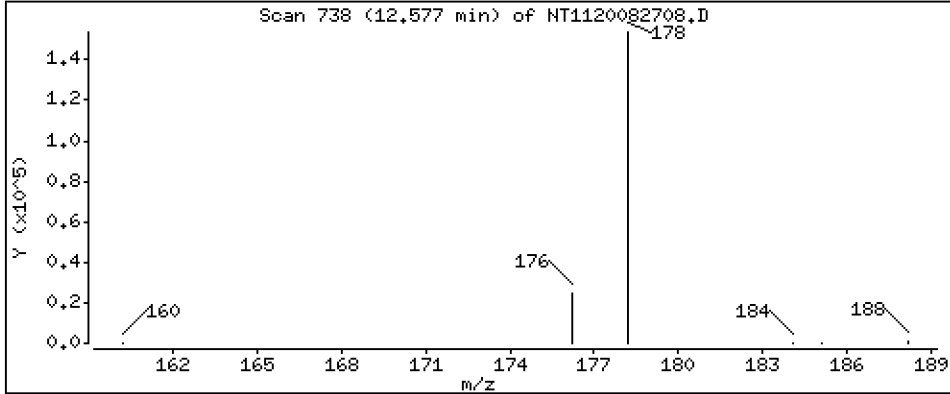
Operator: VTS

Column phase: Rxi-17Si11 MS

Column diameter: 0,25

21 Anthracene

Concentration: 223 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

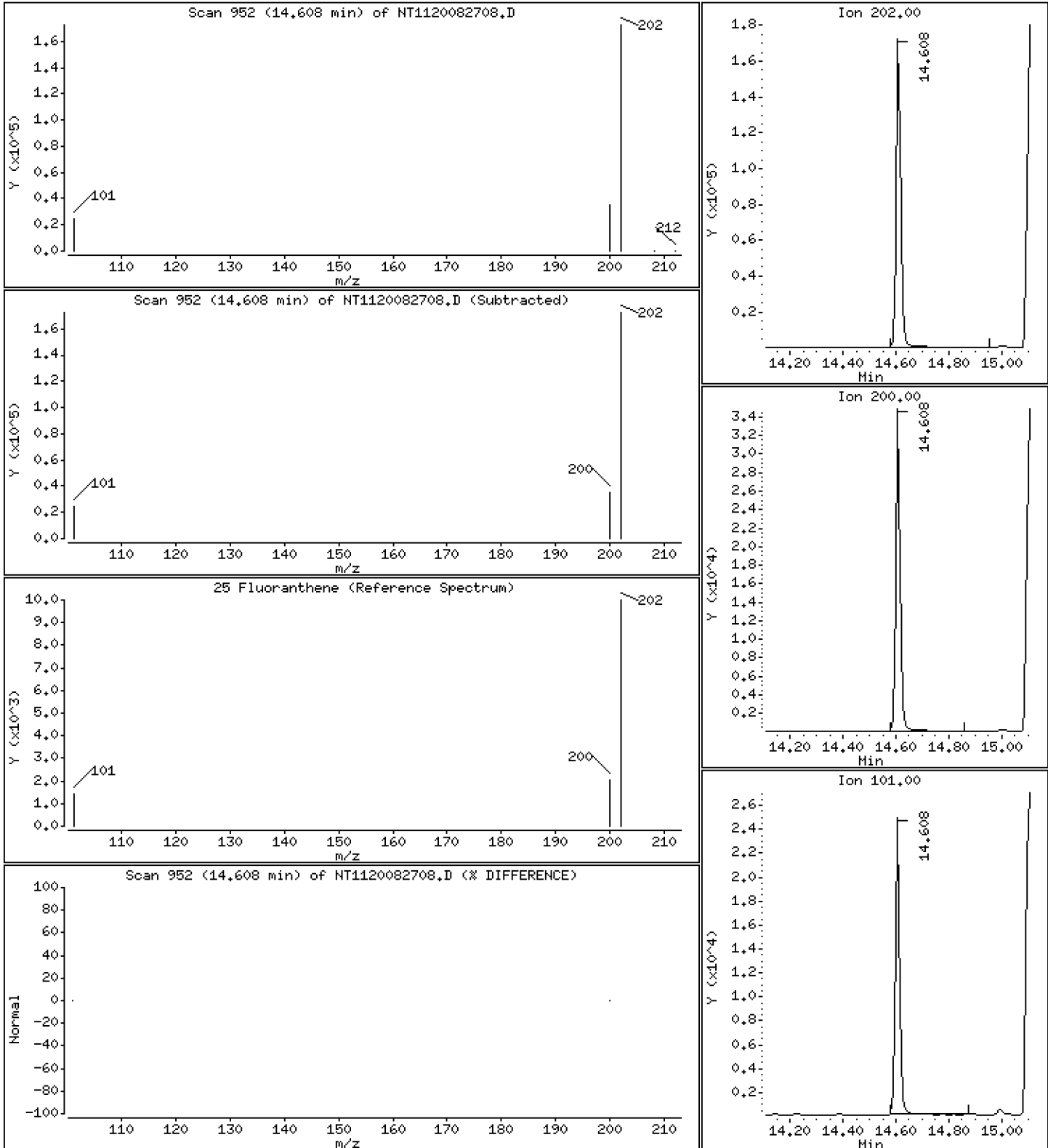
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 236 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

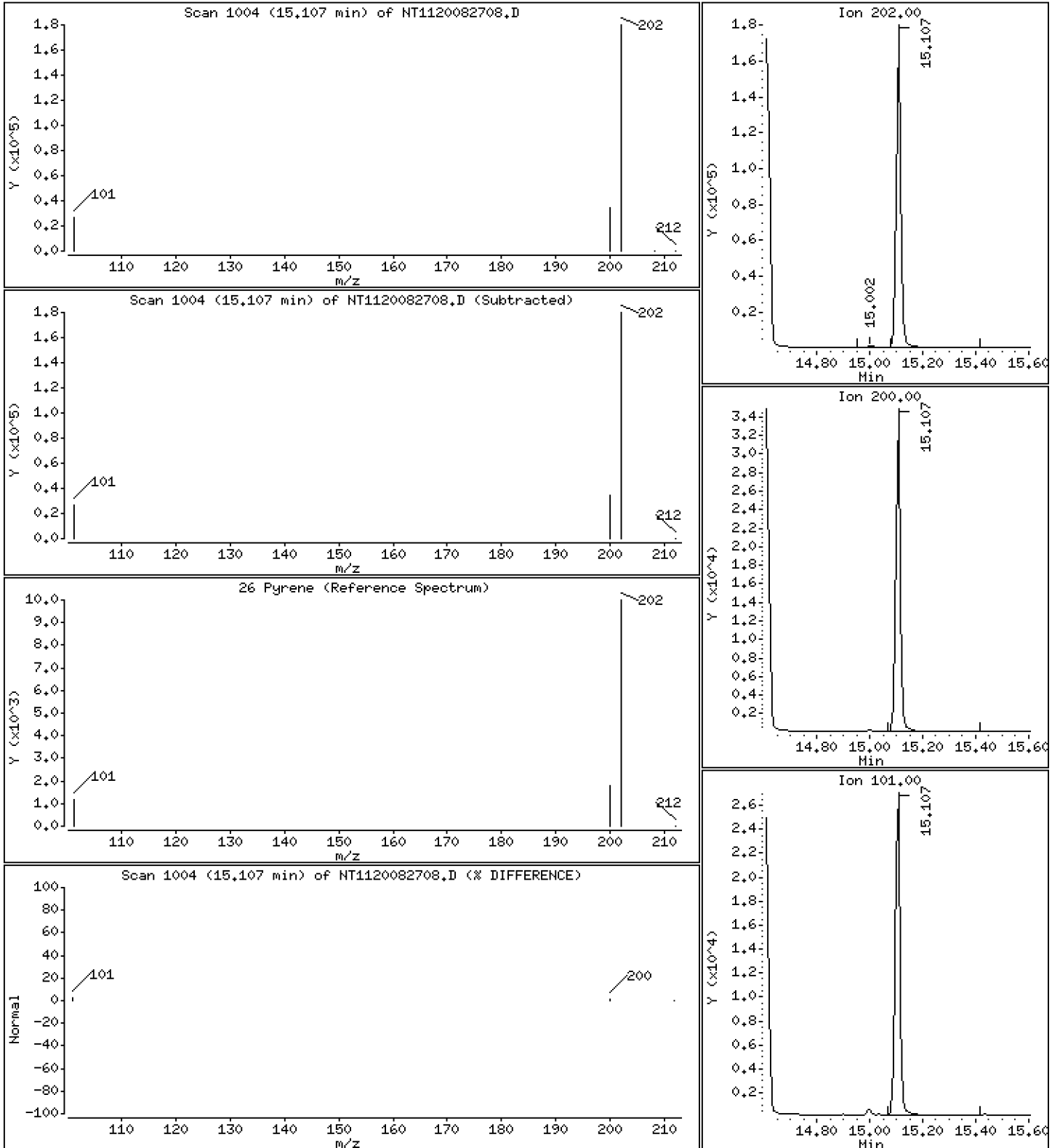
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 235 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

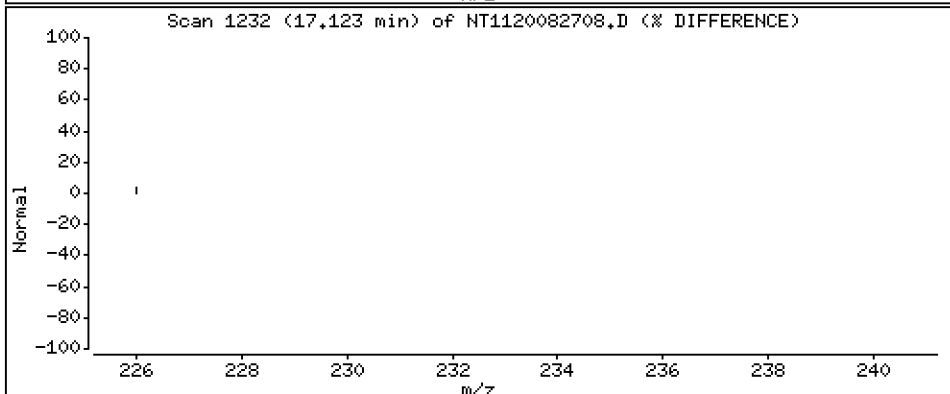
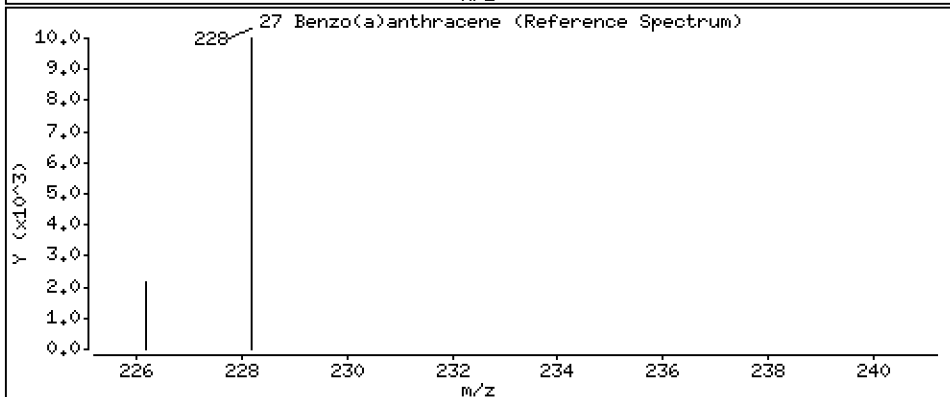
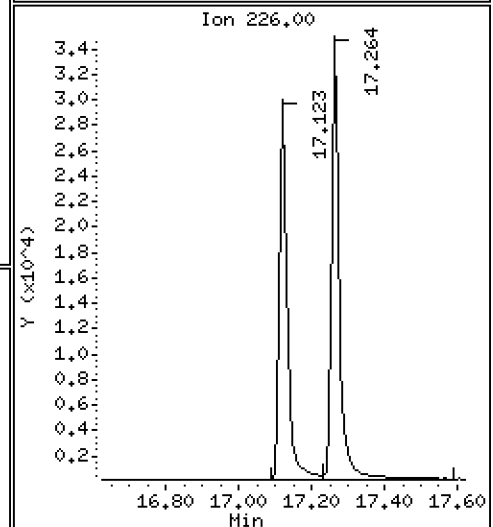
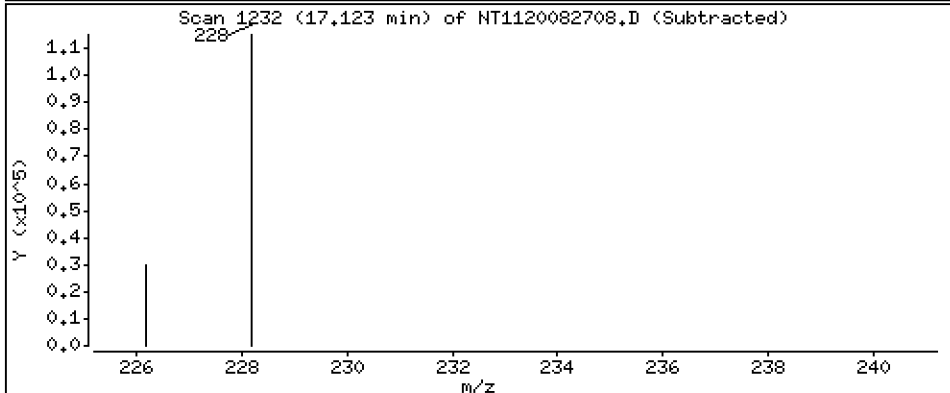
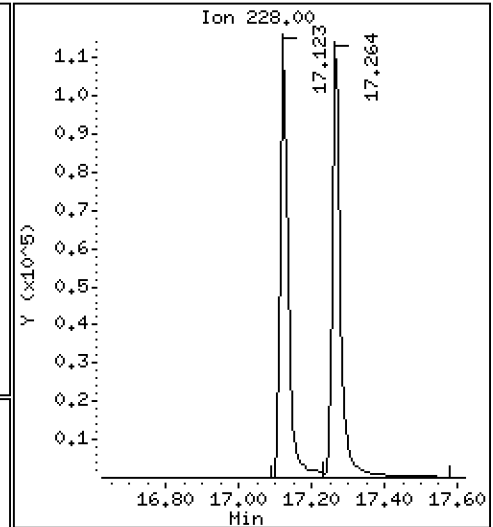
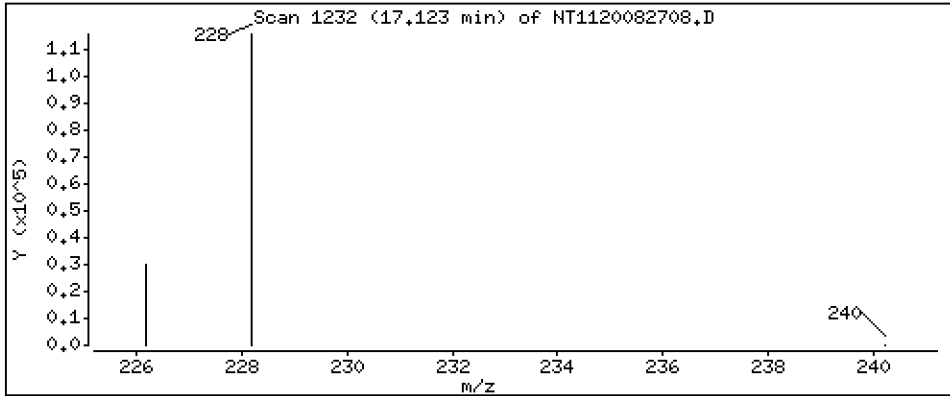
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 223 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

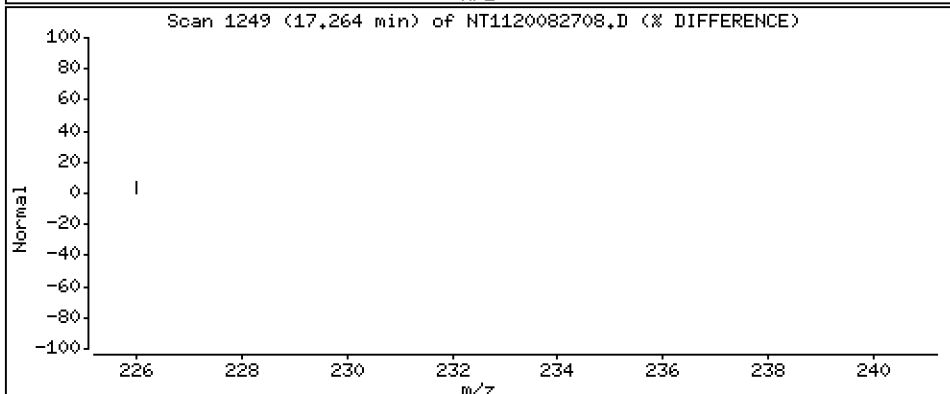
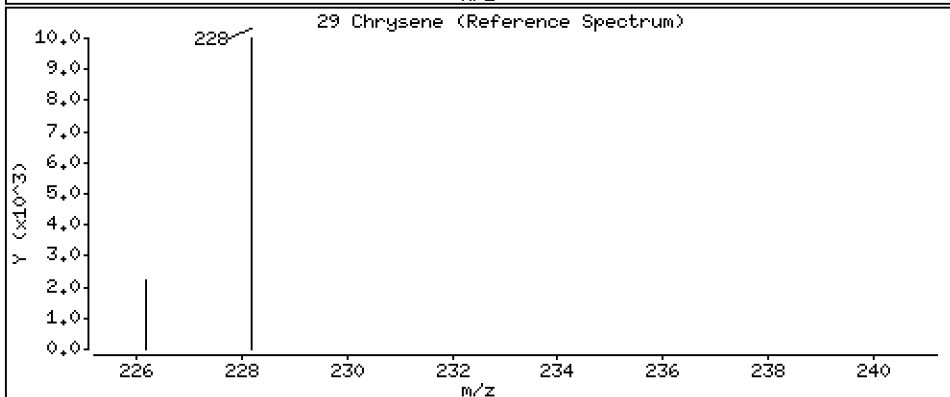
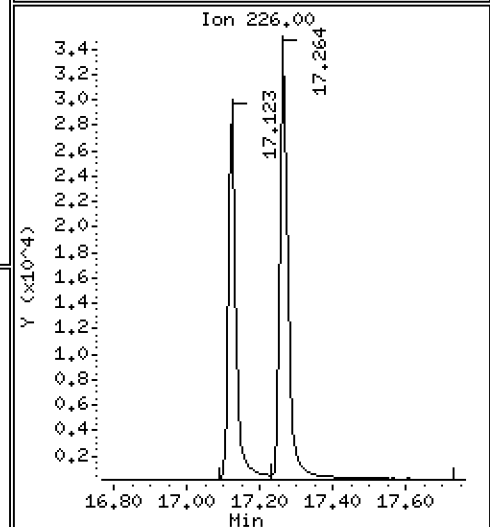
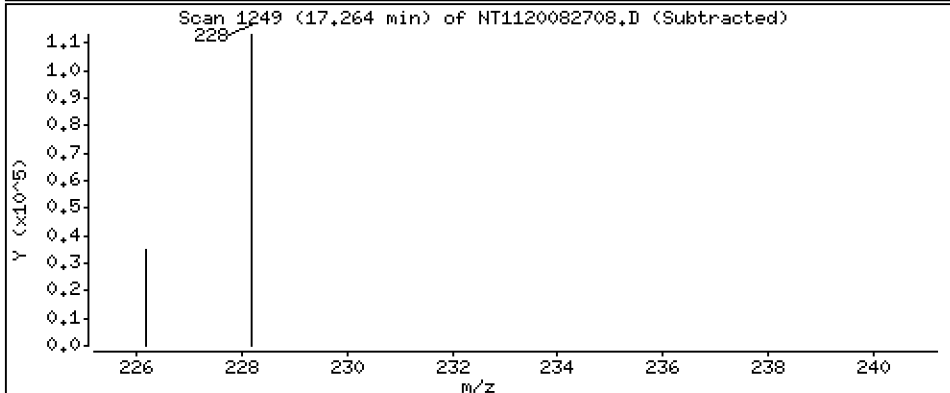
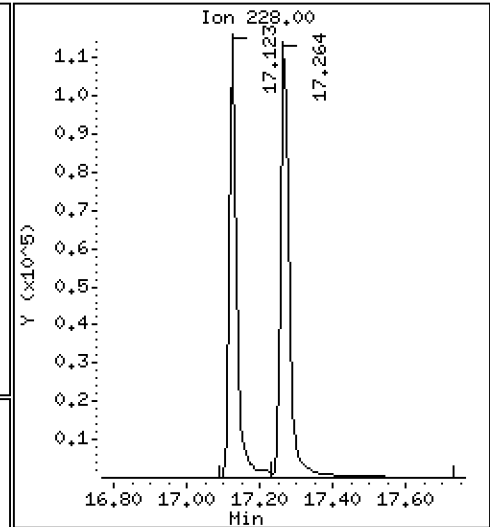
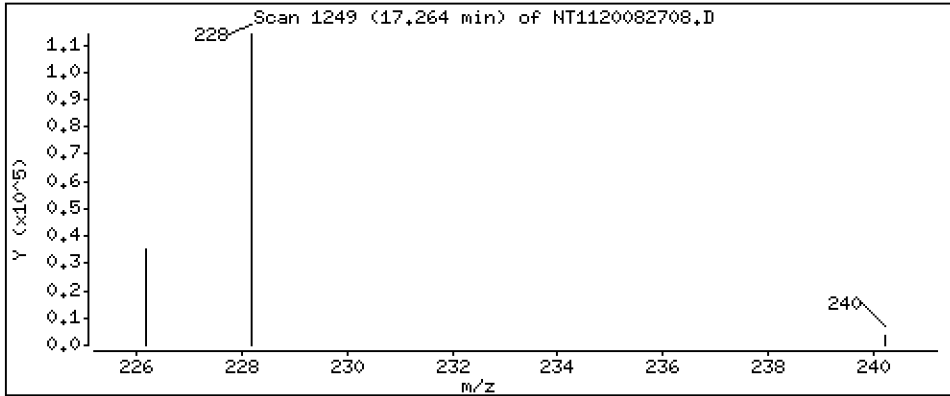
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 215 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

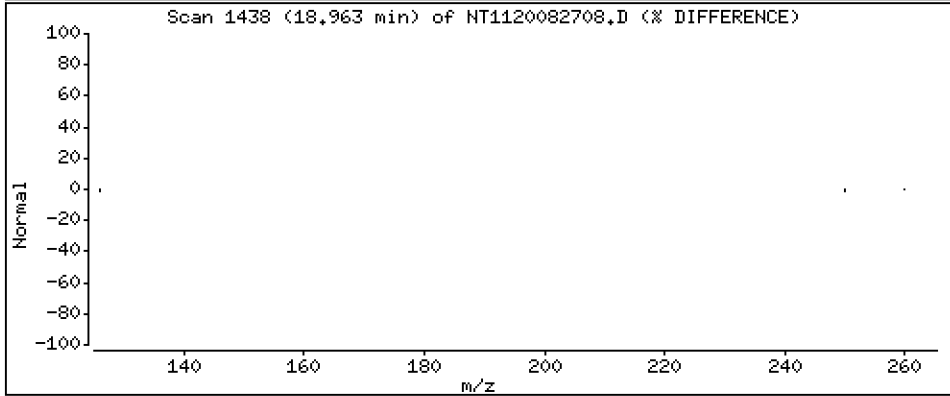
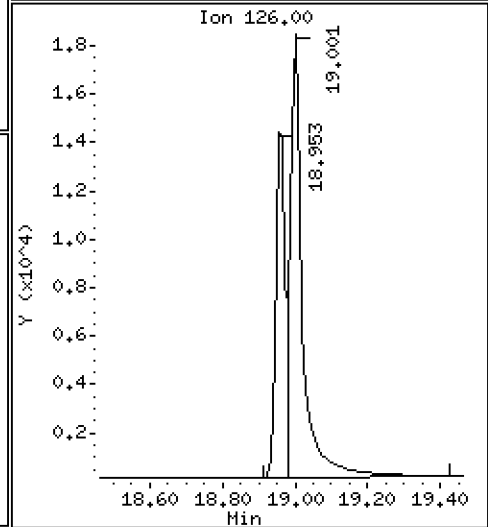
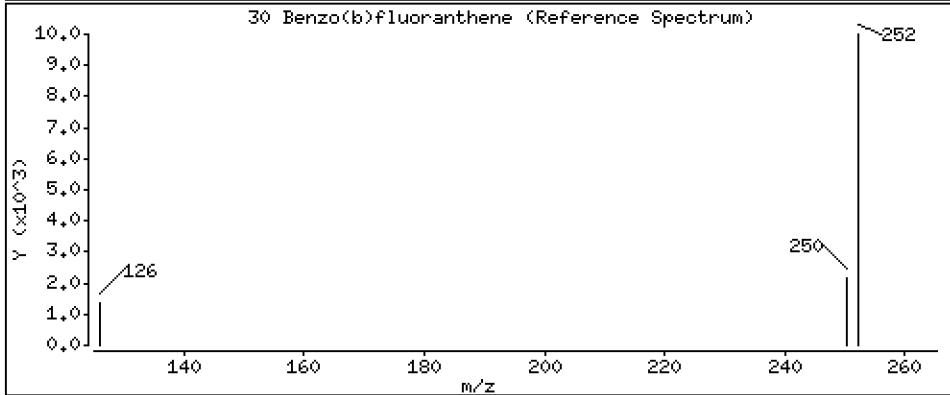
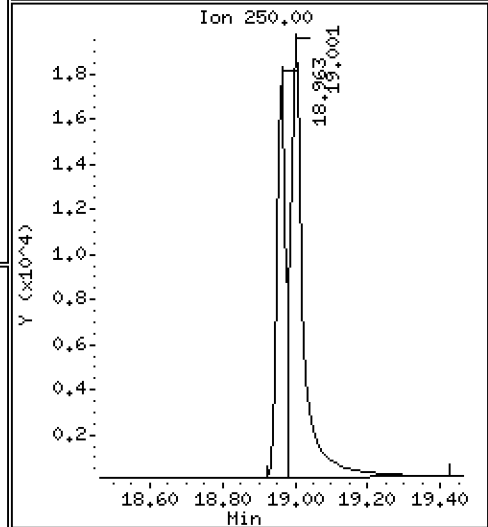
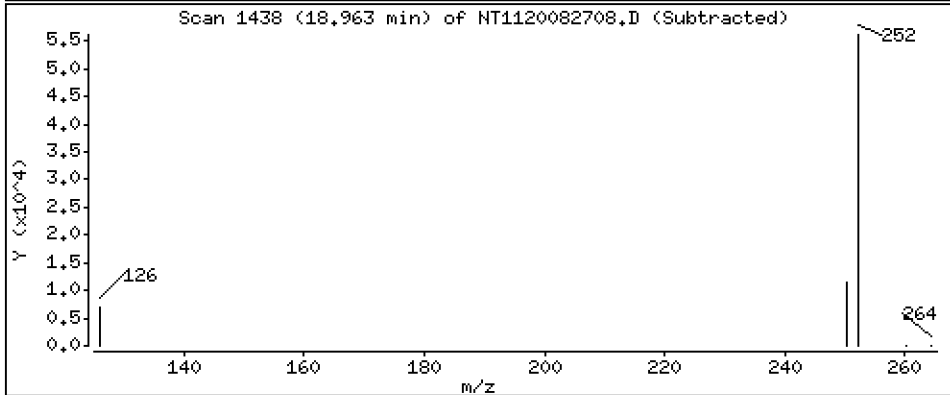
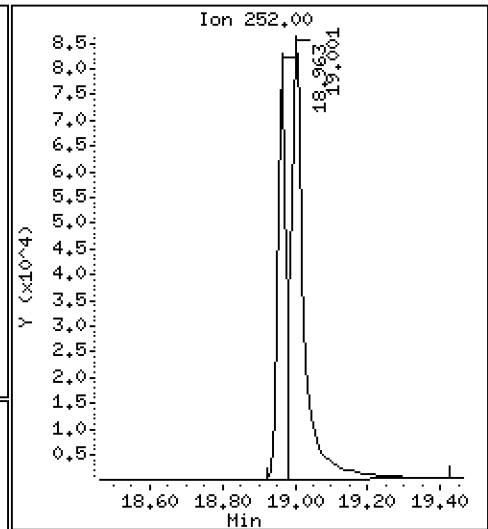
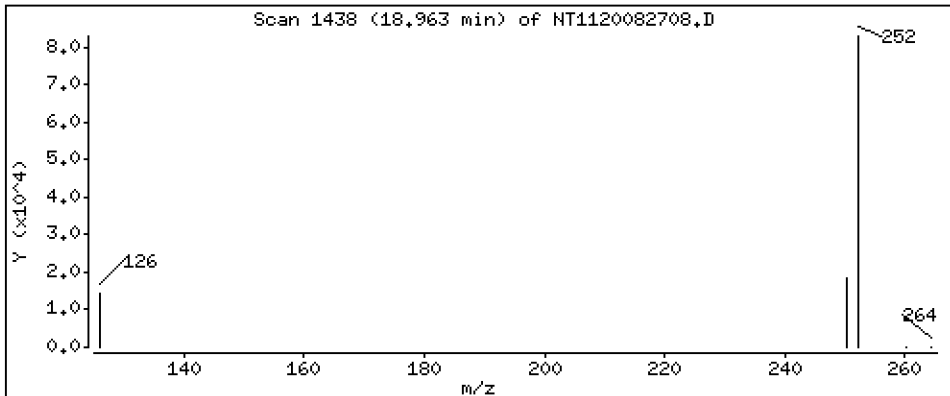
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 212 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

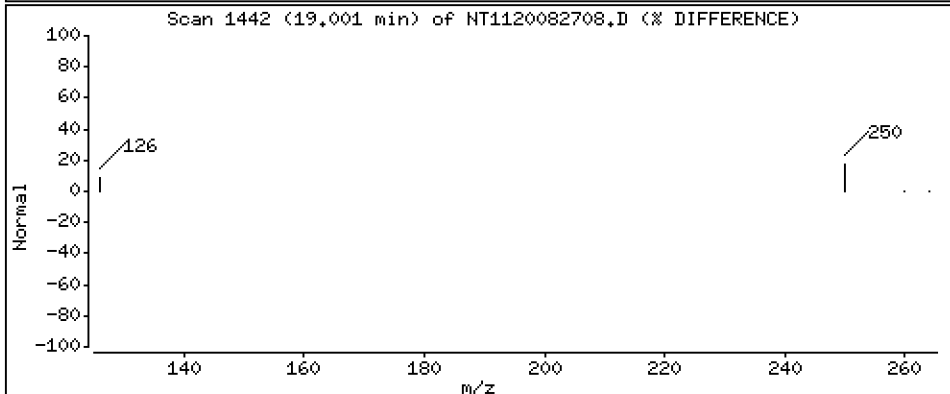
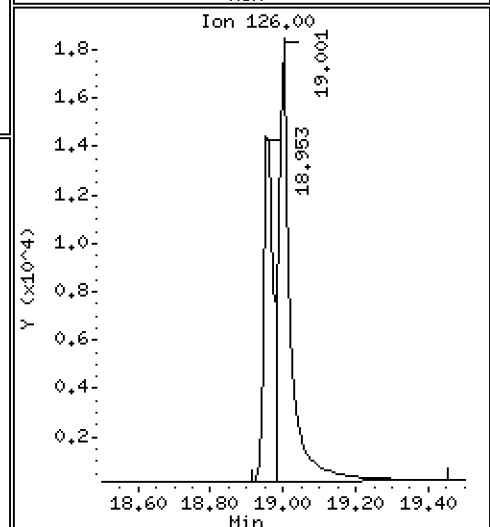
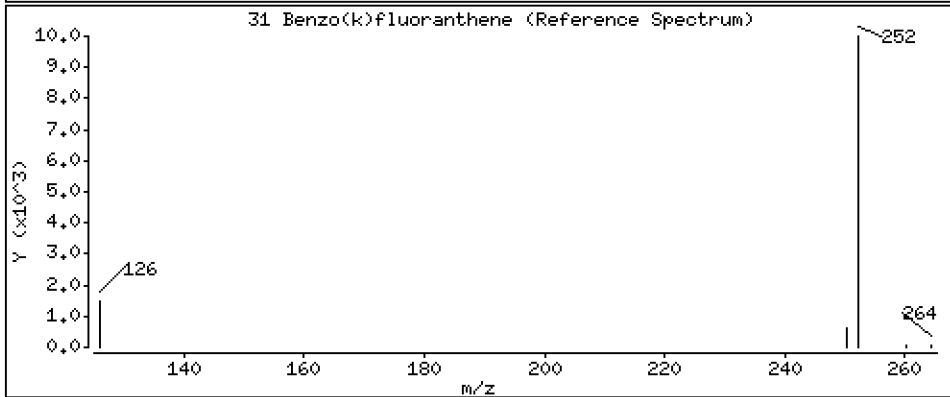
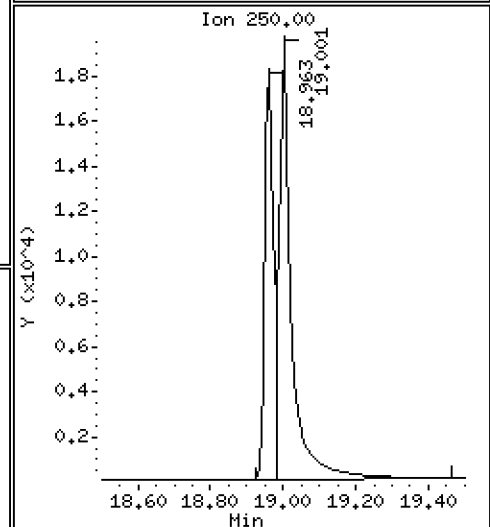
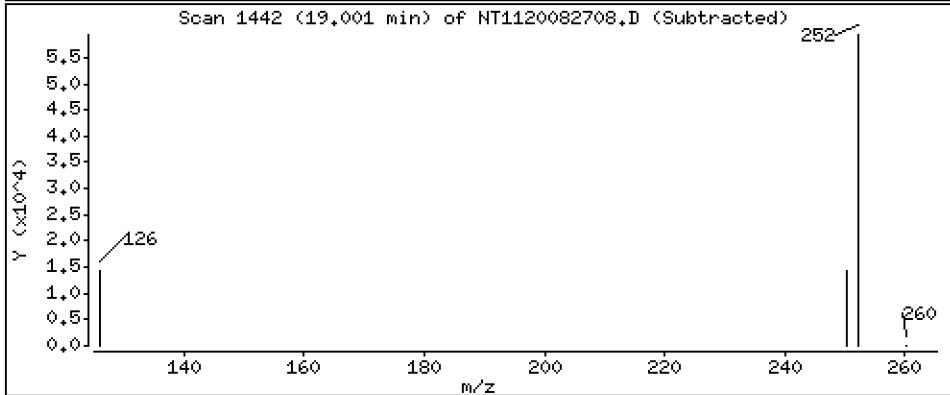
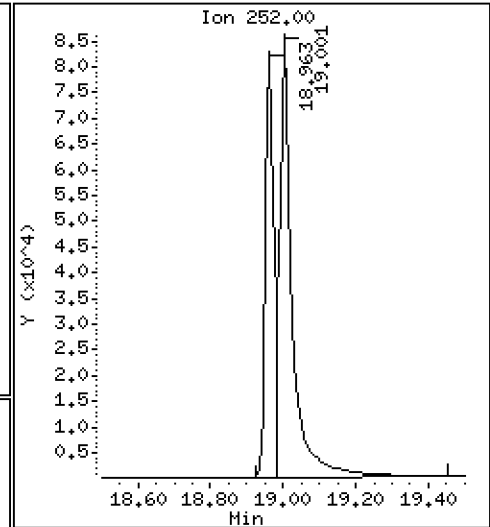
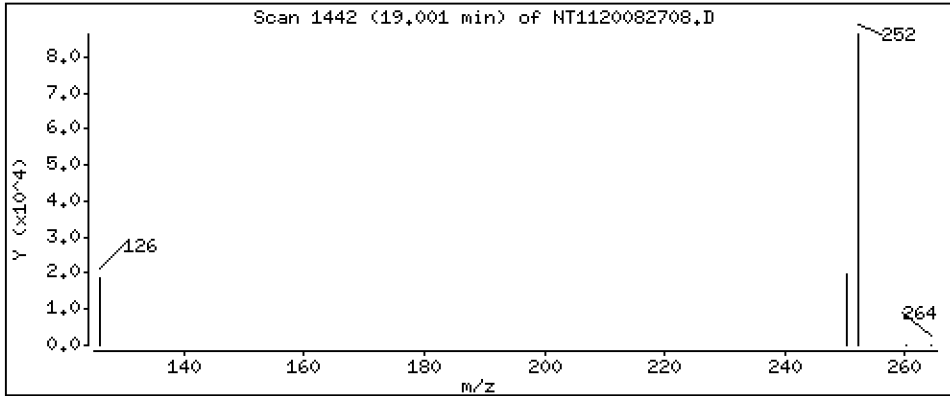
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 260 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

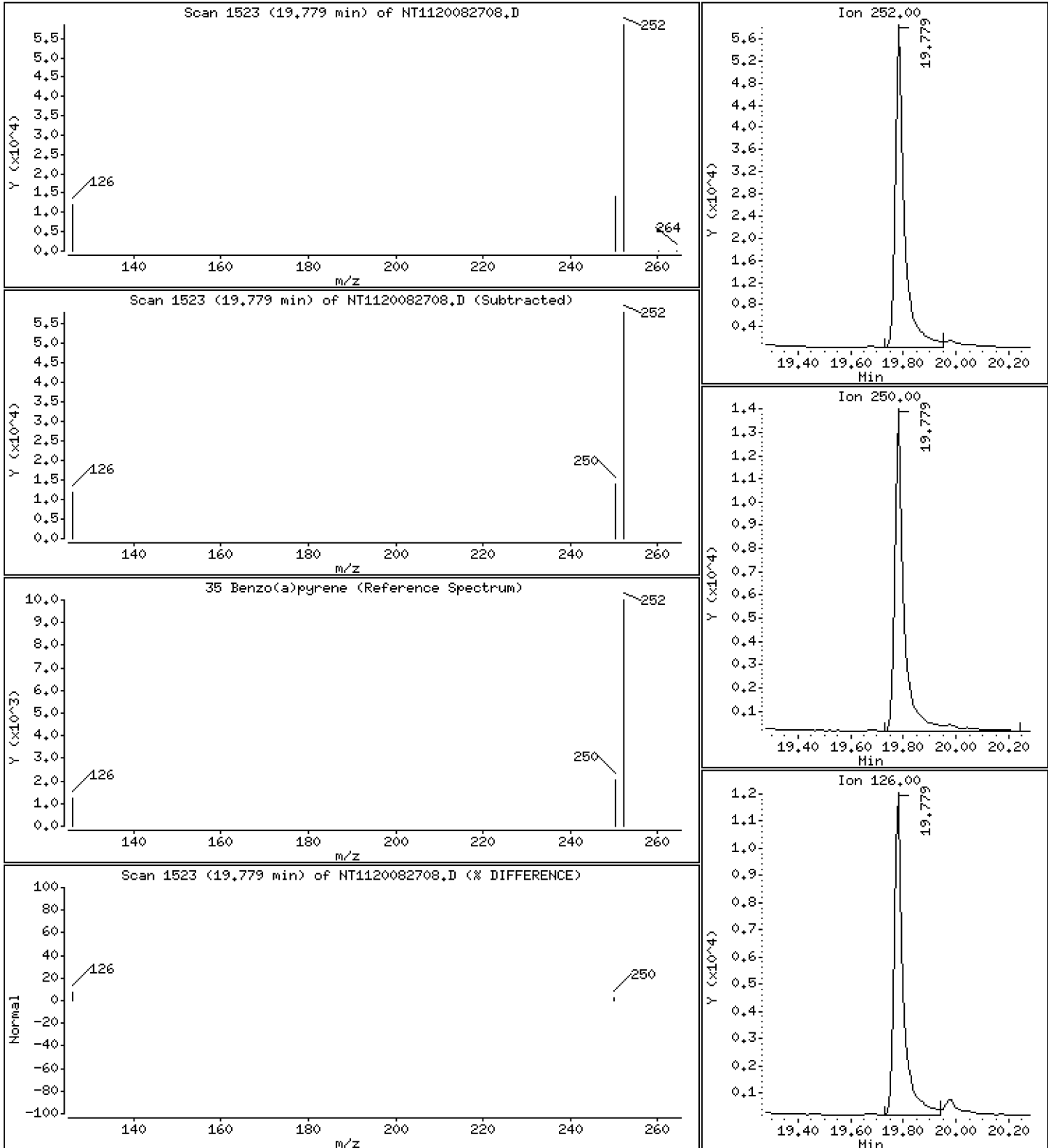
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 213 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

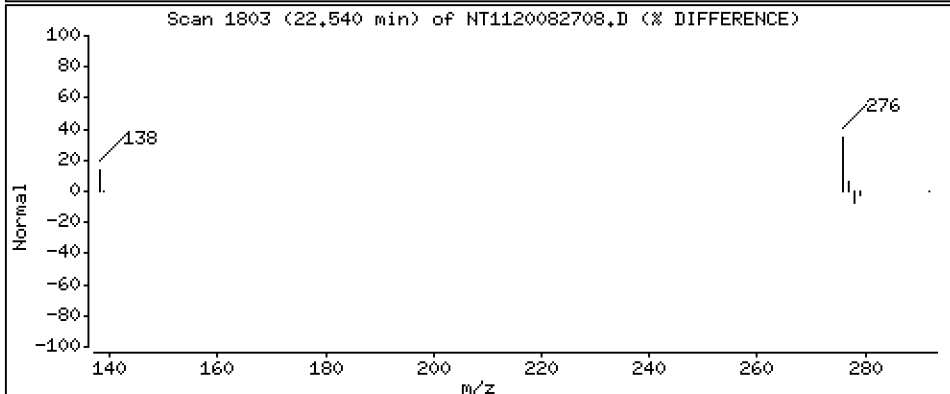
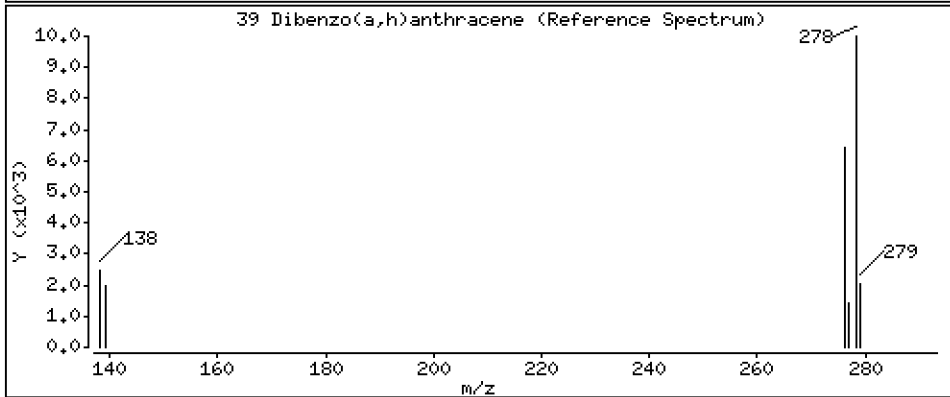
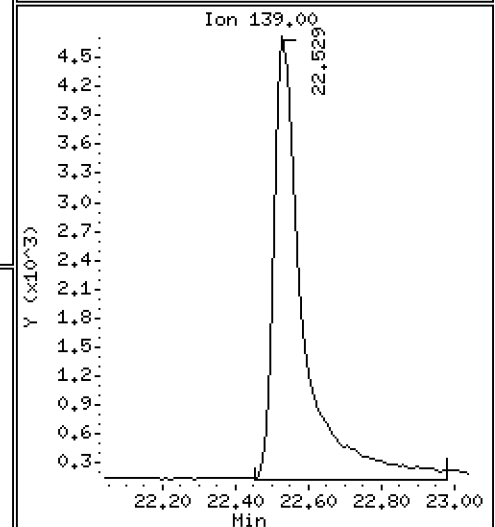
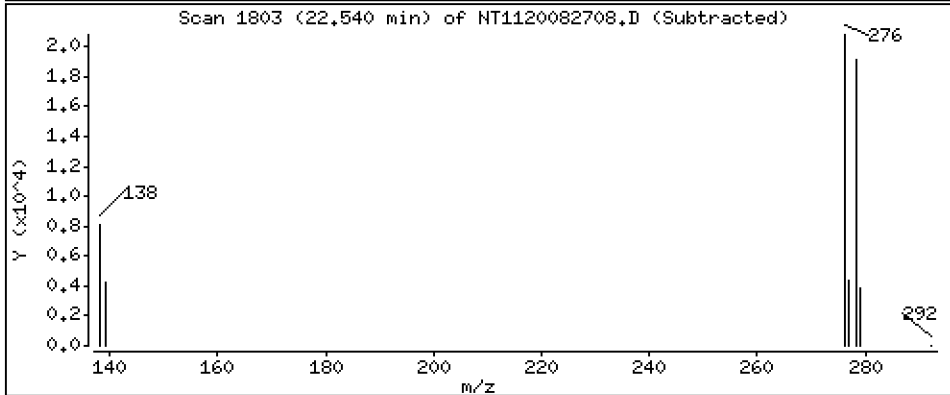
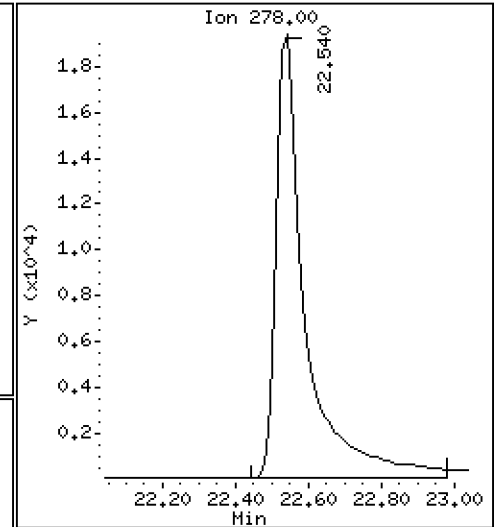
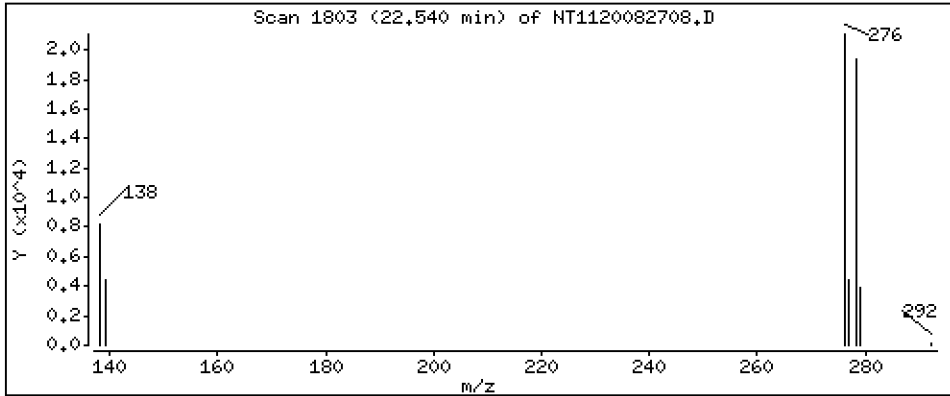
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

39 Dibenzo(a,h)anthracene

Concentration: 192 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

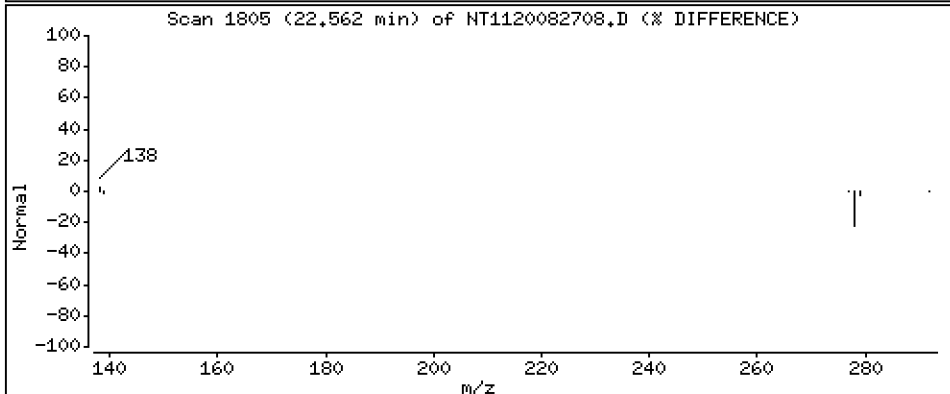
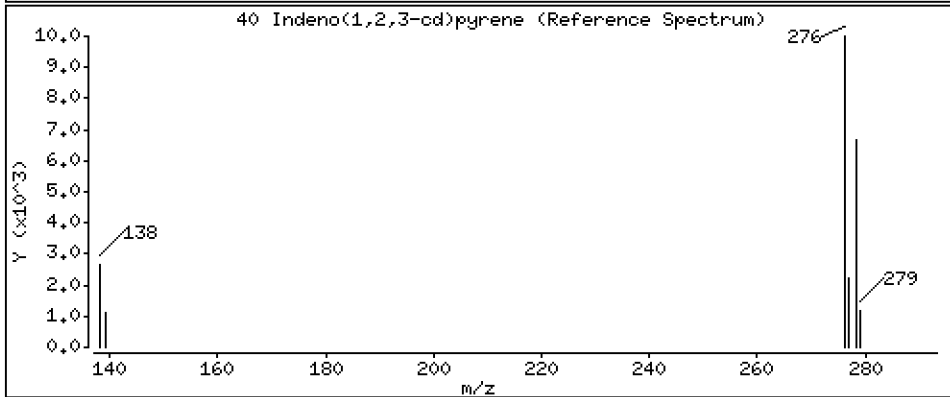
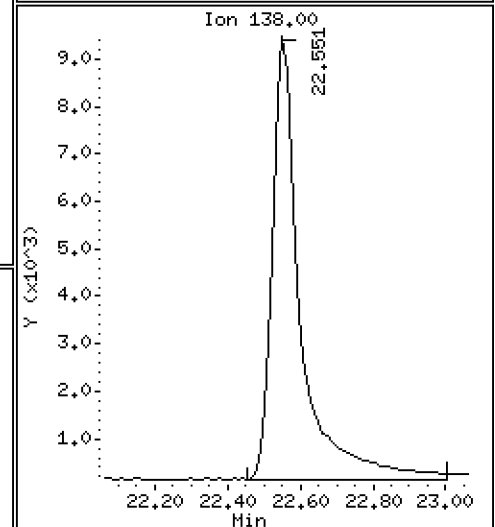
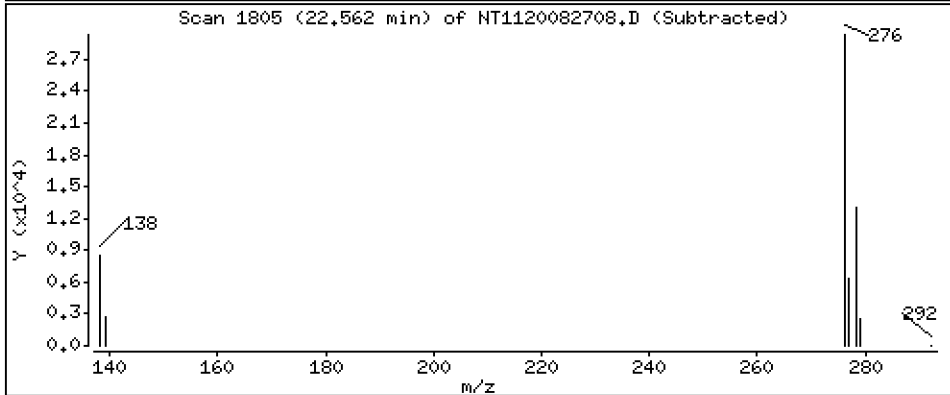
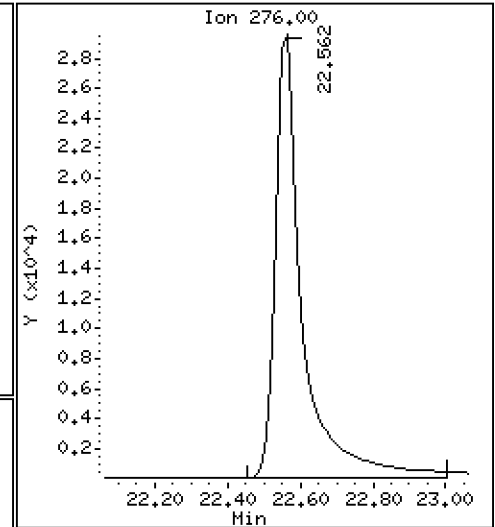
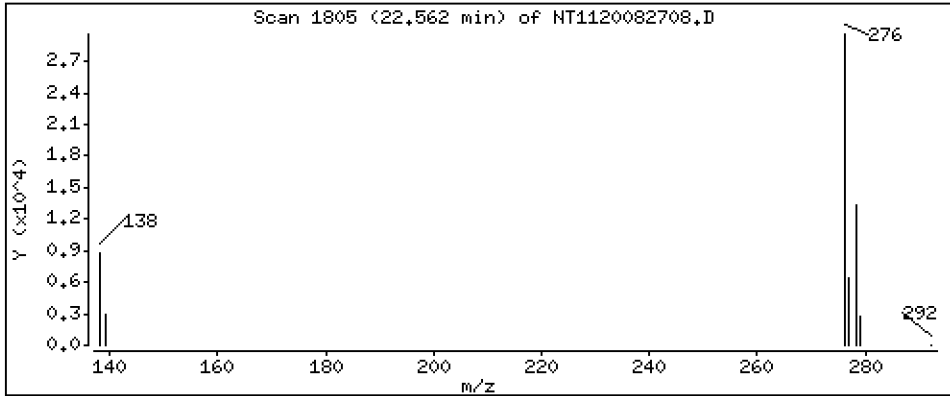
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

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

Concentration: 227 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

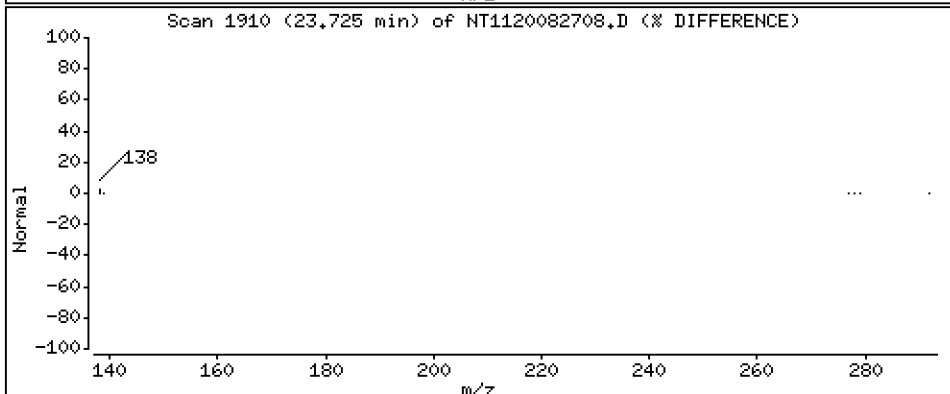
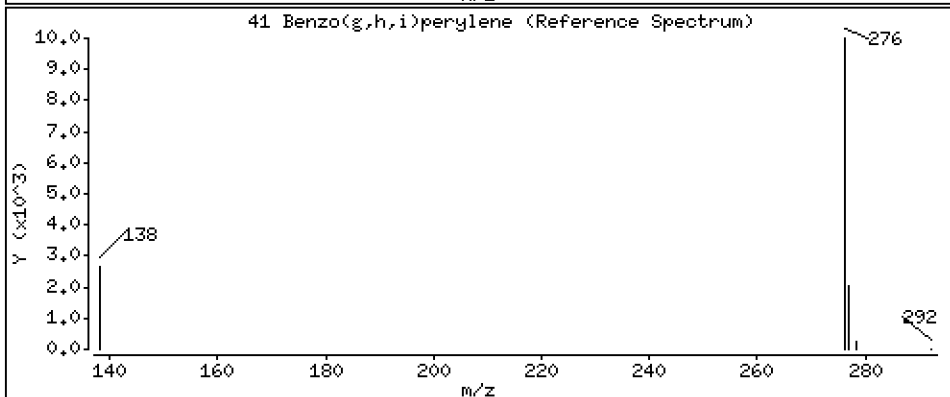
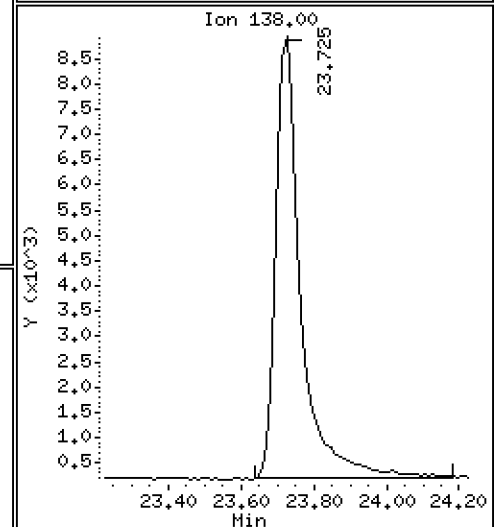
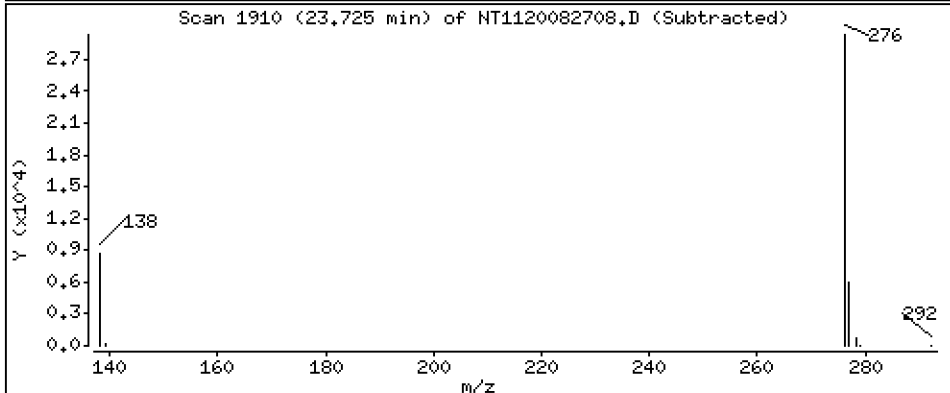
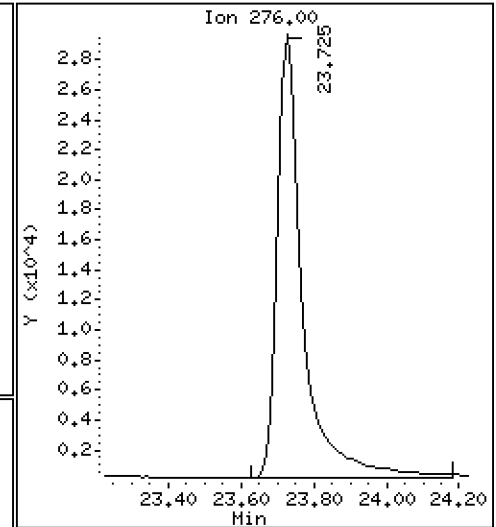
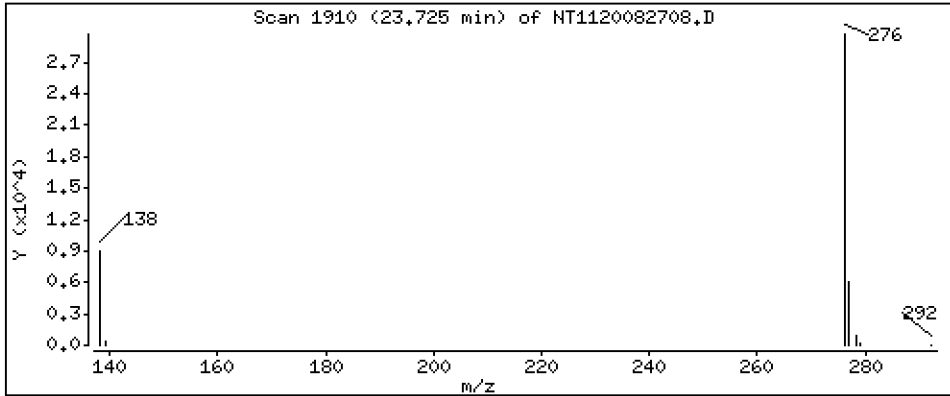
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 214 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20200827.b\NT1120082708.D
 Lab Smp Id: SIH0304-SCV1
 Inj Date : 27-AUG-2020 15:38 MS Autotune Date: 15-JAN-2015 16:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : SIH0304-SCV1
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20200827.b\lowsim.m
 Meth Date : 28-Aug-2020 07:11 van Quant Type: ISTD
 Cal Date : 27-AUG-2020 13:38 Cal File: NT1120082704.D
 Als bottle: 8
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PAH.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		6.804	6.804	(1.000)	202035	200.000	
2 Naphthalene	128		6.840	6.840	(1.005)	263329	224.480	224
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		Compound Not Detected.					
5 2-Methylnaphthalene	142		Compound Not Detected.					
6 1-Methylnaphthalene	142		Compound Not Detected.					
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		Compound Not Detected.					
9 2,6-Dimethylnaphthalene	156		Compound Not Detected.					
10 Acenaphthylene	152		9.653	9.653	(0.984)	241360	233.261	233
* 11 Acenaphthene-d10	164		9.807	9.807	(1.000)	90189	200.000	
12 Acenaphthene	153		9.870	9.870	(1.006)	151880	221.934	222
13 Dibenzofuran	168		Compound Not Detected.					
14 2,3,5-Trimethylnaphthalene	170		Compound Not Detected.					
16 Fluorene	166		10.694	10.694	(1.090)	164299	233.486	233
17 Dibenzothiophene	184		Compound Not Detected.					
* 18 Phenanthrene-d10	188		12.482	12.482	(1.000)	142829	200.000	
19 Phenanthrene	178		12.513	12.524	(1.003)	217246	232.514	233
21 Anthracene	178		12.576	12.576	(1.008)	207807	222.597	223
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		Compound Not Detected.					
\$ 24 Fluoranthene-d10	212		Compound Not Detected.					
25 Fluoranthene	202		14.607	14.607	(1.170)	220035	236.211	236
26 Pyrene	202		15.107	15.107	(1.210)	224689	235.115	235
27 Benzo(a)anthracene	228		17.123	17.122	(0.994)	170476	223.013	223
* 28 Chrysene-d12	240		17.222	17.214	(1.000)	104063	200.000	
29 Chrysene	228		17.264	17.264	(1.002)	185336	215.323	215
30 Benzo(b)fluoranthene	252		18.962	18.962	(0.949)	137886	212.389	212
31 Benzo(k)fluoranthene	252		19.001	19.001	(0.951)	222044	260.291	260
32 Benzo(j)fluoranthene	252		Compound Not Detected.					
34 Benzo(e)pyrene	252		Compound Not Detected.					
35 Benzo(a)pyrene	252		19.779	19.779	(0.990)	144487	213.091	213
* 36 Perylene-d12	264		19.981	19.981	(1.000)	119273	200.000	
37 Perylene	252		Compound Not Detected.					

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/mL)
=====	=====	=====	=====	=====	=====	=====	
\$ 38 Dibenzo(a,h)anthracene-d14	292	Compound Not Detected.					
39 Dibenzo(a,h)anthracene	278	22.540	22.540	(1.128)	107076	191.902	192
40 Indeno(1,2,3-cd)pyrene	276	22.562	22.562	(1.129)	149356	226.827	227
41 Benzo(g,h,i)perylene	276	23.725	23.725	(1.187)	141191	214.457	214

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 27-AUG-2020
 Lab File ID: NT1120082708.D Calibration Time: 12:35
 Lab Smp Id: SIH0304-SCV1
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20200827.b\lowsim.m
 Misc Info:

Test Mode:
 Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	215332	107666	430664	202035	-6.18
11 Acenaphthene-d10	102217	51109	204434	90189	-11.77
18 Phenanthrene-d10	170387	85194	340774	142829	-16.17
28 Chrysene-d12	116138	58069	232276	104063	-10.40
36 Perylene-d12	139038	69519	278076	119273	-14.22

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	6.81	6.31	7.31	6.80	-0.13
11 Acenaphthene-d10	9.81	9.31	10.31	9.81	-0.00
18 Phenanthrene-d10	12.48	11.98	12.98	12.48	-0.00
28 Chrysene-d12	17.21	16.71	17.71	17.22	0.05
36 Perylene-d12	19.98	19.48	20.48	19.98	-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 - NT1120082708.D

Lab ID: SIH0304-SCV1

nt11.i, 20200827.b\lowsim.m, 27-AUG-2020 15:38

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

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

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
-----	-----	-----	-------	----------

NONE

RRT check based on Ccal File: NT1120082704.D

On Column LOD for nt11.i, 20200827.b\lowsim.m, PAH.sub = 0.0000

Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000

Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000

Exception: Fluoranthene-d10 (Surr) 0.1000

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



SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270E-SIM

Laboratory: Analytical Resources, Inc.

SDG: 21C0175

Client: Anchor QEA, LLC

Project: GascoSiltronic: US Moorings

Calibration: DL00046

Laboratory ID: SIL0206-SCV1

Sequence: SIL0206

Standard ID: I011506

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DRIFT	QC LIMIT
Tributyltin Ion	1.5460	1.69	9.3	20.00
Tripentyltin	1.5918	1.77	11.1	20.00

* Values outside of QC limits

Data File: \\target\share\chem3\nt8.1\20201215.6\NT820121509.D

Date: 15-DEC-2020 11:49

Client ID:

Sample Info: SCV201215,

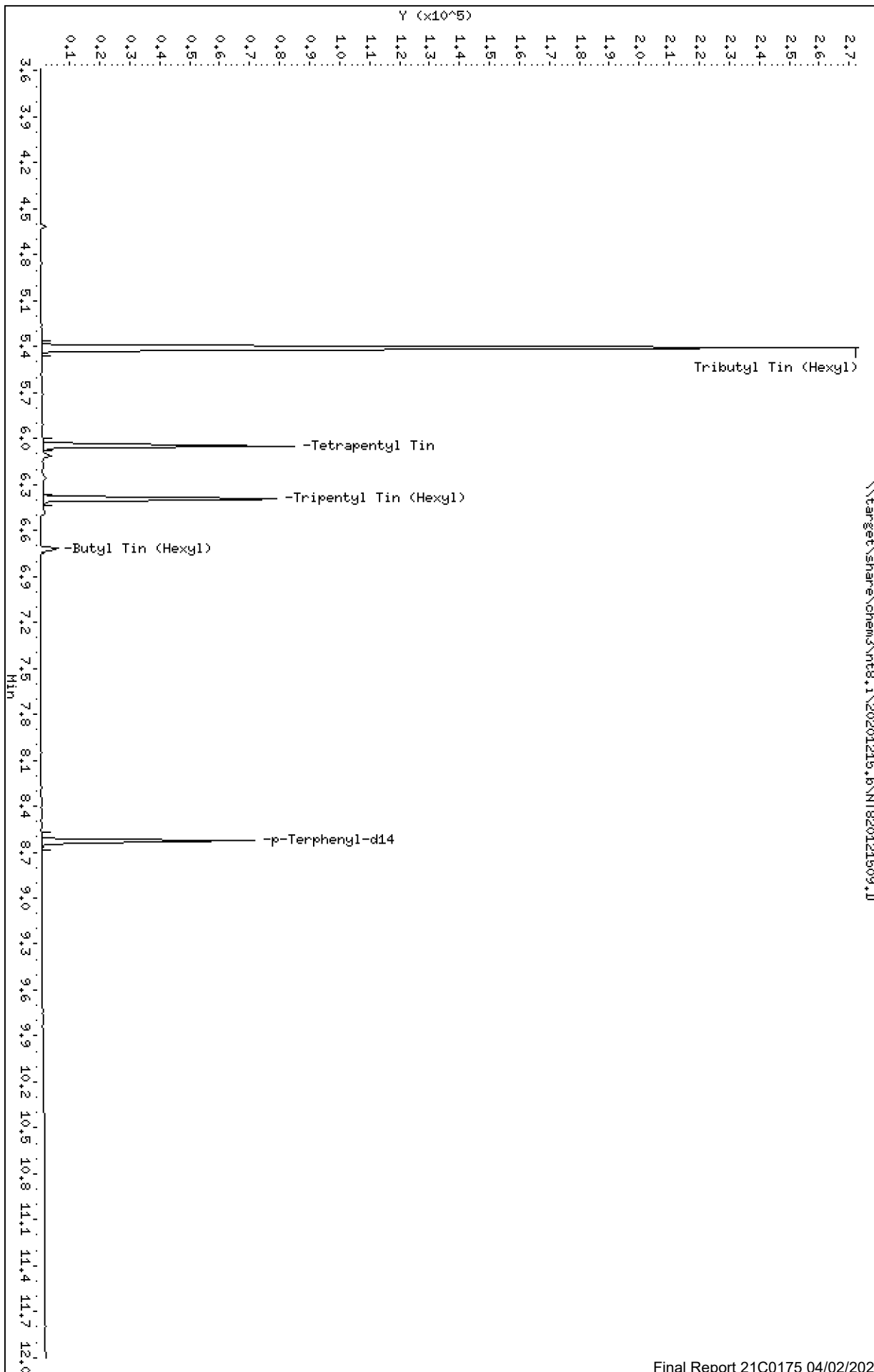
Column phase: ZB-5msi

Instrument: nt8.1

Operator: JZ

Column diameter: 0.25

Page 1



Date : 15-DEC-2020 11:49

Client ID:

Instrument: nt8.i

Sample Info: SCV201215,

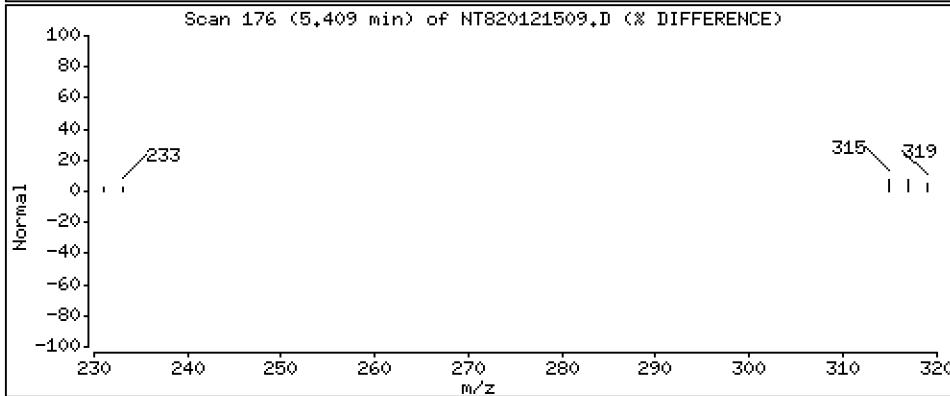
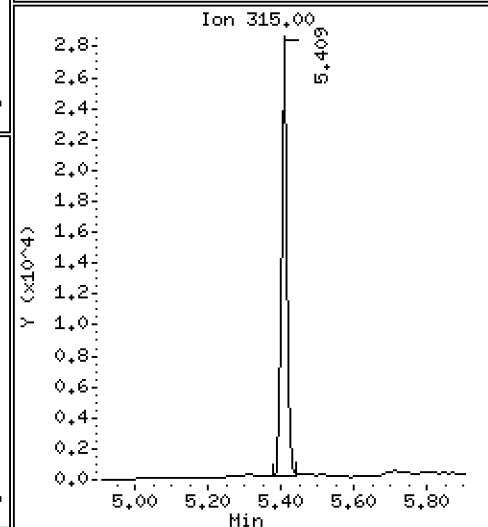
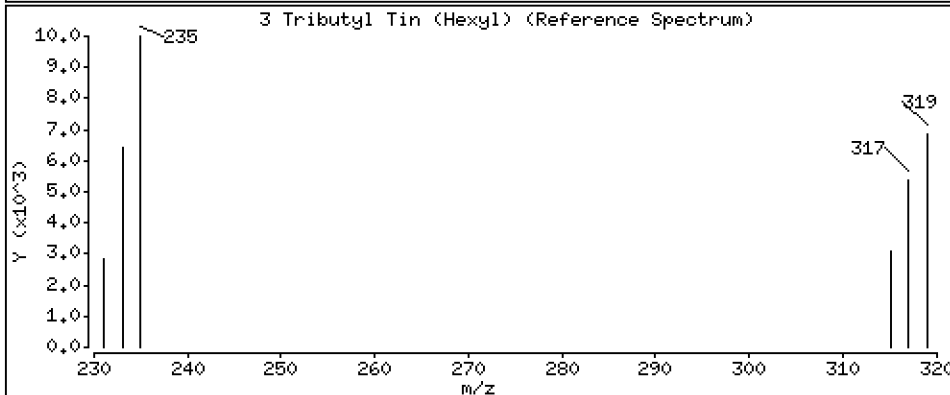
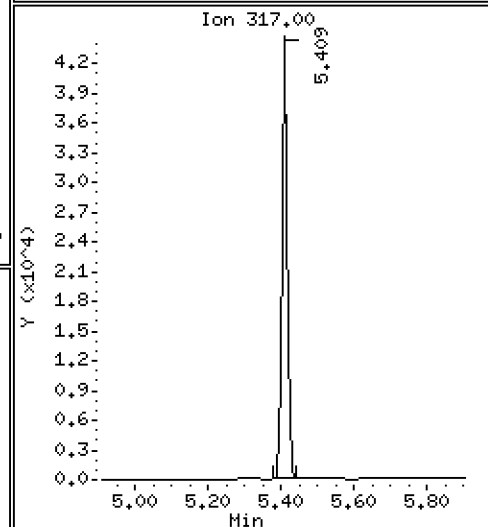
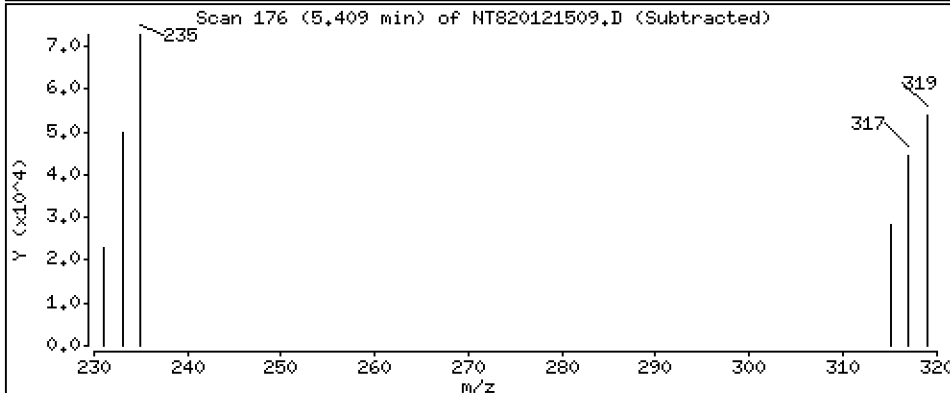
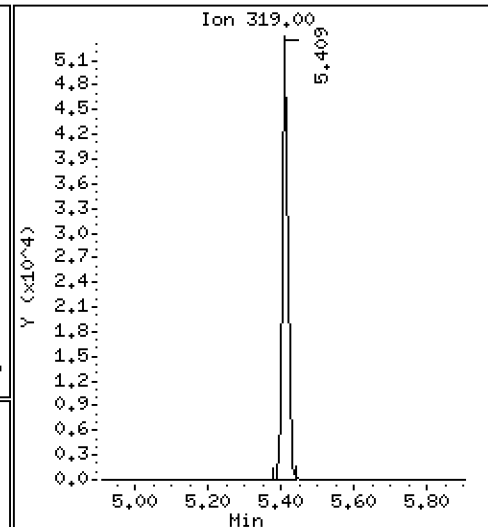
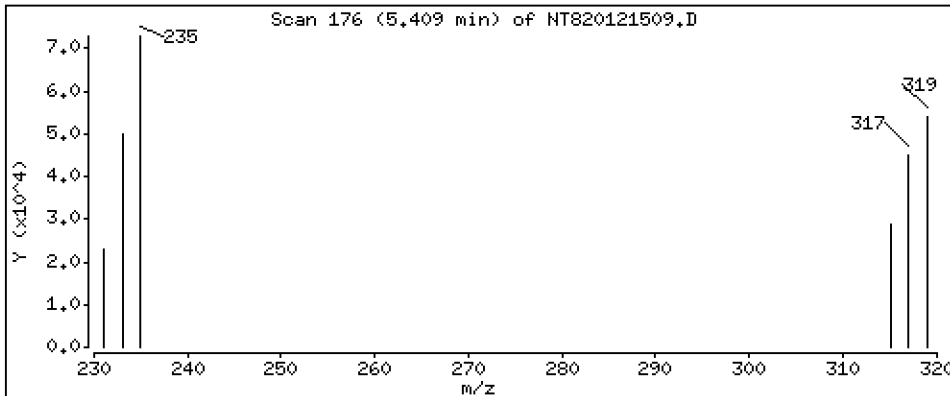
Operator: JZ

Column phase: ZB-5msi

Column diameter: 0,25

3 Tributyl Tin (Hexyl)

Concentration: 2,186 ug/mL



Date : 15-DEC-2020 11:49

Client ID:

Instrument: nt8.i

Sample Info: SCV201215,

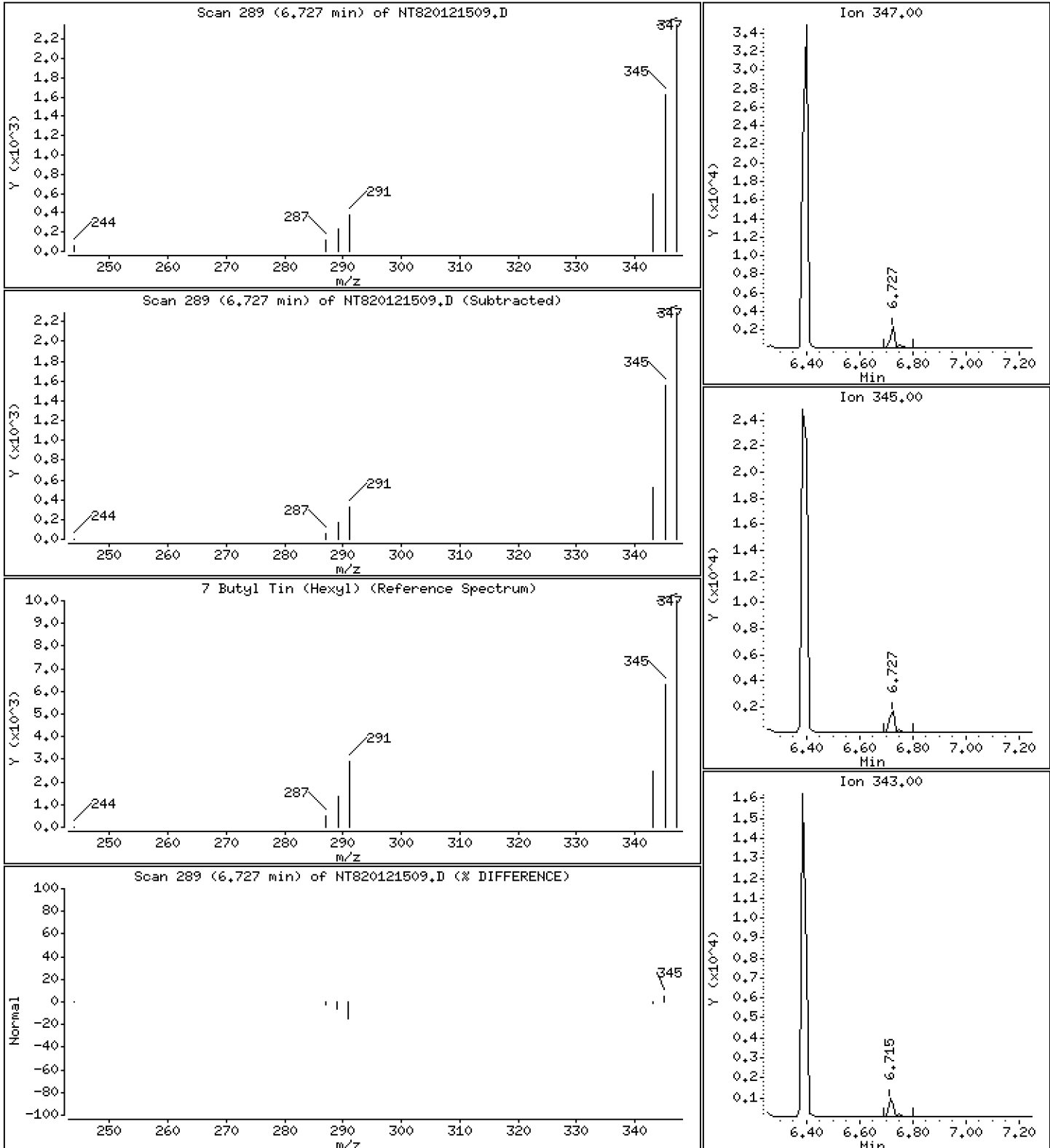
Operator: JZ

Column phase: ZB-5msi

Column diameter: 0.25

7 Butyl Tin (Hexyl)

Concentration: 0.1224 ug/mL



ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt8.i\20201215.b\NT820121509.D
 Lab Smp Id: SIL0206-SCV1
 Inj Date : 15-DEC-2020 11:49
 Operator : JZ Inst ID: nt8.i
 Smp Info : SCV201215,
 Misc Info : 20-
 Comment : 2 ul Injection
 Method : \\target\share\chem3\nt8.i\20201215.b\TBT201215.m
 Meth Date : 15-Dec-2020 14:04 jianqing Quant Type: ISTD
 Cal Date : 15-DEC-2020 11:33 Cal File: NT820121508.D
 Als bottle: 9
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: sed.sub
 Target Version: 4.14
 Processing Host: ORGDATA22

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN	FINAL
	MASS						(ug/mL)	(ug/mL)
=====	=====		=====	=====	=====	=====	=====	=====
\$ 1 Tripropyl Tin (Hexyl)	291		Compound Not Detected.					
2 Tetrabutyl Tin	289		Compound Not Detected.					
3 Tributyl Tin (Hexyl)	319		5.409	5.409	(0.894)	54848	2.18617	2.186
* 4 Tetrapentyl Tin	333		6.049	6.049	(1.000)	78512	2.00000	
5 Dibutyl Tin (Hexyl)	347		Compound Not Detected.					
\$ 6 Tripentyl Tin (Hexyl)	347		6.400	6.400	(0.742)	41293	2.22129	2.221
7 Butyl Tin (Hexyl)	347		6.726	6.751	(0.780)	2715	0.12240	0.1224
* 8 p-Terphenyl-d14	244		8.626	8.626	(1.000)	69992	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i Calibration Date: 15-DEC-2020
Lab File ID: NT820121509.D Calibration Time: 10:10
Lab Smp Id: SIL0206-SCV1
Analysis Type: SV Level:
Quant Type: ISTD Sample Type:
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20201215.b\TBT201215.m
Misc Info: 20-

Test Mode:
Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	72645	36323	145290	78512	8.08
8 p-Terphenyl-d14	65742	32871	131484	69992	6.46

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	6.05	5.55	6.55	6.05	-0.00
8 p-Terphenyl-d14	8.63	8.13	9.13	8.63	-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 - NT820121509.D

Lab ID: SIL0206-SCV1

nt8.i, 20201215.b\TBT201215.m, 15-DEC-2020 11:49

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

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

RRT CHECK

RRT CCV RRT DELTA COMPOUND

NONE

RRT check based on Ccal File: NT820121503.D

On Column LOD for nt8.i, 20201215.b\TBT201215.m, sed.sub = 0.0300

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



INITIAL CALIBRATION CHECK
EPA 8270E-SIM

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>21C0175</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>GascoSiltronic: US Moorings</u>
Instrument ID:	<u>NT8</u>	Calibration:	<u>DL00046</u>
Lab File ID:	<u>NT821031802.D</u>	Calibration Date:	<u>12/15/2020</u>
Sequence:	<u>SJC0283</u>	Injection Date:	<u>03/18/21</u>
Lab Sample ID:	<u>SJC0283-ICV1</u>	Injection Time:	<u>10:46</u>
Sequence Name:	<u>Initial Cal Check</u>		

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Tributyltin Ion	A	0.77300	0.802	31.9551200	33.1697100	0.01	3.8	+/-20
Triphenyltin	A	1.5918	1.81	2.6559690	3.0148980	0.01	13.5	+/-20
Tripropyltin	A	0.74430	0.678	50.8158400	46.3056800	0.01	-8.9	+/-20
Tetraphenyltin	A	100.00	2.00	721.6933	1.0000		-98.0	
p-Terphenyl-d14	A	10.000	0.200	6550.1170	1.0000		-98.0	

* Values outside of QC limits

Data File: \\target\share\chem3\nt8.1\20210318.6\NT821031802.D

Date: 18-MAR-2021 10:46

Client ID:

Sample Info: ICV210318

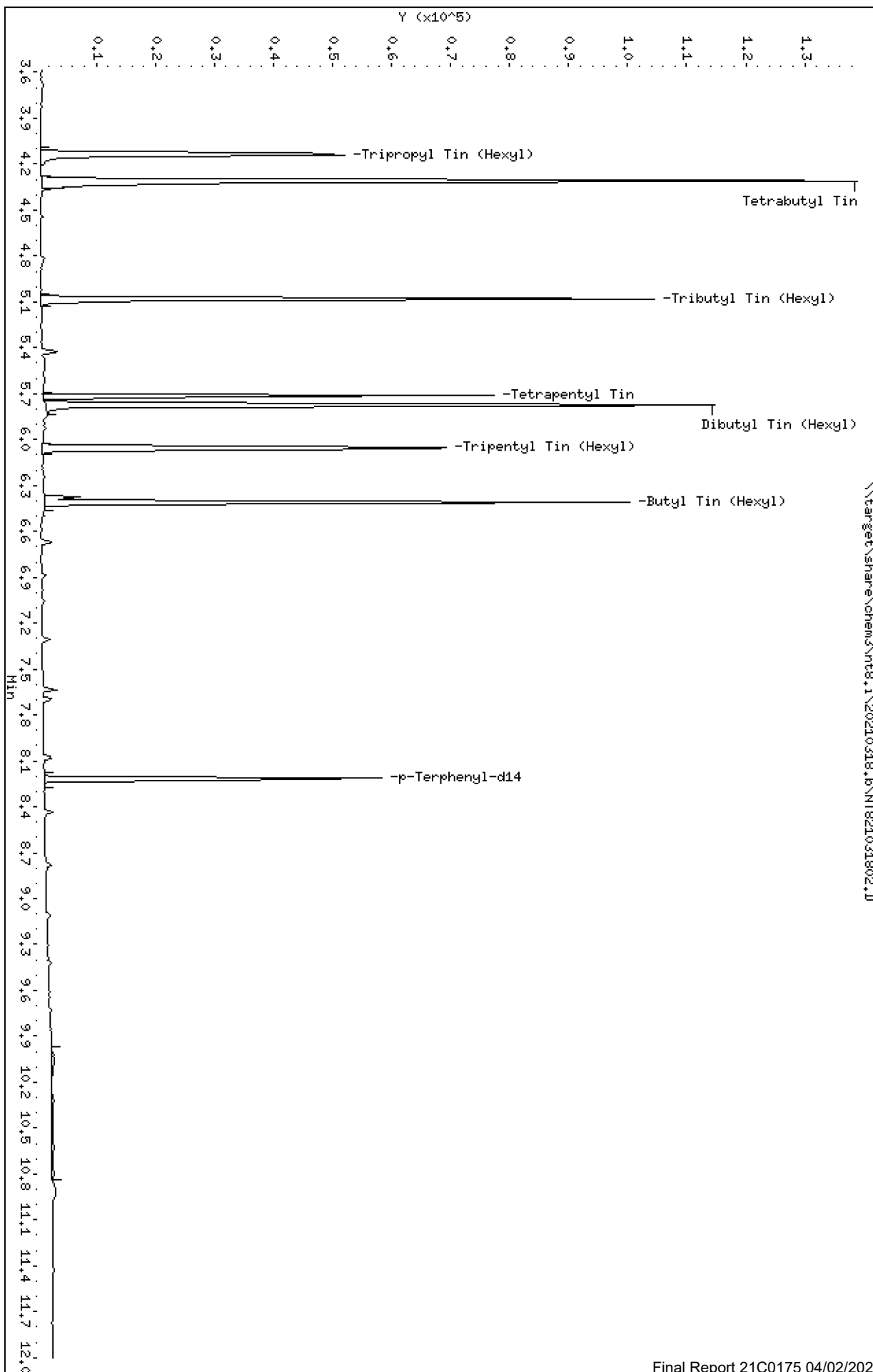
Column phase: ZB-5msi

Instrument: nt8.1

Operator: JZ

Column diameter: 0.25

\\target\share\chem3\nt8.1\20210318.6\NT821031802.D



ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt8.i\20210318.b\NT821031802.D
 Lab Smp Id: SJC0283-ICV1
 Inj Date : 18-MAR-2021 10:46
 Operator : JZ Inst ID: nt8.i
 Smp Info : ICV210318
 Misc Info : 21-
 Comment : 2 ul Injection
 Method : \\target\share\chem3\nt8.i\20210318.b\TBT201215.m
 Meth Date : 18-Mar-2021 11:06 nt8.i Quant Type: ISTD
 Cal Date : 15-DEC-2020 11:33 Cal File: NT820121508.D
 Als bottle: 2 Continuing Calibration Sample
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: sedmdl.sub
 Target Version: 4.14
 Processing Host: ORGDATA22

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
							CAL-AMT	ON-COL
	MASS						(ug/mL)	(ug/mL)
\$ 1 Tripropyl Tin (Hexyl)	291		4.138	4.138	(0.725)	35660	1.00000	0.9112
2 Tetrabutyl Tin	289		4.315	4.315	(0.756)	29501	1.00000	0.8517
3 Tributyl Tin (Hexyl)	319		5.086	5.086	(0.891)	25544	1.00000	1.038
* 4 Tetrapentyl Tin	333		5.711	5.711	(1.000)	77010	2.00000	
5 Dibutyl Tin (Hexyl)	347		5.783	5.783	(0.704)	32947	2.00000	2.263
\$ 6 Tripentyl Tin (Hexyl)	347		6.061	6.061	(0.738)	39178	2.00000	2.270
7 Butyl Tin (Hexyl)	347		6.412	6.412	(0.781)	49202	2.00000	2.390
* 8 p-Terphenyl-d14	244		8.215	8.215	(1.000)	64974	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt8.i Calibration Date: 17-MAR-2021
 Lab File ID: NT821031802.D Calibration Time: 11:55
 Lab Smp Id: SJC0283-ICV1
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: JZ
 Method File: \\target\share\chem3\nt8.i\20210318.b\TBT201215.m
 Misc Info: 21-

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	72645	36323	145290	77010	6.01
8 p-Terphenyl-d14	65742	32871	131484	64974	-1.17

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	5.71	5.21	6.21	5.71	0.00
8 p-Terphenyl-d14	8.22	7.72	8.72	8.22	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 - NT821031802.D

Lab ID: SJC0283-ICV1

nt8.i, 20210318.b\TBT201215.m, 18-MAR-2021 10:46

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

No RRT check. Ccal file.

On Column LOD for nt8.i, 20210318.b\TBT201215.m, sedmdl.sub = 0.0000

Exception: Tripropyl Tin (Hexyl) (Surr) 0.0010

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

Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20210318.b

Instrument: nt8.i Date: 18-MAR-2021 Method: 20210318.b\TBT201215.m

INITIAL CAL: 15-DEC-2020

Compound	%RSD or R ²

NO Q-FLAGS	

ICV CAL: NT821031802.D 18-MAR-2021 10:46

Compound	%D

NO Q-FLAGS	



INITIAL CALIBRATION CHECK EPA 8270E-SIM

Laboratory: <u>Analytical Resources, Inc.</u>	SDG: <u>21C0175</u>
Client: <u>Anchor QEA, LLC</u>	Project: <u>GascoSiltronic: US Moorings</u>
Instrument ID: <u>NT11</u>	Calibration: <u>DH00073</u>
Lab File ID: <u>NT1121032402.D</u>	Calibration Date: <u>08/27/2020</u>
Sequence: <u>SJC0391</u>	Injection Date: <u>03/24/21</u>
Lab Sample ID: <u>SJC0391-ICV1</u>	Injection Time: <u>13:25</u>
Sequence Name: <u>Initial Cal Check</u>	

COMPOUND	TYPE	CONC. (ng/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Naphthalene	A	250.00	232	1.1612470	1.0781470		-7.2	+/-20
2-Methylnaphthalene	A	250.00	243	0.9361384	0.9099638		-2.8	+/-20
Acenaphthylene	A	250.00	209	2.2945630	1.9139130		-16.4	+/-20
Acenaphthene	A	250.00	212	1.5175830	1.2875540		-15.2	+/-20
Fluorene	A	250.00	218	1.5604500	1.3577180		-12.8	+/-20
Phenanthrene	A	250.00	238	1.3083250	1.2468800		-4.8	+/-20
Anthracene	A	250.00	223	1.3072390	1.1673720		-10.8	+/-20
Fluoranthene	A	250.00	240	1.3043810	1.2544330		-4.0	+/-20
Pyrene	A	250.00	245	1.3381820	1.3089320		-2.0	+/-20
Benzo(a)anthracene	A	250.00	229	1.4691530	1.3481110		-8.4	+/-20
Chrysene	A	250.00	226	1.6542610	1.4942430		-9.6	+/-20
Benzo(b)fluoranthene	A	250.00	223	1.0886210	0.9702962		-10.8	+/-20
Benzo(k)fluoranthene	A	250.00	243	1.4304320	1.3909350		-2.8	+/-20
Benzo(j)fluoranthene	A	250.00	239	1.5458300	1.4787140		-4.4	+/-20
Benzo(a)pyrene	A	250.00	247	1.1369780	1.1241430		-1.2	+/-20
Indeno(1,2,3-cd)pyrene	A	250.00	261	1.1041170	1.1532230		4.4	+/-20
Dibenzo(a,h)anthracene	A	250.00	257	0.8775199	0.9664769		2.8	+/-20
Benzo(g,h,i)perylene	A	250.00	254	1.1039640	1.1218250		1.6	+/-20
2-Methylnaphthalene-d10	A	250.00	245	0.8041846	0.7875015		-2.0	+/-20
Dibenzo[a,h]anthracene-d14	A	250.00	252	0.7035414	0.7896764		0.8	+/-20
Fluoranthene-d10	A	250.00	235	1.0485620	0.9864896		-6.0	+/-20

* Values outside of QC limits

Data File: \\target\share\chem3\nt11.1\20210324.6\NT1121032402.D

Date: 24-MAR-2021 13:25

Client ID:

Sample Info: SJC0391-ICW1

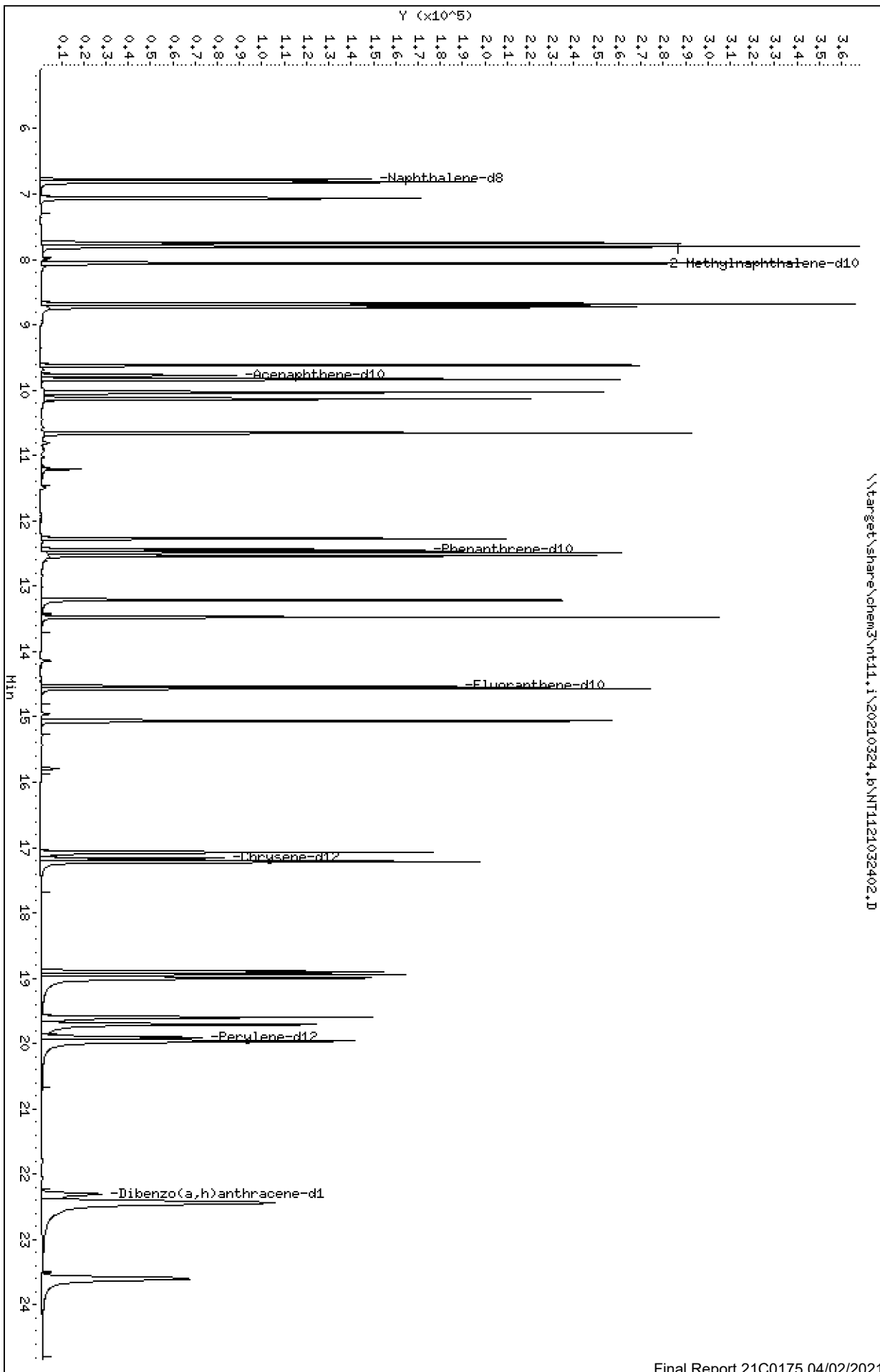
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

\\target\share\chem3\nt11.1\20210324.6\NT1121032402.D



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20210324.b\NT1121032402.D
 Lab Smp Id: SJC0391-ICV1
 Inj Date : 24-MAR-2021 13:25 MS Autotune Date: 15-JAN-2015 16:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : SJC0391-ICV1
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20210324.b\lowsim.m
 Meth Date : 24-Mar-2021 14:23 van Quant Type: ISTD
 Cal Date : 27-AUG-2020 13:38 Cal File: NT1120082704.D
 Als bottle: 2 Continuing Calibration Sample
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PAH.sub
 Target Version: 4.14
 Processing Host: VANS-202011

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
							CAL-AMT (ng/mL)	ON-COL (ng/mL)
* 1 Naphthalene-d8	136		6.777	6.777	(1.000)	211546	200.000	
2 Naphthalene	128		6.813	6.813	(1.005)	285097	250.000	232
3 Benzo(b)thiophene	134		7.066	7.066	(1.043)	233758	250.000	241
\$ 4 2-Methylnaphthalene-d10	152		7.749	7.749	(1.143)	208241	250.000	245
5 2-Methylnaphthalene	142		7.801	7.801	(1.151)	240624	250.000	243
6 1-Methylnaphthalene	142		8.054	8.054	(1.188)	223844	250.000	243
7 2-Chloronaphthalene	162		8.705	8.705	(0.891)	210046	250.000	210
8 Biphenyl	154		8.673	8.673	(0.888)	272431	250.000	204 (H)
9 2,6-Dimethylnaphthalene	156		8.726	8.726	(0.893)	210606	250.000	213
10 Acenaphthylene	152		9.625	9.625	(0.985)	275204	250.000	209
* 11 Acenaphthene-d10	164		9.770	9.770	(1.000)	115033	200.000	
12 Acenaphthene	153		9.833	9.833	(1.006)	185139	250.000	212
13 Dibenzofuran	168		10.036	10.036	(1.027)	238300	250.000	205
14 2,3,5-Trimethylnaphthalene	170		10.137	10.137	(1.038)	155103	250.000	216
16 Fluorene	166		10.655	10.655	(1.091)	195228	250.000	218
17 Dibenzothiophene	184		12.271	12.271	(0.986)	217120	250.000	234
* 18 Phenanthrene-d10	188		12.439	12.439	(1.000)	167782	200.000	
19 Phenanthrene	178		12.481	12.481	(1.003)	261505	250.000	238 (H)
21 Anthracene	178		12.534	12.534	(1.008)	244830	250.000	223
22 Carbazole	167		13.216	13.216	(1.062)	290842	250.000	249
23 1-Methylphenanthrene	192		13.478	13.478	(1.083)	235048	250.000	242
\$ 24 Fluoranthene-d10	212		14.530	14.530	(1.168)	206894	250.000	235
25 Fluoranthene	202		14.568	14.568	(1.171)	263089	250.000	240
26 Pyrene	202		15.058	15.058	(1.211)	274519	250.000	245
27 Benzo(a)anthracene	228		17.072	17.072	(0.995)	211795	250.000	229
* 28 Chrysene-d12	240		17.163	17.163	(1.000)	125684	200.000	
29 Chrysene	228		17.213	17.213	(1.003)	234753	250.000	226
30 Benzo(b)fluoranthene	252		18.894	18.894	(0.949)	177073	250.000	223 (H)
31 Benzo(k)fluoranthene	252		18.933	18.933	(0.951)	253837	250.000	243 (H)
32 Benzo(j)fluoranthene	252		19.000	19.000	(0.955)	269856	250.000	239
34 Benzo(e)pyrene	252		19.596	19.596	(0.985)	207427	250.000	231 (H)
35 Benzo(a)pyrene	252		19.701	19.701	(0.990)	205149	250.000	247
* 36 Perylene-d12	264		19.903	19.903	(1.000)	145995	200.000	

Compounds	QUANT SIG		AMOUNTS				
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/mL)	ON-COL (ng/mL)
37 Perylene	252	19.961	19.961	(1.003)	227251	250.000	240
\$ 38 Dibenzo(a,h)anthracene-d14	292	22.305	22.305	(1.121)	144111	250.000	252
39 Dibenzo(a,h)anthracene	278	22.416	22.416	(1.126)	176376	250.000	257
40 Indeno(1,2,3-cd)pyrene	276	22.449	22.449	(1.128)	210456	250.000	261
41 Benzo(g,h,i)perylene	276	23.601	23.601	(1.186)	204726	250.000	254

QC Flag Legend

H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 24-MAR-2021
 Lab File ID: NT1121032402.D Calibration Time: 11:53
 Lab Smp Id: SJC0391-ICV1
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20210324.b\lowsim.m
 Misc Info:

Test Mode:
 Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	211546	105773	423092	211546	0.00
11 Acenaphthene-d10	115033	57517	230066	115033	0.00
18 Phenanthrene-d10	167782	83891	335564	167782	0.00
28 Chrysene-d12	125684	62842	251368	125684	0.00
36 Perylene-d12	145995	72998	291990	145995	0.00

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	6.78	6.28	7.28	6.78	0.00
11 Acenaphthene-d10	9.77	9.27	10.27	9.77	0.00
18 Phenanthrene-d10	12.44	11.94	12.94	12.44	0.00
28 Chrysene-d12	17.16	16.66	17.66	17.16	0.00
36 Perylene-d12	19.90	19.40	20.40	19.90	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 - NT1121032402.D

Lab ID: SJC0391-ICV1

nt11.i, 20210324.b\lowsim.m, 24-MAR-2021 13:25

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

No RRT check. Ccal file.

On Column LOD for nt11.i, 20210324.b\lowsim.m, PAH.sub = 0.0000

Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000

Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000

Exception: Fluoranthene-d10 (Surr) 0.1000

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

Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20210324.b

Instrument: nt11.i Date: 24-MAR-2021 Method: 20210324.b\lowsim.m

INITIAL CAL: 27-AUG-2020

Compound	%RSD or R ²

NO Q-FLAGS	

ICV CAL: NT1121032402.D 24-MAR-2021 13:25

Compound	%D

NO Q-FLAGS	



**SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8270E-SIM**

Laboratory: Analytical Resources, Inc.

SDG: 21C0175

Client: Anchor QEA, LLC

Project: GascoSiltronic: US Moorings

Instrument ID: NT11

Calibration: DH00073

Lab File ID: NT1120082708.D

Calibration Date: 08/27/2020

Sequence: SIH0304

Injection Date: 08/27/20

Lab Sample ID: SIH0304-SCV1

Injection Time: 15:38

Sequence Name: PAH 250 SCV

COMPOUND	TYPE	CONC. (ng/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Naphthalene	A	250.00	224	1.1612470	1.0427060		-10.2	+/-20
Acenaphthylene	A	250.00	233	2.2945630	2.1409260		-6.7	+/-20
Acenaphthene	A	250.00	222	1.5175830	1.3472150		-11.2	+/-20
Fluorene	A	250.00	233	1.5604500	1.4573750		-6.6	+/-20
Phenanthrene	A	250.00	233	1.3083250	1.2168170		-7.0	+/-20
Anthracene	A	250.00	223	1.3072390	1.1639480		-11.0	+/-20
Fluoranthene	A	250.00	236	1.3043810	1.2324390		-5.5	+/-20
Pyrene	A	250.00	235	1.3381820	1.2585060		-6.0	+/-20
Benzo(a)anthracene	A	250.00	223	1.4691530	1.3105600		-10.8	+/-20
Chrysene	A	250.00	215	1.6542610	1.4247980		-13.9	+/-20
Benzo(b)fluoranthene	A	250.00	212	1.0886210	0.9248430		-15.0	+/-20
Benzo(k)fluoranthene	A	250.00	260	1.4304320	1.4893160		4.1	+/-20
Benzo(a)pyrene	A	250.00	213	1.1369780	0.9691179		-14.8	+/-20
Indeno(1,2,3-cd)pyrene	A	250.00	227	1.1041170	1.0017760		-9.3	+/-20
Dibenzo(a,h)anthracene	A	250.00	192	0.8775199	0.7181910		-23.2	+/-20 *
Benzo(g,h,i)perylene	A	250.00	214	1.1039640	0.9470106		-14.2	+/-20

* Values outside of QC limits

Data File: \\target\share\chem3\nt11.1\20200827.6\NT1120082708.D

Date : 27-AUG-2020 15:38

Client ID:

Sample Info: SIH0304-SCV1

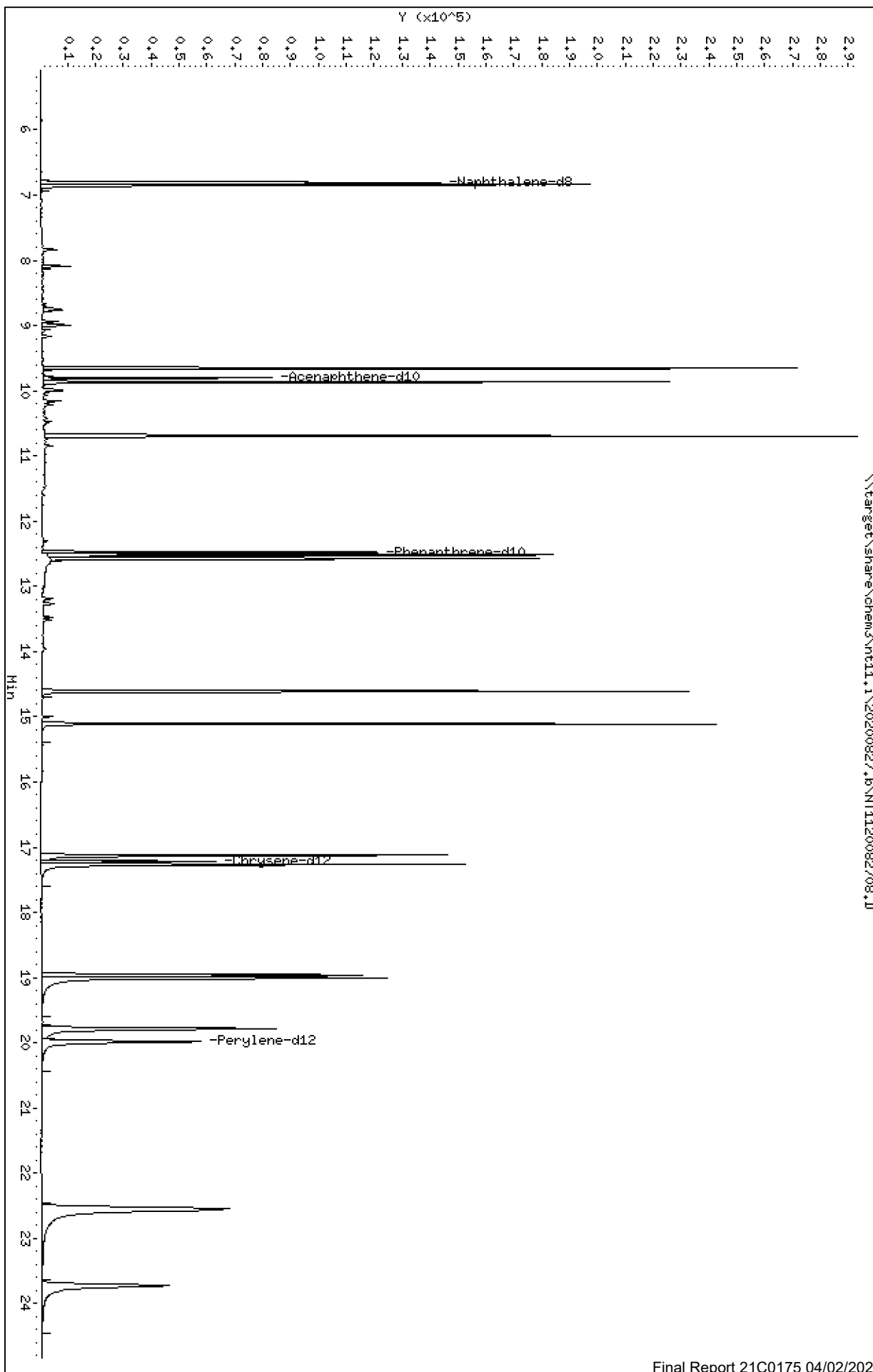
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

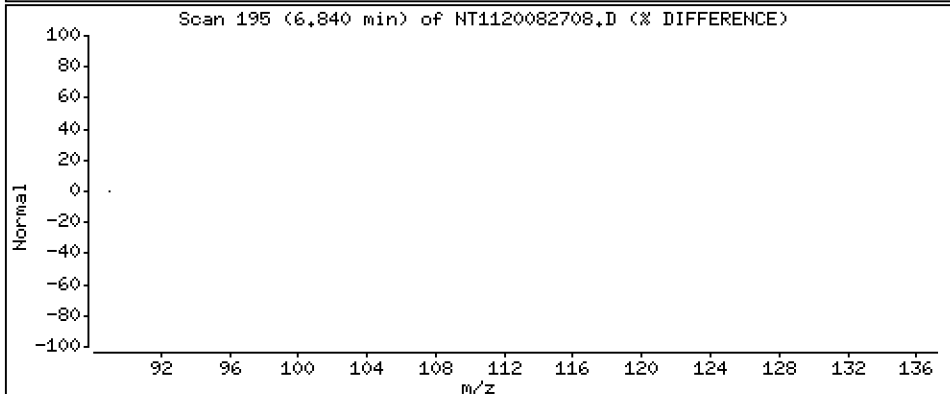
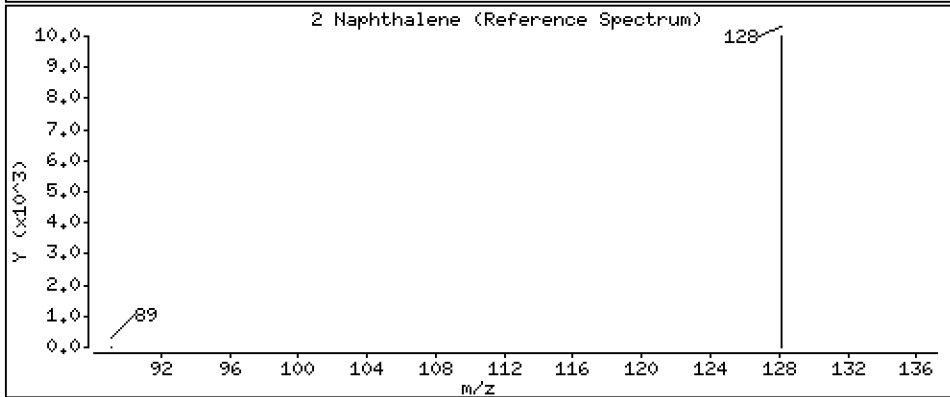
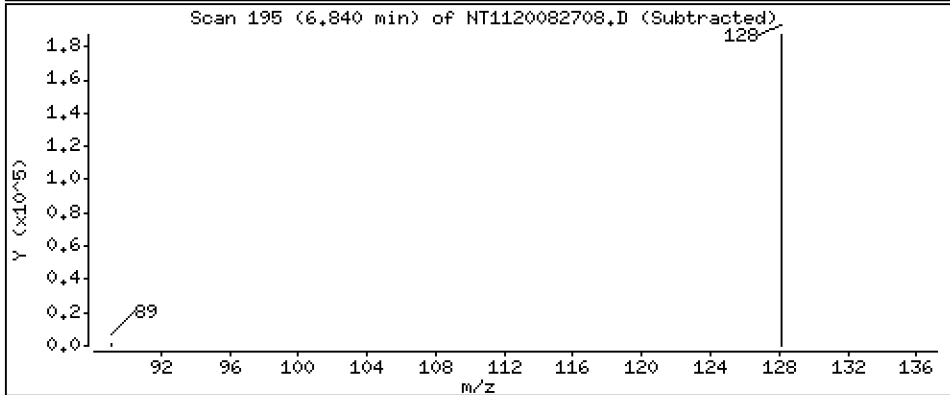
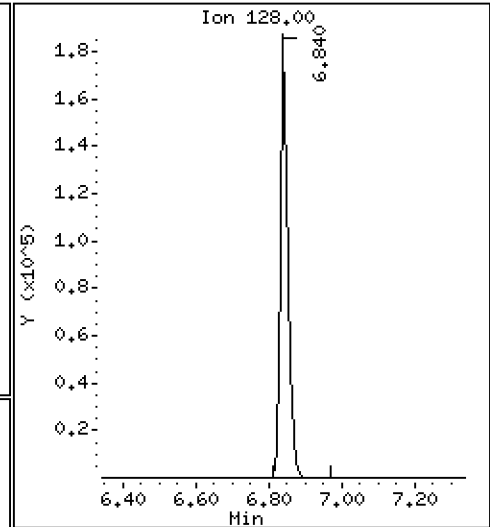
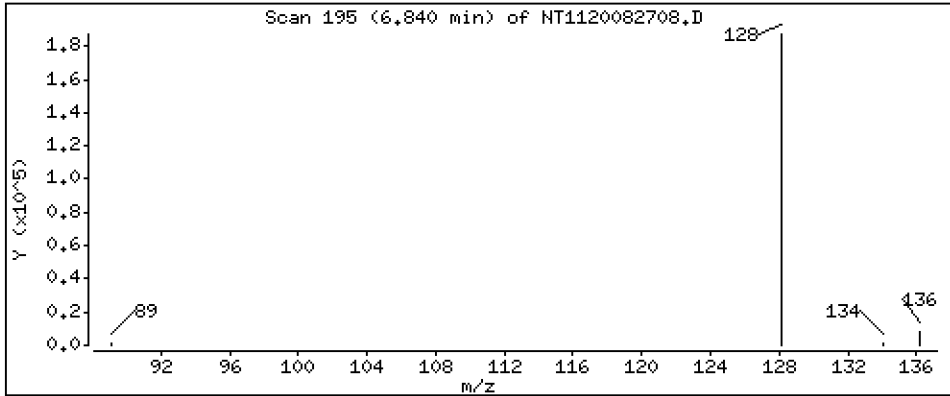
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 224 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

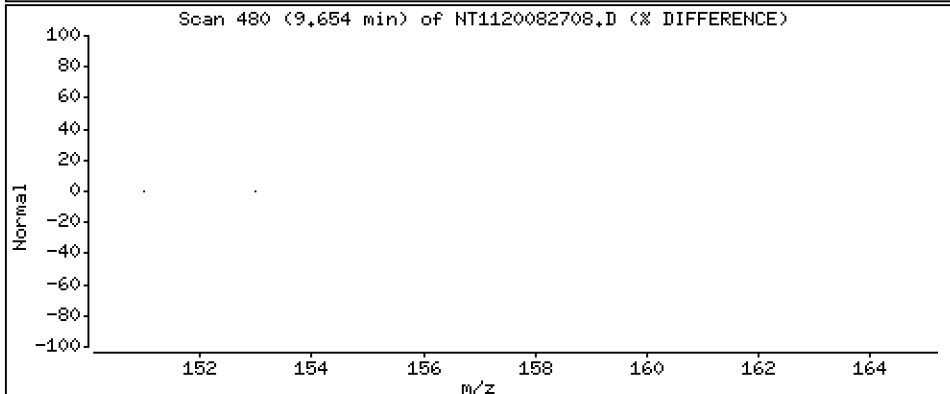
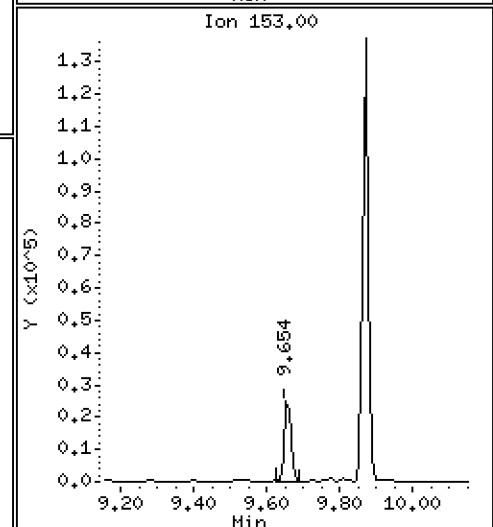
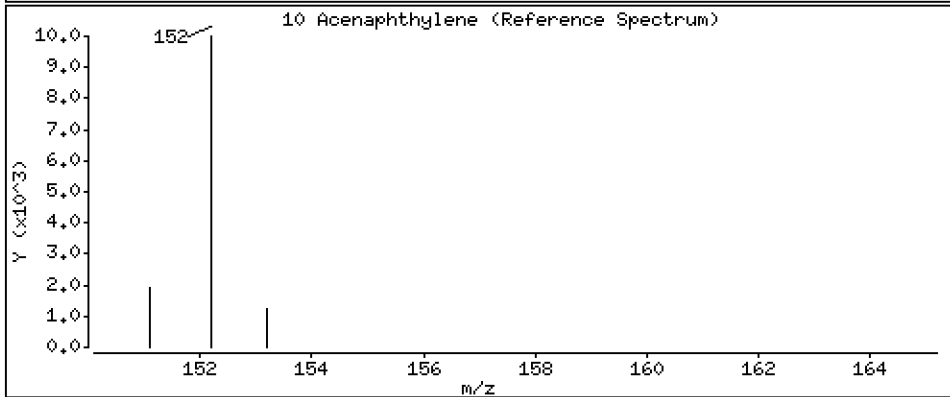
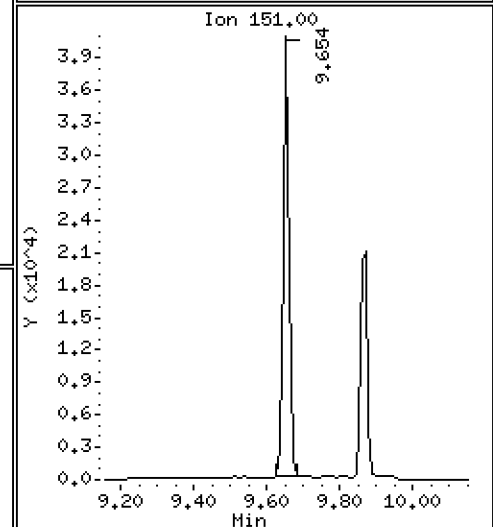
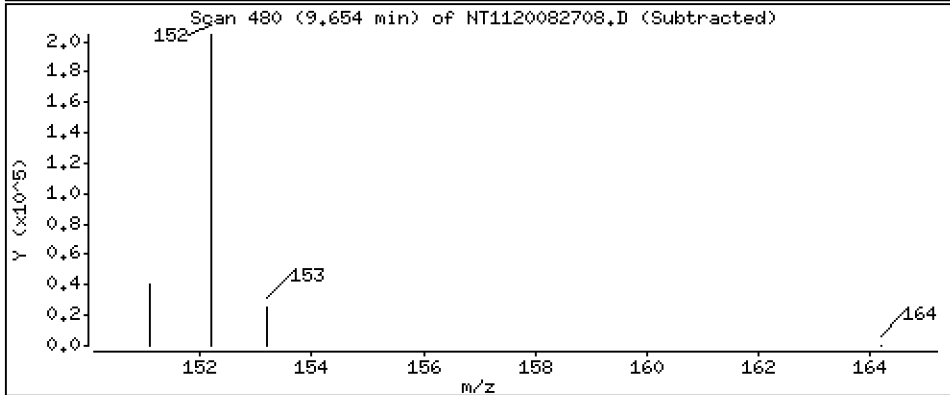
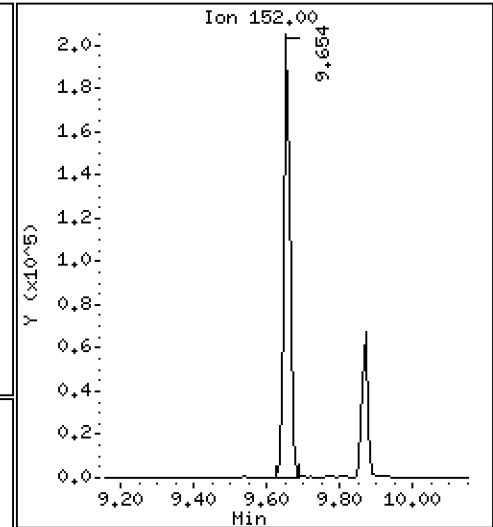
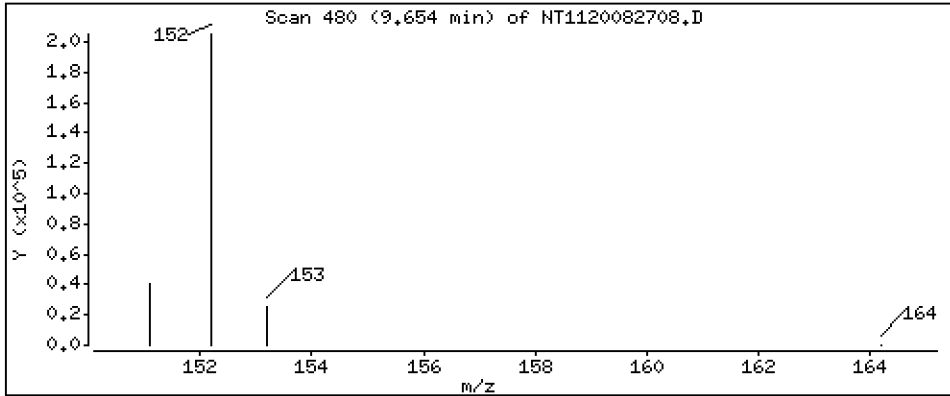
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

10 Acenaphthylene

Concentration: 233 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

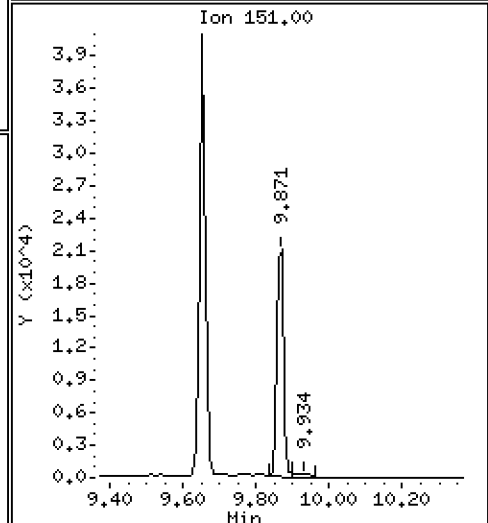
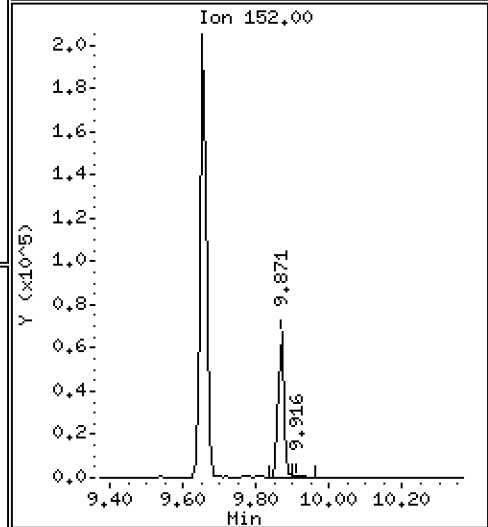
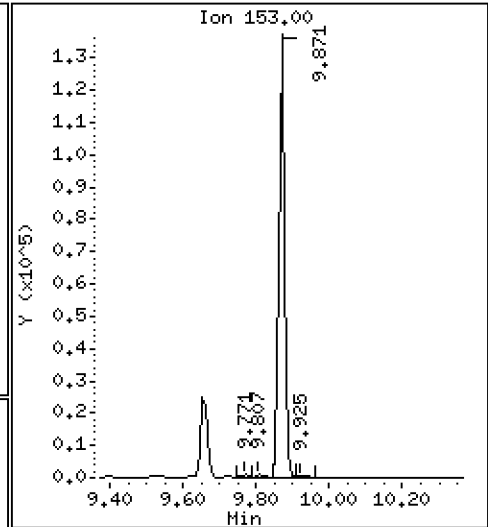
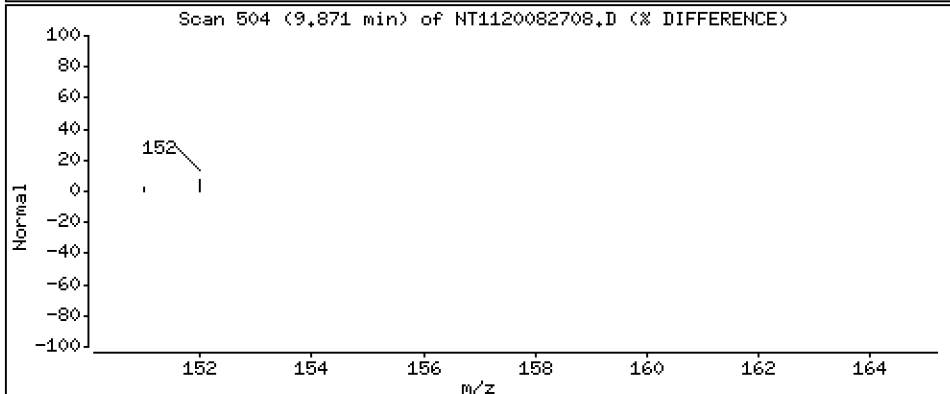
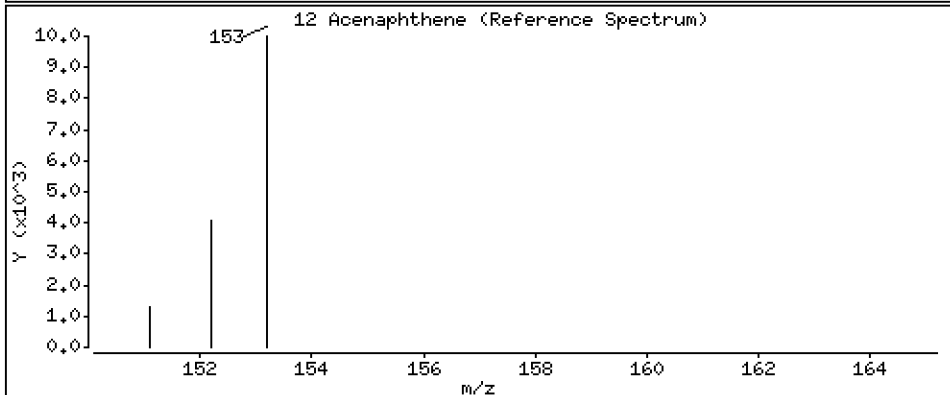
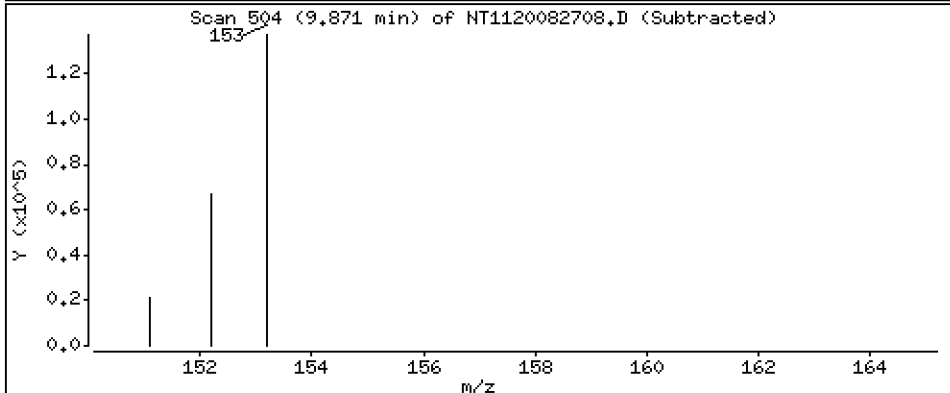
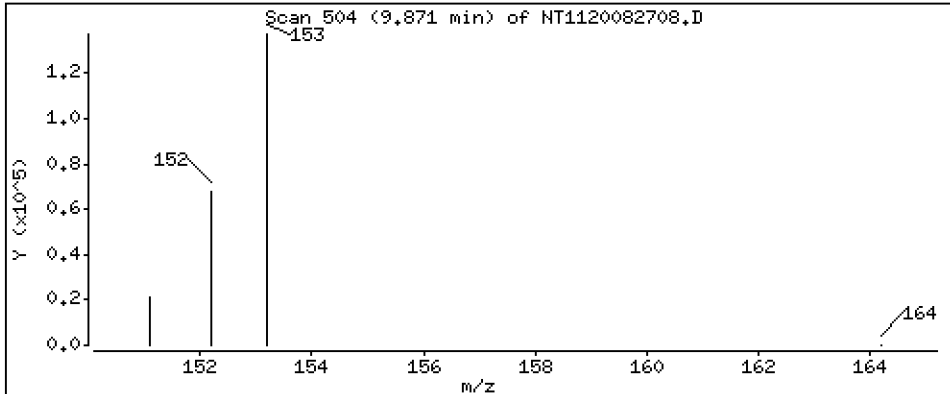
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

12 Acenaphthene

Concentration: 222 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

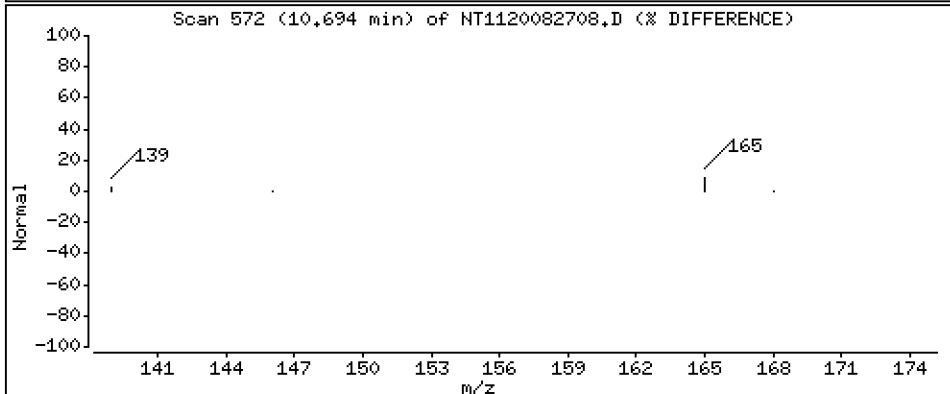
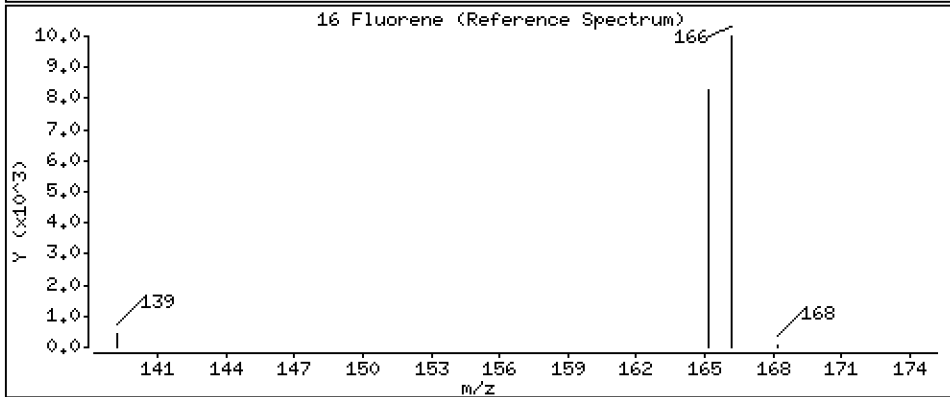
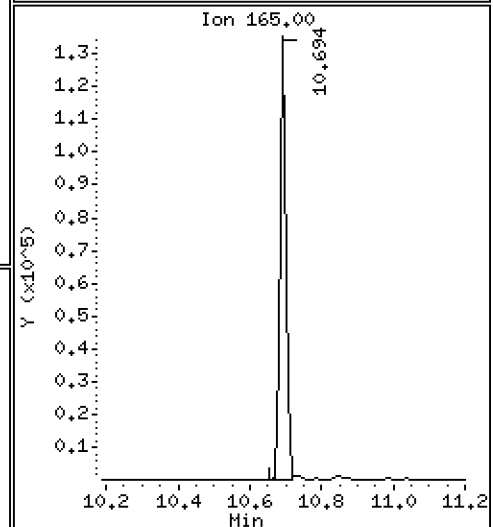
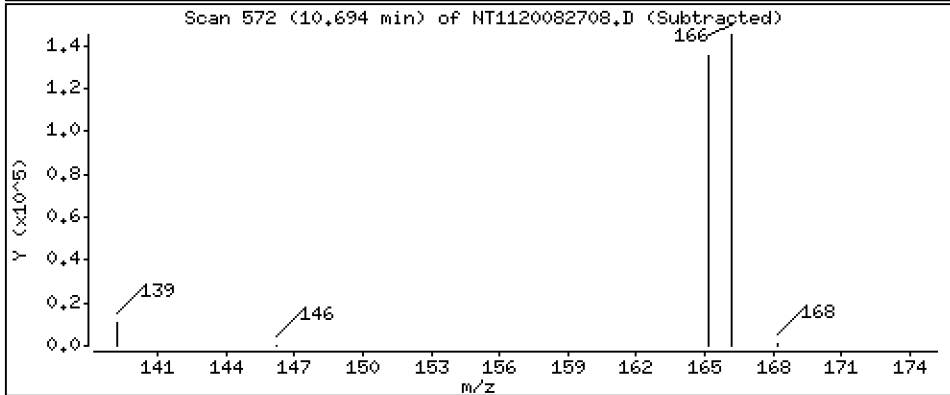
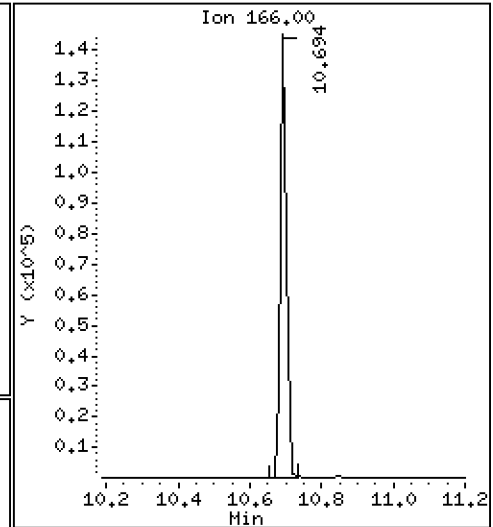
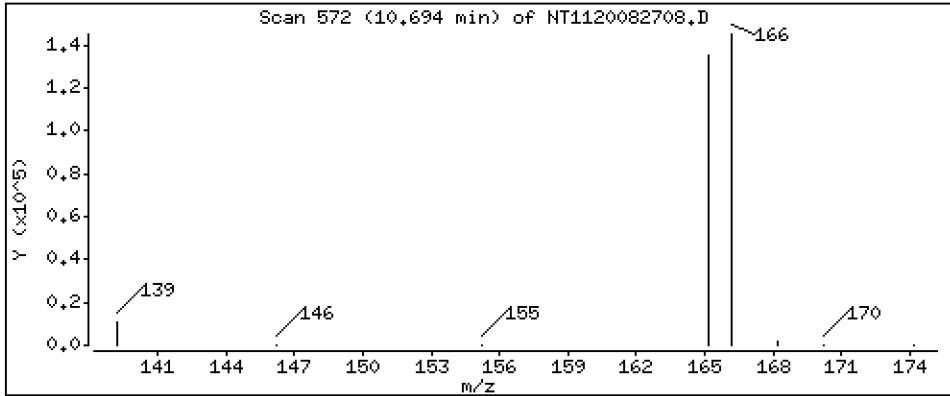
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 233 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

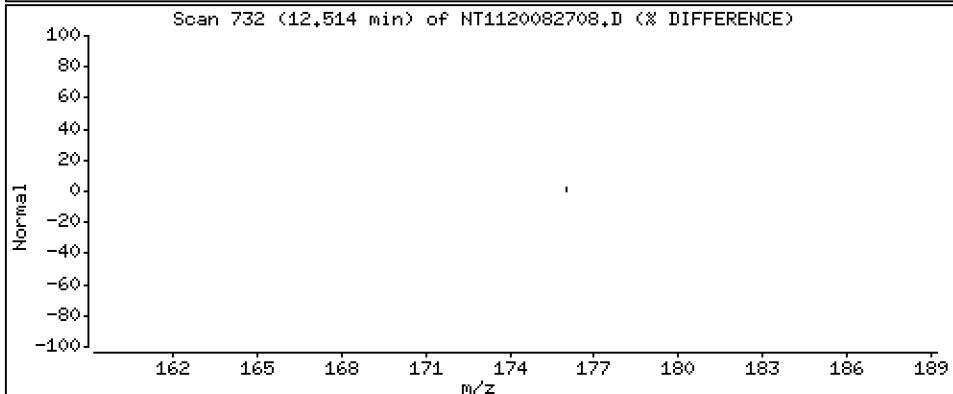
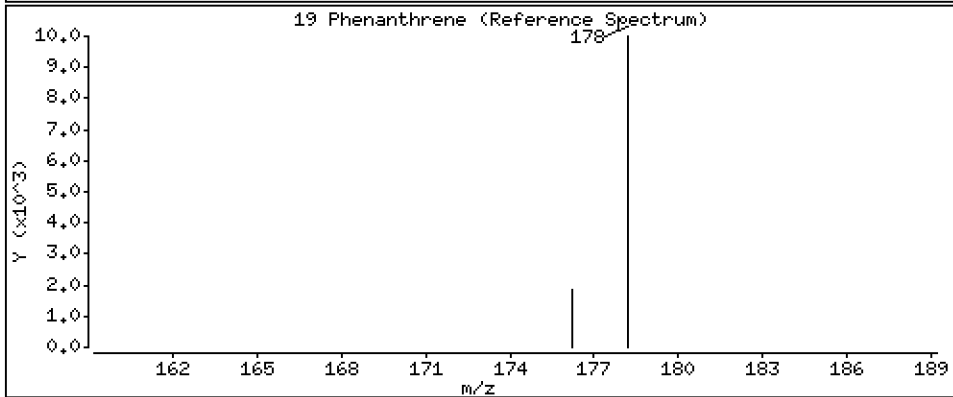
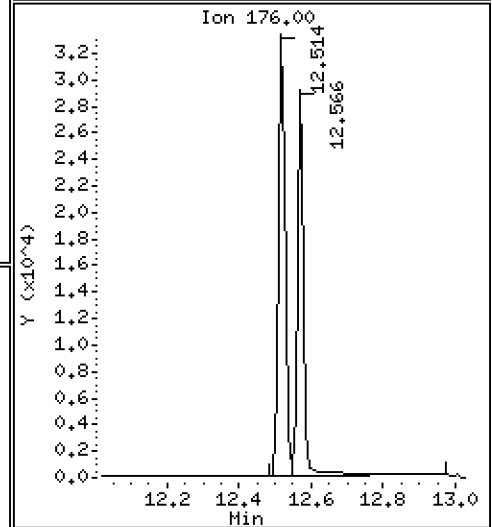
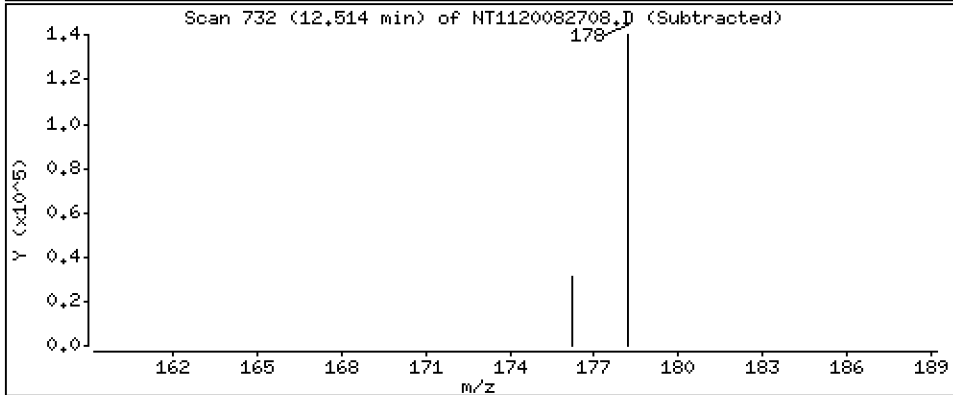
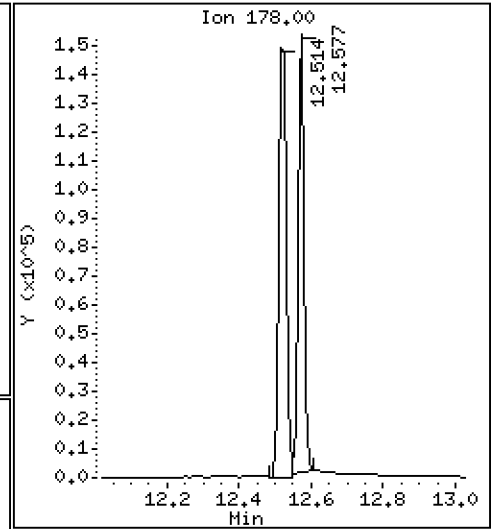
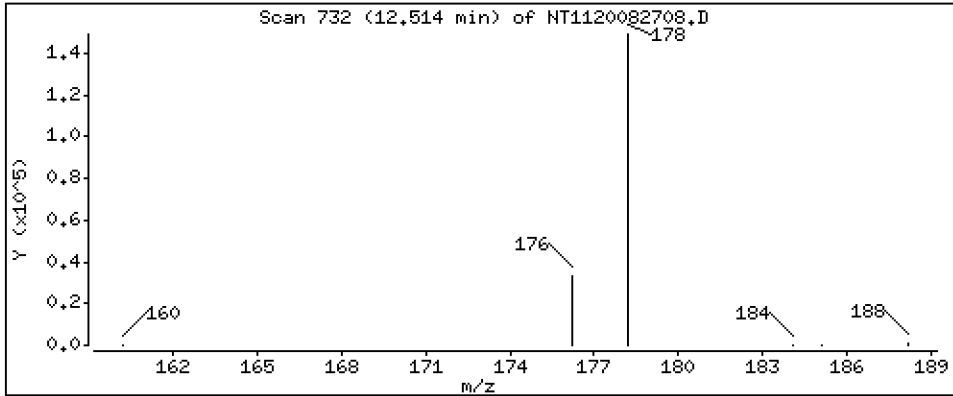
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 233 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

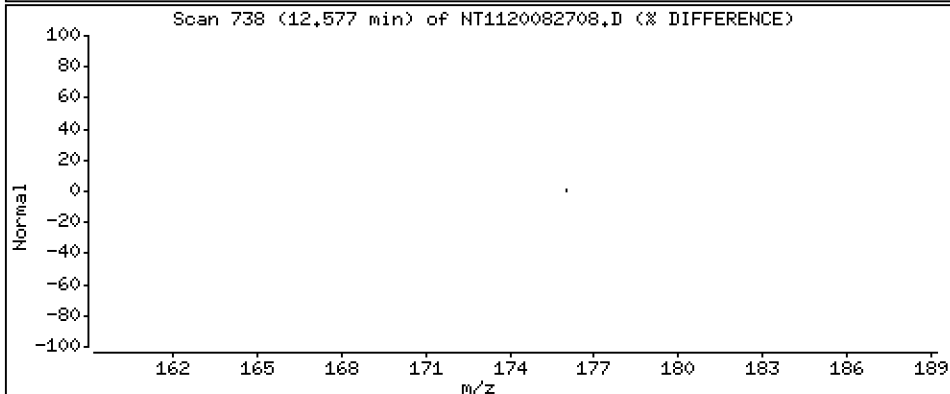
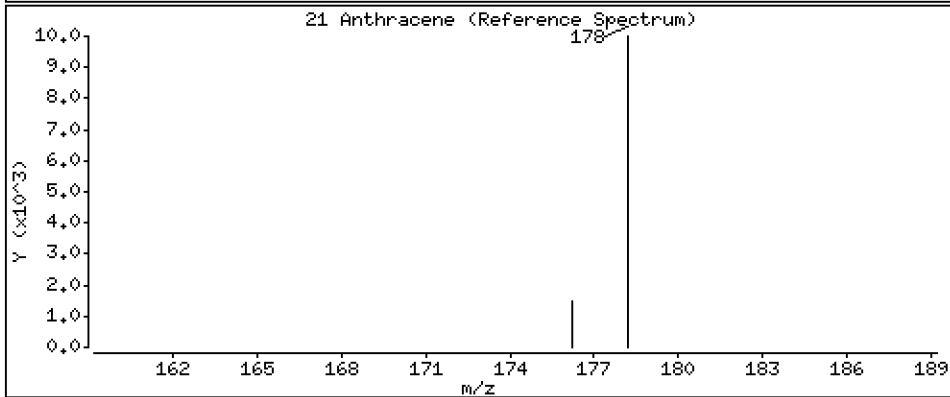
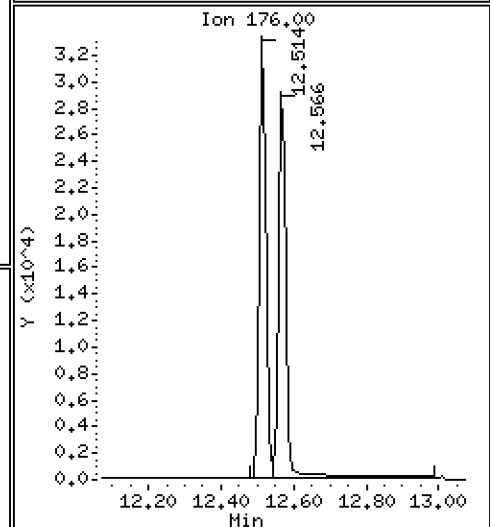
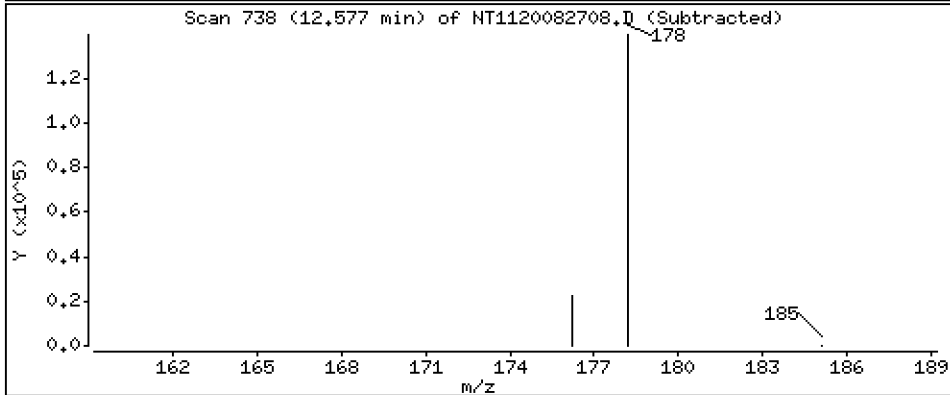
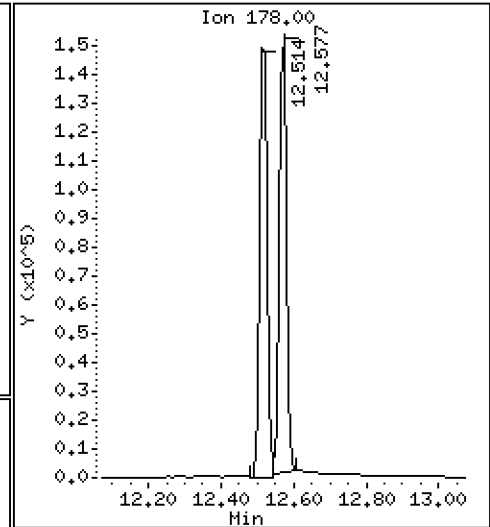
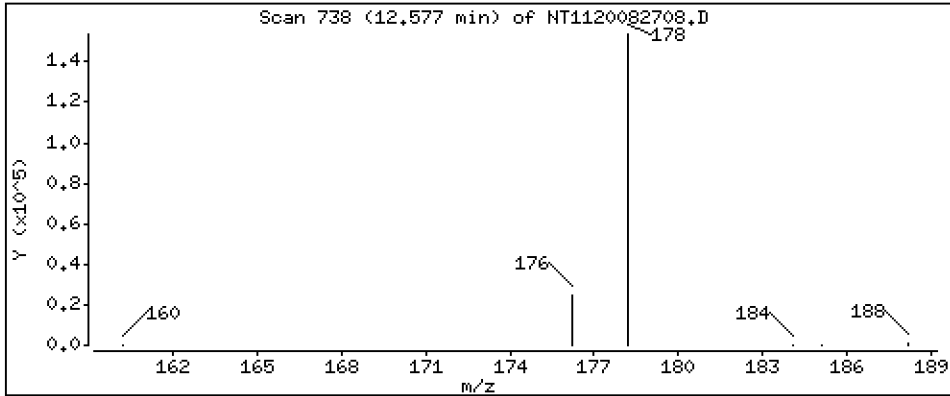
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 223 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

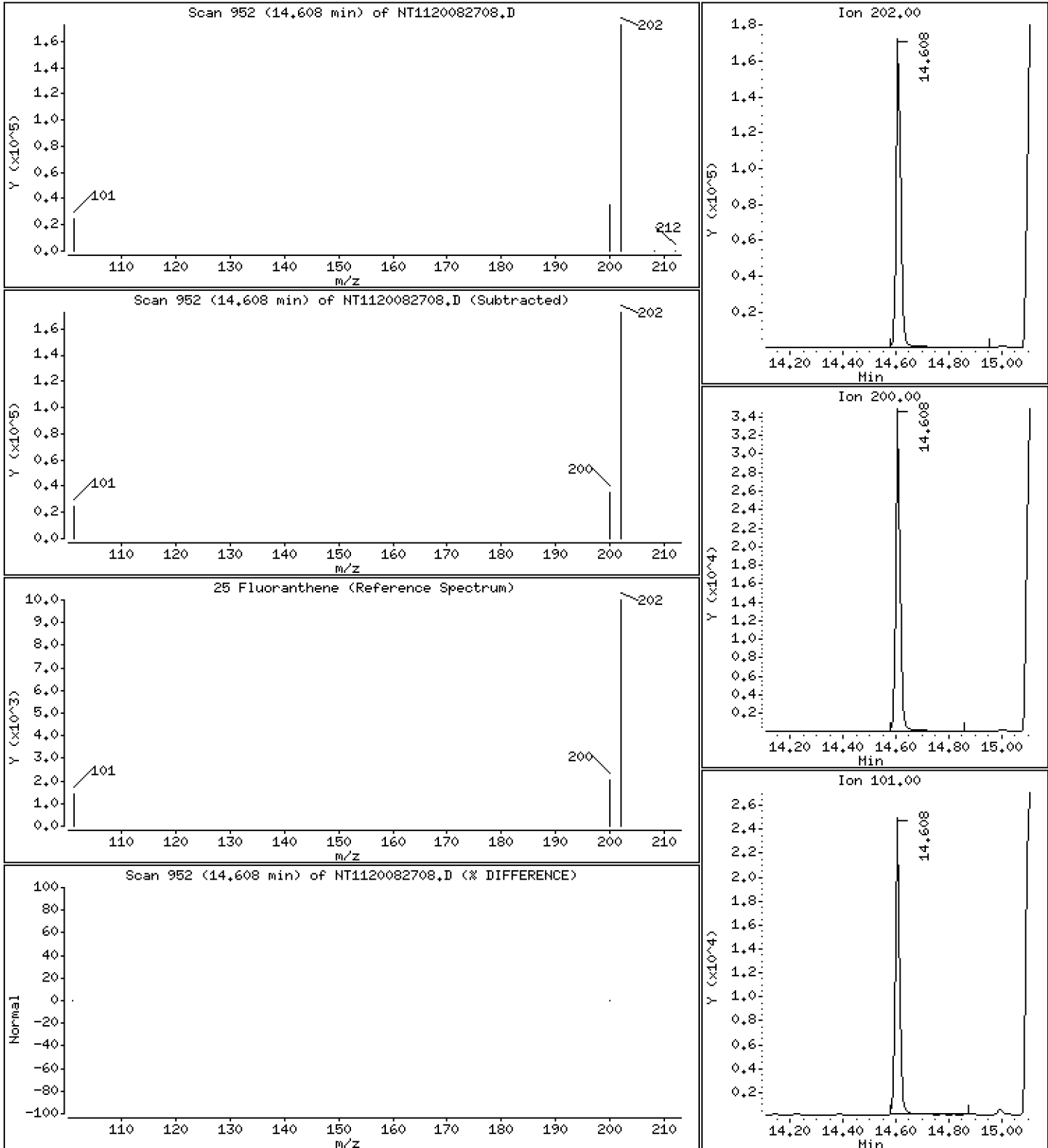
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 236 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

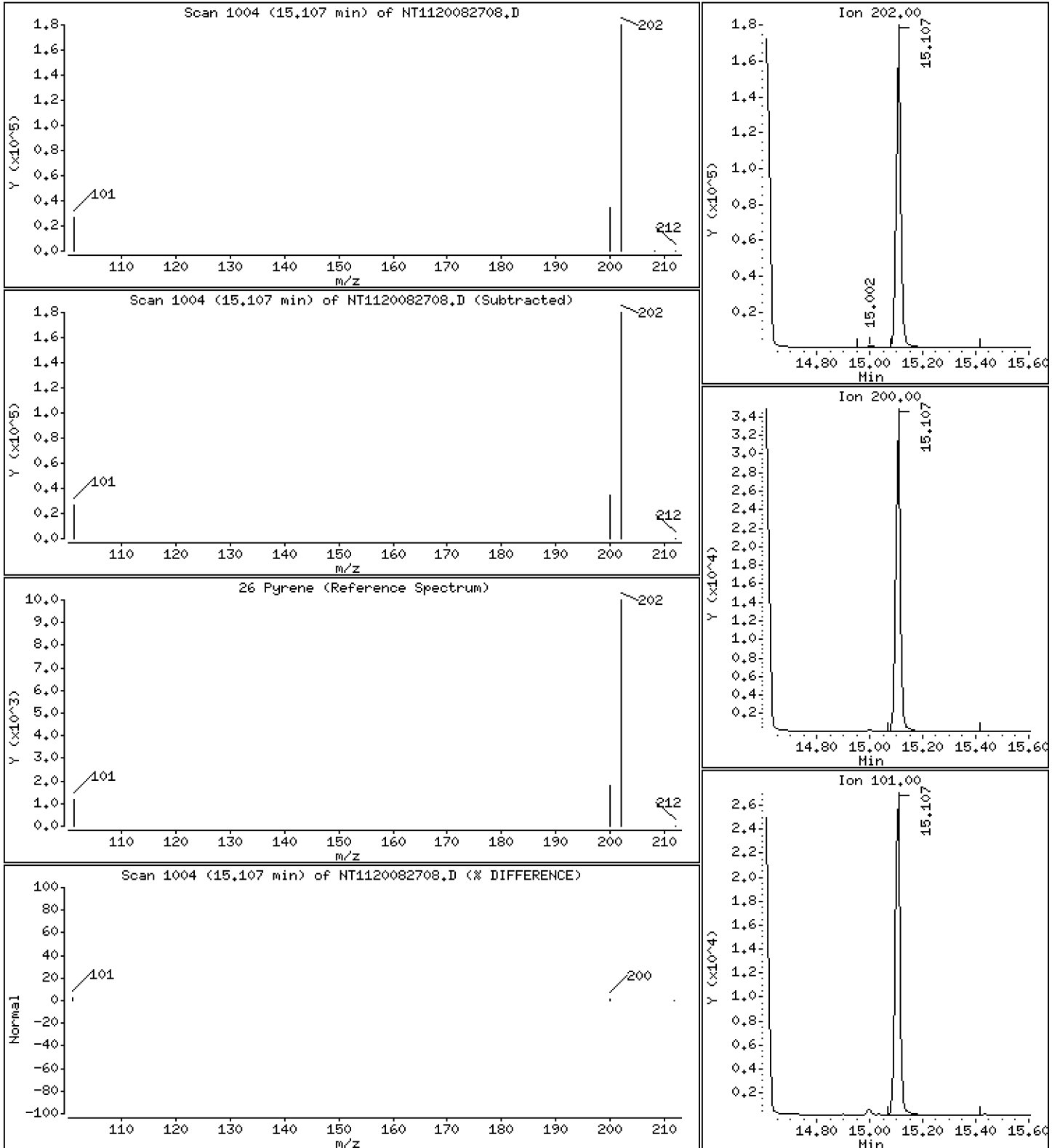
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 235 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

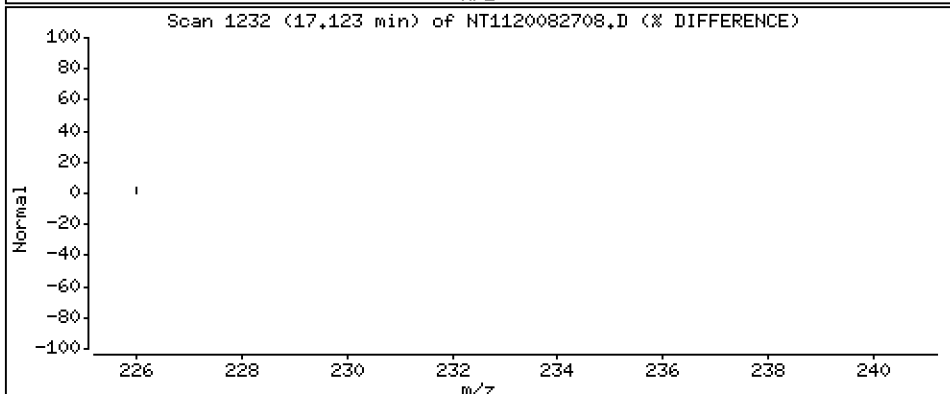
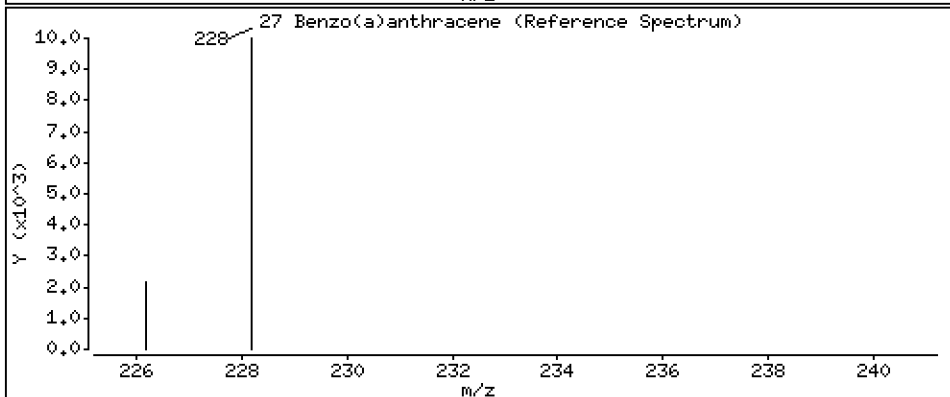
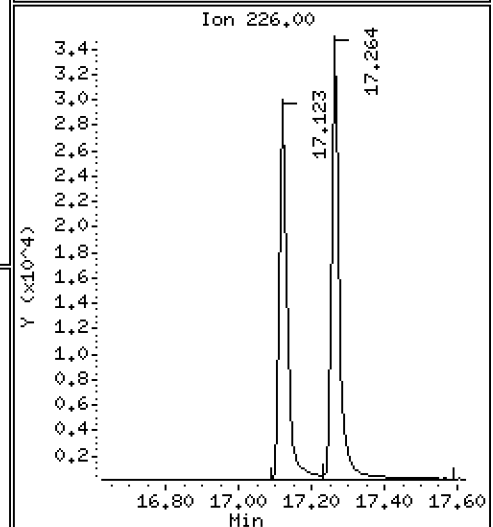
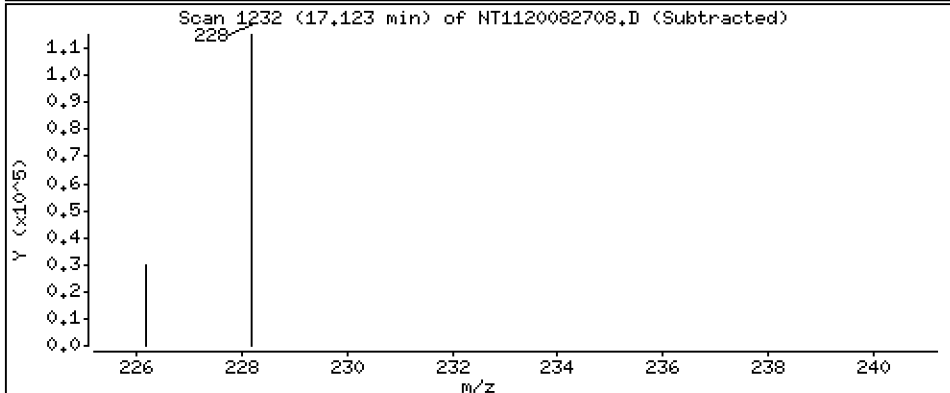
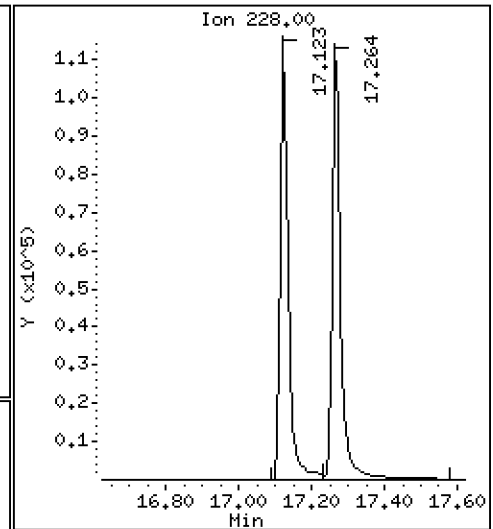
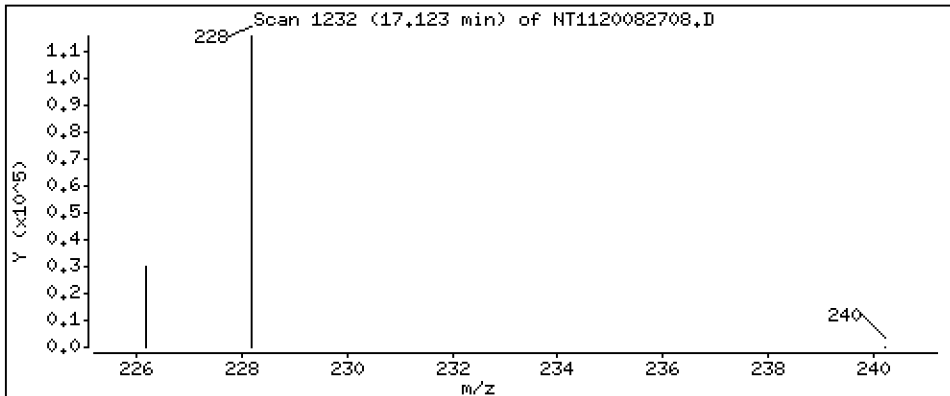
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 223 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

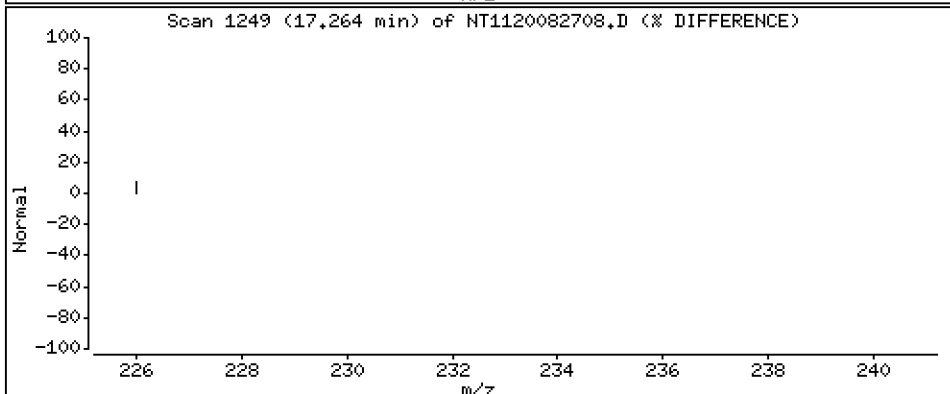
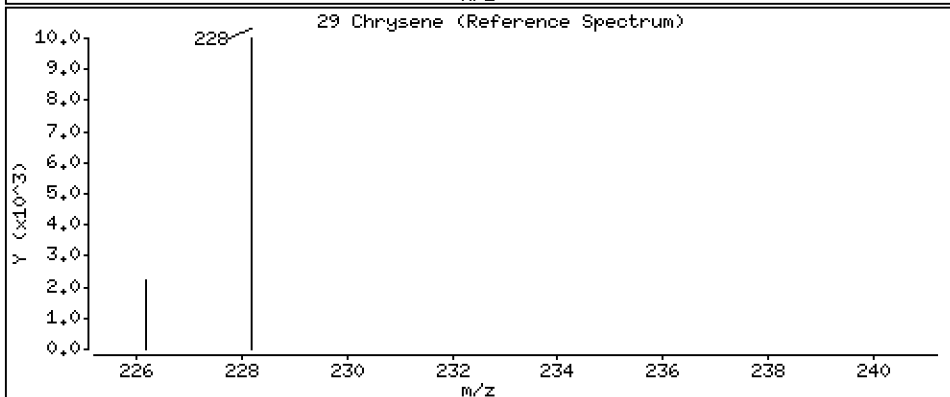
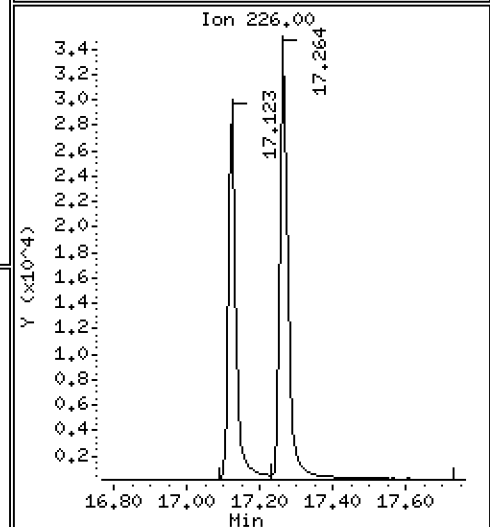
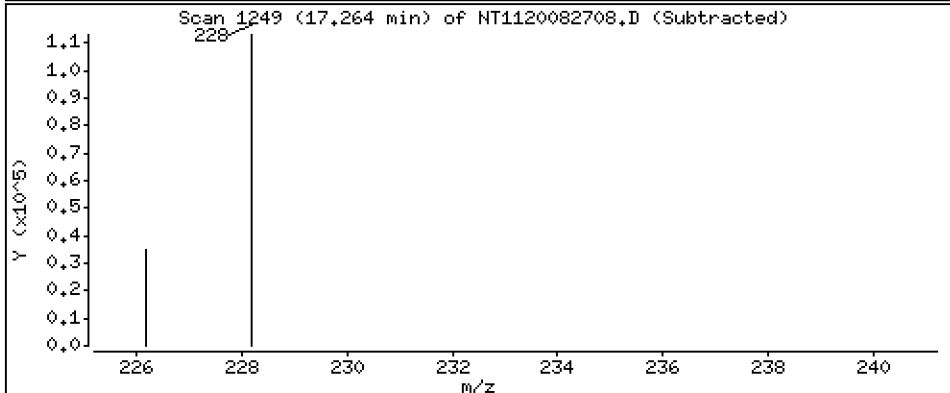
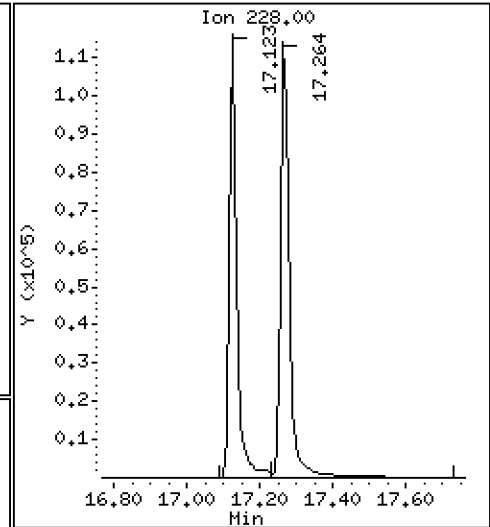
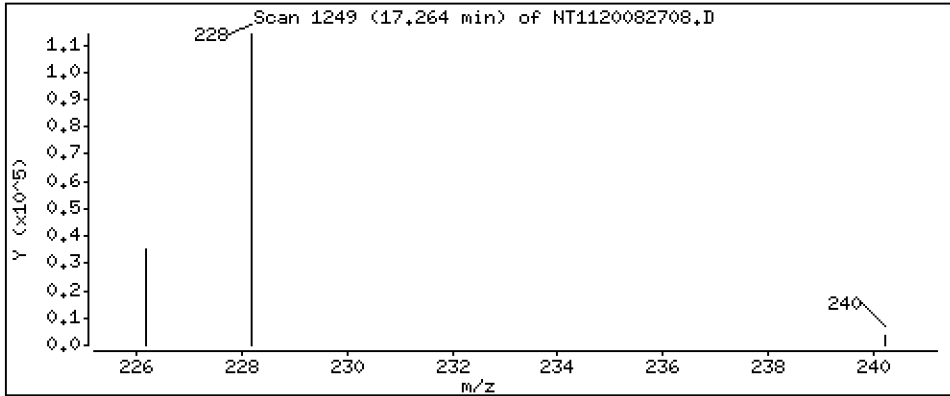
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 215 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

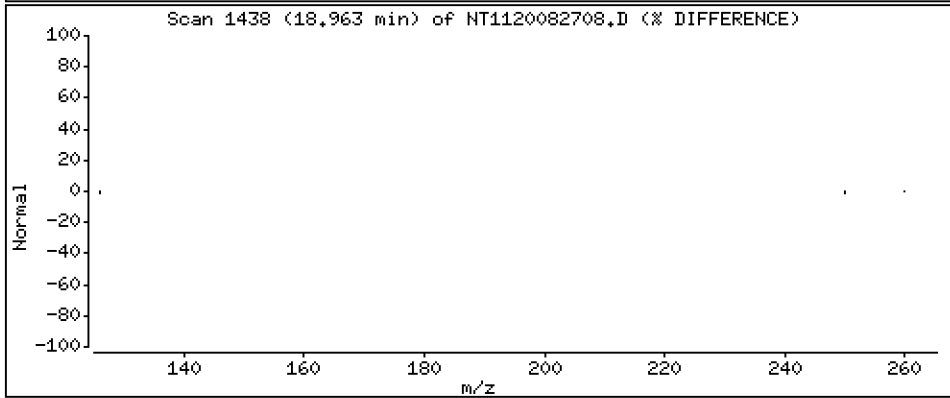
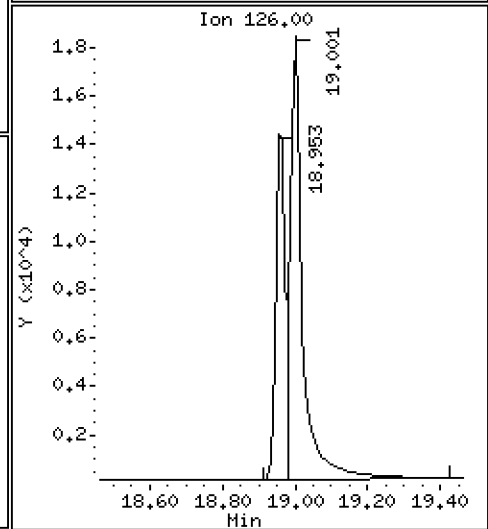
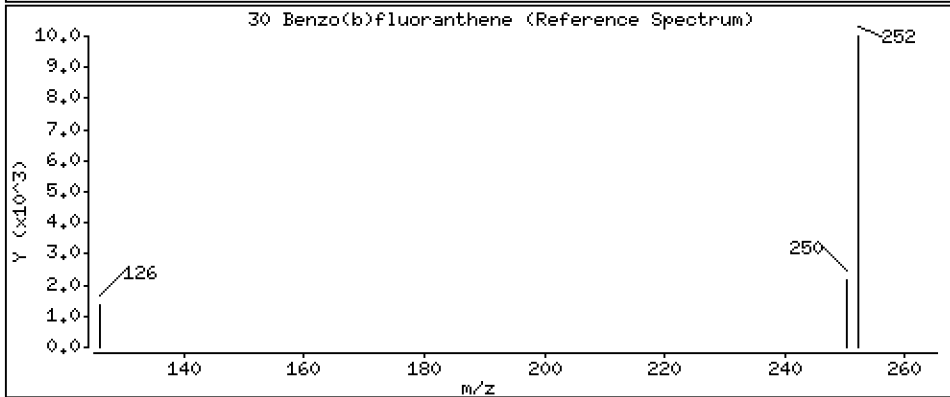
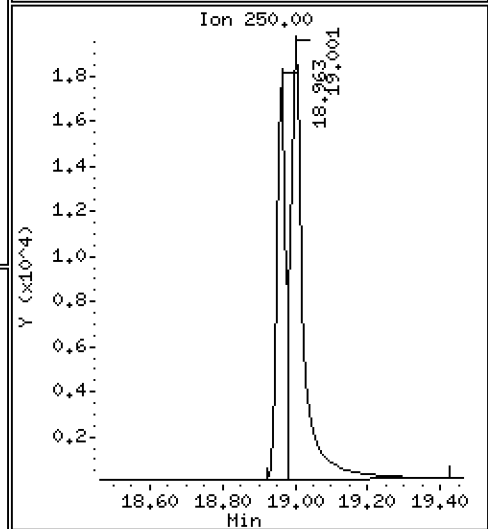
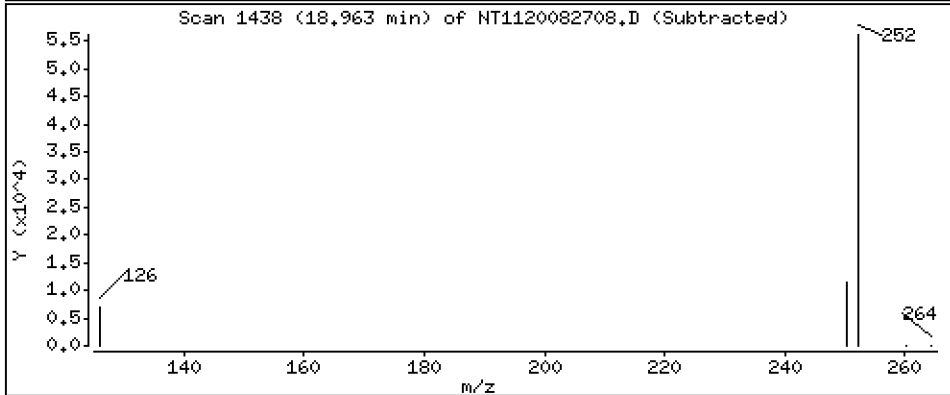
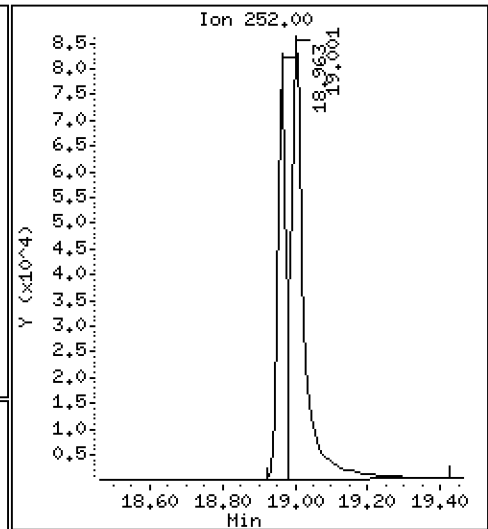
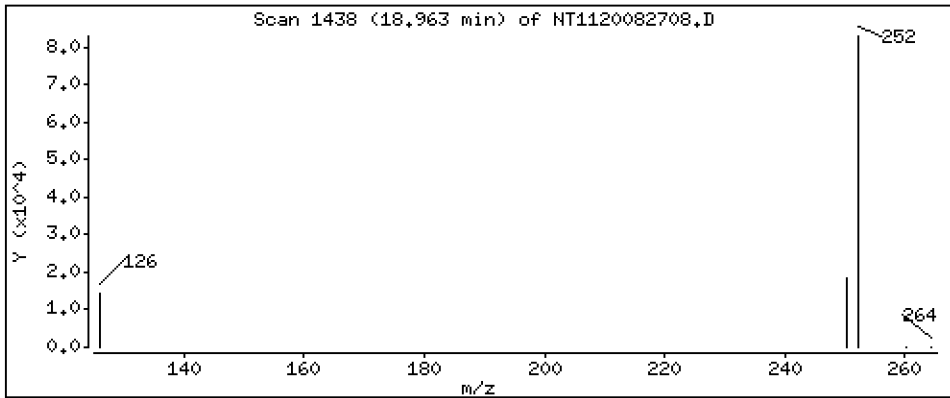
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 212 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

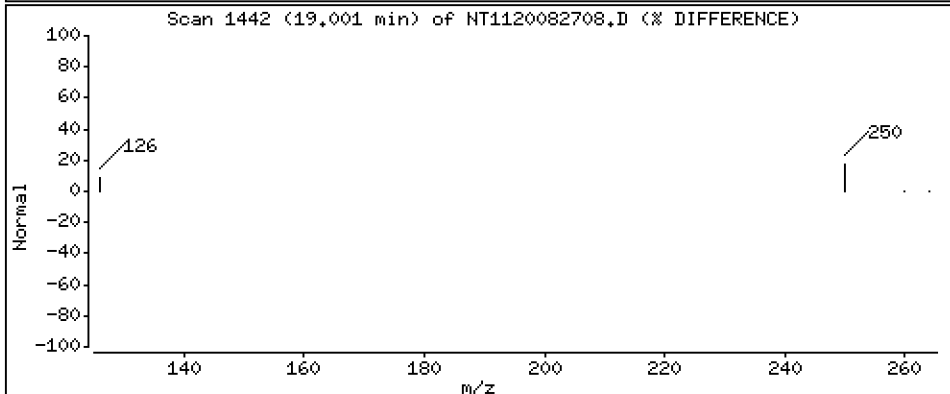
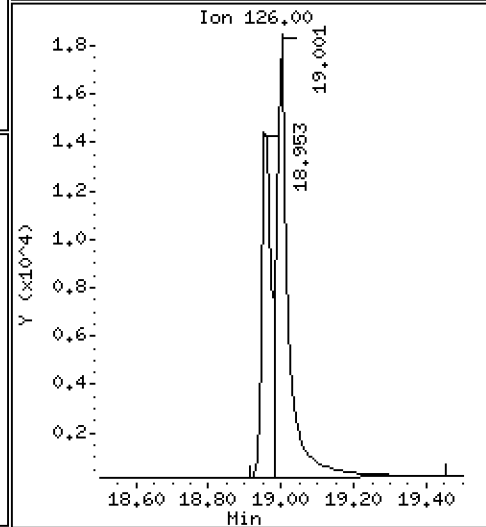
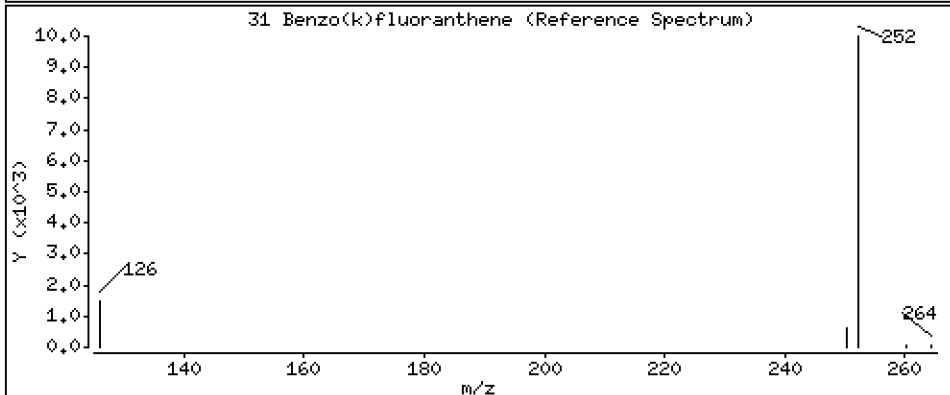
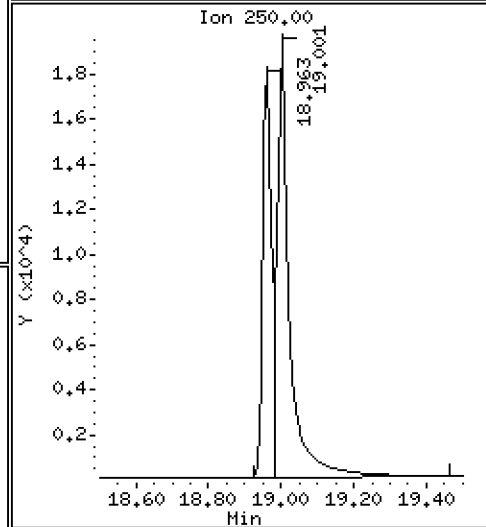
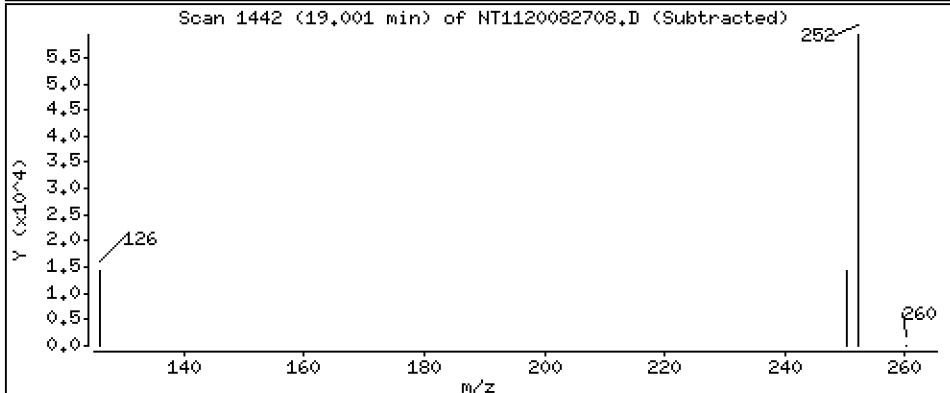
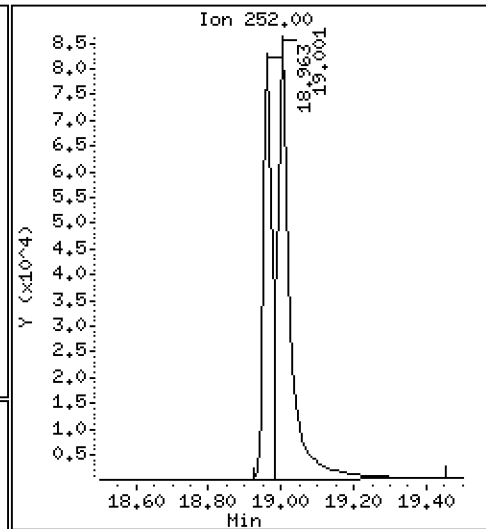
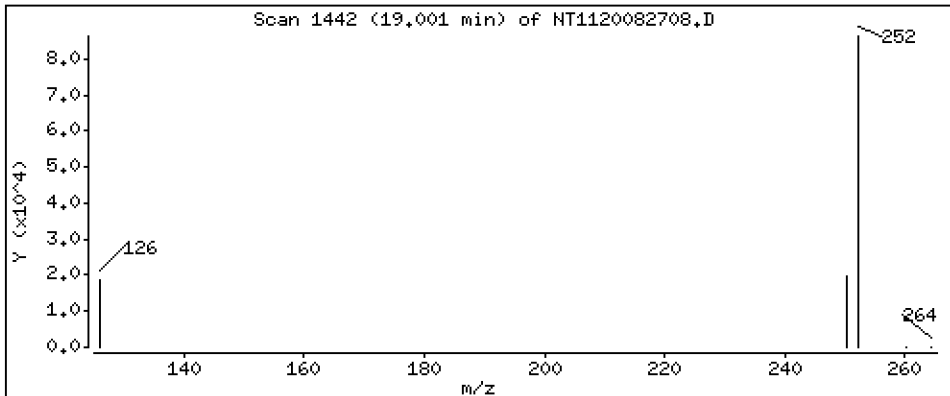
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 260 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

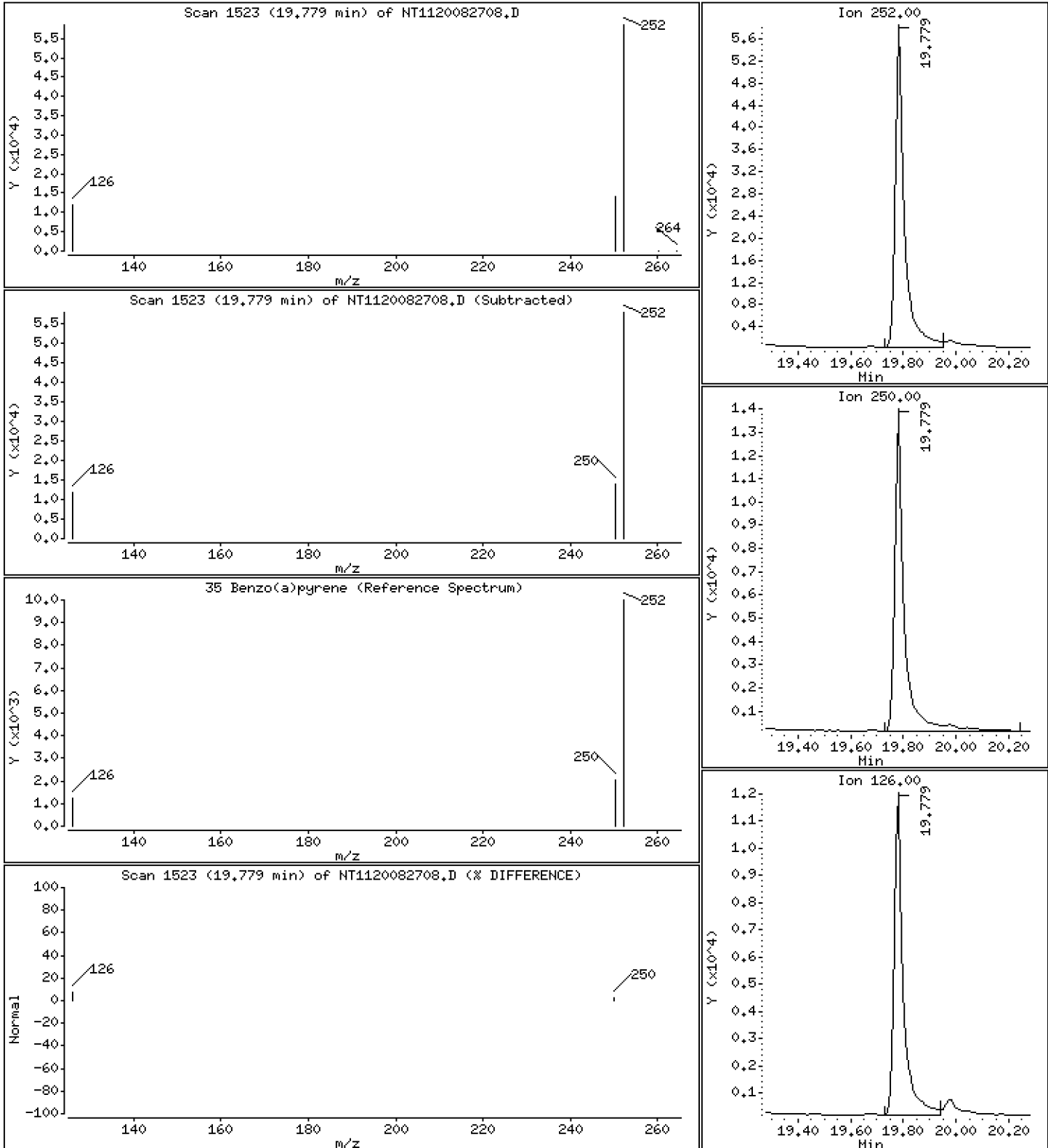
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 213 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

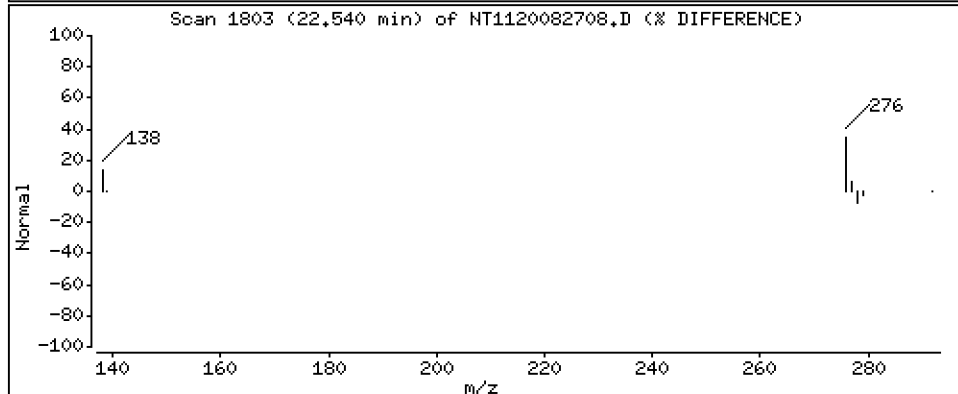
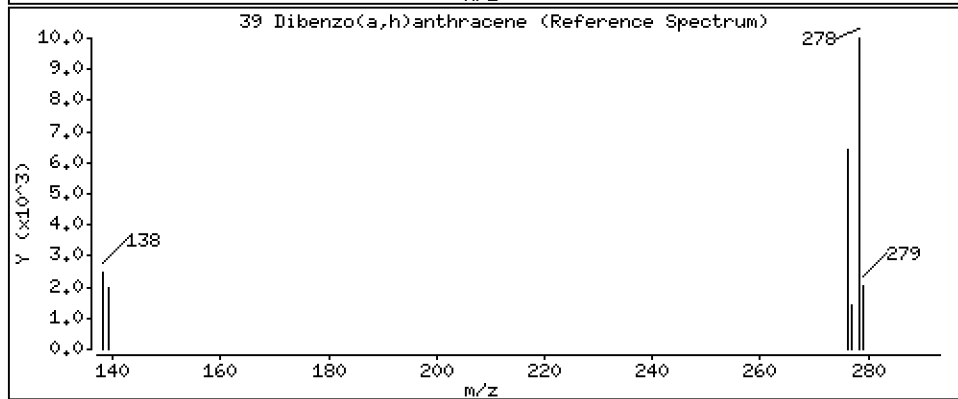
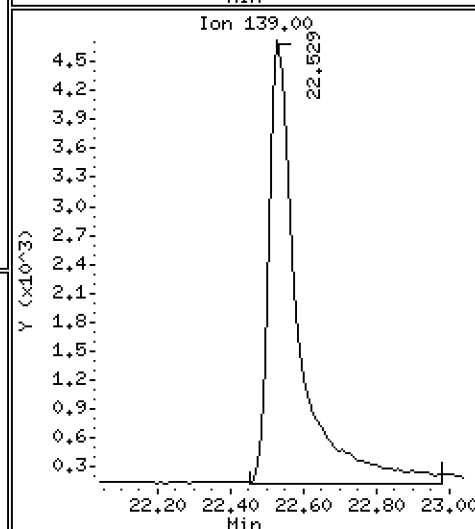
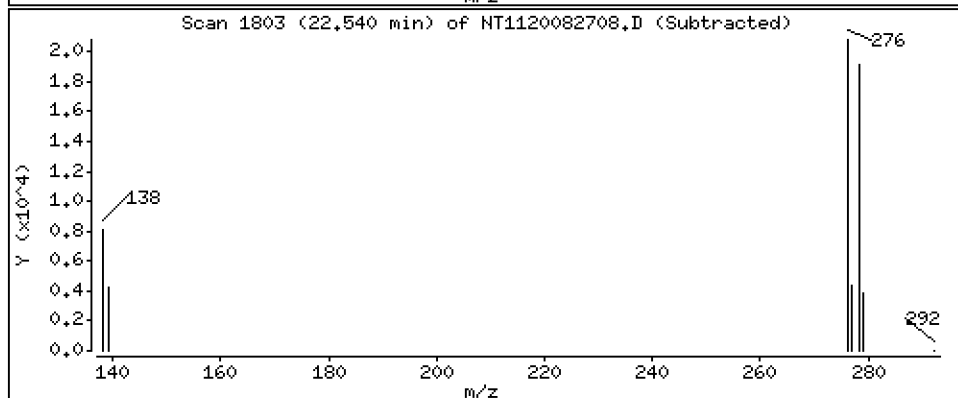
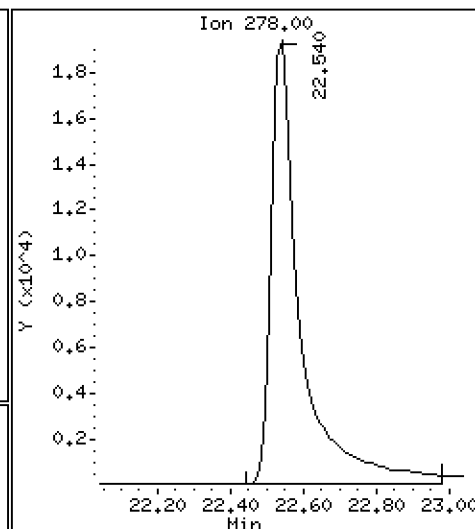
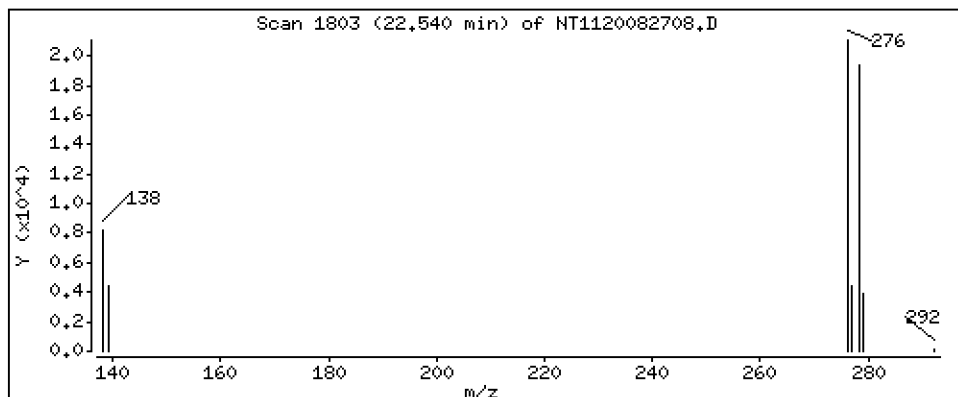
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

39 Dibenzo(a,h)anthracene

Concentration: 192 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

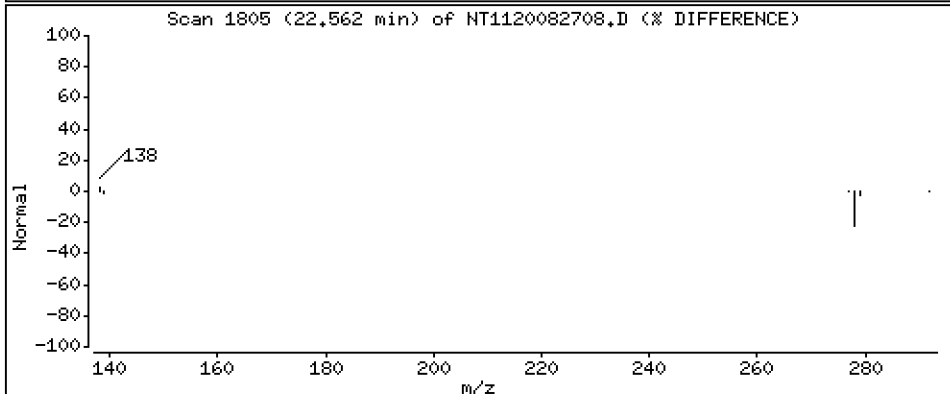
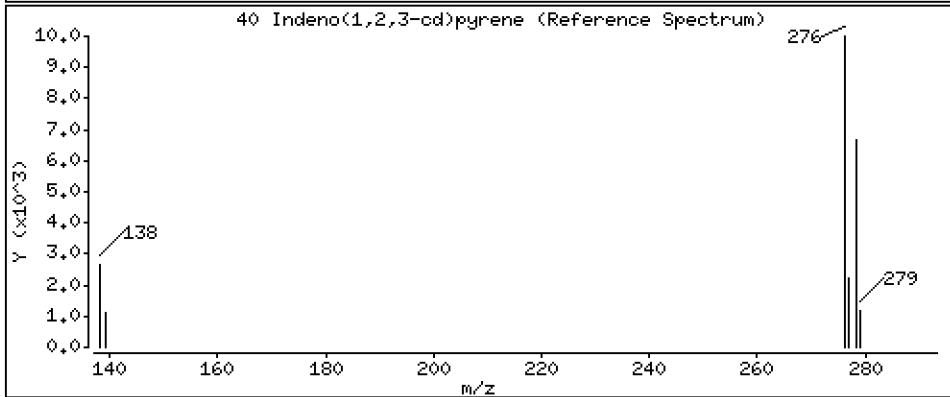
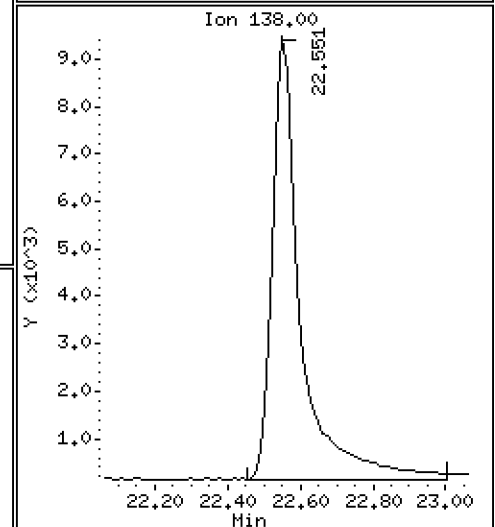
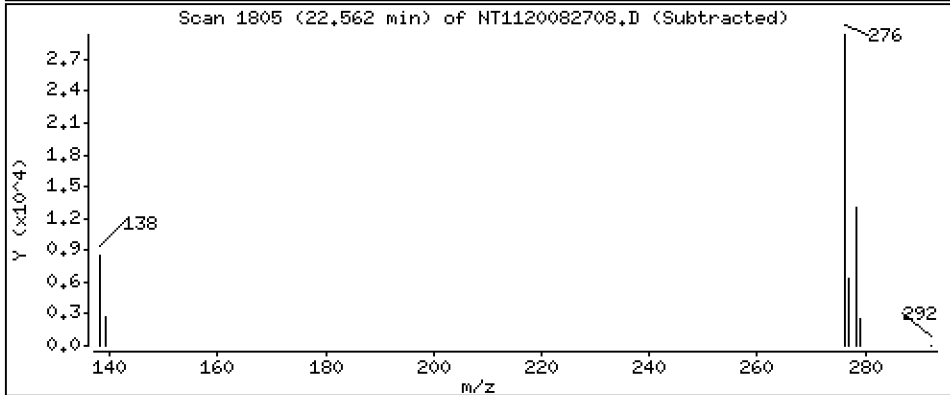
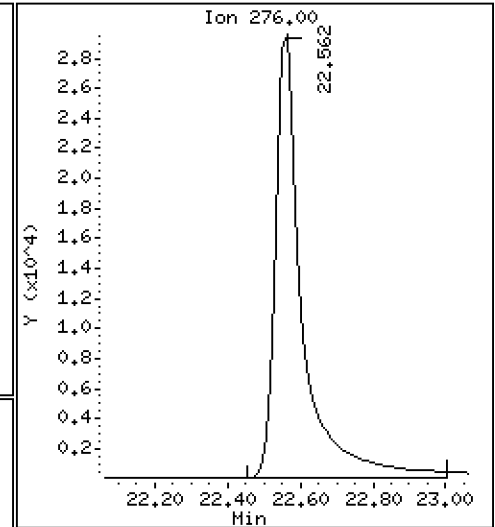
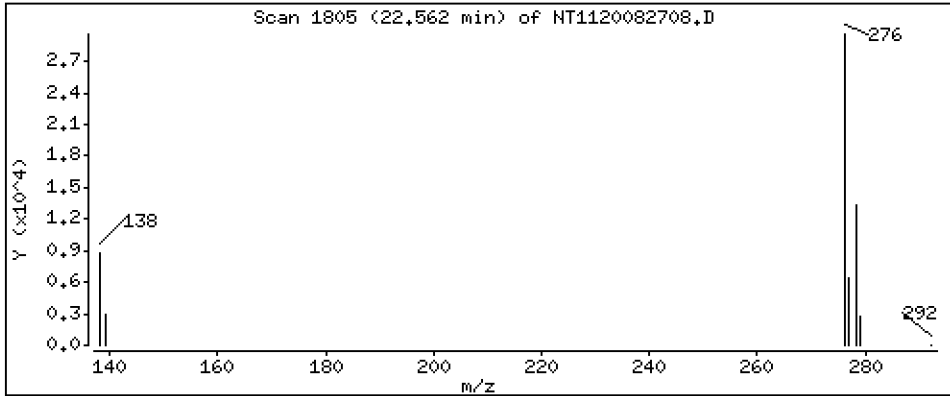
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

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

Concentration: 227 ng/mL



Date : 27-AUG-2020 15:38

Client ID:

Instrument: nt11.i

Sample Info: SIH0304-SCV1

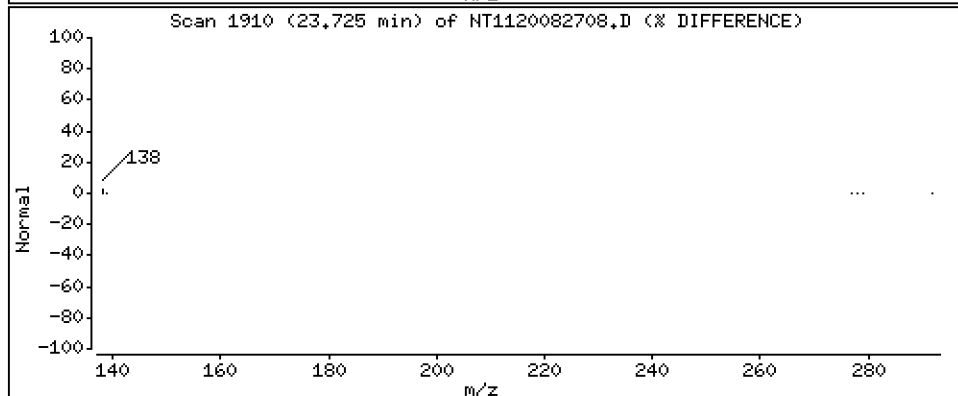
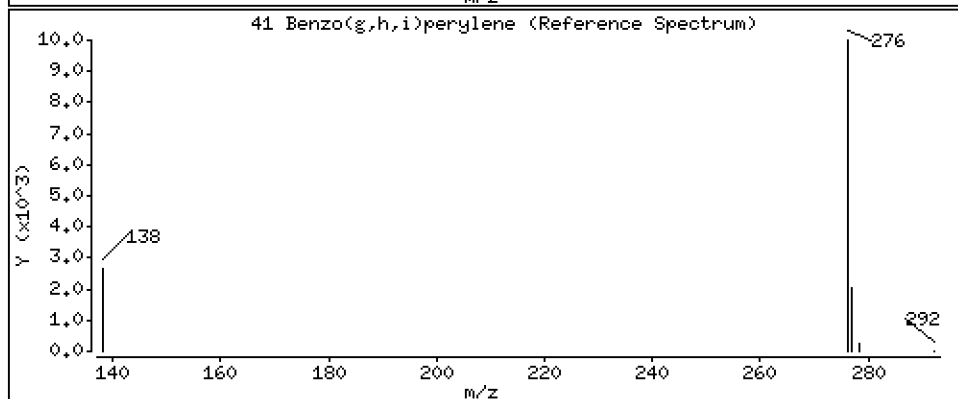
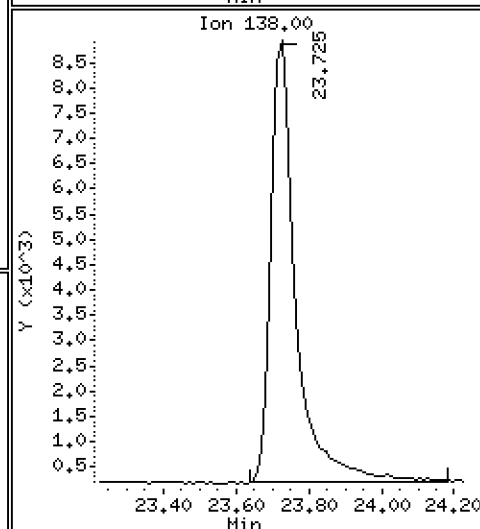
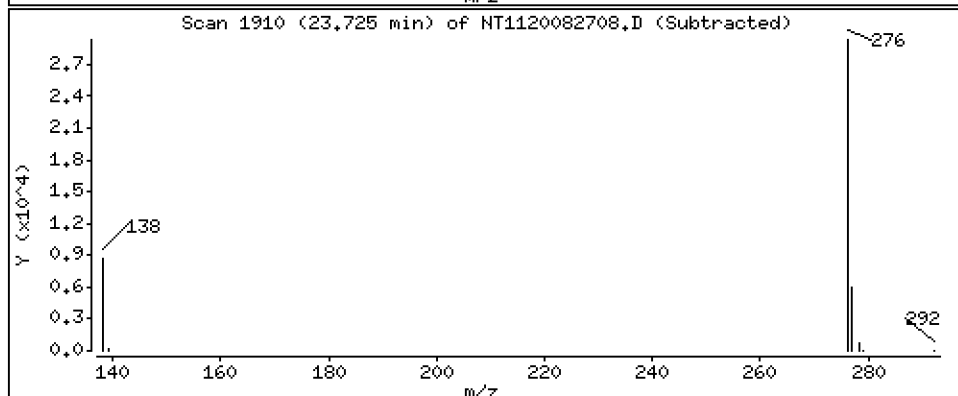
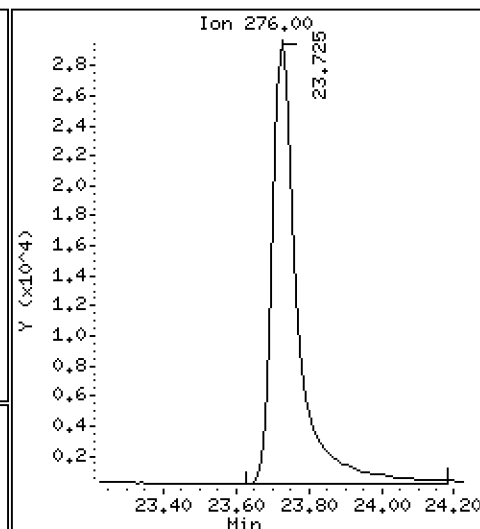
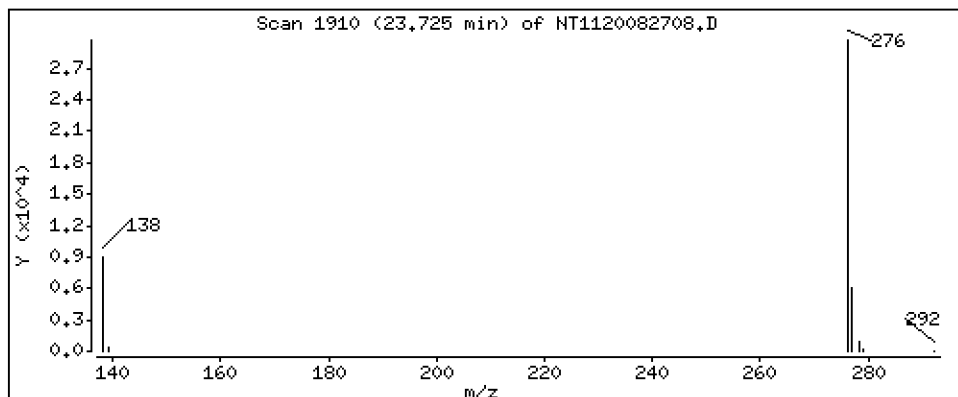
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 214 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20200827.b\NT1120082708.D
 Lab Smp Id: SIH0304-SCV1
 Inj Date : 27-AUG-2020 15:38 MS Autotune Date: 15-JAN-2015 16:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : SIH0304-SCV1
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20200827.b\lowsim.m
 Meth Date : 28-Aug-2020 07:11 van Quant Type: ISTD
 Cal Date : 27-AUG-2020 13:38 Cal File: NT1120082704.D
 Als bottle: 8
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PAH.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		6.804	6.804	(1.000)	202035	200.000	
2 Naphthalene	128		6.840	6.840	(1.005)	263329	224.480	224
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		Compound Not Detected.					
5 2-Methylnaphthalene	142		Compound Not Detected.					
6 1-Methylnaphthalene	142		Compound Not Detected.					
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		Compound Not Detected.					
9 2,6-Dimethylnaphthalene	156		Compound Not Detected.					
10 Acenaphthylene	152		9.653	9.653	(0.984)	241360	233.261	233
* 11 Acenaphthene-d10	164		9.807	9.807	(1.000)	90189	200.000	
12 Acenaphthene	153		9.870	9.870	(1.006)	151880	221.934	222
13 Dibenzofuran	168		Compound Not Detected.					
14 2,3,5-Trimethylnaphthalene	170		Compound Not Detected.					
16 Fluorene	166		10.694	10.694	(1.090)	164299	233.486	233
17 Dibenzothiophene	184		Compound Not Detected.					
* 18 Phenanthrene-d10	188		12.482	12.482	(1.000)	142829	200.000	
19 Phenanthrene	178		12.513	12.524	(1.003)	217246	232.514	233
21 Anthracene	178		12.576	12.576	(1.008)	207807	222.597	223
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		Compound Not Detected.					
\$ 24 Fluoranthene-d10	212		Compound Not Detected.					
25 Fluoranthene	202		14.607	14.607	(1.170)	220035	236.211	236
26 Pyrene	202		15.107	15.107	(1.210)	224689	235.115	235
27 Benzo(a)anthracene	228		17.123	17.122	(0.994)	170476	223.013	223
* 28 Chrysene-d12	240		17.222	17.214	(1.000)	104063	200.000	
29 Chrysene	228		17.264	17.264	(1.002)	185336	215.323	215
30 Benzo(b)fluoranthene	252		18.962	18.962	(0.949)	137886	212.389	212
31 Benzo(k)fluoranthene	252		19.001	19.001	(0.951)	222044	260.291	260
32 Benzo(j)fluoranthene	252		Compound Not Detected.					
34 Benzo(e)pyrene	252		Compound Not Detected.					
35 Benzo(a)pyrene	252		19.779	19.779	(0.990)	144487	213.091	213
* 36 Perylene-d12	264		19.981	19.981	(1.000)	119273	200.000	
37 Perylene	252		Compound Not Detected.					

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		
						ON-COLUMN (ng/mL)	FINAL (ng/mL)	
\$ 38 Dibenzo(a,h)anthracene-d14	292	Compound Not Detected.						
39 Dibenzo(a,h)anthracene	278	22.540	22.540	(1.128)	107076	191.902	192	
40 Indeno(1,2,3-cd)pyrene	276	22.562	22.562	(1.129)	149356	226.827	227	
41 Benzo(g,h,i)perylene	276	23.725	23.725	(1.187)	141191	214.457	214	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 27-AUG-2020
 Lab File ID: NT1120082708.D Calibration Time: 12:35
 Lab Smp Id: SIH0304-SCV1
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20200827.b\lowsim.m
 Misc Info:

Test Mode:
 Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	215332	107666	430664	202035	-6.18
11 Acenaphthene-d10	102217	51109	204434	90189	-11.77
18 Phenanthrene-d10	170387	85194	340774	142829	-16.17
28 Chrysene-d12	116138	58069	232276	104063	-10.40
36 Perylene-d12	139038	69519	278076	119273	-14.22

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	6.81	6.31	7.31	6.80	-0.13
11 Acenaphthene-d10	9.81	9.31	10.31	9.81	-0.00
18 Phenanthrene-d10	12.48	11.98	12.98	12.48	-0.00
28 Chrysene-d12	17.21	16.71	17.71	17.22	0.05
36 Perylene-d12	19.98	19.48	20.48	19.98	-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 - NT1120082708.D

Lab ID: SIH0304-SCV1

nt11.i, 20200827.b\lowsim.m, 27-AUG-2020 15:38

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

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

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

RRT check based on Ccal File: NT1120082704.D

On Column LOD for nt11.i, 20200827.b\lowsim.m, PAH.sub = 0.0000

Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000

Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000

Exception: Fluoranthene-d10 (Surr) 0.1000

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



**SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8270E-SIM**

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>21C0175</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>GascoSiltronic: US Moorings</u>
Instrument ID:	<u>NT8</u>	Calibration:	<u>DL00046</u>
Lab File ID:	<u>NT820121509.D</u>	Calibration Date:	<u>12/15/2020</u>
Sequence:	<u>SIL0206</u>	Injection Date:	<u>12/15/20</u>
Lab Sample ID:	<u>SIL0206-SCV1</u>	Injection Time:	<u>11:49</u>
Sequence Name:	<u>SIM TBT</u>		

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Tributyltin Ion	A	1.5460	1.69	31.95512	34.92969	0.01	9.3	+/-20
Triphenyltin	A	1.5918	1.77	2.6559690	2.9498370	0.01	11.1	+/-20

* Values outside of QC limits

Data File: \\target\share\chem3\nt8.1\20201215.6\NT820121509.D

Date: 15-DEC-2020 11:49

Client ID:

Sample Info: SCV201215,

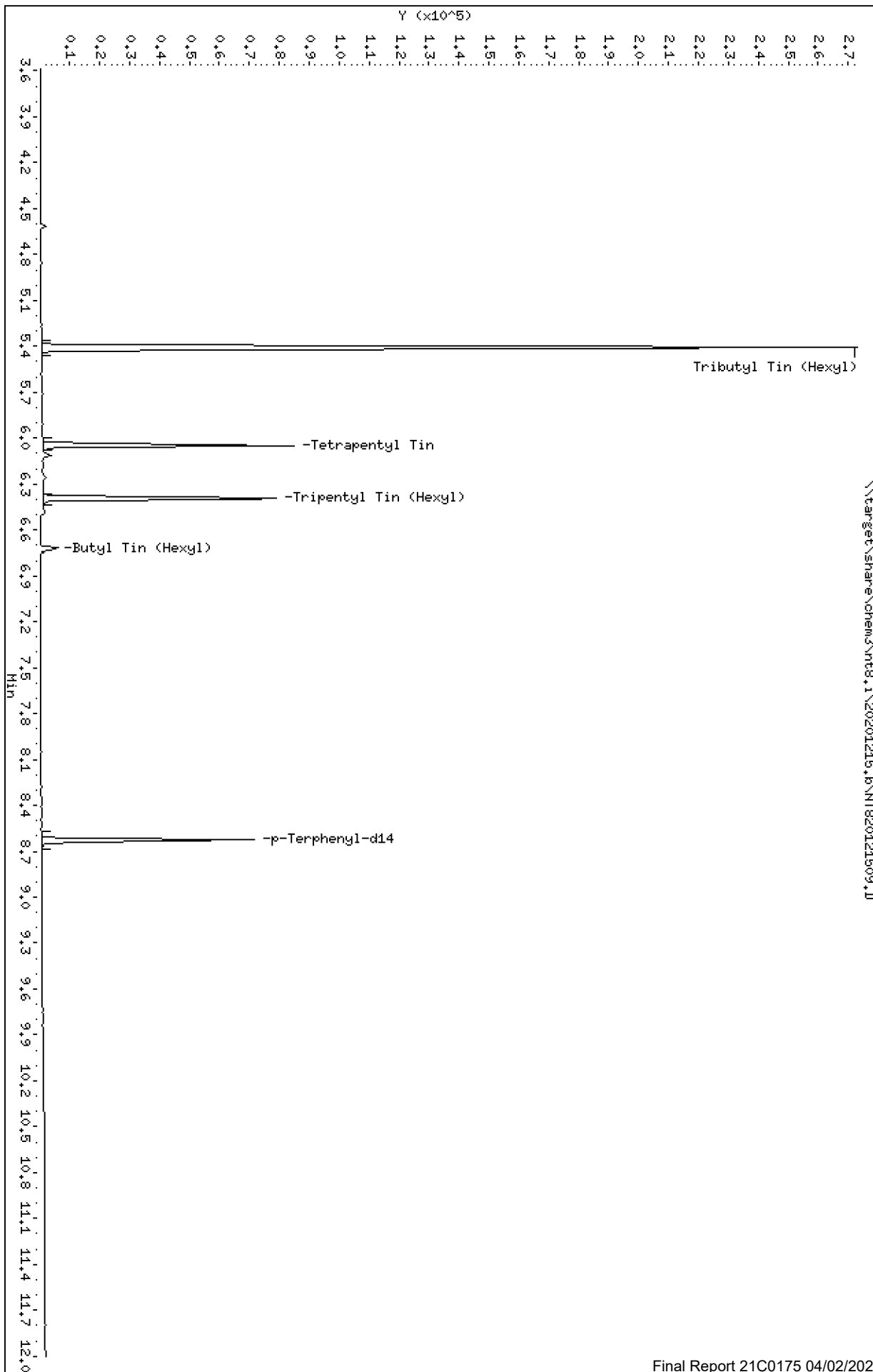
Column phase: ZB-5msi

Instrument: nt8.1

Operator: JZ

Column diameter: 0.25

Page 1



Date : 15-DEC-2020 11:49

Client ID:

Instrument: nt8.i

Sample Info: SCV201215,

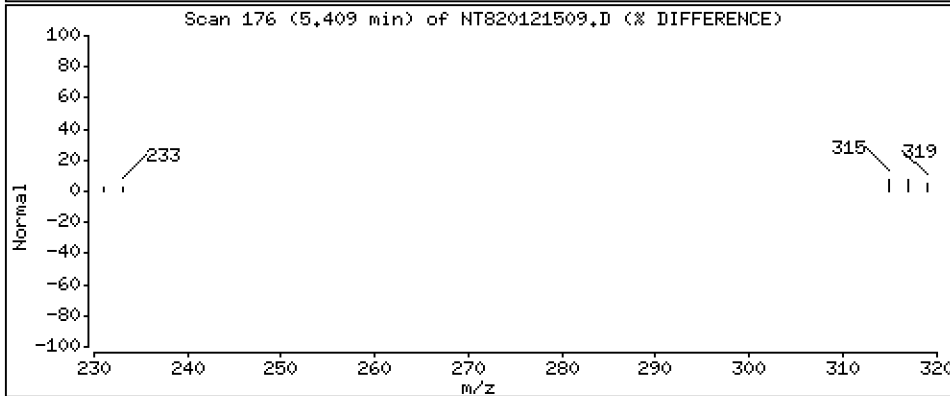
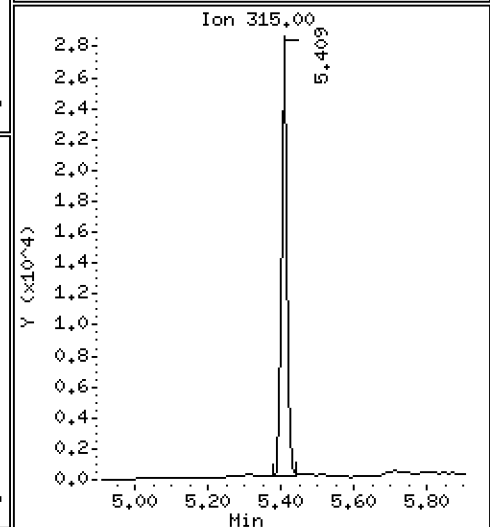
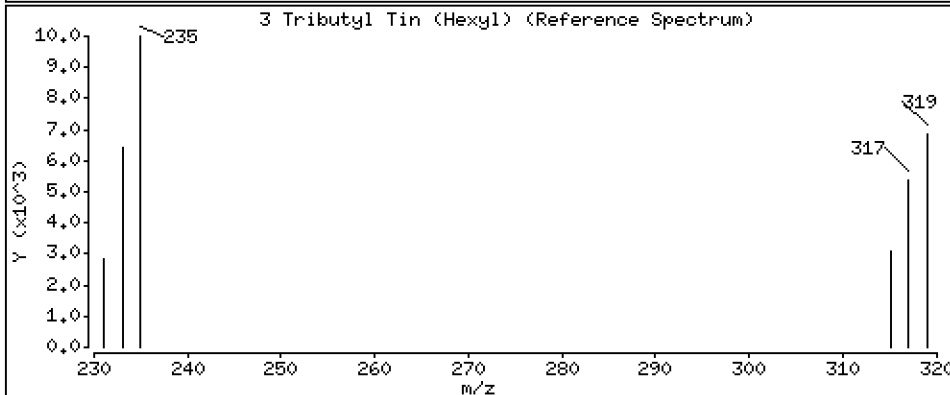
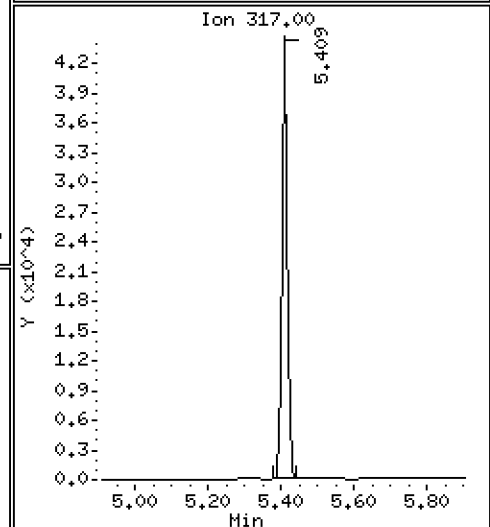
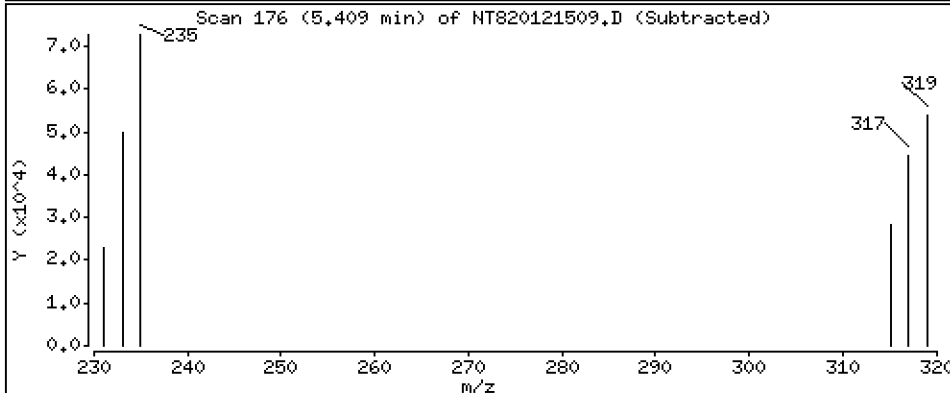
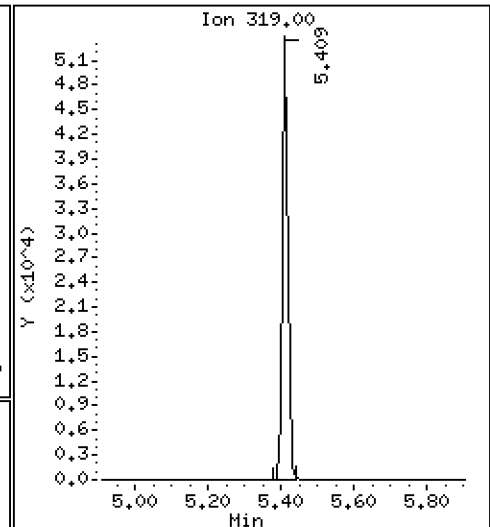
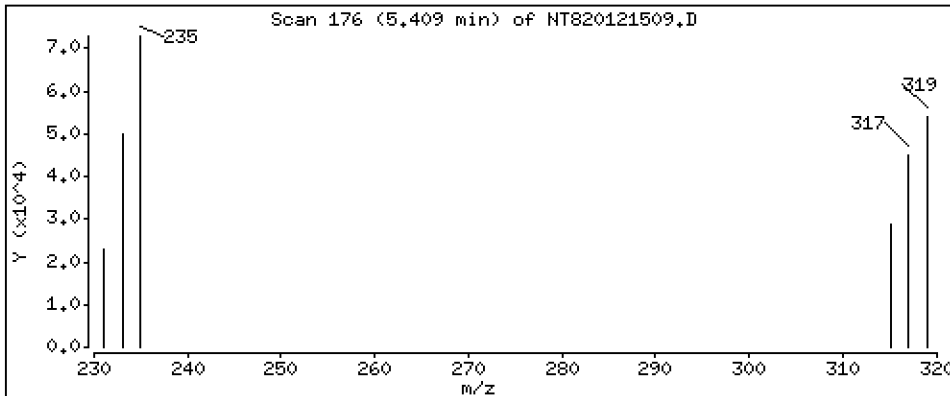
Operator: JZ

Column phase: ZB-5msi

Column diameter: 0,25

3 Tributyl Tin (Hexyl)

Concentration: 2,186 ug/mL



Date : 15-DEC-2020 11:49

Client ID:

Instrument: nt8.i

Sample Info: SCV201215,

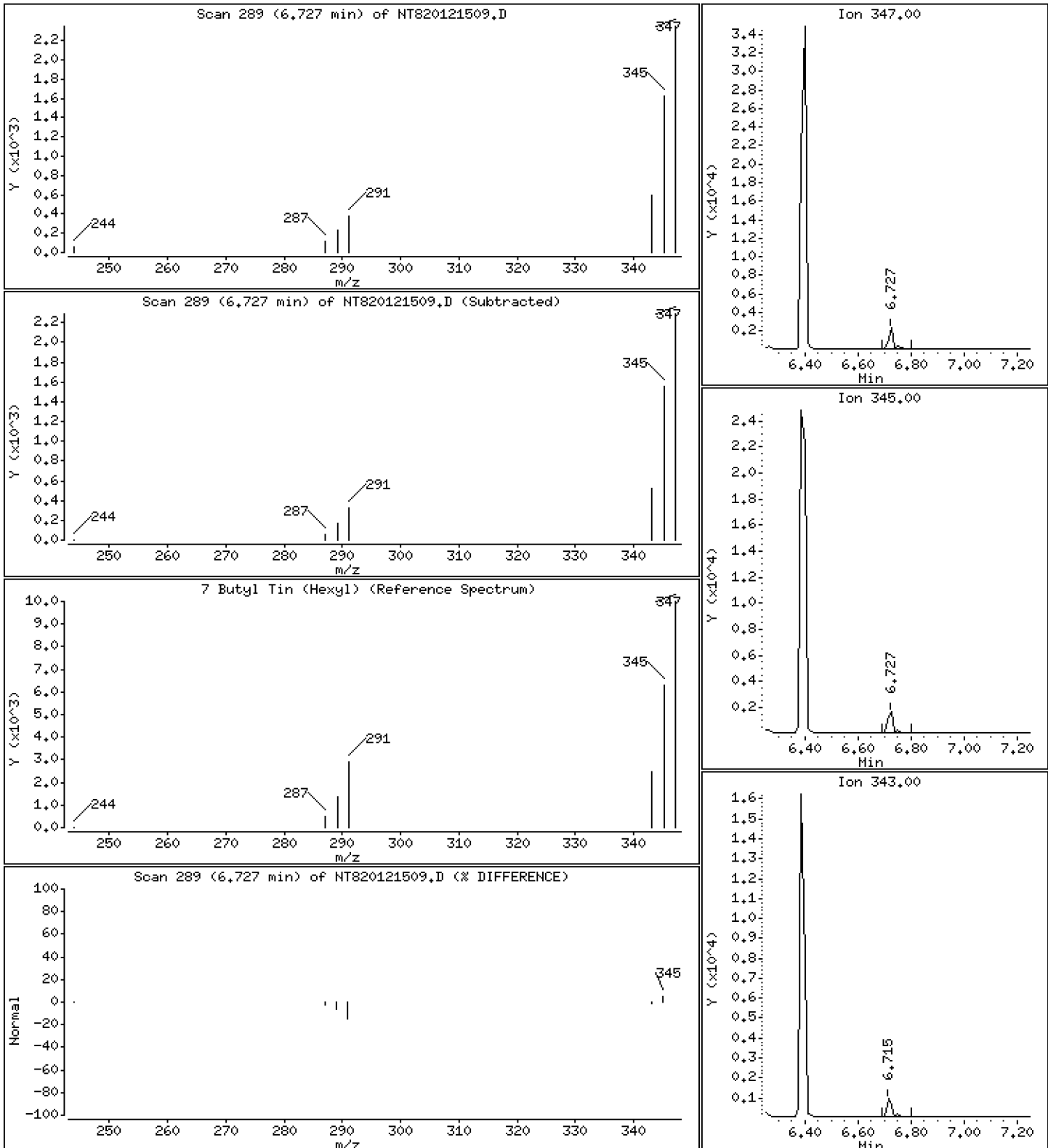
Operator: JZ

Column phase: ZB-5msi

Column diameter: 0.25

7 Butyl Tin (Hexyl)

Concentration: 0.1224 ug/mL



ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt8.i\20201215.b\NT820121509.D
 Lab Smp Id: SIL0206-SCV1
 Inj Date : 15-DEC-2020 11:49
 Operator : JZ Inst ID: nt8.i
 Smp Info : SCV201215,
 Misc Info : 20-
 Comment : 2 ul Injection
 Method : \\target\share\chem3\nt8.i\20201215.b\TBT201215.m
 Meth Date : 15-Dec-2020 14:04 jianqing Quant Type: ISTD
 Cal Date : 15-DEC-2020 11:33 Cal File: NT820121508.D
 Als bottle: 9
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: sed.sub
 Target Version: 4.14
 Processing Host: ORGDATA22

Compounds	QUANT	SIG	CONCENTRATIONS					
			RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
\$ 1 Tripropyl Tin (Hexyl)	291		Compound Not Detected.					
2 Tetrabutyl Tin	289		Compound Not Detected.					
3 Tributyl Tin (Hexyl)	319		5.409	5.409	(0.894)	54848	2.18617	2.186
* 4 Tetrapentyl Tin	333		6.049	6.049	(1.000)	78512	2.00000	
5 Dibutyl Tin (Hexyl)	347		Compound Not Detected.					
\$ 6 Tripentyl Tin (Hexyl)	347		6.400	6.400	(0.742)	41293	2.22129	2.221
7 Butyl Tin (Hexyl)	347		6.726	6.751	(0.780)	2715	0.12240	0.1224
* 8 p-Terphenyl-d14	244		8.626	8.626	(1.000)	69992	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt8.i Calibration Date: 15-DEC-2020
 Lab File ID: NT820121509.D Calibration Time: 10:10
 Lab Smp Id: SIL0206-SCV1
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: JZ
 Method File: \\target\share\chem3\nt8.i\20201215.b\TBT201215.m
 Misc Info: 20-

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	72645	36323	145290	78512	8.08
8 p-Terphenyl-d14	65742	32871	131484	69992	6.46

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	6.05	5.55	6.55	6.05	-0.00
8 p-Terphenyl-d14	8.63	8.13	9.13	8.63	-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 - NT820121509.D

Lab ID: SIL0206-SCV1

nt8.i, 20201215.b\TBT201215.m, 15-DEC-2020 11:49

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

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

RRT CHECK

RRT CCV RRT DELTA COMPOUND

NONE

RRT check based on Ccal File: NT820121503.D

On Column LOD for nt8.i, 20201215.b\TBT201215.m, sed.sub = 0.0300

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

Data File: \\target\share\chem3\nt8.1\20210318.b\cov.b\NT821031821.D

Date: 18-MAR-2021 17:12

Client ID:

Sample Info: CCV210318

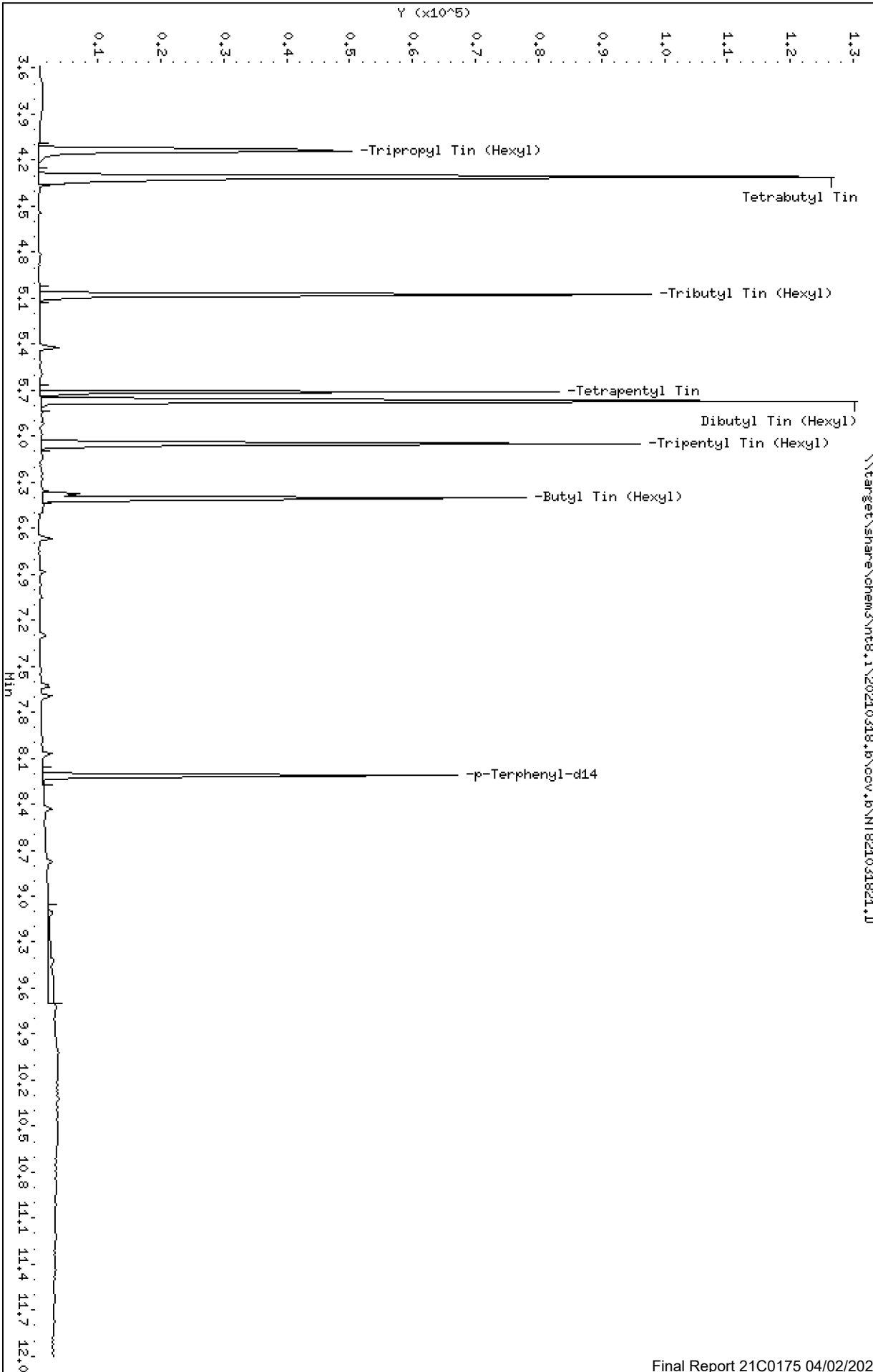
Column phase: ZB-5msi

Instrument: nt8.1

Operator: JZ

Column diameter: 0.25

Page 1



ARI Labs, Inc.

Krone1989/8270D-SIM

Data file : \\target\share\chem3\nt8.i\20210318.b\ccv.b\NT821031821.D
 Lab Smp Id: SJC0283-CCV1
 Inj Date : 18-MAR-2021 17:12
 Operator : JZ
 Smp Info : CCV210318
 Misc Info : CCV
 Comment : 2 ul Injection
 Method : \\target\share\chem3\nt8.i\20210318.b\ccv.b\TBT201215.m
 Meth Date : 18-Mar-2021 18:16 nt8.i
 Cal Date : 15-DEC-2020 11:33
 Als bottle: 21
 Dil Factor: 1.00000
 Integrator: HP RTE
 Target Version: 4.14
 Processing Host: ORGDATA22

Inst ID: nt8.i

Quant Type: ISTD
 Cal File: NT820121508.D
 Continuing Calibration Sample

Compound Sublist: sedmdl.sub

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
							CAL-AMT	ON-COL
	MASS						(ug/mL)	(ug/mL)
\$ 1 Tripropyl Tin (Hexyl)	291		4.138	4.138	(0.725)	33828	1.00000	1.028
2 Tetrabutyl Tin	289		4.315	4.315	(0.756)	28454	1.00000	0.9766
3 Tributyl Tin (Hexyl)	319		5.086	5.086	(0.891)	24041	1.00000	1.161
* 4 Tetrapentyl Tin	333		5.711	5.711	(1.000)	64780	2.00000	
5 Dibutyl Tin (Hexyl)	347		5.771	5.771	(0.703)	30724	2.00000	2.265
\$ 6 Tripentyl Tin (Hexyl)	347		6.049	6.049	(0.736)	37294	2.00000	2.319
7 Butyl Tin (Hexyl)	347		6.400	6.400	(0.779)	42916	2.00000	2.237
* 8 p-Terphenyl-d14	244		8.215	8.215	(1.000)	60541	0.20000	

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt8.i
Lab File ID: NT821031821.D
Lab Smp Id: SJC0283-CCV1
Analysis Type: SV
Quant Type: ISTD
Operator: JZ
Method File: \\target\share\chem3\nt8.i\20210318.b\ccv.b\TBT201215.m
Misc Info: CCV

Calibration Date: 17-MAR-2021
Calibration Time: 22:59
Level:
Sample Type:

Test Mode:
Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	72645	36323	145290	64780	-10.83
8 p-Terphenyl-d14	65742	32871	131484	60541	-7.91

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
4 Tetrapentyl Tin	5.71	5.21	6.21	5.71	0.00
8 p-Terphenyl-d14	8.22	7.72	8.72	8.22	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 - NT821031821.D

Lab ID: SJC0283-CCV1

nt8.i, 20210318.b\ccv.b\TBT201215.m,

18-MAR-2021 17:12

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

No RRT check. Ccal file.

On Column LOD for nt8.i, 20210318.b\ccv.b\TBT201215.m, sedmdl.sub = 0.0000

Exception: Tripropyl Tin (Hexyl) (Surr) 0.0010

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

Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20210318.b\ccv.b
Instrument: nt8.i Date: 18-MAR-2021 Method: 20210318.b\ccv.b\TBT201215.m

INITIAL CAL: 15-DEC-2020

Compound	%RSD or R ²

NO Q-FLAGS	

CONTINUING CAL: NT821031821.D 18-MAR-2021 17:12

Compound	%D

NO Q-FLAGS	



CONTINUING CALIBRATION CHECK EPA 8270E-SIM

Laboratory: <u>Analytical Resources, Inc.</u>	SDG: <u>21C0175</u>
Client: <u>Anchor QEA, LLC</u>	Project: <u>GascoSiltronic: US Moorings</u>
Instrument ID: <u>NT11</u>	Calibration: <u>DH00073</u>
Lab File ID: <u>NT1121032407.D</u>	Calibration Date: <u>08/27/2020</u>
Sequence: <u>SJC0391</u>	Injection Date: <u>03/24/21</u>
Lab Sample ID: <u>SJC0391-CCV1</u>	Injection Time: <u>16:43</u>
Sequence Name: <u>Calibration Check</u>	

COMPOUND	TYPE	CONC. (ng/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Naphthalene	A	250.00	234	1.1612470	1.0877890		-6.3	+/-50
2-Methylnaphthalene	A	250.00	236	0.9361384	0.8830692		-5.7	+/-50
Acenaphthylene	A	250.00	210	2.2945630	1.9306860		-15.9	+/-50
Acenaphthene	A	250.00	211	1.5175830	1.2812380		-15.6	+/-50
Fluorene	A	250.00	214	1.5604500	1.3339800		-14.5	+/-50
Phenanthrene	A	250.00	229	1.3083250	1.1983130		-8.4	+/-50
Anthracene	A	250.00	240	1.3072390	1.2536830		-4.1	+/-50
Fluoranthene	A	250.00	235	1.3043810	1.2260610		-6.0	+/-50
Pyrene	A	250.00	235	1.3381820	1.2564230		-6.1	+/-50
Benzo(a)anthracene	A	250.00	219	1.4691530	1.2855030		-12.5	+/-50
Chrysene	A	250.00	237	1.6542610	1.5655550		-5.4	+/-50
Benzo(b)fluoranthene	A	250.00	185	1.0886210	0.8052727		-26.0	+/-50
Benzo(k)fluoranthene	A	250.00	247	1.4304320	1.4131450		-1.2	+/-50
Benzo(j)fluoranthene	A	250.00	292	1.5458300	1.8080000		17.0	+/-50
Benzo(a)pyrene	A	250.00	257	1.1369780	1.1686160		2.8	+/-50
Indeno(1,2,3-cd)pyrene	A	250.00	226	1.1041170	0.9996259		-9.5	+/-50
Dibenzo(a,h)anthracene	A	250.00	209	0.8775199	0.7822434		-16.5	+/-50
Benzo(g,h,i)perylene	A	250.00	233	1.1039640	1.0306810		-6.6	+/-50
2-Methylnaphthalene-d10	A	250.00	234	0.8041846	0.7538021		-6.3	+/-50
Dibenzo[a,h]anthracene-d14	A	250.00	194	0.7035414	0.6061431		-22.3	+/-50
Fluoranthene-d10	A	250.00	229	1.0485620	0.9597604		-8.5	+/-50

* Values outside of QC limits

Data File: \\target\share\chem3\nt11.1\20210324.6\NT1121032407.D

Date: 24-MAR-2021 16:43

Client ID:

Sample Info: SJC0391-CCW1

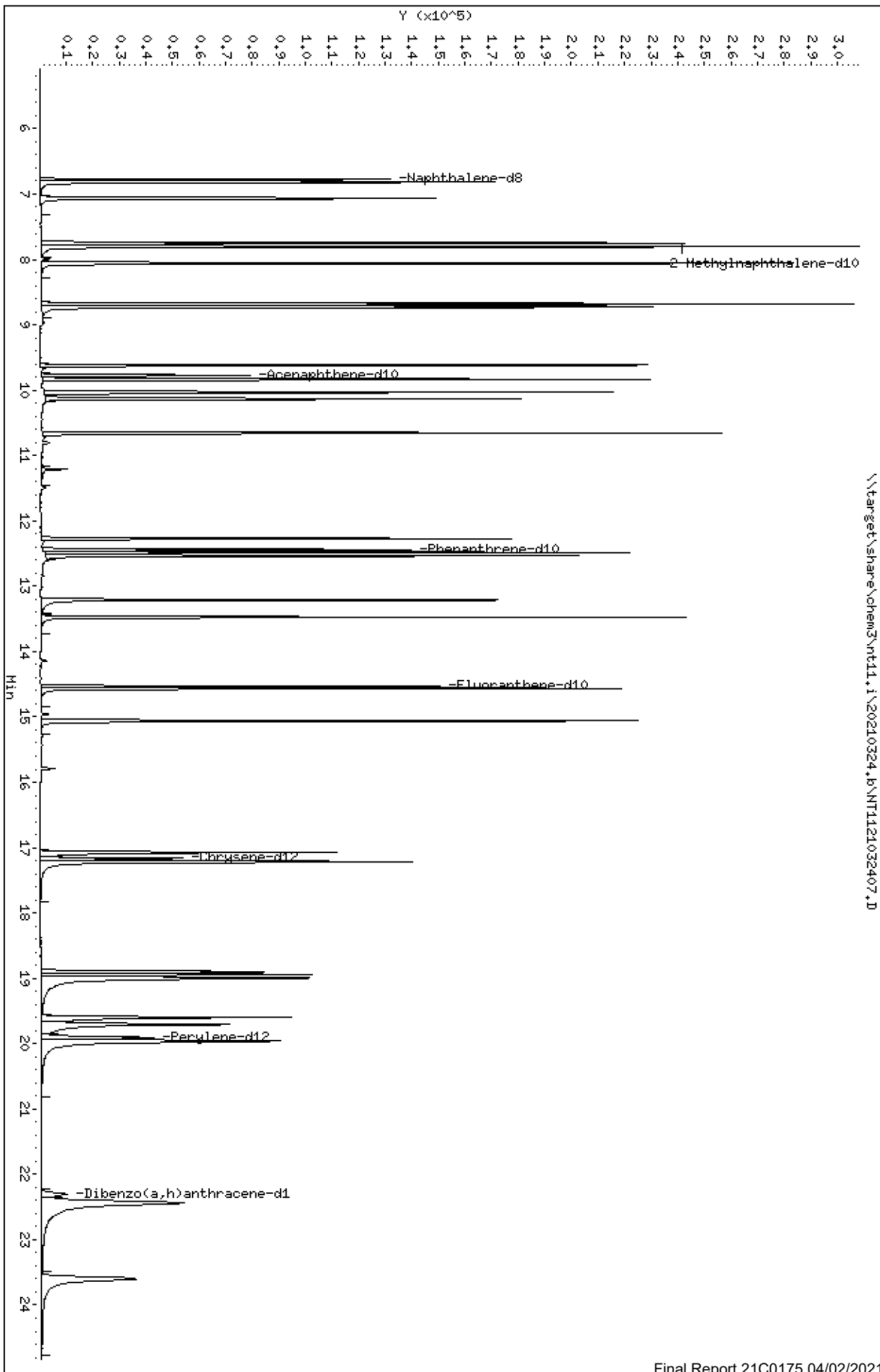
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

\\target\share\chem3\nt11.1\20210324.6\NT1121032407.D



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

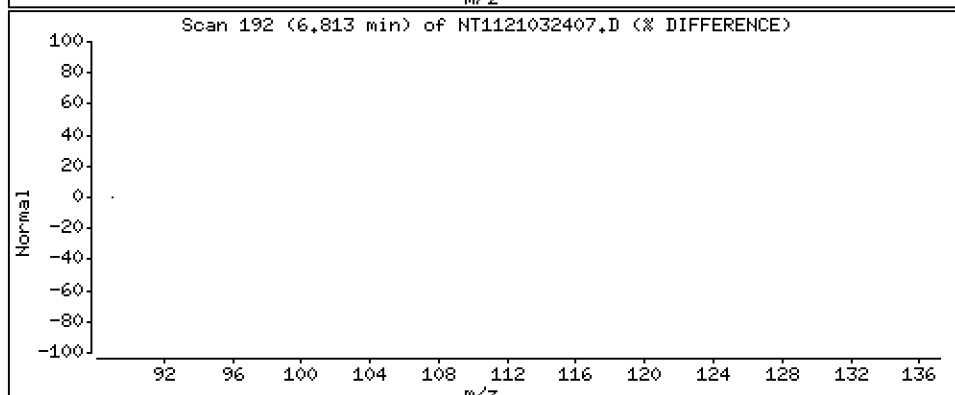
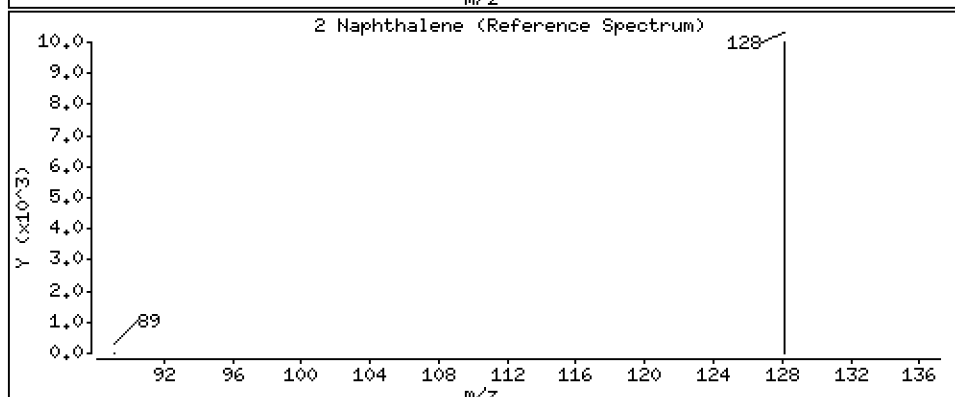
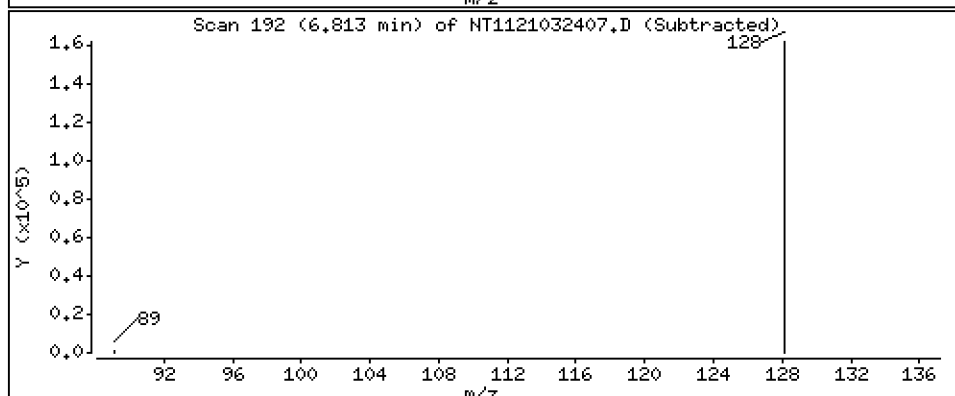
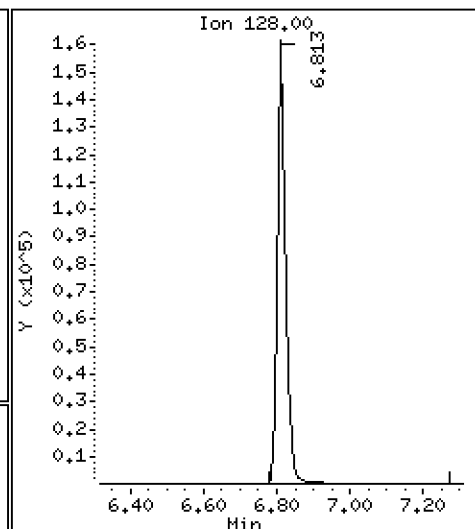
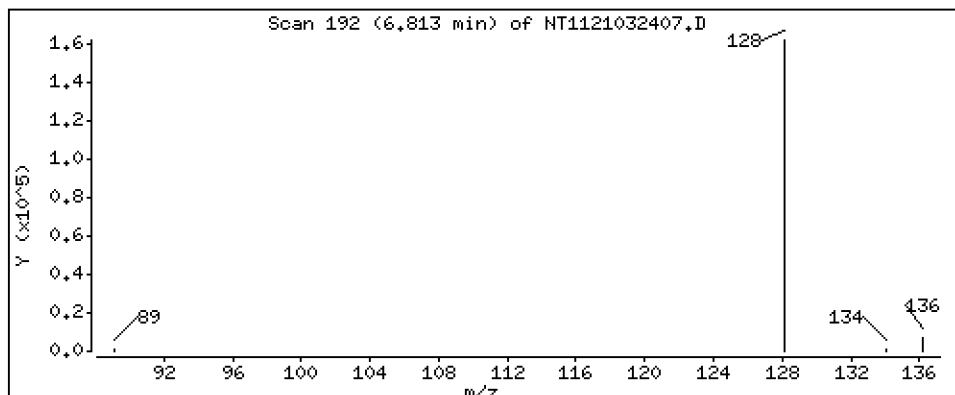
Operator: VTS

Column phase: Rxi-17Si11 MS

Column diameter: 0,25

2 Naphthalene

Concentration: 234 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

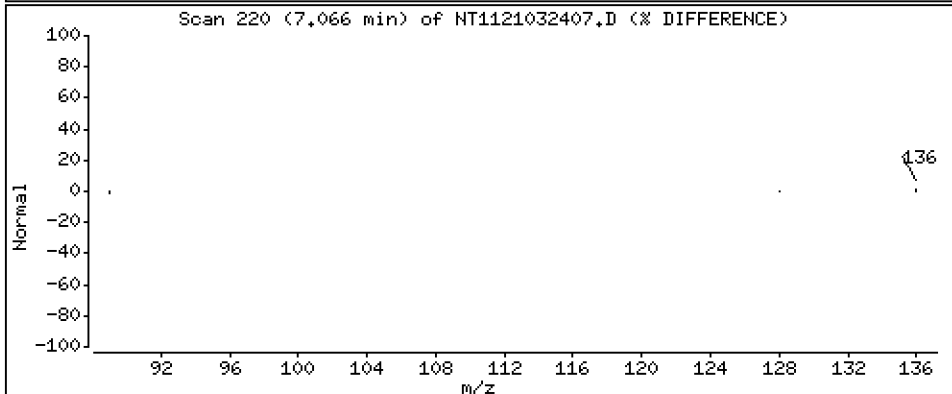
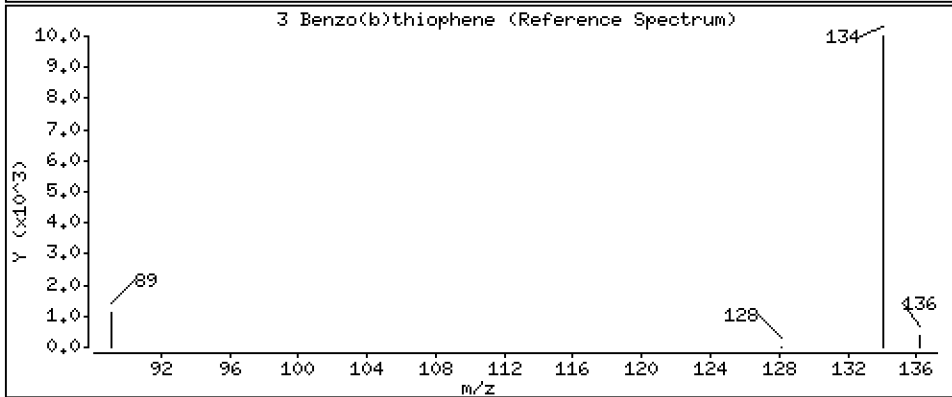
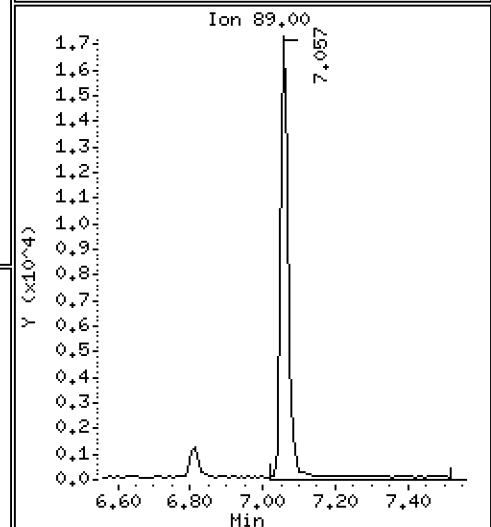
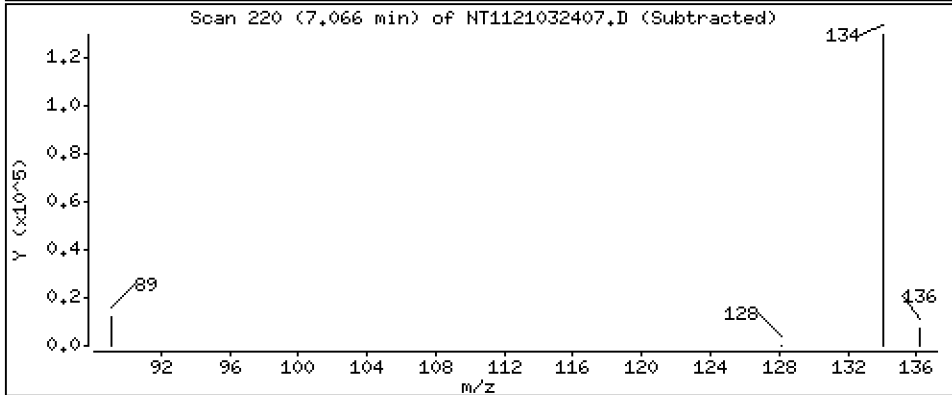
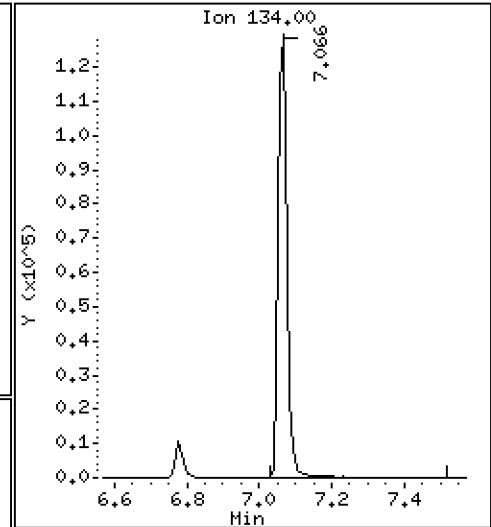
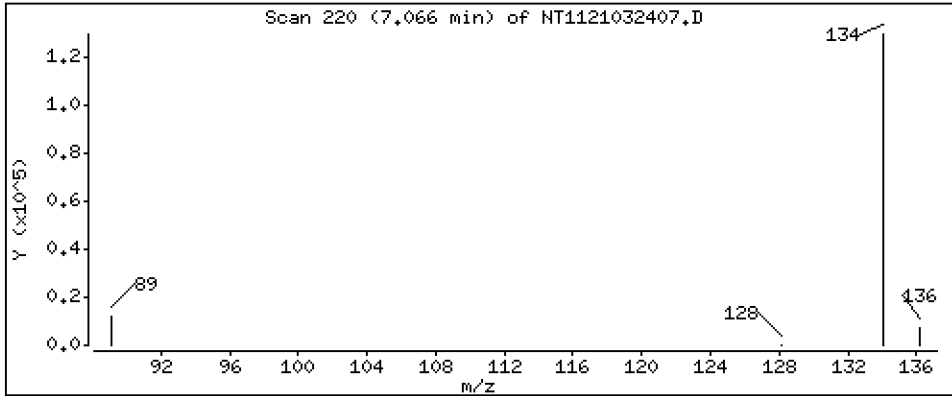
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

3 Benzo(b)thiophene

Concentration: 246 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

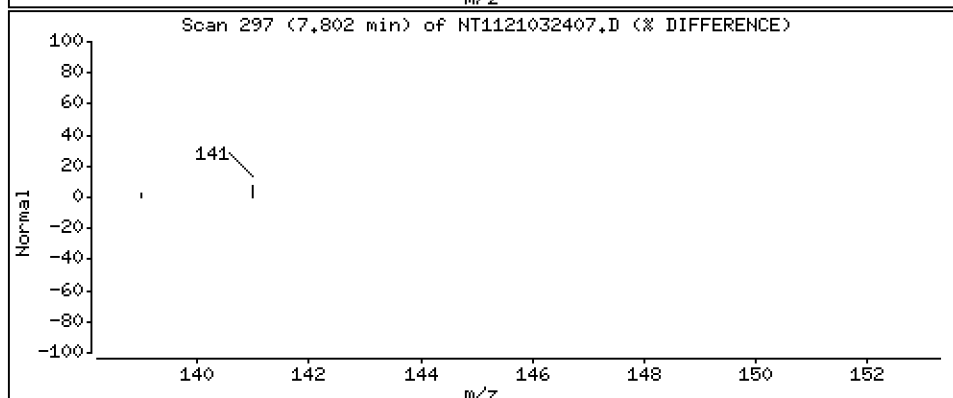
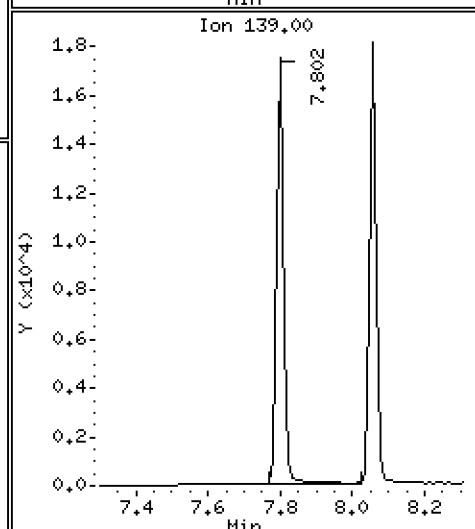
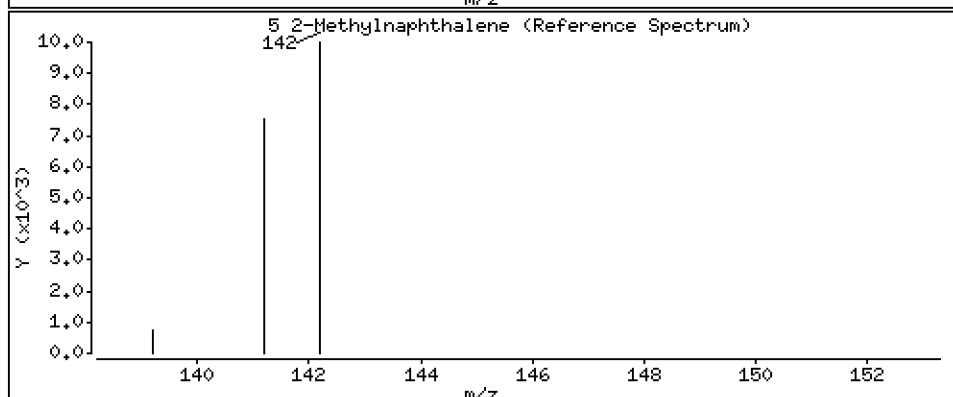
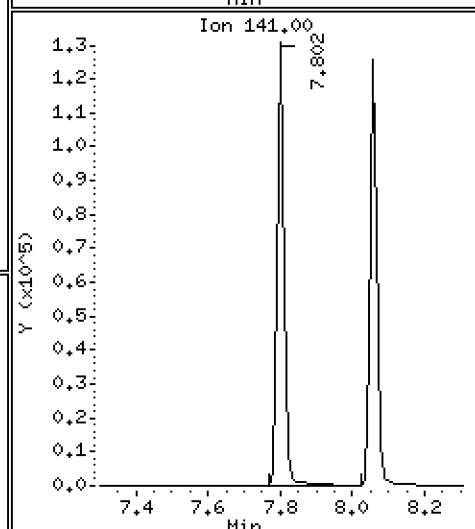
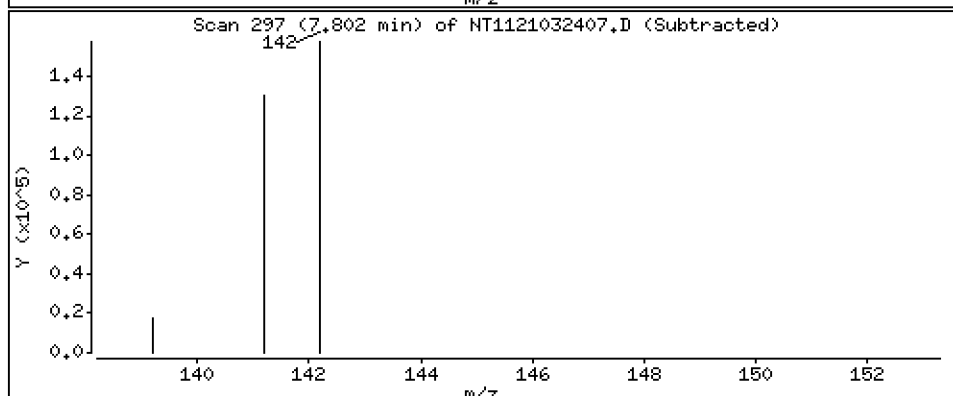
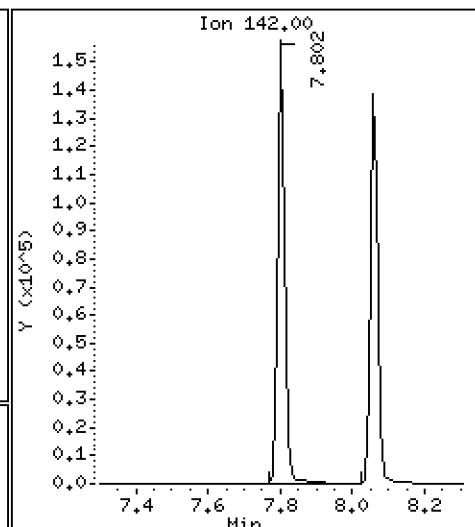
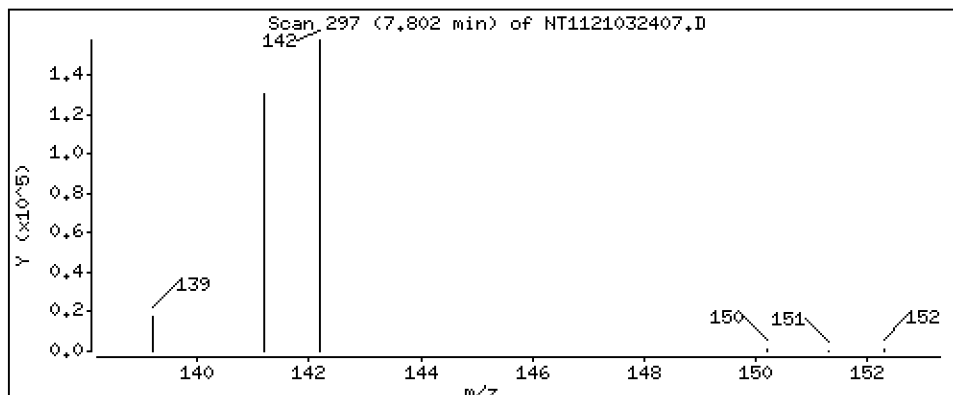
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5-2-Methylnaphthalene

Concentration: 236 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

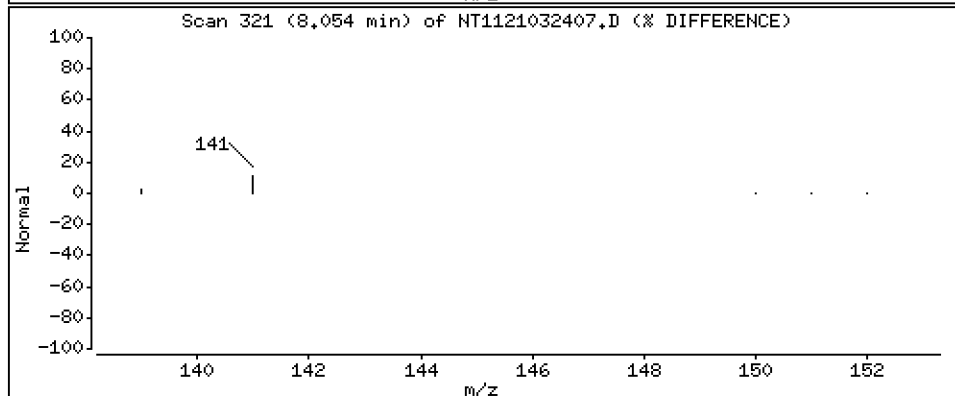
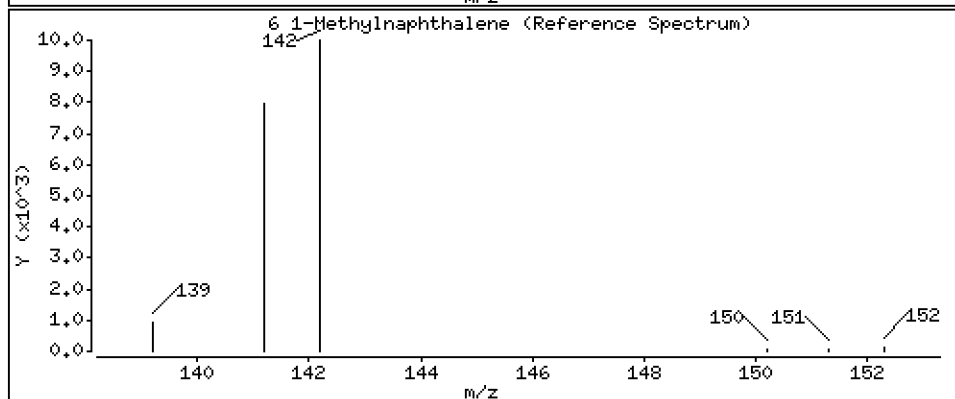
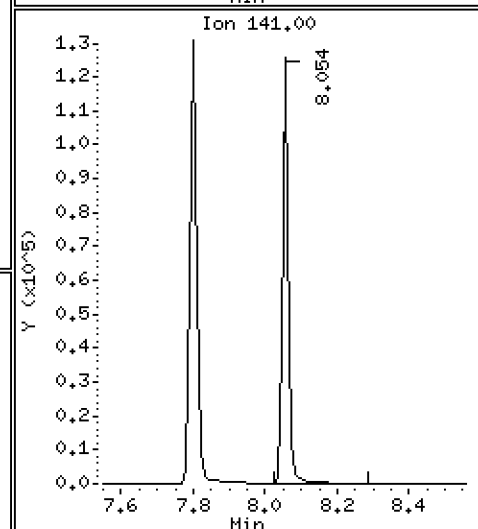
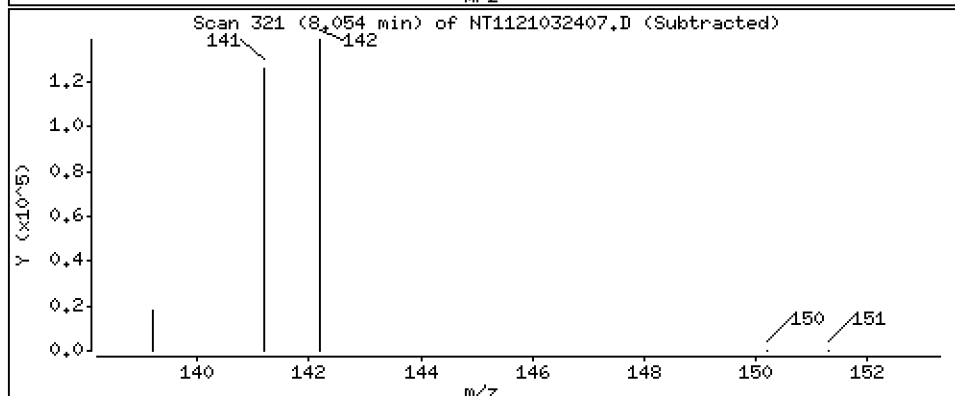
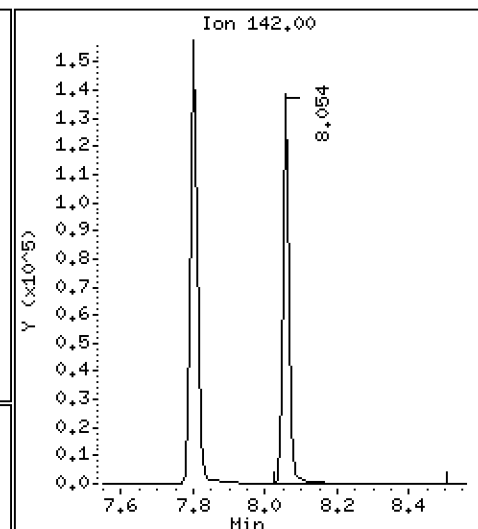
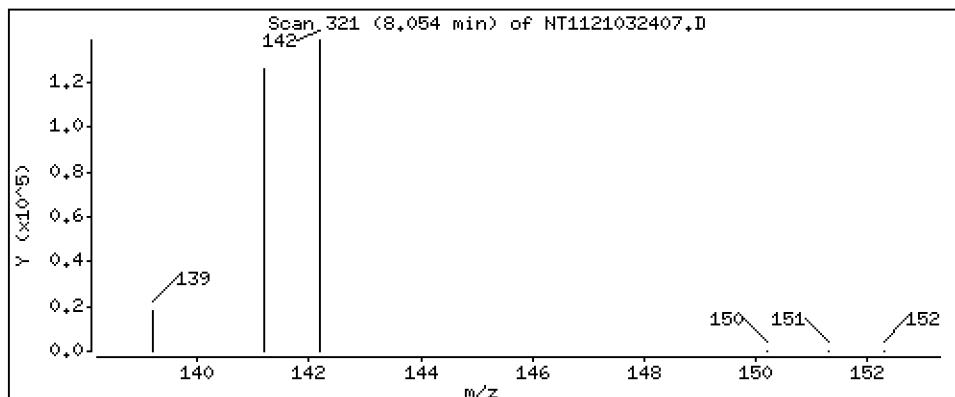
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 243 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

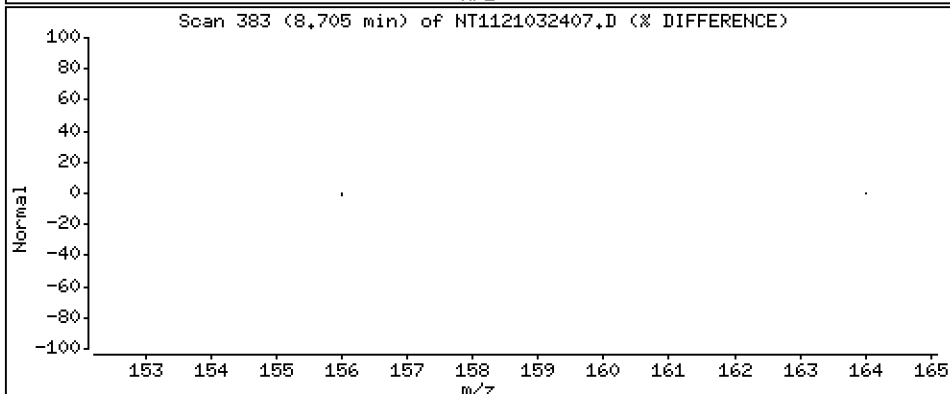
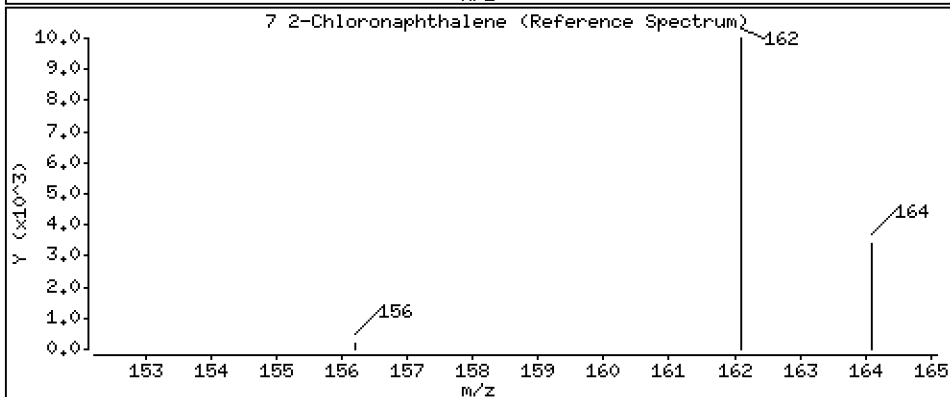
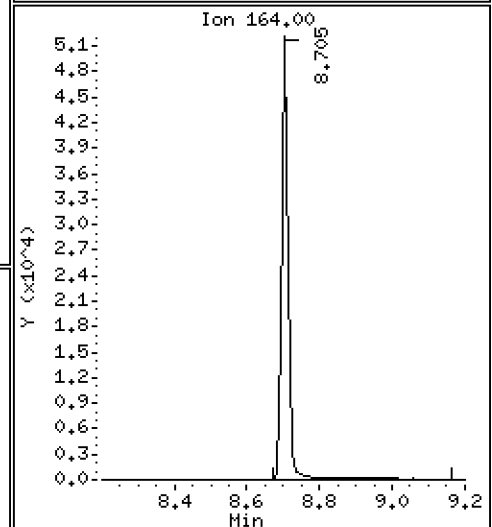
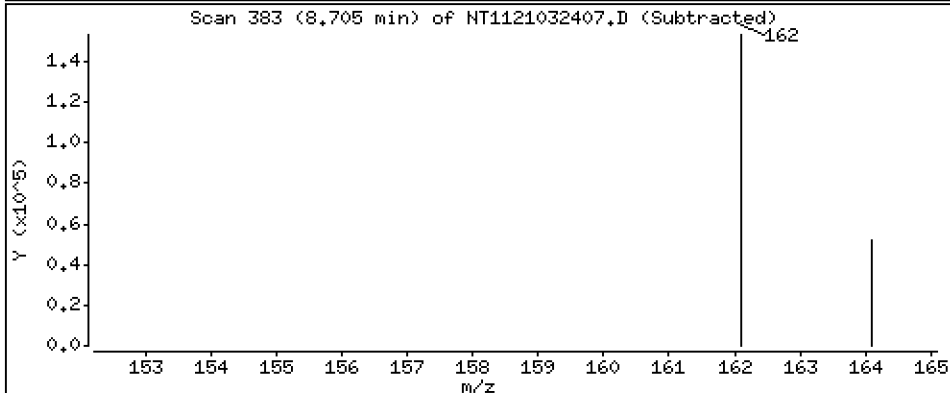
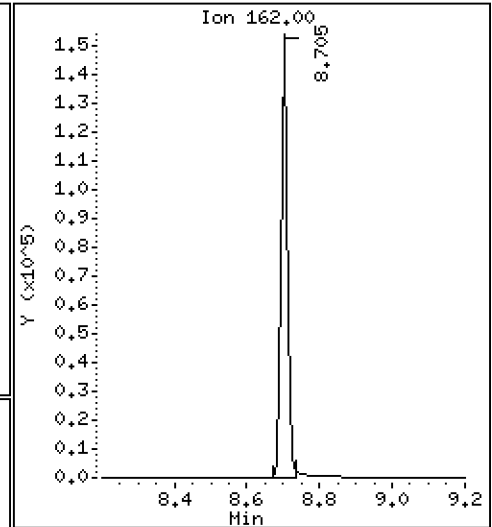
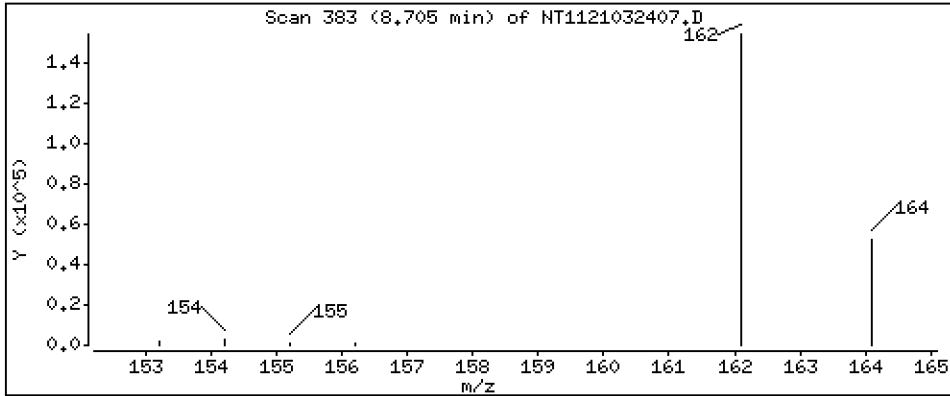
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

7 2-Chloronaphthalene

Concentration: 211 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

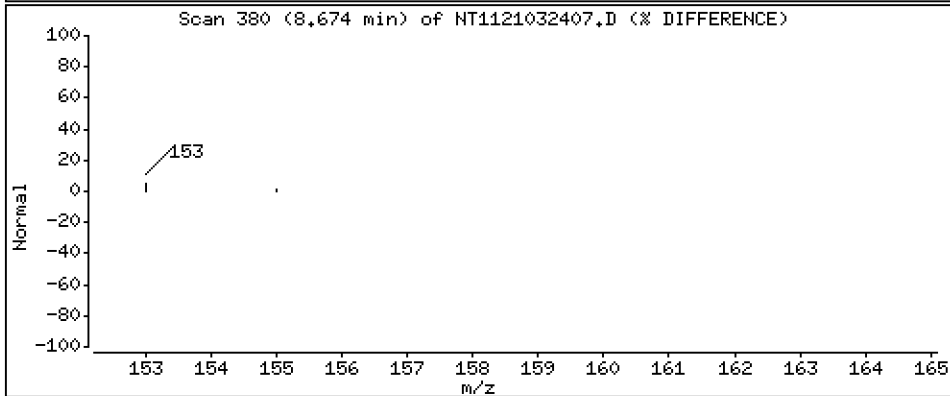
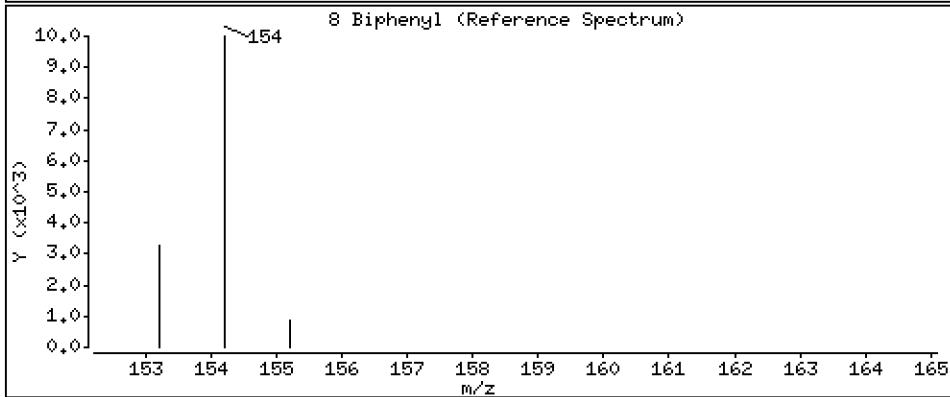
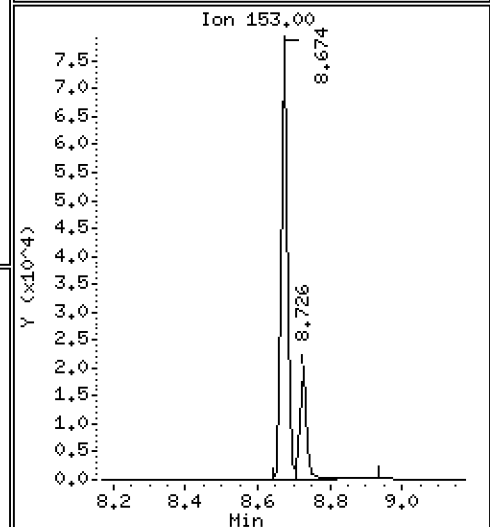
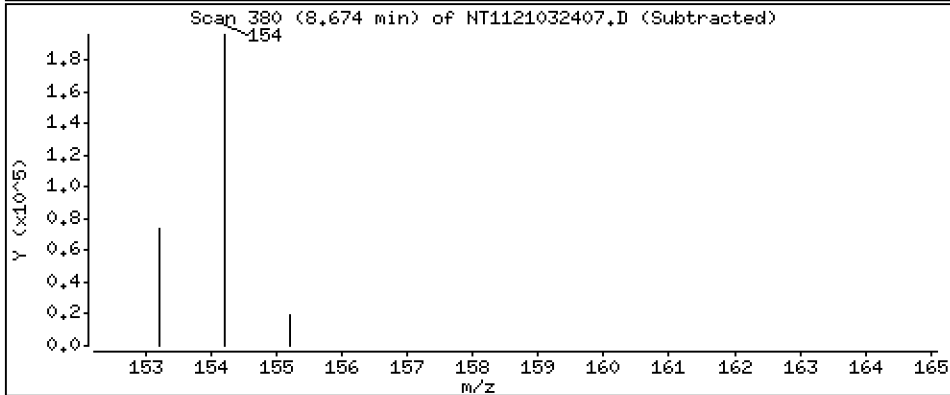
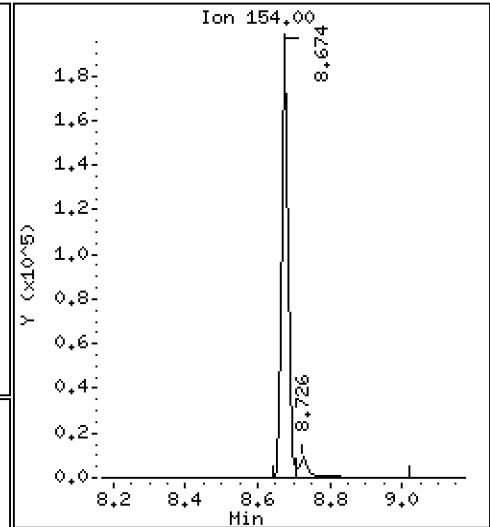
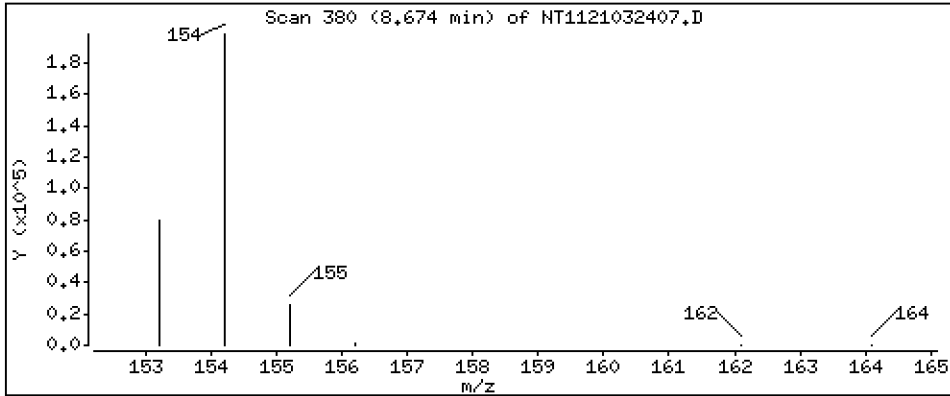
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

8 Biphenyl

Concentration: 205 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

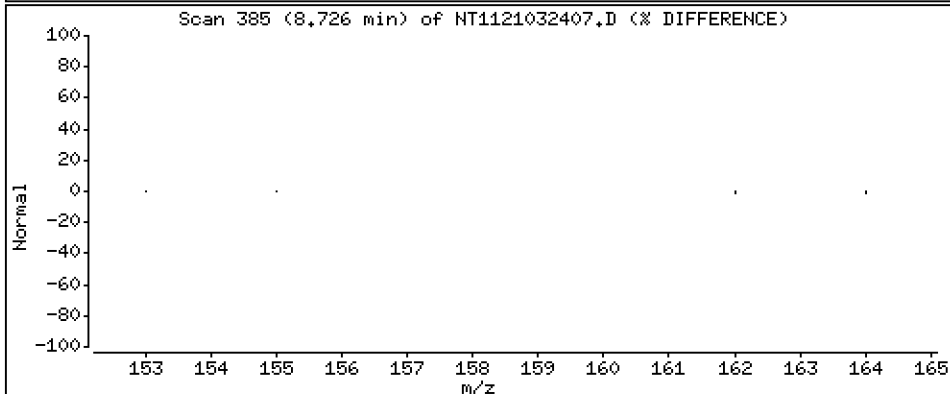
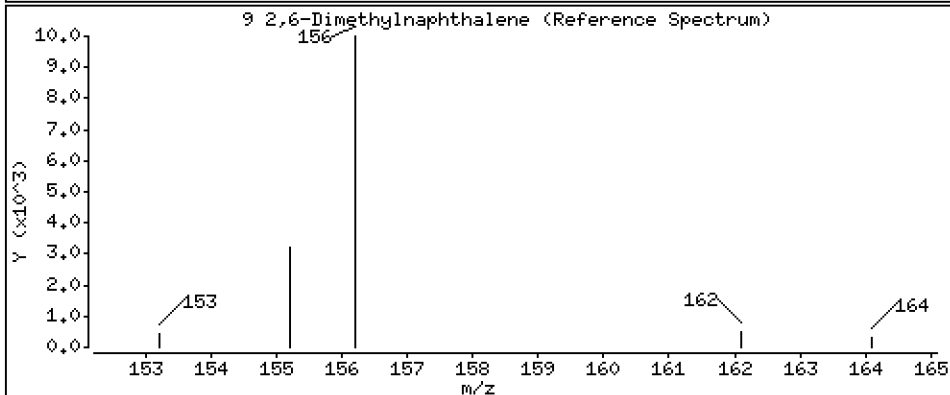
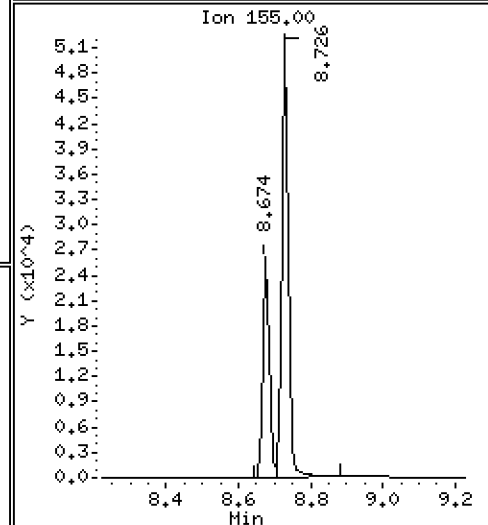
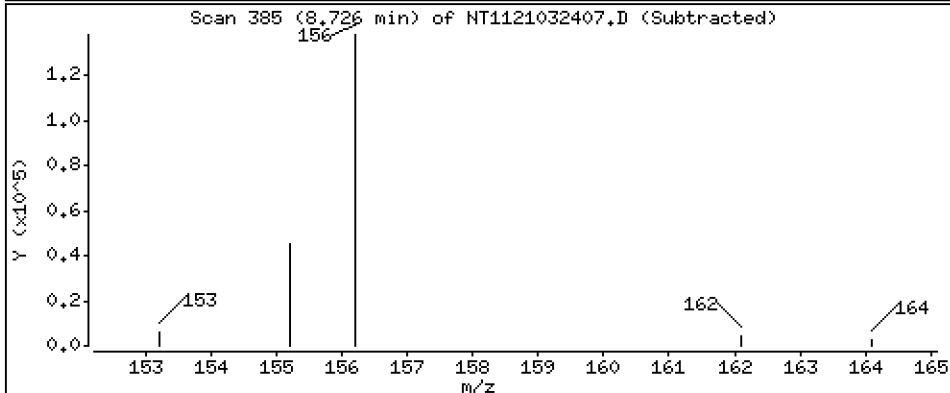
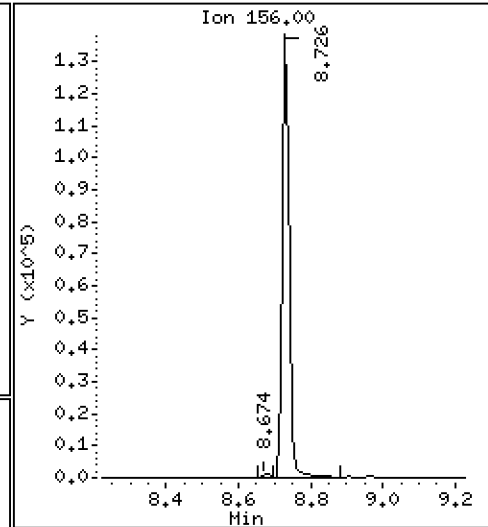
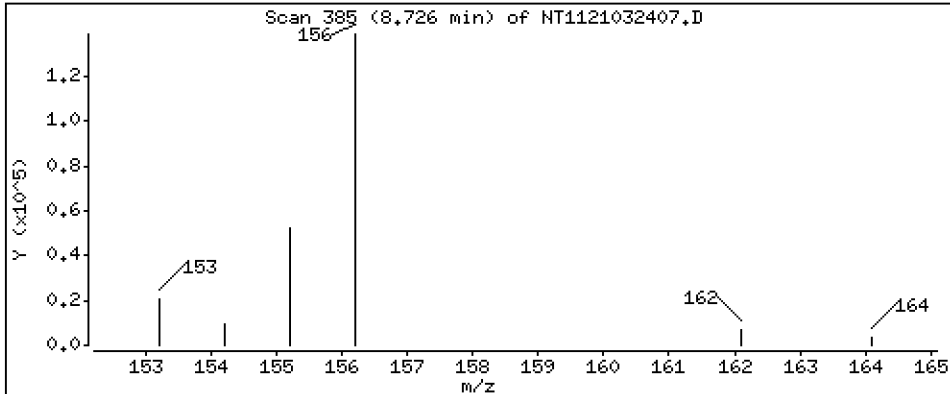
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

9,2,6-Dimethylnaphthalene

Concentration: 213 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

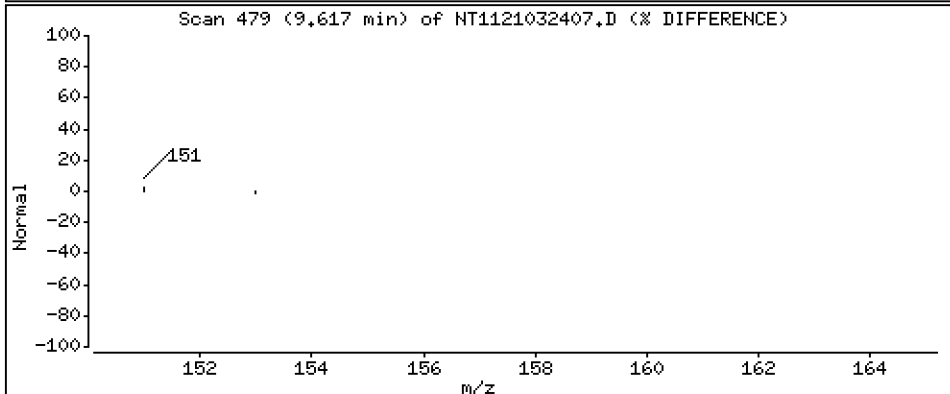
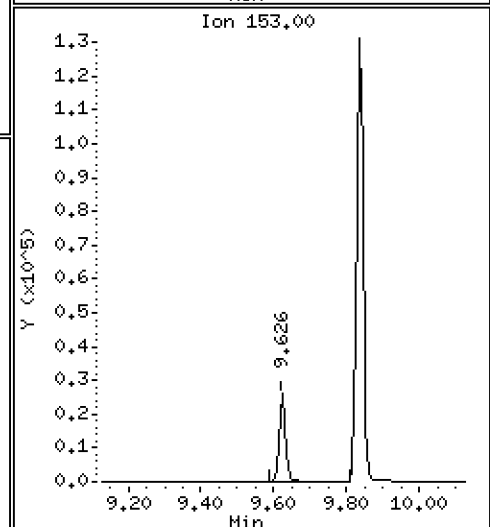
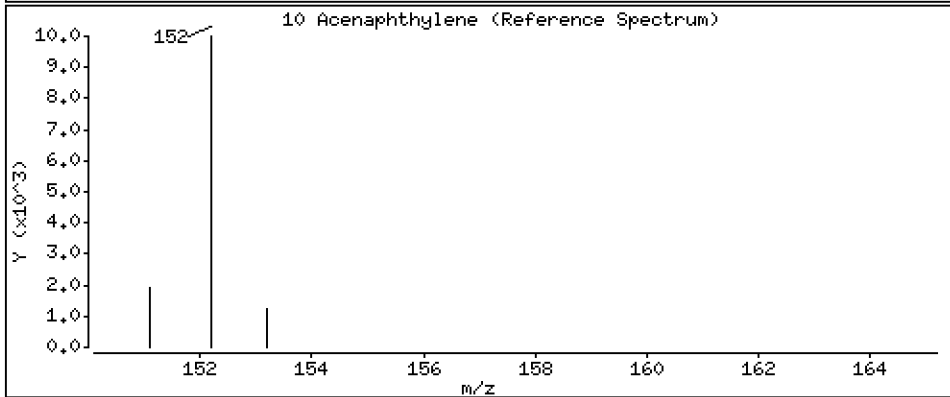
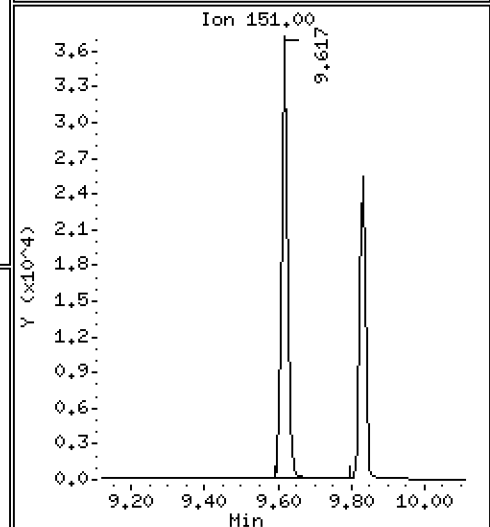
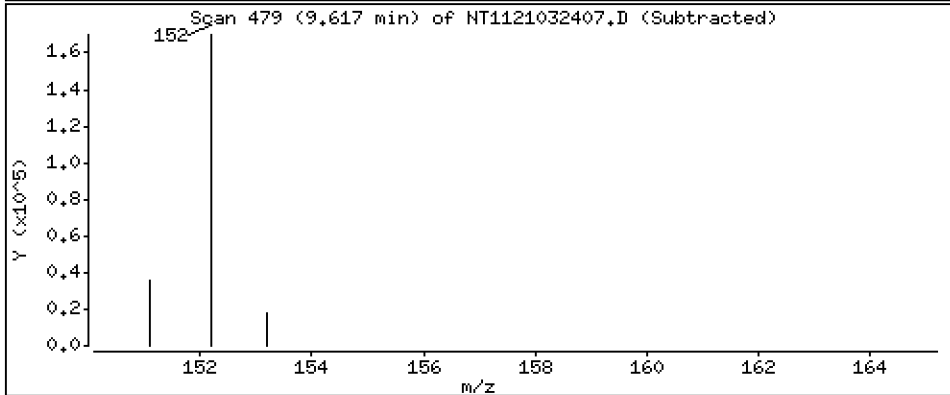
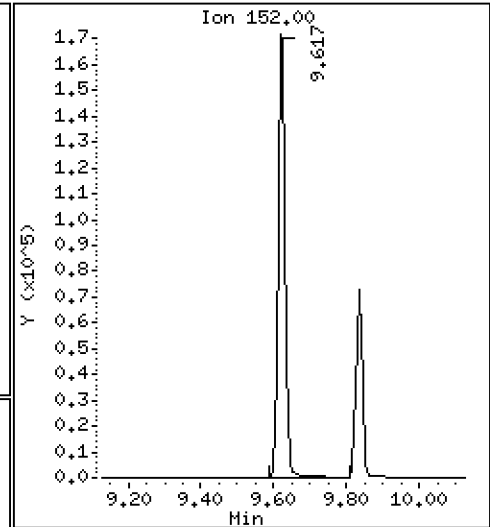
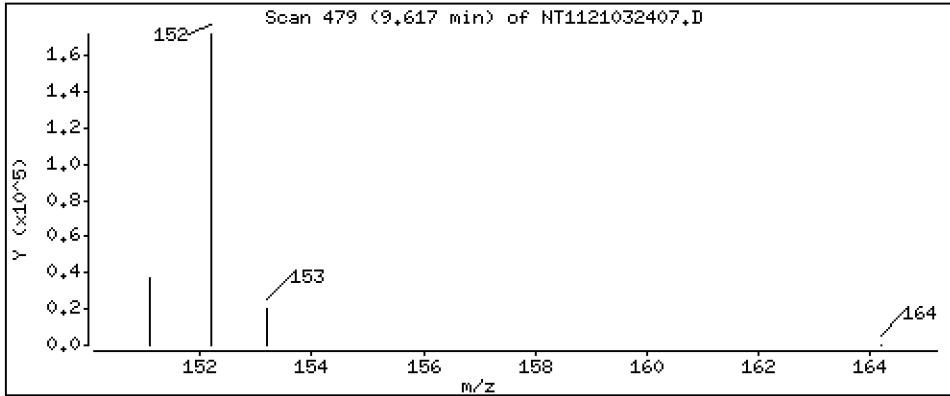
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

10 Acenaphthylene

Concentration: 210 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

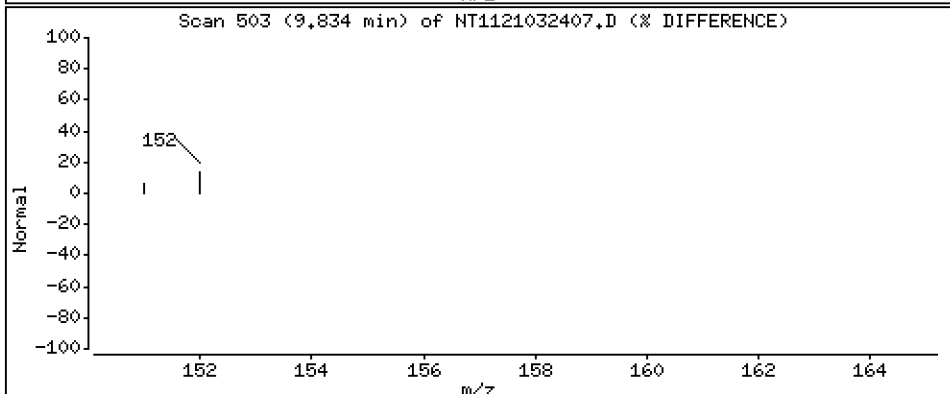
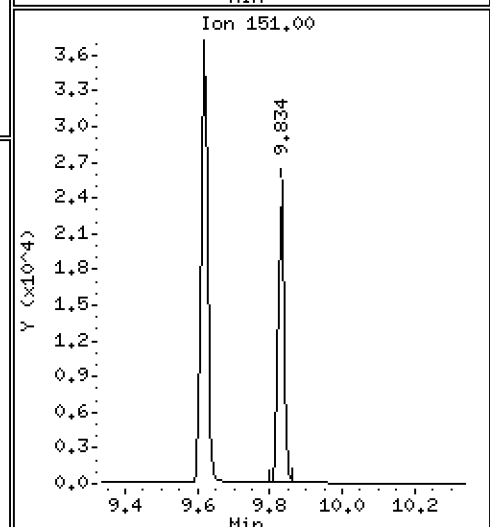
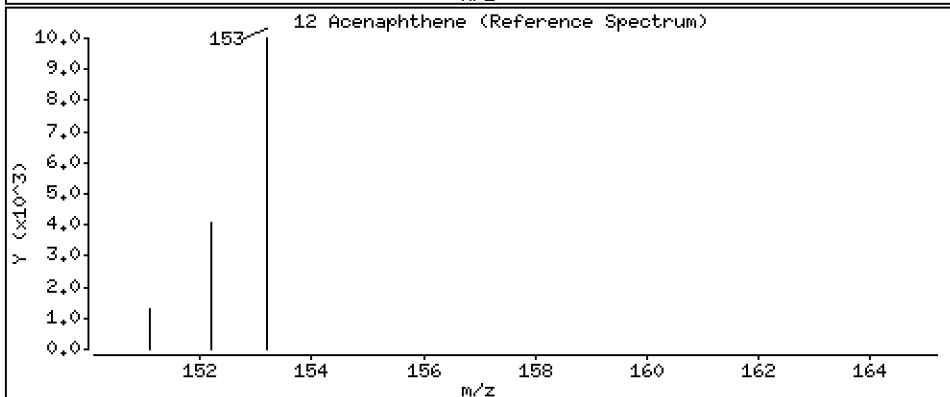
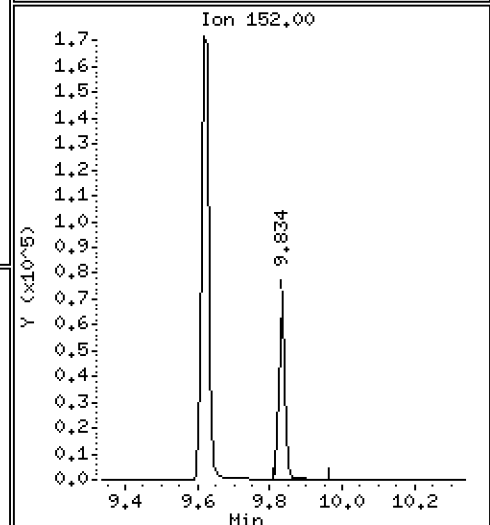
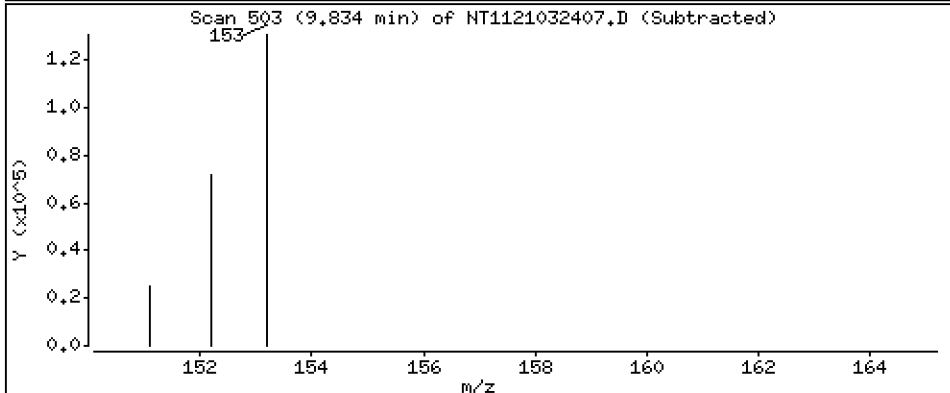
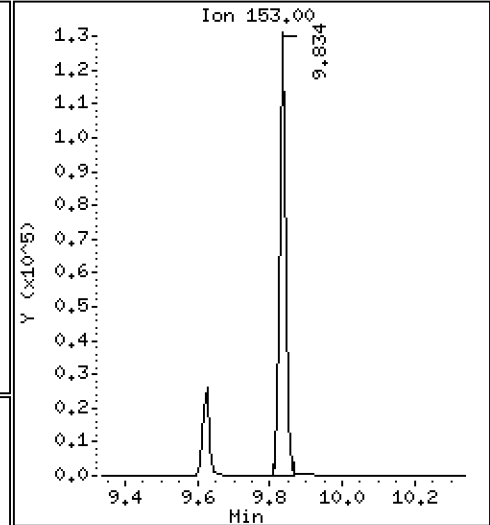
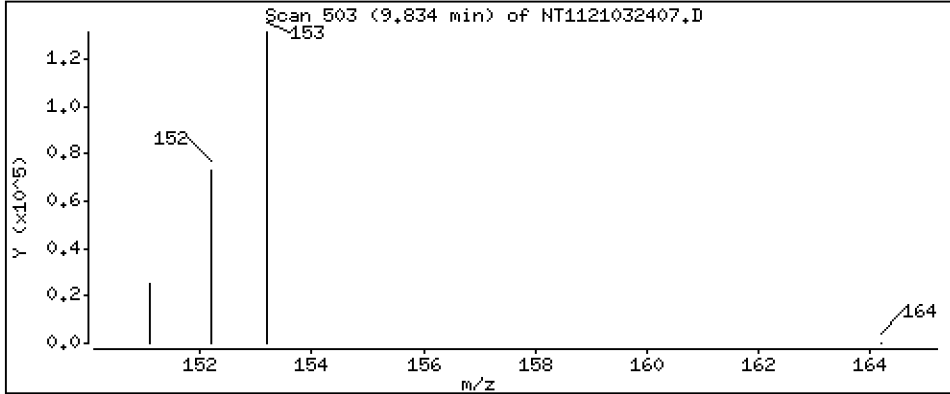
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

12 Acenaphthene

Concentration: 211 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

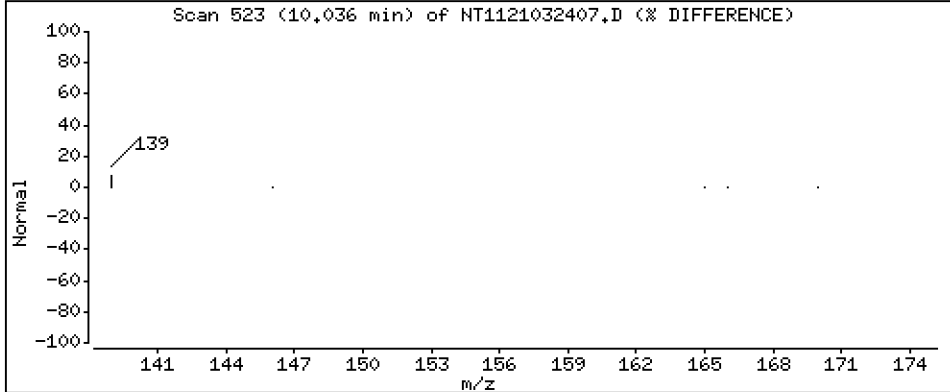
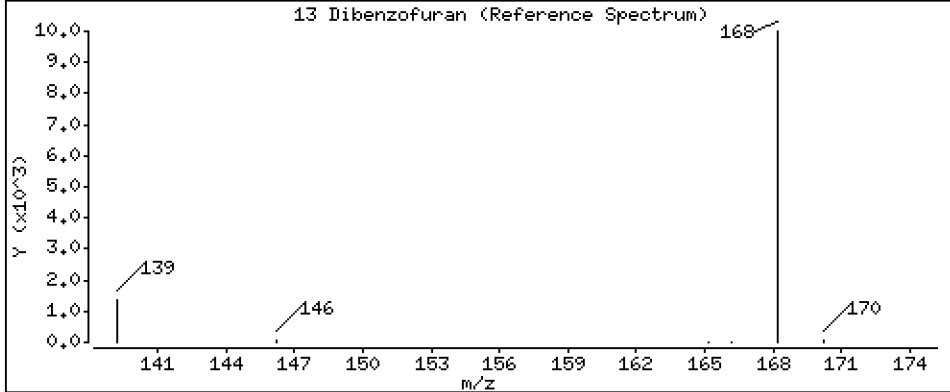
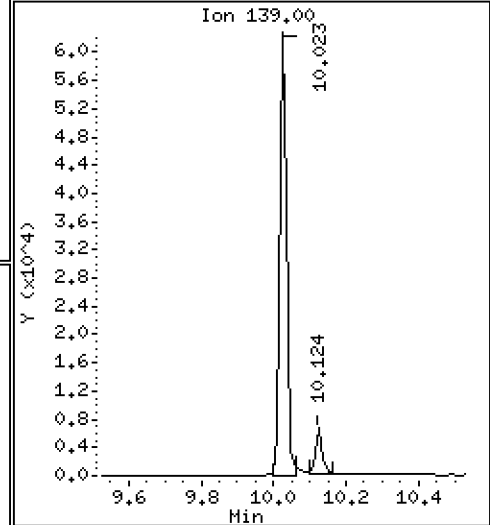
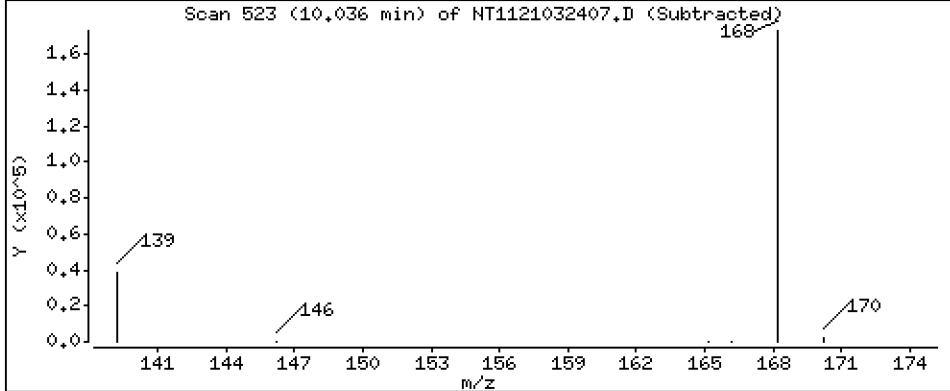
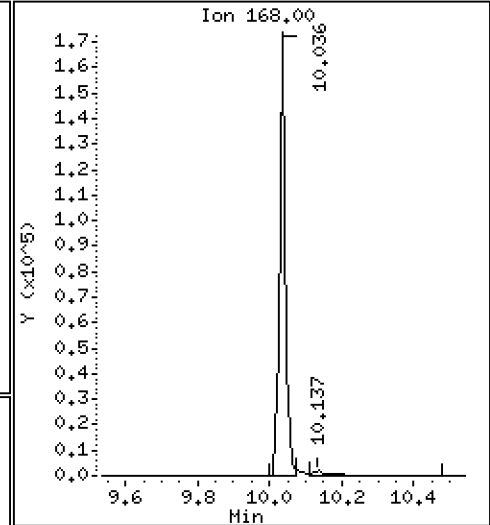
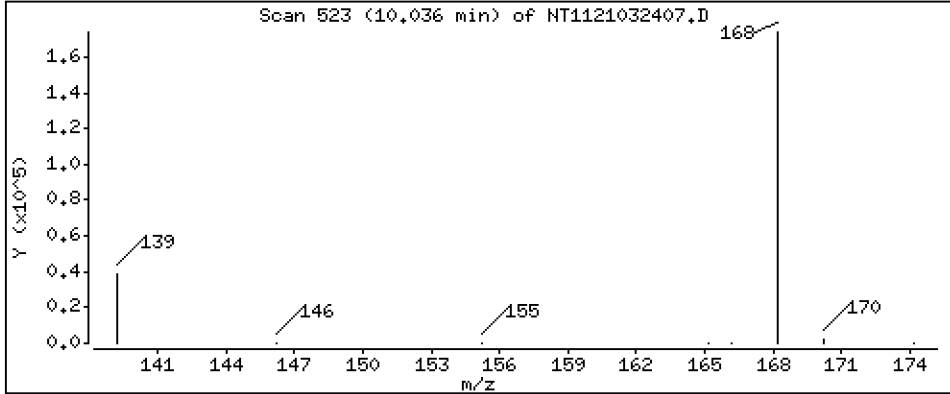
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 205 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

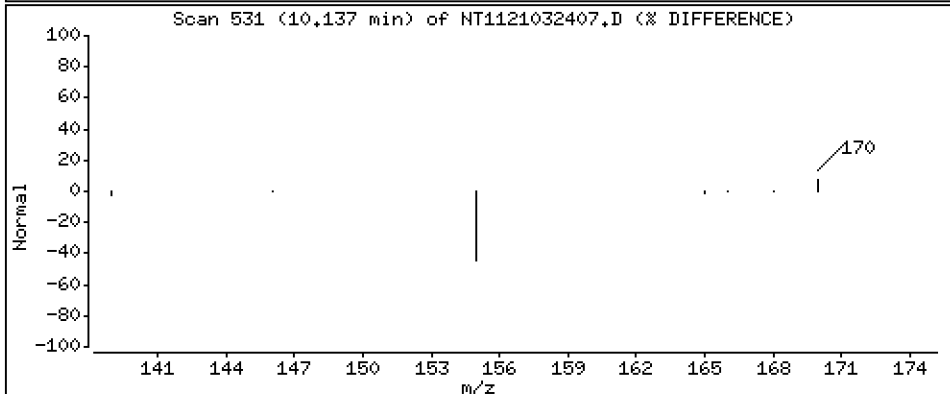
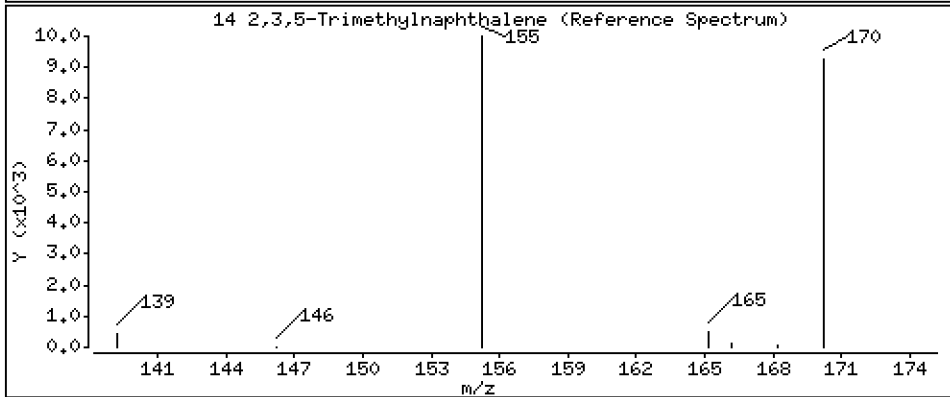
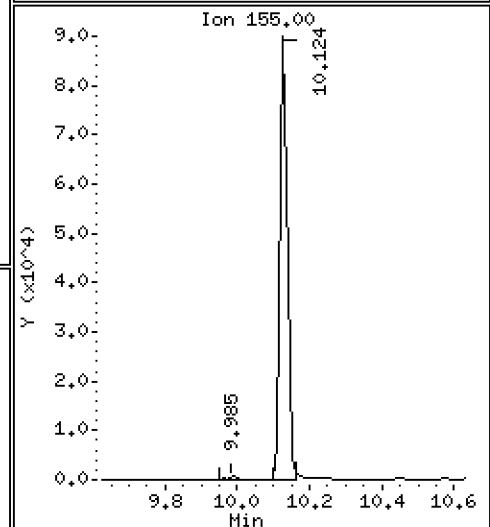
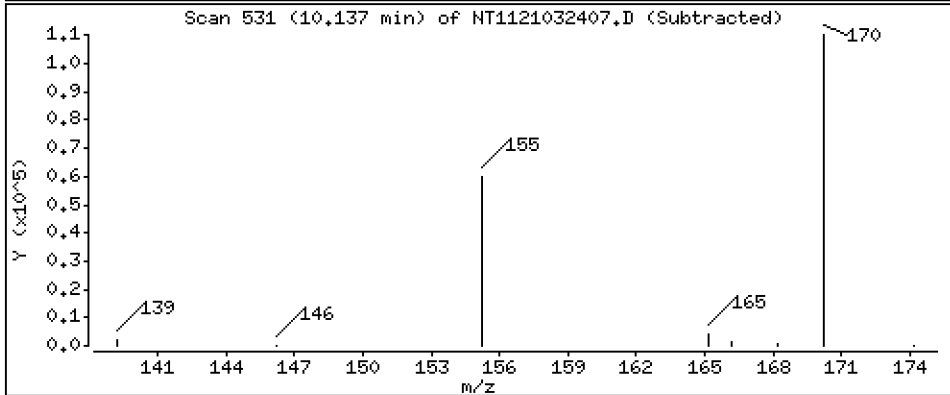
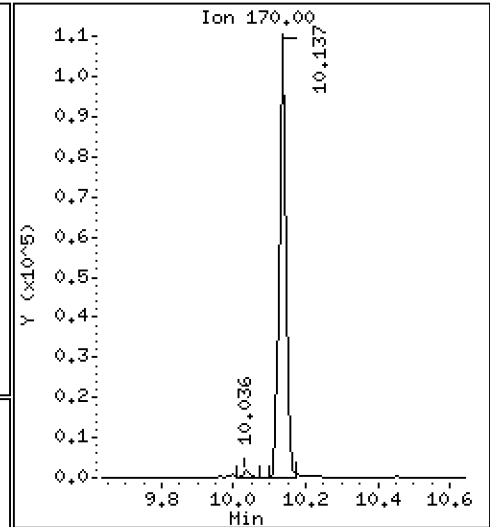
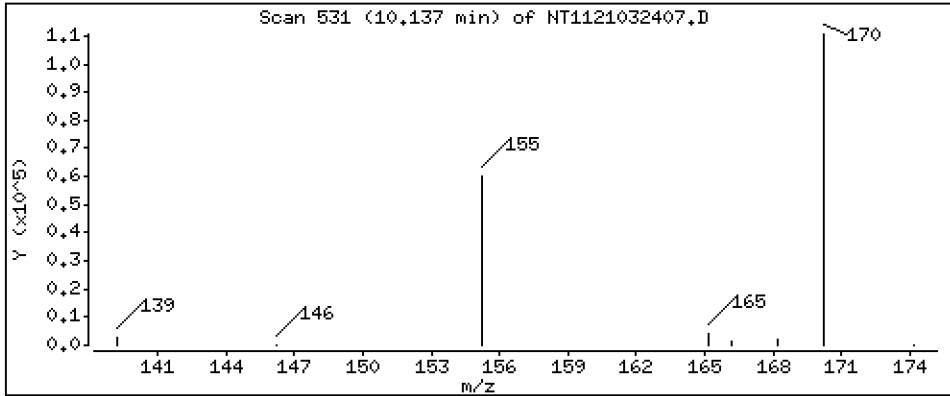
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

14 2,3,5-Trimethylnaphthalene

Concentration: 214 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

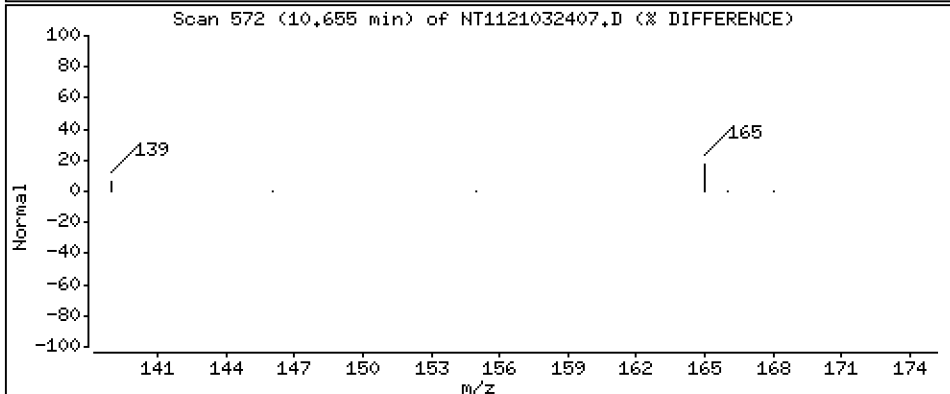
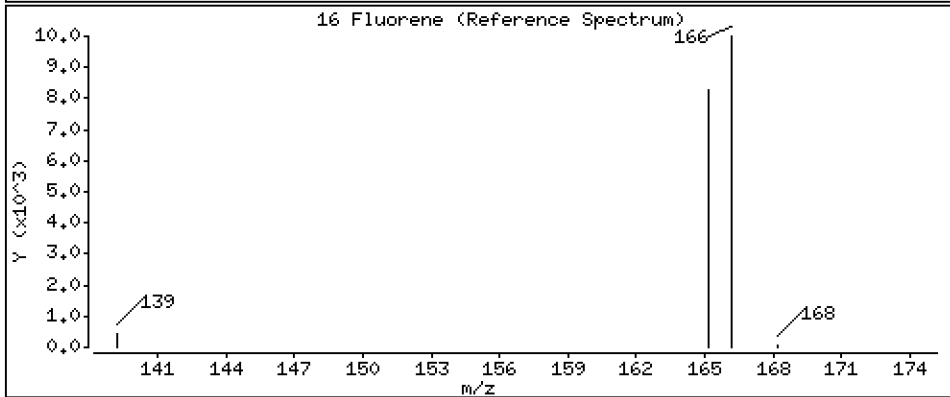
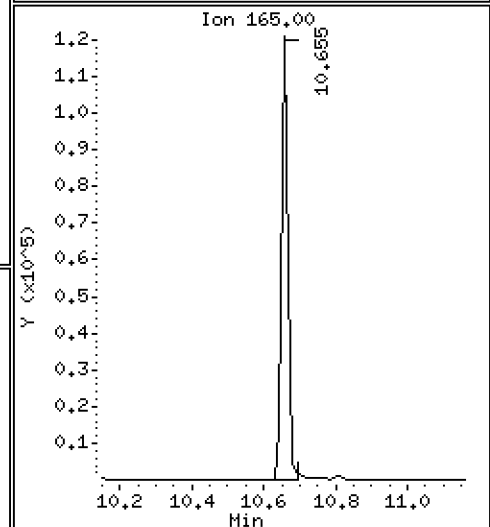
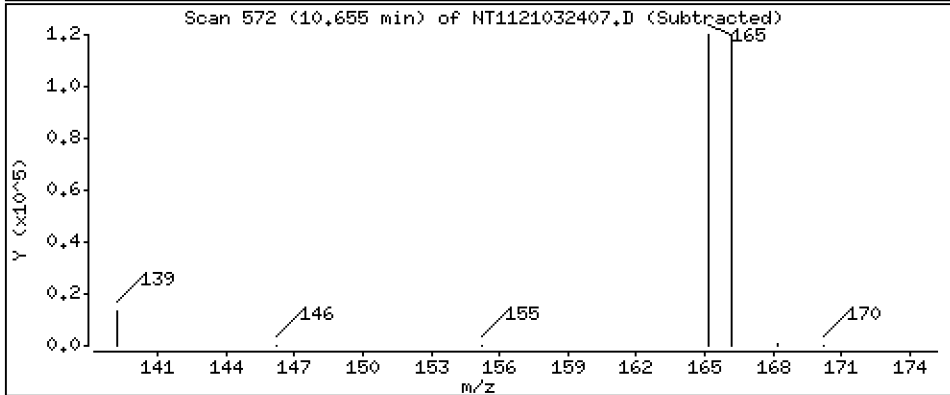
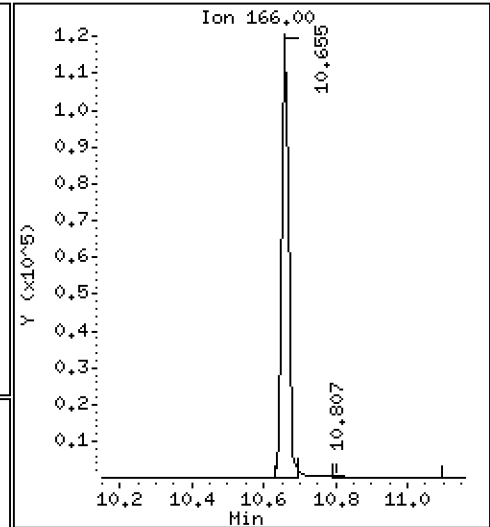
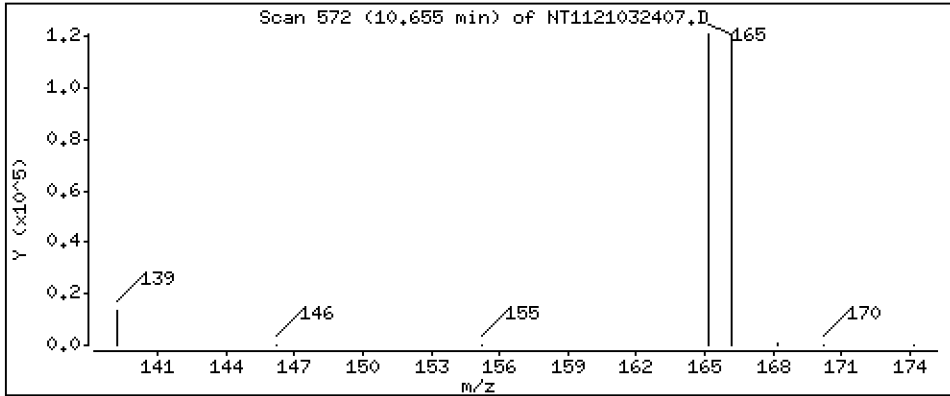
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 214 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

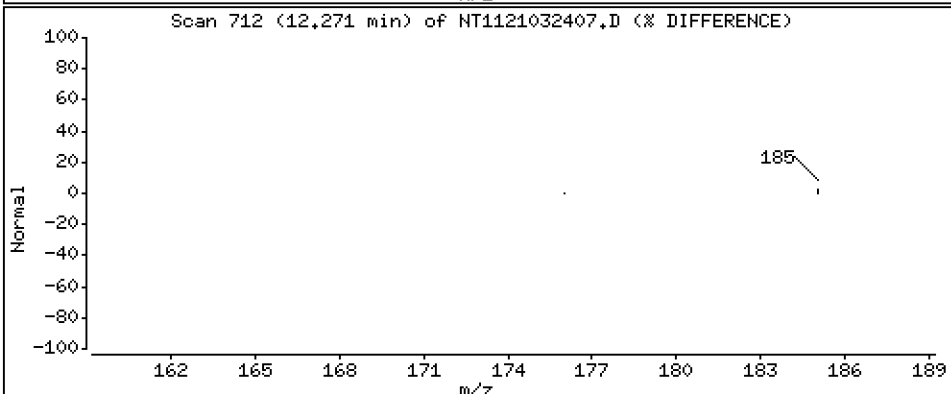
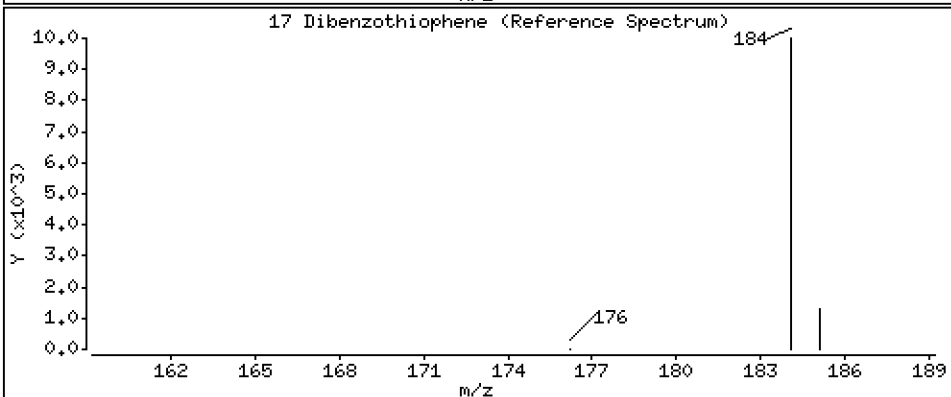
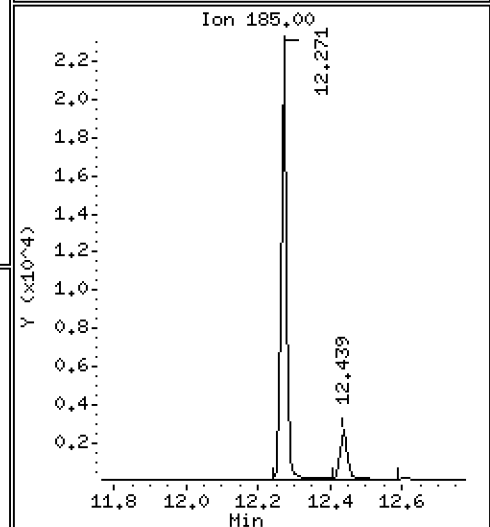
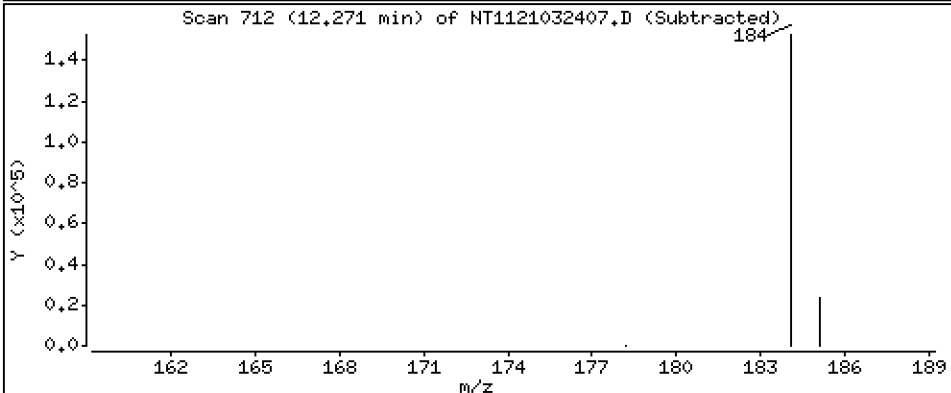
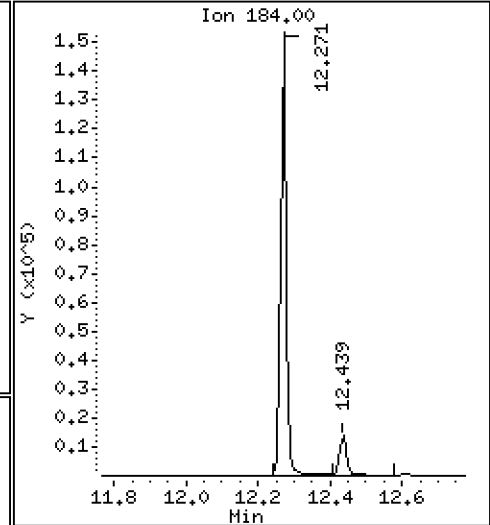
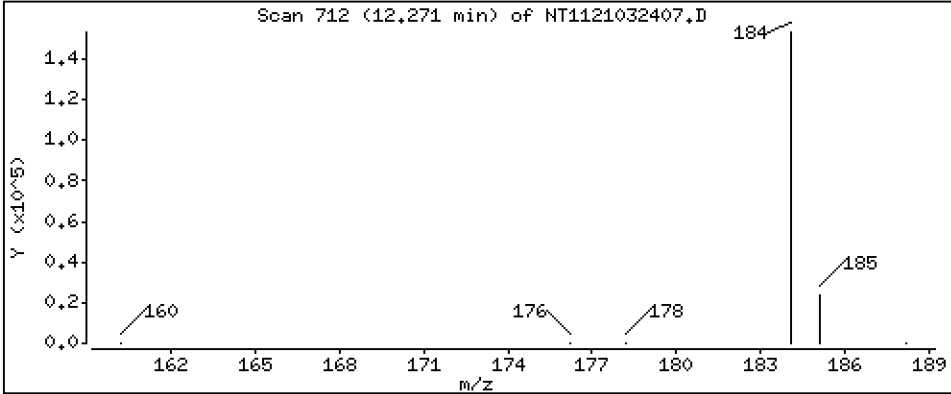
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 234 ng/mL

17 Dibenzothiophene



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

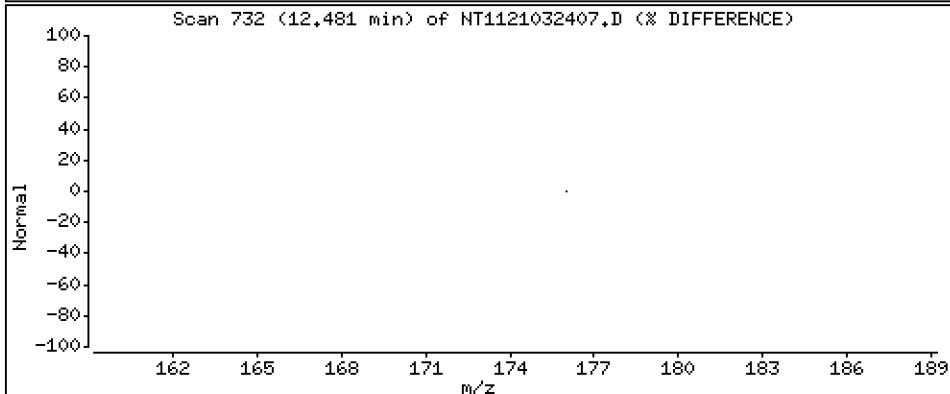
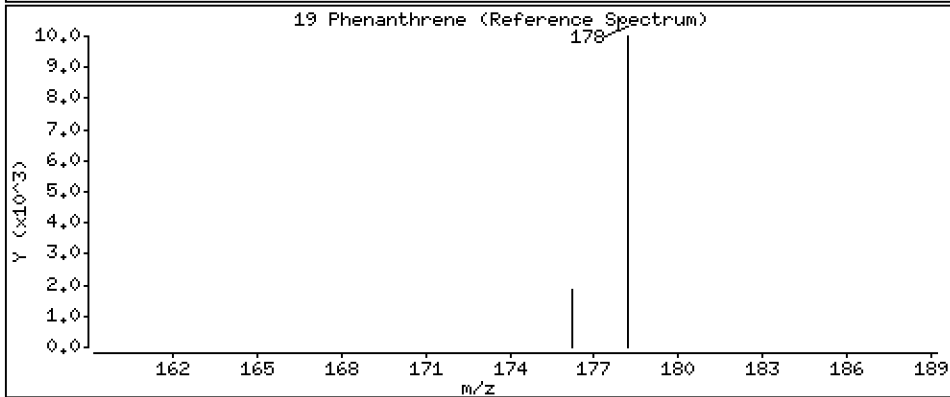
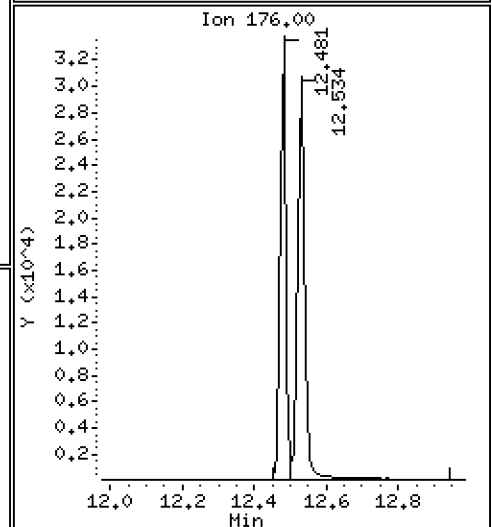
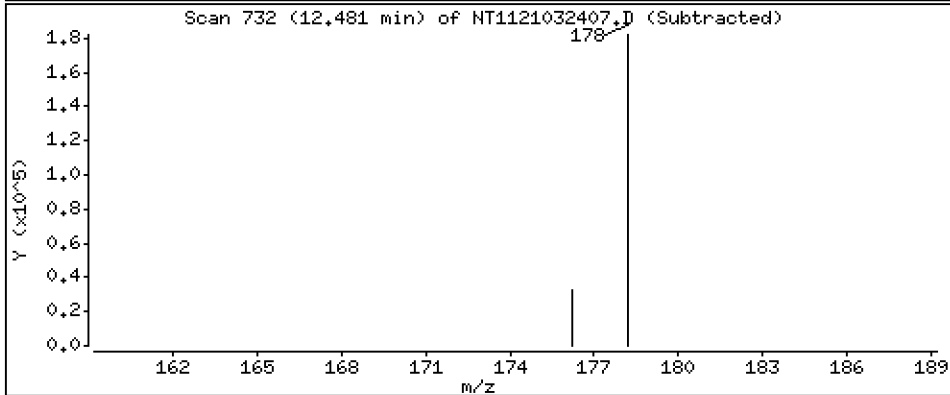
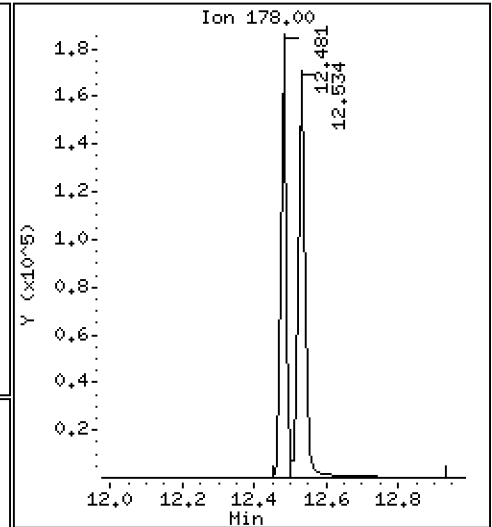
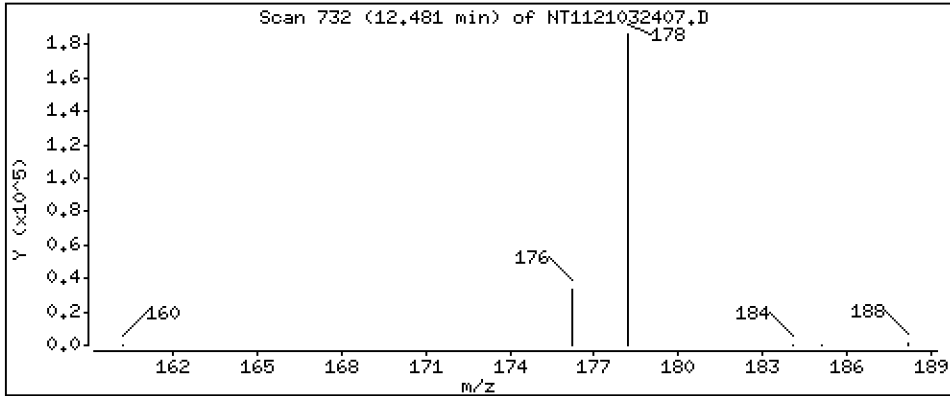
Operator: VTS

Column phase: Rxi-17Si11 MS

Column diameter: 0.25

19 Phenanthrene

Concentration: 229 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

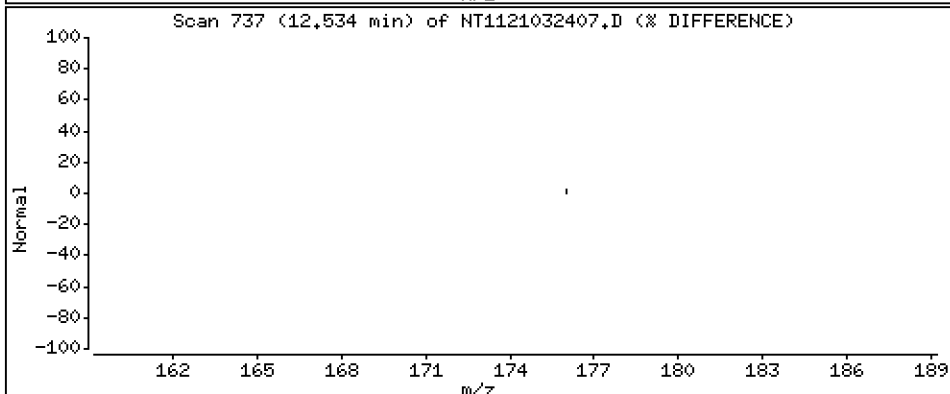
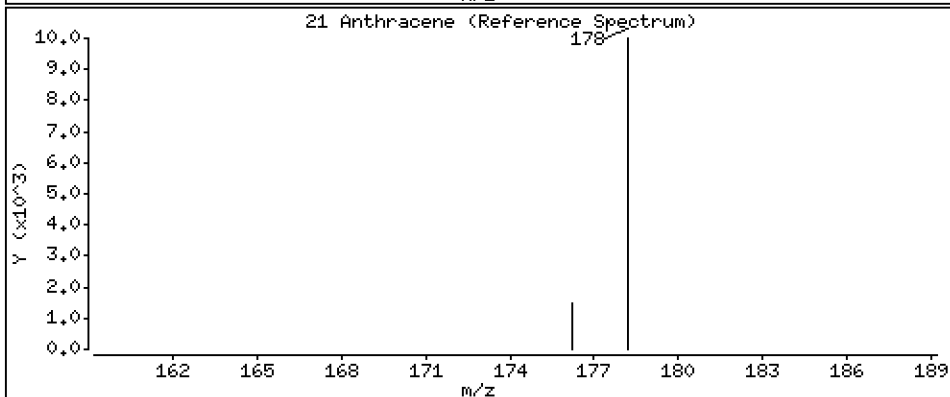
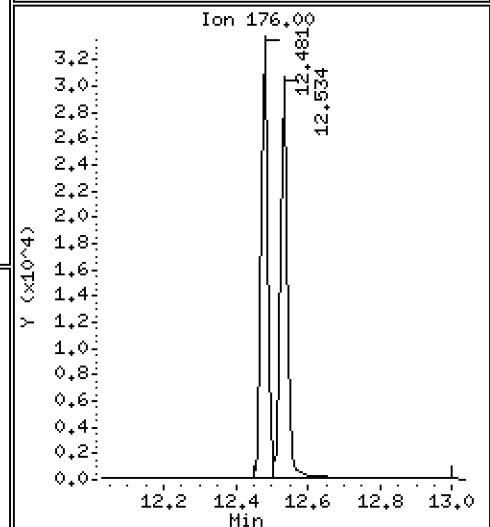
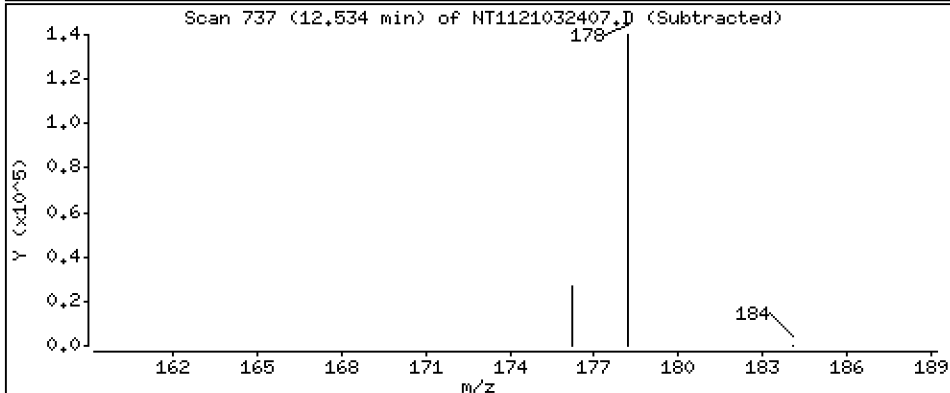
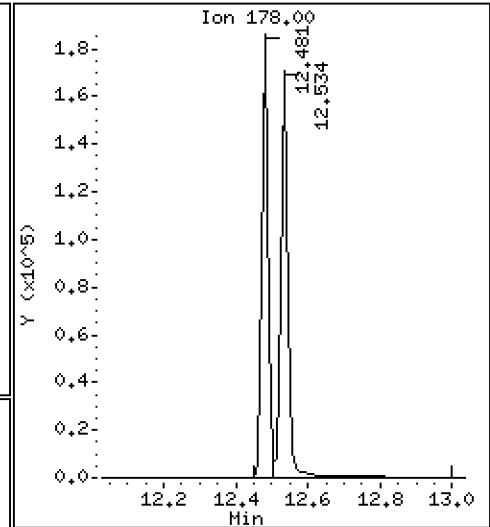
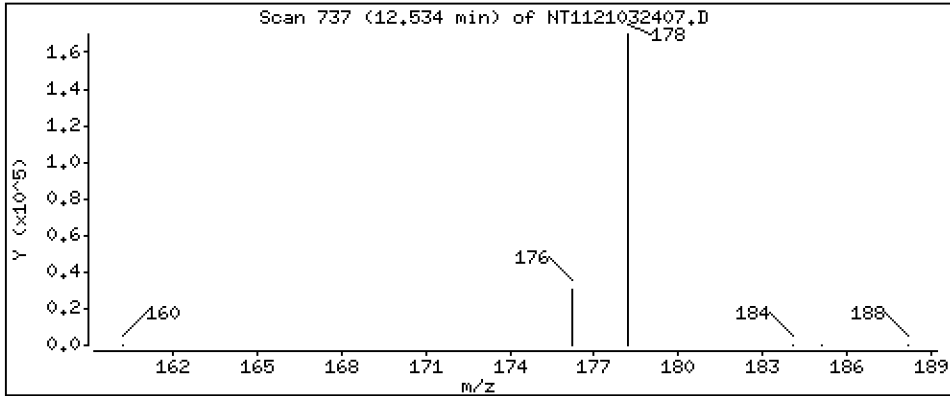
Operator: VTS

Column phase: Rxi-17Si11 MS

Column diameter: 0,25

21 Anthracene

Concentration: 240 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

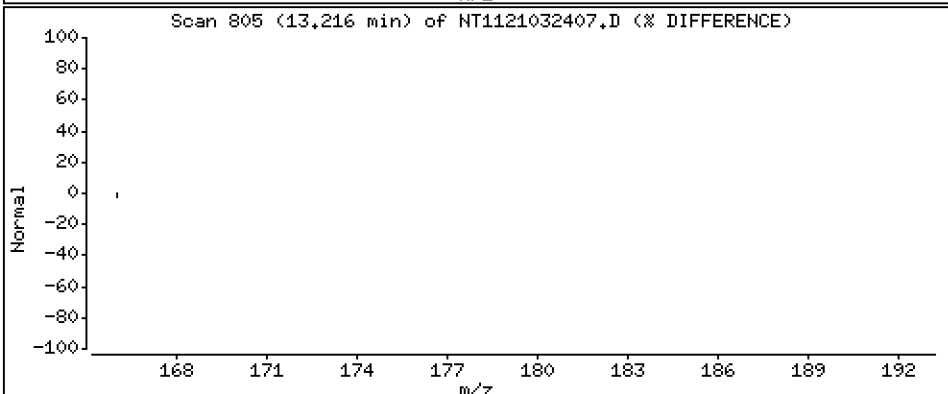
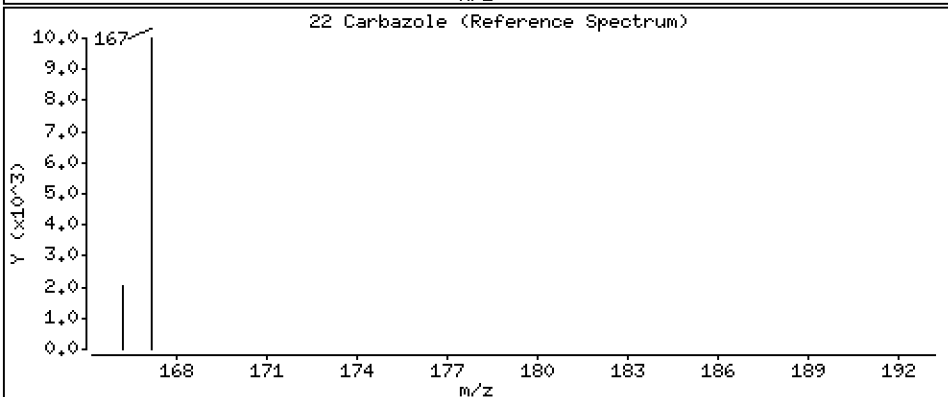
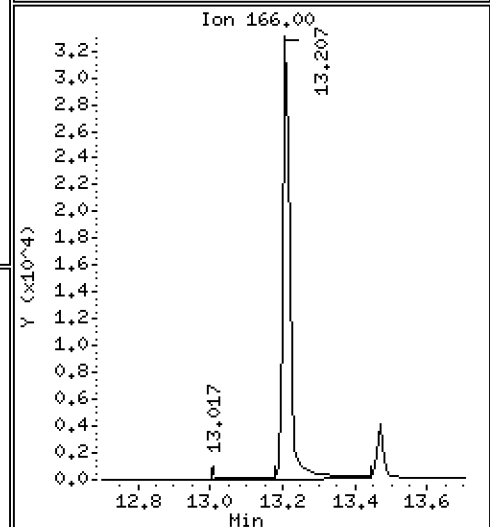
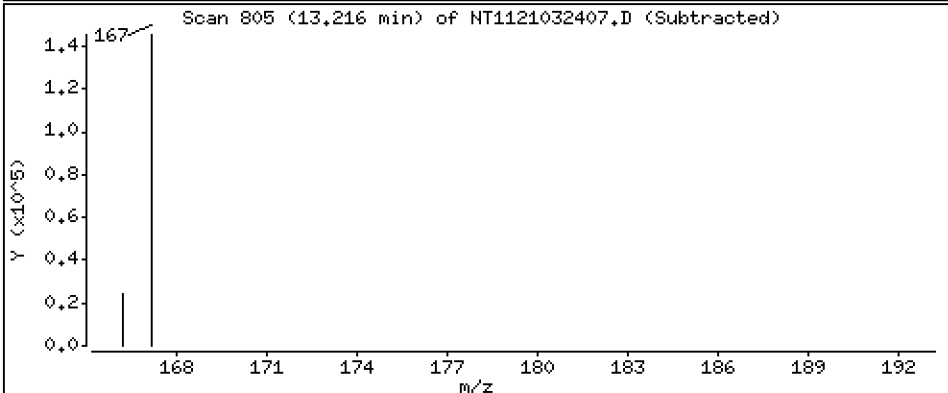
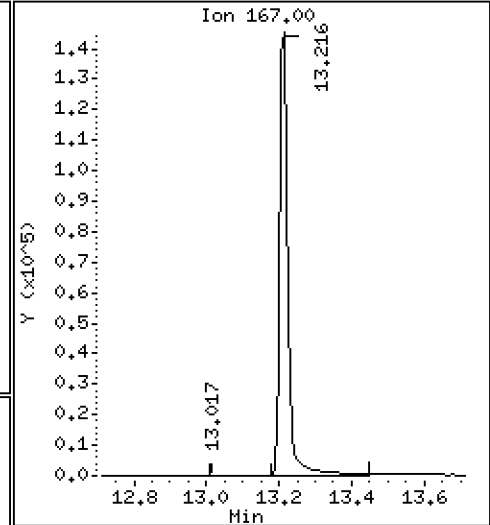
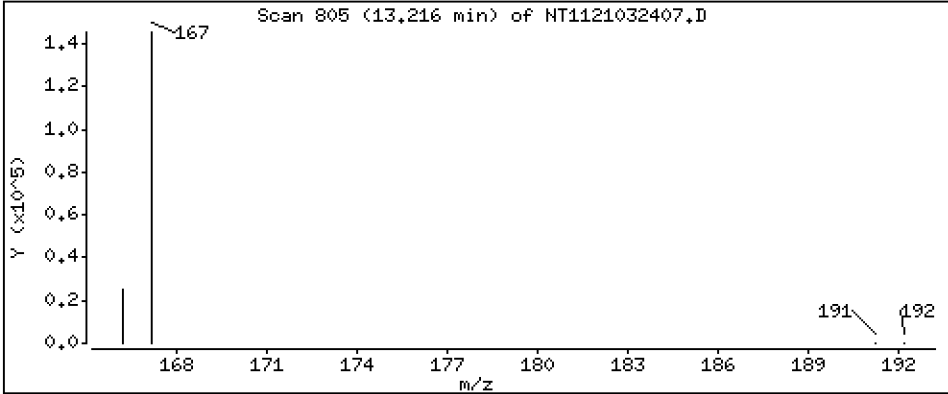
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

22 Carbazole

Concentration: 226 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

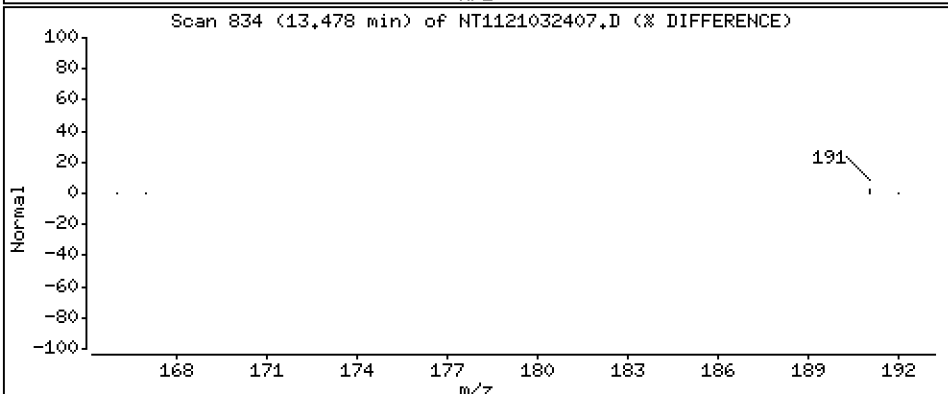
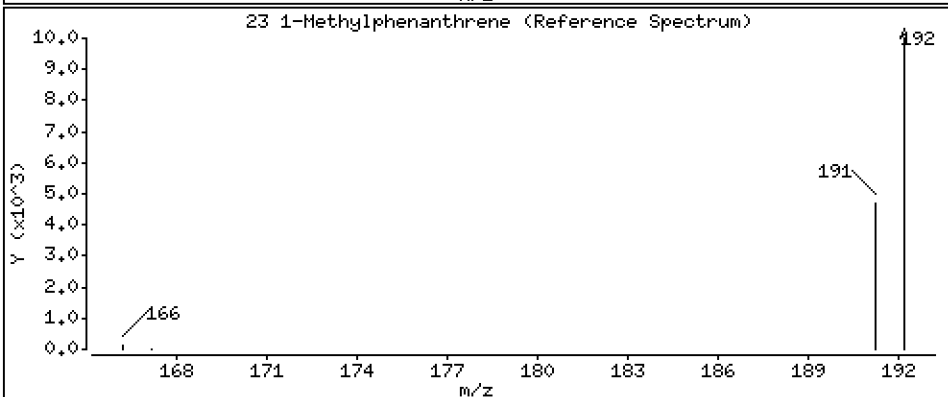
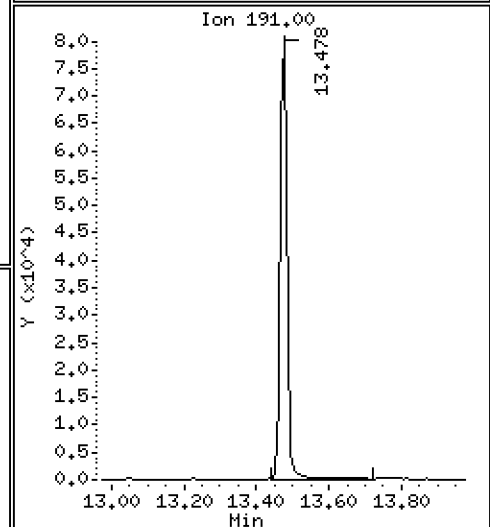
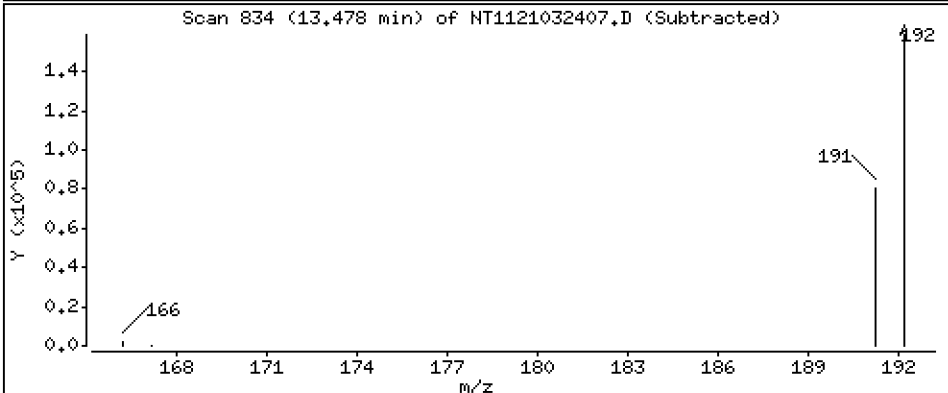
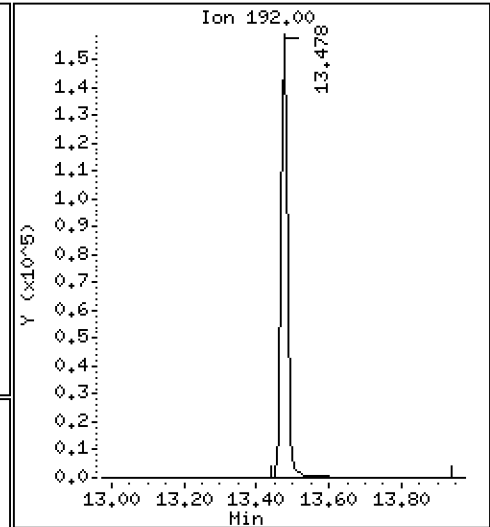
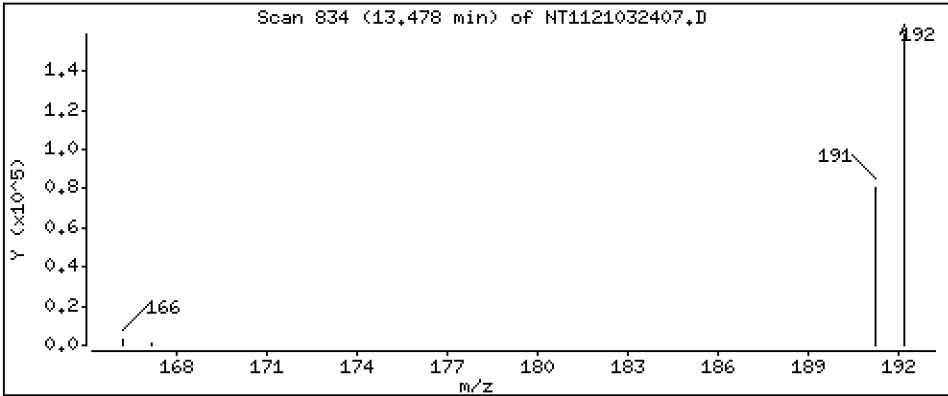
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

23 1-Methylphenanthrene

Concentration: 235 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

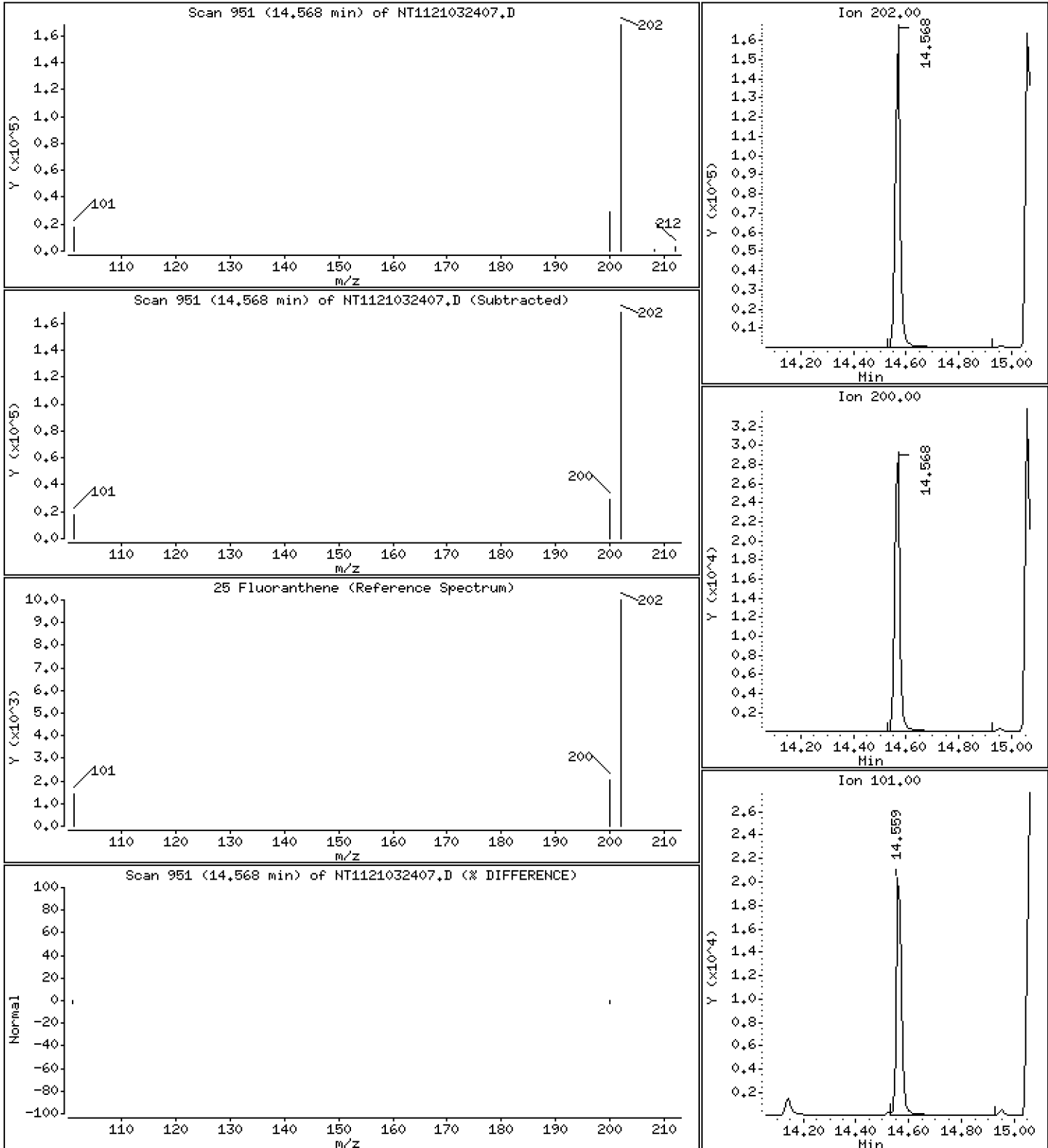
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 235 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

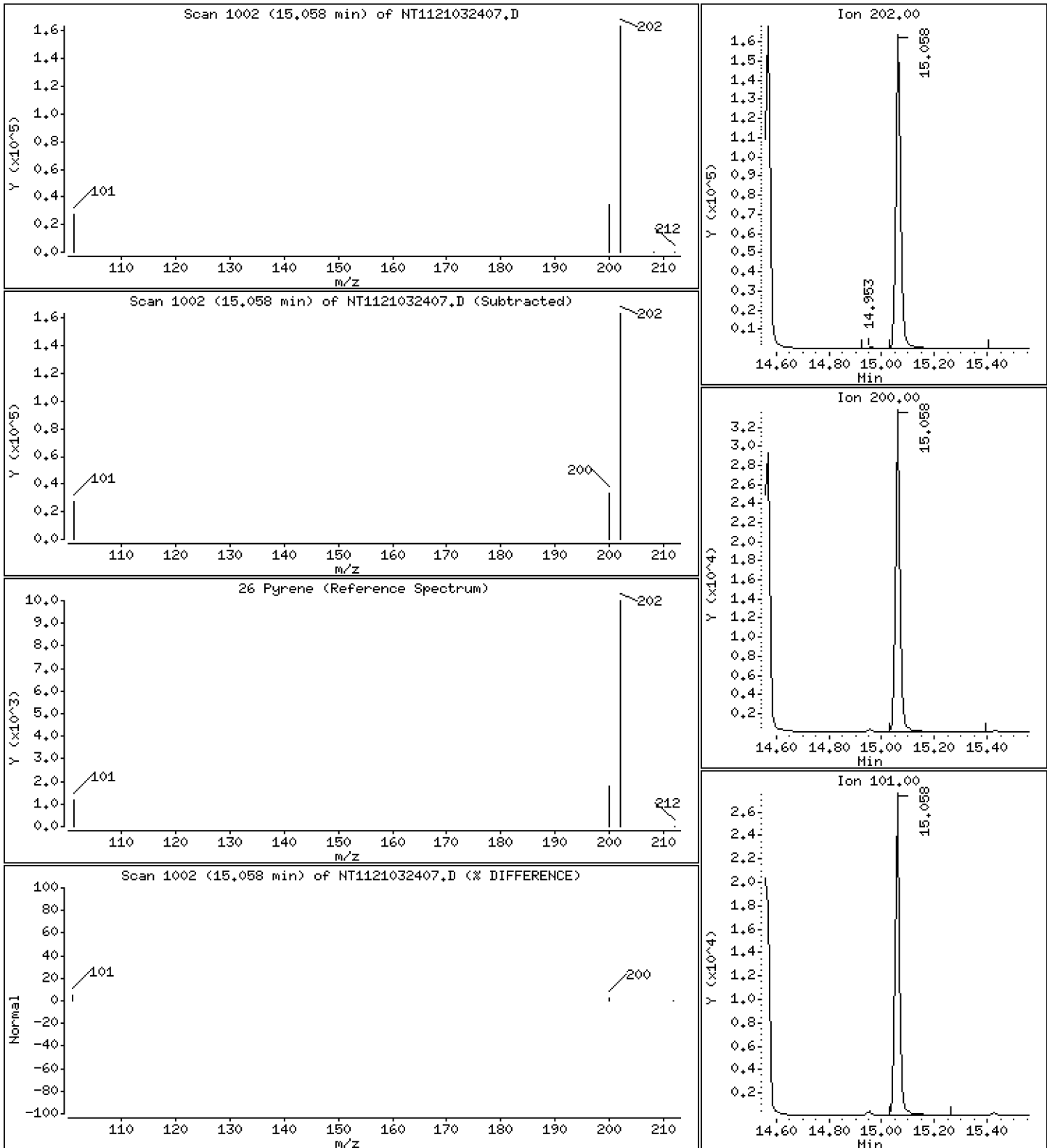
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 235 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

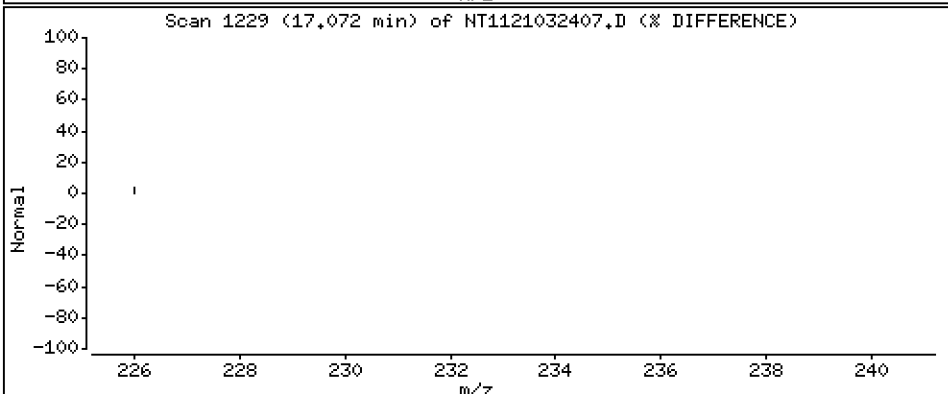
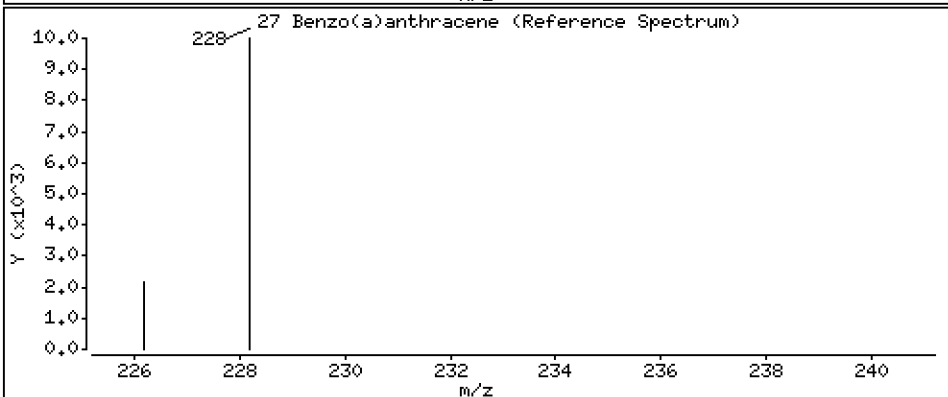
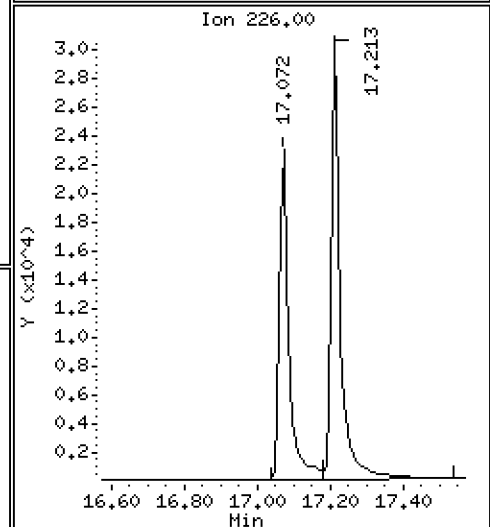
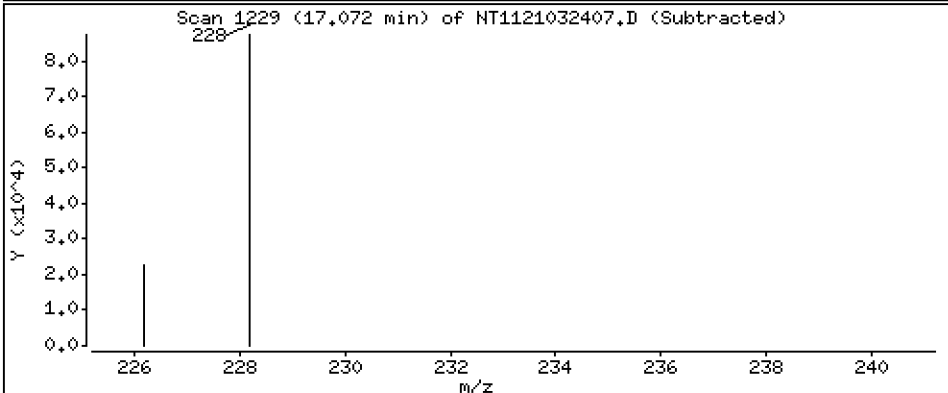
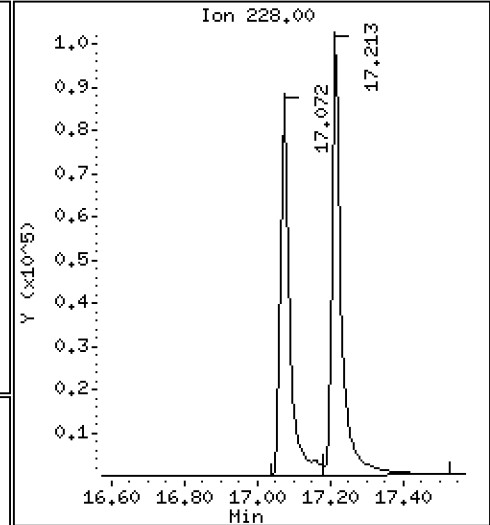
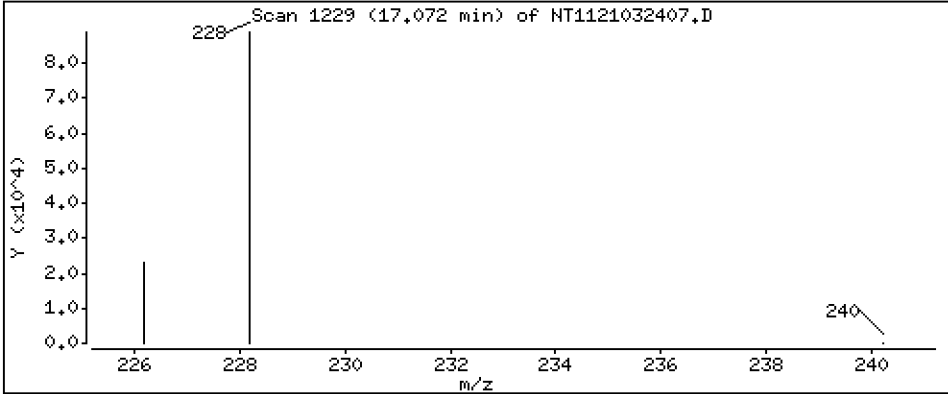
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 219 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

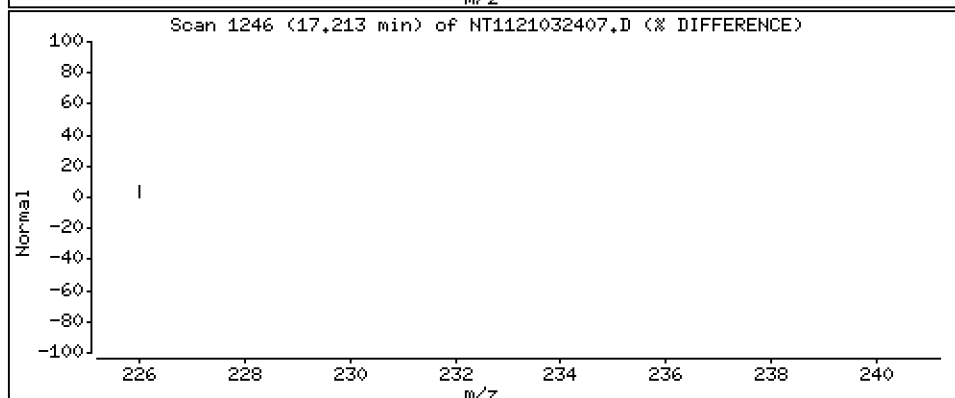
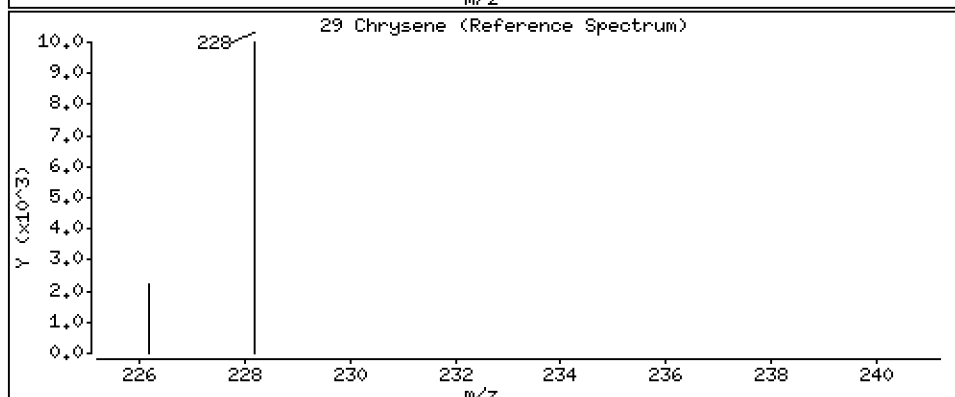
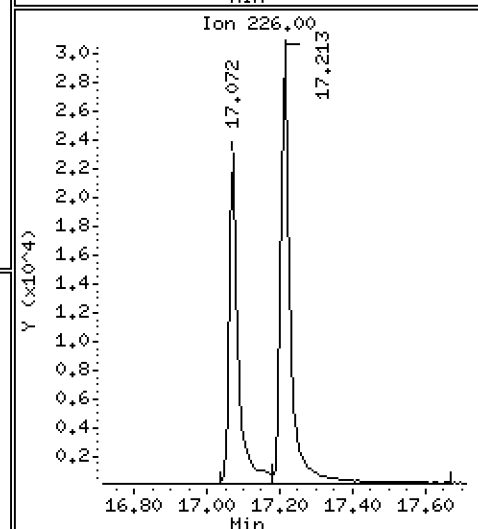
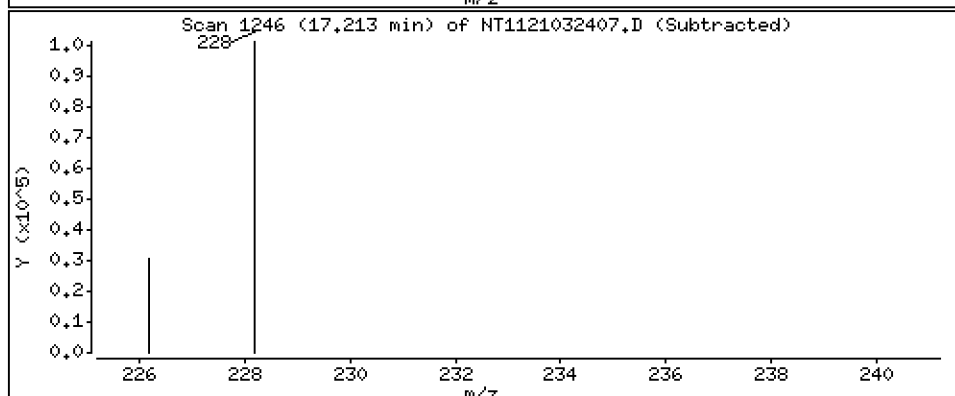
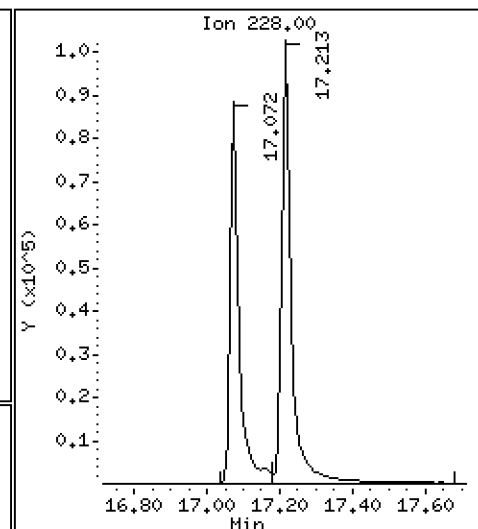
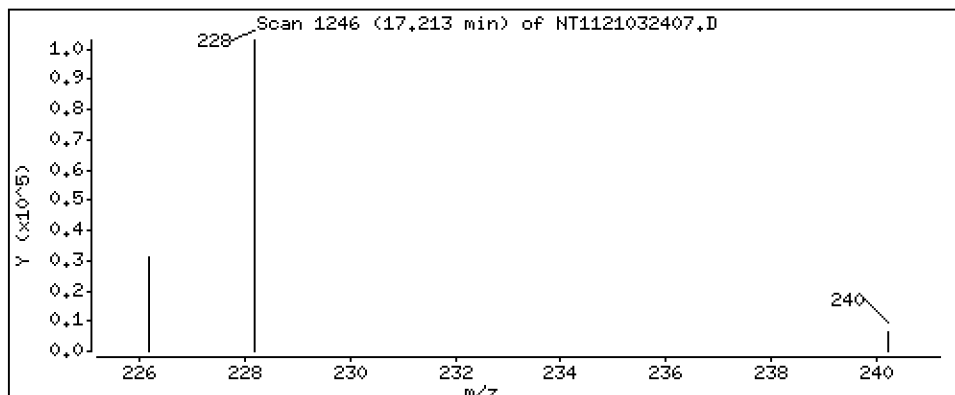
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 237 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

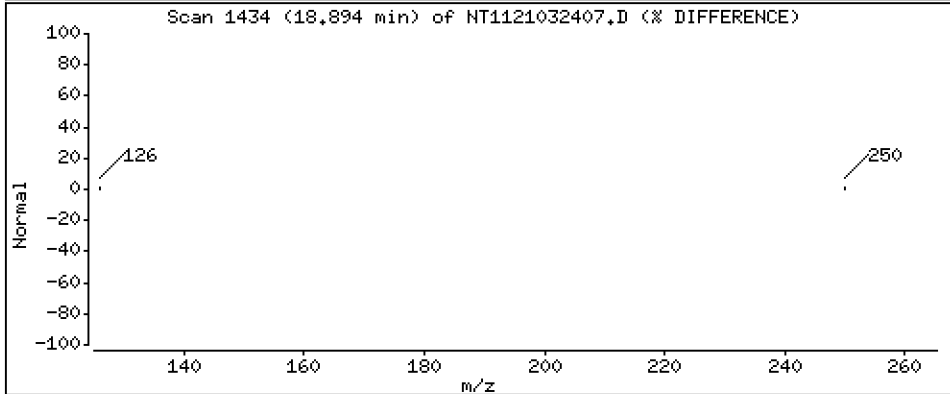
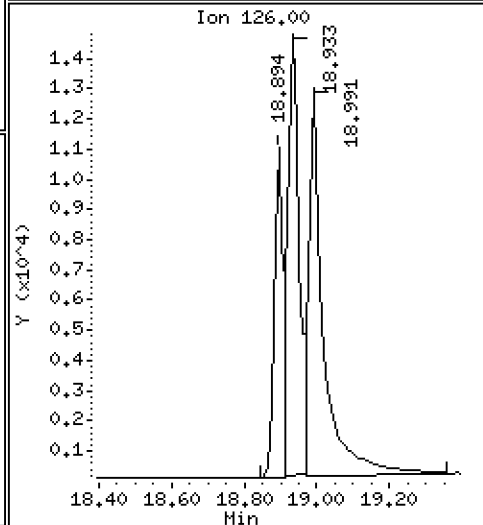
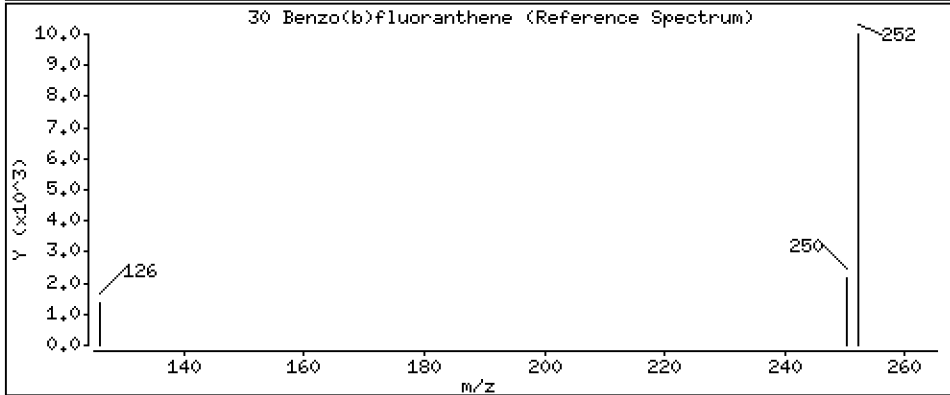
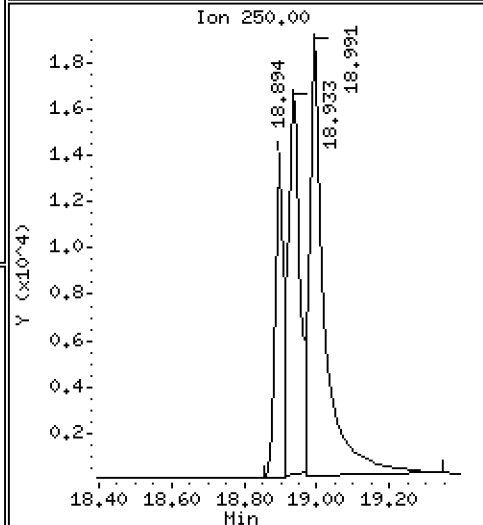
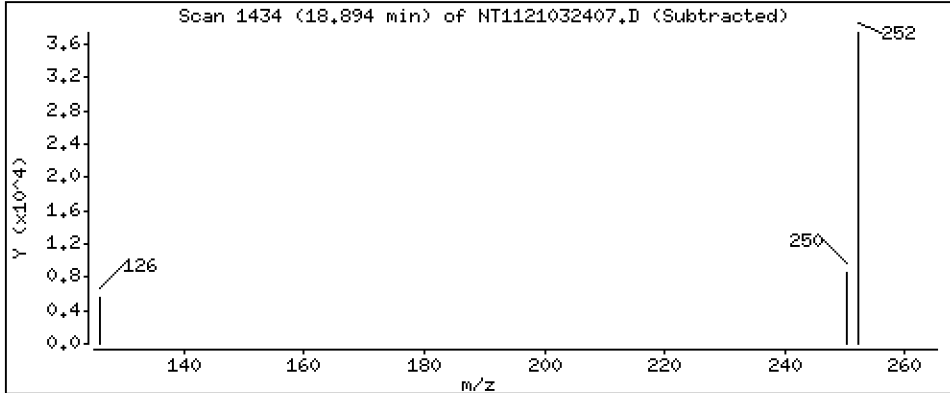
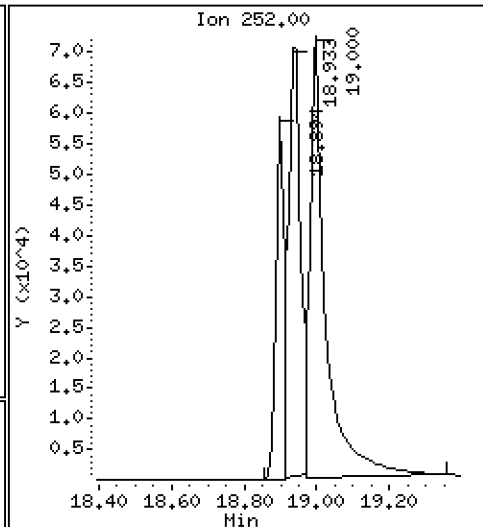
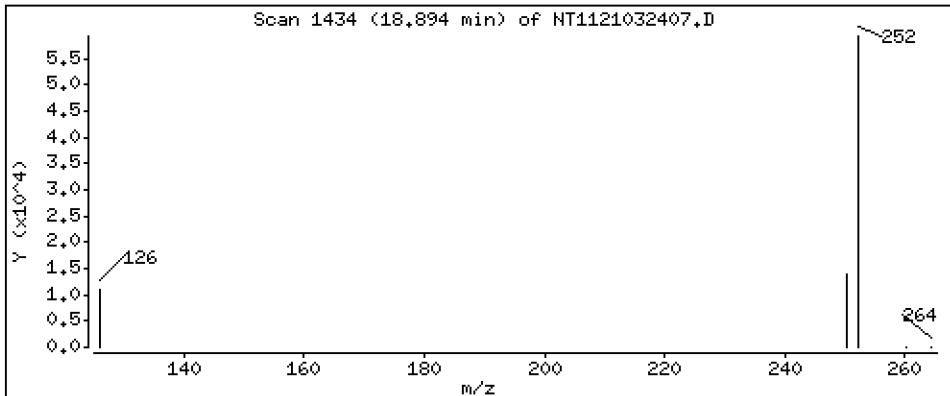
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 185 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

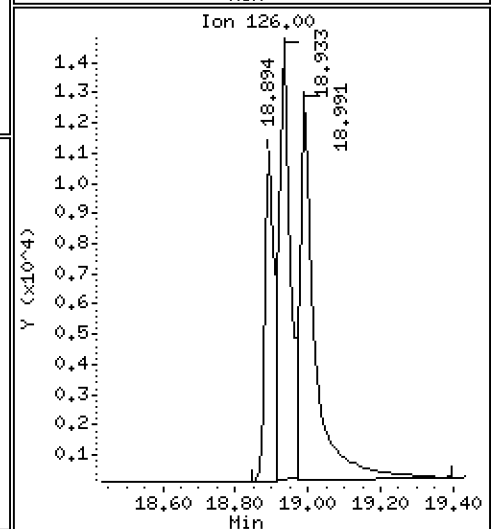
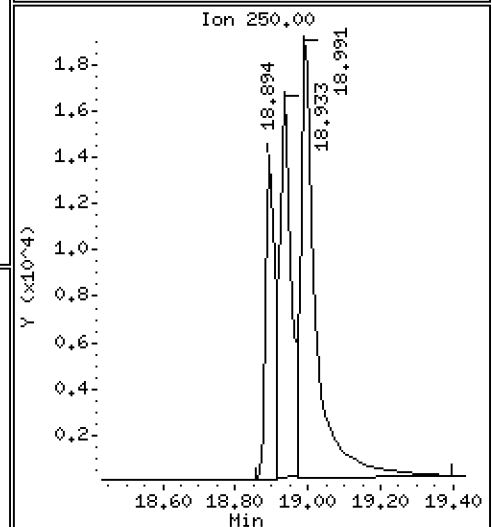
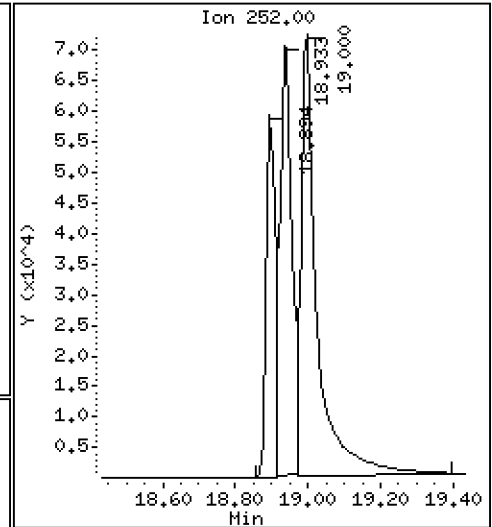
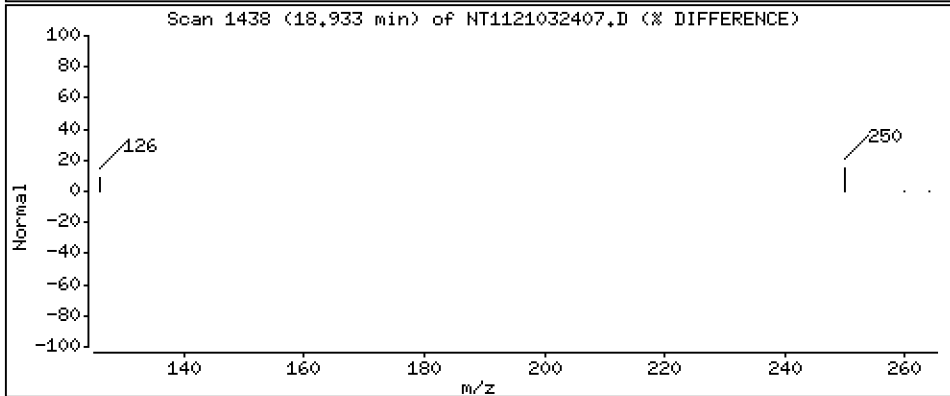
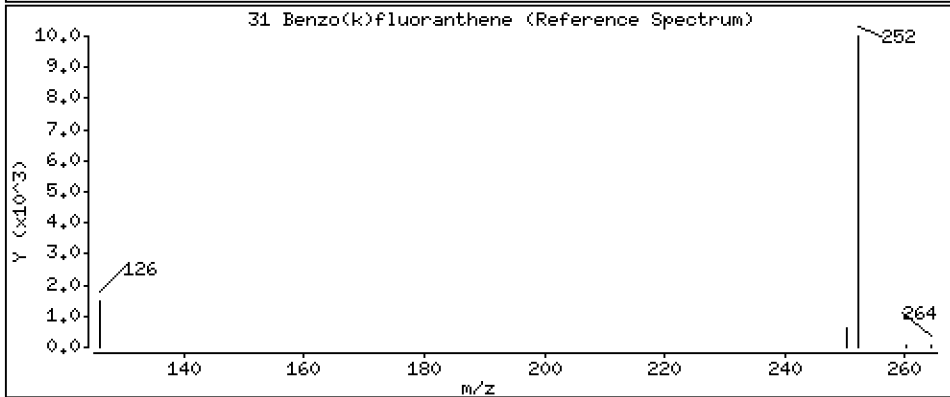
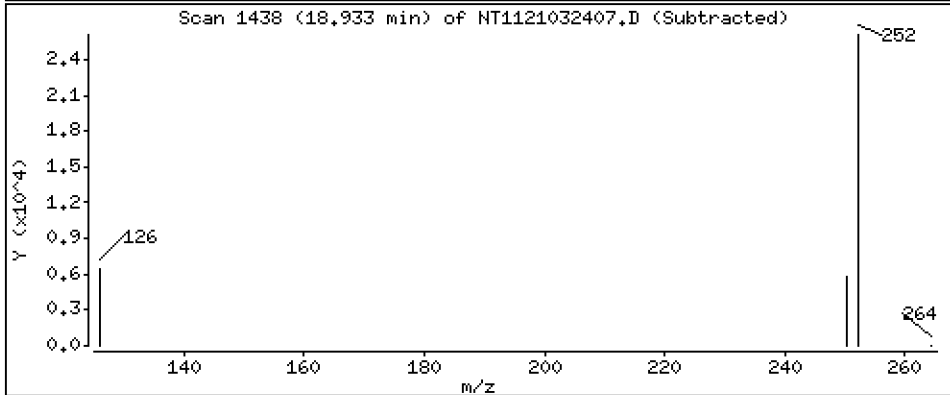
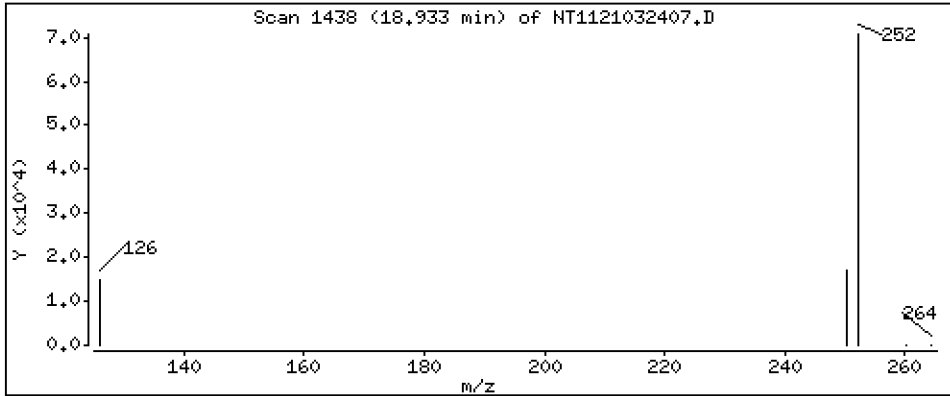
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 247 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

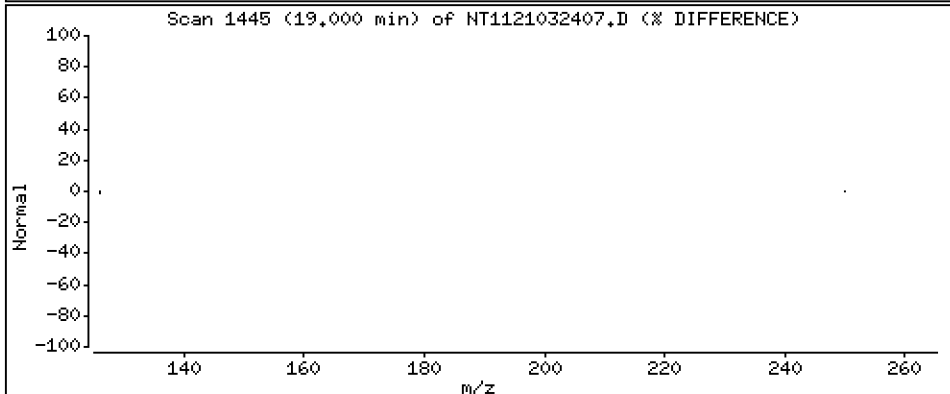
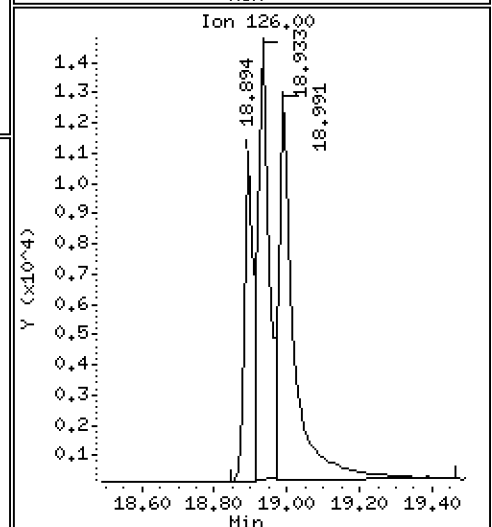
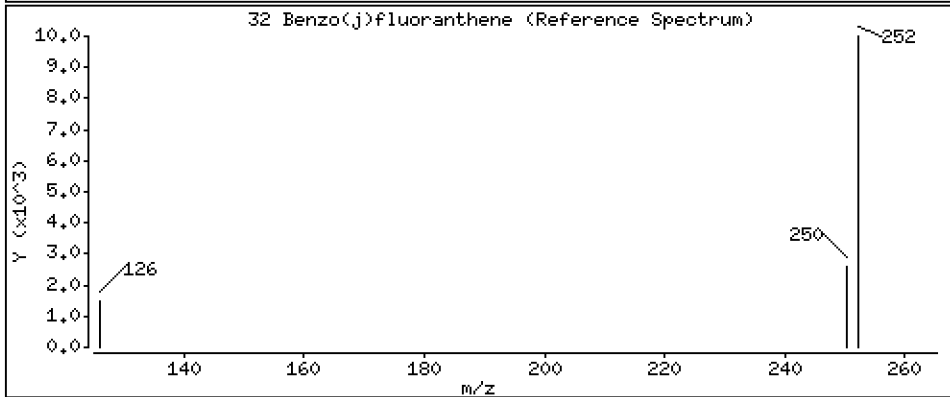
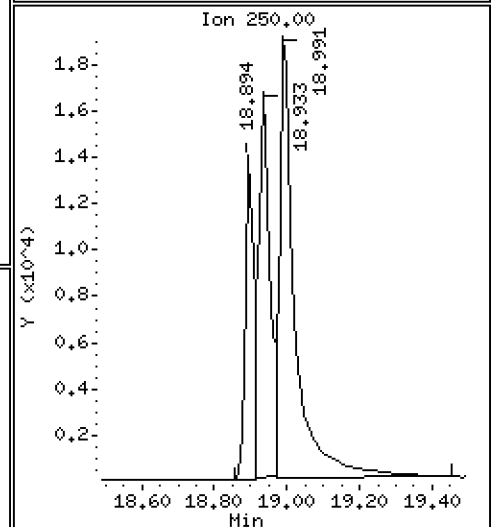
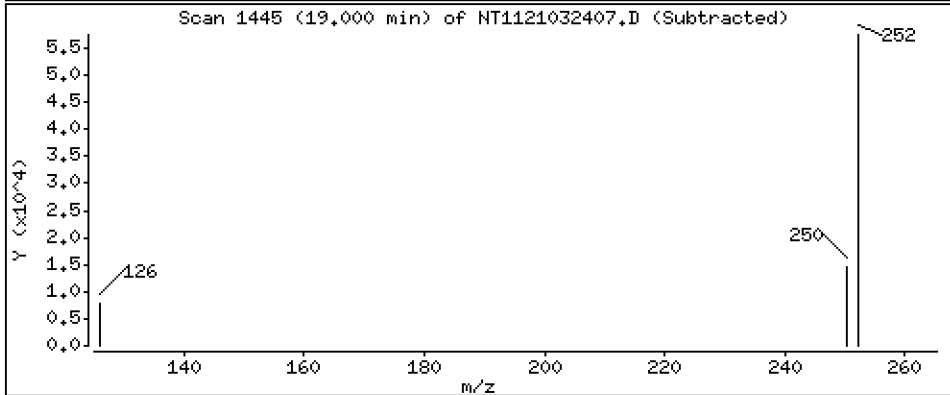
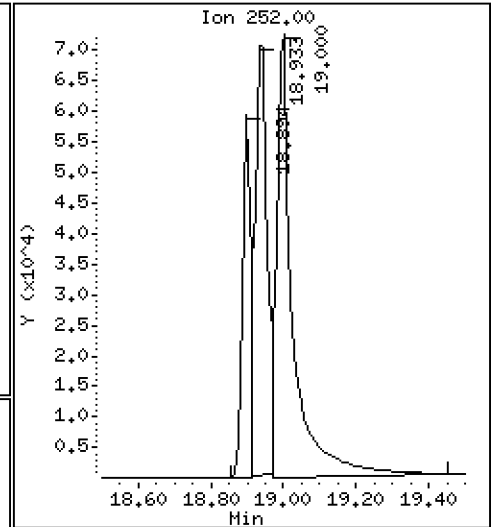
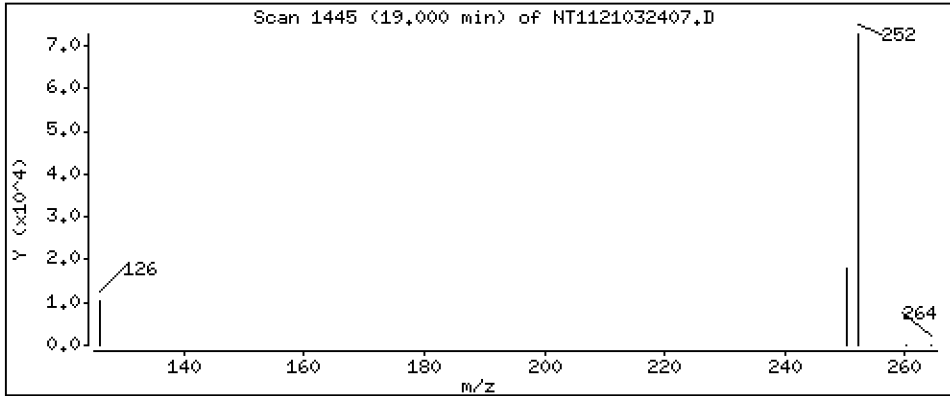
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 292 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

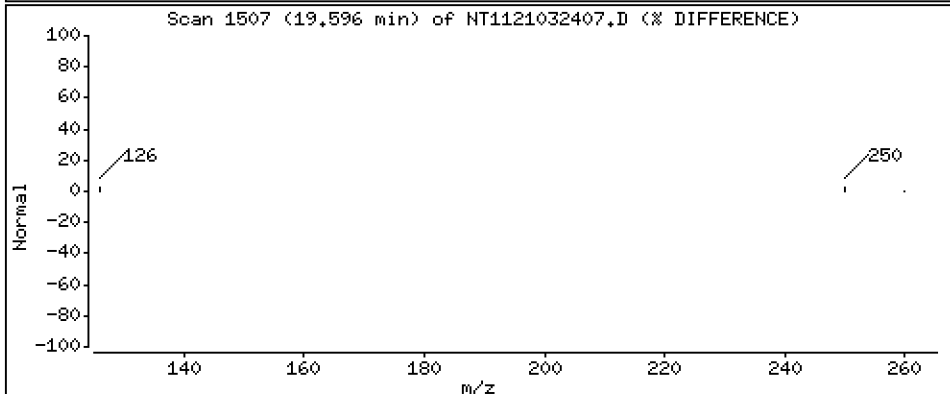
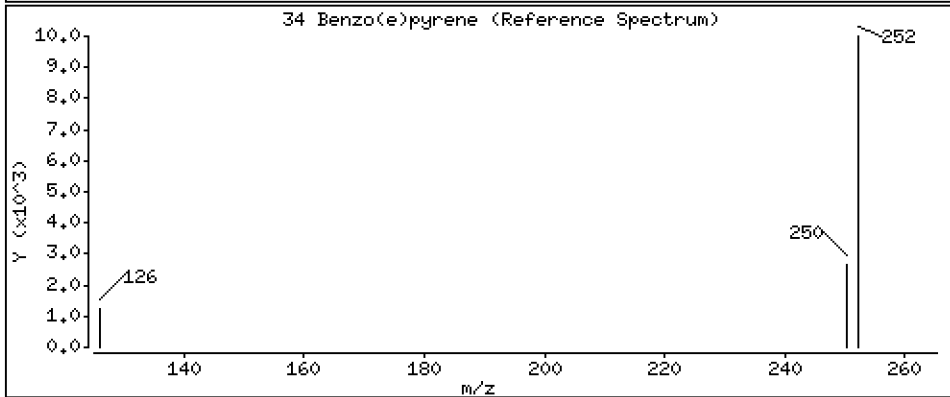
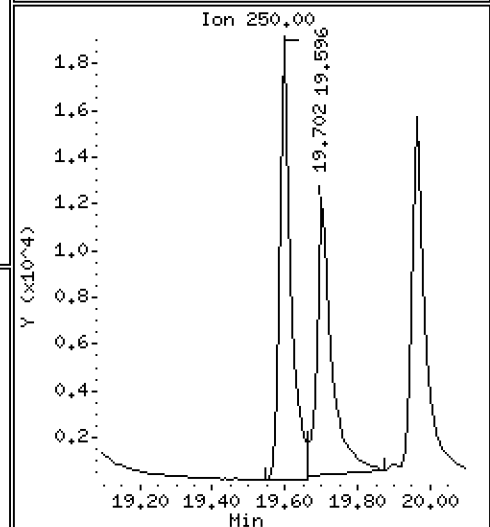
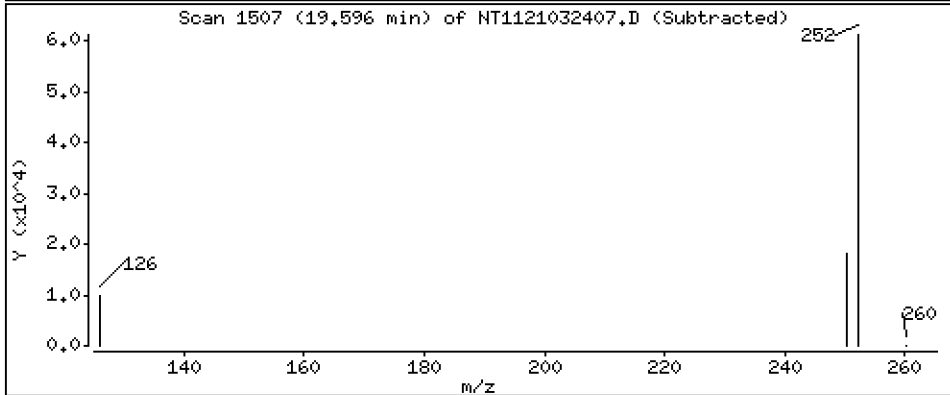
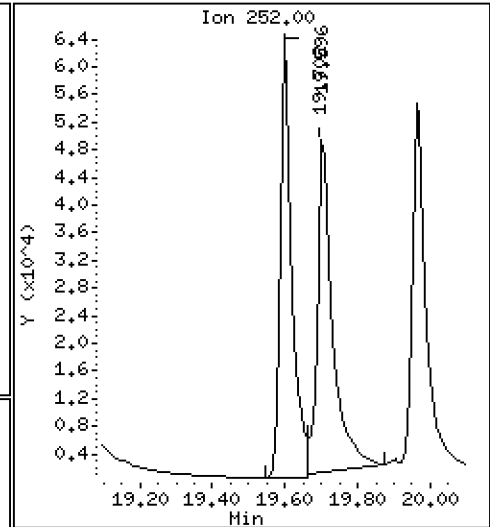
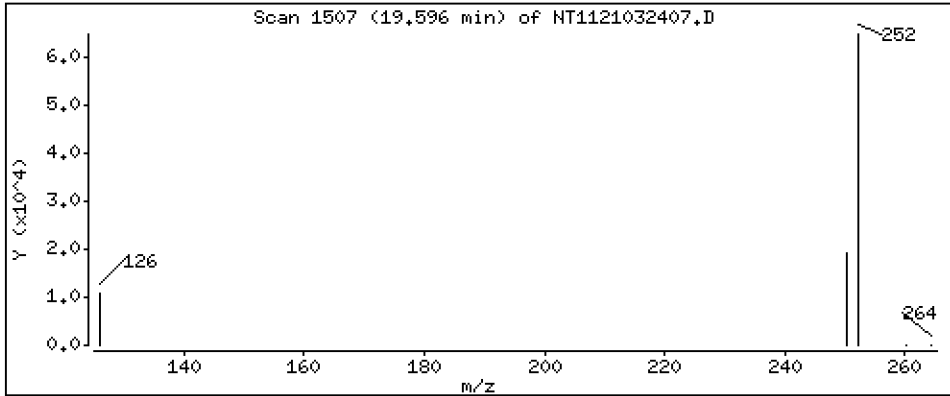
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 233 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

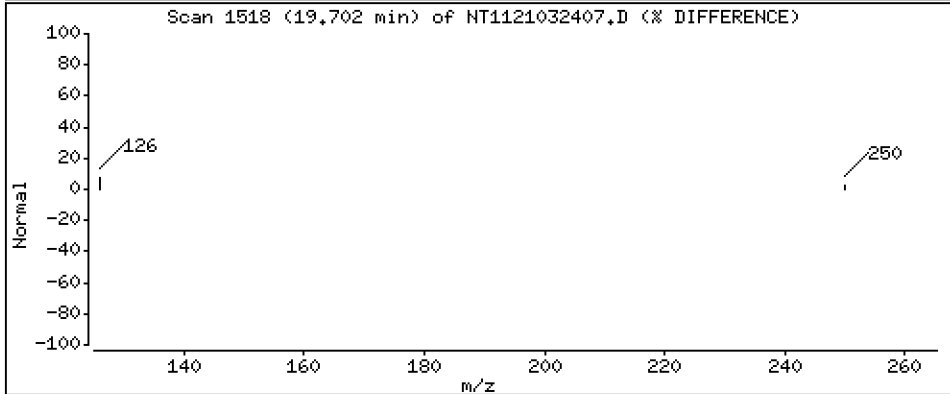
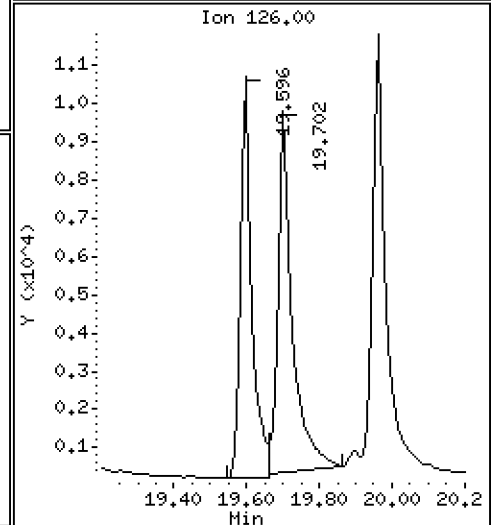
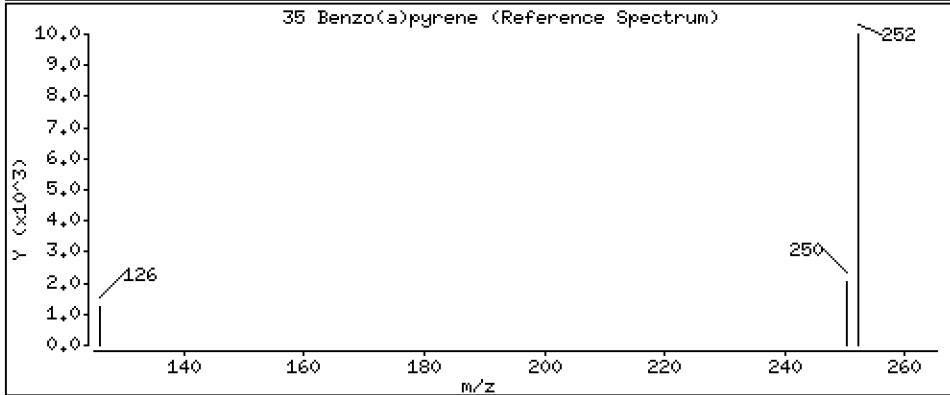
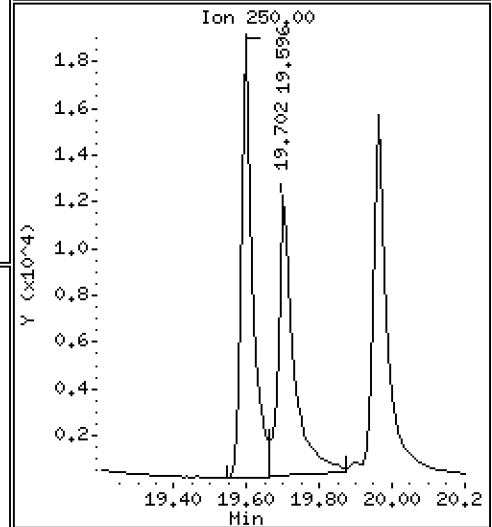
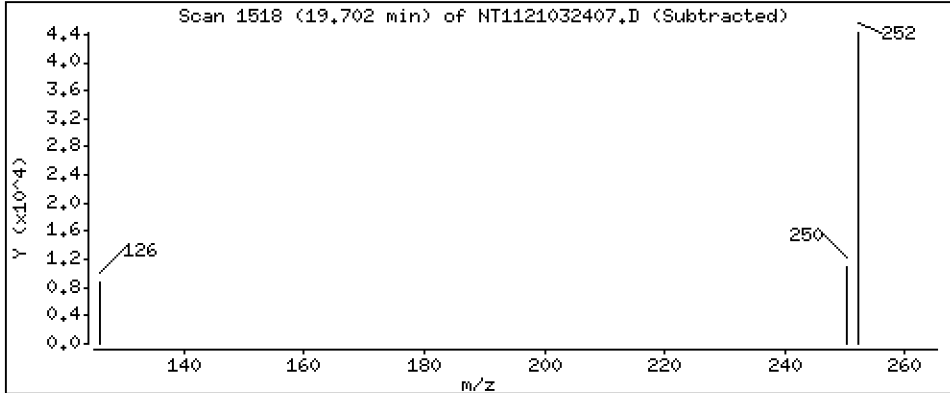
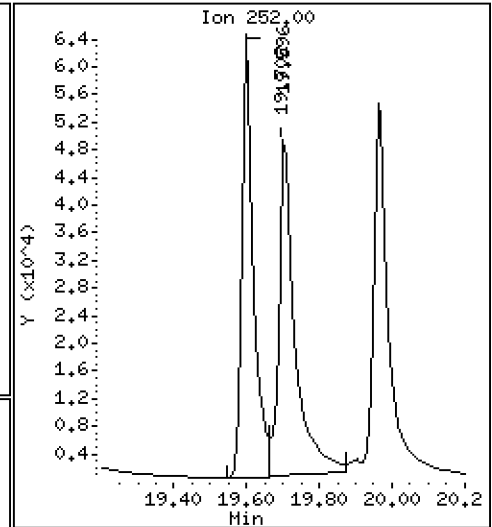
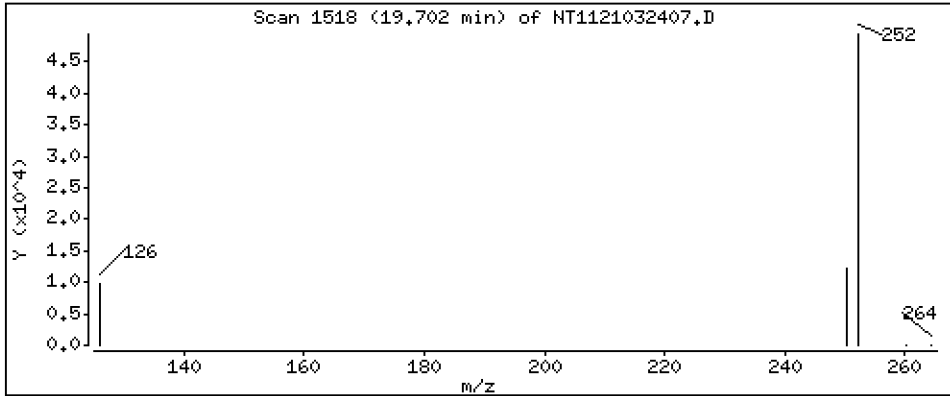
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 257 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

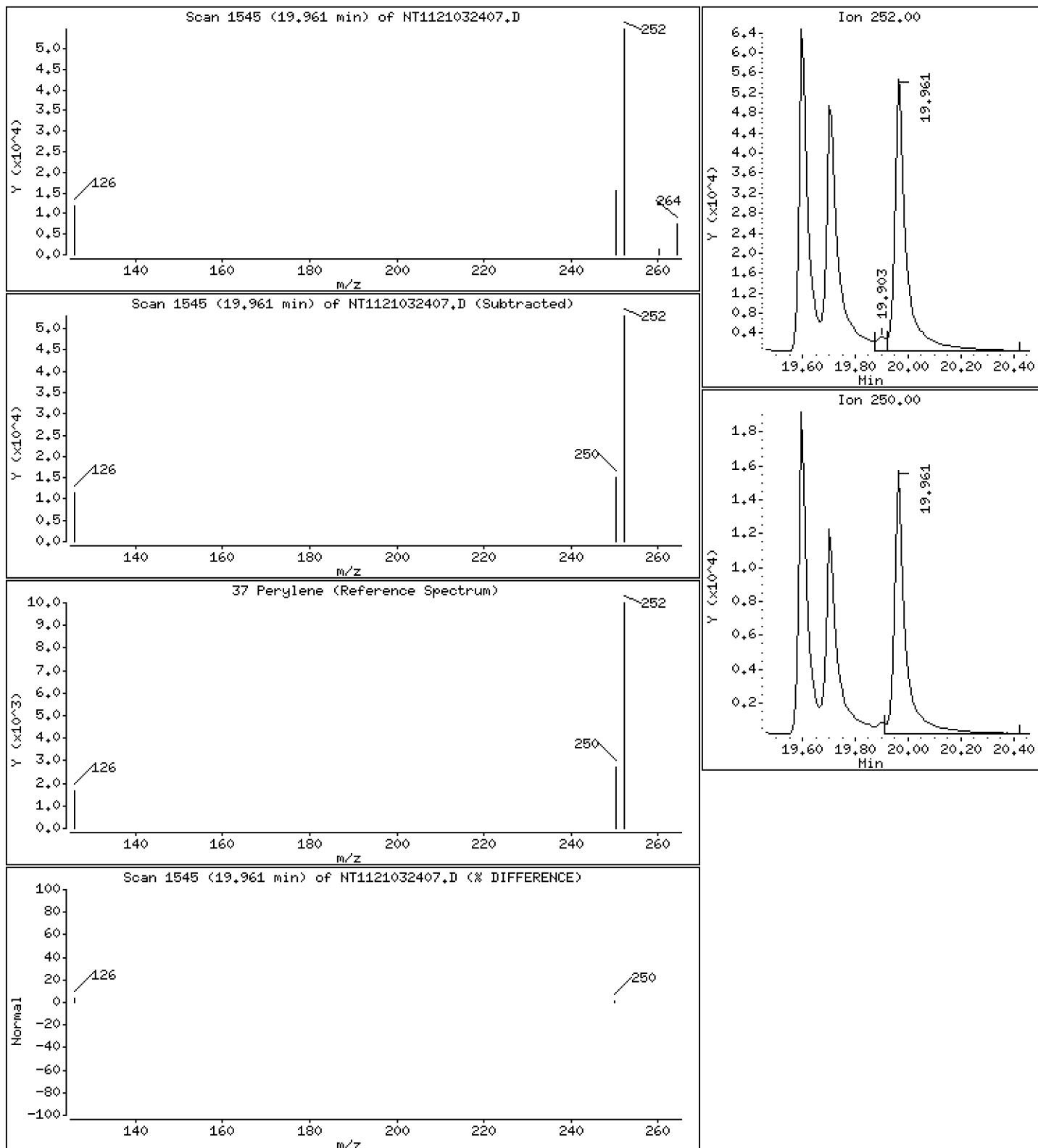
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

37 Perylene

Concentration: 250 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

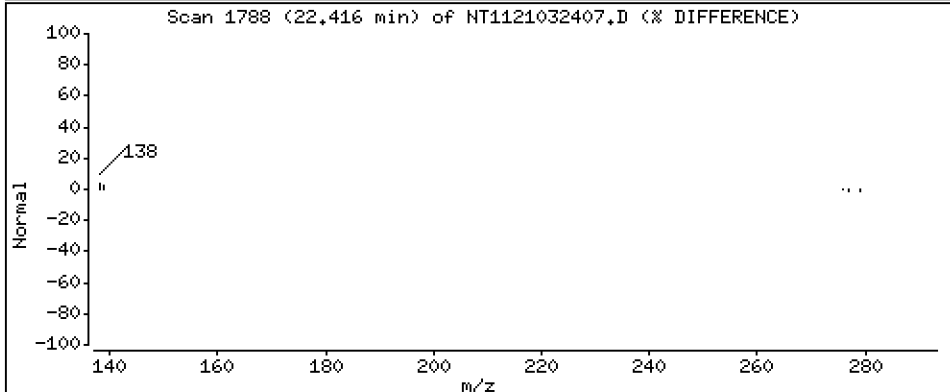
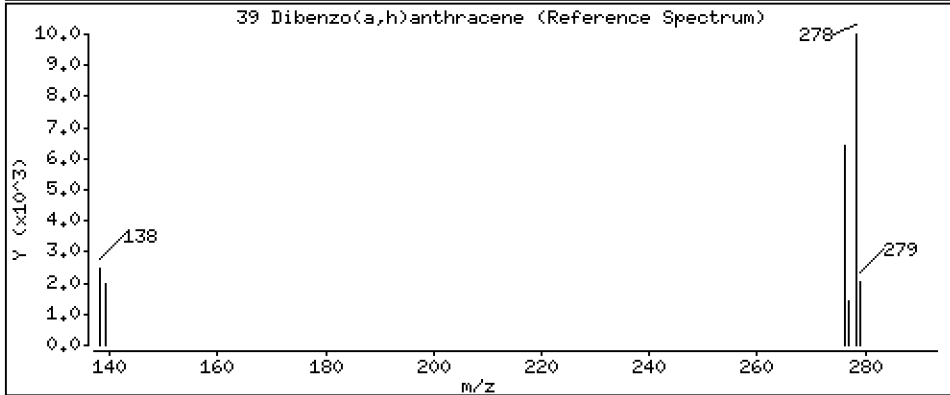
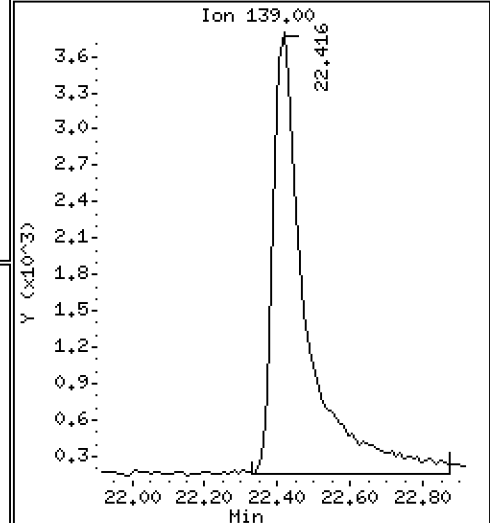
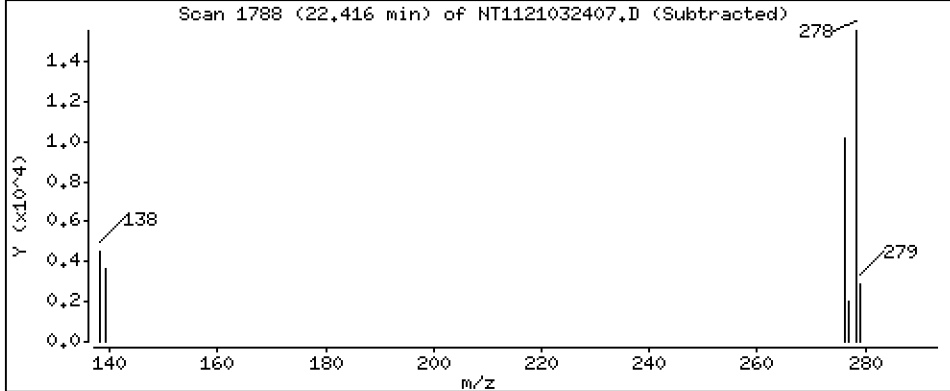
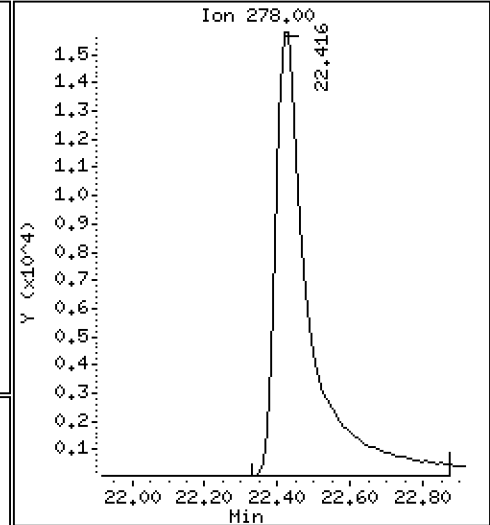
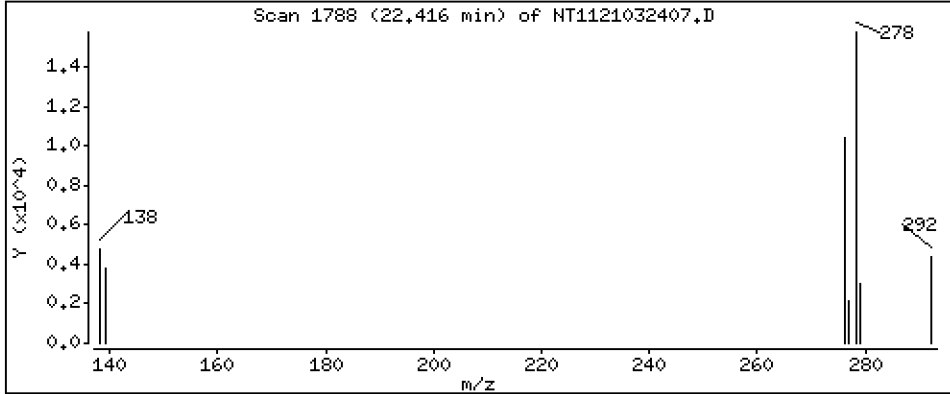
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

39 Dibenzo(a,h)anthracene

Concentration: 209 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

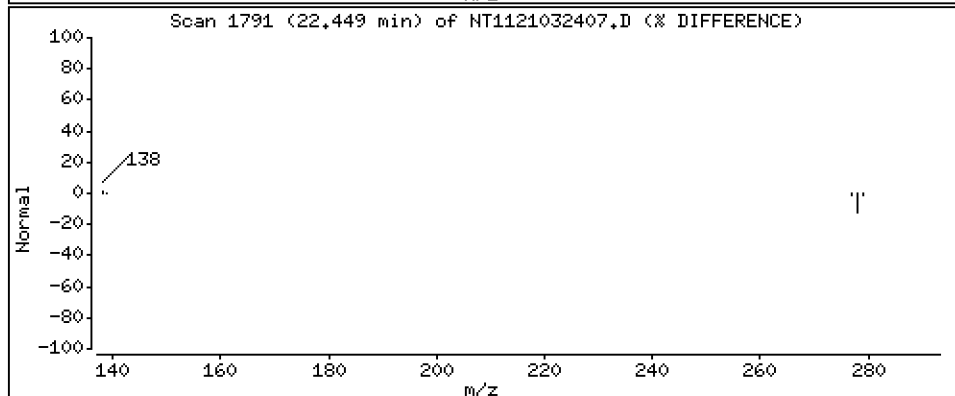
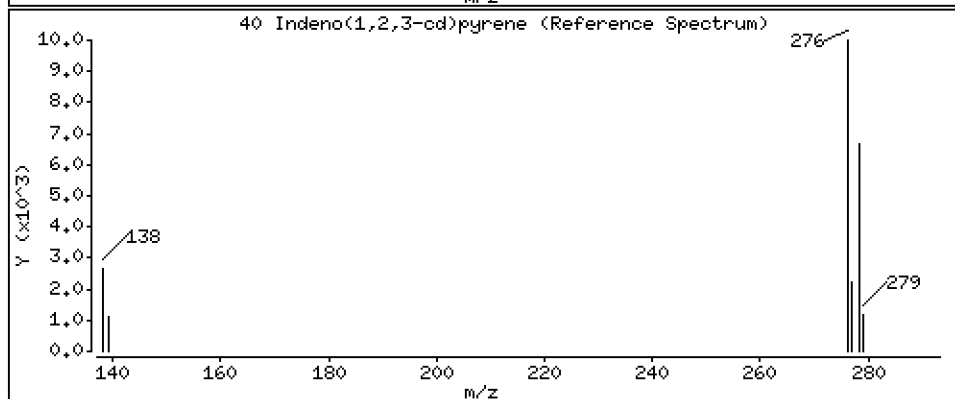
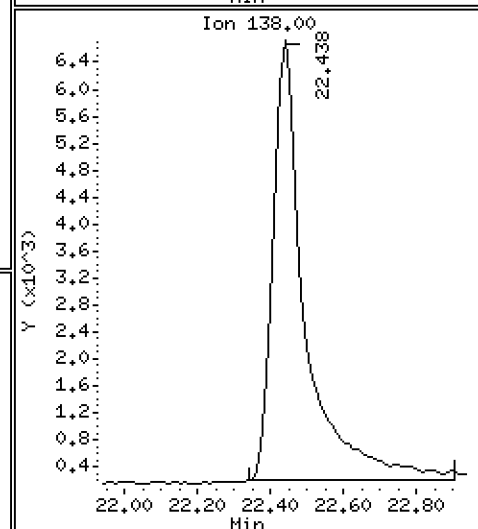
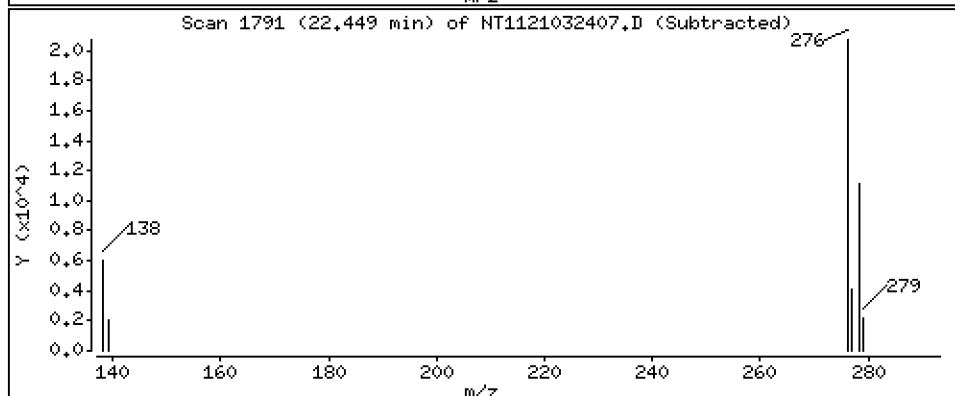
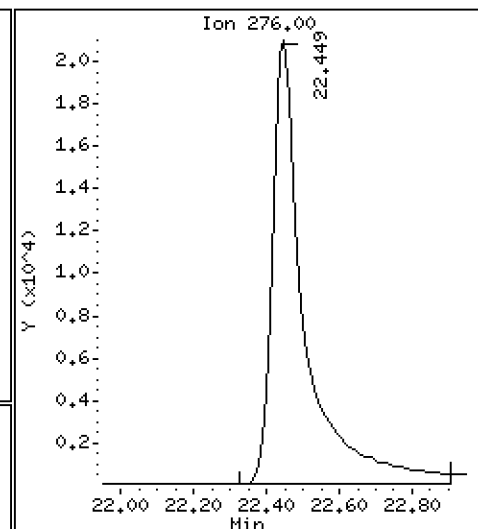
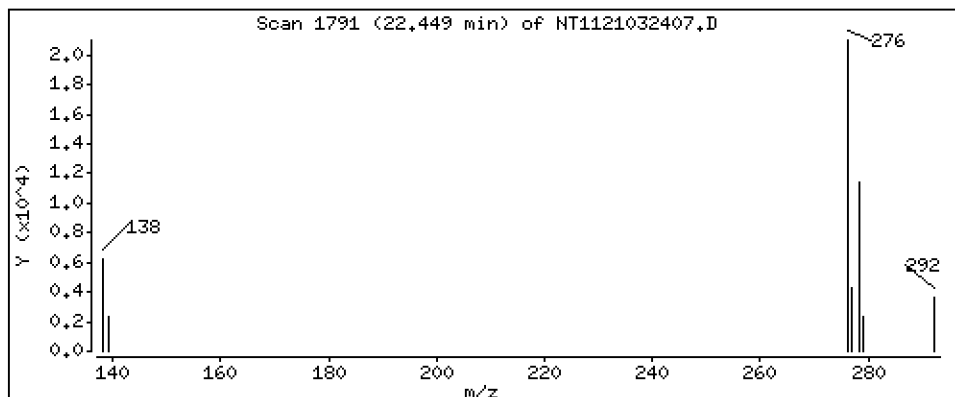
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

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

Concentration: 226 ng/mL



Date : 24-MAR-2021 16:43

Client ID:

Instrument: nt11.i

Sample Info: SJC0391-CCV1

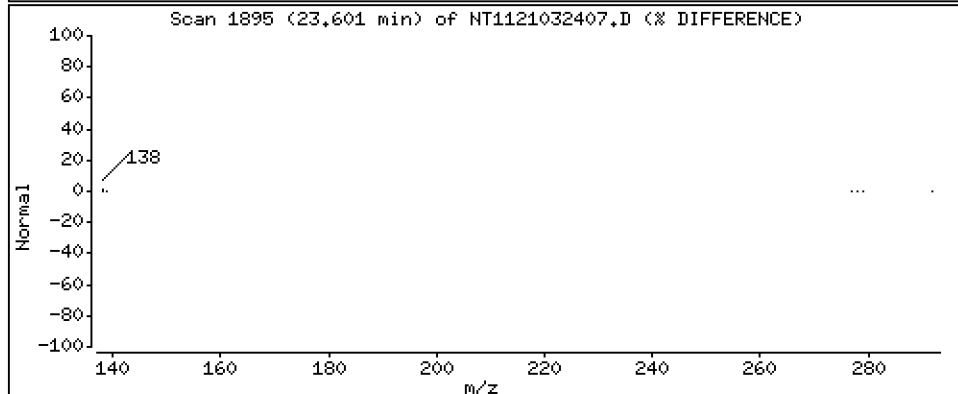
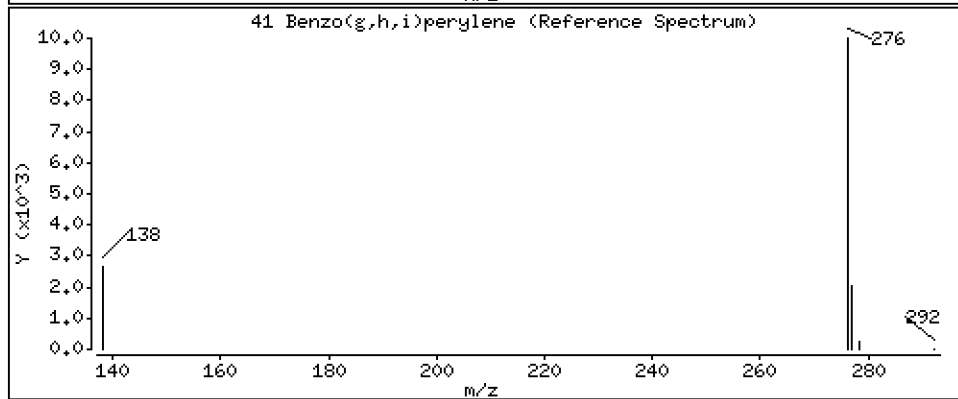
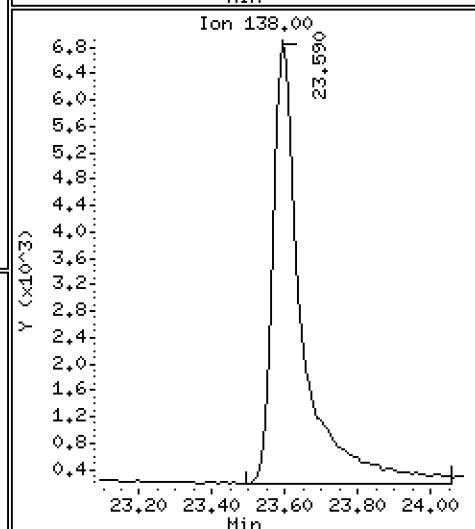
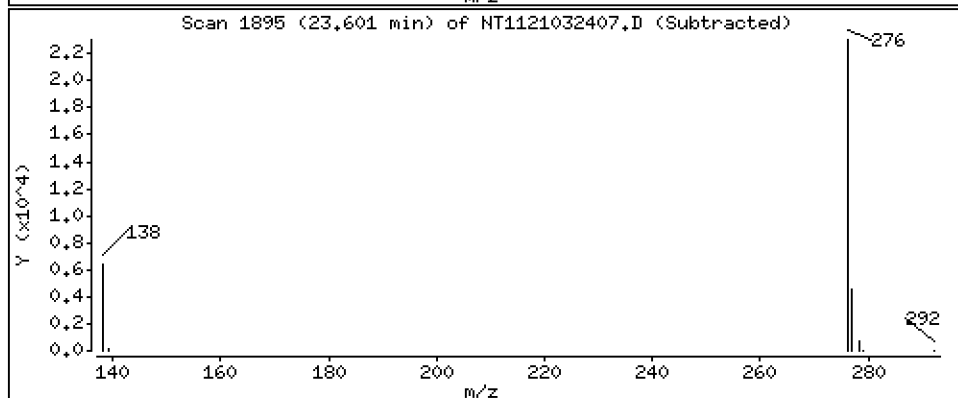
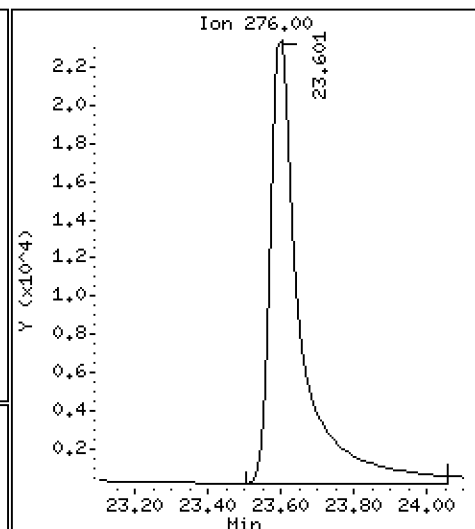
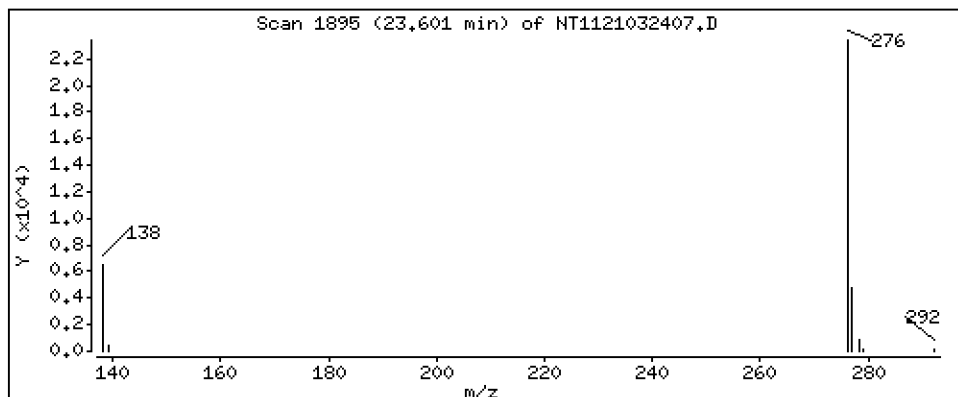
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 233 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20210324.b\NT1121032407.D
 Lab Smp Id: SJC0391-CCV1
 Inj Date : 24-MAR-2021 16:43 MS Autotune Date: 15-JAN-2015 16:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : SJC0391-CCV1
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20210324.b\lowsim.m
 Meth Date : 24-Mar-2021 14:23 van Quant Type: ISTD
 Cal Date : 27-AUG-2020 13:38 Cal File: NT1120082704.D
 Als bottle: 2
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: PAH.sub
 Target Version: 4.14
 Processing Host: VANS-202011

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		6.777	6.777	(1.000)	187593	200.000	
2 Naphthalene	128		6.813	6.813	(1.005)	255077	234.186	234
3 Benzo(b)thiophene	134		7.066	7.066	(1.043)	210969	245.515	246
\$ 4 2-Methylnaphthalene-d10	152		7.749	7.749	(1.143)	176760	234.337	234
5 2-Methylnaphthalene	142		7.801	7.801	(1.151)	207072	235.828	236
6 1-Methylnaphthalene	142		8.053	8.054	(1.188)	198426	243.101	243
7 2-Chloronaphthalene	162		8.705	8.705	(0.891)	182134	211.180	211
8 Biphenyl	154		8.673	8.673	(0.888)	235089	204.721	205
9 2,6-Dimethylnaphthalene	156		8.726	8.726	(0.893)	181384	212.886	213
10 Acenaphthylene	152		9.616	9.625	(0.984)	239002	210.354	210
* 11 Acenaphthene-d10	164		9.770	9.770	(1.000)	99033	200.000	
12 Acenaphthene	153		9.833	9.833	(1.006)	158606	211.065	211
13 Dibenzofuran	168		10.035	10.036	(1.027)	205692	205.057	205
14 2,3,5-Trimethylnaphthalene	170		10.137	10.137	(1.038)	132069	214.061	214
16 Fluorene	166		10.655	10.655	(1.091)	165135	213.717	214
17 Dibenzothiophene	184		12.271	12.271	(0.986)	189680	234.249	234
* 18 Phenanthrene-d10	188		12.439	12.439	(1.000)	146259	200.000	
19 Phenanthrene	178		12.481	12.481	(1.003)	219080	228.978	229
21 Anthracene	178		12.533	12.534	(1.008)	229203	239.758	240
22 Carbazole	167		13.215	13.216	(1.062)	229721	225.511	226
23 1-Methylphenanthrene	192		13.477	13.478	(1.084)	198468	234.832	235
\$ 24 Fluoranthene-d10	212		14.529	14.530	(1.168)	175467	228.828	229
25 Fluoranthene	202		14.568	14.568	(1.171)	224153	234.989	235
26 Pyrene	202		15.058	15.058	(1.211)	229704	234.726	235
27 Benzo(a)anthracene	228		17.072	17.072	(0.995)	156968	218.749	219
* 28 Chrysene-d12	240		17.163	17.163	(1.000)	97685	200.000	
29 Chrysene	228		17.213	17.213	(1.003)	191164	236.594	237
30 Benzo(b)fluoranthene	252		18.894	18.894	(0.949)	103853	184.930	185
31 Benzo(k)fluoranthene	252		18.932	18.933	(0.951)	182248	246.979	247
32 Benzo(j)fluoranthene	252		19.000	19.000	(0.955)	233171	292.399	292
34 Benzo(e)pyrene	252		19.595	19.596	(0.985)	147946	232.639	233
35 Benzo(a)pyrene	252		19.701	19.701	(0.990)	150712	256.957	257
* 36 Perylene-d12	264		19.903	19.903	(1.000)	103173	200.000	

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
37 Perylene	252		19.961	19.961	(1.003)	166878	249.729	250
\$ 38 Dibenzo(a,h)anthracene-d14	292		22.305	22.305	(1.121)	78172	194.221	194
39 Dibenzo(a,h)anthracene	278		22.416	22.416	(1.126)	100883	208.694	209
40 Indeno(1,2,3-cd)pyrene	276		22.449	22.449	(1.128)	128918	226.340	226
41 Benzo(g,h,i)perylene	276		23.601	23.601	(1.186)	132923	233.405	233

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 24-MAR-2021
 Lab File ID: NT1121032407.D Calibration Time: 13:25
 Lab Smp Id: SJC0391-CCV1
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20210324.b\lowsim.m
 Misc Info:

Test Mode:
 Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	211546	105773	423092	187593	-11.32
11 Acenaphthene-d10	115033	57517	230066	99033	-13.91
18 Phenanthrene-d10	167782	83891	335564	146259	-12.83
28 Chrysene-d12	125684	62842	251368	97685	-22.28
36 Perylene-d12	145995	72998	291990	103173	-29.33

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	6.78	6.28	7.28	6.78	-0.00
11 Acenaphthene-d10	9.77	9.27	10.27	9.77	-0.00
18 Phenanthrene-d10	12.44	11.94	12.94	12.44	-0.00
28 Chrysene-d12	17.16	16.66	17.66	17.16	-0.00
36 Perylene-d12	19.90	19.40	20.40	19.90	-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 - NT1121032407.D

Lab ID: SJC0391-CCV1

nt11.i, 20210324.b\lowsim.m, 24-MAR-2021 16:43

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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NONE

RRT check based on Ccal File: NT1121032402.D

On Column LOD for nt11.i, 20210324.b\lowsim.m, PAH.sub = 0.0000

Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000

Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000

Exception: Fluoranthene-d10 (Surr) 0.1000

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



ANALYSIS SEQUENCE

SIH0304

Instrument: NT11 Element Column ID: I005862
 Calibration ID: DH00073 Tune File: 190904.U
 EM Voltage: 1247

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SIH0304-TUN1	DFTPP	QC		1	1007631		
SIH0304-CAL4	PAH 250	QC		2	1004578	1002616	
SIH0304-CAL6	PAH 1000	QC		3	1004580	1002616	
SIH0304-CAL1	PAH 10	QC		4	1004575	1002616	
SIH0304-CAL5	PAH 500	QC		5	1004579	1002616	
SIH0304-CAL2	PAH 50	QC		6	1004576	1002616	
SIH0304-CAL3	PAH 100	QC		7	1004577	1002616	
SIH0304-SCV1	PAH 250 SCV	QC		8	1004581	1002616	
SIH0304-ICB1	Initial Cal Blank	QC		9	1007632	1002616	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20200827.b

Instrument: nt11.i Date: 27-AUG-2020

Time	Filename	LabID	DF	Manually Integrated	Compounds
1220	NT1120082701.D	SIH0304-TUN1	1	NO MANUAL INTEGRATION	
1235	NT1120082702.D	SIH0304-CAL4	1	NO MANUAL INTEGRATION	
1307	NT1120082703.D	SIH0304-CAL6	1	NO MANUAL INTEGRATION	
1338	NT1120082704.D	SIH0304-CAL1	1	Dibenzc(a,h)anthracene-cl14,	
1408	NT1120082705.D	SIH0304-CAL5	1	NO MANUAL INTEGRATION	
1438	NT1120082706.D	SIH0304-CAL2	1	NO MANUAL INTEGRATION	
1508	NT1120082707.D	SIH0304-CAL3	1	NO MANUAL INTEGRATION	
1538	NT1120082708.D	SIH0304-SCV1	1	NO MANUAL INTEGRATION	
1609	NT1120082709.D	SIH0304-ICB1	1	NO MANUAL INTEGRATION	

Security Status Report

Date: 28-Aug-2020 09:31

NT1120082701.D	Data Locked	van,	28-Aug-2020	09:31
NT1120082702.D	Data Locked	van,	28-Aug-2020	09:31
NT1120082703.D	Data Locked	van,	28-Aug-2020	09:31
NT1120082704.D	Data Locked	van,	28-Aug-2020	09:31
NT1120082705.D	Data Locked	van,	28-Aug-2020	09:31
NT1120082706.D	Data Locked	van,	28-Aug-2020	09:31
NT1120082707.D	Data Locked	van,	28-Aug-2020	09:31
NT1120082708.D	Data Locked	van,	28-Aug-2020	09:31
NT1120082709.D	Data Locked	van,	28-Aug-2020	09:31



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270E-SIM

Laboratory: Analytical Resources, Inc. SDG: 21C0175
Client: Anchor QEA, LLC Project: GascoSiltronic: US Moorings
Sequence: SIL0206 Instrument: NT8
Calibration: DL00046

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SIL0206-TUN1	NT820121501.D	NA	12/15/20 09:35
Initial Cal Blank	SIL0206-ICB1	NT820121502.D	NA	12/15/20 09:54
SIM TBT	SIL0206-CAL4	NT820121503.D	NA	12/15/20 10:10
SIM TBT	SIL0206-CAL1	NT820121504.D	NA	12/15/20 10:27
SIM TBT	SIL0206-CAL2	NT820121505.D	NA	12/15/20 10:43
SIM TBT	SIL0206-CAL3	NT820121506.D	NA	12/15/20 11:00
SIM TBT	SIL0206-CAL5	NT820121507.D	NA	12/15/20 11:16
SIM TBT	SIL0206-CAL6	NT820121508.D	NA	12/15/20 11:33
SIM TBT	SIL0206-SCV1	NT820121509.D	NA	12/15/20 11:49



ANALYSIS SEQUENCE

SIL0206

Instrument: NT8 Element Column ID: I008812
 Calibration ID: DL00046 Tune File: 200729.U
 EM Voltage: 1965

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SIL0206-TUN1	MS Tune	QC		1	1007631		
SIL0206-ICB1	Initial Cal Blank	QC		2		1011478	
SIL0206-CAL1	SIM TBT	QC		3	1006650	1011478	
SIL0206-CAL2	SIM TBT	QC		4	1006651	1011478	
SIL0206-CAL3	SIM TBT	QC		5	1006652	1011478	
SIL0206-CAL4	SIM TBT	QC		6	1006653	1011478	
SIL0206-CAL5	SIM TBT	QC		7	1006654	1011478	
SIL0206-CAL6	SIM TBT	QC		8	1006655	1011478	
SIL0206-SCV1	SIM TBT	QC		9	1011506	1011478	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20201215.b

Time	Filename	LabID	ClientID	DF	
1 0935	NT820121501.D	SIL0206-TUN1		1	NO ISTDs FOUND
2 0954	NT820121502.D	SIL0206-ICB1		1	6.06 68323 8.64 77549
3 1010	NT820121503.D	SIL0206-CAL4		1	6.05 72645 8.63 65742
4 1027	NT820121504.D	SIL0206-CAL1		1	6.05 65633 8.63 62059
5 1043	NT820121505.D	SIL0206-CAL2		1	6.05 69375 8.63 66230
6 1100	NT820121506.D	SIL0206-CAL3		1	6.05 72629 8.63 67052
7 1116	NT820121507.D	SIL0206-CAL5		1	6.05 72419 8.63 64465
8 1133	NT820121508.D	SIL0206-CAL6		1	6.05 80315 8.63 67459
9 1149	NT820121509.D	SIL0206-SCV1		1	6.05 78512 8.63 69992

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20201215.b

ARI Job No.: SILO Method: TBT201215.m Instrument: nt8.i Date: 15-DEC-2020

Time	Filename	LabID	ClientID	DF	Manually Integrated Compounds
0954	NT820121502.D	SIL0206-ICB1		1	NO MANUAL INTEGRATION
1010	NT820121503.D	SIL0206-CAL4		1	NO MANUAL INTEGRATION
1027	NT820121504.D	SIL0206-CAL1		1	NO MANUAL INTEGRATION
1043	NT820121505.D	SIL0206-CAL2		1	NO MANUAL INTEGRATION
1100	NT820121506.D	SIL0206-CAL3		1	NO MANUAL INTEGRATION
1116	NT820121507.D	SIL0206-CAL5		1	NO MANUAL INTEGRATION
1133	NT820121508.D	SIL0206-CAL6		1	NO MANUAL INTEGRATION
1149	NT820121509.D	SIL0206-SCV1		1	NO MANUAL INTEGRATION

Security Status Report

Date: 15-Dec-2020 18:36

NT820121501.D	Data Locked	jiangqing,	15-Dec-2020	18:36
NT820121502.D	Data Locked	jiangqing,	15-Dec-2020	18:36
NT820121503.D	Data Locked	jiangqing,	15-Dec-2020	18:36
NT820121504.D	Data Locked	jiangqing,	15-Dec-2020	18:36
NT820121505.D	Data Locked	jiangqing,	15-Dec-2020	18:36
NT820121506.D	Data Locked	jiangqing,	15-Dec-2020	18:36
NT820121507.D	Data Locked	jiangqing,	15-Dec-2020	18:36
NT820121508.D	Data Locked	jiangqing,	15-Dec-2020	18:36
NT820121509.D	Data Locked	jiangqing,	15-Dec-2020	18:36



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270E-SIM

Laboratory: Analytical Resources, Inc.

SDG: 21C0175

Client: Anchor QEA, LLC

Project: GascoSiltronic: US Moorings

Sequence: SJC0283

Instrument: NT8

Calibration: DL00046

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SJC0283-TUN1	NT821031801.D	NA	03/18/21 10:27
Initial Cal Check	SJC0283-ICV1	NT821031802.D	NA	03/18/21 10:46
Blank	BJC0357-BLK1	NT821031803.D	Water	03/18/21 11:20
LCS	BJC0357-BS1	NT821031804.D	Water	03/18/21 11:36
LCS Dup	BJC0357-BSD1	NT821031805.D	Water	03/18/21 11:53
RAB-FB-2103091636	21C0175-01	NT821031806.D	Water	03/18/21 12:09
RAB-RB-2103091709	21C0175-02	NT821031807.D	Water	03/18/21 12:26
ZZZZZ	21C0180-05	NT821031808.D	Water	03/18/21 12:43
ZZZZZ	21C0180-06	NT821031809.D	Water	03/18/21 12:59
ZZZZZ	21C0115-34	NT821031810.D	Solid	03/18/21 13:48
ZZZZZ	21C0115-36	NT821031811.D	Solid	03/18/21 14:04
ZZZZZ	21C0115-37	NT821031812.D	Solid	03/18/21 14:21
ZZZZZ	21C0115-38	NT821031813.D	Solid	03/18/21 14:37
ZZZZZ	21C0166-15	NT821031814.D	Solid	03/18/21 15:05
ZZZZZ	21C0166-04	NT821031817.D	Solid	03/18/21 16:06
ZZZZZ	21C0166-08	NT821031818.D	Solid	03/18/21 16:22
ZZZZZ	21C0166-17	NT821031819.D	Solid	03/18/21 16:39
ZZZZZ	21C0166-20	NT821031820.D	Solid	03/18/21 16:55
Calibration Check	SJC0283-CCV1	NT821031821.D	NA	03/18/21 17:12



ANALYSIS SEQUENCE

SJC0283

Instrument: NT8 Element Column ID: I008812
 Calibration ID: DL00046 Tune File: 200728
 EM Voltage: 1929

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SJC0283-TUN1	MS Tune	QC		1	I007631		
SJC0283-ICV1	Initial Cal Check	QC		2	J000330	I011478	
BJC0357-BLK1	Blank	QC		3		I011478	
BJC0357-BS1	LCS	QC		4		I011478	
BJC0357-BSD1	LCS Dup	QC		5		I011478	
21C0175-01	RAB-FB-2103091636	8270E-SIM Butyl Tins	C 01	6		I011478	
21C0175-02	RAB-RB-2103091709	8270E-SIM Butyl Tins	C 01	7		I011478	
21C0180-05	EB-01-210311	8270E-SIM Butyl Tins	C 01	8		I011478	
21C0180-06	EB-02-210311	8270E-SIM Butyl Tins	C 01	9		I011478	
21C0115-34	MW-5-0-1	8270E-SIM Butyl Tins	A 04	10		I011478	
21C0115-36	MW-5-6-7	8270E-SIM Butyl Tins	A 04	11		I011478	
21C0115-37	MW-5-8-9.5	8270E-SIM Butyl Tins	A 04	12		I011478	
21C0115-38	MW-5-FD-8-9.5	8270E-SIM Butyl Tins	A 04	13		I011478	
21C0330-MS1	Matrix Spike	QC		14		I011478	
21C0330-MSD1	Matrix Spike Dup	QC		15		I011478	
21C0166-04	MW-8-8-9	8270E-SIM Butyl Tins	A 04	16		I011478	
21C0166-08	MW-9-5-6	8270E-SIM Butyl Tins	A 04	17		I011478	
21C0166-15	SB-27-0-1	8270E-SIM Butyl Tins	A 04	18		I011478	
21C0166-17	SB-27-8-9	8270E-SIM Butyl Tins	A 04	19		I011478	
21C0166-20	MW-14A-0-1	8270E-SIM Butyl Tins	A 04	20		I011478	
21C0283-CCV1	Calibration Check	QC		21	J000330	I011478	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20210318.b

Time	Filename	LabID	ClientID	DF					
1 1027	NT821031801.D	SUC0283-TUN1		1	NO	ISTDS	FOUND		
2 1046	NT821031802.D	SUC0283-ICV1		1	5.71	77010	8.22	64974	
3 1120	NT821031803.D	BUC0357-BLK1		1	5.71	125019	8.22	110913	
4 1136	NT821031804.D	BUC0357-RS1		1	5.71	123332	8.22	109527	
5 1153	NT821031805.D	BUC0357-RSD1		1	5.71	126769	8.22	112192	
6 1209	NT821031806.D	21C0175-01		1	5.71	117377	8.22	105680	
7 1226	NT821031807.D	21C0175-02		1	5.71	121512	8.22	107268	
8 1243	NT821031808.D	21C0180-05		1	5.71	117061	8.22	106270	
9 1259	NT821031809.D	21C0180-06		1	5.71	118146	8.22	109043	
10 1348	NT821031810.D	21C0115-34		10	5.71	102940	8.22	94782	
11 1404	NT821031811.D	21C0115-36		10	5.74	136469	8.23	129071	
12 1421	NT821031812.D	21C0115-37		10	5.72	130990	8.22	110609	
13 1437	NT821031813.D	21C0115-38		10	5.71	54400	8.22	49781	
14 1505	NT821031814.D	21C0166-15		10	5.71	107142	8.22	98894	
15 1521	NT821031815.D	BUC0330-RS1		1	5.71	100183	8.22	96100	
16 1549	NT821031816.D	BUC0330-RSD1		1	5.71	108704	8.22	93731	
17 1606	NT821031817.D	21C0166-04		1	5.71	101917	8.22	89888	
18 1622	NT821031818.D	21C0166-08		1	5.71	104185	8.22	89486	
19 1639	NT821031819.D	21C0166-17		1	5.71	100399	8.22	92665	
20 1655	NT821031820.D	21C0166-20		1	5.72	105971	8.22	88961	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20210318.b

Time Filename LabID ClientId DF

21 1712 NT821031821.D SJC0283-CCV1 1 | 5.71 64760 | 8.22 60541 |

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20210318.b

ARI Job No.: SJC0 Method: TBT201215.m Instrument: nt8.i Date: 18-MAR-2021

Time Filename LabID ClientId DF Manually Integrated Compounds

1046	NT821031802.D	SJC0283-ICV1		1	NO MANUAL INTEGRATION
1120	NT821031803.D	BJC0357-BLKI		1	Butyl Tin (Hexyl),
1136	NT821031804.D	BJC0357-BS1		1	NO MANUAL INTEGRATION
1153	NT821031805.D	BJC0357-BSDI		1	NO MANUAL INTEGRATION
1209	NT821031806.D	21C0175-01		1	Butyl Tin (Hexyl),
1226	NT821031807.D	21C0175-02		1	Butyl Tin (Hexyl),
1243	NT821031808.D	21C0180-05		1	Butyl Tin (Hexyl),
1259	NT821031809.D	21C0180-06		1	Butyl Tin (Hexyl),
1348	NT821031810.D	21C0115-34		10	Dibutyl Tin (Hexyl), Triphenyl Tin (Hexyl),
1404	NT821031811.D	21C0115-36		10	Butyl Tin (Hexyl), Triphenyl Tin (Hexyl),
142	NT821031812.D	21C0115-37		10	Tributyl Tin (Hexyl), Dibutyl Tin (Hexyl), Tripropyl Tin (Hexyl), Triphenyl Tin (Hexyl),
143	NT821031813.D	21C0115-38		10	Triphenyl Tin (Hexyl),
150	NT821031814.D	21C0166-15		10	NO MANUAL INTEGRATION
152	NT821031815.D	BJC0330-MS1		1	NO MANUAL INTEGRATION
154	NT821031816.D	BJC0330-MSDI		1	Butyl Tin (Hexyl), Triphenyl Tin (Hexyl),
160	NT821031817.D	21C0166-04		1	Tributyl Tin (Hexyl), Butyl Tin (Hexyl),
162	NT821031818.D	21C0166-08		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt8.i\20210318.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1639	NT821031819.D	21C0166-17		1	NO MANUAL INTEGRATION
1655	NT821031820.D	21C0166-20		1	NO MANUAL INTEGRATION
1712	NT821031821.D	SJC0283-CCV1		1	NO MANUAL INTEGRATION

Security Status Report

Date: 19-Mar-2021 14:11

NT821031801.D	Data Locked	jiangqing,	19-Mar-2021	14:11
NT821031802.D	Data Locked	jiangqing,	19-Mar-2021	14:11
NT821031803.D	Data Locked	jiangqing,	19-Mar-2021	14:11
NT821031804.D	Data Locked	jiangqing,	19-Mar-2021	14:11
NT821031805.D	Data Locked	jiangqing,	19-Mar-2021	14:11
NT821031806.D	Data Locked	jiangqing,	19-Mar-2021	14:11
NT821031807.D	Data Locked	jiangqing,	19-Mar-2021	14:11
NT821031808.D	Data Locked	jiangqing,	19-Mar-2021	14:11
NT821031809.D	Data Locked	jiangqing,	19-Mar-2021	14:11
NT821031810.D	Data Locked	jiangqing,	19-Mar-2021	14:11
NT821031811.D	Data Locked	jiangqing,	19-Mar-2021	14:11
NT821031812.D	Data Locked	jiangqing,	19-Mar-2021	14:11
NT821031813.D	Data Locked	jiangqing,	19-Mar-2021	14:11
NT821031814.D	Data Locked	jiangqing,	19-Mar-2021	14:11
NT821031815.D	Data Locked	jiangqing,	19-Mar-2021	14:11
NT821031816.D	Data Locked	jiangqing,	19-Mar-2021	14:11
NT821031817.D	Data Locked	jiangqing,	19-Mar-2021	14:11
NT821031818.D	Data Locked	jiangqing,	19-Mar-2021	14:11
NT821031819.D	Data Locked	jiangqing,	19-Mar-2021	14:11
NT821031820.D	Data Locked	jiangqing,	19-Mar-2021	14:11
NT821031821.D	Data Locked	jiangqing,	19-Mar-2021	14:11



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270E-SIM

Laboratory: Analytical Resources, Inc. SDG: 21C0175
Client: Anchor QEA, LLC Project: GascoSiltronic: US Moorings
Sequence: SJC0391 Instrument: NT11
Calibration: DH00073

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
DFTPP	SJC0391-TUN1	NT1121032401.D	NA	03/24/21 13:08
Initial Cal Check	SJC0391-ICV1	NT1121032402.D	NA	03/24/21 13:25
Blank	BJC0356-BLK1	NT1121032403.D	Water	03/24/21 14:33
LCS	BJC0356-BS1	NT1121032404.D	Water	03/24/21 15:05
RAB-FB-2103091636	21C0175-01	NT1121032405.D	Water	03/24/21 15:38
RAB-RB-2103091709	21C0175-02	NT1121032406.D	Water	03/24/21 16:10
Calibration Check	SJC0391-CCV1	NT1121032407.D	NA	03/24/21 16:43



ANALYSIS SEQUENCE

SJC0391

Instrument: NT11 Element Column ID: J000057
 Calibration ID: DH00073 Tune File: 190904.U
 EM Voltage: 1600

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SJC0391-TUN1	DFTPP	QC		1	1007631		
SJC0391-ICV1	Initial Cal Check	QC		2	1009255	1002777	
BJC0356-BLK1	Blank	QC		3		1002777	
BJC0356-BS1	LCS	QC		4		1002777	
21C0175-01	RAB-FB-2103091636	270E-SIM PAH Low (0.01ug/L or 0.5ug/kg)	A 01	5		1002777	
21C0175-02	RAB-RB-2103091709	270E-SIM PAH Low (0.01ug/L or 0.5ug/kg)	A 01	6		1002777	
SJC0391-CCV1	Calibration Check	QC		7	1009255	1002777	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20210324.b

Time	Filename	LabID	ClientId	DF																	
1	1308	NT1121032401.D	SJC0391-FUN1	1	NO	ISTDS	FOUND														
2	1325	NT1121032402.D	SJC0391-ICV1	1	6.78	211546	9.77	115033	12.44	167782	17.16	125684	19.90	145995							
3	1433	NT1121032403.D	BJC0356-BLK1	1	6.78	253686	9.78	130836	12.44	201483	17.17	140927	19.90	156893							
4	1505	NT1121032404.D	BJC0356-BS1	1	6.78	243726	9.77	131619	12.44	192996	17.16	139461	19.90	153602							
5	1538	NT1121032405.D	21C0175-01	1	6.78	243210	9.77	122126	12.44	181646	17.16	122694	19.90	125561							
6	1610	NT1121032406.D	21C0175-02	1	6.78	231532	9.77	118594	12.44	177429	17.16	119867	19.90	120210							
7	1643	NT1121032407.D	SJC0391-CCV1	1	6.78	187593	9.77	99033	12.44	146259	17.16	97685	19.90	103173							

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt11.i\20210324.b

Instrument: nt11.i Date: 24-MAR-2021

Time	Filename	LabID	DF	Manually Integrated	Compounds
1308	NT1121032401.D	SJC0391-TUN1	1	NO MANUAL INTEGRATION	
1325	NT1121032402.D	SJC0391-ICV1	1	NO MANUAL INTEGRATION	
1433	NT1121032403.D	BJC0356-BLK1	1	Naphthalene, 2-Methylnaphthalene, 1-Methylnaphthalene,	
1505	NT1121032404.D	BJC0356-BS1	1	NO MANUAL INTEGRATION	
1538	NT1121032405.D	21C0175-01	1	2-Methylnaphthalene, Biphenyl,	
1610	NT1121032406.D	21C0175-02	1	Carbazole, Biphenyl,	
1643	NT1121032407.D	SJC0391-CCV1	1	NO MANUAL INTEGRATION	

Security Status Report

Date: 25-Mar-2021 07:20

NT1121032401.D	Data Locked	van,	25-Mar-2021	07:20
NT1121032402.D	Data Locked	van,	25-Mar-2021	07:20
NT1121032403.D	Data Locked	van,	25-Mar-2021	07:20
NT1121032404.D	Data Locked	van,	25-Mar-2021	07:20
NT1121032405.D	Data Locked	van,	25-Mar-2021	07:20
NT1121032406.D	Data Locked	van,	25-Mar-2021	07:20
NT1121032407.D	Data Locked	van,	25-Mar-2021	07:20



SURROGATE RECOVERY AND RT SUMMARY

EPA 8270E-SIM

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG/WO:	<u>21C0175</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>GascoSiltronic: US Moorings</u>
Sequence:	<u>SIL0206</u>	Instrument:	<u>NT8</u>
Calibration:	<u>DL00046</u>	Calibration Date:	<u>12/15/2020</u>

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SIL0206-ICB1 (Water)		Lab File ID: NT820121502.D			Analyzed: 12/15/20 09:54			
Tripropyltin			30 - 160		6.4	-6.4000	N/A	
Tripropyltin			30 - 160		4.44	-4.4400	N/A	
SIL0206-SCV1 (Water)		Lab File ID: NT820121509.D			Analyzed: 12/15/20 11:49			
Tripropyltin	1.5918	111	80 - 120	6.4	6.4	0.0000	N/A	



SURROGATE RECOVERY AND RT SUMMARY
EPA 8270E-SIM

Laboratory: Analytical Resources, Inc.
Client: Anchor QEA, LLC
Sequence: SJC0283
Calibration: DL00046

SDG/WO: 21C0175
Project: GascoSiltronic: US Moorings
Instrument: NT8
Calibration Date: 12/15/2020

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SJC0283-ICV1 (Water)			Lab File ID: NT821031802.D			Analyzed: 03/18/21 10:46		
Tripentyltin	1.5918	114	80 - 120	6.061	6.4	-0.3390	N/A	
Tripropyltin	0.74430	91.1	80 - 120	4.138	4.44	-0.3020	N/A	
BJC0357-BLK1 (Water)			Lab File ID: NT821031803.D			Analyzed: 03/18/21 11:20		
Tripentyltin	2.2589	45.8	30 - 160	6.061	6.4	-0.3390	N/A	
Tripropyltin	2.1873	34.5	30 - 160	4.169	4.44	-0.2710	N/A	
BJC0357-BS1 (Water)			Lab File ID: NT821031804.D			Analyzed: 03/18/21 11:36		
Tripentyltin	2.2589	50.0	30 - 160	6.061	6.4	-0.3390	N/A	
Tripropyltin	2.1873	34.7	30 - 160	4.18	4.44	-0.2600	N/A	
BJC0357-BSD1 (Water)			Lab File ID: NT821031805.D			Analyzed: 03/18/21 11:53		
Tripentyltin	2.2589	44.0	30 - 160	6.061	6.4	-0.3390	N/A	
Tripropyltin	2.1873	30.0	30 - 160	4.18	4.44	-0.2600	N/A	
21C0175-01 (Water)			Lab File ID: NT821031806.D			Analyzed: 03/18/21 12:09		
Tripentyltin	2.2589	57.6	30 - 160	6.049	6.4	-0.3510	N/A	
Tripropyltin	2.1873	42.5	30 - 160	4.18	4.44	-0.2600	N/A	
21C0175-02 (Water)			Lab File ID: NT821031807.D			Analyzed: 03/18/21 12:26		
Tripentyltin	2.2589	49.2	30 - 160	6.049	6.4	-0.3510	N/A	
Tripropyltin	2.1873	35.0	30 - 160	4.18	4.44	-0.2600	N/A	
SJC0283-CCV1 (Water)			Lab File ID: NT821031821.D			Analyzed: 03/18/21 17:12		
Tripentyltin	1.5918	116	50 - 150	6.049	6.4	-0.3510	N/A	
Tripropyltin	0.74430	103	50 - 150	4.138	4.44	-0.3020	N/A	



SURROGATE RECOVERY AND RT SUMMARY
EPA 8270E-SIM

Laboratory: Analytical Resources, Inc.
Client: Anchor QEA, LLC
Sequence: SJC0391
Calibration: DH00073

SDG/WO: 21C0175
Project: GascoSiltronic: US Moorings
Instrument: NT11
Calibration Date: 08/27/2020

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SJC0391-ICV1 (Water) Lab File ID: NT1121032402.D Analyzed: 03/24/21 13:25								
2-Methylnaphthalene-d10	250.00	98.0	80 - 120	7.749	7.78	-0.0310	N/A	
Dibenzo[a,h]anthracene-d14	250.00	101	80 - 120	22.305	22.418	-0.1130	N/A	
Fluoranthene-d10	250.00	94.0	80 - 120	14.53	14.578	-0.0480	N/A	
BJC0356-BLK1 (Water) Lab File ID: NT1121032403.D Analyzed: 03/24/21 14:33								
2-Methylnaphthalene-d10	0.30000	70.3	42 - 120	7.749	7.78	-0.0310	N/A	
Dibenzo[a,h]anthracene-d14	0.30000	50.4	29 - 120	22.316	22.418	-0.1020	N/A	
Fluoranthene-d10	0.30000	71.7	57 - 120	14.539	14.578	-0.0390	N/A	
BJC0356-BS1 (Water) Lab File ID: NT1121032404.D Analyzed: 03/24/21 15:05								
2-Methylnaphthalene-d10	0.30000	76.2	42 - 120	7.749	7.78	-0.0310	N/A	
Dibenzo[a,h]anthracene-d14	0.30000	66.5	29 - 120	22.305	22.418	-0.1130	N/A	
Fluoranthene-d10	0.30000	75.7	57 - 120	14.529	14.578	-0.0490	N/A	
21C0175-01 (Water) Lab File ID: NT1121032405.D Analyzed: 03/24/21 15:38								
2-Methylnaphthalene-d10	0.30000	68.7	42 - 120	7.749	7.78	-0.0310	N/A	
Dibenzo[a,h]anthracene-d14	0.30000	56.8	29 - 120	22.305	22.418	-0.1130	N/A	
Fluoranthene-d10	0.30000	72.0	57 - 120	14.53	14.578	-0.0480	N/A	
21C0175-02 (Water) Lab File ID: NT1121032406.D Analyzed: 03/24/21 16:10								
2-Methylnaphthalene-d10	0.30000	70.2	42 - 120	7.749	7.78	-0.0310	N/A	
Dibenzo[a,h]anthracene-d14	0.30000	58.8	29 - 120	22.306	22.418	-0.1120	N/A	
Fluoranthene-d10	0.30000	74.9	57 - 120	14.53	14.578	-0.0480	N/A	
SJC0391-CCV1 (Water) Lab File ID: NT1121032407.D Analyzed: 03/24/21 16:43								
2-Methylnaphthalene-d10	250.00	93.7	50 - 150	7.749	7.78	-0.0310	N/A	
Dibenzo[a,h]anthracene-d14	250.00	77.7	50 - 150	22.305	22.418	-0.1130	N/A	
Fluoranthene-d10	250.00	91.5	50 - 150	14.529	14.578	-0.0490	N/A	



INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270E-SIM

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>21C0175</u>
Client:	<u>Anchor OEA, LLC</u>	Project:	<u>GascoSiltronic: US Moorings</u>
Sequence:	<u>SIH0304</u>	Instrument:	<u>NT11</u>
		Calibration:	<u>DH00073</u>

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (SIH0304-SCV1)		(Water)	Lab File ID: NT1120082708.D			Analyzed: 08/27/20 15:38			
Naphthalene-d8	202035	6.804	215332	6.813	94	50 - 200	-0.009	+/-0.50	
Acenaphthene-d10	90189	9.807	102217	9.807	88	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	142829	12.482	170387	12.482	84	50 - 200	0.000	+/-0.50	
Chrysene-d12	104063	17.222	116138	17.214	90	50 - 200	0.008	+/-0.50	
Perylene-d12	119273	19.981	139038	19.981	86	50 - 200	0.000	+/-0.50	
Initial Cal Blank (SIH0304-ICB1)		(Water)	Lab File ID: NT1120082709.D			Analyzed: 08/27/20 16:09			
Naphthalene-d8	216694	6.804	215332	6.813	101	50 - 200	-0.009	+/-0.50	
Acenaphthene-d10	94656	9.807	102217	9.807	93	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	145070	12.482	170387	12.482	85	50 - 200	0.000	+/-0.50	
Chrysene-d12	97049	17.222	116138	17.214	84	50 - 200	0.008	+/-0.50	
Perylene-d12	107633	19.981	139038	19.981	77	50 - 200	0.000	+/-0.50	



INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270E-SIM

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>21C0175</u>
Client:	<u>Anchor OEA, LLC</u>	Project:	<u>GascoSiltronic: US Moorings</u>
Sequence:	<u>SIL0206</u>	Instrument:	<u>NT8</u>
		Calibration:	<u>DL00046</u>

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Blank (SIL0206-ICB1)		(Water)	Lab File ID: NT820121502.D			Analyzed: 12/15/20 09:54			
Tetrapentyltin	68323	6.061	72645	6.049	94	50 - 200	0.012	+/-0.50	
p-Terphenyl-d14	77549	8.638	65742	8.626	118	50 - 200	0.012	+/-0.50	
Secondary Cal Check (SIL0206-SCV1)		(Water)	Lab File ID: NT820121509.D			Analyzed: 12/15/20 11:49			
Tetrapentyltin	78512	6.049	72645	6.049	108	50 - 200	0.000	+/-0.50	
p-Terphenyl-d14	69992	8.626	65742	8.626	106	50 - 200	0.000	+/-0.50	



INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270E-SIM

Laboratory: Analytical Resources, Inc.

SDG: 21C0175

Client: Anchor OEA, LLC

Project: GascoSiltronic: US Moorings

Sequence: SJC0283

Instrument: NT8

Calibration: DL00046

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SJC0283-ICV1)		(Water)	Lab File ID: NT821031802.D			Analyzed: 03/18/21 10:46			
Tetrapentyltin	77010	5.711	77010	5.711	100	50 - 200	0.000	+/-0.50	
p-Terphenyl-d14	64974	8.215	64974	8.215	100	50 - 200	0.000	+/-0.50	
Blank (BJC0357-BLK1)		(Water)	Lab File ID: NT821031803.D			Analyzed: 03/18/21 11:20			
Tetrapentyltin	125019	5.711	77010	5.711	162	50 - 200	0.000	+/-0.50	
p-Terphenyl-d14	110913	8.215	64974	8.215	171	50 - 200	0.000	+/-0.50	
LCS (BJC0357-BS1)		(Water)	Lab File ID: NT821031804.D			Analyzed: 03/18/21 11:36			
Tetrapentyltin	123332	5.711	77010	5.711	160	50 - 200	0.000	+/-0.50	
p-Terphenyl-d14	109527	8.215	64974	8.215	169	50 - 200	0.000	+/-0.50	
LCS Dup (BJC0357-BSD1)		(Water)	Lab File ID: NT821031805.D			Analyzed: 03/18/21 11:53			
Tetrapentyltin	126769	5.711	77010	5.711	165	50 - 200	0.000	+/-0.50	
p-Terphenyl-d14	112192	8.215	64974	8.215	173	50 - 200	0.000	+/-0.50	
RAB-FB-2103091636 (21C0175-01)		(Water)	Lab File ID: NT821031806.D			Analyzed: 03/18/21 12:09			
Tetrapentyltin	117377	5.711	77010	5.711	152	50 - 200	0.000	+/-0.50	
p-Terphenyl-d14	105680	8.215	64974	8.215	163	50 - 200	0.000	+/-0.50	
RAB-RB-2103091709 (21C0175-02)		(Water)	Lab File ID: NT821031807.D			Analyzed: 03/18/21 12:26			
Tetrapentyltin	121512	5.711	77010	5.711	158	50 - 200	0.000	+/-0.50	
p-Terphenyl-d14	107268	8.215	64974	8.215	165	50 - 200	0.000	+/-0.50	
Calibration Check (SJC0283-CCV1)		(Water)	Lab File ID: NT821031821.D			Analyzed: 03/18/21 17:12			
Tetrapentyltin	64780	5.711	77010	5.711	84	50 - 200	0.000	+/-0.50	
p-Terphenyl-d14	60541	8.215	64974	8.215	93	50 - 200	0.000	+/-0.50	



INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270E-SIM

Laboratory: Analytical Resources, Inc.
Client: Anchor OEA, LLC
Sequence: SJC0391

SDG: 21C0175
Project: GascoSiltronic: US Moorings
Instrument: NT11
Calibration: DH00073

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SJC0391-ICV1)		(Water)	Lab File ID: NT1121032402.D			Analyzed: 03/24/21 13:25			
Naphthalene-d8	211546	6.777	211546	6.777	100	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	115033	9.77	115033	9.77	100	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	167782	12.439	167782	12.439	100	50 - 200	0.000	+/-0.50	
Chrysene-d12	125684	17.163	125684	17.163	100	50 - 200	0.000	+/-0.50	
Perylene-d12	145995	19.903	145995	19.903	100	50 - 200	0.000	+/-0.50	
Blank (BJC0356-BLK1)		(Water)	Lab File ID: NT1121032403.D			Analyzed: 03/24/21 14:33			
Naphthalene-d8	253686	6.777	211546	6.777	120	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	130836	9.779	115033	9.77	114	50 - 200	0.009	+/-0.50	
Phenanthrene-d10	201483	12.439	167782	12.439	120	50 - 200	0.000	+/-0.50	
Chrysene-d12	140927	17.172	125684	17.163	112	50 - 200	0.009	+/-0.50	
Perylene-d12	156893	19.903	145995	19.903	107	50 - 200	0.000	+/-0.50	
LCS (BJC0356-BS1)		(Water)	Lab File ID: NT1121032404.D			Analyzed: 03/24/21 15:05			
Naphthalene-d8	243726	6.777	211546	6.777	115	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	131619	9.77	115033	9.77	114	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	192996	12.439	167782	12.439	115	50 - 200	0.000	+/-0.50	
Chrysene-d12	139461	17.163	125684	17.163	111	50 - 200	0.000	+/-0.50	
Perylene-d12	153602	19.903	145995	19.903	105	50 - 200	0.000	+/-0.50	
RAB-FB-2103091636 (21C0175-01)		(Water)	Lab File ID: NT1121032405.D			Analyzed: 03/24/21 15:38			
Naphthalene-d8	243210	6.777	211546	6.777	115	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	122126	9.77	115033	9.77	106	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	181646	12.439	167782	12.439	108	50 - 200	0.000	+/-0.50	
Chrysene-d12	122694	17.163	125684	17.163	98	50 - 200	0.000	+/-0.50	
Perylene-d12	125561	19.903	145995	19.903	86	50 - 200	0.000	+/-0.50	
RAB-RB-2103091709 (21C0175-02)		(Water)	Lab File ID: NT1121032406.D			Analyzed: 03/24/21 16:10			
Naphthalene-d8	231532	6.777	211546	6.777	109	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	118594	9.77	115033	9.77	103	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	177429	12.439	167782	12.439	106	50 - 200	0.000	+/-0.50	
Chrysene-d12	119867	17.164	125684	17.163	95	50 - 200	0.001	+/-0.50	
Perylene-d12	120210	19.903	145995	19.903	82	50 - 200	0.000	+/-0.50	



HOLDING TIME SUMMARY

Analysis: EPA 8270E-SIM

Laboratory: Analytical Resources, Inc.

SDG: 21C0175

Client: Anchor OEA, LLC

Project: GascoSiltronic: US Moorings

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
RAB-FB-2103091636 21C0175-01	03/09/21 16:36	03/11/21 10:30	03/16/21 12:13	6	7	03/24/21 15:38	8	40	
RAB-FB-2103091636 21C0175-01	03/09/21 16:36	03/11/21 10:30	03/16/21 09:29	6	7	03/18/21 12:09	2	40	
RAB-RB-2103091709 21C0175-02	03/09/21 17:09	03/11/21 10:30	03/16/21 12:13	6	7	03/24/21 16:10	8	40	
RAB-RB-2103091709 21C0175-02	03/09/21 17:09	03/11/21 10:30	03/16/21 09:29	6	7	03/18/21 12:26	2	40	

* Indicates hold time exceedance.



METHOD DETECTION AND REPORTING LIMITS

EPA 8270E-SIM

Laboratory: Analytical Resources, Inc.

SDG: 21C0175

Client: Anchor OEA, LLC

Project: GascoSiltronic: US Moorings

Matrix: Water

Instrument: NT11

Analyte	MDL	RL	Units
Naphthalene	0.001	0.010	ug/L
2-Methylnaphthalene	0.001	0.010	ug/L
Acenaphthylene	0.002	0.010	ug/L
Acenaphthene	0.003	0.010	ug/L
Fluorene	0.002	0.010	ug/L
Phenanthrene	0.001	0.010	ug/L
Anthracene	0.001	0.010	ug/L
Fluoranthene	0.002	0.010	ug/L
Pyrene	0.001	0.010	ug/L
Benzo(a)anthracene	0.0008	0.010	ug/L
Chrysene	0.0009	0.010	ug/L
Benzo(b)fluoranthene	0.0005	0.010	ug/L
Benzo(k)fluoranthene	0.003	0.010	ug/L
Benzo(j)fluoranthene	0.002	0.010	ug/L
Benzo(a)pyrene	0.002	0.010	ug/L
Indeno(1,2,3-cd)pyrene	0.001	0.010	ug/L
Dibenzo(a,h)anthracene	0.001	0.010	ug/L
Benzo(g,h,i)perylene	0.001	0.010	ug/L



**METHOD DETECTION
AND REPORTING LIMITS**

EPA 8270E-SIM

Laboratory: Analytical Resources, Inc.

SDG: 21C0175

Client: Anchor OEA, LLC

Project: GascoSiltronic: US Moorings

Matrix: Water

Instrument: NT8

Analyte	MDL	RL	Units
Tributyltin Ion	0.043	0.193	ug/L

Certificate of Analysis

I 8227

SIGMA-ALDRICH

Product Name Pentachlorophenol,
97%

Product Number P2604

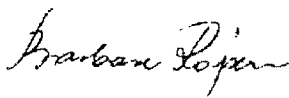
Product Brand ALDRICH

CAS Number 87-86-5

Molecular Formula C₆Cl₅OH

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 AGNO ₃ AFTER OXYGEN	100.5 % (WITH AGNO ₃ AFTER OXYGEN COMBUSTION)
GAS LIQUID CHROMATOGRAPHY	97.5% (MINIMUM)	99.9 %
SOLUBILITY		100 MG/ML, 95% ETOH: VERY HAZY, FAINT YELLOW SOLUTION
QUALITY CONTROL		JUNE 2001
ACCEPTANCE DATE		



Barbara Rajzer, Supervisor
Quality Control
Milwaukee, Wisconsin USA

Certificate of Analysis

SIGMA-ALDRICH

Product Name 2,4,6-Tribromophenol,
99%
Product Number 137715
Product Brand ALDRICH
CAS Number 118-79-6
Molecular Formula $\text{Br}_3\text{C}_6\text{H}_2\text{OH}$
Molecular Weight 330.80

TEST	SPECIFICATION	LOT 03410KL RESULTS
APPEARANCE	WHITE TO OFF-WHITE TO PINK FLAKES, CHUNKS,	OFF-WHITE CHIPS
INFRARED SPECTRUM	CONFORMS TO STRUCTURE.	CONFORMS TO STRUCTURE
MELTING POINT		93 DEGREES CELSIUS
GAS LIQUID CHROMATOGRAPHY		99.4 %



Barbara Rajzer, Supervisor
Quality Control
Milwaukee, Wisconsin USA

Please wait...



I 8244

Certificate of Analysis

Alfa Aesar
A Johnson Matthey Company

B001537

Tripropyltin Chloride-NEAT

Solvent / Lot: na

Prep: 11/20/2012 by VS

Exp: 2/19/2029

Location:

Tri-n-propyltin chloride, 95%

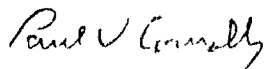
Stock Number: 41459

Lot Number: K21Q046

Analysis

Appearance	Clear oil
Purity (based on Sn analysis)	≥ 97 %
Sn _{Th}	41.88 %
Sn _{Ex}	40.75 %

Certified by:



Quality Control

www.alfa.com

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Certificate of Analysis

Alfa Aesar
A Johnson Matthey Company

B001537

Tripropyltin Chloride-NEAT

Solvent / Lot: na

Prep: 11/20/2012 by VS

Exp: 2/19/2029

Location:

Tri-n-propyltin chloride, 95%

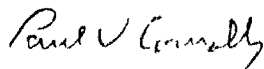
Stock Number: 41459

Lot Number: K21Q046

Analysis

Appearance	Clear oil
Purity (based on Sn analysis)	≥ 97 %
Sn _{Th}	41.88 %
Sn _{Ex}	40.75 %

Certified by:



Quality Control

www.alfa.com

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Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: NA

Chemical: N-Butyltin-Chloride

Manufacturer: Alfa

Product #: C22E - on label

Lot #: NA

Purity: 95%

Analyst: VTB

B001538
N-Butyltin Chloride-NEAT
Solvent / Lot: na
Prep: 11/20/2012 by VS
Exp. 2/19/2029
Location:



Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: NA

Chemical: N-Butyltin-Chloride

Manufacturer: Alfa

Product #: C22E-on label

Lot #: NA

Purity: 95%

Analyst: VTB

B001538
N-Butyltin Chloride-NEAT
Solvent / Lot: na
Prep: 11/20/2012 by VS
Exp. 2/19/2029
Location:

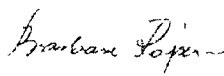
1539

Certificate of Analysis

SIGMA-ALDRICH

Product Name Dibutyltin dichloride,
96%
Product Number 205494
Product Brand ALDRICH
CAS Number 683-18-1
Molecular Formula $(\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2)_2\text{SnCl}_2$
Molecular Weight 303.84

TEST	SPECIFICATION	LOT 09116AN RESULTS
APPEARANCE	MOIST WHITE TO OFF-WHITE CRYSTALS	MOIST OFF-WHITE CRYSTALS
INFRARED SPECTRUM	CONFORMS TO STRUCTURE AND STANDARD AS ILLUSTRATED ON PAGE 1145D OF EDITION I, VOLUME 2 OF "THE ALDRICH LIBRARY OF FT-IR SPECTRA"	CONFORMS TO STRUCTURE AND STANDARD AS ILLUSTRATED ON PAGE 1145D OF EDITION I, VOLUME 2 OF "THE ALDRICH LIBRARY OF FT-IR SPECTRA"
TITRATION	95.5%-104.5% (WITH AGNO ₃ AFTER O ₂ COMBUSTION)	100.8% (WITH AGNO ₃ AFTER OXYGEN COMBUSTION)
GAS LIQUID CHROMATOGRAPHY	95.5% (MINIMUM)	98.5%



Barbara Rejzer, Supervisor
Quality Control
Milwaukee, Wisconsin USA

Please wait

B001539
Dibutyltin Dichloride-NEAT
Solvent / Lot: na
Prep: 11/20/2012 by VS
Exp: 2/19/2029
Location:

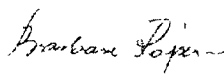
1539

Certificate of Analysis

SIGMA-ALDRICH

Product Name Dibutyltin dichloride,
96%
Product Number 205494
Product Brand ALDRICH
CAS Number 683-18-1
Molecular Formula $(CH_3CH_2CH_2CH_2)_2SnCl_2$
Molecular Weight 303.84

TEST	SPECIFICATION	LOT 09116AN RESULTS
APPEARANCE	MOIST WHITE TO OFF-WHITE CRYSTALS	MOIST OFF-WHITE CRYSTALS
INFRARED SPECTRUM	CONFORMS TO STRUCTURE AND STANDARD AS ILLUSTRATED ON PAGE 1145D OF EDITION I, VOLUME 2 OF "THE ALDRICH LIBRARY OF FT-IR SPECTRA"	CONFORMS TO STRUCTURE AND STANDARD AS ILLUSTRATED ON PAGE 1145D OF EDITION I, VOLUME 2 OF "THE ALDRICH LIBRARY OF FT-IR SPECTRA"
TITRATION	95.5%-104.5% (WITH $AgNO_3$ AFTER O ₂ COMBUSTION)	100.8% (WITH $AgNO_3$ AFTER OXYGEN COMBUSTION)
GAS LIQUID CHROMATOGRAPHY	95.5% (MINIMUM)	98.5%



Barbara Rejzer, Supervisor
Quality Control
Milwaukee, Wisconsin USA

Please wait

B001539
Dibutyltin Dichloride-NEAT
Solvent / Lot: na
Prep: 11/20/2012 by VS
Exp: 2/19/2029
Location:



Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: NA

Chemical: Tributyltin - Chloride

Manufacturer: Strem

Product #: 93-5056

Lot #: B1054021

Purity: 8/27/13 - 96%

Analyst: VP

B001540
Tributyltin Chloride-NEAT
Solvent / Lot: na
Prep: 11/20/2012 by VS
Exp: 2/19/2029
Location:



Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: NA

Chemical: Tributyltin - Chloride

Manufacturer: Strem

Product #: 93-5056

Lot #: B1054021

Purity: 8/27/13 - 96%

Analyst: VP

B001540

Tributyltin Chloride-NEAT

Solvent / Lot: na

Prep: 11/20/2012 by VS

Exp: 2/19/2029

Location:

Certificate of Analysis

SIGMA-ALDRICH

Product Name Tetrabutyltin,
technical grade, 93%
Product Number T6008
Product Brand ALDRICH
CAS Number [1461-25-2](#)
Molecular Formula (CH₃CH₂CH₂CH₂)₄Sn
Molecular Weight 347.17

TEST**APPEARANCE****REFRACTIVE INDEX AT****INFRARED SPECTRUM****SPECIFICATION****LOT 00729TW RESULTS**

COLORLESS LIQUID

1.4740

CONFORMS TO STRUCTURE AND
STANDARD ASILLUSTRATED ON PAGE 1144B OF
EDITION I,VOLUME 2 OF "THE ALDRICH LIBRARY
OF FT-IR

SPECTRA".

96.0 %

GAS LIQUID

Barbara Rajzer, Supervisor
Quality Control
Milwaukee, Wisconsin USA

Certificate of Analysis

SIGMA-ALDRICH

Product Name Butyltin trichloride,
95%

Product Number 201057

Product Brand ALDRICH

CAS Number [1118-46-3](#)

Molecular Formula CH₃(CH₂)₃SnCl₃

Molecular Weight 282.18

TEST

APPEARANCE

REFRACTIVE INDEX AT

INFRARED SPECTRUM

SPECIFICATION

COLORLESS TO BROWN LIQUID

CONFORMS TO STRUCTURE.

94.0-106.0% (WITH AGNO₃ AFTER
O₂ COMBUSTION)

TITRATION

GAS LIQUID

94.0% (MINIMUM)

LOT 05509DF RESULTS

COLORLESS LIQUID

1.5227

CONFORMS TO STRUCTURE AND
STANDARD AS

ILLUSTRATED ON PAGE 1145C OF
EDITION I,

VOLUME 2 OF "THE ALDRICH
LIBRARY OF FT-IR

SPECTRA".

98.1 % (WITH AGNO₃ AFTER
OXYGEN COMBUSTION)

99.9 %



Barbara Rajzer, Supervisor
Quality Control
Milwaukee, Wisconsin USA

Certificate of Analysis



Product Name Dibutyltin dichloride,
96%
Product Number 205494
Product Brand ALDRICH
CAS Number [683-18-1](#)
Molecular Formula (CH₃CH₂CH₂CH₂)₂SnCl₂
Molecular Weight 303.84

TEST

APPEARANCE

INFRARED SPECTRUM

TITRATION

GAS LIQUID

SPECIFICATION

MOIST WHITE TO OFF-WHITE
CRYSTALS

CONFORMS TO STRUCTURE AND
STANDARD AS

ILLUSTRATED ON PAGE 1145D OF
EDITION I,

VOLUME 2 OF "THE ALDRICH
LIBRARY OF FT-IR

SPECTRA".

95.5%-104.5%(WITH AGNO₃ AFTER
O₂ COMBUSTION)

95.5% (MINIMUM)

LOT 09116AN RESULTS

MOIST OFF-WHITE CRYSTALS

CONFORMS TO STRUCTURE AND
STANDARD AS

ILLUSTRATED ON PAGE 1145D OF
EDITION I,

VOLUME 2 OF "THE ALDRICH
LIBRARY OF FT-IR

SPECTRA".

100.8 % (WITH AGNO₃ AFTER
O₂ COMBUSTION)

98.5 %



Barbara Rajzer, Supervisor
Quality Control
Milwaukee, Wisconsin USA



Analytical Standard Record
Standard ID: B001688

Printed: 12/2/2020 10:31:13AM

Description:	Hexyltributyl Tin-Neat	Expires:	04-Mar-2029
Standard Type:	Calibration Standard	Prepared:	19-Mar-2013
Solvent:	NA	Prepared By:	Van Spohn
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	23-Nov-2013 14:53 by VTS
Vendor:	Aldrich	Lot #:	11421E4
Vendor Catalog #:			

Comments

NO I NUMBER-mass conversion to Tributyltin ion set at .773

Analyte	CAS Number	Concentration	Units
Tributyltin Ion	36643-28-4	773000	ug/mL



Analytical Standard Record
Standard ID: B001689

Printed: 12/2/2020 10:32:44AM

Description:	Hexyltripropyl Tin-Neat	Expires:	04-Mar-2029
Standard Type:	Calibration Standard	Prepared:	19-Mar-2013
Solvent:	NA	Prepared By:	Van Spohn
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	23-Nov-2013 14:56 by VTS
Vendor:	NA	Lot #:	NA
Vendor Catalog #:			

Comments

I2702-mass conversion to Tripropyl tin set at .7443

Analyte	CAS Number	Concentration	Units
Tripropyltin	761-44-4	744300	ug/mL



Analytical Standard Record
Standard ID: B001690

Printed: 12/2/2020 10:34:10AM

Description:	Hexyltripentyl Tin-Neat	Expires:	04-Mar-2029
Standard Type:	Calibration Standard	Prepared:	19-Mar-2013
Solvent:	NA	Prepared By:	Van Spohn
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	23-Nov-2013 15:04 by VTS
Vendor:	Aldrich	Lot #:	01601CF
Vendor Catalog #:			

Comments

NO I NUMBER-mass conversion set at .7959

Analyte	CAS Number	Concentration	Units
Tripentyltin	41784-41-2	795900	ug/mL

Certificate of Analysis



9006587

7/19/18

PAH Mixture

Product Number: US-106N

Page:

1 of 1

Lot Number: CS-2324

Lot Issue Date: 04-May-2018

Expiration Date:

31-May-2021

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
acenaphthene	000083-32-9	RM09993	2003 ± 10 µg/mL
acenaphthylene	000208-96-8	RM09993	2002 ± 10 µg/mL
anthracene	000120-12-7	RM03477	2004 ± 10 µg/mL
benz[a]anthracene	000056-55-3	RM13735	2007 ± 10 µg/mL
benzo[b]fluoranthene	000205-99-2	RM09988	2002 ± 10 µg/mL
benzo[k]fluoranthene	000207-08-9	RM10962	2009 ± 10 µg/mL
benzo[ghi]perylene	000191-24-2	RM10337	2008 ± 10 µg/mL
benzo[a]pyrene	000050-32-8	RM13734	2006 ± 10 µg/mL
chrysene	000218-01-9	RM11308	2002 ± 10 µg/mL
dibenz[a,h]anthracene	000053-70-3	RM06786	2001 ± 10 µg/mL
fluoranthene	000206-44-0	RM12277	2006 ± 10 µg/mL
fluorene	000086-73-7	RM09441	2001 ± 10 µg/mL
indeno[1,2,3-cd]pyrene	000193-39-5	RM06789	2008 ± 10 µg/mL
naphthalene	000091-20-3	RM10445	2001 ± 10 µg/mL
phenanthrene	000085-01-8	RM10495	2006 ± 10 µg/mL
pyrene	000129-00-0	RM03479	2006 ± 10 µg/mL

Matrix: methylene chloride/benzene (1:1)

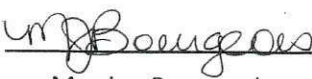
Storage: Store at Room Temperature (15° to 30°C).

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.



ISO 9001
Registered
TUV USA, Inc.


John Russo
President


Monica Bourgeois
Director of QA/RA



Product Name: DIBENZ[A,H]ANTHRACENE
(Isotopic Label & Enrichment Specification) (D14, 97%)

Lot Number: PR-28018

Catalog Number: DLM-677-0

Product Information

Chemical Purity Specification: $\geq 98\%$

MW*: 292.43
* For isotopically labeled compounds, MW listed is for the fully enriched product.

Labeled CAS Number: 13250-98-1

Unlabeled CAS Number: 53-70-3

Chemical Formula: C22D14

Storage: Store at room temperature away from light and moisture.

G 01 0436 JK
Reed 11/09/18

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. Results are representative of QC testing at time of release from Quality Control unless otherwise stated.

The retest date for this chemical has been designated based on CIL's experience in working with chemical standards for over 30 years, and includes review of actual analytical results and relevant literature references. The retest date is valid only for unopened vials or ampoules that have been stored as recommended.

Approved by: Sashi Sivendran-Basak

Sashi Sivendran-Basak, Ph.D., Quality Review

Quality Control Tests and Results

¹ H NMR for Chemical Purity	Pass
¹ H NMR for Isotopic Enrichment	99.6%
² H NMR for Chemical Purity	Pass
GC/FID for Chemical Purity	99.3%
GC/MS for Identification	Conforms
GC/MS for Isotopic Enrichment	99.3%
Melting Point Range Determination	257-267°C

CIL subscribes to the following standards for different products: ISO Guide 34, ISO/IEC 17025, ISO 13485 and cGMP as appropriate.



Product Name: DIBENZ[A,H]ANTHRACENE
(Isotopic Label & Enrichment Specification) (D14, 97%)

Lot Number: PR-28018

Catalog Number: DLM-677-0

Additional Testing Information:
Retest/Review Date: 02/28/27

CERTIFICATE OF ANALYSIS

2-Chloronaphthalene

CATALOG NUMBER N-10323-100MG
LOT NUMBER 7762100
DATE CERTIFIED 05/22/18
EXPIRATION DATE 05/31/24
CAS NUMBER 91-58-7
MOLECULAR FORMULA C₁₀H₇Cl
MOLECULAR WEIGHT 162.62
STORAGE Store in a cool dry place.
HANDLING See Safety Data Sheet
INTENDED USE For laboratory use only.
ISO GUIDE 34 CERTIFIED []

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:

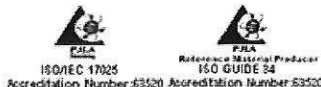
Mary Beth O'Donnell

Mary Beth O'Donnell
CSM/TC

G010438
2-Chloronaphthalene NEAT
Solvent / Lot: NEAT
Prep: 11/10/2018 by VS
Exp: 5/31/2024
Location: BOX P

Chem Service, Inc. is accredited to ISO Guide 34:2009, ISO/IEC 17025:2005 and certified to ISO 9001:2008

COA Form
Revision 3 (3/2015)

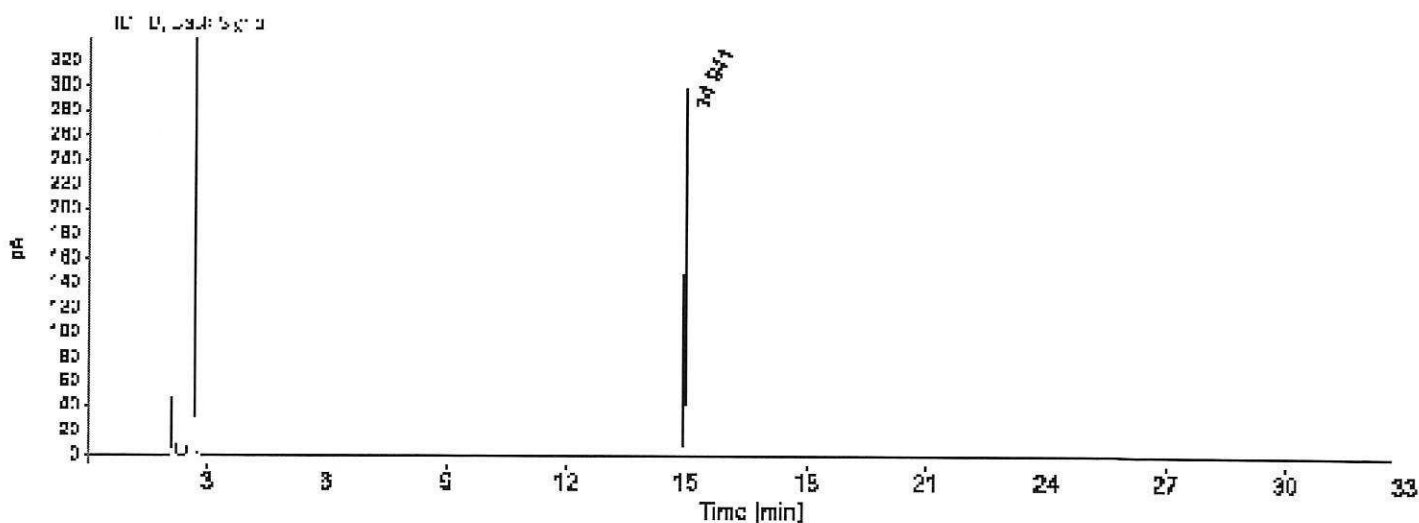


CERTIFICATE OF ANALYSIS

Gas Chromatography / Flame Ionization Detector (GC/FID)

Data file: C:\Chem32\11\Data\2018 Data\0518\2-Chloronaphthalene.D
Sample name: 2-Chloronaphthalene

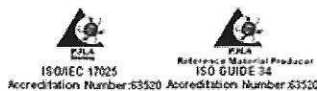
Instrument: GC3 Location: 209
Injection date: 5/22/2018 1:12:52 PM Injection volume: 1.0uL
Acq. method: REAR_SCREEN.M
Col Type: pn# 7HG-G006-17-C Diameter 250.000 Length 30.000



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		

Chem Service, Inc. is accredited to ISO Guide 34:2005, ISO/IEC 17025:2005 and certified to ISO 9001:2008





CERTIFIED WEIGHT REPORT

Part Number: 70476
Lot Number: 011619
Description: Benzo(j)fluoranthene

Solvent(s): Methylene chloride
Lot# 102669

Expiration Date: 011624
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 1000
NIST Test ID#: 2684186

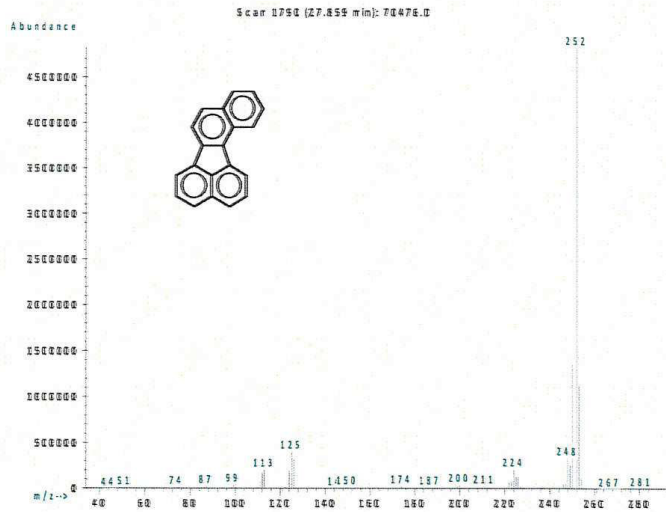
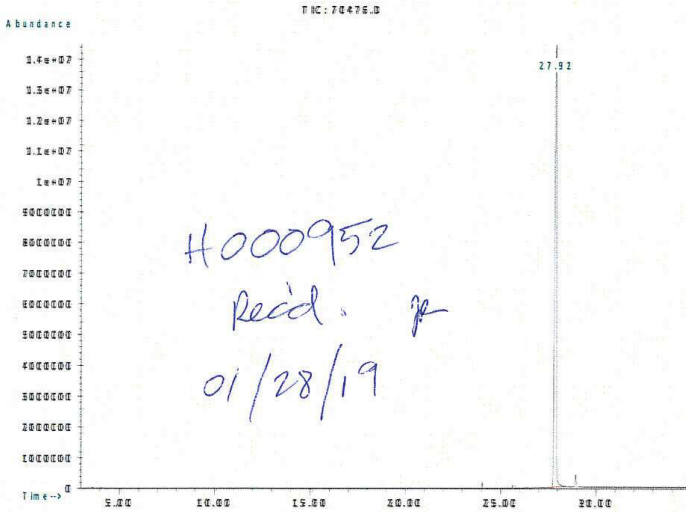
Weight(s) shown below were combined and diluted to (mL): 25.0

5E-05 Balance Uncertainty
0.001 Flask Uncertainty

Formulated By: <i>Mario Luis</i>	011619
	DATE
Reviewed By: <i>Pedro L. Rentas</i>	011619
	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)	LDSO
1. Benzo(j)fluoranthene	476	3-CSZ-153-20	1000	98.1	0.2	0.02547	0.02558	1004.2	5.7	205-82-3	0.2mg/m3	N/A

Method GC/MS/MSD1M: Column:SBB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1 min.), 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 certified (+/-) 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).

H009550

SVOA-d14-Dibenzo(a,h)anthracene-2500ug/ml

Data :
Report

Solvent / Lot: DCM/H008760
Prep: 10/2/2019 by VS
Exp: 10/2/2020
Location: Warm to 30C

1910C

H009569

LOW SIM PAH CAL-5ug/ml
Solvent / Lot: DCM/H008760
Prep: 10/3/2019 by VS
Exp: 5/17/2020
Location:

ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20191003.b\NT1119100302.D

Lab Smp Id: H009569-250

Inj Date : 03-OCT-2019 11:00

MS Autotune Date: 15-JAN-2015 16:59

Operator : VTS

Inst ID: nt11.i

Smp Info : H009569-250

Misc Info :

Comment :

Method : \\target\share\chem3\nt11.i\20191003.b\lowsim.m

Meth Date : 03-Oct-2019 12:25 van

Quant Type: ISTD

Cal Date : 03-OCT-2019 10:30

Cal File: NT1119100301.D

Als bottle: 2

Dil Factor: 1.00000

Integrator: HP RTE

Compound Sublist: PAH.sub

Target Version: 4.14

Processing Host: VANS

@ 250
compared to old mix

Compounds	QUANT	SIG	CONCENTRATIONS					
			ON-COLUMN	FINAL				
	MASS		RT	EXP RT	REL RT	RESPONSE	(ng/mL)	(ng/mL)
* 1 Naphthalene-d8	136		6.650	6.650	(1.000)	150999	200.000	
2 Naphthalene	128		6.677	6.677	(1.004)	196187	256.450	256
3 Benzo(b)thiophene	134		6.930	6.930	(1.042)	159213	256.263	256
\$ 4 2-Methylnaphthalene-d10	152		7.618	7.618	(1.146)	112539	239.085	239
5 2-Methylnaphthalene	142		7.670	7.670	(1.153)	141284	258.781	259
6 1-Methylnaphthalene	142		7.923	7.933	(1.191)	141015	257.499	257
7 2-Chloronaphthalene	162		8.574	8.574	(0.889)	130821	262.182	262
8 Biphenyl	154		8.542	8.553	(0.885)	167818	263.154	263
9 2,6-Dimethylnaphthalene	156		8.605	8.605	(0.892)	128101	261.452	261
10 Acenaphthylene	152		9.494	9.494	(0.984)	155523	257.952	258
* 11 Acenaphthene-d10	164		9.648	9.648	(1.000)	73006	200.000	
12 Acenaphthene	153		9.702	9.702	(1.006)	111115	261.393	261
13 Dibenzofuran	168		9.906	9.906	(1.027)	142747	262.407	262
14 2,3,5-Trimethylnaphthalene	170		10.007	10.007	(1.037)	101355	262.119	262
16 Fluorene	166		10.538	10.538	(1.092)	115264	260.004	260
17 Dibenzothiophene	184		12.142	12.142	(0.986)	154483	262.360	262
* 18 Phenanthrene-d10	188		12.311	12.310	(1.000)	128794	200.000	
19 Phenanthrene	178		12.353	12.353	(1.003)	155069	260.459	260
21 Anthracene	178		12.405	12.405	(1.008)	181695	259.415	259
22 Carbazole	167		13.095	13.095	(1.064)	179113	260.252	260
23 1-Methylphenanthrene	192		13.348	13.348	(1.084)	146014	260.198	260
\$ 24 Fluoranthene-d10	212		14.411	14.411	(1.171)	136675	239.312	239
25 Fluoranthene	202		14.439	14.439	(1.173)	177769	261.870	262
26 Fyrene	202		14.939	14.939	(1.214)	181289	262.196	262
27 Benzo(a)anthracene	228		16.944	16.944	(0.995)	142356	260.815	261
* 28 Chrysene-d12	240		17.035	17.043	(1.000)	97091	200.000	
29 Chrysene	228		17.085	17.085	(1.003)	160479	268.375	268
✓ 30 Benzo(b)fluoranthene	252		18.755	18.755	(0.951)	144336	274.209	274 170%
31 Benzo(k)fluoranthene	252		18.793	18.793	(0.953)	165195	266.919	267
32 Benzo(j)fluoranthene	252		18.851	18.851	(0.956)	169926	269.517	270
34 Benzo(e)pyrene	252		19.427	19.437	(0.985)	146932	270.097	270
35 Benzo(a)pyrene	252		19.533	19.533	(0.990)	139050	268.012	268
* 36 Perylene-d12	264		19.725	19.725	(1.000)	104829	200.000	

Compounds	QUANT SIG	CONCENTRATIONS					
		MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ng/mL)
37 Perylene	252	19.783	19.783	(1.003)	147335	269.490	269
\$ 38 Dibenzo(a,h)anthracene-d14	292	22.044	22.044	(1.118)	93336	231.868	232
39 Dibenzo(a,h)anthracene	278	22.155	22.155	(1.123)	117340	266.540	267
40 Indeno(1,2,3-cd)pyrene	276	22.177	22.177	(1.124)	137482	266.881	267
41 Benzo(g,h,i)perylene	276	23.285	23.285	(1.180)	128893	267.641	268

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i
 Lab File ID: NT1119100302.D
 Lab Smp Id: H009569-250
 Analysis Type: SV
 Quant Type: ISTD
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20191003.b\lowsim.m
 Misc Info:

Calibration Date: 03-OCT-2019
 Calibration Time: 10:30
 Level:
 Sample Type:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	201797	100899	403594	150999	-25.17
11 Acenaphthene-d10	96586	48293	193172	73006	-24.41
18 Phenanthrene-d10	169149	84575	338298	128794	-23.86
28 Chrysene-d12	126783	63392	253566	97091	-23.42
36 Perylene-d12	124340	62170	248680	104829	-15.69

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	6.65	6.15	7.15	6.65	0.00
11 Acenaphthene-d10	9.65	9.15	10.15	9.65	0.00
18 Phenanthrene-d10	12.31	11.81	12.81	12.31	0.00
28 Chrysene-d12	17.04	16.54	17.54	17.04	-0.05
36 Perylene-d12	19.73	19.23	20.23	19.73	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 - NT1119100302.D

Lab ID: H009569-250

nt11.i, 20191003.b\lowsim.m, 03-OCT-2019 11:00

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

** CHECK CAL FILE ON TARGET REPORT! QUANT FROM CCAL. **

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
-----	-----	-----	-------	----------

NONE

RRT check based on Ccal File: NT1119100301.D

On Column LOD for nt11.i, 20191003.b\lowsim.m, PAH.sub = 0.0000

Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000

Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000

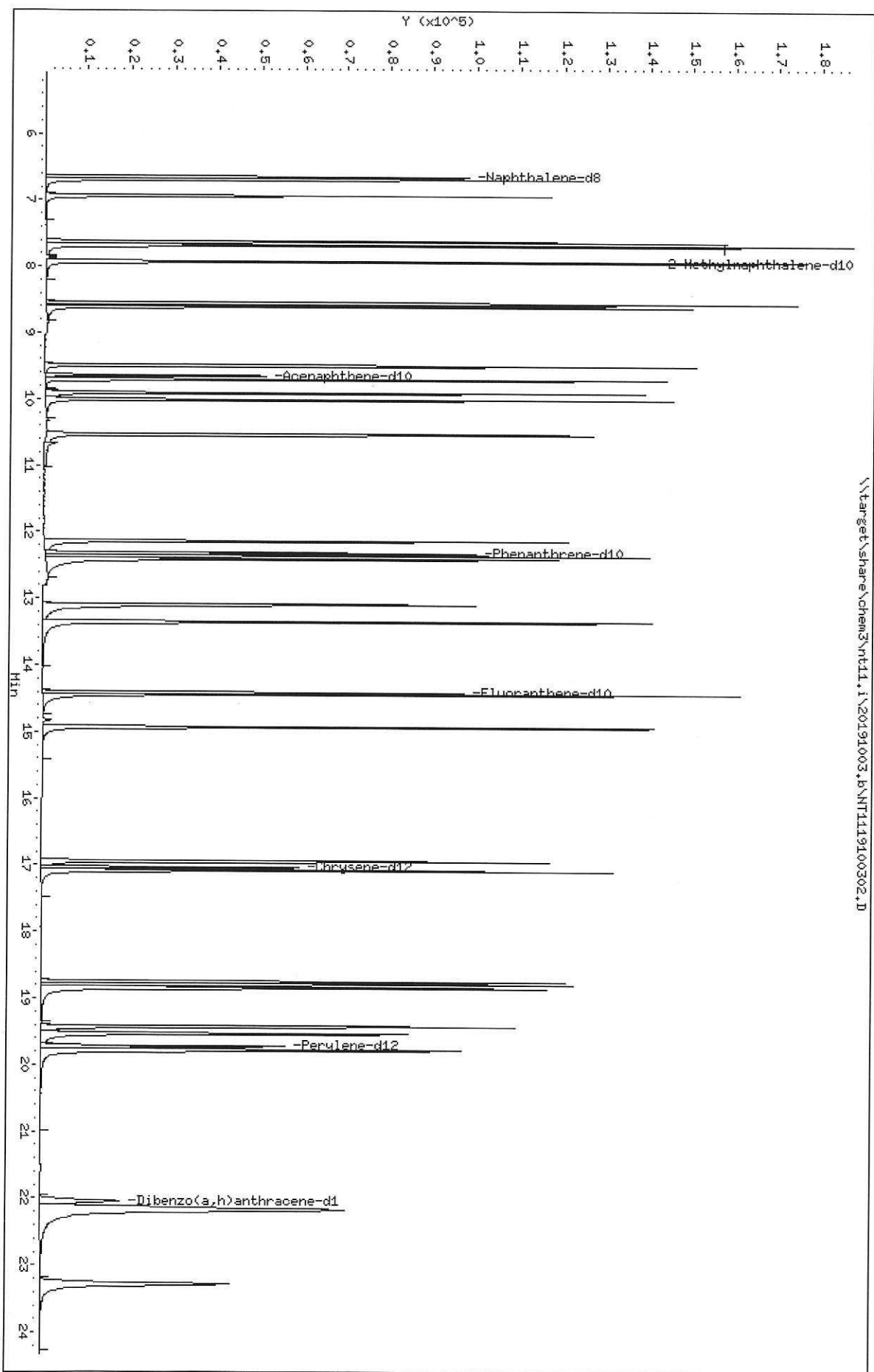
Exception: Fluoranthene-d10 (Surr) 0.1000

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

Data File: \\target\share\chem3\nt11.i\20191003.b\NT1119100302.D
Date: 03-OCT-2019 11:00
Client ID:
Sample Info: H009569-250

Column phase: Rx1-17S11 MS

Instrument: nt11.i
Operator: VTS
Column diameter: 0.25





CERTIFIED REFERENCE MATERIAL

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

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.: A0149554

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 : April 30, 2025 Storage: 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)			
1	2-Methylnaphthalene-d10	2,000.2 µg/mL	+/- 11.7382	µg/mL	Gravimetric	
	CAS # 7297-45-2 (Lot AC-257)		+/- 90.1034	µg/mL	Unstressed	
	Purity 98%		+/- 99.9779	µg/mL	Stressed	
2	Fluoranthene-d10	2,000.2 µg/mL	+/- 11.7382	µg/mL	Gravimetric	
	CAS # 93951-69-0 (Lot PR-20668)		+/- 90.1034	µg/mL	Unstressed	
	Purity 98%		+/- 99.9779	µg/mL	Stressed	

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

H010524
SOMO 1.0 SIM DMC
Solvent / Lot: A0149554
Prep: 10/26/2019 by VS
Exp: 4/30/2025
Location:

Manufactured under Restek's ISO 9001:2015
 Registered Quality System
 Certificate #FM 80397

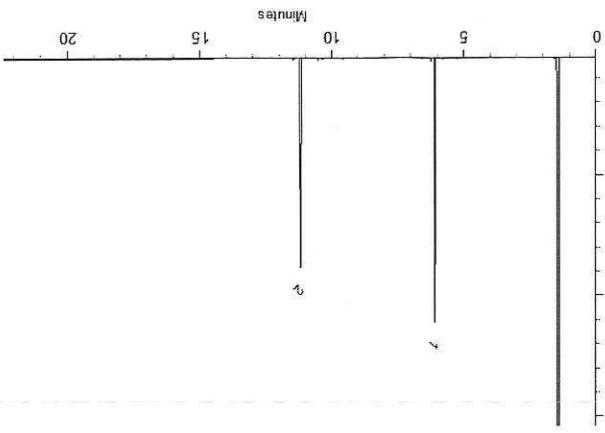
Justin Albersson
 Justice Albersson - Operations Tech-ARM QC

Date Passed: 29-May-2019

Cheryl Graham
 Cheryl Graham - Mix Technician

Date Mixed: 26-May-2019
 Balance: B345965662

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.



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

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/ μ ECD, 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:

$$U_{combined\ stressed} = k \sqrt{U_{gravimetric}^2 + U_{homogeneity}^2 + U_{storage\ stability}^2 + U_{shipping\ stability}^2}$$

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)	< 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.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.



110 Benner Circle
 Bellefonte, PA 16823-8812
 Tel: (800)356-1688
 Fax: (814)353-1309

www.restek.com

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. : 31477 Lot No.: A0156289

Description : Tripentyltin Chloride Mixture
Tripentyltin Chloride Std 2000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL Pkg Amt: > 1 mL

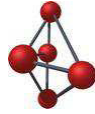
Expiration Date : January 31, 2023 Storage: 10°C or colder

Elution Order	Compound	CAS #	Percent Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)
1	Tripentyltin chloride	3342-67-4	99%	2,000.0 µg/mL	+/- 18.5989 µg/mL
Solvent:	Methylene chloride	75-09-2	99%		

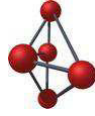
I000552

Specific Reference Material Notes:

Derivatization in the sample preparation of this standard is required for internal acceptance testing as a result the acceptance criteria is ±15%.



Certified Reference Material CRM



CERTIFIED WEIGHT REPORT

Part Number: 93462
Lot Number: 022620
Description: PAH Standard
30 components
022625
Expiration Date: Refrigerate (4 °C)
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 1000
NIST Test ID#: 6UTB

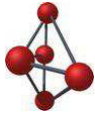
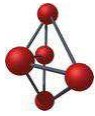
Solvent(s): Methylene chloride
Lot# 102669
Initial Uncertainty Balance Uncertainty
5E-05
Final Uncertainty Flask Uncertainty
0.003

Formulated By: <i>Eli Aliaga</i>	DATE: 022620
Reviewed By: <i>Pedro L. Rentas</i>	DATE: 022620
Pedro L. Rentas	

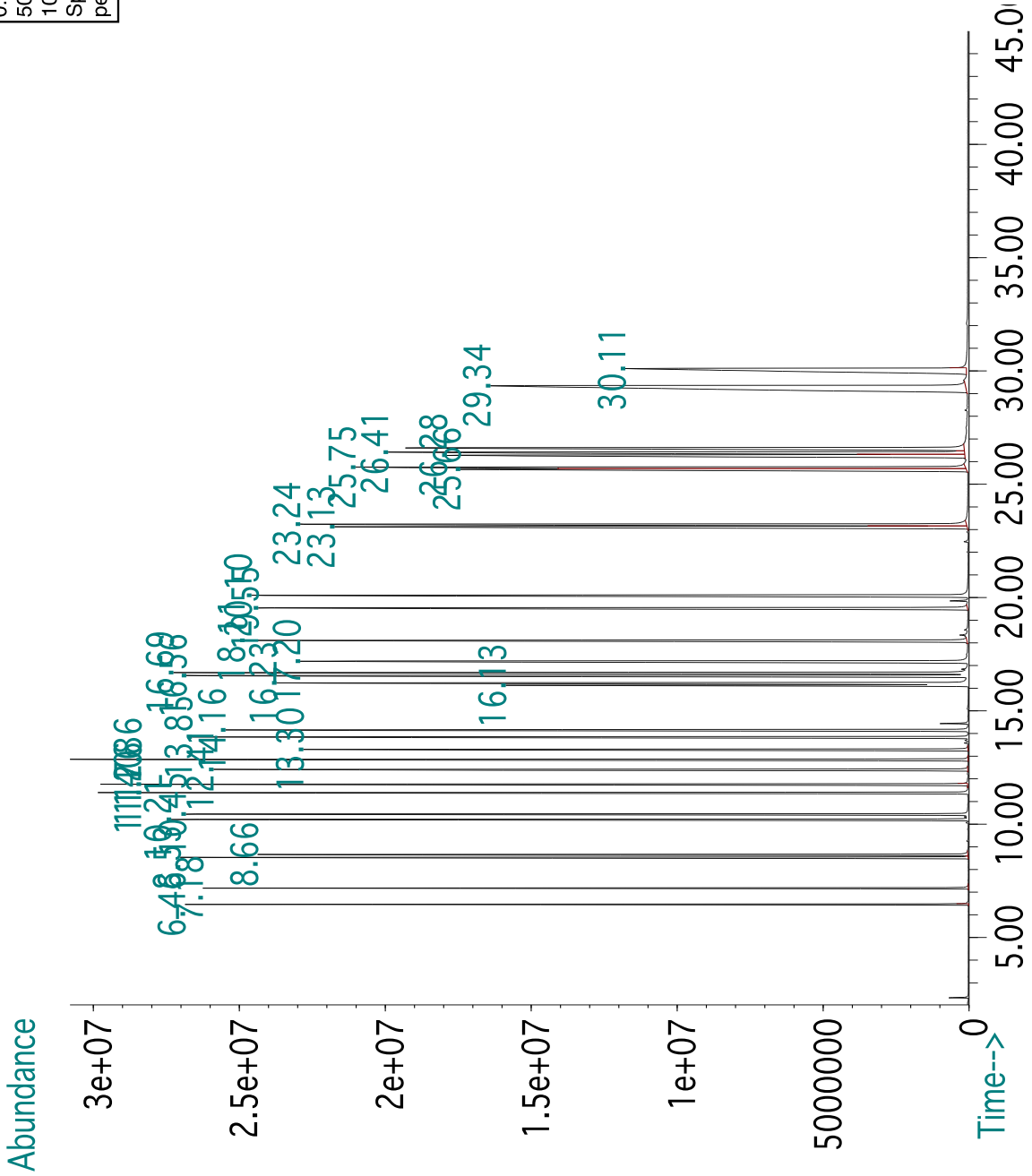
Volume(s) shown below were combined and diluted to (mL):

Compound	Part Number	Lot Number	Dil. Factor	Initial Vol. (mL)	Initial Uncertainty (mL)	Final Conc. (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information			
								(Solvent Safety Info. On Attached pg.)	OSHA PEL (TWA) LD50		
1. Acenaphthene	10007	060118	0.50	10.00	0.042	2000.1	999.5	9.3	83-32-9	N/A	ipr-rat 600mg/kg
2. Acenaphthylene	10007	060118	0.50	10.00	0.042	2000.2	999.5	9.4	208-96-8	N/A	N/A
3. Anthracene	10007	060118	0.50	10.00	0.042	2000.3	999.5	9.3	120-12-7	0.2mg/m3 (8H)	ipr-mus 430mg/kg
4. Benzo(a)anthracene	10007	060118	0.50	10.00	0.042	2000.9	999.9	9.4	56-55-3	N/A	N/A
5. Benzo(a)pyrene	10007	060118	0.50	10.00	0.042	2000.3	999.6	9.3	50-32-8	0.2mg/m3 (8H)	scu-rat 50mg/kg
6. Benzo(b)fluoranthene	10007	060118	0.50	10.00	0.042	2000.7	999.8	9.4	205-99-2	N/A	N/A
7. Benzo(k)fluoranthene	10007	060118	0.50	10.00	0.042	2000.6	999.7	9.4	207-08-9	N/A	N/A
8. Benzo(g,h,i)perylene	10007	060118	0.50	10.00	0.042	2000.4	999.6	9.3	191-24-2	N/A	N/A
9. Carbazole	10007	060118	0.50	10.00	0.042	2000.7	999.7	9.4	86-74-8	N/A	ipr-mus 200mg/kg
10. Chrysene	10007	060118	0.50	10.00	0.042	2000.4	999.6	9.4	218-01-9	0.2mg/m3	N/A
11. Dibenz(a,h)anthracene	10007	060118	0.50	10.00	0.042	2000.5	999.7	9.4	53-70-3	0.2mg/m3	N/A
12. Fluoranthene	10007	060118	0.50	10.00	0.042	2000.5	999.6	9.4	206-44-0	N/A	orl-rat 2000mg/kg
13. Fluorene	10007	060118	0.50	10.00	0.042	2000.4	999.6	9.4	86-73-7	N/A	ipr-mus 2 g/kg
14. Indeno(1,2,3-cd)pyrene	10007	060118	0.50	10.00	0.042	2000.3	999.5	9.4	193-39-5	N/A	N/A
15. Naphthalene	10007	060118	0.50	10.00	0.042	2000.8	999.8	9.4	91-20-3	10 ppm (50mg/m3/8H)	orl-rat 490mg/kg
16. Phenanthrene	10007	060118	0.50	10.00	0.042	2000.8	999.8	9.4	85-01-8	0.2mg/m3/8H	orl-mus 700mg/kg
17. Pyrene	10007	060118	0.50	10.00	0.042	2000.0	999.4	9.4	129-00-0	0.2mg/m3/8H	orl-rat 2700mg/kg
18. Benzo(e)pyrene	94851	021119	0.50	10.00	0.042	2001.6	1000.2	9.4	192-97-2	N/A	N/A
19. Biphenyl	94851	021119	0.50	10.00	0.042	2003.6	1001.2	9.4	92-52-4	0.2 ppm(1mg/m3/8H)	orl-rat 2400mg/kg
20. Decalin (49% cis, 51% trans)	94851	021119	0.50	10.00	0.042	2004.1	1001.4	9.4	91-17-8	N/A	N/A
21. Dibenzofuran	94851	021119	0.50	10.00	0.042	2000.9	999.9	9.4	132-64-9	N/A	N/A
22. Dibenzothiophene	94851	021119	0.50	10.00	0.042	2002.7	1000.7	9.4	132-65-0	N/A	orl-mus 470 mg/kg
23. 2,6-Dimethylnaphthalene	94851	021119	0.50	10.00	0.042	2000.7	999.8	9.4	581-42-0	N/A	N/A
24. 1-Methylnaphthalene	94851	021119	0.50	10.00	0.042	2001.0	999.9	9.4	90-12-0	N/A	orl-rat 1840mg/kg
25. 2-Methylnaphthalene	94851	021119	0.50	10.00	0.042	2001.6	1000.2	9.4	91-57-6	N/A	orl-rat 1630mg/kg
26. 1-Methylphenanthrene	94851	021119	0.50	10.00	0.042	2003.3	1001.1	13.2	832-69-9	N/A	N/A
27. Pentachlorophenol	94851	021119	0.50	10.00	0.042	2003.0	1000.9	9.4	87-86-5	0.5mg/m3/8H (skin)	orl-rat 27mg/kg
28. Perylene	94851	021119	0.50	10.00	0.042	2003.3	1001.0	9.4	198-55-0	N/A	N/A
29. Thianaphthene	94851	021119	0.50	10.00	0.042	2000.3	999.6	9.4	95-15-8	N/A	N/A
30. 2,3,5-Trimethylnaphthalene	94851	021119	0.50	10.00	0.042	2003.3	1001.0	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 certified (+/-) 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).

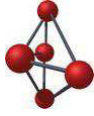
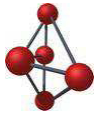


TIC: 93462.D



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.)	Compound Name
6.46	Decahydronaphthalene (Decalin) (isomer)
7.18	Decahydronaphthalene (Decalin) (isomer)
8.53	Naphthalene
8.66	Thianaphthene
10.21	2-Methylnaphthalene
10.45	1-Methylnaphthalene
11.4	Biphenyl
11.76	2,6-Dimethylnaphthalene
12.41	Acenaphthylene
12.86	Acenaphthene
13.3	Dibenzofuran
13.85	2,3,5-Trimethylnaphthalene
14.16	Fluorene
16.13	Pentachlorophenol
16.23	Dibenzothiophene
16.56	Phenanthrene
16.69	Anthracene
17.2	Carbazole
18.11	1-Methylphenanthrene
19.55	Fluoranthene
20.1	Pyrene
23.13	Benzo(a)anthracene
23.24	Chrysene
25.66	Benzo(b)fluoranthene
25.75	Benzo(k)fluoranthene
26.28	Perylene
26.41	Benzo(a)pyrene
26.61	Benzo(e)pyrene
29.34	Indeno(1,2,3-cd)pyrene
29.34	Dibenzo(a,h)anthracene
30.11	Benzo(g,h,i)perylene



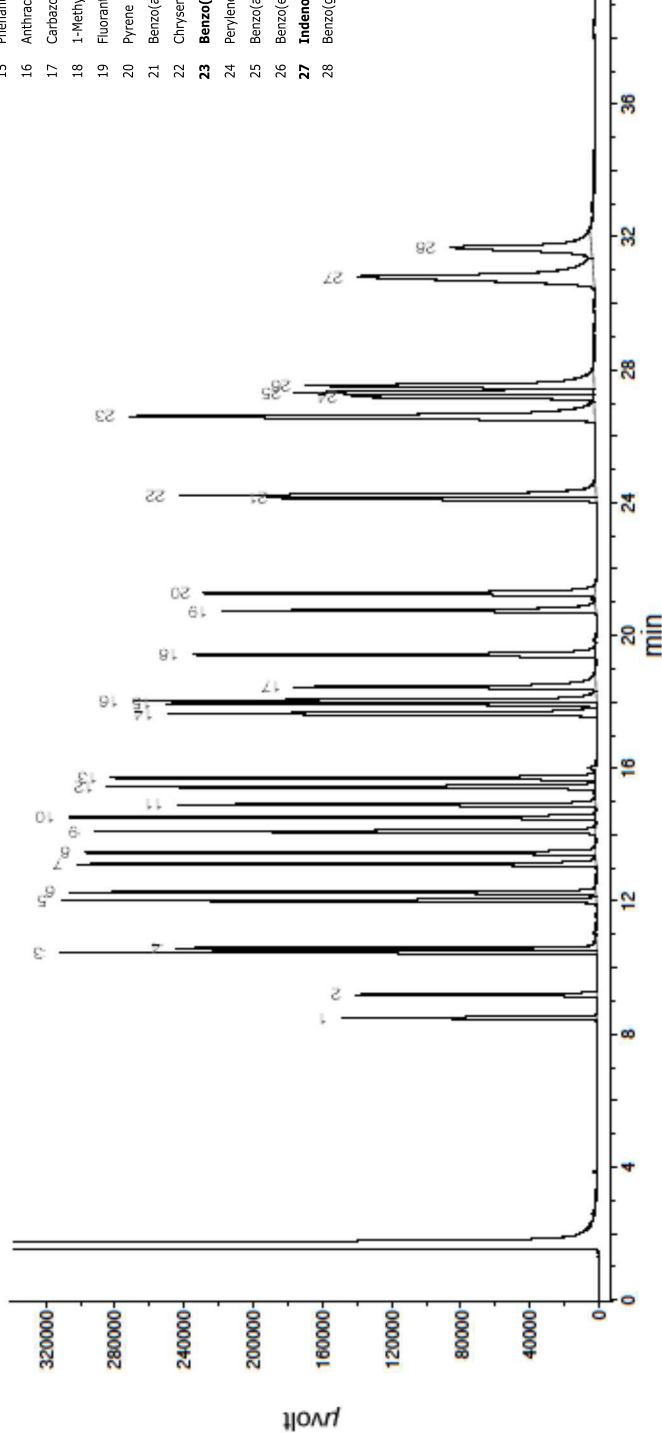
Run 47, "P93462 L022620 [1000µg/mL in MeCl2]"

Run Length: 40.00 min, 23999 points at 10 points/second.
Created: Wed, Mar 4, 2020 at 4:09:15 AM.
Sampled: Sequence "030220-GC9M2", Method "GC9-M2".
Analyzed using Method "GC9-M2".

Comments

GC9-M2 Analysis by Candice Warren
Column ID SPB-5 30 meter x 0.53mm x 1.5µm 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 mL
Oven Temp 1 = 50°C (1 min), Total Run Time = 40 Minutes. Injector Temp = 250°C.
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 µL, Range = 3

Peak No.	Name	FID RT (min.)
1	Decahydronaphthalene (Decalin) (isomer)	8.96
2	Decahydronaphthalene (Decalin) (isomer)	9.67
3	Naphthalene	10.96
4	Thianaphthene	11.09
5	2-Methylnaphthalene	12.53
6	1-Methylnaphthalene	12.78
7	Biphenyl	13.63
8	2,6-Dimethylnaphthalene	13.99
9	Acenaphthylene	14.63
10	Acenaphthene	15.07
11	Dibenzofuran	15.44
12	2,3,5-Trimethylnaphthalene	15.98
13	Fluorene	16.26
14	Pentachloropheno/dibenzothiophene	18.22
15	Phenanthrene	18.51
16	Anthracene	18.62
17	Carbazole	19.01
18	1-Methylphenanthrene	20.00
19	Fluoranthene	21.34
20	Pyrene	21.88
21	Benzo(a)anthracene	24.74
22	Chrysene	24.84
23	Benzo(b)fluoranthene/Benzo(k)fluoranthene	27.36
24	Perylene	28.04
25	Benzo(e)pyrene	28.18
26	Benzo(e)pyrene	28.42
27	Indeno(1,2,3-cd)pyrene/Dibenzo(a,h)anthracene	32.26
28	Benzo(g,h,i)perylene	33.30





CERTIFIED REFERENCE MATERIAL

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

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.:** A0154854

Description : SOM01.0 SIM Analysis Standard
SOM01.0 SIM Analysis Standard 2000µg/mL, Methylene chloride, 1 mL /ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2025 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)			
1	2-Methylnaphthalene-d10	2,017.8 µg/mL	+/-	11.8417	µg/mL	Gravimetric
	CAS # 7297-45-2 (Lot AC-257)		+/-	90.8981	µg/mL	Unstressed
	Purity 98%		+/-	100.8597	µg/mL	Stressed
2	Fluoranthene-d10	1,999.2 µg/mL	+/-	11.7324	µg/mL	Gravimetric
	CAS # 93951-69-0 (Lot PR-20668)		+/-	90.0593	µg/mL	Unstressed
	Purity 98%		+/-	99.9290	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

I 4369



Product Name: DIBENZ[A,H]ANTHRACENE
(Isotopic Label & Enrichment Specification) (D14, 98%)

Lot Number: PR-30906

Catalog Number: DLM-677-0

Product Information

Chemical Purity Specification: $\geq 98\%$

MW*: 292.43
* For isotopically labeled compounds, MW listed is for the fully enriched product.

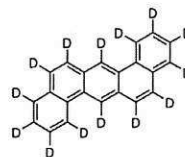
Labeled CAS Number: 13250-98-1

Unlabeled CAS Number: 53-70-3

Chemical Formula: C22D14

Storage: Store at room temperature away from light and moisture.

Intended Use: For Research Use Only. Not for use in diagnostic procedures.



I4874

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. Results are representative of QC testing at time of release from Quality Control unless otherwise stated.

The retest date for this chemical has been designated based on CIL's experience in working with chemical standards for over 30 years, and includes review of actual analytical results and relevant literature references. The retest date is valid only for unopened vials or ampoules that have been stored as recommended.

Approved by: Sashi Sivendran-Basak

Sashi Sivendran-Basak, Ph.D., Quality Review

Quality Control Tests and Results

1H NMR for Chemical Purity	Pass
1H NMR for Isotopic Enrichment	99.4%
2H NMR for Chemical Purity	Pass
GC/FID for Chemical Purity	99.4%
GC/MS for Identification	Conforms
Melting Point Range Determination	261-267°C

Additional Testing Information:

CIL subscribes to the following standards for different products: ISO Guide 34, ISO/IEC 17025, ISO 13485 and cGMP as appropriate.

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.: AL0-101291

Lot Number: CL10999

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: June 19, 2015

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty (%)
Benzidine	92-87-5	1000	± 4.575%
Decafluorotriphenylphosphine (DFTPP)	5074-71-5	1000	± 2.420%
4,4'-DDT	50-29-3	1000	± 2.772%
Pentachlorophenol	87-86-5	1000	± 2.616%

7 5998



Reference Material Producer
Certificate No. 2427.02



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.



Chemical Testing Laboratory
Certificate No. 2427.03

IL1110613_US

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.

1. **Quality Document:** This Certificate of Analysis has been created in accordance with ISO Guide 31¹ and ISO Guide 35.²
2. **Quality Standards:** Phenova is accredited by A2LA to ISO 17034³ and ISO/IEC 17025⁴ 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 25 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 98⁵ 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)



Reference Material Producer
Certificate No. 2427.02



Phenova is an accredited ISO/IEC 17034 Reference Material
Producer and ISO/IEC 17025 accredited Chemical Testing Laboratory.



Chemical Testing Laboratory
Certificate No. 2427.03



Certified Reference Material CRM



CERTIFIED WEIGHT REPORT

Part Number: 93462
Lot Number: 092220
Description: PAH Standard
30 components
Expiration Date: 092225
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 1000
NIST Test ID#: 23060

Solvent(s): Methylene chloride
Lot# 102669
Formulated By: Benson Chair
Reviewed By: Pedro L. Rentas

Formulated By:	Benson Chair	DATE	092220
Reviewed By:	Pedro L. Rentas	DATE	092220

Volume(s) shown below were combined and diluted to (mL): 20.0 5E-05 Balance Uncertainty 0.003 Flask Uncertainty

Compound	Part Number	Lot Number	Dil. Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.)	CAS#	OSHA PEL (TWA)	LDSO
1. Acenaphthene	10007	060118	0.50	10.00	0.042	2000.1	999.5	9.3	83-32-9	N/A	N/A	i pr-rat 600mg/kg
2. Acenaphthylene	10007	060118	0.50	10.00	0.042	2000.2	999.5	9.4	208-96-8	N/A	N/A	N/A
3. Anthracene	10007	060118	0.50	10.00	0.042	2000.3	999.5	9.3	120-12-7	0.2mg/m3 (8H)	0.2mg/m3	i pr-mus 430mg/kg
4. Benzo(a)anthracene	10007	060118	0.50	10.00	0.042	2000.9	999.9	9.4	56-55-3	N/A	N/A	N/A
5. Benzo(a)pyrene	10007	060118	0.50	10.00	0.042	2000.3	999.6	9.3	50-32-8	0.2mg/m3 (8H)	0.2mg/m3	scu-rat 50mg/kg
6. Benzo(b)fluoranthene	10007	060118	0.50	10.00	0.042	2000.7	999.7	9.4	205-99-2	N/A	N/A	N/A
7. Benzo(k)fluoranthene	10007	060118	0.50	10.00	0.042	2000.6	999.6	9.4	207-08-9	N/A	N/A	N/A
8. Benzo(g,h,i)perylene	10007	060118	0.50	10.00	0.042	2000.4	999.6	9.3	191-24-2	N/A	N/A	N/A
9. Carbazole	10007	060118	0.50	10.00	0.042	2000.7	999.7	9.4	86-74-8	N/A	N/A	i pr-mus 200mg/kg
10. Chrysene	10007	060118	0.50	10.00	0.042	2000.4	999.6	9.4	218-01-9	0.2mg/m3	N/A	N/A
11. Dibenzo(a,h)anthracene	10007	060118	0.50	10.00	0.042	2000.5	999.7	9.4	53-70-3	0.2mg/m3	N/A	N/A
12. Fluoranthene	10007	060118	0.50	10.00	0.042	2000.5	999.6	9.4	206-44-0	N/A	N/A	ort-rat 2000mg/kg
13. Fluorene	10007	060118	0.50	10.00	0.042	2000.4	999.6	9.4	86-73-7	N/A	N/A	i pr-mus 2 g/kg
14. Indeno(1,2,3-cd)pyrene	10007	060118	0.50	10.00	0.042	2000.3	999.5	9.4	193-39-5	N/A	N/A	N/A
15. Naphthalene	10007	060118	0.50	10.00	0.042	2000.8	999.8	9.4	91-20-3	10 ppm (50mg/m3/8H)	0.2mg/m3	ort-rat 490mg/kg
16. Phenanthrene	10007	060118	0.50	10.00	0.042	2000.8	999.8	9.4	85-01-8	0.2mg/m3/8H	0.2mg/m3	ort-mus 700mg/kg
17. Pyrene	10007	060118	0.50	10.00	0.042	2000.0	999.4	9.4	129-00-0	0.2mg/m3/8H	0.2mg/m3	ort-rat 2700mg/kg
18. Benzo(e)pyrene	94851	021119	0.50	10.00	0.042	2001.6	1000.2	9.4	192-97-2	N/A	N/A	N/A
19. Biphenyl	94851	021119	0.50	10.00	0.042	2003.6	1001.2	9.4	92-52-4	0.2 ppm(1mg/m3/8H)	0.2mg/m3	ort-rat 2400mg/kg
20. Decalin (49% cis, 51% trans)	94851	021119	0.50	10.00	0.042	2004.1	1001.4	9.4	91-17-8	N/A	N/A	N/A
21. Dibenzofuran	94851	021119	0.50	10.00	0.042	2000.9	999.9	9.4	132-64-9	N/A	N/A	N/A
22. Dibenzothiophene	94851	021119	0.50	10.00	0.042	2002.7	1000.7	9.4	132-65-0	N/A	N/A	ort-mus 470 mg/kg
23. 6-Dimethylnaphthalene	94851	021119	0.50	10.00	0.042	2000.7	999.8	9.4	581-42-0	N/A	N/A	N/A
24. 1-Methylnaphthalene	94851	021119	0.50	10.00	0.042	2001.0	999.9	9.4	90-12-0	N/A	N/A	ort-rat 1840mg/kg
25. 2-Methylnaphthalene	94851	021119	0.50	10.00	0.042	2001.6	1000.2	9.4	91-57-6	N/A	N/A	ort-rat 1630mg/kg
26. Methyphenanthrene	94851	021119	0.50	10.00	0.042	2003.3	1001.1	13.2	832-69-9	N/A	N/A	N/A
27. Pentachlorophenol	94851	021119	0.50	10.00	0.042	2003.0	1000.9	9.4	87-86-5	0.5mg/m3/8H (skin)	0.5mg/m3	ort-rat 27mg/kg
28. Perylene	94851	021119	0.50	10.00	0.042	2003.3	1001.0	9.4	198-55-0	N/A	N/A	N/A
29. Phianaphthene	94851	021119	0.50	10.00	0.042	2000.3	999.6	9.4	95-15-8	N/A	N/A	N/A
30. 2,3,5-Trimethylnaphthalene	94851	021119	0.50	10.00	0.042	2003.3	1001.0	9.5	2245-38-7	N/A	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).
 * 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).



Certified Reference Material CRM



CERTIFIED WEIGHT REPORT

Part Number: 70476
Lot Number: 092220
Description: Benzo(j)fluoranthene

Solvent(s): Methylene chloride
Lot# 104929

Expiration Date: 092225
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 1000
NIST Test ID#: 23060

Weight(s) shown below were combined and diluted to (mL): 25.0

5E-05 Balance Uncertainty
0.001 Flask Uncertainty

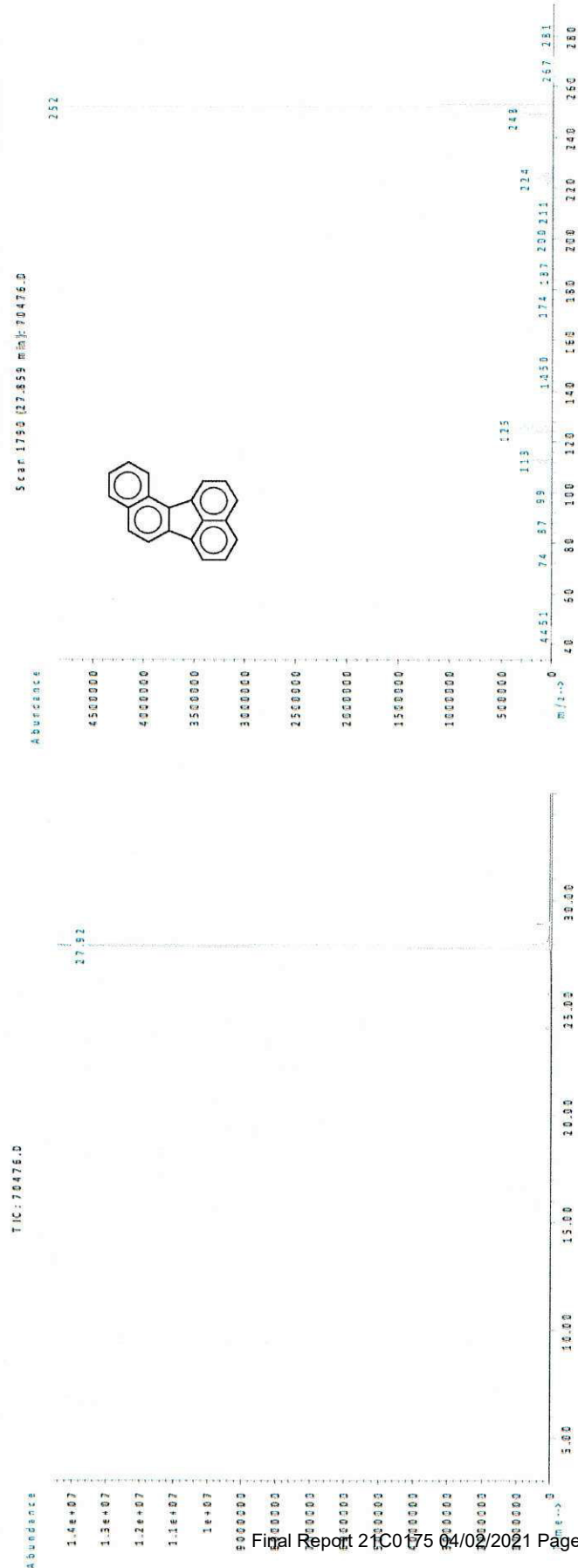
Formulated By:	Benson Chan	092220	DATE
Reviewed By:	Pedro L. Rentas	092220	DATE

Expanded Uncertainty (+/-) (µg/mL) 5.7
Actual Conc (µg/mL) 1001.8
Target Weight(g) 0.02547
Actual Weight(g) 0.02552
Purity (%) 98.1
Nominal Conc (µg/mL) 1000
RM# 476
Lot Number 3-CSZ-153-20
Expanded Uncertainty (+/-) (µg/mL) 5.7
Actual Conc (µg/mL) 1001.8
Target Weight(g) 0.02547
Actual Weight(g) 0.02552
Purity (%) 98.1
Nominal Conc (µg/mL) 1000

SDS Information
(Solvent Safety Info. On Attached pg.) LD50
CAS# OSHA PEL (TWA)

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 certified (+/-) 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).

Date Received: _____

Certificate of Analysis

Rev 0

Page 1 of 1

Catalog No.: 110760-01	Lot No.: 366976	Storage: ≤ -10 °C	Solvent: Hexane	Exp. Date: 20-Jan-2022	Description: Hexyl Derivatives of Tributyltin & Triphenyltin Solution, 1,000 mg/L, 1 ml
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Compound	CAS No.	Purity (%)	Neat Material Lot No.	Concentration
triphenyltin (as hexyl derivative)	3342-67-4	95	1988.237.1P	998.1 ± 27.92 mg/L
tributyltin (as hexyl derivative)	1461-22-9	97	934.29.1P	1017 ± 16.32 mg/L

GCM

I9730



Certified By: _____

Thomas Churchill

Manufacture Date 16-Jan-2019

Follow all storage requirements, keep tightly closed when not in use, and use good laboratory practices when handling.

This Reference Material was manufactured, produced, and/or certified under a quality management system that is accredited to ISO 17034 and ISO/IEC 17025.

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetrically.

The stated uncertainty is the expanded uncertainty with a coverage factor of two to give a 95% confidence level.



Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
 Client: Anchor OEA, LLC
 Project: GascoSiltronic: US Moorings
 Matrix: Water Laboratory ID: 21C0175-01 G SDG: 21C0175
 Sampled: 03/09/21 16:36 Prepared: 03/15/21 14:33 File ID: 421C2415.D
 % Solids: Preparation: EPA 3510C SepF Analyzed: 03/24/21 14:00
 Batch: BJC0359 Sequence: SJC0400 Initial/Final: 470 mL / 1 mL
 Instrument: FID4 Column: RTX-1 Calibration: EA00020

CAS NO.	COMPOUND	DILUTION	(mg/L)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	0.106	U	0.035	0.106

SURROGATES	ADDED:(mg/L)	(mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.23936	0.224	93.4	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20210324,8\421C2415.D

Date: 24-MAR-2021 14:00

Client ID:

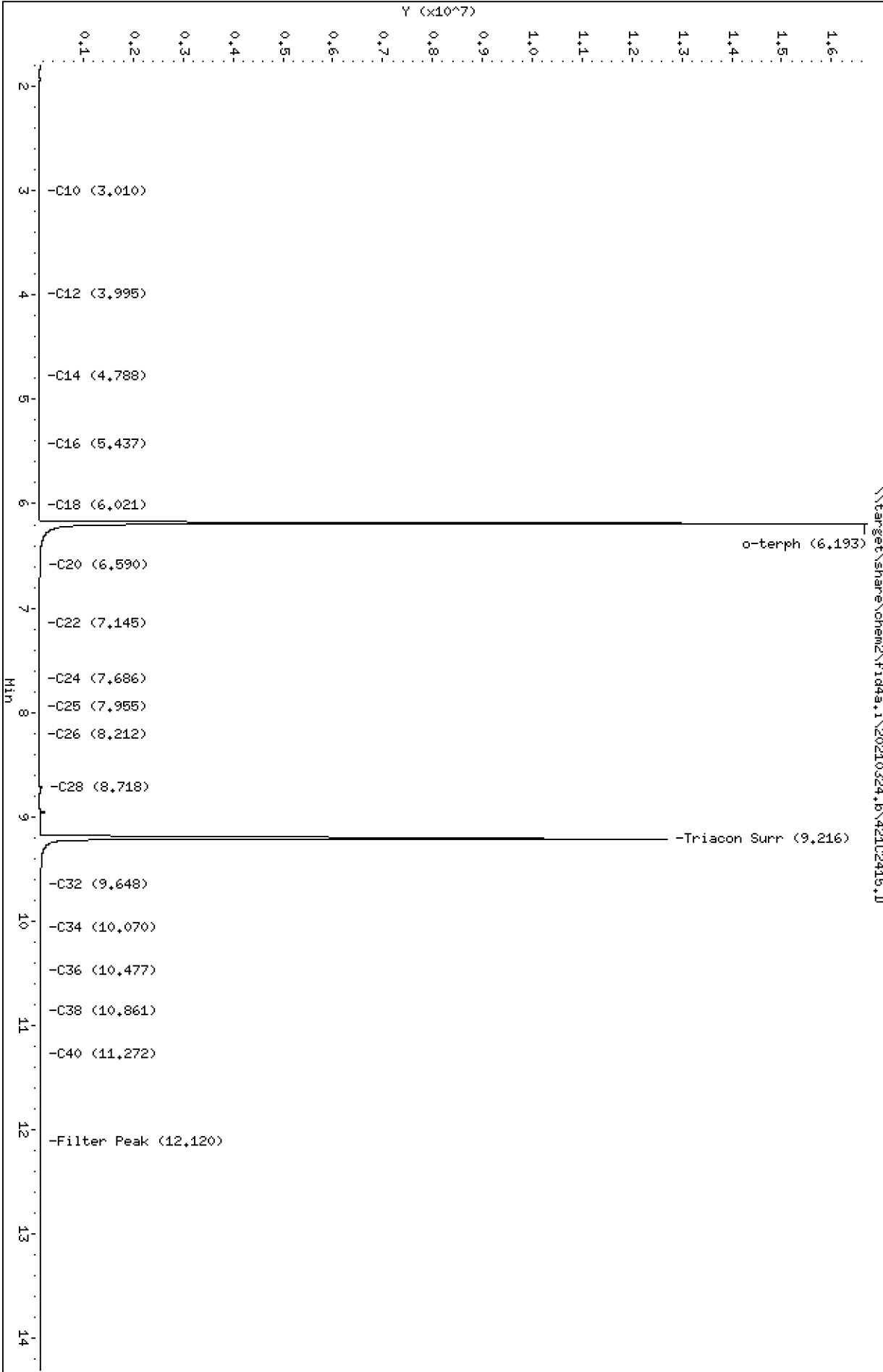
Sample Info: 21C0175-01

Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20210324.b/421C2415.D
Method: 20210324.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 03/26/2021
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:08-JAN-2021 M.Oil:08-JAN-2021

ARI ID: 21C0175-01
Client ID:
Injection: 24-MAR-2021 14:00
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

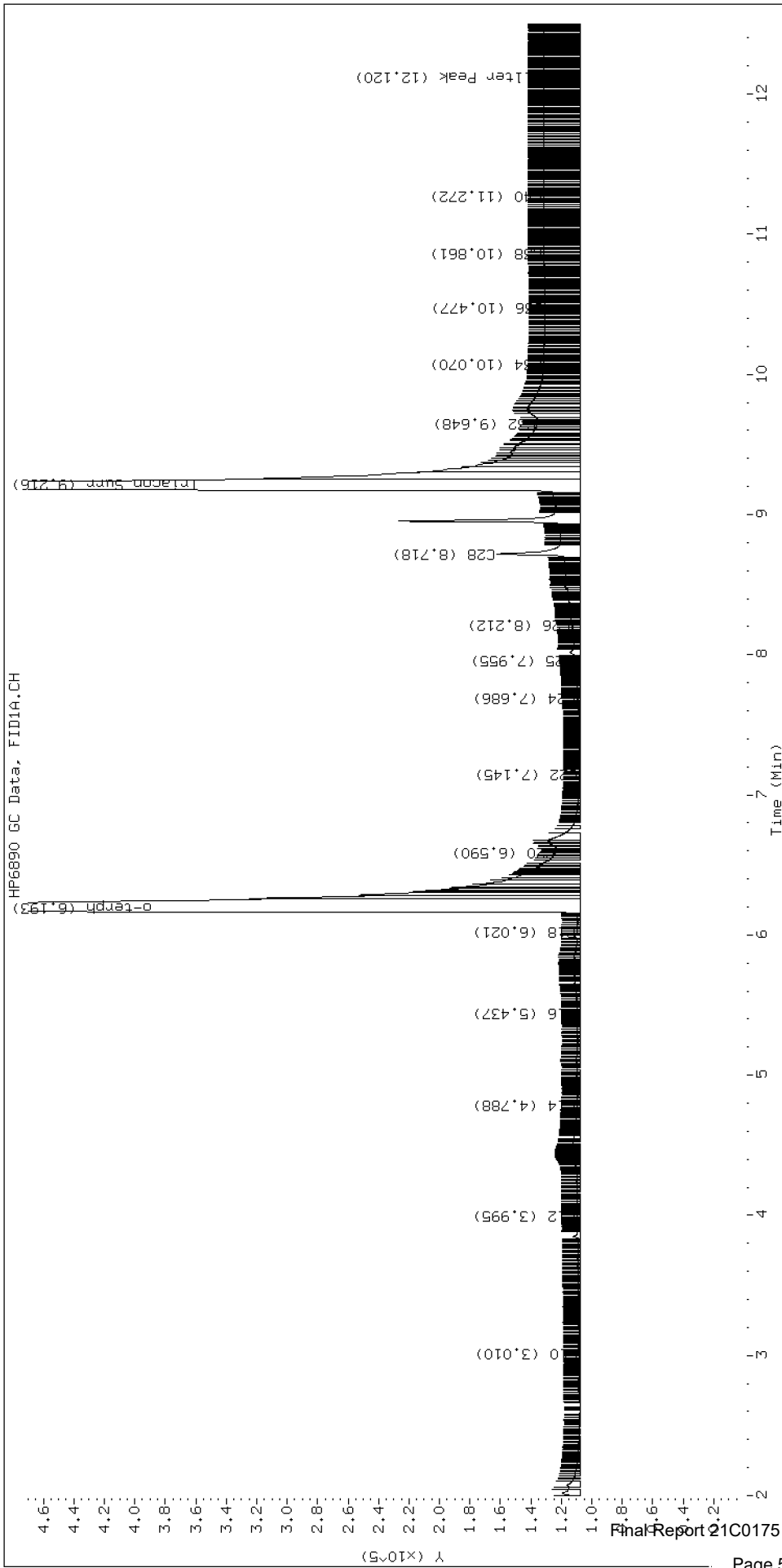
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.897	0.007	9021	3106	WATPHD	(C12-C24)	1566087	11.4
C10	3.010	-0.003	458	126	WATPHM	(C24-C38)	4150713	40.8
C12	3.995	0.003	1893	1555	AK102	(C10-C25)	1661029	9.9
C14	4.788	0.006	2272	1080	AK103	(C25-C36)	3598742	47.9
C16	5.437	0.002	2157	1237	OR.DIES	(C10-C28)	2082899	10.6
C18	6.021	-0.000	2201	1088				
C20	6.590	0.003	15589	5421	JET-A	(C10-C18)	367653	2.5
C22	7.145	0.001	618	313				
C24	7.686	-0.000	1817	995				
C25	7.955	0.003	3339	1607				
C26	8.212	-0.002	5135	3314				
C28	8.718	0.002	54453	122760				
C32	9.648	0.003	27871	16631				
C34	10.070	-0.001	24086	9586				
Filter Peak	12.120	0.002	23929	11920	CREOSOT	(C12-C22)	1541027	144.8
C36	10.477	0.001	23377	6989				
C38	10.861	-0.002	24076	14414				
C40	11.272	-0.001	23703	9466				
o-terph	6.193	-0.003	16607131	17919932				
Triacon Surr	9.216	-0.003	12584305	17703232	NAS DIES	(C10-C24)	1637020	8.4

Range Times: NW Diesel(3.991 - 7.686) AK102(3.01 - 7.95) Jet A(3.01 - 6.02)
NW M.Oil(7.69 - 10.86) AK103(7.95 - 10.48) OR Diesel(3.01 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	17919932	105.1
Triacontane	17703232	125.2

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	170577.7	25-OCT-2019
Triacon Surr	141415.7	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	137498.1	08-JAN-2021
Motor Oil	101807.5	08-JAN-2021
AK102	168065.4	08-JAN-2021
AK103	75177.3	08-JAN-2021
JetA	146652.4	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	10643.2	30-MAR-2020





Form I
ORGANIC ANALYSIS DATA SHEET
NWTPH-Dx
TPH (Extractables) low level

Laboratory: Analytical Resources, Inc.
Client: Anchor OEA, LLC
Project: GascoSiltronic: US Moorings
Matrix: Water Laboratory ID: 21C0175-02 G SDG: 21C0175
Sampled: 03/09/21 17:09 Prepared: 03/15/21 14:33 File ID: 421C2416.D
% Solids: Preparation: EPA 3510C SepF Analyzed: 03/24/21 14:21
Batch: BJC0359 Sequence: SJC0400 Initial/Final: 500 mL / 1 mL
Instrument: FID4 Column: RTX-1 Calibration: EA00020

CAS NO.	COMPOUND	DILUTION	(mg/L)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	0.100	U	0.033	0.100

SURROGATES	ADDED:(mg/L)	(mg/L)	% REC	QC LIMITS	Q
o-Terphenyl	0.22500	0.244	109	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20210324,8\421C2416.D

Date: 24-MAR-2021 14:21

Client ID:

Sample Info: 21C0175-02

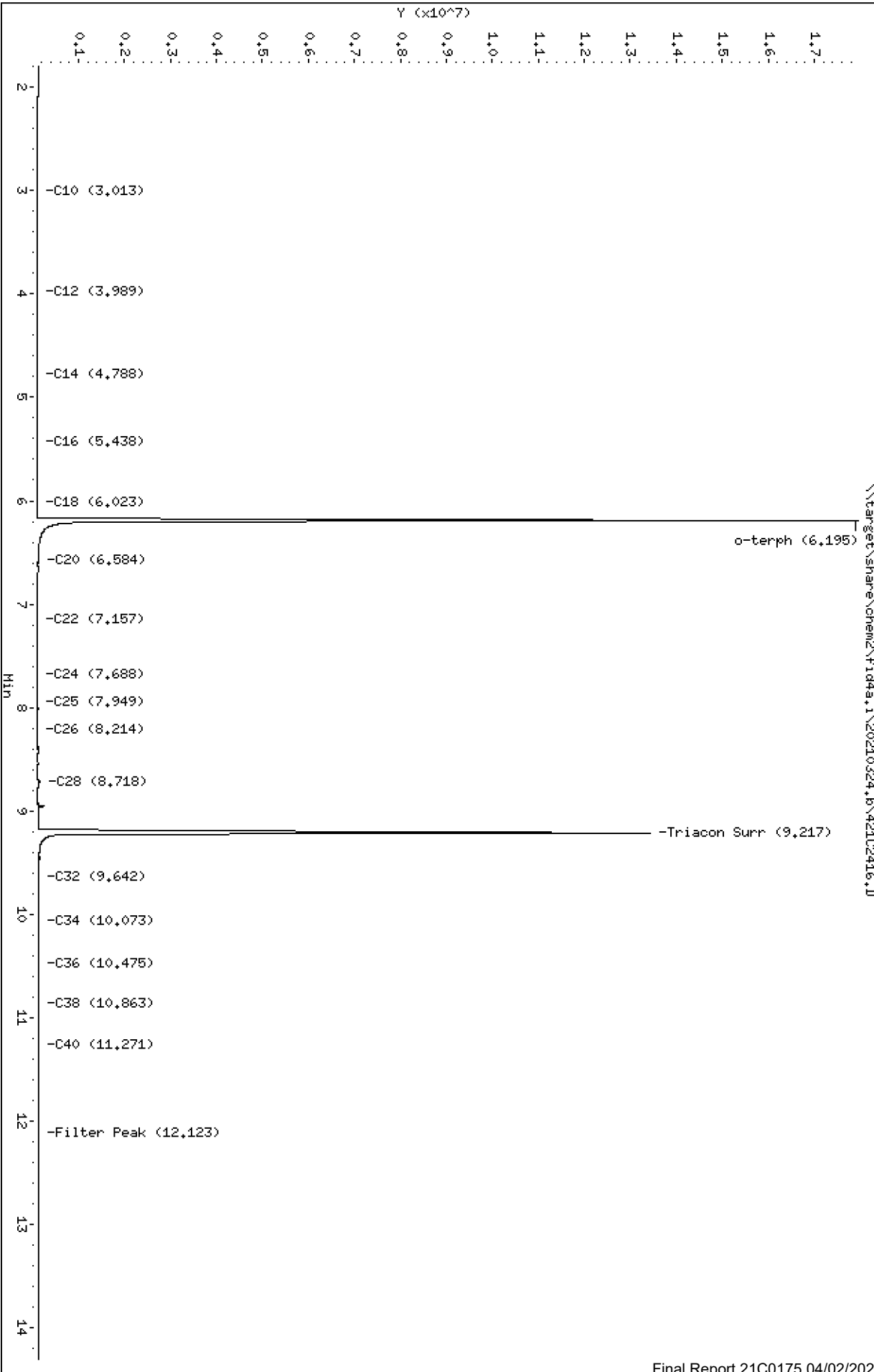
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20210324.b/421C2416.D
Method: 20210324.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 03/26/2021
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:08-JAN-2021 M.Oil:08-JAN-2021

ARI ID: 21C0175-02
Client ID:
Injection: 24-MAR-2021 14:21
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

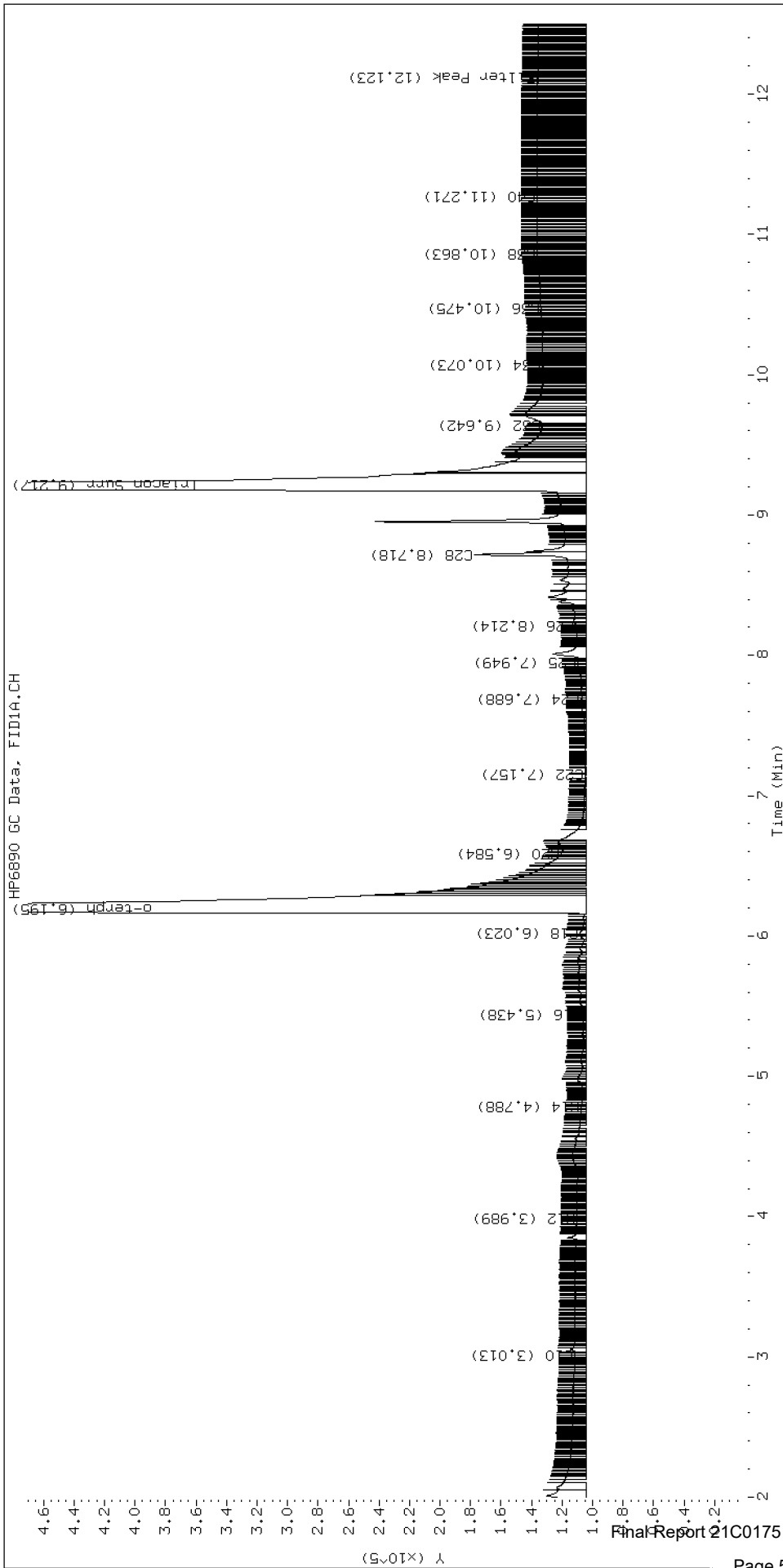
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.897	0.006	24046	23676	WATPHD	(C12-C24)	1389429	10.1
C10	3.013	0.000	7141	2467	WATPHM	(C24-C38)	4208867	41.3
C12	3.989	-0.002	6218	3050	AK102	(C10-C25)	1854504	11.0
C14	4.788	0.006	2847	1481	AK103	(C25-C36)	3490528	46.4
C16	5.438	0.002	1820	535	OR.DIES	(C10-C28)	2484647	12.7
C18	6.023	0.001	3959	5190				
C20	6.584	-0.002	16390	15137	JET-A	(C10-C18)	864091	5.9
C22	7.157	0.012	270	104				
C24	7.688	0.002	2946	2105				
C25	7.949	-0.003	5050	2518				
C26	8.214	0.000	6305	941				
C28	8.718	0.001	73369	111403				
C32	9.642	-0.003	28498	15630				
C34	10.073	0.002	28245	12644				
Filter Peak	12.123	0.005	31670	12632	CREOSOT	(C12-C22)	1351869	127.0
C36	10.475	-0.001	29494	17647				
C38	10.863	-0.001	31748	12679				
C40	11.271	-0.002	32221	17635				
o-terph	6.195	-0.000	17857847	20843284				
Triacon Surr	9.217	-0.003	13346154	20209696	NAS DIES	(C10-C24)	1823058	9.3

Range Times: NW Diesel(3.991 - 7.686) AK102(3.01 - 7.95) Jet A(3.01 - 6.02)
NW M.Oil(7.69 - 10.86) AK103(7.95 - 10.48) OR Diesel(3.01 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	20843284	122.2
Triacontane	20209696	142.9

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	170577.7	25-OCT-2019
Triacon Surr	141415.7	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	137498.1	08-JAN-2021
Motor Oil	101807.5	08-JAN-2021
AK102	168065.4	08-JAN-2021
AK103	75177.3	08-JAN-2021
JetA	146652.4	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	10643.2	30-MAR-2020





PREPARATION BATCH SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 21C0175

Client: Anchor QEA, LLC

Project: GascoSiltronic: US Moorings

Batch: BJC0359

Batch Matrix: Water

Preparation: EPA 3510C SepF

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
RAB-FB-2103091636	21C0175-01	421C2415.D	03/15/21 14:33	
RAB-RB-2103091709	21C0175-02	421C2416.D	03/15/21 14:33	
Blank	BJC0359-BLK1	421C2410.D	03/15/21 14:33	
LCS	BJC0359-BS1	421C2411.D	03/15/21 14:33	
LCS Dup	BJC0359-BSD1	421C2412.D	03/15/21 14:33	



Batch: BJC0359

Prepared using: EPA 3510C SepF

TPH NW (Extractables) low level in Water (Version:)
TPH NW (Extractables) low level in Water (Version:DRO)
TPH NW (Extractables) low level in Water

Matrix: Water

Date Prepared: 3/15/2021

Balance ID: N/A

Set Up By: CTO 3/13/21

Not enough volume for MS/MSD, BSD done instead.

The following standards may be missing from this batch!

Designator	Description
QLS 18	QLS Spike

Analysis: TPH NW (Extractables) low level

Lab Number & Container	Initial (mL) Actual	Acid Clean (1:1) (1mL) Y (N)	Silica Clean (1:1) (1mL) Y (N)	Final Effective Vol (mL)	Vol to Lab	Extraction Comments
21C0164-02 A	(500.000) 500	(1:1) Y (N)	(1:1) Y (N)	1	1.0	
21C0164-03 A	(500.000) ↓	(1:1) Y (N)	(1:1) Y (N)	1	1.0	
21C0175-01 G	(500.000) 470	(1:1) Y (N)	(1:1) Y (N)	1	1.0	
21C0175-02 G	(500.000) 500	(1:1) Y (N)	(1:1) Y (N)	1	1.0	
21C0180-05 E	(500.000) ↓	(1:1) Y (N)	(1:1) Y (N)	1	1.0	
21C0180-06 E	(500.000) 465	(1:1) Y (N)	(1:1) Y (N)	1	1.0	
21C0198-01 G	(500.000) 460	(1:1) Y (N)	(1:1) Y (N)	1	1.0	
21C0198-03 G	(500.000) 500	(1:1) Y (N)	(1:1) Y (N)	1	1.0	
21C0198-05 A	(500.000) ↓	(1:1) Y (N)	(1:1) Y (N)	1	1.0	
21C0198-07 G	(500.000) ↓	(1:1) Y (N)	(1:1) Y (N)	1	1.0	
21C0198-11 G	(500.000) ↓	(1:1) Y (N)	(1:1) Y (N)	1	1.0	
21C0198-13 B	(500.000) ↓	(1:1) Y (N)	(1:1) Y (N)	1	1.0	

Batch QC

Lab Number	Initial (mL) Actual	Acid Clean (1:1) (1mL) Y (N)	Silica Clean (1:1) (1mL) Y (N)	Final Effective Vol (mL)	Vol to Lab	Extraction Comments
BJC0359-BLK1	(500.000) 500	(1:1) Y (N)	(1:1) Y (N)	1	1.0	
BJC0359-BS1	(500.000) ↓	(1:1) Y (N)	(1:1) Y (N)	1	1.0	
BJC0359-BSD1	(500.000) ↓	(1:1) Y (N)	(1:1) Y (N)	1	1.0	

Client ID verified By: TW Date: 3/15/2021 Preparation Reviewed By: BH Date: 3/24/21 Extraction Date and Time: 3/15/21 14:33



Batch: BJC0359

Prepared using: EPA 3510C SepF

TPH NW (Extractables) low level in Water (Version:)
TPH NW (Extractables) low level in Water (Version:DRO)
TPH NW (Extractables) low level in Water

Prep Instructions	
<p>SPECIAL INSTRUCTIONS:</p> <ol style="list-style-type: none">1. Add Surr/Spk.2. Acidify with 1 pipet of 1:1 Sulfuric Acid.3. Check pH.4. Extract 2X with 30mL DCM.5. KD at 80°.6. TurboVap.7. Acid/Silica Clean-ups? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>8. Vial in DCM. <p>Archive <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <i>If all analyses complete</i></p>	



Extraction Parameter: TPH Extraction Batch BJC0359

Total Solids Batch: N/A Work Order(s): 21C064/175/180/198

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
<input type="checkbox"/> No Anomalies (standard soil/wet sediment/sand/gravel)=	
<input type="checkbox"/> Standing Water Decanted (Not shared)=	
<input type="checkbox"/> Standing Water Homogenized (Shared samples)=	
<input type="checkbox"/> Clay/Clumps (Difficult to homogenize)=	
<input type="checkbox"/> Rocks (%+size)?	
<input type="checkbox"/> Organics (Leaves/sticks/grass)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Received in 32oz jar(s)=Homogenized in Pyrex dish=	
<input type="checkbox"/> Previously Frozen =	
<input type="checkbox"/> Other (Details)=	
Aqueous:	
<input type="checkbox"/> No Anomalies	
<input checked="" type="checkbox"/> Turbid/Color= <u>164-02 = tan, turbid 198-01 = Orange turbid 198-03, 05 = light yellow, slightly turbid</u>	<u>TW 3/15/21</u>
<input checked="" type="checkbox"/> Particulates(%)=(Note: >5%=Notify Supervisor/Lead) <u>164-02, 03 = 2%</u>	<u>TW 3/15/21</u>
<input type="checkbox"/> Emulsions (%)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Other (Details)=	
<input type="checkbox"/> Received in 1.0L Bottle(s)=No Bottle Rinse=	
<input type="checkbox"/> Other Notes/Comments= (Note problems, concerns, corrective actions).	
<input type="checkbox"/> Share Samples Y / N	
<input type="checkbox"/> Multiple Jars Y / N	
<input type="checkbox"/> Sample Pre-Screens indicate analyte activity=	
<input type="checkbox"/> Sample weights/volumes reduced based on Pre-Screen=	



Form I
METHOD BLANK DATA SHEET
NWTPH-Dx

Blank

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>21C0175</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>GascoSiltronic: US Moorings</u>
Matrix:	<u>Water</u>	Laboratory ID:	<u>BJC0359-BLK1</u>
Sampled:	<u>N/A</u>	Prepared:	<u>03/15/21 14:33</u>
Solids:		Preparation:	<u>EPA 3510C SepF</u>
Batch:	<u>BJC0359</u>	Sequence:	<u>SJC0400</u>
Instrument:	<u>FID4</u>	Column:	<u>RTX-1</u>
		File ID:	<u>421C2410.D</u>
		Analyzed:	<u>03/24/21 12:14</u>
		Initial/Final:	<u>500 mL / 1 mL</u>
		Calibration:	<u>EA00020</u>

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q	DL	RL
DRO	Diesel Range Organics (C12-C24)	1	0.100	U	0.033	0.100
SURROGATES		ADDED (mg/L)	CONC. (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl		0.22500	0.262	117	50 - 150	

Data File: \\target\share\chem2\fid4a,1\20210324,8\421C2410.D

Date: 24-MAR-2021 12:14

Client ID:

Sample Info: BJC0359-BLK1

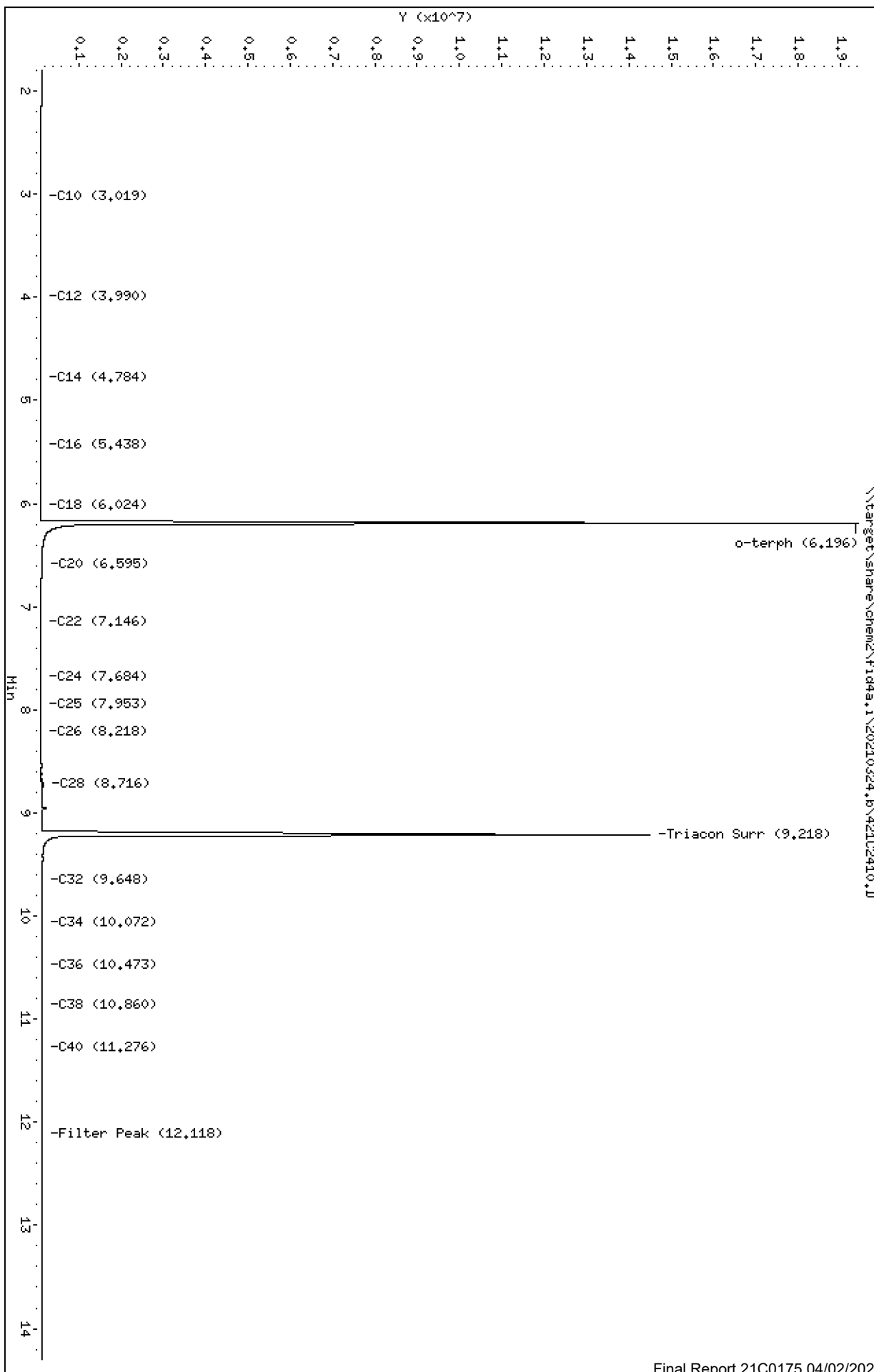
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20210324.b/421C2410.D
Method: 20210324.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 03/26/2021
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:08-JAN-2021 M.Oil:08-JAN-2021

ARI ID: BJC0359-BLK1
Client ID:
Injection: 24-MAR-2021 12:14
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

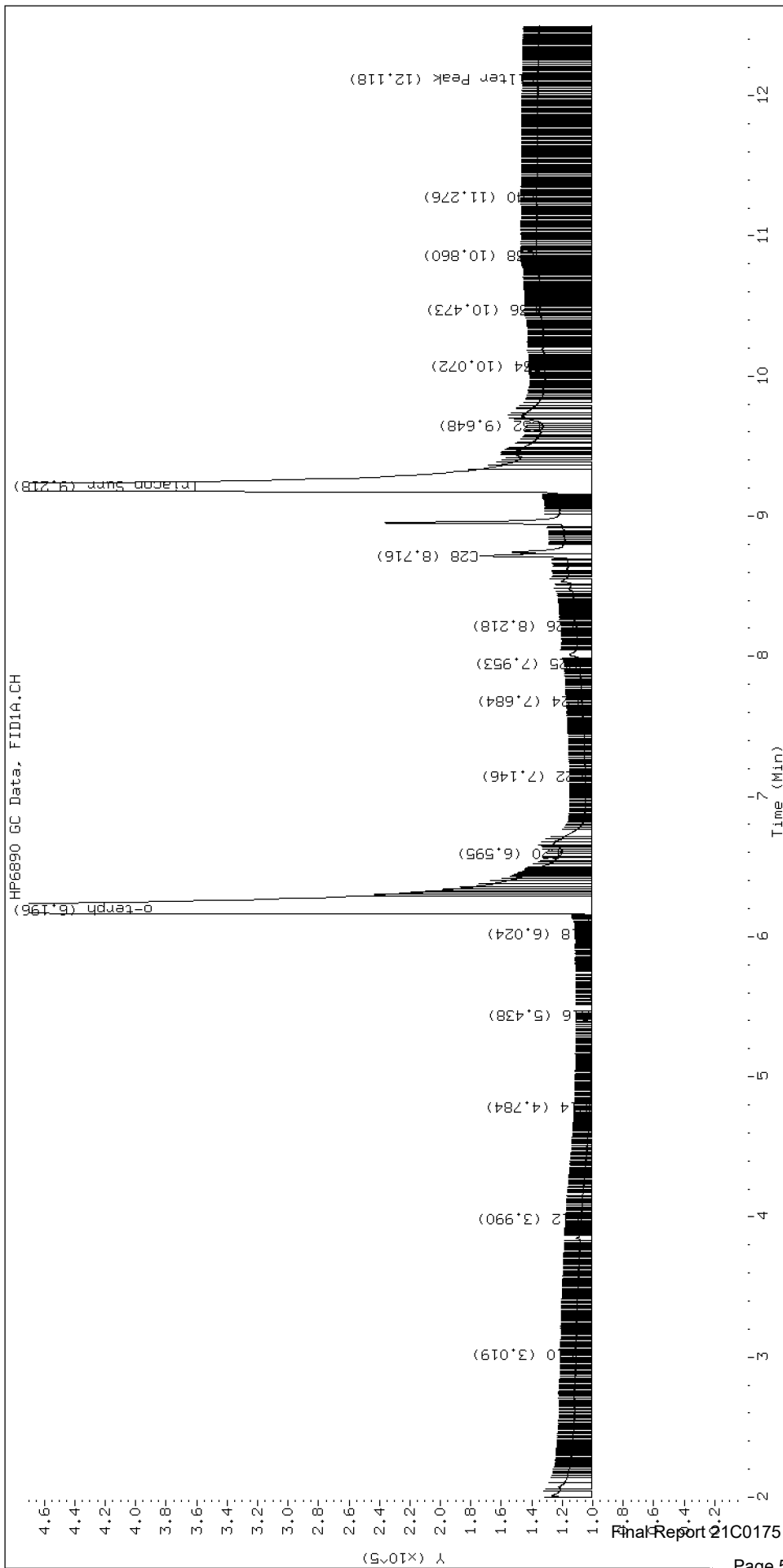
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.894	0.004	24537	18141	WATPHD	(C12-C24)	1639292	11.9
C10	3.019	0.007	10364	2067	WATPHM	(C24-C38)	4566551	44.9
C12	3.990	-0.001	7114	2835	AK102	(C10-C25)	2277348	13.6
C14	4.784	0.002	1665	676	AK103	(C25-C36)	3697927	49.2
C16	5.438	0.003	350	103	OR.DIES	(C10-C28)	3018074	15.4
C18	6.024	0.003	942	229				
C20	6.595	0.009	20054	6960	JET-A	(C10-C18)	763009	5.2
C22	7.146	0.001	4305	3135				
C24	7.684	-0.002	6808	3666				
C25	7.953	0.001	8324	3697				
C26	8.218	0.004	10220	3556				
C28	8.716	-0.001	73504	99581				
C32	9.648	0.003	32212	11224				
C34	10.072	0.001	31588	12612				
Filter Peak	12.118	-0.001	35526	10643	CREOSOT	(C12-C22)	1464675	137.6
C36	10.473	-0.004	34513	15489				
C38	10.860	-0.003	36558	12763				
C40	11.276	0.003	36436	23606				
o-terph	6.196	0.000	19323546	22385109				
Triacon Surr	9.218	-0.001	14389030	21387138	NAS DIES	(C10-C24)	2207799	11.3

Range Times: NW Diesel(3.991 - 7.686) AK102(3.01 - 7.95) Jet A(3.01 - 6.02)
NW M.Oil(7.69 - 10.86) AK103(7.95 - 10.48) OR Diesel(3.01 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	22385109	131.2
Triacontane	21387138	151.2

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	170577.7	25-OCT-2019
Triacon Surr	141415.7	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	137498.1	08-JAN-2021
Motor Oil	101807.5	08-JAN-2021
AK102	168065.4	08-JAN-2021
AK103	75177.3	08-JAN-2021
JetA	146652.4	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	10643.2	30-MAR-2020





LCS / LCS DUPLICATE RECOVERY
NWTPH-Dx

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>21C0175</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>GascoSiltronic: US Moorings</u>
Matrix:	<u>Water</u>	Analyzed:	<u>03/24/21 12:35</u>
Batch:	<u>BJC0359</u>	Laboratory ID:	<u>BJC0359-BS1</u>
Preparation:	<u>EPA 3510C SepF</u>	Sequence Name:	<u>LCS</u>
Initial/Final:	<u>500 mL / 1 mL</u>		

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	Q	LCS % REC. #	QC LIMITS REC.
Diesel Range Organics (C12-C24)	3.00	3.08		103	56 - 120

* Indicates values outside of QC limits

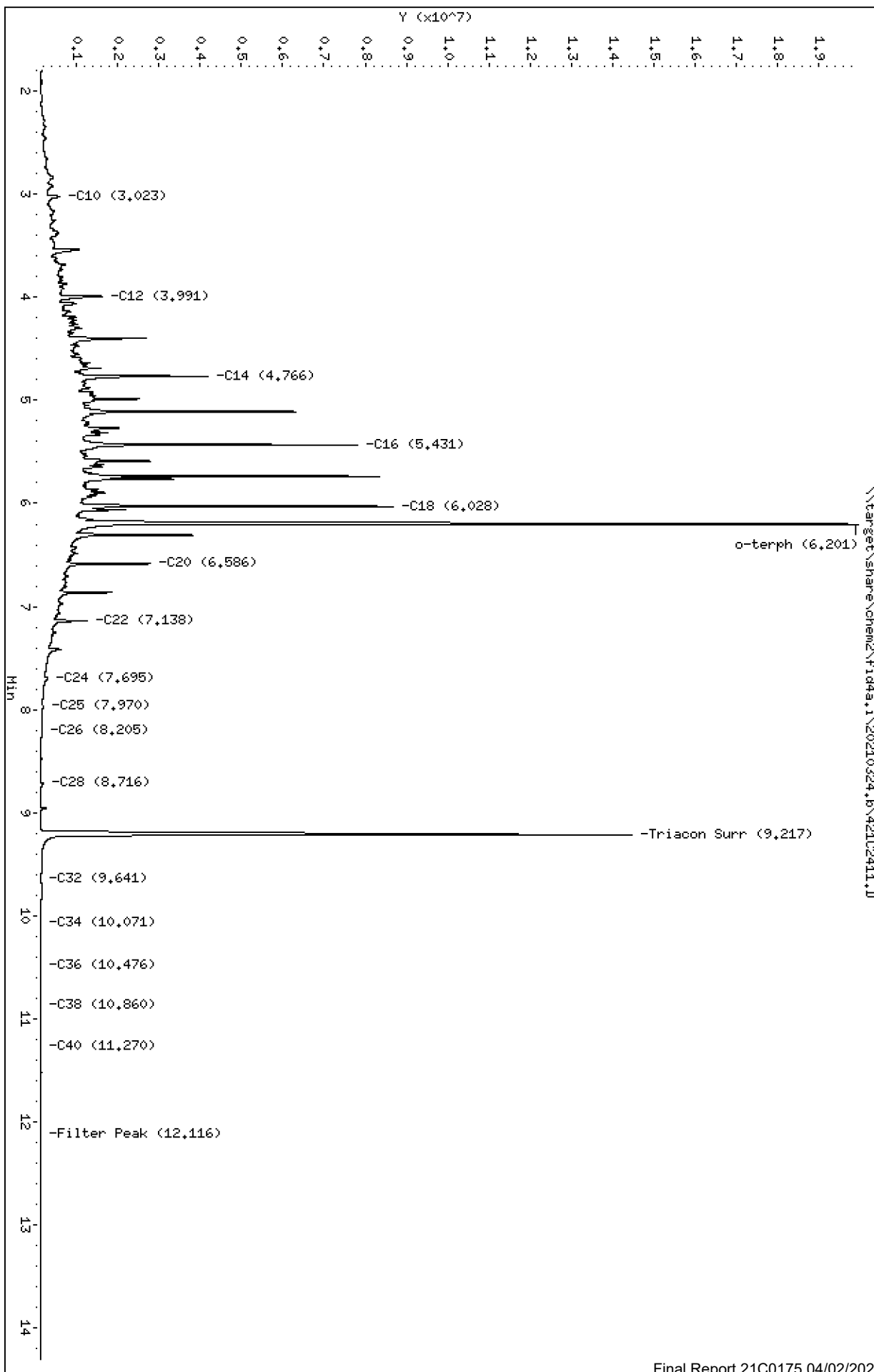
COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	Q	LCSD % REC. #	% RPD #	QC LIMITS	
						RPD	REC.
Diesel Range Organics (C12-C24)	3.00	3.13		104	1.66	30	56 - 120

* Indicates values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20210324,b\421C2411.D
Date: 24-MAR-2021 12:35
Client ID:
Sample Info: BJC0359-BS1

Column phase: RTX-1

Instrument: fid4a,1
Operator: CTO
Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20210324.b/421C2411.D
Method: 20210324.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 03/26/2021
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:08-JAN-2021 M.Oil:08-JAN-2021

ARI ID: BJC0359-BS1
Client ID:
Injection: 24-MAR-2021 12:35
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

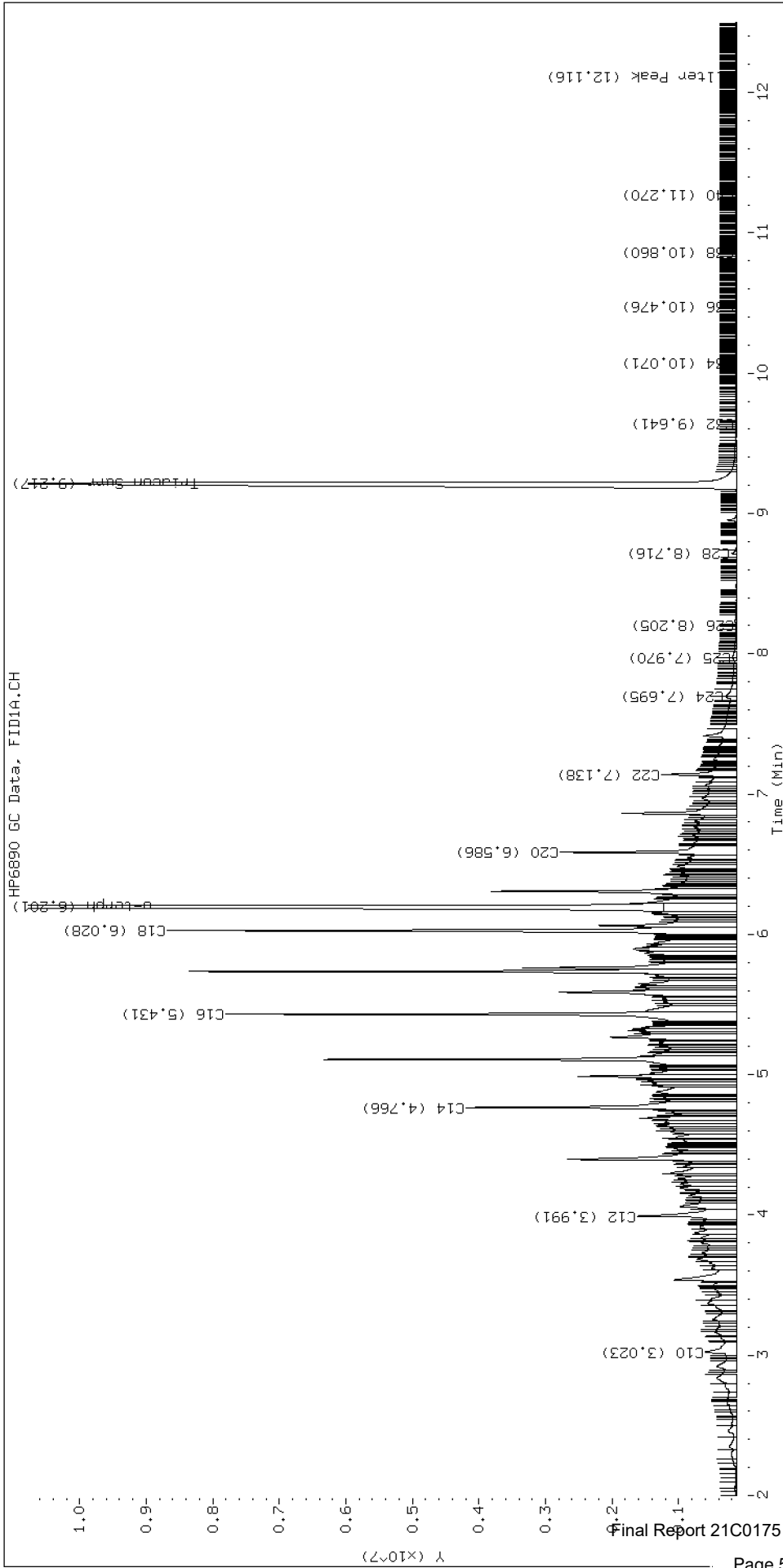
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.899	0.008	32835	42648	WATPHD	(C12-C24)	211719903	1539.8
C10	3.023	0.011	478562	1522732	WATPHM	(C24-C38)	3474472	34.1
C12	3.991	0.000	1495486	3316875	AK102	(C10-C25)	237868222	1415.3
C14	4.766	-0.017	4068305	6115421	AK103	(C25-C36)	2549050	33.9
C16	5.431	-0.004	7685893	9433066	OR.DIES	(C10-C28)	238866315	1218.7
C18	6.028	0.007	8561660	9462276				
C20	6.586	-0.001	2656931	4222630	JET-A	(C10-C18)	181257485	1236.0
C22	7.138	-0.007	1134011	1547602				
C24	7.695	0.008	170788	218120				
C25	7.970	0.018	68707	85511				
C26	8.205	-0.009	17862	7867				
C28	8.716	-0.001	75088	82066				
C32	9.641	-0.004	14839	8119				
C34	10.071	0.000	12702	6932				
Filter Peak	12.116	-0.002	16047	4800	CREOSOT	(C12-C22)	205406273	19299.4
C36	10.476	0.000	13884	4832				
C38	10.860	-0.003	16030	7173				
C40	11.270	-0.003	16362	7329				
o-terph	6.201	0.006	18754015	22525443				
Triacon Surr	9.217	-0.002	14349562	20985592	NAS DIES	(C10-C24)	237261386	1215.8

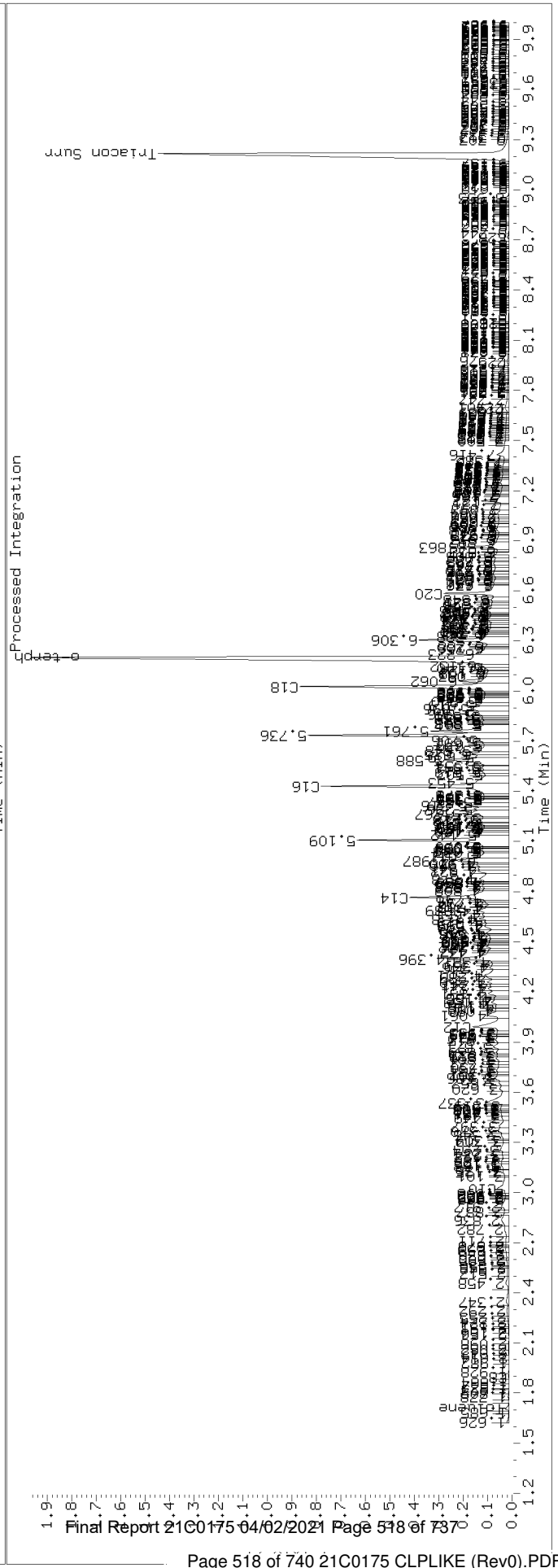
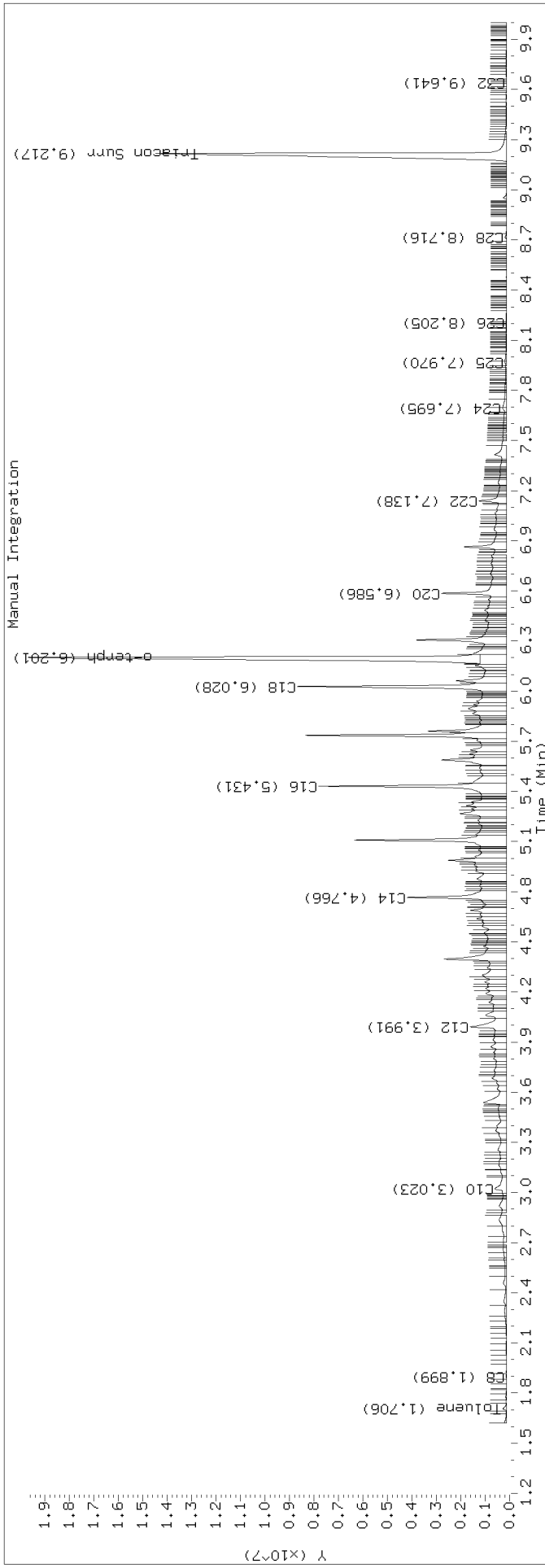
Range Times: NW Diesel(3.991 - 7.686) AK102(3.01 - 7.95) Jet A(3.01 - 6.02)
NW M.Oil(7.69 - 10.86) AK103(7.95 - 10.48) OR Diesel(3.01 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	22525443	132.1 M
Triacontane	20985592	148.4

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	170577.7	25-OCT-2019
Triacon Surr	141415.7	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	137498.1	08-JAN-2021
Motor Oil	101807.5	08-JAN-2021
AK102	168065.4	08-JAN-2021
AK103	75177.3	08-JAN-2021
JetA	146652.4	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	10643.2	30-MAR-2020





Data File: \\target\share\chem2\fid4a,1\20210324,b\421C2412.D

Date: 24-MAR-2021 12:56

Client ID:

Sample Info: BJC0359-BSM1

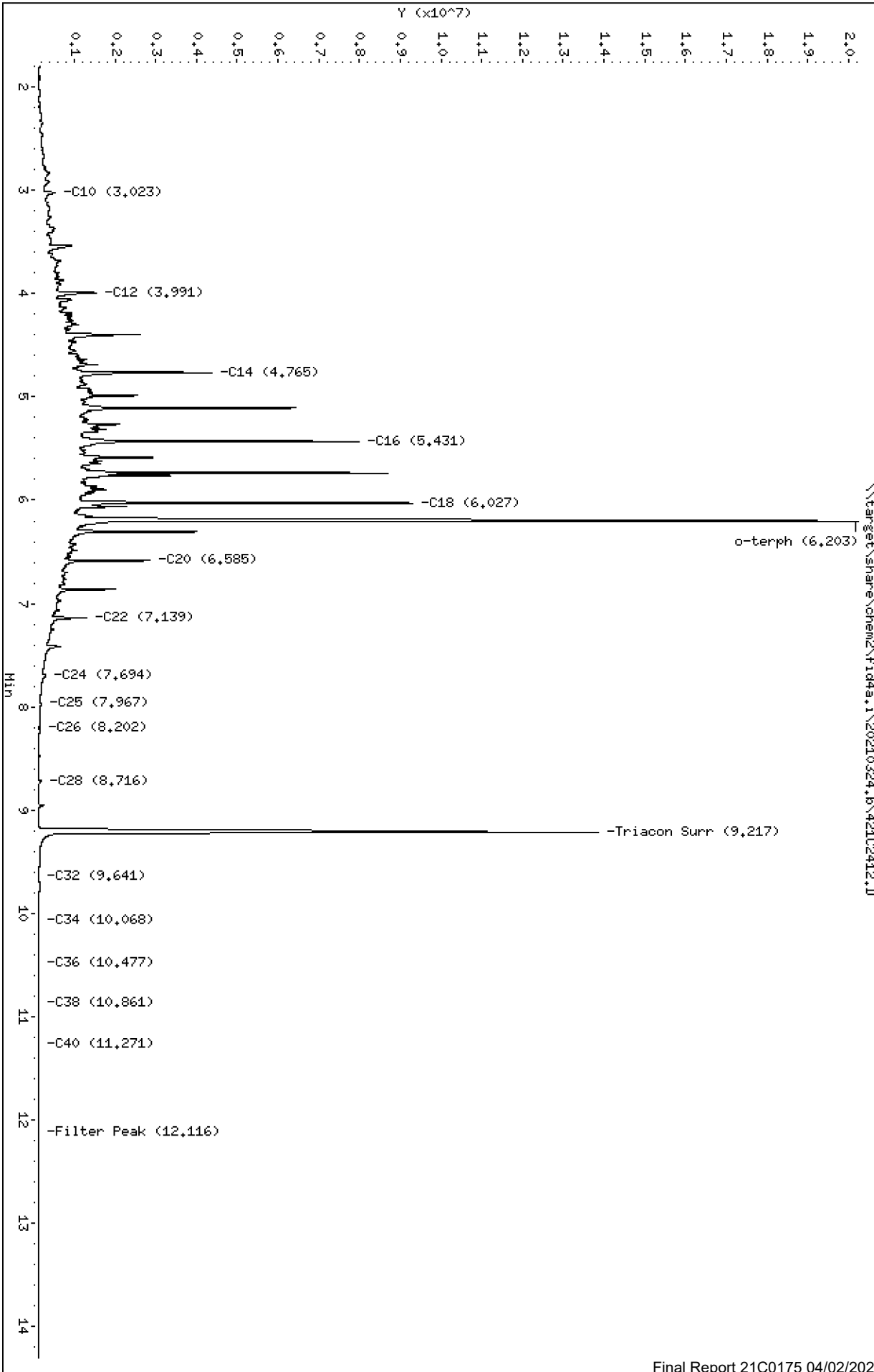
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20210324.b/421C2412.D
Method: 20210324.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 03/26/2021
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:08-JAN-2021 M.Oil:08-JAN-2021

ARI ID: BJC0359-BSD1
Client ID:
Injection: 24-MAR-2021 12:56
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

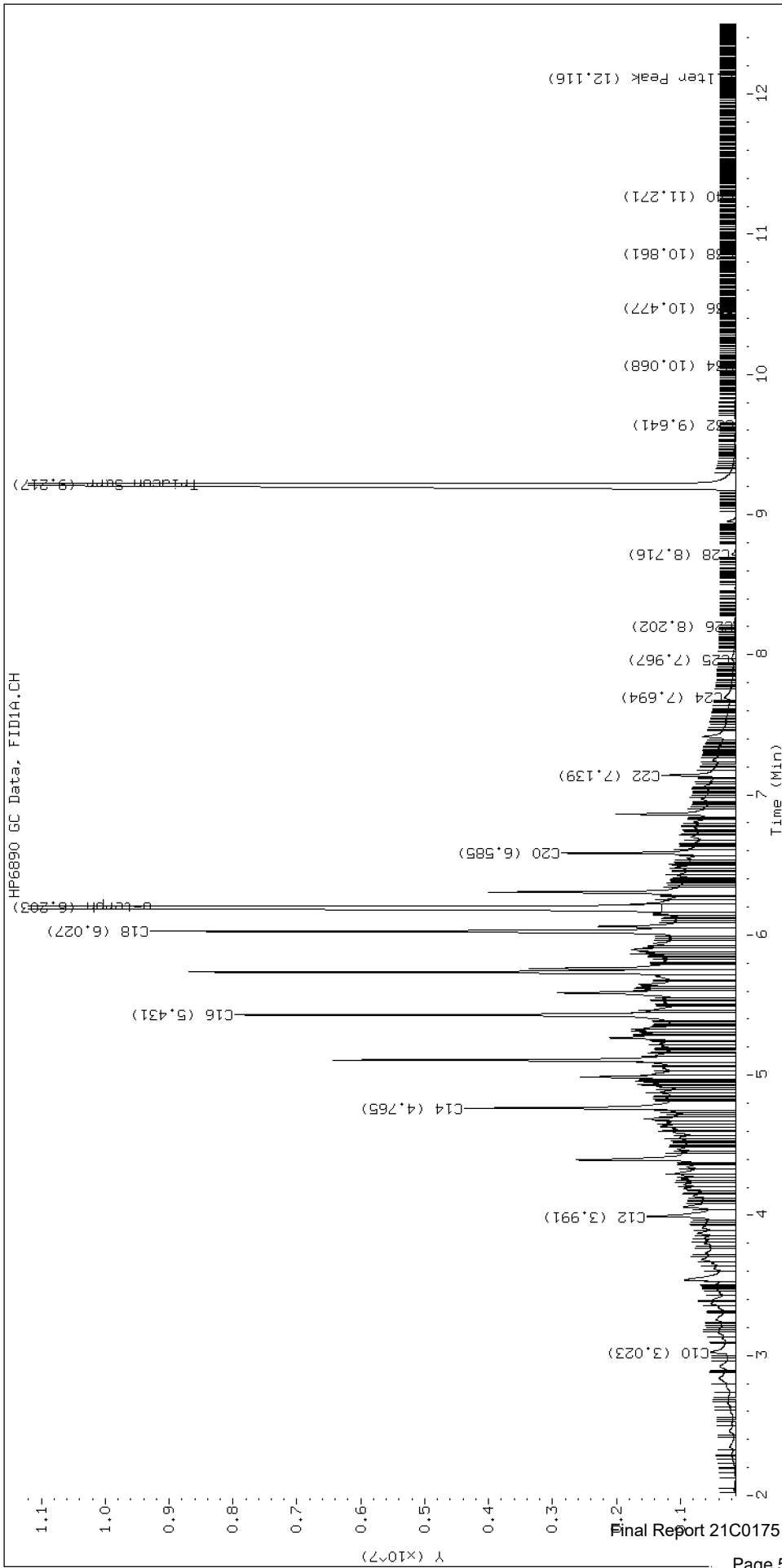
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.896	0.006	30203	40714	WATPHD	(C12-C24)	215266963	1565.6
C10	3.023	0.011	399095	1303027	WATPHM	(C24-C38)	2900136	28.5
C12	3.991	0.000	1402601	3093216	AK102	(C10-C25)	239108704	1422.7
C14	4.765	-0.017	4252499	6755112	AK103	(C25-C36)	2203567	29.3
C16	5.431	-0.005	7855619	9499338	OR.DIES	(C10-C28)	240085061	1224.9
C18	6.027	0.006	9176460	10056290				
C20	6.585	-0.002	2731786	3386361	JET-A	(C10-C18)	180381095	1230.0
C22	7.139	-0.006	1172185	1895333				
C24	7.694	0.008	180600	626715				
C25	7.967	0.015	68291	77415				
C26	8.202	-0.012	17196	11514				
C28	8.716	0.000	71216	107965				
C32	9.641	-0.003	11981	7660				
C34	10.068	-0.002	6534	3227				
Filter Peak	12.116	-0.002	6348	3144	CREOSOT	(C12-C22)	208630030	19602.3
C36	10.477	0.001	5184	1285				
C38	10.861	-0.002	5997	2078				
C40	11.271	-0.002	6085	2714				
o-terph	6.203	0.008	18958379	23421823				
Triacon Surr	9.217	-0.002	13753273	21614087	NAS DIES	(C10-C24)	238532588	1222.3

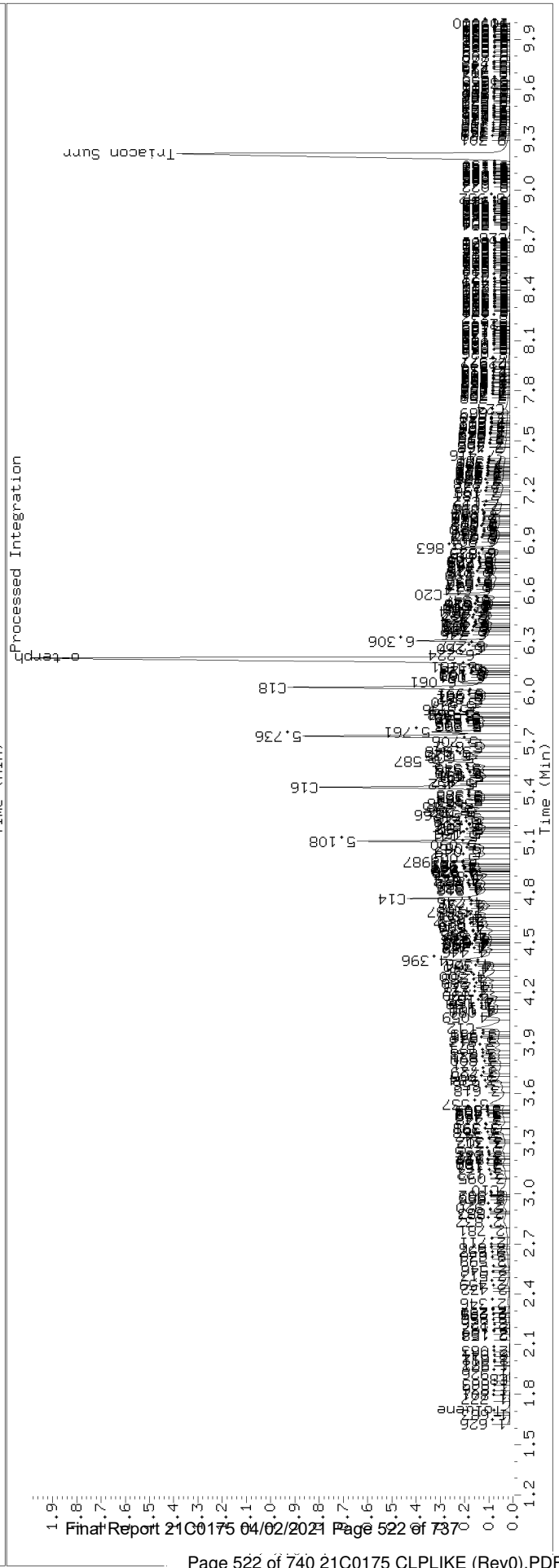
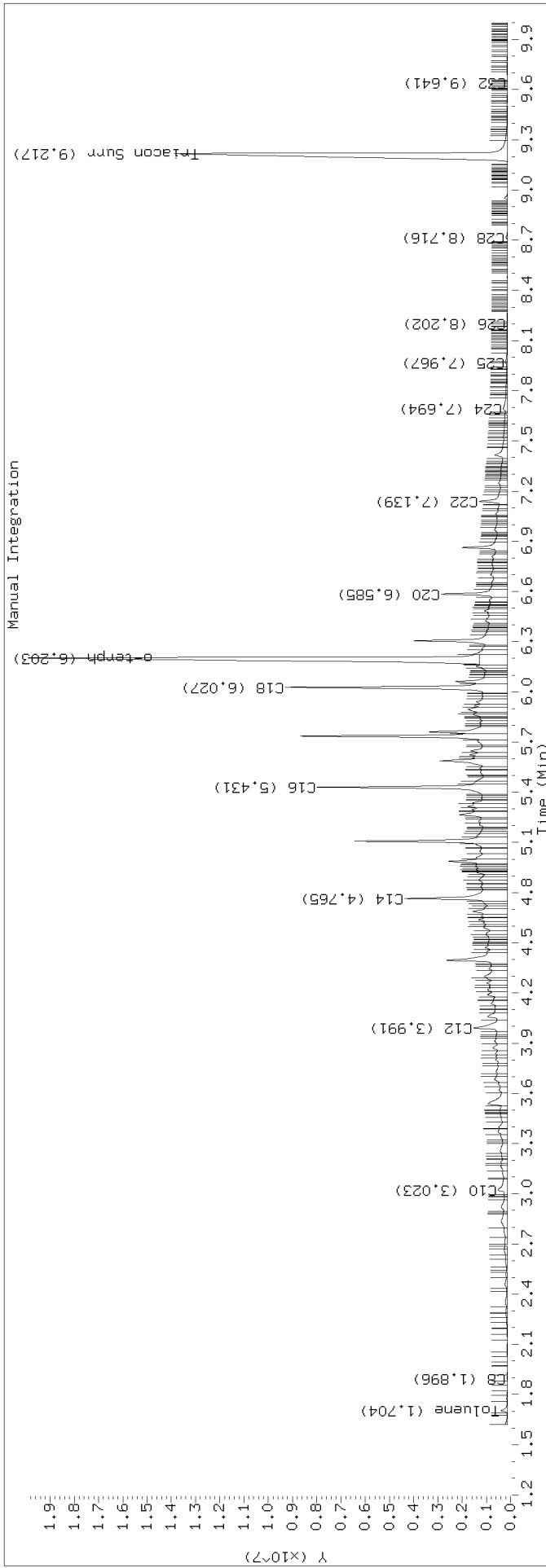
Range Times: NW Diesel(3.991 - 7.686) AK102(3.01 - 7.95) Jet A(3.01 - 6.02)
NW M.Oil(7.69 - 10.86) AK103(7.95 - 10.48) OR Diesel(3.01 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	23421823	137.3 M
Triacontane	21614087	152.8

M Indicates the peak was manually integrated

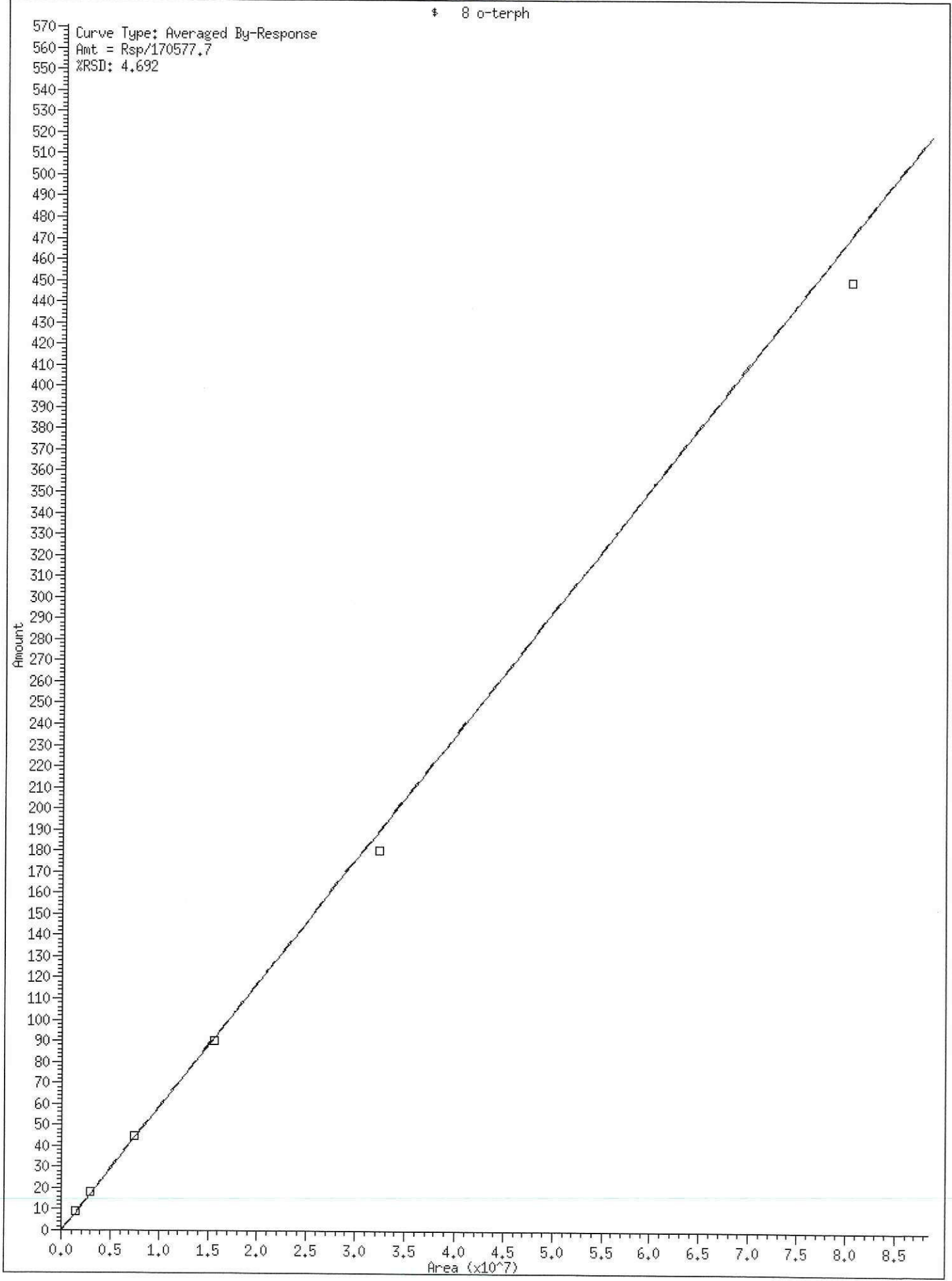
Analyte	RF	Curve Date
o-Terph Surr	170577.7	25-OCT-2019
Triacon Surr	141415.7	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	137498.1	08-JAN-2021
Motor Oil	101807.5	08-JAN-2021
AK102	168065.4	08-JAN-2021
AK103	75177.3	08-JAN-2021
JetA	146652.4	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	10643.2	30-MAR-2020

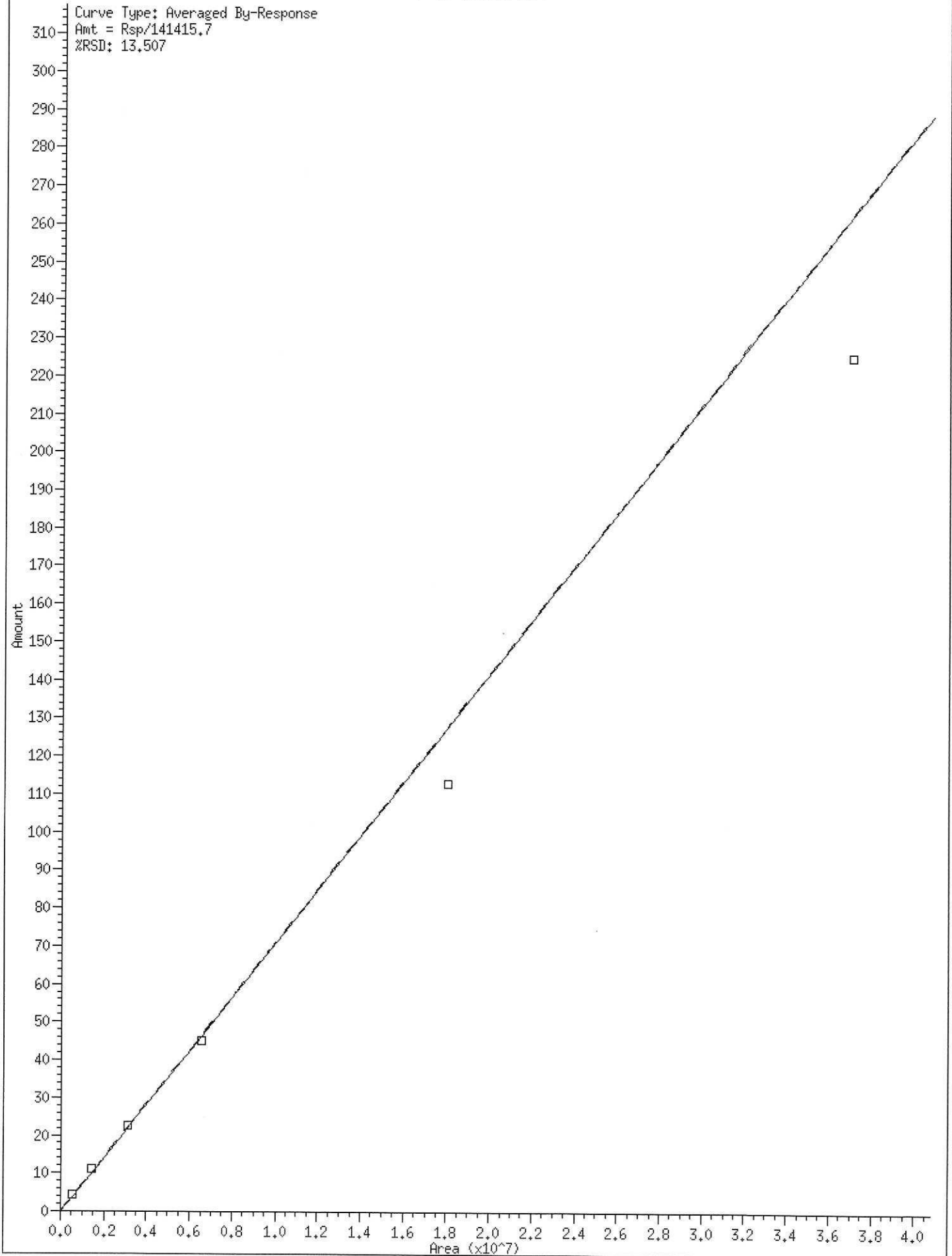


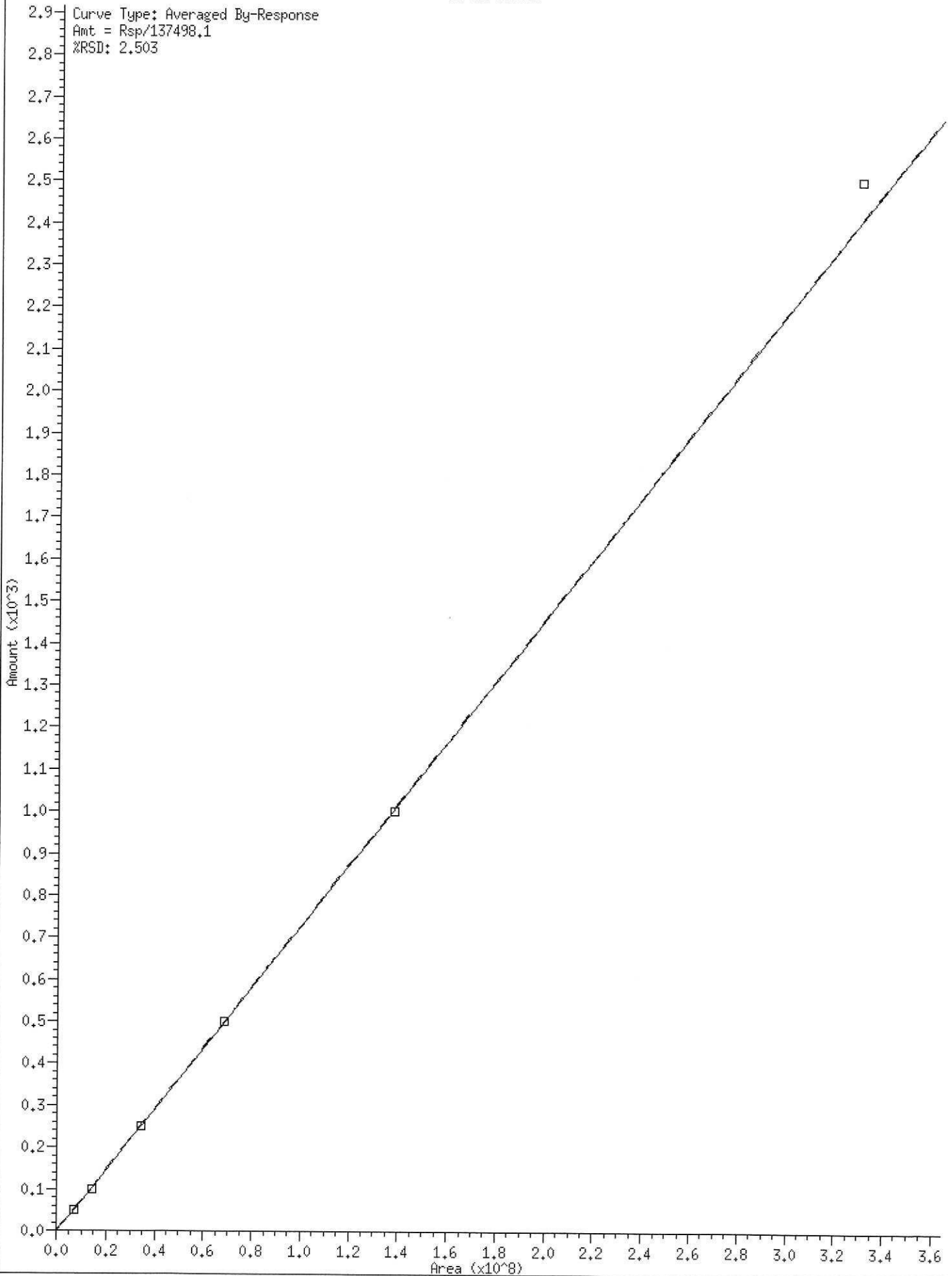


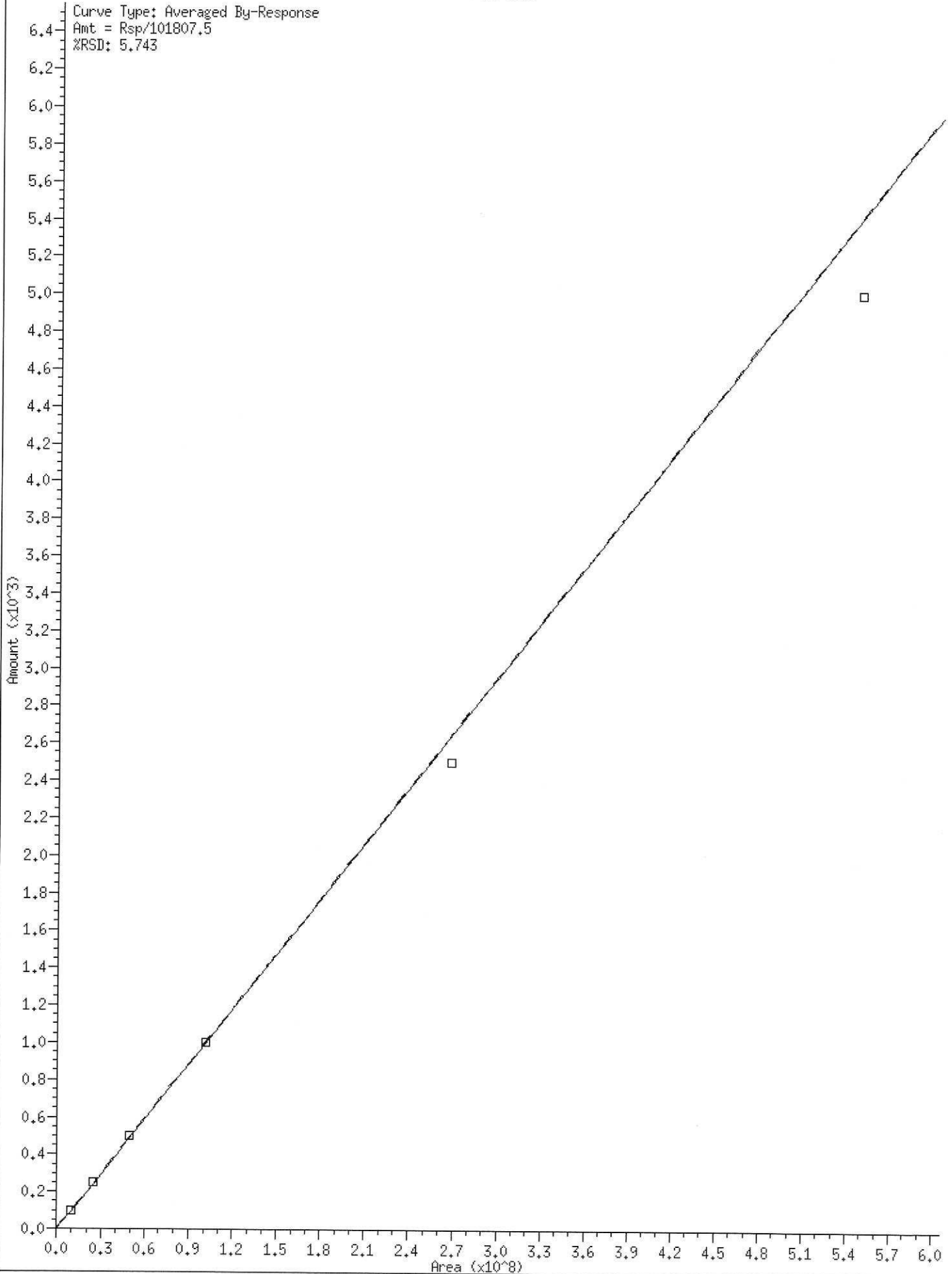
EA00020

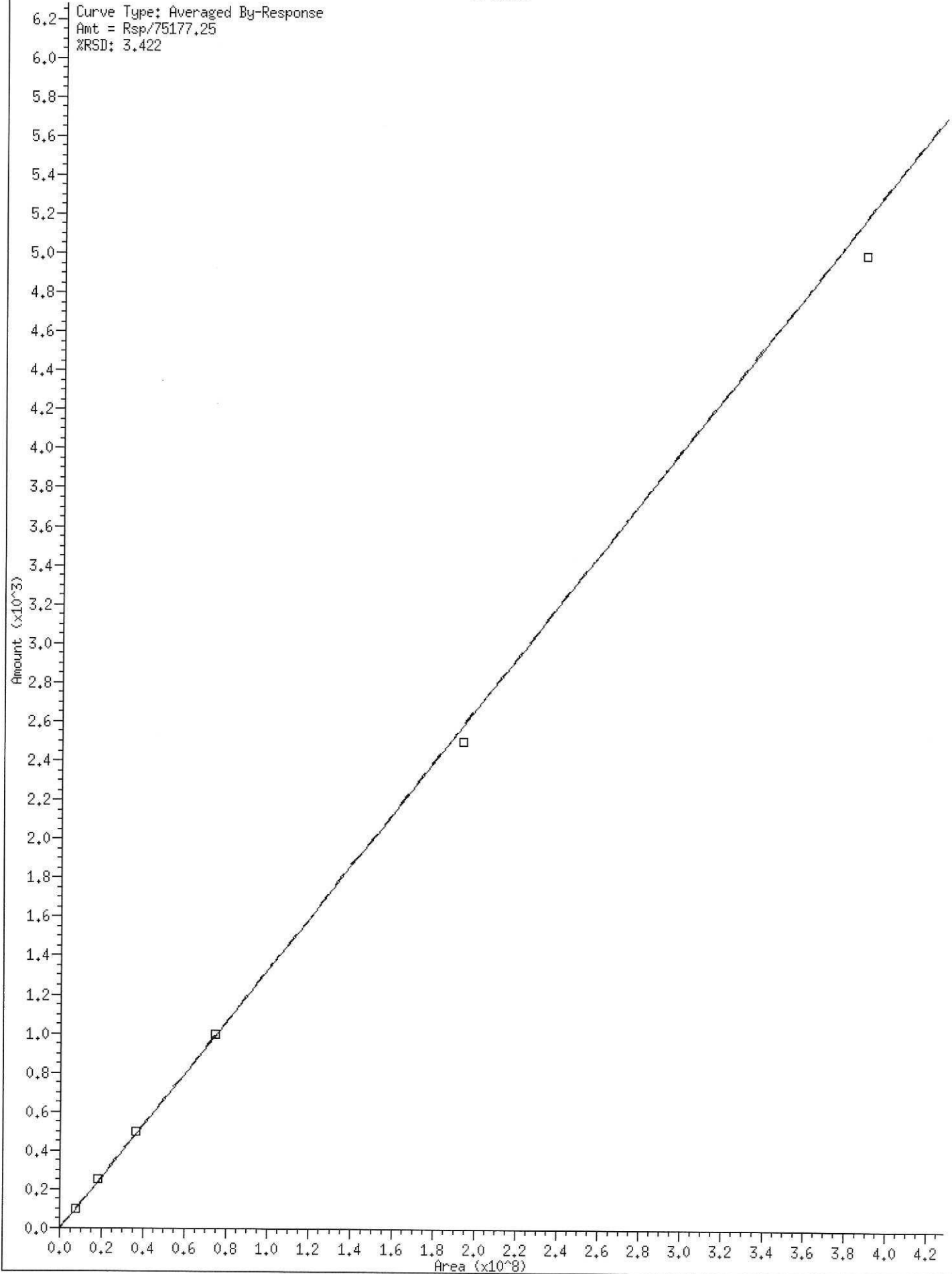
* 8 o-terph













SECOND-SOURCE CALIBRATION VERIFICATION
NWTPH-Dx

Laboratory: Analytical Resources, Inc.

Client: Anchor QEA, LLC

Calibration: EA00020

Sequence: SJA0096

SDG: 21C0175

Project: GascoSiltronic: US Moorings

Laboratory ID: SJA0096-SCV1

Sequence Name: DIESEL SCV

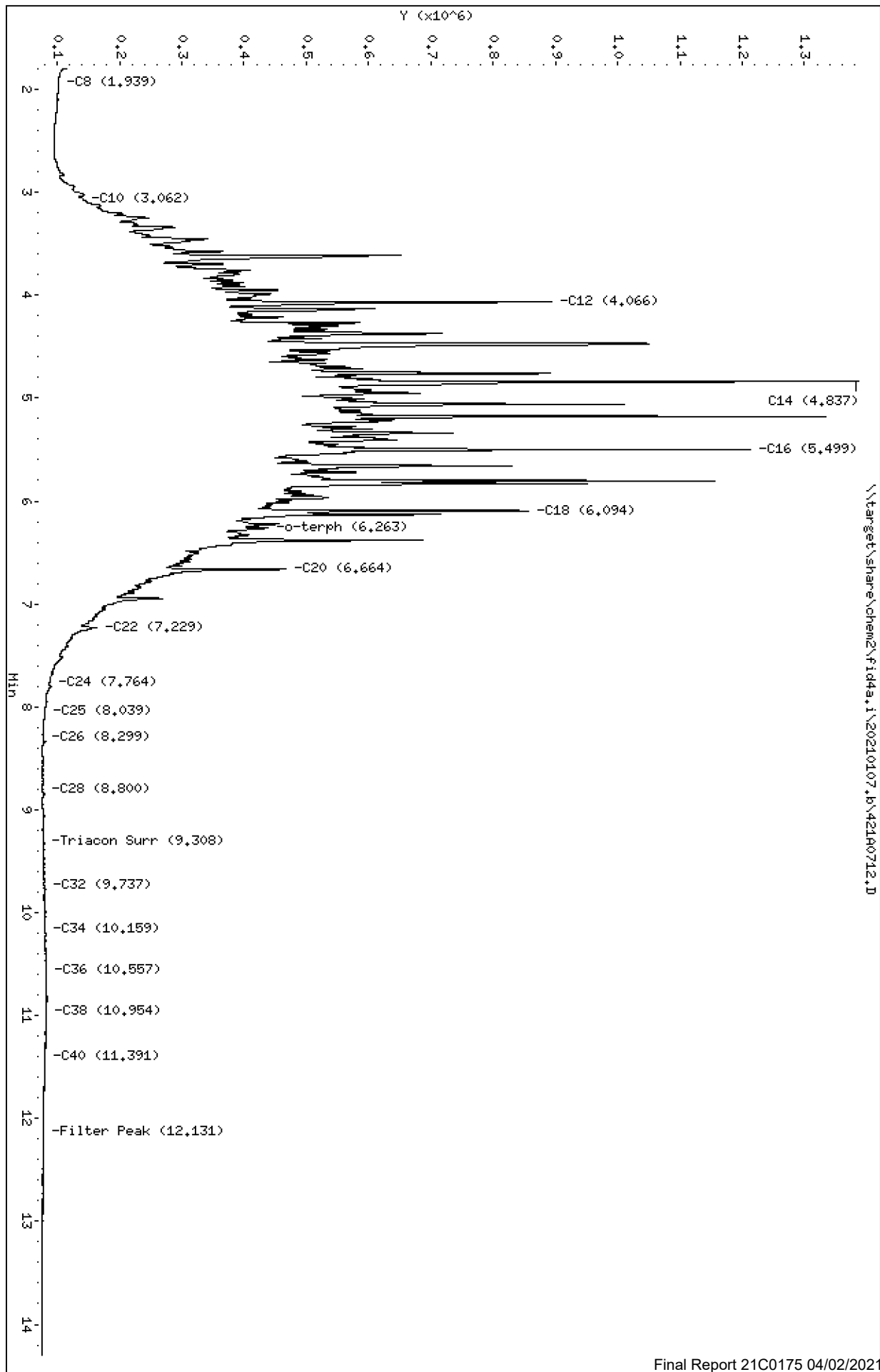
Standard ID: I004025

ANALYTE	EXPECTED (mg/L)	FOUND (mg/L)	% DRIFT	QC LIMIT
Diesel Range Organics (C12-C24)	500.00	529	5.8	30.00

* Indicates values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20210107_b\42140712.D
 Date: 07-JAN-2021 18:30
 Client ID:
 Sample Info: SEQ-SCV1
 Column phase: RTX-1

Instrument: fid4a,1
 Operator: CTO
 Column diameter: 0.25



\\target\share\chem2\fid4a,1\20210107_b\42140712.D

Analytical Resources Inc.
TPH Quantitation Report

Data file: 20210107.b/421A0712.D
Method: 20210107.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 01/08/2021
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:08-JAN-2021 M.Oil:08-JAN-2021

ARI ID: SEQ-SCV1
Client ID:
Injection: 07-JAN-2021 18:30
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.939	-0.009	27421	50016	WATPHD	(C12-C24)	72733887	529.0
C10	3.062	-0.017	66943	80186	WATPHM	(C24-C38)	697004	6.8
C12	4.066	0.008	818579	1791423	AK102	(C10-C25)	87307656	446.6
C14	4.837	0.003	1311533	2959053	AK103	(C25-C36)	467041	6.2
C16	5.499	0.002	1137826	1542083	OR.DIES	(C10-C28)	87396584	445.9
C18	6.094	-0.001	780349	1347913				
C20	6.664	0.001	392751	875007	JET-A	(C10-C18)	73957524	445.9
C22	7.229	0.007	87119	187699				
C24	7.764	-0.006	12482	9572				
C25	8.039	-0.002	4794	2100				
C26	8.299	-0.002	1789	1195				
C28	8.800	-0.004	1236	652				
C32	9.737	0.003	3303	1373				
C34	10.159	0.001	4959	1222				
Filter Peak	12.131	0.005	1805	525	BUNKERC	(C10-C38)	87934635	2227.5
C36	10.557	-0.008	6113	3019				
C38	10.954	-0.002	6671	2278				
C40	11.391	0.005	5206	5293				
o-terph	6.263	-0.010	363544	862363				
Triacon Surr	9.308	0.001	2539	1252	NAS DIES	(C10-C24)	87237631	447.0

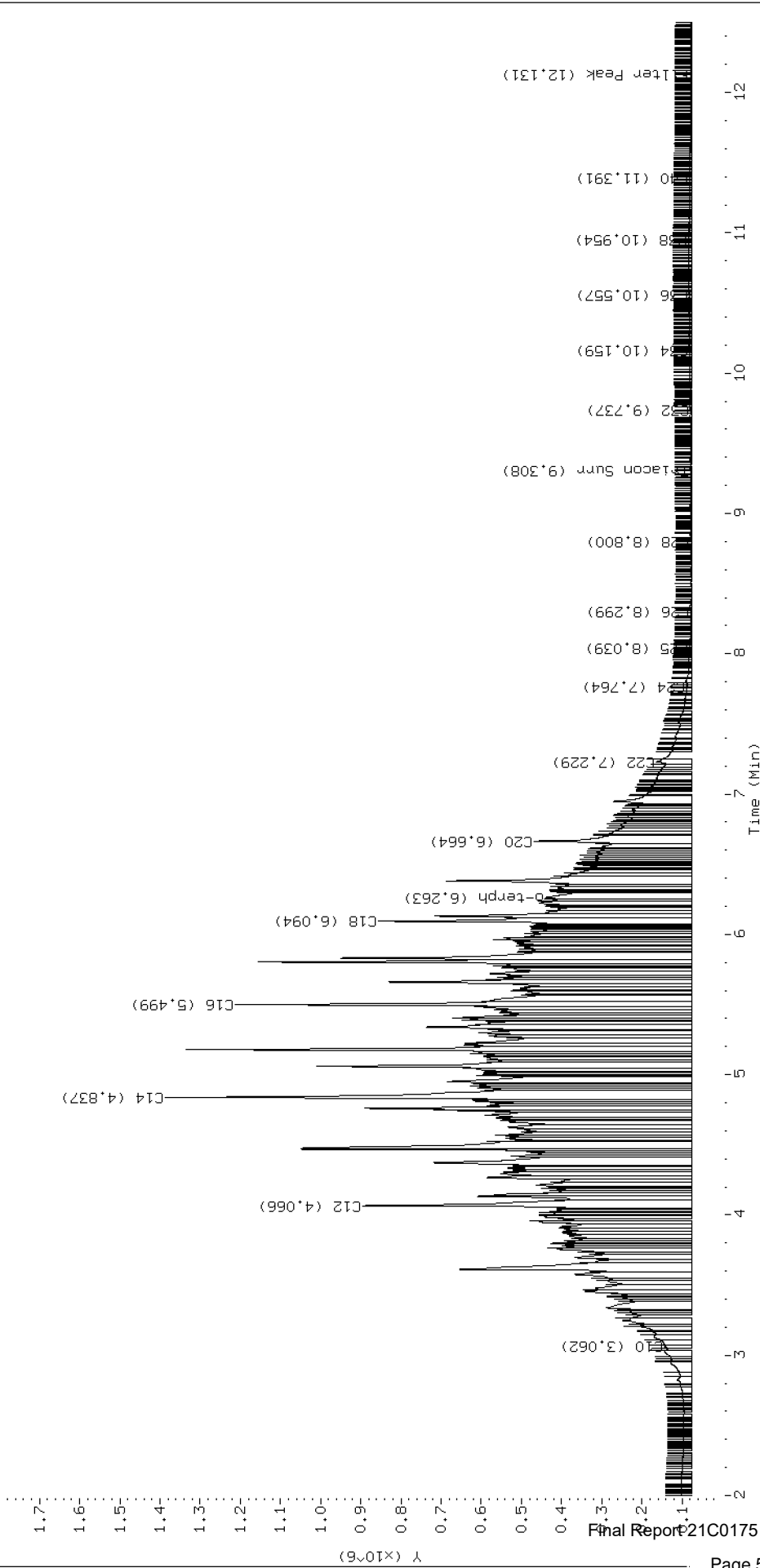
Range Times: NW Diesel(4.058 - 7.770) AK102(3.08 - 8.04) Jet A(3.08 - 6.10)
NW M.Oil(7.77 - 10.96) AK103(8.04 - 10.57) OR Diesel(3.08 - 8.80)

Surrogate	Area	Amount
o-Terphenyl	862363	5.1
Triacontane	1252	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	170577.7	25-OCT-2019
Triacon Surr	141415.7	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	137498.1	08-JAN-2021
Motor Oil	101807.5	08-JAN-2021
AK102	195491.2	08-JAN-2021
AK103	75177.3	08-JAN-2021
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020

HP6890 GC Data, FID1A.CH





INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory: <u>Analytical Resources, Inc.</u>	SDG: <u>21C0175</u>
Client: <u>Anchor QEA, LLC</u>	Project: <u>GascoSiltronic: US Moorings</u>
Instrument ID: <u>FID4</u>	Calibration: <u>EA00020</u>
Lab File ID: <u>421C1205.D</u>	Calibration Date: <u>01/07/2021</u>
Sequence: <u>SJC0210</u>	Injection Date: <u>03/12/21</u>
Lab Sample ID: <u>SJC0210-ICV1</u>	Injection Time: <u>15:55</u>
Sequence Name: <u>DIESEL ICV</u>	

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	458	137498.2000	125879.9000		-8.4	+/-15
o-Terphenyl	A	90.000	87.1	170577.7000	165031.4000		-3.2	+/-15

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20210312,8\421C1205.D

Date: 12-MAR-2021 15:55

Client ID:

Sample Info: SEQ-ICV1

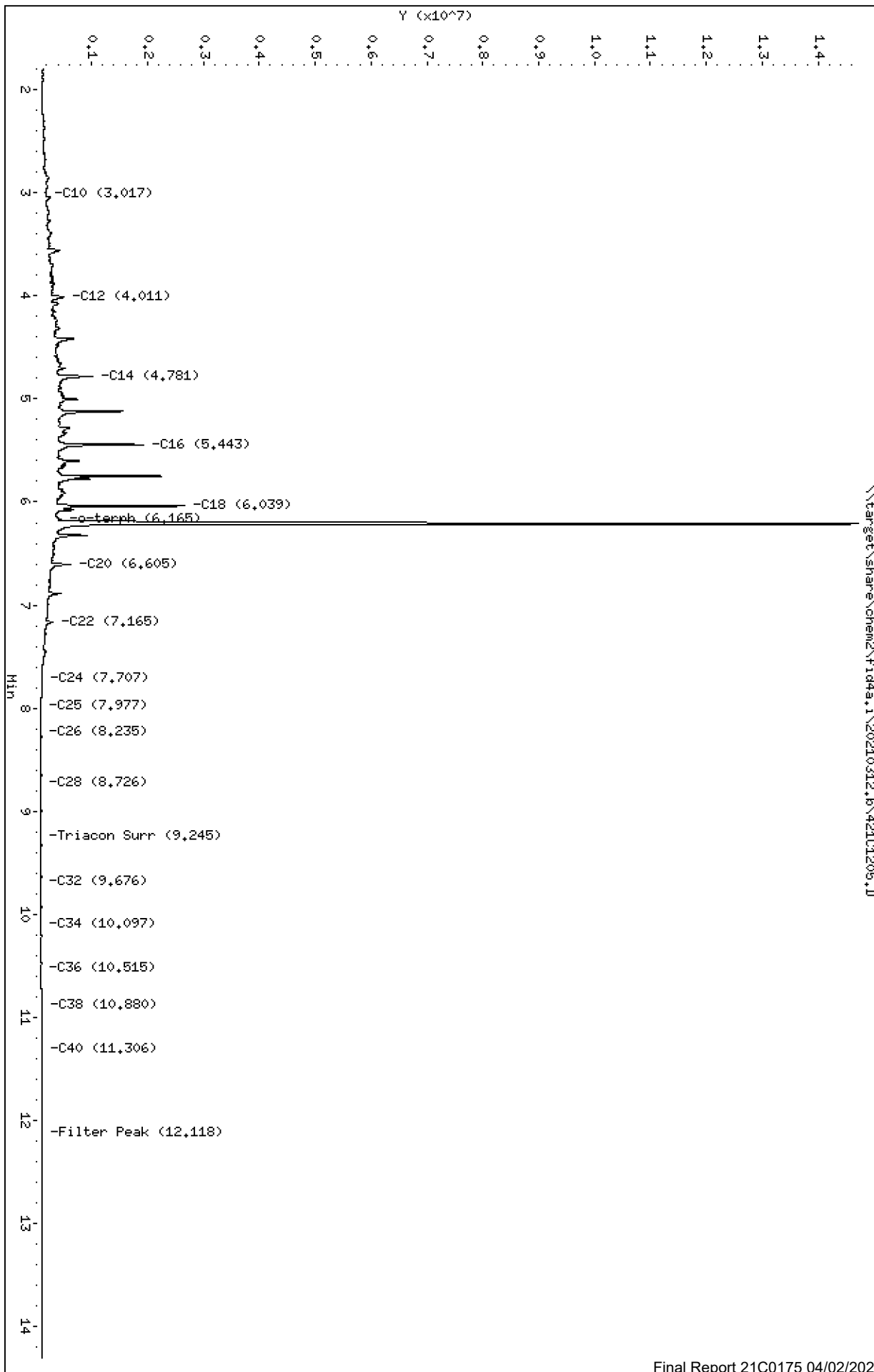
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20210312.b/421C1205.D
Method: 20210312.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 03/13/2021
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:08-JAN-2021 M.Oil:08-JAN-2021

ARI ID: SEQ-ICV1
Client ID:
Injection: 12-MAR-2021 15:55
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

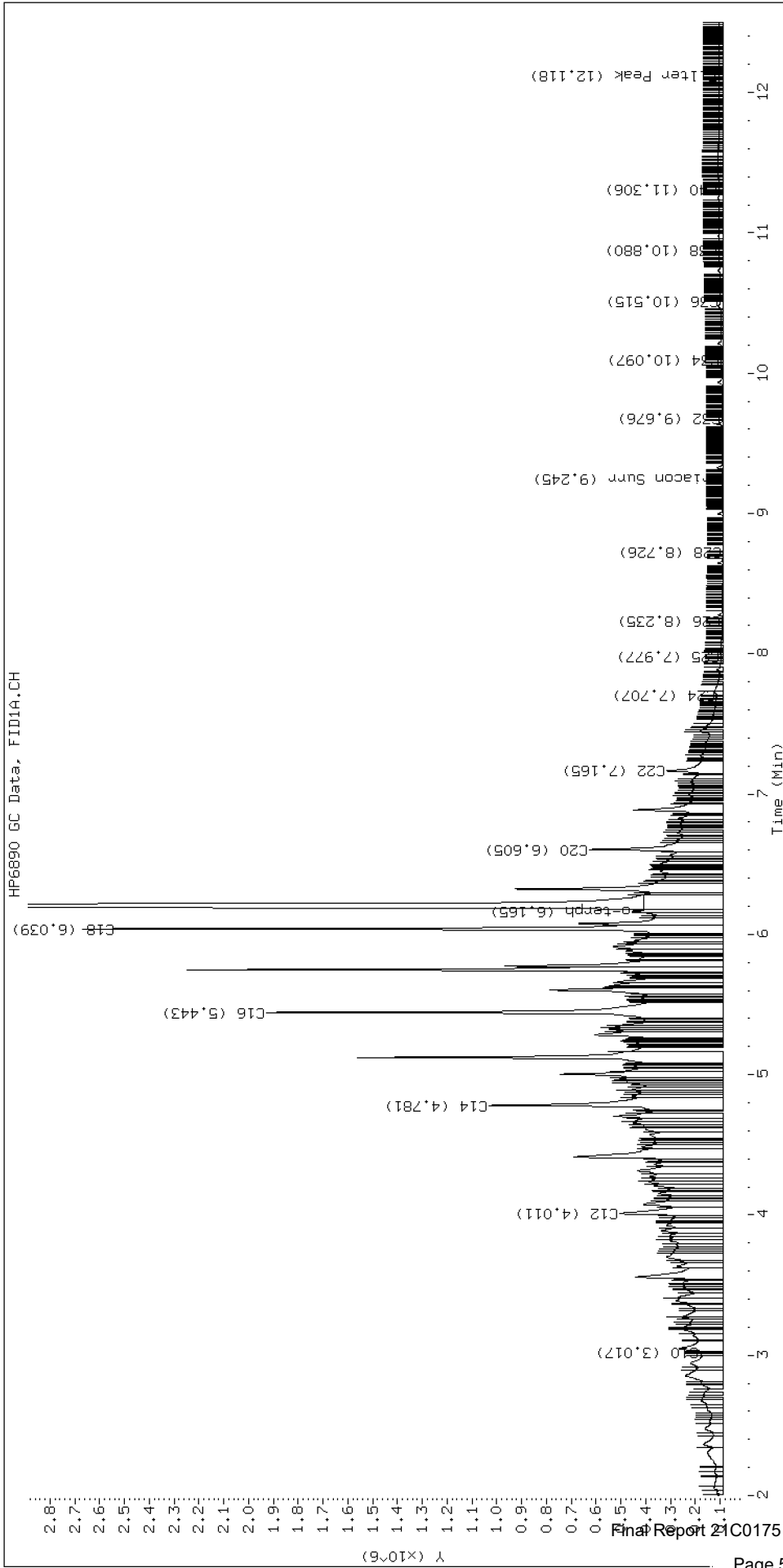
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.906	0.015	47064	80645	WATPHD	(C12-C24)	62939934	457.8
C10	3.017	-0.004	89794	26877	WATPHM	(C24-C38)	979602	9.6
C12	4.011	0.008	416222	1059805	AK102	(C10-C25)	73835476	439.3
C14	4.781	0.001	942565	2396674	AK103	(C25-C36)	602674	8.0
C16	5.443	0.000	1839105	3776425	OR.DIES	(C10-C28)	73982349	377.5
C18	6.039	-0.000	2577501	2791332				
C20	6.605	-0.000	537458	1182172	JET-A	(C10-C18)	58163616	396.6
C22	7.165	0.002	224350	668582				
C24	7.707	-0.003	24836	6182				
C25	7.977	0.000	7695	3418				
C26	8.235	-0.002	2211	2016				
C28	8.726	-0.015	379	155				
C32	9.676	0.005	3275	2228				
C34	10.097	0.000	5190	1288				
Filter Peak	12.118	-0.001	16821	15885	BUNKERC	(C10-C38)	74724655	1892.9
C36	10.515	0.015	9637	6191				
C38	10.880	-0.001	14595	14465				
C40	11.306	0.005	17124	14482				
o-terph	6.212	-0.000	14310599	14852831				
Triacon Surr	9.245	0.001	1201	476	NAS DIES	(C10-C24)	73745052	377.9

Range Times: NW Diesel(4.003 - 7.709) AK102(3.02 - 7.98) Jet A(3.02 - 6.04)
NW M.Oil(7.71 - 10.88) AK103(7.98 - 10.50) OR Diesel(3.02 - 8.74)

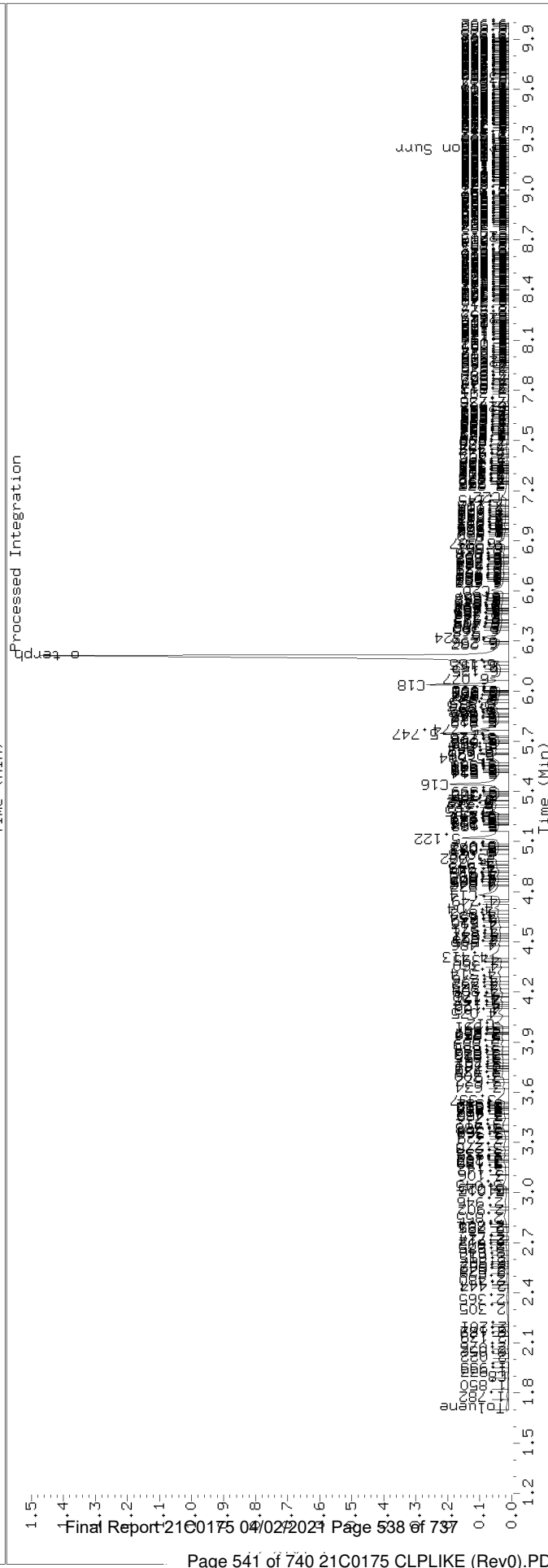
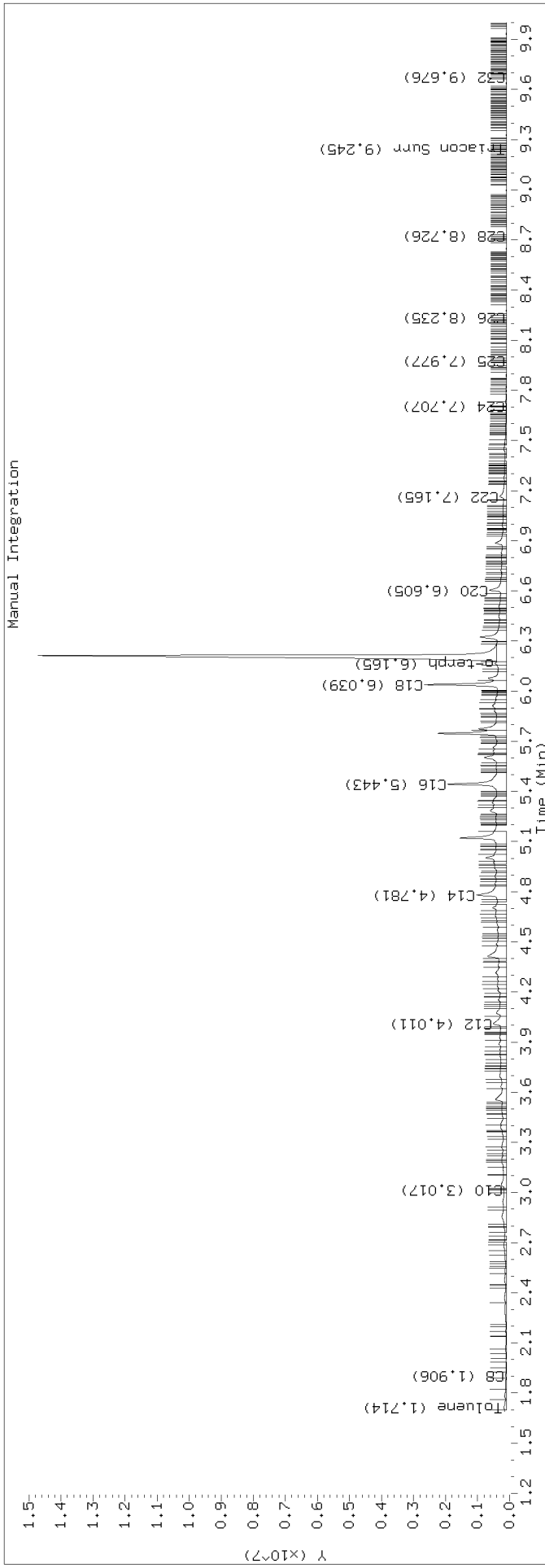
Surrogate	Area	Amount
o-Terphenyl	14852831	87.1 M
Triacontane	476	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	170577.7	25-OCT-2019
Triacon Surr	141415.7	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	137498.1	08-JAN-2021
Motor Oil	101807.5	08-JAN-2021
AK102	168065.4	08-JAN-2021
AK103	75177.3	08-JAN-2021
JetA	146652.4	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020



TPH Manual Integrations Report





INITIAL CALIBRATION CHECK

NWTPH-Dx

Laboratory: <u>Analytical Resources, Inc.</u>	SDG: <u>21C0175</u>
Client: <u>Anchor QEA, LLC</u>	Project: <u>GascoSiltronic: US Moorings</u>
Instrument ID: <u>FID4</u>	Calibration: <u>EA00020</u>
Lab File ID: <u>421C2405.D</u>	Calibration Date: <u>01/07/2021</u>
Sequence: <u>SJC0400</u>	Injection Date: <u>03/24/21</u>
Lab Sample ID: <u>SJC0400-ICV1</u>	Injection Time: <u>10:28</u>
Sequence Name: <u>DIESEL ICV</u>	

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	490	137498.2000	134688.1000		-2.0	+/-15
o-Terphenyl	A	90.000	90.8	170577.7000	172137.6000		0.9	+/-15

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20210324,8\421C2405.D

Date: 24-MAR-2021 10:28

Client ID:

Sample Info: SEQ-ICV1

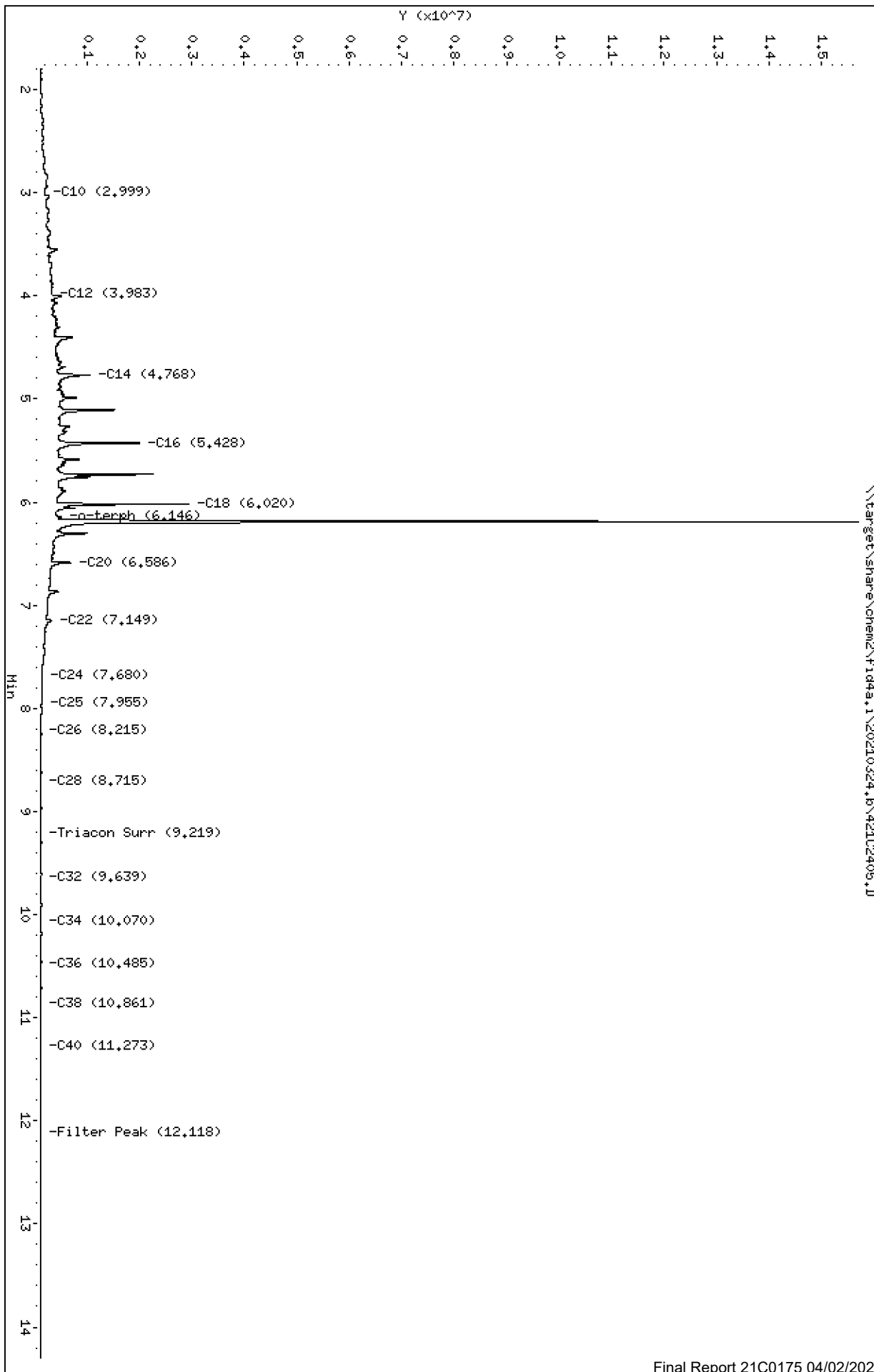
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20210324.b/421C2405.D
Method: 20210324.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 03/26/2021
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:08-JAN-2021 M.Oil:08-JAN-2021

ARI ID: SEQ-ICV1
Client ID:
Injection: 24-MAR-2021 10:28
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

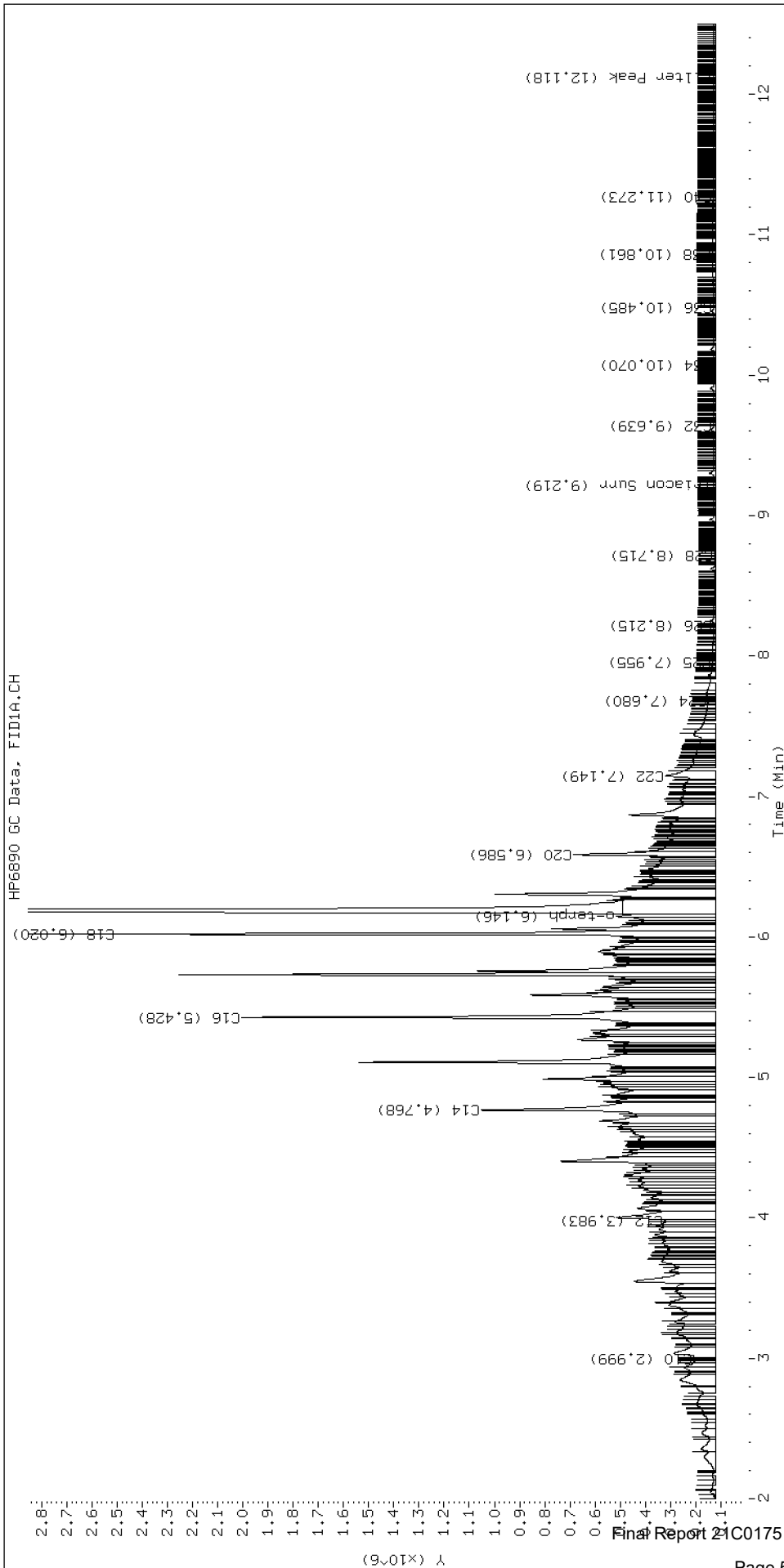
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.901	0.010	24978	33461	WATPHD	(C12-C24)	67344064	489.8
C10	2.999	-0.013	85557	38300	WATPHM	(C24-C38)	1718374	16.9
C12	3.983	-0.009	202027	110143	AK102	(C10-C25)	78298519	465.9
C14	4.768	-0.015	932853	2549614	AK103	(C25-C36)	1266784	16.9
C16	5.428	-0.008	1884842	3332025	OR.DIES	(C10-C28)	78699135	401.5
C18	6.020	-0.001	2825277	2746329				
C20	6.586	-0.000	565552	892020	JET-A	(C10-C18)	61173801	417.1
C22	7.149	0.005	198433	500642				
C24	7.680	-0.006	30155	23661				
C25	7.955	0.003	13721	8124				
C26	8.215	0.001	7594	1880				
C28	8.715	-0.001	4571	2247				
C32	9.639	-0.005	7957	5833				
C34	10.070	-0.000	8765	2620				
Filter Peak	12.118	0.000	9443	3292	CREOSOT	(C12-C22)	65551545	6159.0
C36	10.485	0.009	10339	5648				
C38	10.861	-0.002	10823	3231				
C40	11.273	-0.000	10224	2547				
o-terph	6.193	-0.002	15212382	15492382				
Triacon Surr	9.219	-0.000	7077	2821	NAS DIES	(C10-C24)	78090405	400.2

Range Times: NW Diesel(3.991 - 7.686) AK102(3.01 - 7.95) Jet A(3.01 - 6.02)
NW M.Oil(7.69 - 10.86) AK103(7.95 - 10.48) OR Diesel(3.01 - 8.72)

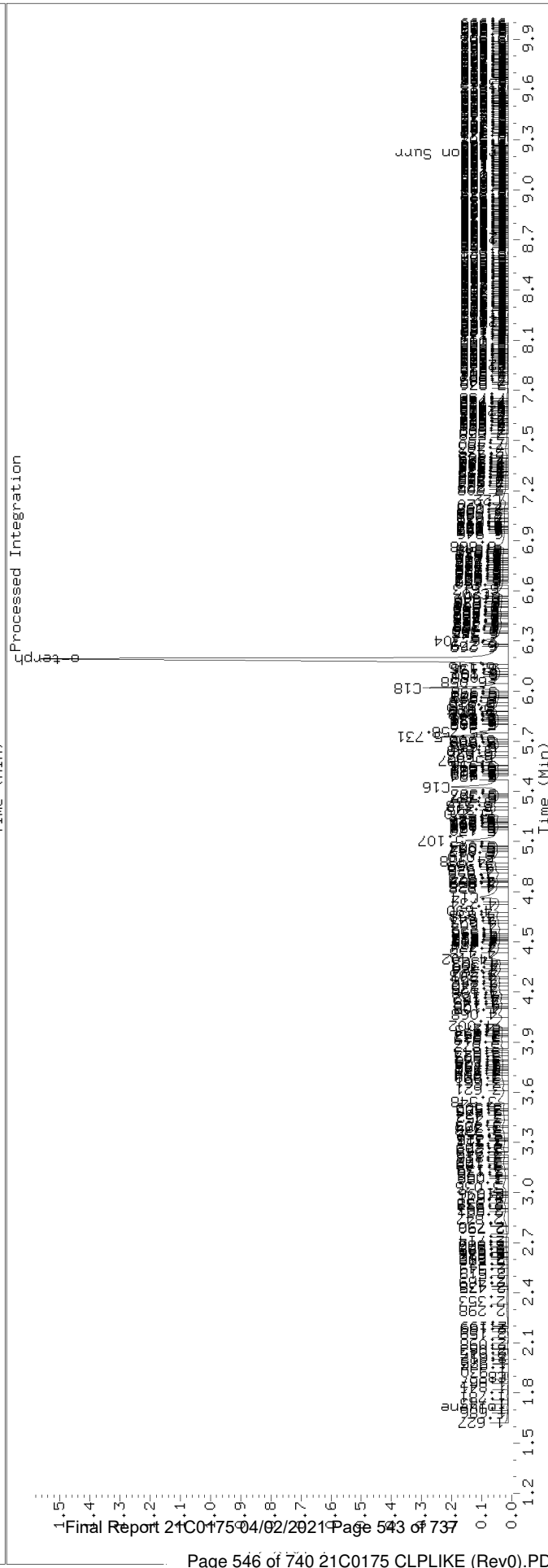
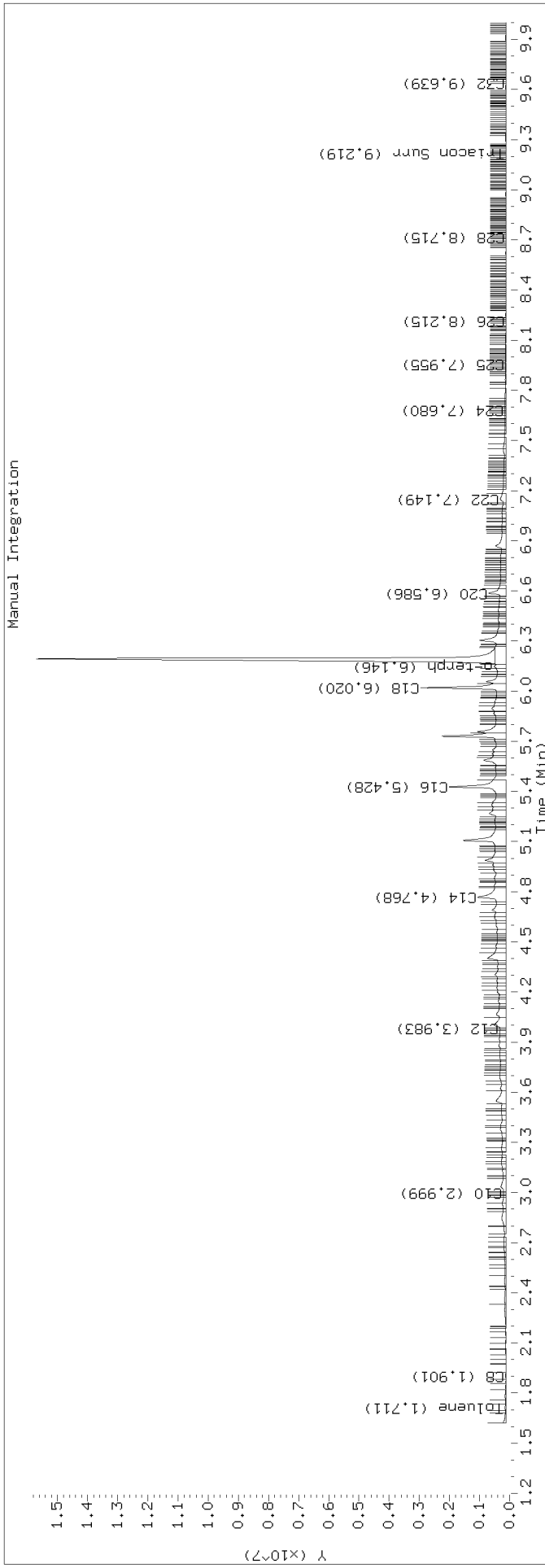
Surrogate	Area	Amount
o-Terphenyl	15492382	90.8 M
Triacontane	2821	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	170577.7	25-OCT-2019
Triacon Surr	141415.7	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	137498.1	08-JAN-2021
Motor Oil	101807.5	08-JAN-2021
AK102	168065.4	08-JAN-2021
AK103	75177.3	08-JAN-2021
JetA	146652.4	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	10643.2	30-MAR-2020



TPH Manual Integrations Report





**SECOND-SOURCE
CONTINUING CALIBRATION CHECK
NWTPH-Dx**

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>21C0175</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>GascoSiltronic: US Moorings</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>EA00020</u>
Lab File ID:	<u>421A0712.D</u>	Calibration Date:	<u>01/07/2021</u>
Sequence:	<u>SJA0096</u>	Injection Date:	<u>01/07/21</u>
Lab Sample ID:	<u>SJA0096-SCV1</u>	Injection Time:	<u>18:30</u>
Sequence Name:	<u>DIESEL SCV</u>		

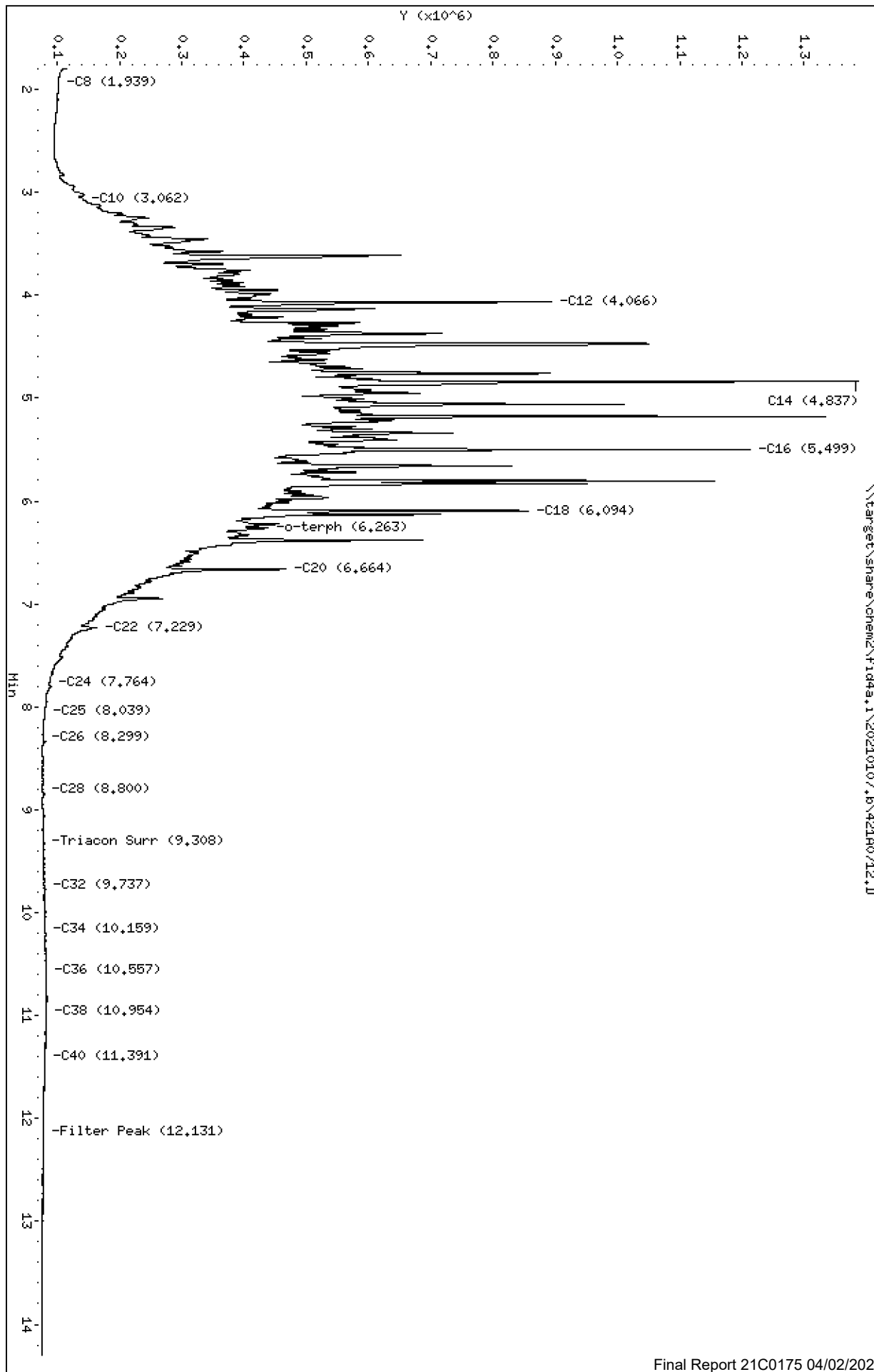
COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	529	137498.2	145467.8		5.8	+/-30

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20210107_b\42140712.D
 Date: 07-JAN-2021 18:30
 Client ID:
 Sample Info: SEQ-SCV1
 Column phase: RTX-1

Instrument: fid4a,1
 Operator: CTO
 Column diameter: 0.25

\\target\share\chem2\fid4a,1\20210107_b\42140712.D



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20210107.b/421A0712.D
Method: 20210107.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 01/08/2021
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:08-JAN-2021 M.Oil:08-JAN-2021

ARI ID: SEQ-SCV1
Client ID:
Injection: 07-JAN-2021 18:30
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.939	-0.009	27421	50016	WATPHD	(C12-C24)	72733887	529.0
C10	3.062	-0.017	66943	80186	WATPHM	(C24-C38)	697004	6.8
C12	4.066	0.008	818579	1791423	AK102	(C10-C25)	87307656	446.6
C14	4.837	0.003	1311533	2959053	AK103	(C25-C36)	467041	6.2
C16	5.499	0.002	1137826	1542083	OR.DIES	(C10-C28)	87396584	445.9
C18	6.094	-0.001	780349	1347913				
C20	6.664	0.001	392751	875007	JET-A	(C10-C18)	73957524	445.9
C22	7.229	0.007	87119	187699				
C24	7.764	-0.006	12482	9572				
C25	8.039	-0.002	4794	2100				
C26	8.299	-0.002	1789	1195				
C28	8.800	-0.004	1236	652				
C32	9.737	0.003	3303	1373				
C34	10.159	0.001	4959	1222				
Filter Peak	12.131	0.005	1805	525	BUNKERC	(C10-C38)	87934635	2227.5
C36	10.557	-0.008	6113	3019				
C38	10.954	-0.002	6671	2278				
C40	11.391	0.005	5206	5293				
o-terph	6.263	-0.010	363544	862363				
Triacon Surr	9.308	0.001	2539	1252	NAS DIES	(C10-C24)	87237631	447.0

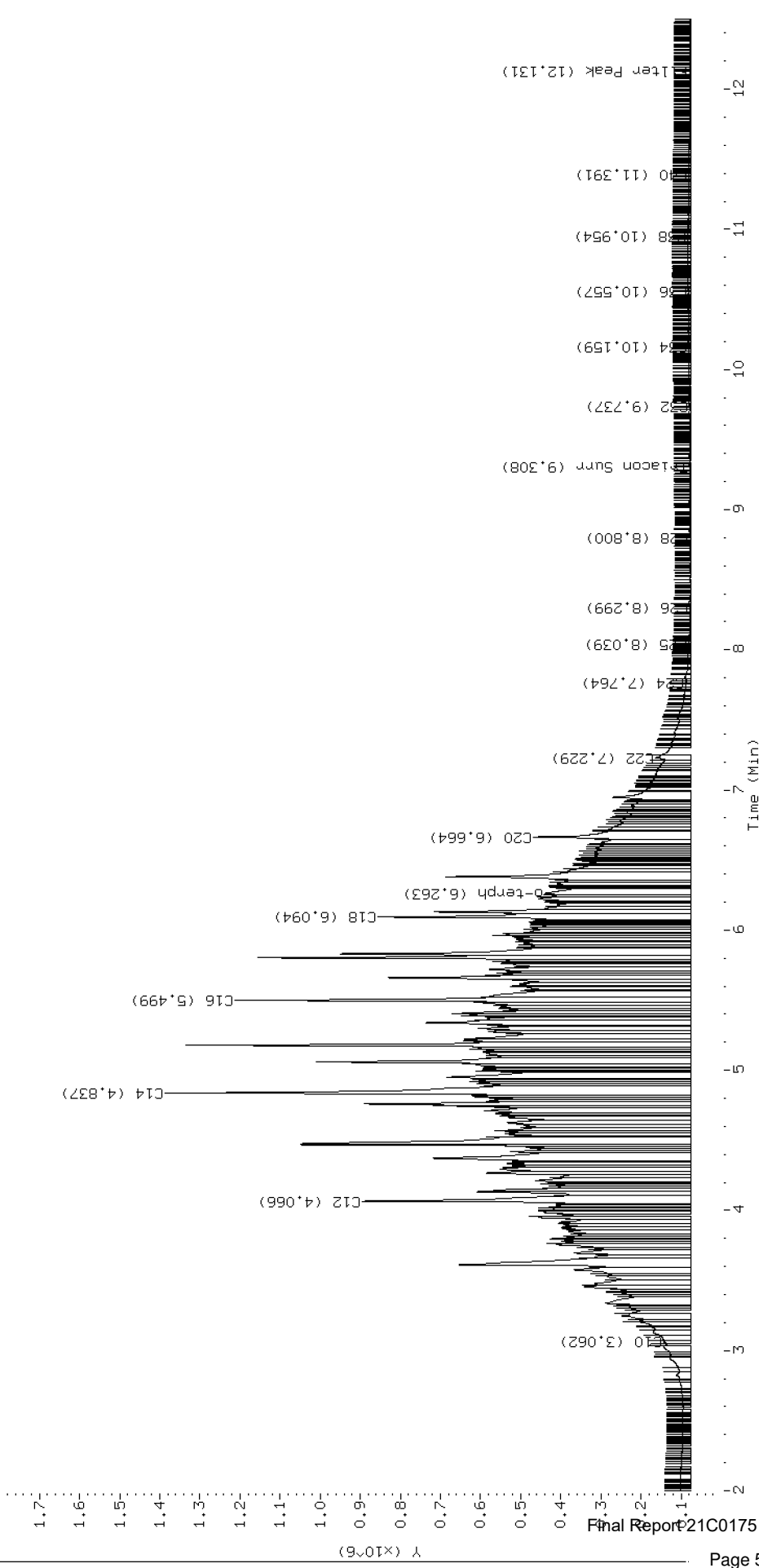
Range Times: NW Diesel(4.058 - 7.770) AK102(3.08 - 8.04) Jet A(3.08 - 6.10)
NW M.Oil(7.77 - 10.96) AK103(8.04 - 10.57) OR Diesel(3.08 - 8.80)

Surrogate	Area	Amount
o-Terphenyl	862363	5.1
Triacontane	1252	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	170577.7	25-OCT-2019
Triacon Surr	141415.7	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	137498.1	08-JAN-2021
Motor Oil	101807.5	08-JAN-2021
AK102	195491.2	08-JAN-2021
AK103	75177.3	08-JAN-2021
JetA	165849.0	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020

HP6890 GC Data, FID1A.CH



Data File: \\target\share\chem2\fid4a,1\20210312,8\421C1221.D

Date: 12-MAR-2021 21:33

Client ID:

Sample Info: SEQ-CV1

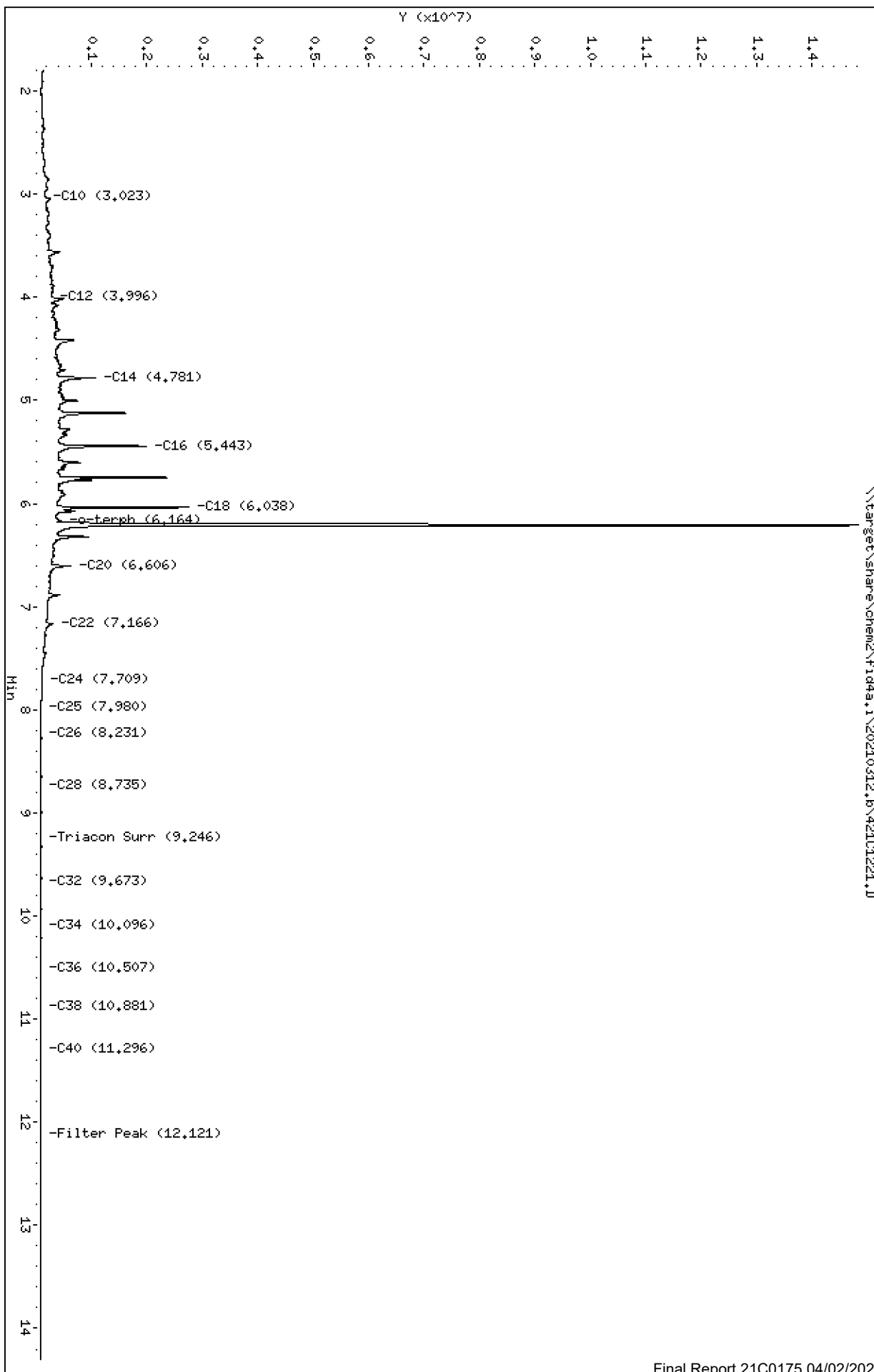
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20210312.b/421C1221.D
Method: 20210312.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 03/13/2021
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:08-JAN-2021 M.Oil:08-JAN-2021

ARI ID: SEQ-CCV1
Client ID:
Injection: 12-MAR-2021 21:33
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

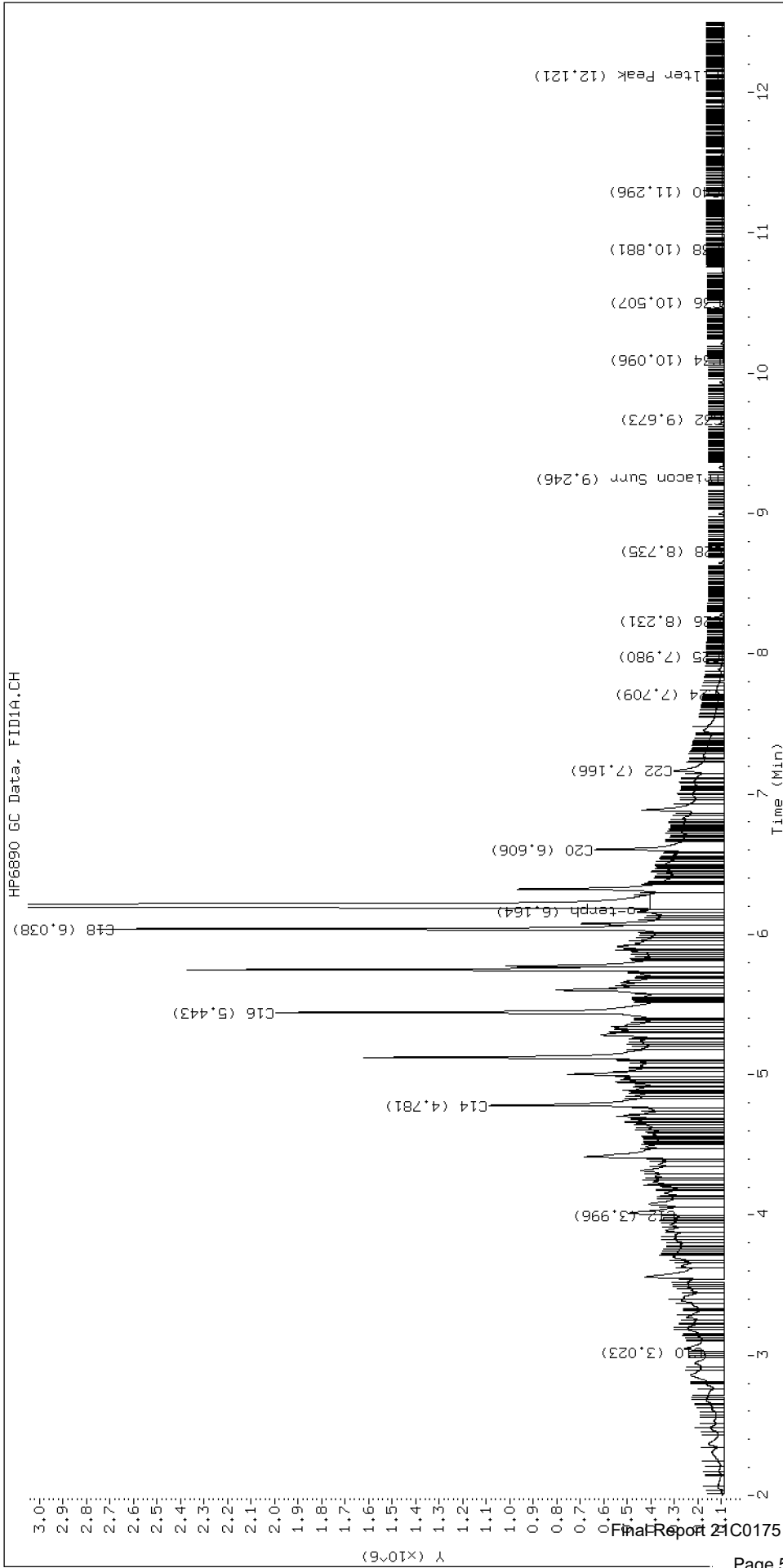
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.876	-0.015	26207	33899	WATPHD	(C12-C24)	65401693	475.7
C10	3.023	0.002	83962	41705	WATPHM	(C24-C38)	697923	6.9
C12	3.996	-0.007	201669	50289	AK102	(C10-C25)	76169708	453.2
C14	4.781	0.001	1000885	2147769	AK103	(C25-C36)	415223	5.5
C16	5.443	0.000	1907221	3813416	OR.DIES	(C10-C28)	76346388	389.5
C18	6.038	-0.001	2667545	2677910				
C20	6.606	0.000	551041	1215448	JET-A	(C10-C18)	59688965	407.0
C22	7.166	0.003	213577	633426				
C24	7.709	-0.000	24320	7257				
C25	7.980	0.004	8547	7734				
C26	8.231	-0.006	3043	2273				
C28	8.735	-0.005	410	175				
C32	9.673	0.003	1457	853				
C34	10.096	-0.000	2374	1592				
Filter Peak	12.121	0.002	9170	2738	BUNKERC	(C10-C38)	76732596	1943.7
C36	10.507	0.008	4663	3021				
C38	10.881	0.000	7800	2721				
C40	11.296	-0.005	9859	3444				
o-terph	6.212	-0.000	14428642	15310641				
Triacon Surr	9.246	0.002	385	210	NAS DIES	(C10-C24)	76034673	389.6

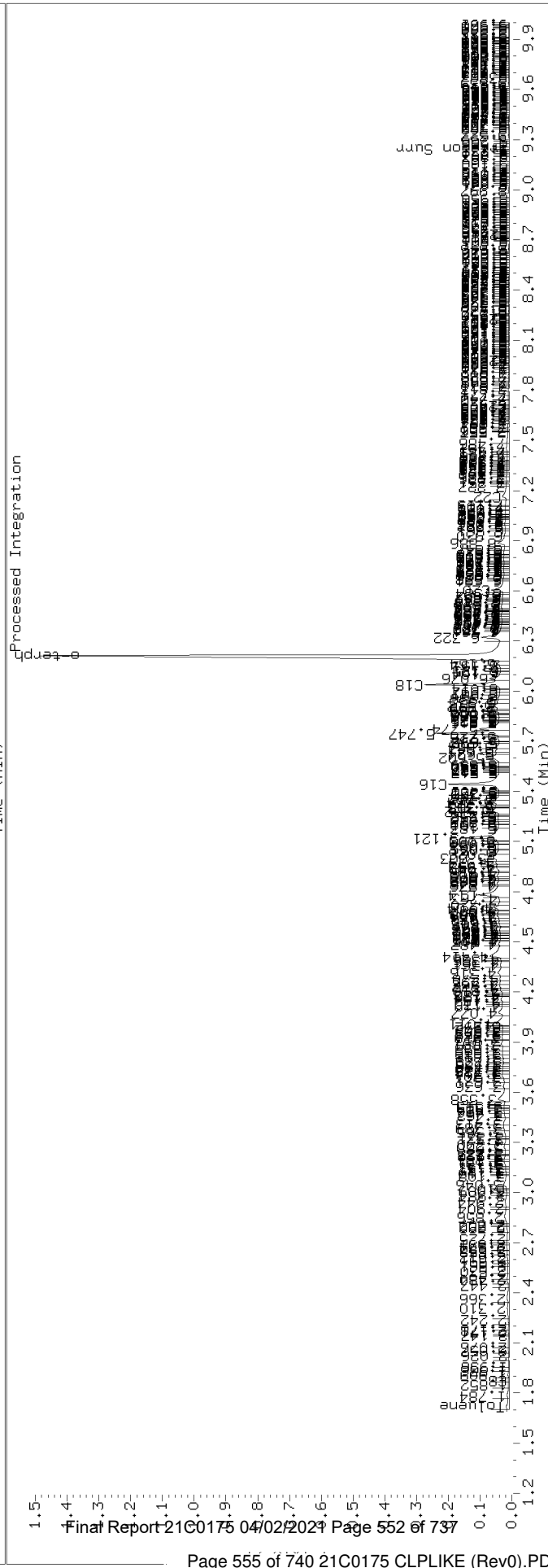
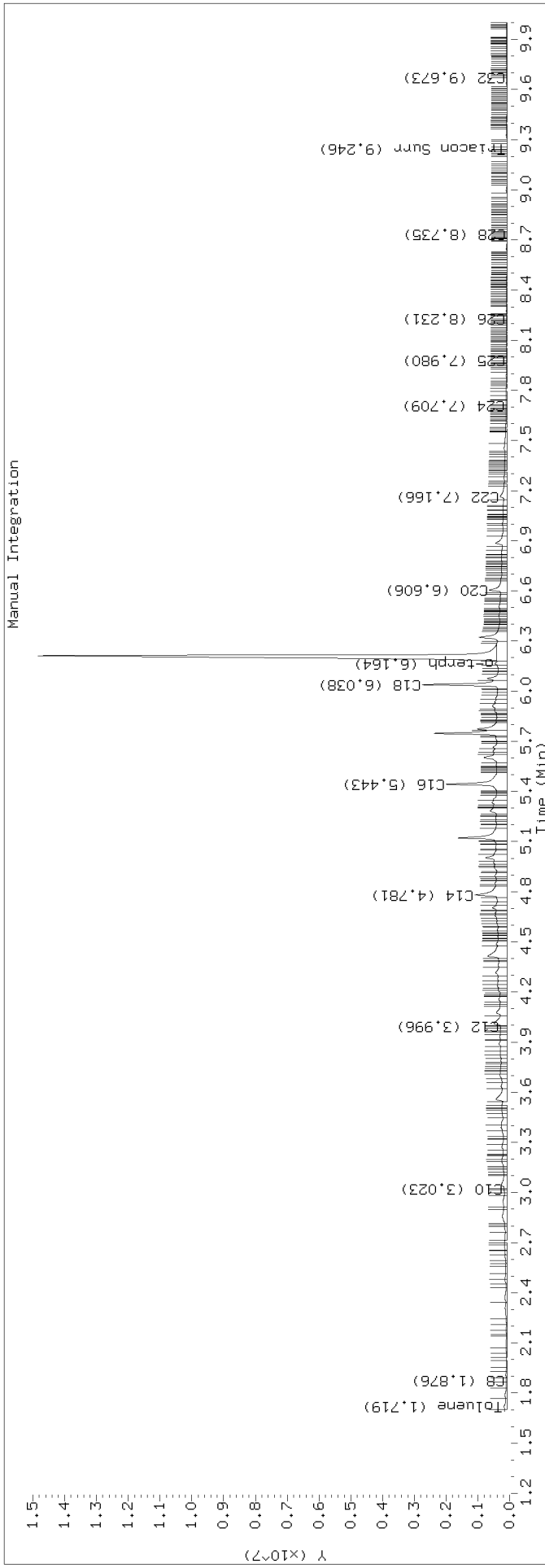
Range Times: NW Diesel(4.003 - 7.709) AK102(3.02 - 7.98) Jet A(3.02 - 6.04)
NW M.Oil(7.71 - 10.88) AK103(7.98 - 10.50) OR Diesel(3.02 - 8.74)

Surrogate	Area	Amount
o-Terphenyl	15310641	89.8 M
Triacontane	210	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	170577.7	25-OCT-2019
Triacon Surr	141415.7	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	137498.1	08-JAN-2021
Motor Oil	101807.5	08-JAN-2021
AK102	168065.4	08-JAN-2021
AK103	75177.3	08-JAN-2021
JetA	146652.4	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Bunker C	39477.2	13-MAR-2020







CONTINUING CALIBRATION CHECK

NWTPH-Dx

Laboratory: <u>Analytical Resources, Inc.</u>	SDG: <u>21C0175</u>
Client: <u>Anchor QEA, LLC</u>	Project: <u>GascoSiltronic: US Moorings</u>
Instrument ID: <u>FID4</u>	Calibration: <u>EA00020</u>
Lab File ID: <u>421C2408.D</u>	Calibration Date: <u>01/07/2021</u>
Sequence: <u>SJC0400</u>	Injection Date: <u>03/24/21</u>
Lab Sample ID: <u>SJC0400-CCV1</u>	Injection Time: <u>11:31</u>
Sequence Name: <u>DIESEL CCV</u>	

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	488	137498.2	134069.8		-2.5	+/-15
o-Terphenyl	A	90.000	90.6	170577.7	171707		0.7	+/-15

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20210324,8\421C2408.D

Date: 24-MAR-2021 11:31

Client ID:

Sample Info: SEQ-CCV1

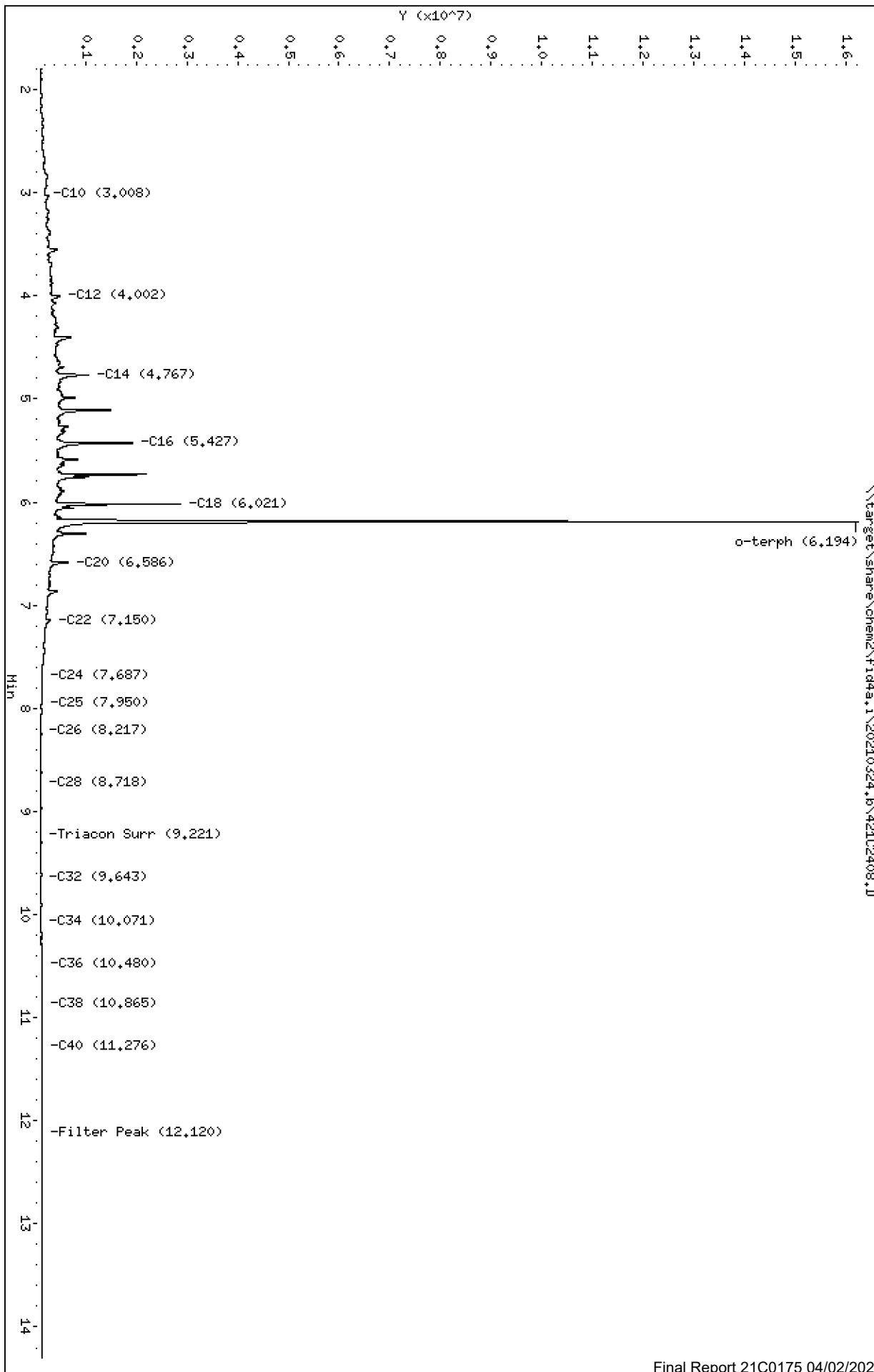
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20210324.b/421C2408.D
Method: 20210324.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 03/26/2021
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:08-JAN-2021 M.Oil:08-JAN-2021

ARI ID: SEQ-CCV1
Client ID:
Injection: 24-MAR-2021 11:31
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

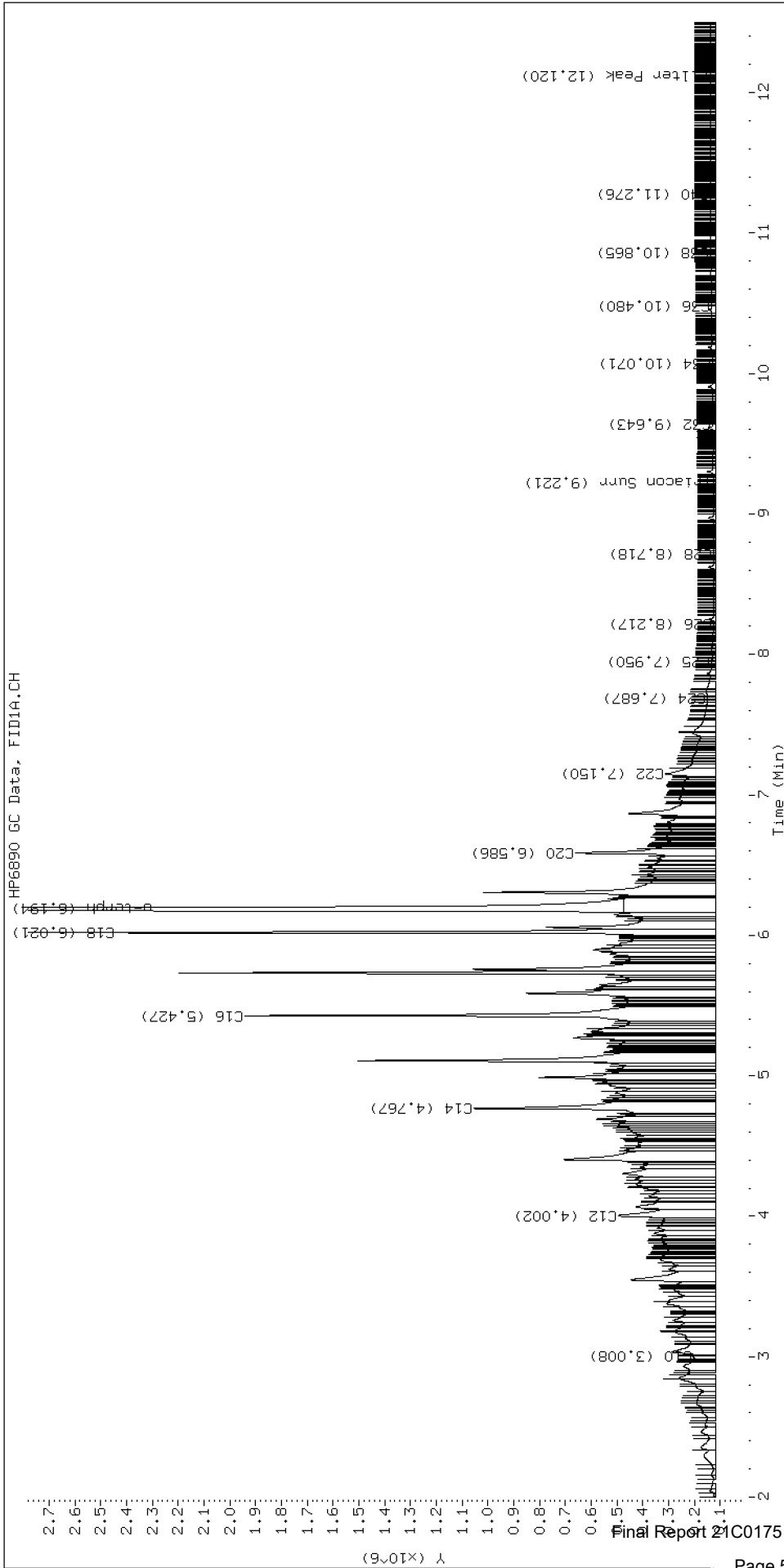
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.899	0.008	25374	33710	WATPHD	(C12-C24)	67034917	487.5
C10	3.008	-0.004	85122	17003	WATPHM	(C24-C38)	2177740	21.4
C12	4.002	0.011	377241	1072204	AK102	(C10-C25)	78163023	465.1
C14	4.767	-0.015	933633	2482381	AK103	(C25-C36)	1560107	20.8
C16	5.427	-0.008	1823818	3850812	OR.DIES	(C10-C28)	78596074	401.0
C18	6.021	-0.001	2769571	2743471				
C20	6.586	0.000	543724	980239	JET-A	(C10-C18)	61240313	417.6
C22	7.150	0.005	192858	532669				
C24	7.687	0.001	30074	19298				
C25	7.950	-0.002	14310	4943				
C26	8.217	0.003	7996	3118				
C28	8.718	0.002	5395	3648				
C32	9.643	-0.002	9876	6757				
C34	10.071	0.000	12082	3603				
Filter Peak	12.120	0.002	19288	7688	CREOSOT	(C12-C22)	65278766	6133.4
C36	10.480	0.003	15170	3026				
C38	10.865	0.002	18105	7205				
C40	11.276	0.003	19342	9610				
o-terph	6.194	-0.002	15760925	15453632				
Triacon Surr	9.221	0.002	8363	8271	NAS DIES	(C10-C24)	77927704	399.3

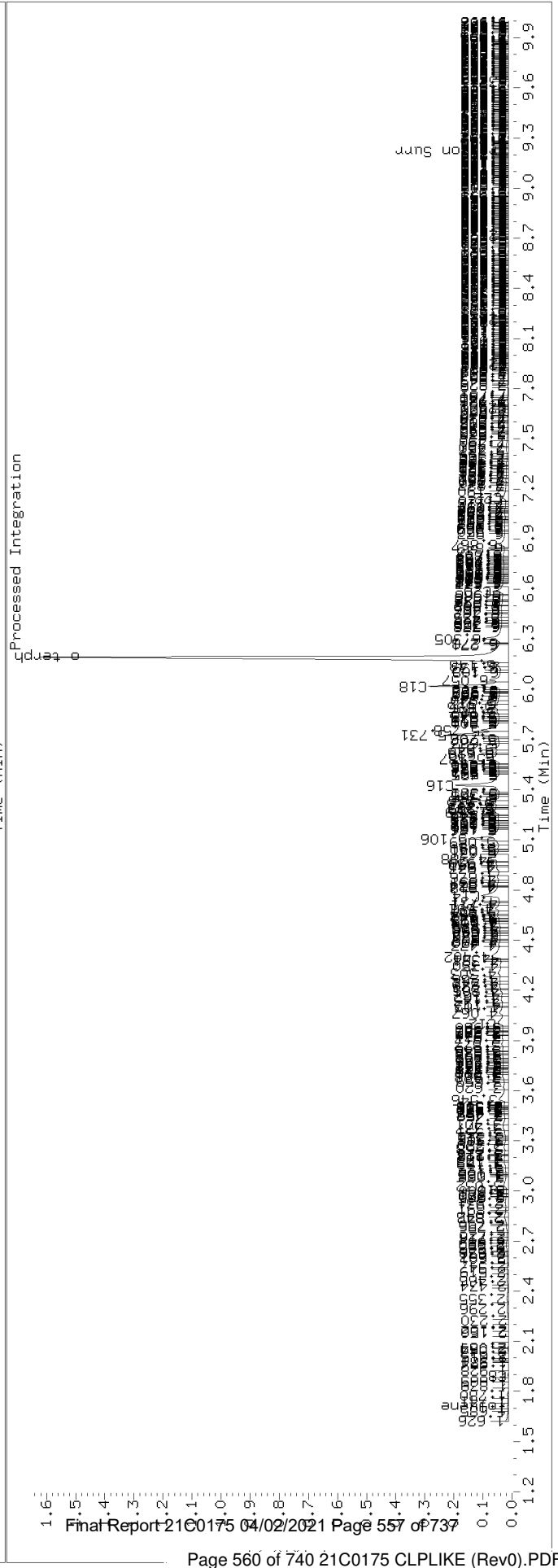
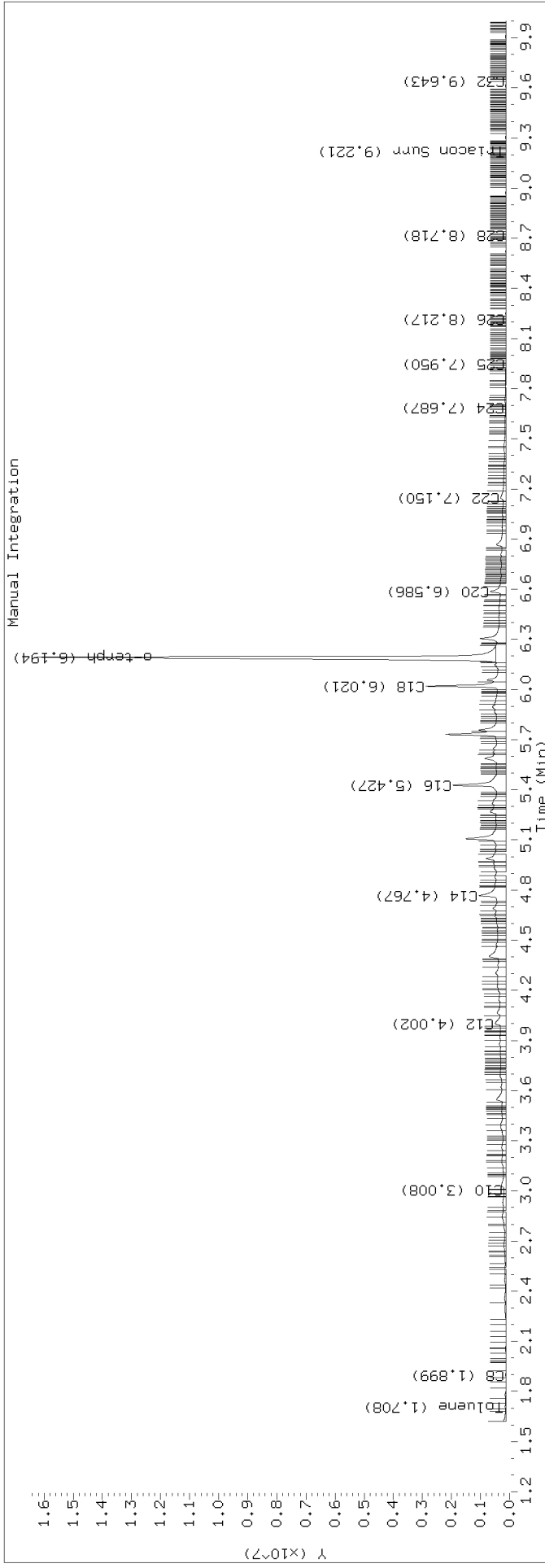
Range Times: NW Diesel(3.991 - 7.686) AK102(3.01 - 7.95) Jet A(3.01 - 6.02)
NW M.Oil(7.69 - 10.86) AK103(7.95 - 10.48) OR Diesel(3.01 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	15453632	90.6 M
Triacontane	8271	0.1

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	170577.7	25-OCT-2019
Triacon Surr	141415.7	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	137498.1	08-JAN-2021
Motor Oil	101807.5	08-JAN-2021
AK102	168065.4	08-JAN-2021
AK103	75177.3	08-JAN-2021
JetA	146652.4	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	10643.2	30-MAR-2020







CONTINUING CALIBRATION CHECK
NWTPH-Dx

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>21C0175</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>GascoSiltronic: US Moorings</u>
Instrument ID:	<u>FID4</u>	Calibration:	<u>EA00020</u>
Lab File ID:	<u>421C2423.D</u>	Calibration Date:	<u>01/07/2021</u>
Sequence:	<u>SJC0400</u>	Injection Date:	<u>03/24/21</u>
Lab Sample ID:	<u>SJC0400-CCV3</u>	Injection Time:	<u>16:50</u>
Sequence Name:	<u>DIESEL CCV</u>		

COMPOUND	TYPE	CONC. (mg/L)		RESPONSE FACTOR (RF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Diesel Range Organics (C12-C24)	A	500.00	495	137498.2	136139.2		-1.0	+/-15
o-Terphenyl	A	90.000	92.7	170577.7	175764.9		3.0	+/-15

* Values outside of QC limits

Data File: \\target\share\chem2\fid4a,1\20210324,8\421C2423.D

Date: 24-MAR-2021 16:50

Client ID:

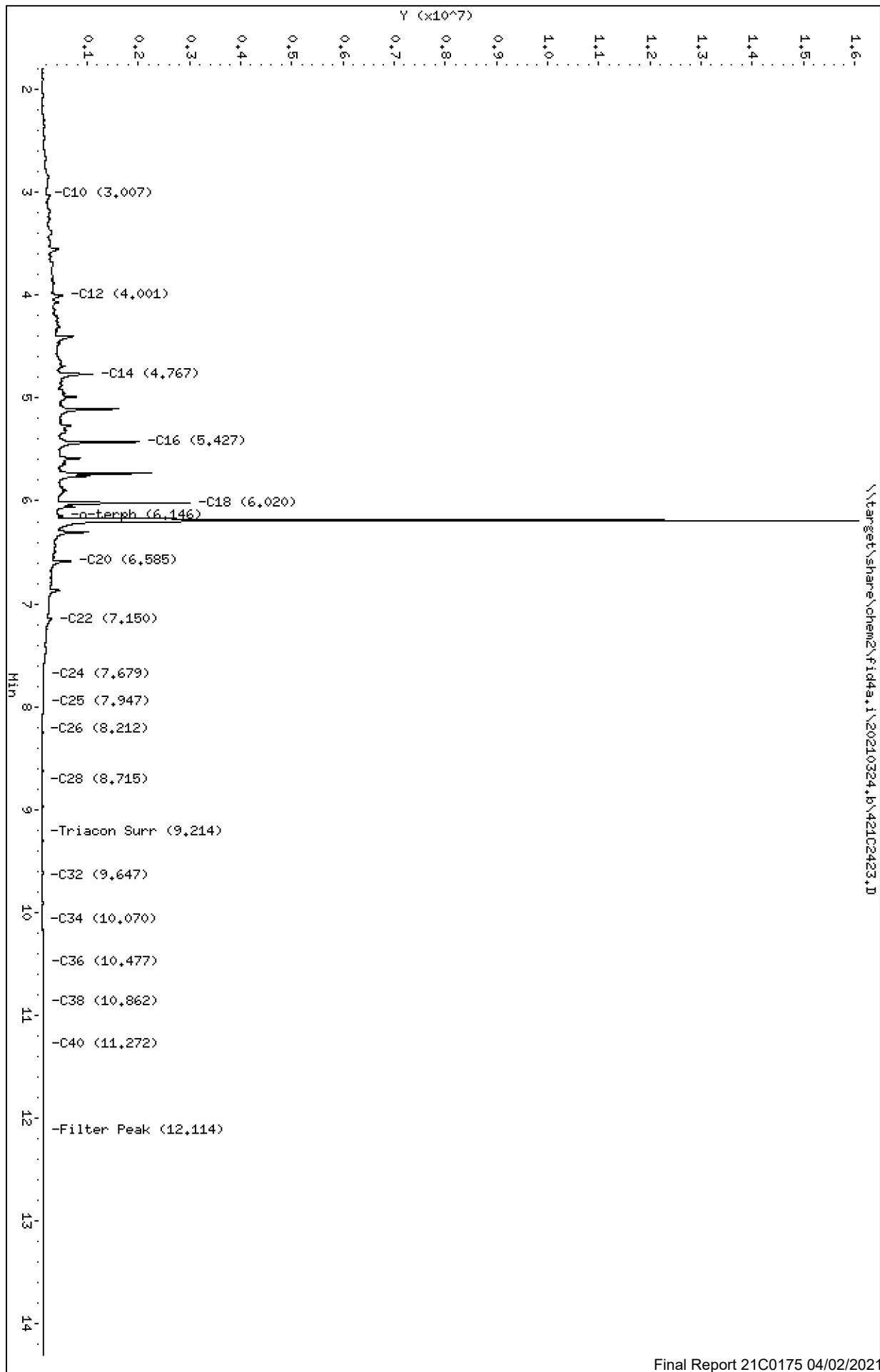
Sample Info: SEQ-CCV3

Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20210324.b/421C2423.D
Method: 20210324.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 03/26/2021
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:08-JAN-2021 M.Oil:08-JAN-2021

ARI ID: SEQ-CCV3
Client ID:
Injection: 24-MAR-2021 16:50
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

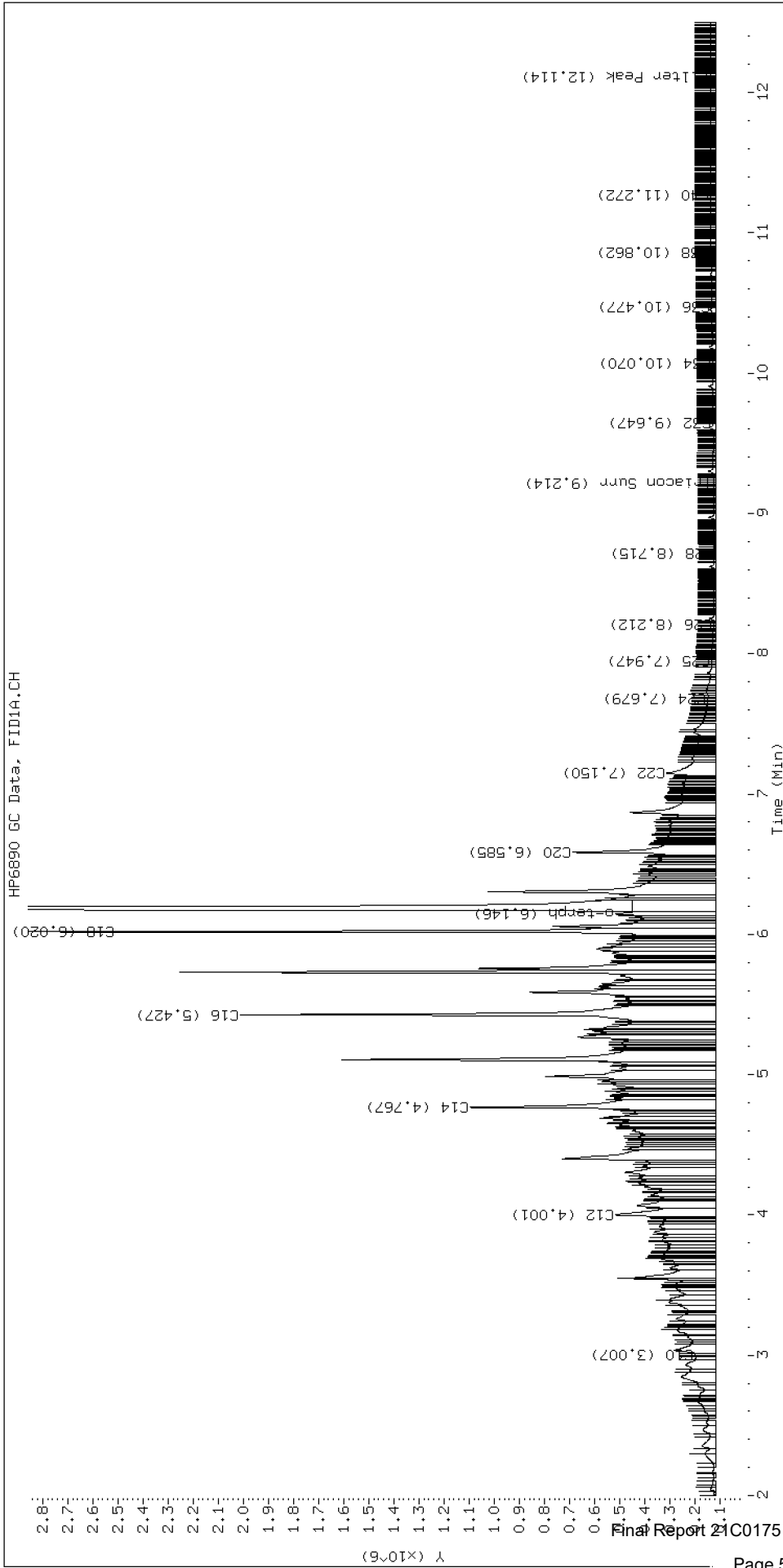
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.901	0.010	27474	36926	WATPHD	(C12-C24)	68069600	495.1
C10	3.007	-0.006	82831	57287	WATPHM	(C24-C38)	2330816	22.9
C12	4.001	0.009	399480	1091229	AK102	(C10-C25)	79038818	470.3
C14	4.767	-0.016	978469	2301327	AK103	(C25-C36)	1680860	22.4
C16	5.427	-0.009	1896071	3976169	OR.DIES	(C10-C28)	79510124	405.7
C18	6.020	-0.001	2902733	2908958				
C20	6.585	-0.001	571051	1309361	JET-A	(C10-C18)	61728369	420.9
C22	7.150	0.005	196511	775698				
C24	7.679	-0.007	32062	23528				
C25	7.947	-0.006	15741	12994				
C26	8.212	-0.002	9092	6296				
C28	8.715	-0.001	5879	2336				
C32	9.647	0.003	10609	3148				
C34	10.070	-0.001	12686	5671				
Filter Peak	12.114	-0.004	20950	7303	CREOSOT	(C12-C22)	66385334	6237.4
C36	10.477	0.000	16000	4788				
C38	10.862	-0.001	19005	6629				
C40	11.272	-0.001	20490	9209				
o-terph	6.192	-0.003	15632713	15818840				
Triacon Surr	9.214	-0.006	9209	7715	NAS DIES	(C10-C24)	78793210	403.8

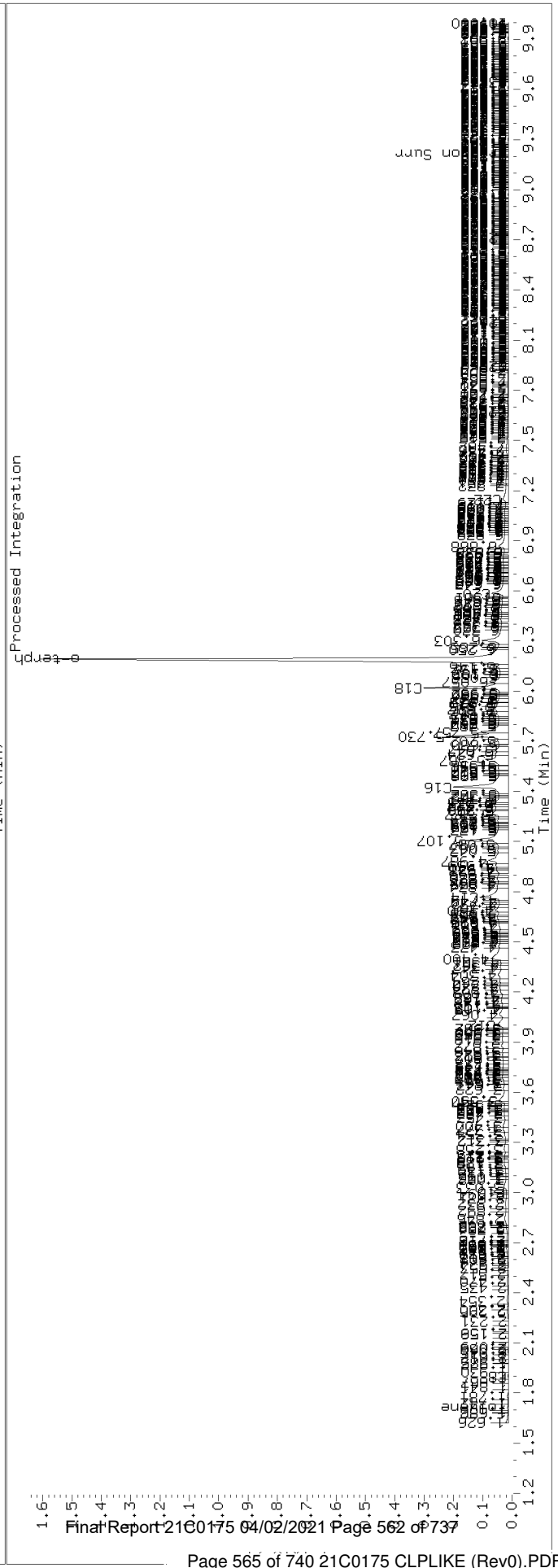
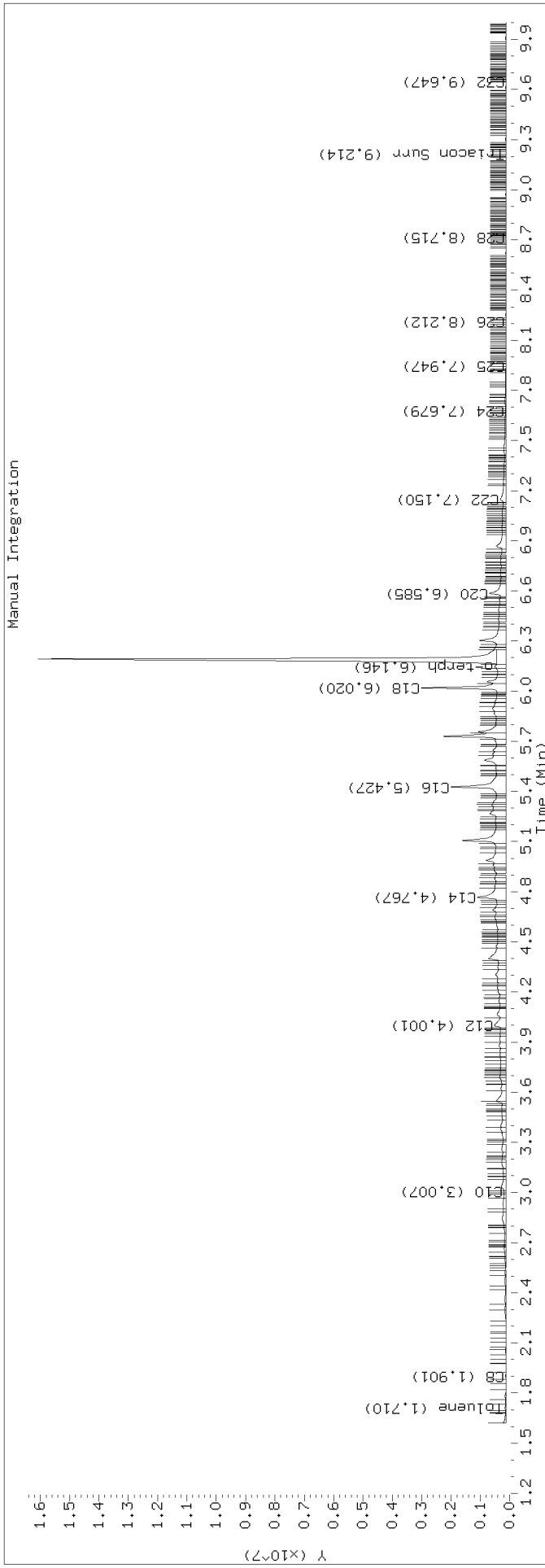
Range Times: NW Diesel(3.991 - 7.686) AK102(3.01 - 7.95) Jet A(3.01 - 6.02)
NW M.Oil(7.69 - 10.86) AK103(7.95 - 10.48) OR Diesel(3.01 - 8.72)

Surrogate	Area	Amount
o-Terphenyl	15818840	92.7 M
Triacontane	7715	0.1

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	170577.7	25-OCT-2019
Triacon Surr	141415.7	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	137498.1	08-JAN-2021
Motor Oil	101807.5	08-JAN-2021
AK102	168065.4	08-JAN-2021
AK103	75177.3	08-JAN-2021
JetA	146652.4	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	10643.2	30-MAR-2020





Data File: \\target\share\chem2\fid4a,1\20210324,8\421C2437.D

Date: 24-MAR-2021 21:46

Client ID:

Sample Info: SEQ-OCV5

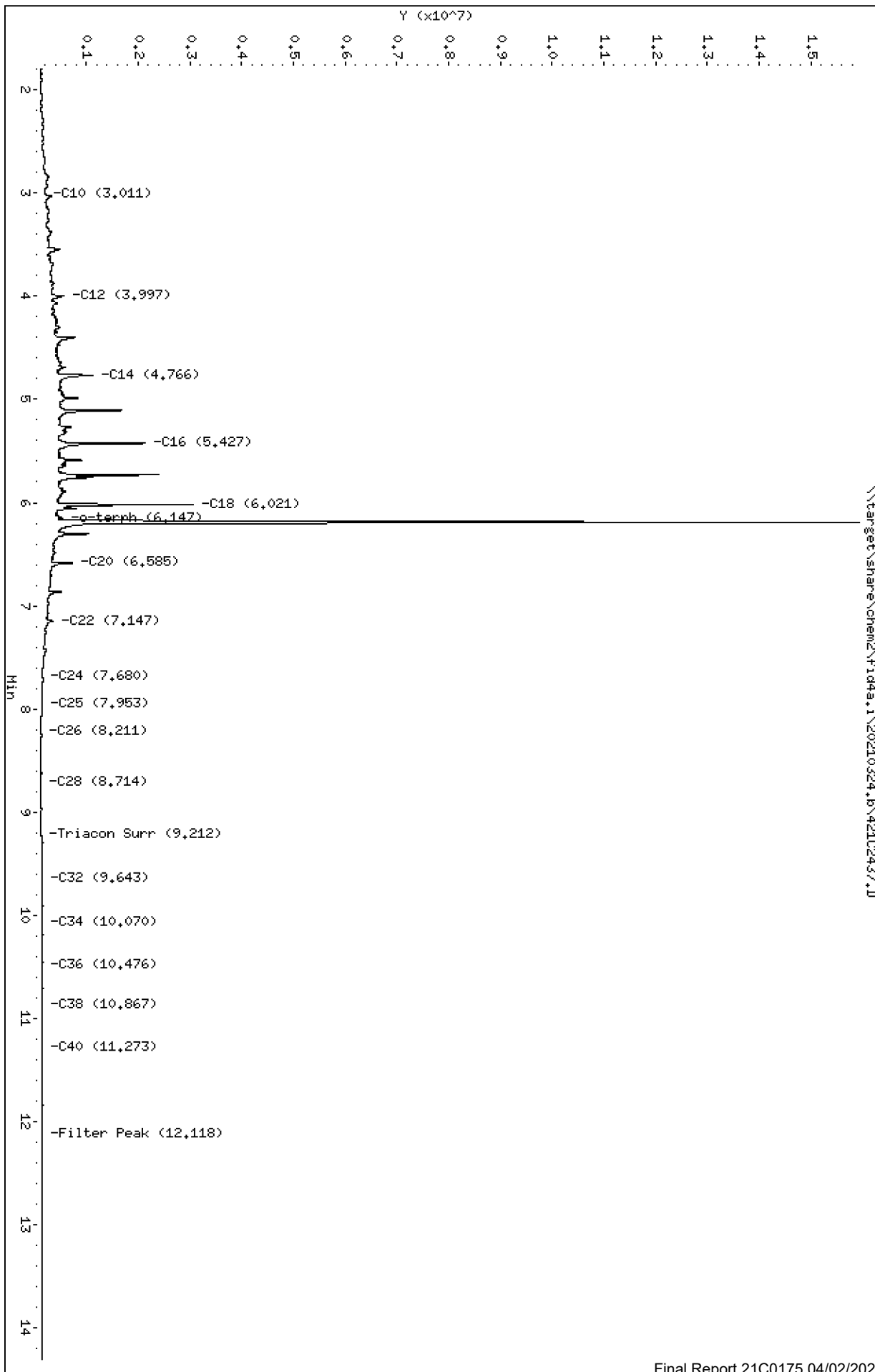
Column phase: RTX-1

Instrument: fid4a,1

Operator: CTO

Column diameter: 0.25

Page 1



Analytical Resources Inc.
TPH Quantitation Report

Data file: 20210324.b/421C2437.D
Method: 20210324.b\FID4TPH.m
Instrument: fid4a.i, CTO
Report Date: 03/26/2021
Macro: 09-SEP-2019
Calibration Dates: Gas:XX-XXX-XXXX Diesel:08-JAN-2021 M.Oil:08-JAN-2021

ARI ID: SEQ-CCV5
Client ID:
Injection: 24-MAR-2021 21:46
Dilution Factor: 1
RT Std: 419H1603.D

FID:4A RESULTS

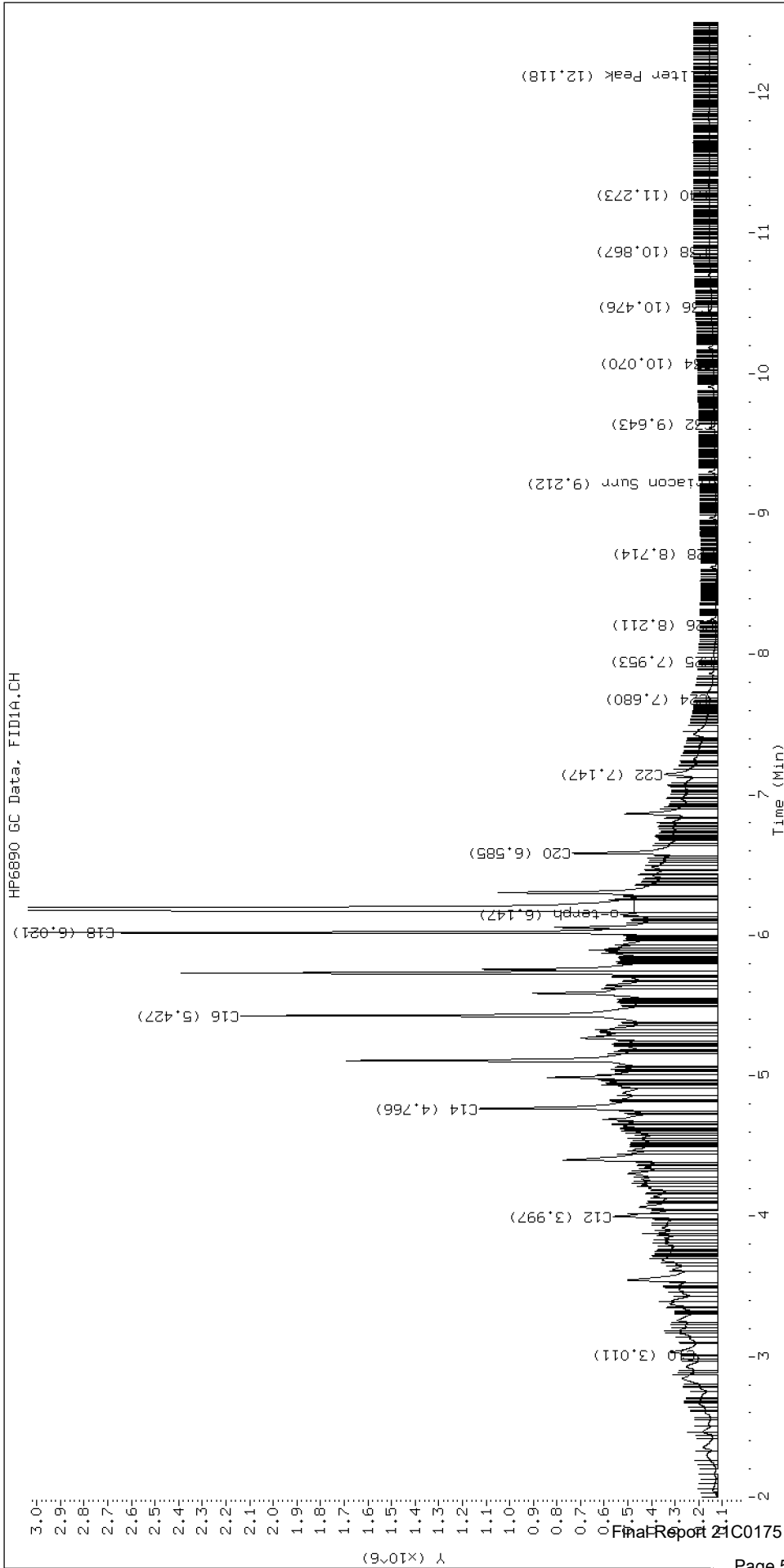
Compound	RT	Shift	Height	Area	Method	Range	Total Area	Conc (mg/L)
C8	1.902	0.011	31844	38159	WATPHD	(C12-C24)	70283837	511.2
C10	3.011	-0.001	88952	44006	WATPHM	(C24-C38)	3412813	33.5
C12	3.997	0.005	443402	707943	AK102	(C10-C25)	81489526	484.9
C14	4.766	-0.016	1011877	2332257	AK103	(C25-C36)	2400453	31.9
C16	5.427	-0.008	2018232	4131726	OR.DIES	(C10-C28)	82026070	418.5
C18	6.021	-0.001	2959415	2868088				
C20	6.585	-0.001	615859	1331582	JET-A	(C10-C18)	63549666	433.3
C22	7.147	0.003	227015	594153				
C24	7.680	-0.006	35324	20913				
C25	7.953	0.001	15981	8634				
C26	8.211	-0.003	10014	6892				
C28	8.714	-0.002	7729	1542				
C32	9.643	-0.001	16089	7985				
C34	10.070	-0.001	21564	5384				
Filter Peak	12.118	0.000	38802	17376	CREOSOT	(C12-C22)	68413796	6428.0
C36	10.476	-0.001	28507	5698				
C38	10.867	0.004	38199	41508				
C40	11.273	0.000	38185	11430				
o-terph	6.195	-0.001	15464444	16227404				
Triacon Surr	9.212	-0.007	12129	4754	NAS DIES	(C10-C24)	81228620	416.2

Range Times: NW Diesel(3.991 - 7.686) AK102(3.01 - 7.95) Jet A(3.01 - 6.02)
NW M.Oil(7.69 - 10.86) AK103(7.95 - 10.48) OR Diesel(3.01 - 8.72)

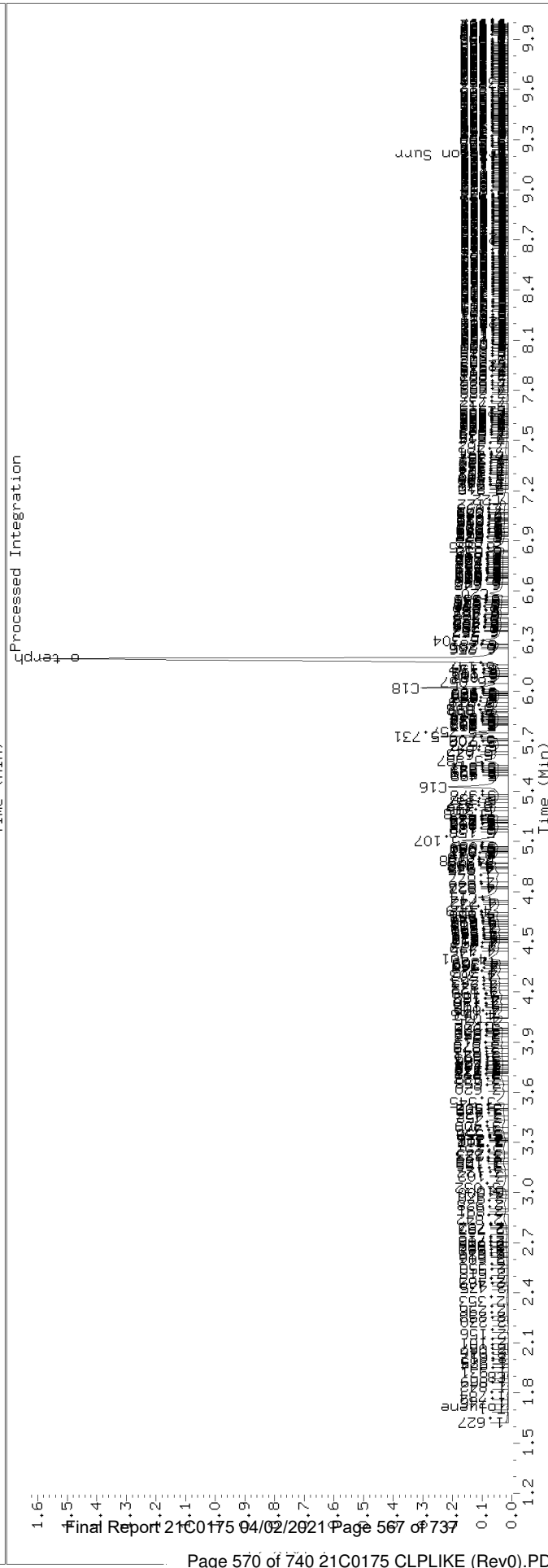
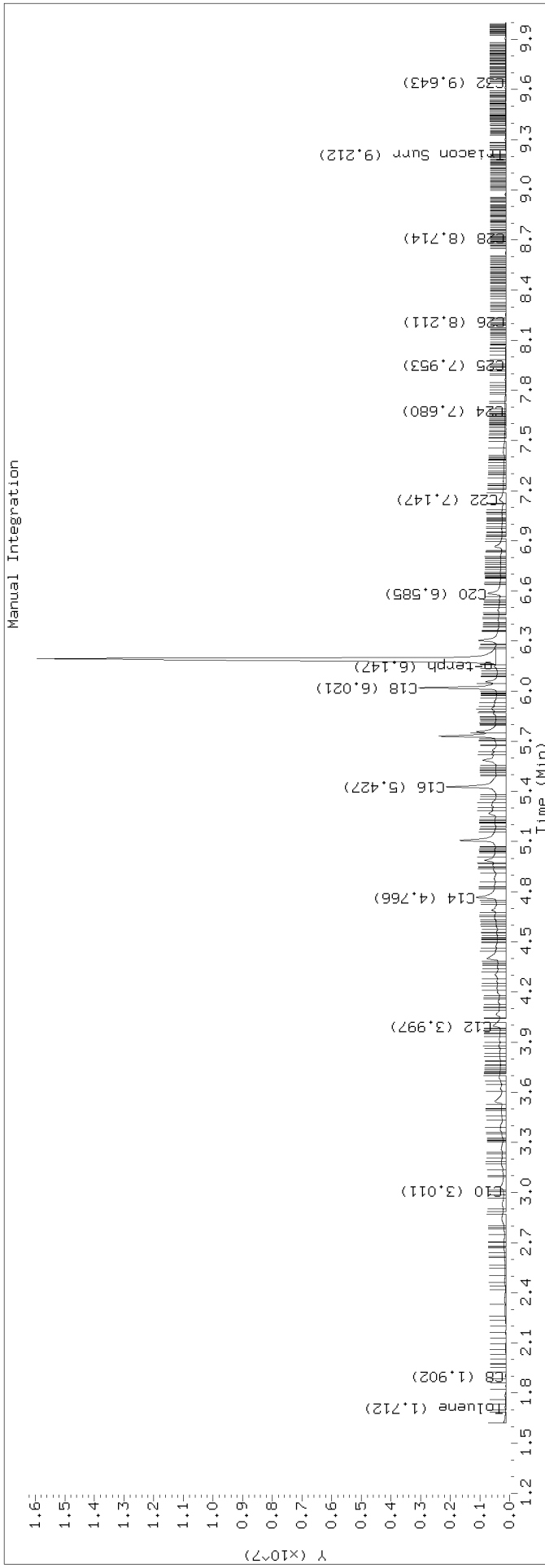
Surrogate	Area	Amount
o-Terphenyl	16227404	95.1 M
Triacontane	4754	0.0

M Indicates the peak was manually integrated

Analyte	RF	Curve Date
o-Terph Surr	170577.7	25-OCT-2019
Triacon Surr	141415.7	25-OCT-2019
Gas	15000.0	XX-XXX-XXXX
Diesel	137498.1	08-JAN-2021
Motor Oil	101807.5	08-JAN-2021
AK102	168065.4	08-JAN-2021
AK103	75177.3	08-JAN-2021
JetA	146652.4	20-MAY-2020
OR Diesel	195999.1	25-OCT-2019
NAS Diesel	195148.2	25-OCT-2019
Creosote	10643.2	30-MAR-2020



TPH Manual Integrations Report





ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 21C0175

Client: Anchor QEA, LLC

Project: GascoSiltronic: US Moorings

Sequence: SJA0096

Instrument: FID4

Calibration: EA00020

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SJA0096-IBL1	421A0704.D	NA	01/07/21 15:42
Instrument Blank	SJA0096-IBL2	421A0705.D	NA	01/07/21 16:03
DIESEL 50	SJA0096-CAL1	421A0706.D	NA	01/07/21 16:23
DIESEL 100	SJA0096-CAL2	421A0707.D	NA	01/07/21 16:45
DIESEL 250	SJA0096-CAL3	421A0708.D	NA	01/07/21 17:06
DIESEL 500	SJA0096-CAL4	421A0709.D	NA	01/07/21 17:27
DIESEL 1000	SJA0096-CAL5	421A0710.D	NA	01/07/21 17:48
DIESEL 2500	SJA0096-CAL6	421A0711.D	NA	01/07/21 18:09
DIESEL SCV	SJA0096-SCV1	421A0712.D	NA	01/07/21 18:30



ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>21C0175</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>GascoSiltronic: US Moorings</u>
Sequence:	<u>SJC0210</u>	Instrument:	<u>FID4</u>
		Calibration:	<u>EA00020</u>

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SJC0210-IBL1	421C1203.D	NA	03/12/21 15:13
Instrument Blank	SJC0210-IBL2	421C1204.D	NA	03/12/21 15:34
DIESEL ICV	SJC0210-ICV1	421C1205.D	NA	03/12/21 15:55
ZZZZZ	BJB0484-BLK1	421C1208.D	Water	03/12/21 16:59
ZZZZZ	BJB0484-BS1	421C1209.D	Water	03/12/21 17:20
ZZZZZ	BJB0484-BSD1	421C1210.D	Water	03/12/21 17:41
ZZZZZ	21B0210-01	421C1211.D	Water	03/12/21 18:02
ZZZZZ	21B0210-02	421C1212.D	Water	03/12/21 18:23
ZZZZZ	21B0210-03	421C1213.D	Water	03/12/21 18:44
ZZZZZ	21B0210-04	421C1214.D	Water	03/12/21 19:05
ZZZZZ	21B0174-01	421C1215.D	Water	03/12/21 19:26
ZZZZZ	21B0174-07	421C1216.D	Water	03/12/21 19:48
ZZZZZ	21B0174-09	421C1217.D	Water	03/12/21 20:09
ZZZZZ	21B0174-11	421C1218.D	Water	03/12/21 20:30
ZZZZZ	21B0192-04	421C1219.D	Water	03/12/21 20:51
ZZZZZ	21B0192-10	421C1220.D	Water	03/12/21 21:12
DIESEL CCV	SJC0210-CCV1	421C1221.D	NA	03/12/21 21:33
MOIL CCV	SJC0210-CCV2	421C1222.D	NA	03/12/21 21:53
JETA	SJC0210-CCV3	421C1223.D	NA	03/12/21 22:14
ZZZZZ	21C0163-01	421C1227.D	Solid	03/12/21 23:38
ZZZZZ	21C0163-02	421C1228.D	Solid	03/12/21 23:59
ZZZZZ	21C0163-03	421C1229.D	Solid	03/13/21 00:20
ZZZZZ	21C0163-04	421C1230.D	Solid	03/13/21 00:41
ZZZZZ	21C0163-05	421C1231.D	Solid	03/13/21 01:01
ZZZZZ	21C0163-06	421C1232.D	Solid	03/13/21 01:22
ZZZZZ	21C0163-07	421C1233.D	Solid	03/13/21 01:43
ZZZZZ	21C0163-08	421C1234.D	Solid	03/13/21 02:04
ZZZZZ	21C0163-09	421C1235.D	Solid	03/13/21 02:25
ZZZZZ	21C0163-10	421C1236.D	Solid	03/13/21 02:46
DIESEL CCV	SJC0210-CCV4	421C1237.D	NA	03/13/21 03:07



ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>21C0175</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>GascoSiltronic: US Moorings</u>
Sequence:	<u>SJC0210</u>	Instrument:	<u>FID4</u>
		Calibration:	<u>EA00020</u>

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MOIL CCV	SJC0210-CCV5	421C1238.D	NA	03/13/21 03:27
ZZZZZ	21C0163-11	421C1239.D	Solid	03/13/21 03:48
ZZZZZ	21C0163-12	421C1240.D	Solid	03/13/21 04:09
ZZZZZ	21C0163-13	421C1241.D	Solid	03/13/21 04:30
ZZZZZ	21C0163-14	421C1242.D	Solid	03/13/21 04:51
ZZZZZ	21C0163-15	421C1243.D	Solid	03/13/21 05:11
ZZZZZ	21C0163-16	421C1244.D	Solid	03/13/21 05:32
ZZZZZ	21C0163-17	421C1245.D	Solid	03/13/21 05:53
ZZZZZ	21C0163-18	421C1246.D	Solid	03/13/21 06:14
ZZZZZ	21C0163-19	421C1247.D	Solid	03/13/21 06:34
ZZZZZ	21C0163-20	421C1248.D	Solid	03/13/21 06:55
DIESEL CCV	SJC0210-CCV6	421C1249.D	NA	03/13/21 07:16
MOIL CCV	SJC0210-CCV7	421C1250.D	NA	03/13/21 07:37
ZZZZZ	BJC0098-BLK1	421C1251.D	Water	03/13/21 07:58
ZZZZZ	BJC0098-BS1	421C1252.D	Water	03/13/21 08:18
ZZZZZ	BJC0098-MRL1	421C1253.D	Water	03/13/21 08:39
ZZZZZ	BJC0098-MRL2	421C1254.D	Water	03/13/21 09:00
ZZZZZ	21B0340-01	421C1255.D	Water	03/13/21 09:21
ZZZZZ	21B0340-02	421C1256.D	Water	03/13/21 09:42
ZZZZZ	21B0340-03	421C1257.D	Water	03/13/21 10:03
ZZZZZ	21B0296-07RE1	421C1258.D	Water	03/13/21 10:24
ZZZZZ	21B0296-17RE1	421C1259.D	Water	03/13/21 10:44
ZZZZZ	21C0115-24	421C1260.D	Solid	03/13/21 11:05
ZZZZZ	21C0115-36	421C1261.D	Solid	03/13/21 11:27
ZZZZZ	21C0115-39RE1	421C1262.D	Solid	03/13/21 11:48
ZZZZZ	21C0117-01RE1	421C1263.D	Solid	03/13/21 12:09
DIESEL CCV	SJC0210-CCV8	421C1264.D	NA	03/13/21 12:30
MOIL CCV	SJC0210-CCV9	421C1265.D	NA	03/13/21 12:51



ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 21C0175

Client: Anchor QEA, LLC

Project: GascoSiltronic: US Moorings

Sequence: SJC0400

Instrument: FID4

Calibration: EA00020

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Retention Time Standard	SJC0400-IBL1	421C2403.D	NA	03/24/21 09:46
Instrument Blank	SJC0400-IBL2	421C2404.D	NA	03/24/21 10:07
DIESEL ICV	SJC0400-ICV1	421C2405.D	NA	03/24/21 10:28
ZZZZZ	21C0200-01	421C2407.D	Solid	03/24/21 11:10
DIESEL CCV	SJC0400-CCV1	421C2408.D	NA	03/24/21 11:31
Blank	BJC0359-BLK1	421C2410.D	Water	03/24/21 12:14
LCS	BJC0359-BS1	421C2411.D	Water	03/24/21 12:35
LCS Dup	BJC0359-BSD1	421C2412.D	Water	03/24/21 12:56
ZZZZZ	21C0164-02	421C2413.D	Water	03/24/21 13:18
ZZZZZ	21C0164-03	421C2414.D	Water	03/24/21 13:39
RAB-FB-2103091636	21C0175-01	421C2415.D	Water	03/24/21 14:00
RAB-RB-2103091709	21C0175-02	421C2416.D	Water	03/24/21 14:21
ZZZZZ	21C0180-05	421C2417.D	Water	03/24/21 14:43
ZZZZZ	21C0180-06	421C2418.D	Water	03/24/21 15:04
ZZZZZ	21C0198-01	421C2419.D	Water	03/24/21 15:25
ZZZZZ	21C0198-03	421C2420.D	Water	03/24/21 15:46
ZZZZZ	21C0198-05	421C2421.D	Water	03/24/21 16:08
ZZZZZ	21C0198-07	421C2422.D	Water	03/24/21 16:29
DIESEL CCV	SJC0400-CCV3	421C2423.D	NA	03/24/21 16:50
ZZZZZ	21C0198-11	421C2425.D	Water	03/24/21 17:33
ZZZZZ	21C0198-13	421C2426.D	Water	03/24/21 17:54
ZZZZZ	21C0163-23	421C2429.D	Solid	03/24/21 18:57
ZZZZZ	21C0163-25	421C2430.D	Solid	03/24/21 19:18
ZZZZZ	21C0163-26	421C2431.D	Solid	03/24/21 19:40
ZZZZZ	21C0163-28	421C2432.D	Solid	03/24/21 20:01
ZZZZZ	21C0180-01	421C2433.D	Solid	03/24/21 20:22
ZZZZZ	21C0180-02	421C2434.D	Solid	03/24/21 20:43
ZZZZZ	21C0180-03	421C2435.D	Solid	03/24/21 21:04
ZZZZZ	21C0180-04	421C2436.D	Solid	03/24/21 21:25
DIESEL CCV	SJC0400-CCV5	421C2437.D	NA	03/24/21 21:46



SURROGATE RECOVERY AND RT SUMMARY

NWTPH-Dx

Laboratory: <u>Analytical Resources, Inc.</u>	SDG/WO: <u>21C0175</u>
Client: <u>Anchor QEA, LLC</u>	Project: <u>GascoSiltronic: US Moorings</u>
Sequence: <u>SJC0210</u>	Instrument: <u>FID4</u>
Calibration: <u>EA00020</u>	Calibration Date: <u>01/07/2021</u>

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SJC0210-ICV1 (Water)			Lab File ID: 421C1205.D			Analyzed: 03/12/21 15:55		
o-Terphenyl	90.000	96.8	85 - 115	6.21	6.275	-0.0650	N/A	
SJC0210-CCV1 (Water)			Lab File ID: 421C1221.D			Analyzed: 03/12/21 21:33		
o-Terphenyl	90.000	99.8	85 - 115	6.21	6.275	-0.0650	N/A	



SURROGATE RECOVERY AND RT SUMMARY

NWTPH-Dx

Laboratory: <u>Analytical Resources, Inc.</u>	SDG/WO: <u>21C0175</u>
Client: <u>Anchor QEA, LLC</u>	Project: <u>GascoSiltronic: US Moorings</u>
Sequence: <u>SJC0400</u>	Instrument: <u>FID4</u>
Calibration: <u>EA00020</u>	Calibration Date: <u>03/12/2021</u>

Surrogate Compound	Spike Level mg/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SJC0400-IBL1 (Solid)			Lab File ID: 421C2403.D		Analyzed: 03/24/21 09:46			
o-Terphenyl	100.00	113	50 - 150	6.2	6.275	-0.0750	N/A	
SJC0400-IBL2 (Solid)			Lab File ID: 421C2404.D		Analyzed: 03/24/21 10:07			
o-Terphenyl	100.00	111	50 - 150	6.2	6.275	-0.0750	N/A	
SJC0400-ICV1 (Solid)			Lab File ID: 421C2405.D		Analyzed: 03/24/21 10:28			
o-Terphenyl	90.000	101	85 - 115	6.19	6.275	-0.0850	N/A	
SJC0400-CCV1 (Solid)			Lab File ID: 421C2408.D		Analyzed: 03/24/21 11:31			
o-Terphenyl	90.000	101	85 - 115	6.19	6.275	-0.0850	N/A	
BJC0359-BLK1 (Water)			Lab File ID: 421C2410.D		Analyzed: 03/24/21 12:14			
o-Terphenyl	0.22500	117	50 - 150	6.2	6.275	-0.0750	N/A	
BJC0359-BS1 (Water)			Lab File ID: 421C2411.D		Analyzed: 03/24/21 12:35			
o-Terphenyl	0.22500	117	50 - 150	6.2	6.275	-0.0750	N/A	
BJC0359-BSD1 (Water)			Lab File ID: 421C2412.D		Analyzed: 03/24/21 12:56			
o-Terphenyl	0.22500	122	50 - 150	6.2	6.275	-0.0750	N/A	
21C0175-01 (Water)			Lab File ID: 421C2415.D		Analyzed: 03/24/21 14:00			
o-Terphenyl	0.23936	93.4	50 - 150	6.19	6.275	-0.0850	N/A	
21C0175-02 (Water)			Lab File ID: 421C2416.D		Analyzed: 03/24/21 14:21			
o-Terphenyl	0.22500	109	50 - 150	6.2	6.275	-0.0750	N/A	
SJC0400-CCV3 (Solid)			Lab File ID: 421C2423.D		Analyzed: 03/24/21 16:50			
o-Terphenyl	90.000	103	85 - 115	6.19	6.275	-0.0850	N/A	
SJC0400-CCV5 (Solid)			Lab File ID: 421C2437.D		Analyzed: 03/24/21 21:46			
o-Terphenyl	90.000	106	85 - 115	6.19	6.275	-0.0850	N/A	



HOLDING TIME SUMMARY

Analysis: **NWTPH-Dx**

Laboratory: Analytical Resources, Inc.

SDG: 21C0175

Client: Anchor QEA, LLC

Project: GascoSiltronic: US Moorings

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
RAB-FB-2103091636 21C0175-01	03/09/21 16:36	03/11/21 10:30	03/15/21 14:33	5	7	03/24/21 14:00	9	40	
RAB-RB-2103091709 21C0175-02	03/09/21 17:09	03/11/21 10:30	03/15/21 14:33	5	7	03/24/21 14:21	9	40	

* Indicates hold time exceedance.



METHOD DETECTION AND REPORTING LIMITS

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 21C0175

Client: Anchor OEA, LLC

Project: GascoSiltronic: US Moorings

Matrix: Solid

Instrument: FID4

Analyte	MDL	RL	Units
Diesel Range Organics (C12-C24)	2.34	5.00	mg/kg
Motor Oil Range Organics (C24-C38)	2.99	10.0	mg/kg



METHOD DETECTION AND REPORTING LIMITS

NWTPH-Dx

Laboratory: Analytical Resources, Inc.

SDG: 21C0175

Client: Anchor OEA, LLC

Project: GascoSiltronic: US Moorings

Matrix: Water

Instrument: FID4

Analyte	MDL	RL	Units
Diesel Range Organics (C12-C24)	0.033	0.100	mg/L
Motor Oil Range Organics (C24-C38)	0.056	0.200	mg/L

I-6884 - chevron Motor Oil SAE30
 I-6885 - Valvoline Motor Oil SAE30
 I-6886 - Valvoline Motor Oil SAE 5W-30
 I-6887 - Valvoline Motor Oil SAE 40
 I-6888 - Mobil 1 Synthetic Motor Oil 70W30

Mrs
 5/13/11

Joe N. Seber
 5/13/11



OFFICE P.O. BOX 1156, SPRINGFIELD, MO. 65801
 PHONE (417) 862-3333

Since 1957
 Store Phone # 425 021-0080
 Permit To: PO BOX 790050
 ST LOUIS MO 63179-0050

BILL TO: 4499740 SHIP TO: 2509 218057

CASH SALE
 CHEVRON INJECTOR CLEANER
 SAVE INSTANTLY
 BUY 1 GET 1 FREE

INVOICE NUMBER: 2509 218057
 INVOICE TYPE: CHG. CARD SALE
 INVOICE DATE: 5/13/11

COUNTER NO.	SPECIAL INSTRUCTIONS	SHIP VIA	CUSTOMER ORDER NO.	TIME OF ORDER	FILED BY	CHECKED BY					
5				02:02:50							
TAX	QTY.	LINE	ITEM NUMBER	UNIT MEAS.	CD.	DESCRIPTION	LIST PRICE	NET PRICE	DISC %	CORE PRICE	EXTENDED PRICE
	1	10	100	EA		Motor Oil	14.73	5.99			5.99
	1	10	100	EA		Motor Oil	14.73	5.99			5.99
	1	10	100	EA		Synthetic Oil	12.99	8.19			8.19
	1	10	100	EA		Motor Oil	7.95	4.69			4.69
	1	10	100	EA		Motor Oil	7.95	4.69			4.69
	1	10	100	EA		Motor Oil	6.25	3.69			3.69
CREDIT CARD MASTER CARD 1254 EXPIRATION DATE XX/XX AUTHORIZATION 36894Z											
TOTALS 7 CUSTOMER COPY 1 PAGE 1 SUB-TOTAL 37.93											
MISC. TAX/FEE TOTAL											
CASH TEND. CHANGE											

CUSTOMER SIGNATURE: _____
 VISIT US AT: www.oreillyauto.com

"ALL MERCHANDISE RETURNED MUST BE ACCOMPANIED BY THIS INVOICE"



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	1	10	100	EA		Motor Oil	7.95	4.69			4.69
	1	10	100	EA		Motor Oil	7.95	4.69			4.69
	1	10	100	EA		Motor Oil	6.25	3.69			3.69
CREDIT CARD MASTER CARD 1254 EXPIRATION DATE XX/XX AUTHORIZATION 36894Z											
TOTALS 7 CUSTOMER COPY 1 PAGE 1 SUB-TOTAL 37.93											
MISC. TAX/FEE TOTAL											
CASH TEND. CHANGE											

I-6884 - chevron Motor Oil SAE30
 I-6885 - Valvoline Motor Oil SAE30
 I-6886 - Valvoline Motor Oil SAE 5W-30
 I-6887 - Valvoline Motor Oil SAE 40
 I-6888 - Mobil 1 Synthetic Motor Oil 70W30

Mrs
 5/13/11

Joe N. Seber
 5/13/11

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SHIP TO
 4499740
 CHEV. CARD SALE
 5/13/11

COUNTER NO.	SPECIAL INSTRUCTIONS	SHIP VIA	CUSTOMER ORDER NO.	TIME OF ORDER	FILED BY	CHECKED BY					
5				02:02:50							
TAX	QTY.	LINE	ITEM NUMBER	UNIT MEAS.	CD.	DESCRIPTION	LIST PRICE	NET PRICE	DISC %	CORE PRICE	EXTENDED PRICE
	1	10	100	EA		Motor Oil	5.99	5.99			5.99
	1	10	100	EA		Motor Oil	5.99	5.99			5.99
	1	10	100	EA		Synthetic Oil	8.19	8.19			8.19
	1	10	100	EA		Motor Oil	4.69	4.69			4.69
	1	10	100	EA		Motor Oil	4.69	4.69			4.69
	1	10	100	EA		Motor Oil	4.69	4.69			4.69
	1	10	100	EA		MOTOR OIL	4.69	4.69			4.69
						EXPIRATION DATE XX/XX					
						AUTHORIZATION 36894Z					
TOTALS							73.44	37.93			37.93

CUSTOMER SIGNATURE _____
 "We appreciate your business!"
 PAGE 1
 SUB-TOTAL 37.93
 MISC. _____
 TAX/FEE'S _____
 TOTAL _____
 CASH TEND. _____
 CHANGE _____

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SHIP TO
 4499740
 CHEV. CARD SALE
 5/13/11

COUNTER NO.	SPECIAL INSTRUCTIONS	SHIP VIA	CUSTOMER ORDER NO.	TIME OF ORDER	FILED BY	CHECKED BY					
5				02:02:50							
TAX	QTY.	LINE	ITEM NUMBER	UNIT MEAS.	CD.	DESCRIPTION	LIST PRICE	NET PRICE	DISC %	CORE PRICE	EXTENDED PRICE

I 7 906

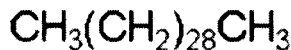
C003092
 TPHD Triacontane NEAT
 Solvent / Lot: NEAT
 Prep: 8/19/2014 by VS
 Exp: 2/15/2030
 Location: GC

1 Spruce Street, Saint Louis, MO 63103, USA
 Website: www.sigmaaldrich.com
 Email USA: techserv@sial.com
 Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Name
 Triacontane - 98%

Product Number: 263842
 Batch Number: MKBL2826V
 Brand: ALDRICH
 CAS Number: 638-68-6
 MDL Number: MFCD00009410
 Formula: C₃₀H₆₂
 Formula Weight: 422.81 g/mol
 Quality Release Date: 20 JUN 2012



Test	Specification	Result
Appearance (Color)	White	White
Appearance (Form)	Conforms to Requirements	Flakes
Flakes or Crystalline Flakes		
Melting Point	65.0 - 69.0 °C	65.7 °C
Infrared spectrum	Conforms to Structure	Conforms
Purity (GC)	≥ 97.5 %	98.1 %

Jamie Gleason

Jamie Gleason, Manager
 Quality Control
 Milwaukee, Wisconsin US

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.

I-6884 - chevron Motor Oil SAE30
 I-6885 - Valvoline Motor Oil SAE30
 I-6886 - Valvoline Motor Oil SAE 5W-30
 I-6887 - Valvoline Motor Oil SAE 40
 I-6888 - Mobil 1 Synthetic Motor Oil 10W30

*Ms
5/13/11*

*Joe N. Seber
5/13/11*

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COUNTER NO.	SPECIAL INSTRUCTIONS	SHIP VIA	CUSTOMER ORDER NO.	TIME OF ORDER	FILED BY	CHECKED BY					
5				02:00:50							
TAX	QTY.	LINE	ITEM NUMBER	UNIT MEAS.	CD.	DESCRIPTION	LIST PRICE	NET PRICE	DISC %	CORE PRICE	EXTENDED PRICE
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	1	10	10	EA		Motor Oil	7.95	4.69			4.69
	1	10	10	EA		MOTOR OIL	6.25	3.69			3.69
CREDIT CARD MASTER CARD 1254 EXPIRATION DATE XX/XX AUTHORIZATION 36894Z											
TOTALS 7 CUSTOMER COPY 1 PAGE 1 SUB-TOTAL 37.93											
MISC. TAX/FEE TOTAL											

CUSTOMER SIGNATURE _____
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SHIP TO 4499740
 CASH SALE
 CHEVRON INJECTOR CLEANER
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 BUY 1 GET 1 FREE
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COUNTER NO.	SPECIAL INSTRUCTIONS	SHIP VIA	CUSTOMER ORDER NO.	TIME OF ORDER	FILED BY	CHECKED BY					
5				02:00:50							
TAX	QTY.	LINE	ITEM NUMBER	UNIT MEAS.	CD.	DESCRIPTION	LIST PRICE	NET PRICE	DISC %	CORE PRICE	EXTENDED PRICE

INVOICE NUMBER 2509-210057
 INVOICE TYPE CHG. CARD SALE
 INVOICE DATE 5/13/11

Certificate of analysis

Product No.:	A19680
Product:	o-Terphenyl, 98%
Lot No.:	10114703
Appearance	White, crystalline powder
Melting point	55.0-55.9°C
Assay (GC)	99.9+ %

This document has been electronically generated and does not require a signature.

3050 Spruce Street, Saint Louis, MO 63103, USA

Website: www.sigmaaldrich.com

Email USA: techserv@sial.com

Outside USA: eurtechserv@sial.com

Certificate of Analysis

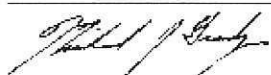
Product Name:
Triacontane - 98%

Product Number: 263842
 Batch Number: MKCD2349
 Brand: ALDRICH
 CAS Number: 638-68-6
 MDL Number: MFCD00009410
 Formula: C₃₀H₆₂
 Formula Weight: 422.81 g/mol
 Quality Release Date: 01 JUN 2017



*F8659
 Rec'd
 09/21/17*

Test	Specification	Result
Appearance (Color)	White	White
Appearance (Form) Flakes or Crystalline Flakes	Conforms to Requirements	Flakes
Melting Point	65.0 - 69.0 °C	65.4 °C
Infrared Spectrum	Conforms to Structure	Conforms
Purity (GC)	≥ 97.5 %	98.2 %



Michael Grady, Manager
 Quality Control
 Milwaukee, WI US

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.



front



back

G 004796
5264



Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: 7.16.19 - not requested.

Chemical: Pentacosane-n

Manufacturer: Chem service

Product #: NA

Lot #: 184 - 125 A

Purity: 99%

Analyst: VTS

H006758
n-Pentacosane-Neat
Solvent / Lot: NA
Prep: 7/15/2019 by VS
Exp: 1/12/2030
Location: GC

CERTIFICATE OF ANALYSIS

Catalog No: DRH-004S-R1-5X
Description: Calibration/Window Defining Hydrocarbon Standard
Lot: 219041075
Solvent: Chloroform
Hazards: Refer to SDS for complete safety information

Date Certified: Apr 8, 2019
Expiration: Apr 8, 2029
Sample Size: 1 mL
Components: 17
Storage Condition: Ambient (>5 °C)/Sonicate



Certified Reference Material



Component	CAS #	Purity % (GC/MS)	Prepared Concentration ² (µg/mL)	Certified Analyte Concentration ¹ (µg/mL)
n-Octane	111-65-9	100.0	1017	1017
Decane	124-18-5	100.0	1014	1014
Dodecane	112-40-3	98.1	1013	994
n-Tetradecane	629-59-4	99.9	1008	1007
Hexadecane	544-76-3	98.9	1004	993
n-Octadecane	593-45-3	99.1	1013	1004
Eicosane	112-95-8	99.8	1008	1006
Docosane	629-97-0	99.1	1002	993
n-Tetracosane	646-31-1	100.0	1000	1000
Hexacosane	630-01-3	99.5	1008	1003
n-Octacosane	630-02-4	99.0	1017	1007
n-Triacontane	638-68-6	100.0	1017	1017
Dotriacontane	544-85-4	98.0	1014	994
Tetracontane	14167-59-0	99.0	1012	1002
Hexatriacontane	630-06-8	98.0	1003	983
n-Octatriacontane	7194-85-6	98.5	1009	994
Tetracontane	4181-95-7	99.0	1009	999

H 007050
Recd JK
07/24/19

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.


² All weights are traceable through NIST, Test No. 684/289871-17

¹ Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is $\pm 2.4\%$. This value is the combined expanded uncertainty and represents 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.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Certified By: 
Larry Decker, Organic QC Manager

ALTERNATE CERTIFICATE OF ANALYSIS

An effort has been made to locate the Certificate of Analysis for the below chemical and the manufacturer of the chemical was unable to provide a certificate at the time of request by ARI. This form is serving as a substitute for documentation purposes.

Date Requested from Manufacturer: 09/20/19 purchased at gas station

Chemical: Diesel #2 NEAT

Manufacturer: 76 gas station

Product #: N/A

Lot #: N/A

Purity: NEAT

Analyst: JE

17009117

09/20/19

13310 Interurban Ave S
Tukwila Wa 98168

STANLEY H & REBECCA
00061106449
13310 INTERURBAN A
TUKWILA , WA
09/20/2019 415774136
11:10:20 AM

3605
MASTERCARD

INVOICE 110939
AUTH 00-024386
REF370230920191109

PUMP# 8
DIESEL 2 0.056G
PRICE/GAL \$3.599

FUEL TOTAL \$ 0.20

CREDIT \$ 0.20

COMPLETION
SWIPE Exp.Date:*/**
Batch: 37 Seq Num: 23
Term ID: 8
Workstation ID: 00
Your opinion
counts! Enter to
Win 1 of 60 \$25
gas gift cards!!!
Provide feedback
www.gasvisit.com
Learn how to earn
50 cents/gallon in
fuel statement
credits. Go to
drivesavvy.com or
see details at the
pump. Restrictions
apply. Offer
expires 9/30/19.
18

H009117
M
09/20/19

COMPLETE A SURVEY
WWW.GASVISIT.COM
REGISTER TO WIN!!



CERTIFIED REFERENCE MATERIAL

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

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. : 31233 Lot No.: A0157505

Description : Diesel Fuel #2 Standard (Unweathered)

Diesel Fuel #2 Standard (Unweathered) 5,000 µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL Pkg Amt: > 1 mL

Expiration Date : March 31, 2027 Storage: 25°C nominal

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)			
1	Diesel Fuel #2 - Single Source CAS # 68334-30-5.C (Lot 032404SZ) Purity ----%	5,000.0 µg/mL	+/- 29.3428	µg/mL	Gravimetric	
			+/- 148.9194	µg/mL	Unstressed	
			+/- 158.8208	µg/mL	Stressed	

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

I 3995
Recd. JR
05/07/20



Dioxin Extractions QC Benchsheet

Reagent and Standard QC

Chemical Receiving Inventory #	Reagent/ Standard	Brand	Lot #	Date Received/ Made	Initial Amount	Solvent Exchange	FEV	GC/ HRMS Pass Y/N
	Toluene	Omni Solv	I045216	6/15/20	100mL	Nonane	10µL	
	DCM	Omni Solv			100mL	Nonane	10µL	
	Hexane	Omni Solv	OK		100mL	Nonane	10µL	
	MeOH	B&J	OK		100mL	Nonane	10µL	
	Nonane	Acros Organics			100µL	N/A	10µL	
	Purified Sand	Sakrete			2 scoop	Nonane	10µL	
	Glasswool	Corning Life Sciences			1" in column	Nonane	10µL	
	0% Silica	Fisher			2 scoop	Nonane	10µL	
	Acid Silica	Fisher			2 scoop	Nonane	10µL	
	Basic Silica	Fisher			2 scoop	Nonane	10µL	
	Florisil	Fluka			1 scoop	Nonane	10µL	
	Rec Standard	Wellington Labs			1mL	Nonane	10µL	
	Clean-up Standard	Wellington Labs			1mL	Nonane	10µL	
	OPR Standard	Wellington Labs			20µL	Nonane	10µL	
	QLS Standard	Wellington Labs			20µL	Nonane	10µL	

Prep Analyst/Date: *µ 6/24/20*

Inst. Run Date:

Quantify Sample Summary Report MassLynx MassLynx V4.1 SCN909

Dataset: Untitled
 Last Altered: Monday, June 29, 2020 10:03:07 Pacific Daylight Time
 Printed: Monday, June 29, 2020 10:04:40 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin200625.mdb 26 Jun 2020 07:56:21
 Calibration: T:\Autospec\Curves\200530ICH.cdb 01 Jun 2020 10:55:54

ID: TOL I5216, Name: 20062529, Date: 26-Jun-2020, Time: 13:22:47, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg	
2378-TCDF					0.795		0.770	502	912									
12378-PeCDF					0.797		1.550	617	1077									
23478-PeCDF	30.165	1.001	1.227e2	1.579e2	0.962	0.777	1.550	617	1077	2.10e3	3.93e3	3.4	YES	YES	bb	db	0.021	
123478-HxCDF					0.973		1.240	730	521									
234678-HxCDF					0.984		1.240	730	521									
123678-HxCDF					0.916		1.240	730	521									
123789-HxCDF					0.922		1.240	730	521									
1234678-HpCDF					1.096		1.050	407	561									
1234789-HpCDF					1.055		1.050	407	561									
OCDF					1.325		0.890	699	892									
2378-TCDD					1.140		0.770	598	496									
12378-PeCDD					1.091		1.550	796	359									
123478-HxCDD					0.922		1.240	426	461									
123678-HxCDD					0.949		1.240	426	461									
123789-HxCDD					0.847		1.240	426	461									
1234678-HpCDD	39.214	1.000	1.780e2	1.648e2	1.124	1.080	1.050	623	450	5.26e3	4.42e3	8.4	YES	NO	db	bd	0.056	
OCDD	43.632	1.001	7.460e2	8.959e2	1.237	0.833	0.890	548	755	1.46e4	1.18e4	26.6	YES	NO	db	bb	0.395	
13C-2378-TCDF	24.683	1.007	8.253e5	1.052e6	2.214	0.784	0.770	2142	1231	1.27e7	1.60e7	5920.7	YES	NO	bb	bb	104.193	
13C-12378-PeCDF	28.785	1.175	9.077e5	5.652e5	1.903	1.606	1.550	3236	2267	1.39e7	8.73e6	4292.3	YES	NO	bb	bb	95.101	
13C-23478-PeCDF	30.132	1.230	8.542e5	5.386e5	1.845	1.586	1.550	3236	2267	1.36e7	8.60e6	4196.7	YES	NO	bb	bb	92.784	
13C-123478-HxCDF	33.782	0.953	3.067e5	6.177e5	1.198	0.496	0.510	985	2180	4.77e6	9.43e6	4845.3	YES	NO	bd	bd	100.338	
13C-123678-HxCDF	33.927	0.957	3.240e5	6.472e5	1.488	0.501	0.510	985	2180	4.94e6	9.69e6	5021.3	YES	NO	db	db	84.878	
13C-234678-HxCDF	34.828	0.982	2.825e5	5.661e5	1.195	0.499	0.510	985	2180	4.58e6	9.04e6	4654.9	YES	NO	bb	bb	92.321	
13C-123789-HxCDF	35.875	1.012	2.245e5	4.600e5	1.014	0.488	0.510	985	2180	3.58e6	7.24e6	3633.6	YES	NO	bb	bb	87.800	
13C-1234678-HpCDF	37.756	1.065	2.347e5	5.376e5	1.197	0.437	0.440	1921	1828	3.90e6	8.90e6	2030.5	YES	NO	bb	bb	83.898	
13C-1234789-HpCDF	39.893	1.125	1.546e5	3.545e5	0.893	0.436	0.440	1921	1828	2.31e6	5.25e6	1200.4	YES	NO	bb	bb	74.159	
13C-1234-TCDD	24.501	0.000	3.592e5	4.546e5	1.000	0.790	0.770	1294	805	5.73e6	7.24e6	4430.9	YES	NO	bb	bb	100.000	
13C-2378-TCDD	25.302	1.033	4.262e5	5.508e5	1.193	0.774	0.770	1294	805	6.55e6	8.49e6	5063.6	YES	NO	bb	bb	100.651	
13C-12378-PeCDD	30.388	1.240	5.085e5	2.920e5	0.962	1.741	1.550	1585	769	8.14e6	4.57e6	5135.1	YES	NO	bb	bb	102.293	
13C-123478-HxCDD	34.951	0.986	4.607e5	3.535e5	1.059	1.303	1.240	1709	1194	7.44e6	5.71e6	4354.5	YES	NO	bd	bd	99.975	
13C-123678-HxCDD	35.082	0.989	4.656e5	3.558e5	1.278	1.309	1.240	1709	1194	7.41e6	5.66e6	4332.5	YES	NO	db	db	83.562	
13C-1234678-HpCDD	39.203	1.105	2.827e5	2.610e5	0.843	1.083	1.050	1161	1015	4.45e6	4.04e6	3833.9	YES	NO	bb	bb	83.842	
13C-OCDD	43.605	1.230	3.233e5	3.491e5	0.616	0.926	0.890	1678	2408	4.02e6	4.31e6	2392.6	YES	NO	bb	bb	141.987	

Quantify Sample Summary Report MassLynx MassLynx V4.1 SCN909

Dataset: Untitled
 Last Altered: Monday, June 29, 2020 10:03:07 Pacific Daylight Time
 Printed: Monday, June 29, 2020 10:04:40 Pacific Daylight Time

ID: TOL I5216, Name: 20062529, Date: 26-Jun-2020, Time: 13:22:47, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
13C-123789-HxCDD	35.463	0.000	4.323e5	3.368e5	1.000	1.283	1.240	1709	1194	6.94e6	5.37e6	4058.0	YES	NO	bb	bb	100.000
37CL-2378-TCDD	25.227	1.030	1.071e2		1.258			1328		2.42e3		1.8	NO		db		0.010
1368-TCDF					1.007		0.770	502	912								
1289-TCDF					0.754		0.770	502	912								
13468-PECDF					1.099		1.550	293	640								
12389-PECDF	31.178	1.083	1.504e2	7.409e1	0.841	2.030	1.550	617	1077	2.46e3	2.87e3	4.0	NO	YES	bb	bb	0.018
123468-HXCDF					1.142		1.240	730	521								
1368-TCDD					1.214		0.770	598	496								
1289-TCDD					1.061		0.770	598	496								
12479-PECDD					2.040		1.550	796	359								
12389-PECDD					1.257		1.550	796	359								
124679-HXCDD					1.164		1.240	426	461								
1234679-HPCDD	38.245	0.976	8.609e1	1.019e2	1.378	0.845	1.050	623	450	1.89e3	2.90e3	3.0	YES	YES	bb	bb	0.025
Total-tetrafurans			0.000e0		0.852			502		0.00e0							
Total-penta1			0.000e0					293		0.00e0							
Total-pentafurans			0.000e0		0.867			617		0.00e0							
Total-hexafurans			0.000e0		0.987			730		0.00e0							
Total-heptafurans			0.000e0		1.076			407		0.00e0							
Total-Furans			0.000e0		0.978			502		0.00e0							
Total-tetraioxins			0.000e0		1.138			598		0.00e0							
Total-pentadioxins			0.000e0		1.463			796		0.00e0							
Total-hexadioxins			0.000e0		0.971			426		0.00e0							
Total-heptadioxins			1.780e2		1.251			623		5.26e3							0.056
Total-Dioxins			9.240e2		1.187			598		1.99e4							0.451
Total-TEQ			9.240e2					598		1.99e4							0.451
FUNCTION1 PFK			1.728e5					220633		4.73e6							
FUNCTION2 PFK			0.000e0					159655		0.00e0							
FUNCTION3 PFK			0.000e0					198585		0.00e0							
FUNCTION4 PFK			2.228e5					179610		7.02e6							
FUNCTION5 PFK			2.507e4					138501		1.09e6							
FUNCTION1 HXCDPE			0.000e0					189		0.00e0							0.000
FUNCTION1 HPCDPE			4.279e2					738		9.46e3							0.000
FUNCTION2 HPCDPE			1.573e2					792		4.18e3							0.000
FUNCTION3 OCDPE			8.296e1					216		3.72e3							0.000
FUNCTION4 NCDPE			0.000e0					279		0.00e0							
FUNCTION5 DCDPE			0.000e0					233		0.00e0							



Certificate of Analysis

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

ThermoFisher Scientific's Quality System has been found to conform to Quality Management System
Standard ISO9001:2008 standard by SAI Global Certificate Number CERT - 0090918

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. ThermoFisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Certain products (USP/FCC/NF/EP/BP/JP grades) are sold for use in food, drug, or medical device manufacturing. ThermoFisher does not maintain DMF's with the FDA. The following are the actual analytical results obtained:

Catalog Number	T291	Quality Test / Release Date	08/15/2018
Lot Number	184485		
Description	TOLUENE - OPTIMA		
Country of Origin	United States	Suggested Retest Date	Aug/2023
Chemical Origin	Organic - non animal		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		
Chemical Comment			

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Clear colorless liquid free of suspended matter
ASSAY	%	>= 99.8	99.9
BENZENE	%	<= 0.05	<0.05
COLOR	APHA	<= 10	<5
EVAPORATION RESIDUE	ppm	<= 1	<0.1
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
OPTICAL ABS AT 285 NM	ABSORBANCE UNITS	<= 1	0.69
WATER (H2O)	%	<= 0.02	0.02
OPTICAL ABS AT 325 NM	ABSORBANCE UNITS	<= 0.02	0.01
OPTICAL ABS AT 350 NM	ABSORBANCE UNITS	<= 0.005	0.001
PESTICIDE RESIDUE ANALYSIS	NG/L	<= 10	<1
REFRACTIVE INDEX @ 25 DEG C		Inclusive Between 1.4930 - 1.4950	1.4940
SUBSTANCES DARKENED BY H2SO4	PASS/FAIL	= PASS TEST	PASS TEST
SULFUR COMPOUNDS	%	<= 0.003	<0.0003
OPTICAL ABS AT 300 NM	ABSORBANCE UNITS	<= 0.1	0.07

Jerusa Bailey-Wyche

Quality Assurance Specialist - Certificate of Analysis Bridgewater

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above. If there are any questions with this certificate, please call at (800) 227-6701.

*Based on suggested storage condition.



Form I
ORGANIC ANALYSIS DATA SHEET
WA EPH
WA EPH-Aliphatics

Laboratory: Analytical Resources, Inc.
Client: Anchor OEA, LLC
Project: GascoSiltronic: US Moorings
Matrix: Water Laboratory ID: 21C0175-01 E SDG: 21C0175
Sampled: 03/09/21 16:36 Prepared: 03/16/21 11:20 File ID: 821C3010.D
% Solids: Preparation: EPA 3510C SepF Analyzed: 03/30/21 15:46
Batch: BJC0358 Sequence: SJC0509 Initial/Final: 1000 mL / 1 mL
Instrument: FID8 Column: ZB5 Calibration: DJ00015
Cleanups: Silica Gel

CAS NO.	COMPOUND	DILUTION	(ug/L)	Q	DL	RL
ALI-C10-C12	C10-C12 Aliphatics	1	20	U		20

SURROGATES	ADDED:(ug/L)	(ug/L)	% REC	QC LIMITS	Q
1-Chloro-octadecane	150.00	67.8	45.2	36 - 120	

Data File: \\target\share\chem2\fid8.1\20210330a11ph.b\821C3010.D

Date: 30-MAR-2021 15:46

Client ID:

Sample Info: 21C0175-01

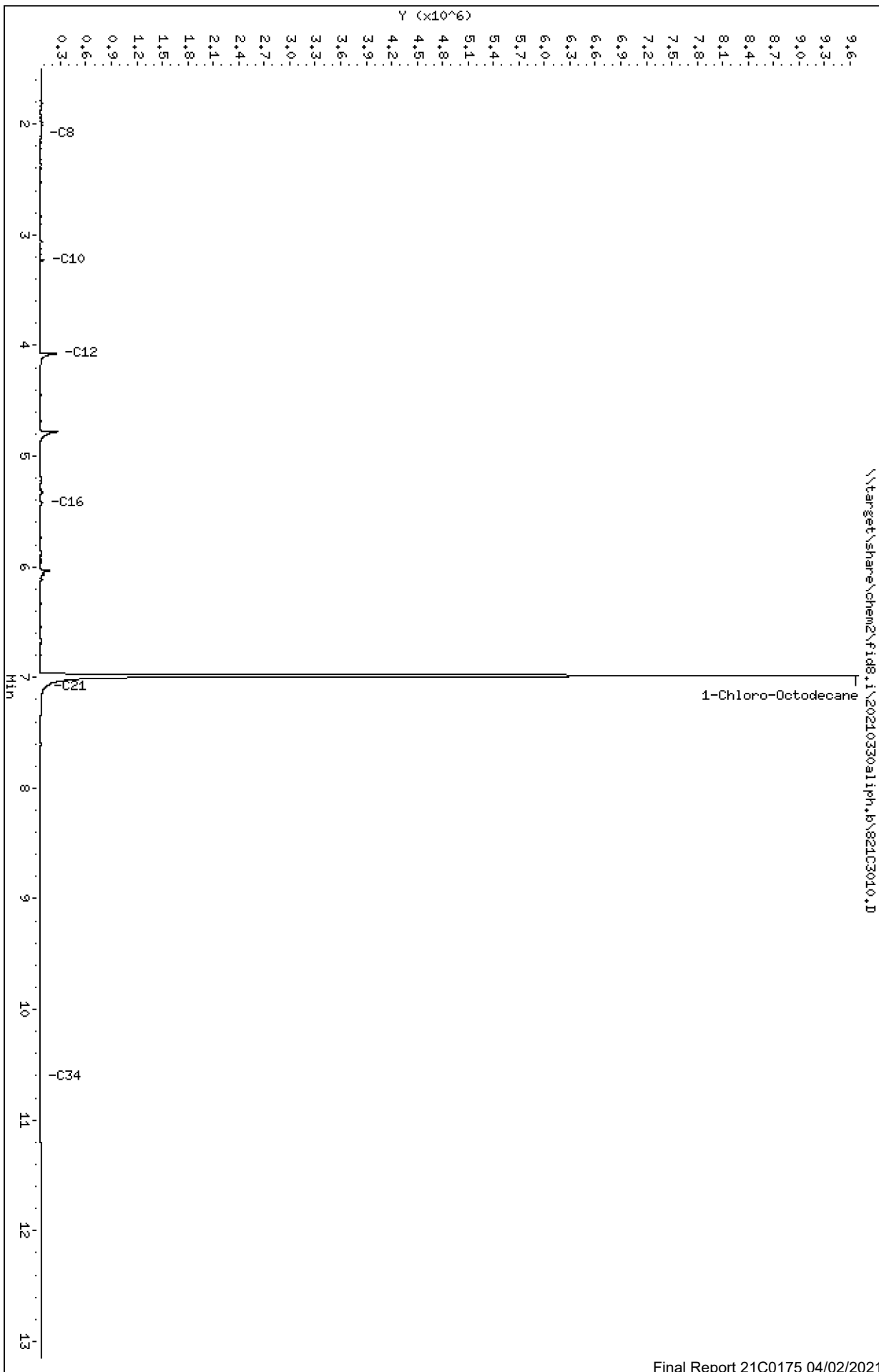
Column phase: RTX-1

Instrument: fid8.1

Operator: JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
WA. EPH Aliphatics Report

Data file: 20210330aliph.b/821C3010.D
Method: 20210330aliph.b\EPHALiph.m
Instrument: fid8.i
Operator: JGR
Macro: ALIPH020217FID8

ARI ID: 21C0175-01
Client ID:
Injection: 30-MAR-2021 15:46
Matrix: NONE
Dilution Factor: 1

EPH-ALIPHATIC RESULTS

Quant Range	Area	Conc	Time Range
C8-C10 Aliph.	405435	2.1	(2.001 - 3.348)
C10-C12 Aliph.	328497	1.6	(3.348 - 4.191)
C12-C16 Aliph.	665910	3.3	(4.191 - 5.530)
C16-C21 Aliph.	662387	3.4	(5.530 - 7.137)
C21-C34 Aliph.	337605	1.9	(7.137 - 10.756)
Surrogate Rec:	45.2%	67.8 ug/mL	



Form I
ORGANIC ANALYSIS DATA SHEET
WA EPH
WA EPH-Aliphatics

Laboratory: Analytical Resources, Inc.
 Client: Anchor OEA, LLC
 Project: GascoSiltronic: US Moorings
 Matrix: Water Laboratory ID: 21C0175-02 E SDG: 21C0175
 Sampled: 03/09/21 17:09 Prepared: 03/16/21 11:20 File ID: 821C2833.D
 % Solids: Preparation: EPA 3510C SepF Analyzed: 03/28/21 23:23
 Batch: BJC0358 Sequence: SJC0462 Initial/Final: 1000 mL / 1 mL
 Instrument: FID8 Column: ZB5 Calibration: DJ00015
 Cleanups: Silica Gel

CAS NO.	COMPOUND	DILUTION	(ug/L)	Q	DL	RL
ALI-C10-C12	C10-C12 Aliphatics	1	20	U		20

SURROGATES	ADDED:(ug/L)	(ug/L)	% REC	QC LIMITS	Q
1-Chloro-octadecane	150.00	59.1	39.4	36 - 120	

Data File: \\target\share\chem2\fid8.1\20210328a11ph.b\821C2833.D

Date: 28-MAR-2021 23:23

Client ID:

Sample Info: 21C0175-02

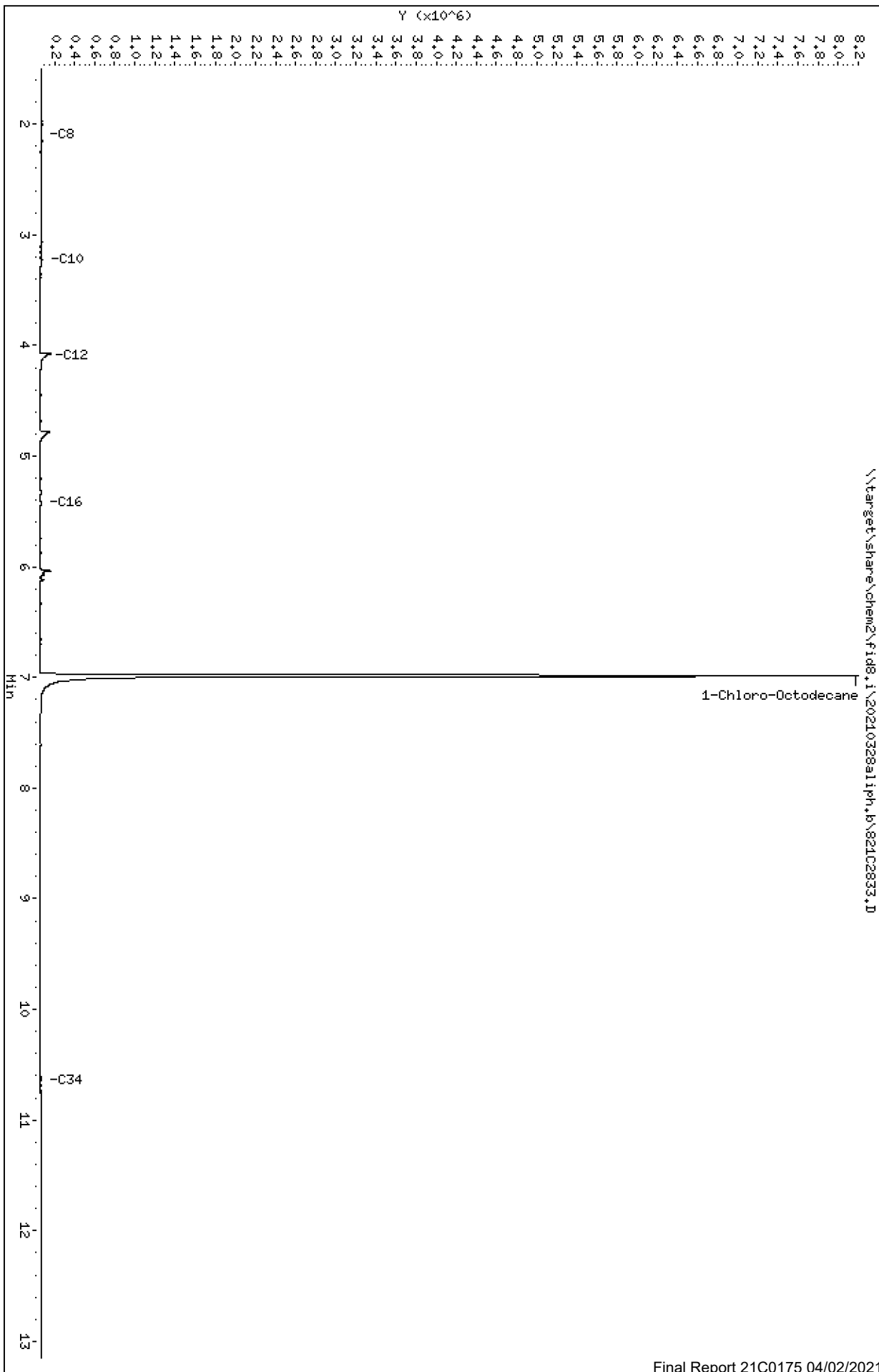
Column phase: RTX-1

Instrument: fid8.1

Operator: JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
WA. EPH Aliphatics Report

Data file: 20210328aliph.b/821C2833.D
Method: 20210328aliph.b\EPHALiph.m
Instrument: fid8.i
Operator: JGR
Macro: ALIPH020217FID8

ARI ID: 21C0175-02
Client ID:
Injection: 28-MAR-2021 23:23
Matrix: NONE
Dilution Factor: 1

EPH-ALIPHATIC RESULTS

Quant Range	Area	Conc	Time Range
C8-C10 Aliph.	436340	2.3	(2.001 - 3.348)
C10-C12 Aliph.	345100	1.7	(3.348 - 4.191)
C12-C16 Aliph.	300674	1.5	(4.191 - 5.530)
C16-C21 Aliph.	411618	2.1	(5.530 - 7.137)
C21-C34 Aliph.	298737	1.7	(7.137 - 10.756)
Surrogate Rec:	39.4%	59.1 ug/mL	



PREPARATION BATCH SUMMARY

WA EPH

Laboratory: Analytical Resources, Inc. SDG: 21C0175
Client: Anchor QEA, LLC Project: GascoSiltronic: US Moorings
Batch: BJC0358 Batch Matrix: Water Preparation: EPA 3510C SepF

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
RAB-FB-2103091636	21C0175-01	821C3010.D	03/16/21 11:20	
RAB-RB-2103091709	21C0175-02	821C2833.D	03/16/21 11:20	
Blank	BJC0358-BLK1	821C2829.D	03/16/21 11:20	
LCS	BJC0358-BS1	821C2830.D	03/16/21 11:20	
LCS Dup	BJC0358-BSD1	821C2831.D	03/16/21 11:20	



Batch: BJC0358

Prepared using: EPA 3510C SepF
 WA EPH Aliphatic C10-C12 mod in Water

Matrix: Water Date Prepared: 3/16/2021 Balance ID: _____ Set Up By: CTO 3/13/21

Not enough volume fo MS/MSD, BSD done instead.

The following standards may be missing from this batch!

Designator	Description
QLS 22	QLS Spike

Analysis: WA EPH Aliphatic C10-C12 mod

Lab Number & Container	Initial (mL) Actual	Fractionate Aliphatic/ Aromatic (1:1)	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
21C0175-01 E + F	(1,000.00) <u>1000</u>	(1:1) 1mL	1 _____	1.0 _____	
21C0175-02 E + F	(1,000.00) <u>↓</u>	(1:1) 1mL	1 _____	1.0 _____	

Batch QC

Lab Number	Initial (mL) Actual	Fractionate Aliphatic/ Aromatic (1:1)	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
BJC0358-BLK1	(1,000.00) <u>1000</u>	(1:1) 1mL	1 _____	1.0 _____	
BJC0358-BS1	(1,000.00) <u>↓</u>	(1:1) 1mL	1 _____	1.0 _____	
BJC0358-BSD1	(1,000.00) <u>↓</u>	(1:1) 1mL	1 _____	1.0 _____	

TW 3/16/2021 DM 3-26-21 3/16/21 11:20
 Client ID verified By Date Preparation Reviewed By Date Extraction Date and Time



Batch: BJC0358

Prepared using: EPA 3510C SepF
WA EPH Aliphatic C10-C12 mod in Water

Prep Instructions	
<p>SPECIAL INSTRUCTIONS:</p> <ol style="list-style-type: none">1. If samples are listed as preserved with HCL Check pH is 2. Acidify HCL preserved samples with 1:1 HCL if ph >2 and note on Analyst Notes.2. Add surr/spk.3. Acidify blanks and unpreserved samples with 1:1 Sulfuric Acid.4. Extract 3X with 30mL DCM.5. Add 5 mL of Hexane to KD with sample. KD (no drying column) to 1mL at 100°C.6. Exchange with 50mL Hexane.7. KD to 1mL at 100°C.8. Exchange a second time with 50mL Hexane and concentrate to 1mL again.9. Let Cool: After cooling: volume should be 5mL. Transfer to turbo-tube with Hexane.10. Turbovap to 3 mL then exchange with 10 mL of Hexane then turbovap to 1 mL.11. Transfer to SPE culture tube to 1 mL using Hexane.12. Exchange in culture tube with 1mL of Hexane and turbovap to 1mL for SPE.13. Fractionate Aliphatic/Aromatic by SPE.14. Turbovap Each fraction to 1 mL.15. Vial Aliphatic fraction in Hexane and vial Aromatic fraction in DCM. <p>Archive: Y <input type="checkbox"/> N <input checked="" type="checkbox"/></p>	



Extraction Parameter: EPH Extraction Batch BJC0358

Total Solids Batch: N/A Work Order(s): 21C0175

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
<input type="checkbox"/> No Anomalies (standard soil/wet sediment/sand/gravel)=	
<input type="checkbox"/> Standing Water Decanted (Not shared)=	
<input type="checkbox"/> Standing Water Homogenized (Shared samples)=	
<input type="checkbox"/> Clay/Clumps (Difficult to homogenize)=	
<input type="checkbox"/> Rocks (%+size)?	
<input type="checkbox"/> Organics (Leaves/sticks/grass)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Received in 32oz jar(s)=Homogenized in Pyrex dish=	
<input type="checkbox"/> Previously Frozen =	
<input type="checkbox"/> Other (Details)=	
Aqueous:	
<input checked="" type="checkbox"/> No Anomalies	TW 3/16/2021
<input type="checkbox"/> Turbid/Color=	
<input type="checkbox"/> Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
<input type="checkbox"/> Emulsions (%)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Other (Details)=	
<input type="checkbox"/> Received in 1.0L Bottle(s)=No Bottle Rinse=	
<input type="checkbox"/> Other Notes/Comments= (Note problems, concerns, corrective actions).	
<input type="checkbox"/> Share Samples Y / N	
<input type="checkbox"/> Multiple Jars Y / N	
<input type="checkbox"/> Sample Pre-Screens indicate analyte activity=	
<input type="checkbox"/> Sample weights/volumes reduced based on Pre-Screen=	

Batch: BJC0358

Batch Comment: **NONE**

Project: GascoSiltronic

Project Comments: <G> MS/MSD per 20 samples, please batch with other work orders, SM2540 Needed </G>

Work Order:21C0175

Work Order Comments: <G> MS/MSD per 20 samples, please batch with other work orders, SM2540 Needed </G>

Sample: 21C0175-01

Sample Comments: **NONE**

Sample: 21C0175-02

Sample Comments: **NONE**



CLEANUP BATCH SUMMARY

Laboratory: Analytical Resources, Inc.

SDG: 21C0175

Client: Anchor QEA, LLC

Project: GascoSiltronic: US Moorings

Cleanup Batch: CJC0262

Cleanup Type: Silica Gel

Cleanup Method: EPA 3630C Silica Gel Cleanup

Analysis: WA EPH

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
RAB-FB-2103091636	21C0175-01	821C3010.D	03/26/2021	
RAB-RB-2103091709	21C0175-02	821C2833.D	03/26/2021	
Blank	BJC0358-BLK1	821C2829.D	03/26/2021	
LCS	BJC0358-BS1	821C2830.D	03/26/2021	
LCS Dup	BJC0358-BSD1	821C2831.D	03/26/2021	



CLEANUP BENCH SHEET

CJC0262

Printed: 3/26/2021 8:58:30AM

Matrix: Water		Cleanup using: Organics - EPA 3630C Silica Gel Cleanup									
Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments		
21C0175-01	E	RAB-FB-2103091636	E 01	1	1	WA EPH Aliphatic C10-C12 mod	3/26/2021	DDM			
21C0175-02	E	RAB-RB-2103091709	E 01	1	1	WA EPH Aliphatic C10-C12 mod	3/26/2021	DDM			
BJC0358-BLK1	-	Blank	-	1	1	-	3/26/2021	DDM			
BJC0358-BS1	-	LCS	-	1	1	-	3/26/2021	DDM			
BJC0358-BSD1	-	LCS Dup	-	1	1	-	3/26/2021	DDM			



Form I
METHOD BLANK DATA SHEET
WA EPH

Blank

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>21C0175</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>GascoSiltronic: US Moorings</u>
Matrix:	<u>Water</u>	Laboratory ID:	<u>BJC0358-BLK1</u>
Sampled:	<u>N/A</u>	Prepared:	<u>03/16/21 11:20</u>
Solids:		Preparation:	<u>EPA 3510C SepF</u>
Batch:	<u>BJC0358</u>	Sequence:	<u>SJC0462</u>
Instrument:	<u>FID8</u>	Column:	<u>ZB5</u>
		Cleanups:	<u>Silica Gel</u>

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	RL
ALI-C10-C12	C10-C12 Aliphatics	1	20	U		20
SURROGATES		ADDED (ug/L)	CONC. (ug/L)	% REC	QC LIMITS	Q
1-Chloro-octadecane		150.00	62.0	41.3	36 - 120	

Data File: \\target\share\chem2\fid8.1\20210328a11ph.b\821C2829.D

Date: 28-MAR-2021 21:46

Client ID:

Sample Info: BJC0358-BLK1

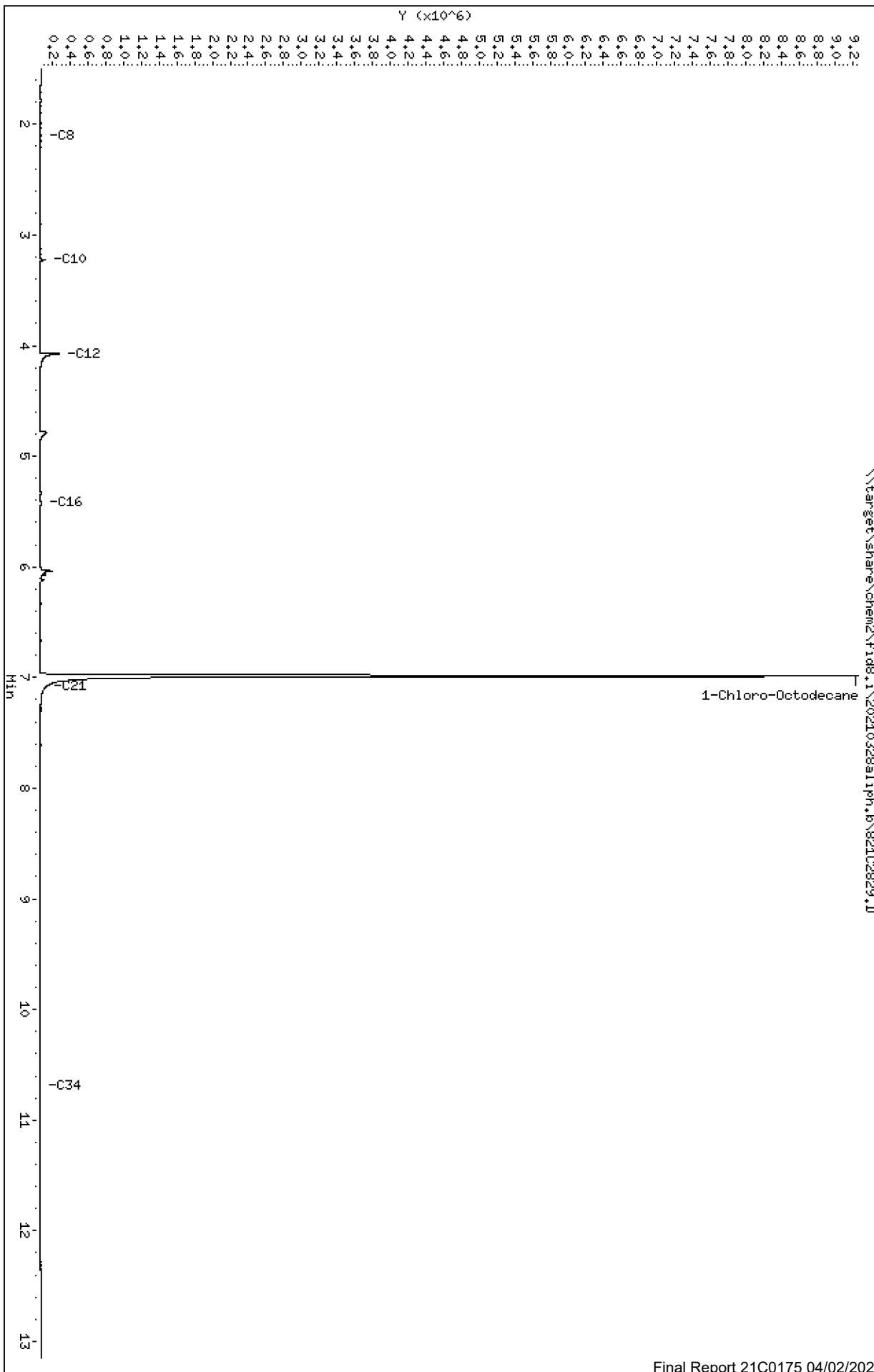
Column phase: RTX-1

Instrument: fid8.1

Operator: JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
WA. EPH Aliphatics Report

Data file: 20210328aliph.b/821C2829.D
Method: 20210328aliph.b\EPHALiph.m
Instrument: fid8.i
Operator: JGR
Macro: ALIPH020217FID8

ARI ID: BJC0358-BLK1
Client ID:
Injection: 28-MAR-2021 21:46
Matrix: NONE
Dilution Factor: 1

EPH-ALIPHATIC RESULTS

Quant	Range	Area	Conc	Time Range
C8-C10	Aliph.	255072	1.3	(2.001 - 3.348)
C10-C12	Aliph.	407687	2.0	(3.348 - 4.191)
C12-C16	Aliph.	333956	1.6	(4.191 - 5.530)
C16-C21	Aliph.	483200	2.5	(5.530 - 7.137)
C21-C34	Aliph.	213115	1.2	(7.137 - 10.756)
Surrogate Rec:		41.3%	62.0 ug/mL	



LCS / LCS DUPLICATE RECOVERY
WA EPH

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>21C0175</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>GascoSiltronic: US Moorings</u>
Matrix:	<u>Water</u>	Analyzed:	<u>03/28/21 22:10</u>
Batch:	<u>BJC0358</u>	Laboratory ID:	<u>BJC0358-BS1</u>
Preparation:	<u>EPA 3510C SepF</u>	Sequence Name:	<u>LCS</u>
Initial/Final:	<u>1000 mL / 1 mL</u>		

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	Q	LCS % REC. #	QC LIMITS REC.
C10-C12 Aliphatics	150	30.2		20.1	15 - 120

* Indicates values outside of QC limits

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	Q	LCSD % REC. #	% RPD #	QC LIMITS	
						RPD	REC.
C10-C12 Aliphatics	150	37.9		25.3	22.6	30	15 - 120

* Indicates values outside of QC limits

Data File: \\target\share\chem2\fid8.1\20210328a11ph.b\821C2830.D

Date: 28-MAR-2021 22:10

Client ID:

Sample Info: BJC0368-BS1

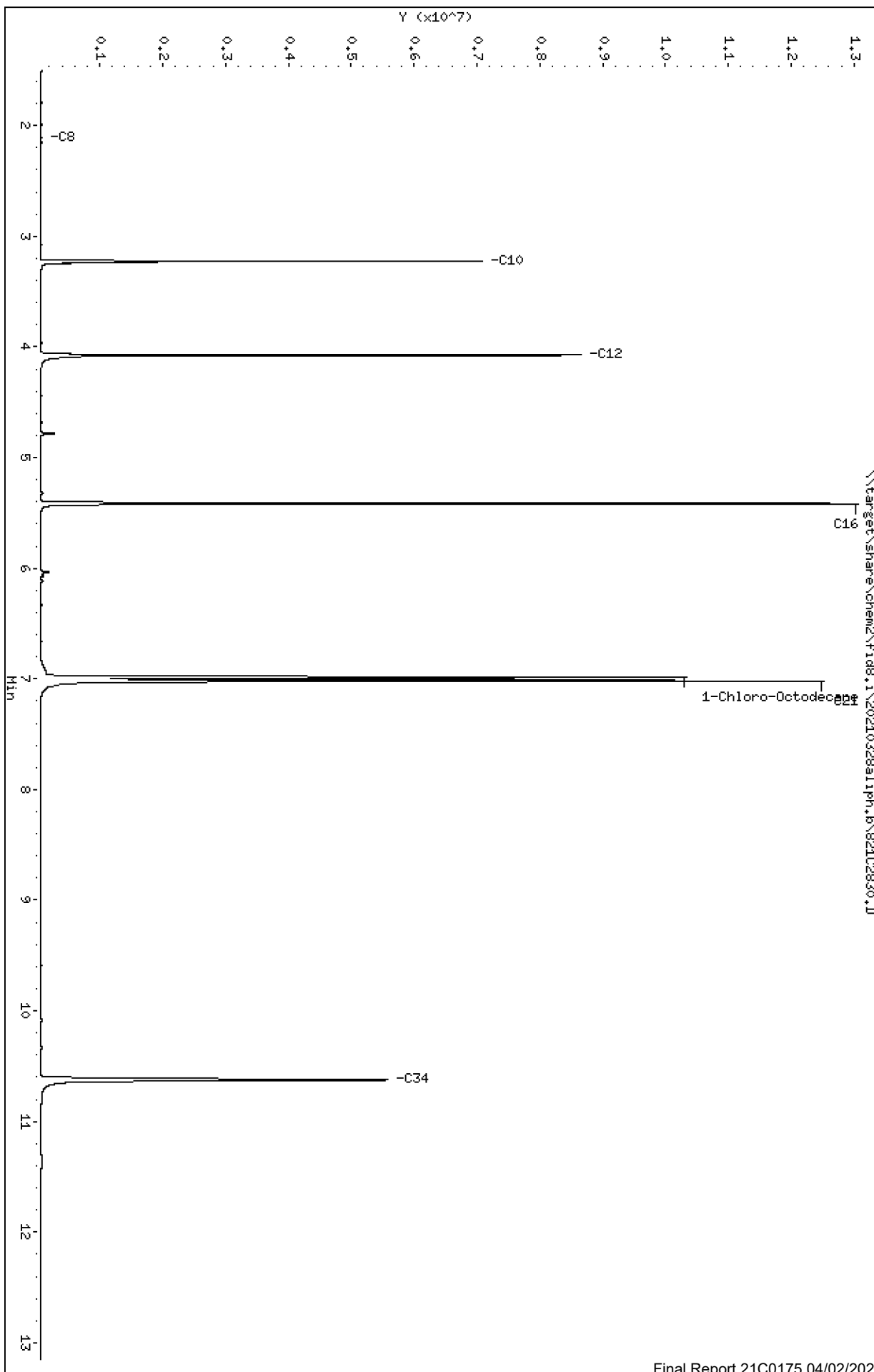
Column phase: RTX-1

Instrument: fid8.1

Operator: JGR

Column diameter: 0.25

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Analytical Resources Inc.
WA. EPH Aliphatics Report

Data file: 20210328aliph.b/821C2830.D
Method: 20210328aliph.b\EPHALiph.m
Instrument: fid8.i
Operator: JGR
Macro: ALIPH020217FID8

ARI ID: BJC0358-BS1
Client ID:
Injection: 28-MAR-2021 22:10
Matrix: NONE
Dilution Factor: 1

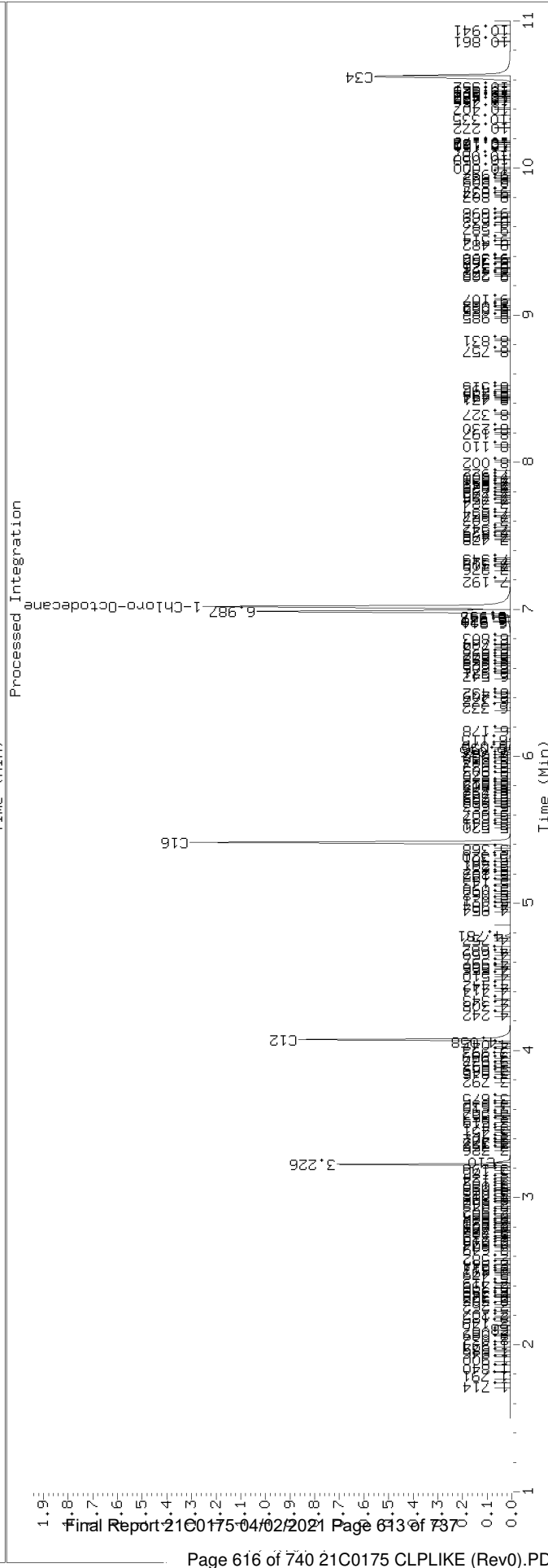
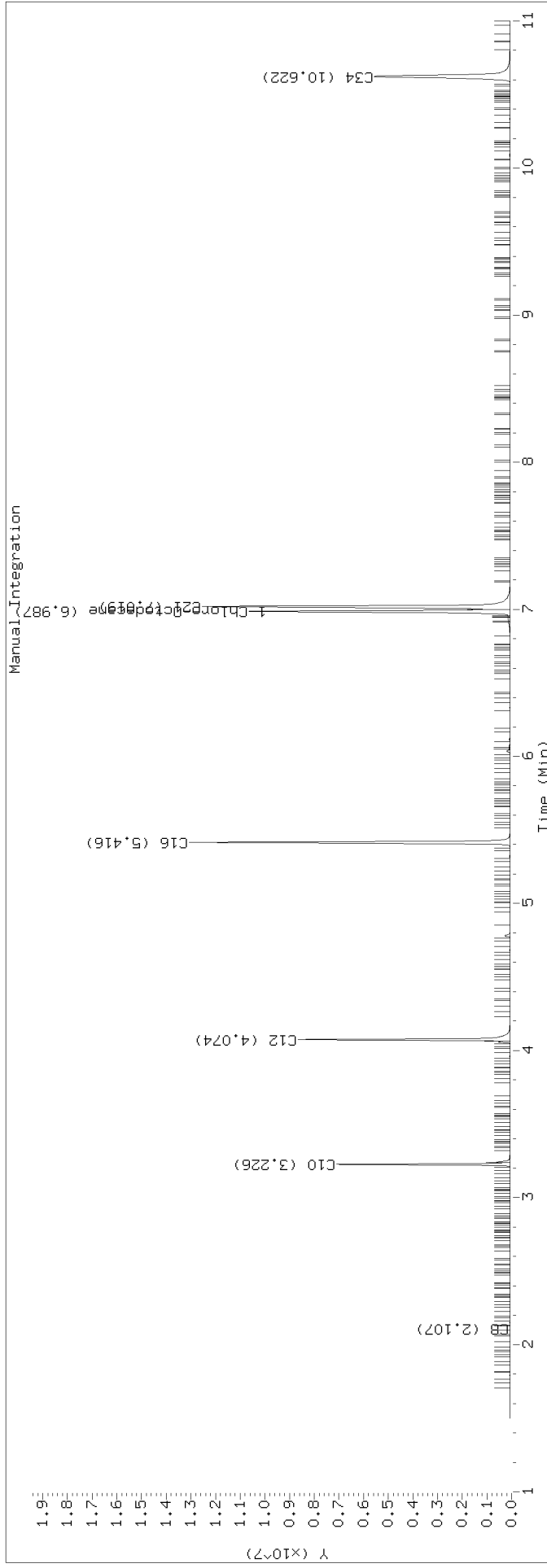
EPH-ALIPHATIC RESULTS

Quant	Range	Area	Conc	Time Range
C8-C10	Aliph.	4389850	22.8	(2.001 - 3.348)
C10-C12	Aliph.	6202078	30.2	(3.348 - 4.191)
C12-C16	Aliph.	10495897	51.8	(4.191 - 5.530)
C16-C21	Aliph.	13294519	68.2	(5.530 - 7.137)
C21-C34	Aliph.	8910065	49.8	(7.137 - 10.756)
Surrogate Rec:		36.2%	54.2 ug/mL	

EPH Aliphatics Manual Integrations Report

Datafile: FID8, 20210328aliph.b/821C2830.D Injection: 28-MAR-2021 22:10

Lab ID:BJC0358-BS1



Data File: \\target\share\chem2\fid8,1\20210328a11ph,b\821C2831.D

Date: 28-MAR-2021 22:35

Client ID:

Sample Info: BJC0358-BSM1

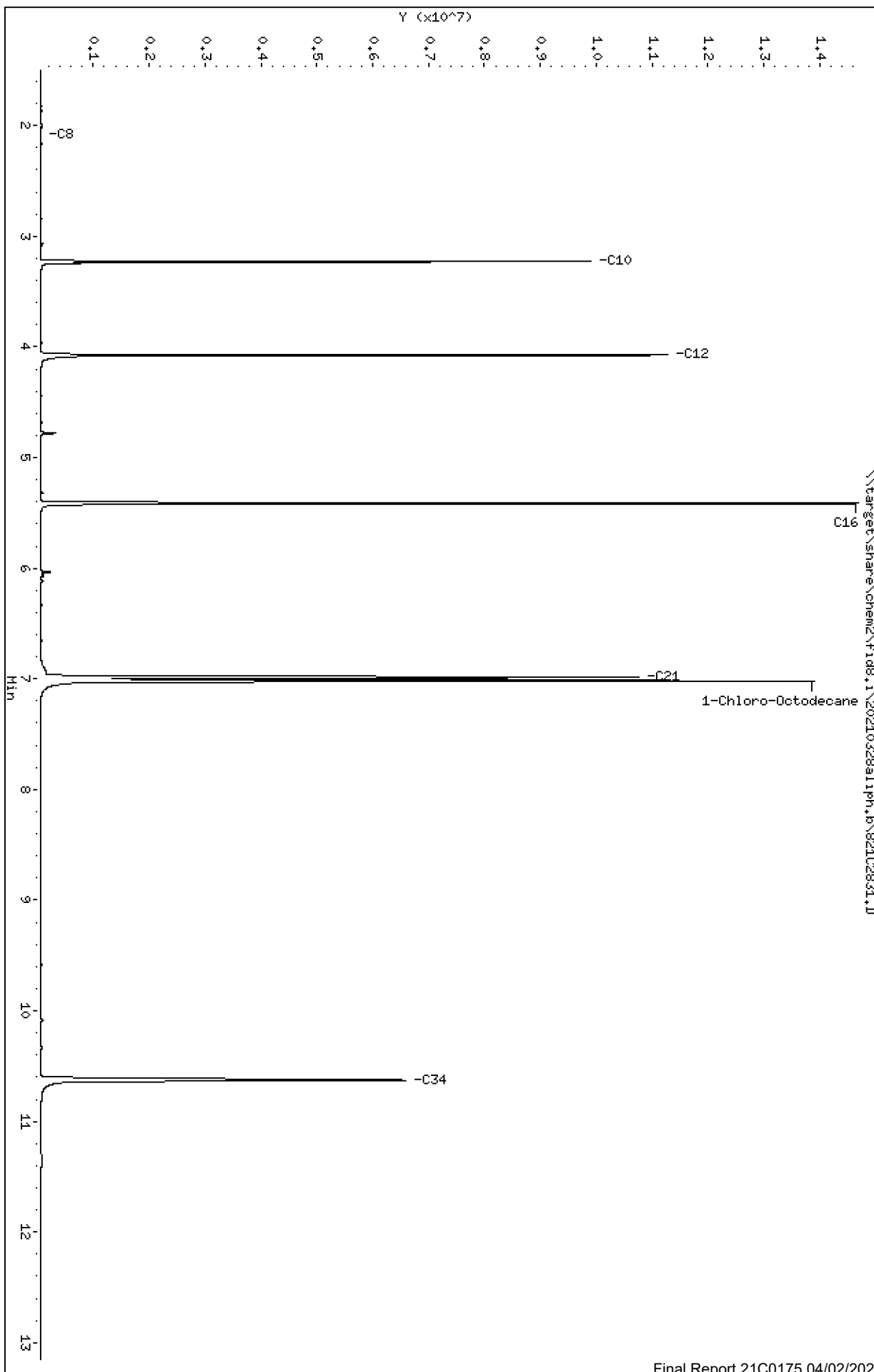
Column phase: RTX-1

Instrument: fid8,1

Operator: JGR

Column diameter: 0.25

Page 1



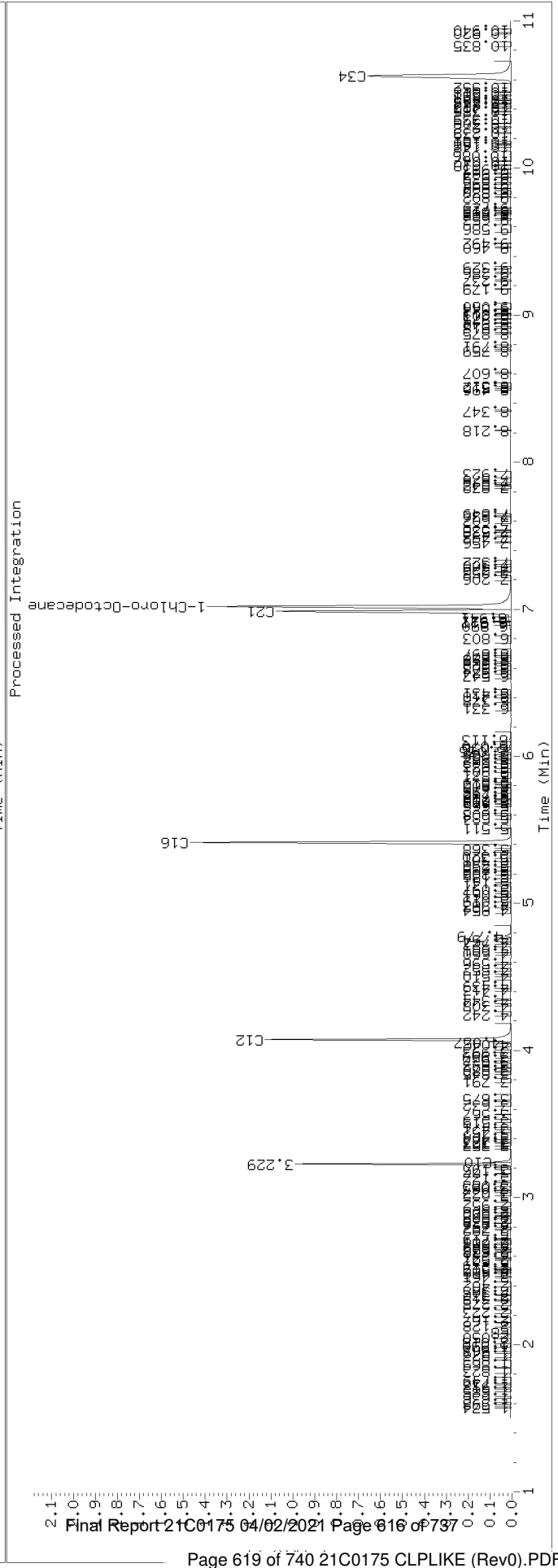
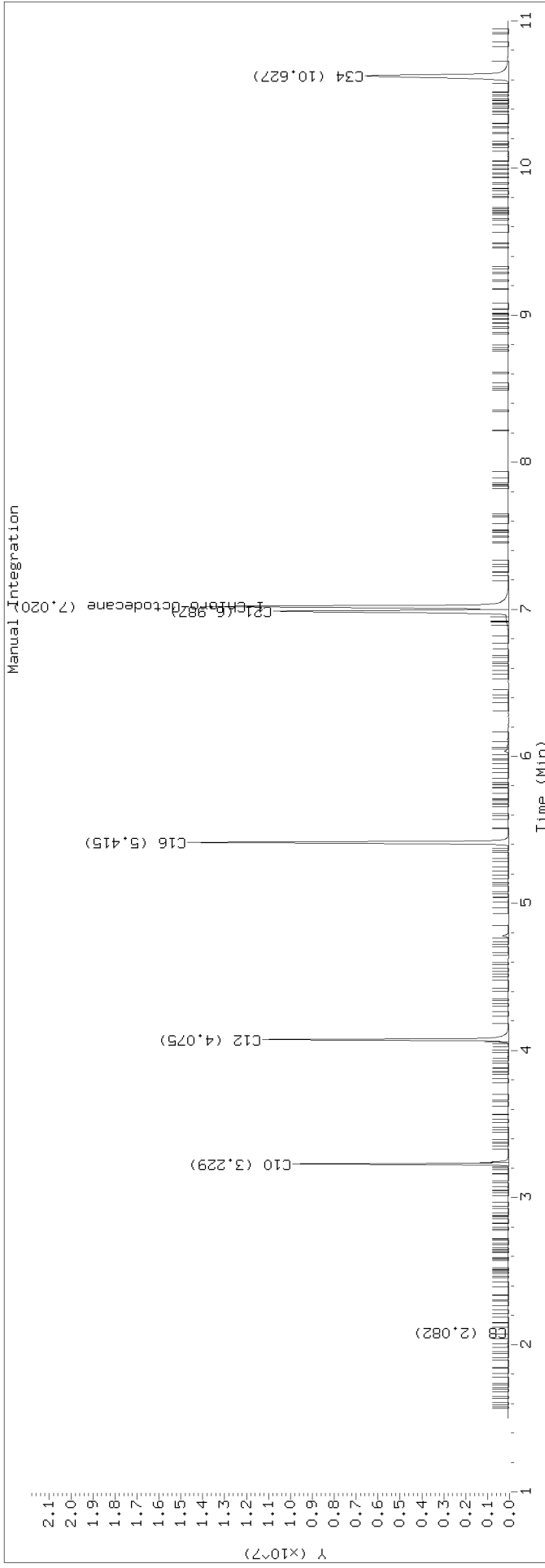
Analytical Resources Inc.
WA. EPH Aliphatics Report

Data file: 20210328aliph.b/821C2831.D
Method: 20210328aliph.b\EPHALiph.m
Instrument: fid8.i
Operator: JGR
Macro: ALIPH020217FID8

ARI ID: BJC0358-BSD1
Client ID:
Injection: 28-MAR-2021 22:35
Matrix: NONE
Dilution Factor: 1

EPH-ALIPHATIC RESULTS

Quant	Range	Area	Conc	Time Range
C8-C10	Aliph.	5813930	30.2	(2.001 - 3.348)
C10-C12	Aliph.	7786436	37.9	(3.348 - 4.191)
C12-C16	Aliph.	12401116	61.3	(4.191 - 5.530)
C16-C21	Aliph.	11568179	59.3	(5.530 - 7.137)
C21-C34	Aliph.	10553562	59.0	(7.137 - 10.756)
Surrogate Rec:		57.3%	85.9 ug/mL	





INITIAL CALIBRATION DATA WA EPH

Laboratory: Analytical Resources, Inc. SDG: 21C0175
Client: Anchor QEA, LLC Project: GascoSiltronic: US Moorings
Calibration: DJ00015 Instrument: FID8
Calibration Date: 10/01/2020 Column (1): ZB5

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
C10-C12 Aliphatics	20	195247.2	50	190901.5	100	206966.6	125	204131.5	150	217695.5	200	216877
1-Chloro-octadecane	20	132313.3	50	153398.8	100	174966.8	125	173349	150	185446.5	200	188647.6



ANALYSIS SEQUENCE

SIJ0055

Instrument: FID8 Element Column ID: d002555
Calibration ID: DJ00015

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SIJ0055-CAL1	AROM 20PPM	QC		1	1009169		
SIJ0055-CAL2	AROM 50PPM	QC		2	1009168		
SIJ0055-CAL3	AROM 100PPM	QC		3	1009167		
SIJ0055-CAL4	AROM 125PPM	QC		4	1009166		
SIJ0055-CAL5	AROM 150PPM	QC		5	1009165		
SIJ0055-CAL6	AROM 200PPM	QC		6	1009164		
SIJ0055-SCV1	AROM SCV	QC		7	1005685		
SIJ0055-CAL7	ALIPH 20PPM	QC		8	1009163		
SIJ0055-CAL8	ALIPH 50PPM	QC		9	1009160		
SIJ0055-CAL9	ALIPH 100PPM	QC		10	1009157		
SIJ0055-CALA	ALIPH 125PPM	QC		11	1009154		
SIJ0055-CALB	ALIPH 150PPM	QC		12	1009151		
SIJ0055-CALC	ALIPH 200PPM	QC		13	1009150		
SIJ0055-SCV2	ALIPH SCV	QC		14	1005686		

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid8.i\20201001aliph.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	01-OCT-2020	20:50	820J0107.D	1	ALIB	
2	02-OCT-2020	00:13	820J0115.D	1	20ALIPH	
3	02-OCT-2020	00:39	820J0116.D	1	50ALPIH	
4	02-OCT-2020	01:04	820J0117.D	1	100ALIPH	
5	02-OCT-2020	01:29	820J0118.D	1	125ALIPH	
6	02-OCT-2020	01:54	820J0119.D	1	150ALIPH	
7	02-OCT-2020	02:19	820J0120.D	1	200ALIPH	
8	02-OCT-2020	02:45	820J0121.D	1	ALIPHSC2	
9	02-OCT-2020	12:28	820J0144.D	1	ALIPHICV2	
10	02-OCT-2020	12:54	820J0145.D	1	BII0795-BLK1	
11	02-OCT-2020	13:20	820J0146.D	1	BII0795-BS1	
12	02-OCT-2020	13:46	820J0147.D	1	20I0109-02	
13	02-OCT-2020	14:12	820J0148.D	1	20I0109-03	
14	02-OCT-2020	14:38	820J0149.D	1	20I0109-05	
15	02-OCT-2020	15:04	820J0150.D	1	20I0109-07	
16	02-OCT-2020	15:29	820J0151.D	1	20I0109-08	
17	02-OCT-2020	15:55	820J0152.D	1	20I0109-09	
18	02-OCT-2020	16:21	820J0153.D	1	20I0109-10	
19	02-OCT-2020	16:46	820J0154.D	1	BII0795-MS1	
20	02-OCT-2020	17:12	820J0155.D	1	BII0795-MSD1	
21	02-OCT-2020	17:38	820J0156.D	1	ALIPHCCV3	
22	02-OCT-2020	18:03	820J0157.D	1	20I0109-11	
23	02-OCT-2020	18:29	820J0158.D	1	20I0149-01	
24	02-OCT-2020	18:54	820J0159.D	1	20I0149-02	
25	02-OCT-2020	19:20	820J0160.D	1	20I0149-05	
26	02-OCT-2020	19:45	820J0161.D	1	20I0149-07	
27	02-OCT-2020	20:10	820J0162.D	1	20I0149-08	
28	02-OCT-2020	20:36	820J0163.D	1	20I0149-09	
29	02-OCT-2020	21:01	820J0164.D	1	20I0149-10	
30	02-OCT-2020	21:27	820J0165.D	1	ALIPHCCV4	
31	02-OCT-2020	22:17	820J0167.D	1	BII0478-BLK1	
32	02-OCT-2020	22:42	820J0168.D	1	BII0478-BS1	
33	02-OCT-2020	23:08	820J0169.D	1	BII0478-BSD1	
34	02-OCT-2020	23:33	820J0170.D	1	20I0212-03	
35	02-OCT-2020	23:58	820J0171.D	1	BII0481-BLK1	
36	03-OCT-2020	00:23	820J0172.D	1	BII0481-BS1	
37	03-OCT-2020	00:49	820J0173.D	1	BII0481-BSD1	
38	03-OCT-2020	01:14	820J0174.D	1	20I0212-06	
39	03-OCT-2020	01:39	820J0175.D	1	20I0212-24	
40	03-OCT-2020	05:52	820J0185.D	1	ALIPHCCV6	
41	03-OCT-2020	06:42	820J0187.D	1	BII0585-BLK1	
42	03-OCT-2020	07:07	820J0188.D	1	BII0585-BS1	
43	03-OCT-2020	07:32	820J0189.D	1	BII0585-BSD1	
44	03-OCT-2020	07:57	820J0190.D	1	20I0267-08	
45	03-OCT-2020	08:21	820J0191.D	1	20I0267-16	
46	03-OCT-2020	10:51	820J0197.D	1	ALIPHCCV8	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid8.i\20201001arom.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	01-OCT-2020	17:18	820J0101.D	1	RINSE	
2	01-OCT-2020	18:00	820J0102.D	1	RINSE	
3	01-OCT-2020	18:25	820J0103.D	1	RINSE	
4	01-OCT-2020	19:34	820J0104.D	1	RINSE	
5	01-OCT-2020	19:59	820J0105.D	1	RINSE	
6	01-OCT-2020	20:25	820J0106.D	1	ARIB	
7	01-OCT-2020	21:16	820J0108.D	1	20AROM	
8	01-OCT-2020	21:41	820J0109.D	1	50AROM	
9	01-OCT-2020	22:07	820J0110.D	1	100AROM	
10	01-OCT-2020	22:32	820J0111.D	1	125AROM	
11	01-OCT-2020	22:57	820J0112.D	1	150AROM	
12	01-OCT-2020	23:23	820J0113.D	1	200AROM	
13	01-OCT-2020	23:48	820J0114.D	1	AROMSCV1	
14	02-OCT-2020	03:10	820J0122.D	1	AROMICV1	
15	02-OCT-2020	03:36	820J0123.D	1	BII0795-BLK2	
16	02-OCT-2020	04:01	820J0124.D	1	BII0795-BS2	
17	02-OCT-2020	04:27	820J0125.D	1	20I0109-02	
18	02-OCT-2020	04:52	820J0126.D	1	20I0109-03	
19	02-OCT-2020	05:18	820J0127.D	1	20I0109-05	
20	02-OCT-2020	05:43	820J0128.D	1	20I0109-07	
21	02-OCT-2020	06:09	820J0129.D	1	20I0109-08	
22	02-OCT-2020	06:34	820J0130.D	1	20I0109-09	
23	02-OCT-2020	06:59	820J0131.D	1	20I0109-10	
24	02-OCT-2020	07:24	820J0132.D	1	BII0795-MS2	
25	02-OCT-2020	07:49	820J0133.D	1	BII0795-MSD2	
26	02-OCT-2020	08:14	820J0134.D	1	20I0109-11	
27	02-OCT-2020	08:39	820J0135.D	1	20I0149-01	
28	02-OCT-2020	09:05	820J0136.D	1	AROMCCV1	
29	02-OCT-2020	09:30	820J0137.D	1	20I0149-02	
30	02-OCT-2020	09:55	820J0138.D	1	20I0149-05	
31	02-OCT-2020	10:21	820J0139.D	1	20I0149-07	
32	02-OCT-2020	10:46	820J0140.D	1	20I0149-08	
33	02-OCT-2020	11:12	820J0141.D	1	20I0149-09	
34	02-OCT-2020	11:37	820J0142.D	1	20I0149-10	
35	02-OCT-2020	12:03	820J0143.D	1	AROMCCV2	
36	02-OCT-2020	21:52	820J0166.D	1	AROMCCV5	
37	03-OCT-2020	02:05	820J0176.D	1	BII0478-BLK2	
38	03-OCT-2020	02:30	820J0177.D	1	BII0478-BS2	
39	03-OCT-2020	02:55	820J0178.D	1	BII0478-BSD2	
40	03-OCT-2020	03:20	820J0179.D	1	20I0212-03	
41	03-OCT-2020	03:46	820J0180.D	1	BII0481-BLK2	
42	03-OCT-2020	04:11	820J0181.D	1	BII0481-BS2	
43	03-OCT-2020	04:36	820J0182.D	1	BII0481-BSD2	
44	03-OCT-2020	05:01	820J0183.D	1	20I0212-06	
45	03-OCT-2020	05:26	820J0184.D	1	20I0212-24	
46	03-OCT-2020	06:17	820J0186.D	1	AROMCCV7	
47	03-OCT-2020	08:46	820J0192.D	1	BII0585-BLK2	
48	03-OCT-2020	09:11	820J0193.D	1	BII0585-BS2	
49	03-OCT-2020	09:35	820J0194.D	1	BII0585-BSD2	
50	03-OCT-2020	10:01	820J0195.D	1	20I0267-08	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid8.i\20201001arom.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
51	03-OCT-2020	10:26	820J0196.D	1	20I0267-16	
52	03-OCT-2020	11:16	820J0198.D	1	AROMCCV9	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid8.i\20201001arom.b

ARI Job No.: RINS Method: EPHArom.m Instrument: fid8.i Date: 01-OCT-2020

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1718	820J0101.D	RINSE		1	NO MANUAL INTEGRATION
1800	820J0102.D	RINSE		1	NO MANUAL INTEGRATION
1825	820J0103.D	RINSE		1	NO MANUAL INTEGRATION
1934	820J0104.D	RINSE		1	NO MANUAL INTEGRATION
1959	820J0105.D	RINSE		1	NO MANUAL INTEGRATION
2025	820J0106.D	ARIB		1	NO MANUAL INTEGRATION
2116	820J0108.D	20AROM		1	1,2,3-Trimetben, Benzo-ghi-per,
2141	820J0109.D	50AROM		1	NO MANUAL INTEGRATION
2207	820J0110.D	100AROM		1	Benzo-ghi-per,
2232	820J0111.D	125AROM		1	NO MANUAL INTEGRATION
2257	820J0112.D	150AROM		1	NO MANUAL INTEGRATION
2322	820J0113.D	200AROM		1	Benzo-ghi-per,
2344	820J0114.D	AROMSCV1		1	NO MANUAL INTEGRATION
3111	820J0122.D	AROMICV1		1	NO MANUAL INTEGRATION
3333	820J0123.D	BII0795-BLK2		1	NO MANUAL INTEGRATION
4040	820J0124.D	BII0795-BS2		1	NO MANUAL INTEGRATION
4242	820J0125.D	20I0109-02		1	1-chlorooctodecane (AROMATIC),

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid8.i\20201001arom.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0452	820J0126.D	20I0109-03	1	1	1-chlorooctodecane (AROMATIC), o-Terph Surr,
0518	820J0127.D	20I0109-05	1	1	1-chlorooctodecane (AROMATIC), o-Terph Surr,
0543	820J0128.D	20I0109-07	1	1	1-chlorooctodecane (AROMATIC), o-Terph Surr,
0609	820J0129.D	20I0109-08	1	1	1-chlorooctodecane (AROMATIC), o-Terph Surr,
0634	820J0130.D	20I0109-09	1	1	1-chlorooctodecane (AROMATIC), o-Terph Surr,
0659	820J0131.D	20I0109-10	1	1	1-chlorooctodecane (AROMATIC), o-Terph Surr,
0724	820J0132.D	BII0795-MS2	1	1	Benzo-ghi-per, 1-chlorooctodecane (AROMATIC), o-Terph Surr,
0749	820J0133.D	BII0795-MSD2	1	1	1-chlorooctodecane (AROMATIC), o-Terph Surr,
0814	820J0134.D	20I0109-11	1	1	NO MANUAL INTEGRATION
0839	820J0135.D	20I0149-01	1	1	NO MANUAL INTEGRATION
0905	820J0136.D	AROMCCV1	1	1	NO MANUAL INTEGRATION
0930	820J0137.D	20I0149-02	1	1	1-chlorooctodecane (AROMATIC), o-Terph Surr,
0955	820J0138.D	20I0149-05	1	1	1-chlorooctodecane (AROMATIC), o-Terph Surr,
1022	820J0139.D	20I0149-07	1	1	1-chlorooctodecane (AROMATIC), o-Terph Surr,
1048	820J0140.D	20I0149-08	1	1	1-chlorooctodecane (AROMATIC), o-Terph Surr,
1114	820J0141.D	20I0149-09	1	1	1-chlorooctodecane (AROMATIC), o-Terph Surr,
1131	820J0142.D	20I0149-10	1	1	1-chlorooctodecane (AROMATIC), o-Terph Surr,
1203	820J0143.D	AROMCCV2	1	1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid8.i\20201001arom.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2152	820J0166.D	AROMCCV5	1	1	Benzo-ghi-per,
0205	820J0176.D	BII0478-BLK2	1	1	NO MANUAL INTEGRATION
0230	820J0177.D	BII0478-BS2	1	1	NO MANUAL INTEGRATION
0255	820J0178.D	BII0478-BSD2	1	1	NO MANUAL INTEGRATION
0320	820J0179.D	20I0212-03	1	1	NO MANUAL INTEGRATION
0346	820J0180.D	BII0481-BLK2	1	1	NO MANUAL INTEGRATION
0411	820J0181.D	BII0481-BS2	1	1	NO MANUAL INTEGRATION
0436	820J0182.D	BII0481-BSD2	1	1	NO MANUAL INTEGRATION
0501	820J0183.D	20I0212-06	1	1	NO MANUAL INTEGRATION
0526	820J0184.D	20I0212-24	1	1	NO MANUAL INTEGRATION
0617	820J0186.D	AROMCCV7	1	1	NO MANUAL INTEGRATION
0846	820J0192.D	BII0585-BLK2	1	1	NO MANUAL INTEGRATION
0911	820J0193.D	BII0585-BS2	1	1	NO MANUAL INTEGRATION
0933	820J0194.D	BII0585-BSD2	1	1	NO MANUAL INTEGRATION
1001	820J0195.D	20I0267-08	1	1	NO MANUAL INTEGRATION
1026	820J0196.D	20I0267-16	1	1	NO MANUAL INTEGRATION
1111	820J0198.D	AROMCCV9	1	1	Benzo-ghi-per,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid8.i\20201001aliph.b

ARI Job No.: ALIB Method: EPHaliph.m Instrument: fid8.i Date: 01-OCT-2020

Time Filename LabID ClientId DF Manually Integrated Compounds

2050	820J0107.D	ALIB		1	NO MANUAL INTEGRATION
0013	820J0115.D	20ALIPH		1	C10,
0039	820J0116.D	50ALPHI		1	C10,
0104	820J0117.D	100ALIPH		1	NO MANUAL INTEGRATION
0129	820J0118.D	125ALIPH		1	NO MANUAL INTEGRATION
0154	820J0119.D	150ALIPH		1	NO MANUAL INTEGRATION
0219	820J0120.D	200ALIPH		1	NO MANUAL INTEGRATION
0245	820J0121.D	ALIPHSC2		1	C8,
1228	820J0144.D	ALIPHICV2		1	NO MANUAL INTEGRATION
1254	820J0145.D	BII0795-BLK1		1	NO MANUAL INTEGRATION
1320	820J0146.D	BII0795-BS1		1	C10,
1344	820J0147.D	20I0109-02		1	1-Chloro-Octodecane,
1411	820J0148.D	20I0109-03		1	1-Chloro-Octodecane,
433	820J0149.D	20I0109-05		1	1-Chloro-Octodecane,
504	820J0150.D	20I0109-07		1	1-Chloro-Octodecane,
522	820J0151.D	20I0109-08		1	1-Chloro-Octodecane,
554	820J0152.D	20I0109-09		1	1-Chloro-Octodecane,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid8.i\20201001aliph.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1621	820J0153.D	20I0109-10	1	1	1-Chloro-Octadecane,
1646	820J0154.D	BII0795-MS1	1	1	C10, 1-Chloro-Octadecate,
1712	820J0155.D	BII0795-MSD1	1	1	C10, 1-Chloro-Octadecane,
1738	820J0156.D	ALIPHCCV3	1	1	NO MANUAL INTEGRATION
1803	820J0157.D	20I0109-11	1	1	NO MANUAL INTEGRATION
1829	820J0158.D	20I0149-01	1	1	1-Chloro-Octadecane,
1854	820J0159.D	20I0149-02	1	1	1-Chloro-Octadecane,
1920	820J0160.D	20I0149-05	1	1	1-Chloro-Octadecane,
1945	820J0161.D	20I0149-07	1	1	1-Chloro-Octadecane,
2010	820J0162.D	20I0149-08	1	1	1-Chloro-Octadecane,
2036	820J0163.D	20I0149-09	1	1	1-Chloro-Octadecane,
2101	820J0164.D	20I0149-10	1	1	1-Chloro-Octadecane,
2122	820J0165.D	ALIPHCCV4	1	1	C10,
2211	820J0167.D	BII0478-BLK1	1	1	NO MANUAL INTEGRATION
2242	820J0168.D	BII0478-BS1	1	1	C10,
2308	820J0169.D	BII0478-BSD1	1	1	C10,
2333	820J0170.D	20I0212-03	1	1	NO MANUAL INTEGRATION
2358	820J0171.D	BII0481-BLK1	1	1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid8.i\20201001aliph.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0023	820J0172.D	BII0481-BS1	1	C10,	
0049	820J0173.D	BII0481-BS1	1	C10,	
0114	820J0174.D	20I0212-06	1	NO MANUAL INTEGRATION	
0139	820J0175.D	20I0212-24	1	NO MANUAL INTEGRATION	
0552	820J0185.D	ALIPHCCV6	1	NO MANUAL INTEGRATION	
0642	820J0187.D	BII0585-BLKI	1	NO MANUAL INTEGRATION	
0707	820J0188.D	BII0585-BS1	1	C10,	
0732	820J0189.D	BII0585-BS1	1	C10,	
0757	820J0190.D	20I0267-08	1	NO MANUAL INTEGRATION	
0821	820J0191.D	20I0267-16	1	NO MANUAL INTEGRATION	
1051	820J0197.D	ALIPHCCV8	1	NO MANUAL INTEGRATION	

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 01-OCT-2020 21:16
 End Cal Date : 01-OCT-2020 23:23
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : Falcon
 Method file : \\target\share\chem2\fid8.i\20201001arom.b\EPHArrom.m
 Last Edit : 03-Oct-2020 16:14 jrains
 Curve Type : Average

Calibration File Names:

Level 1: \\target\share\chem2\fid8.i\20201001arom.b\820J0108.D
 Level 2: \\target\share\chem2\fid8.i\20201001arom.b\820J0109.D
 Level 3: \\target\share\chem2\fid8.i\20201001arom.b\820J0110.D
 Level 4: \\target\share\chem2\fid8.i\20201001arom.b\820J0111.D
 Level 5: \\target\share\chem2\fid8.i\20201001arom.b\820J0112.D
 Level 6: \\target\share\chem2\fid8.i\20201001arom.b\820J0113.D

Compound	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	RRF	% RSD
2 Toluene	202541	200103	210181	206834	218140	220027	209638	3.873
5 1-chlorooctadecane (AROMATIC)	132313	153399	174967	173349	185447	188648	168020	12.750
3 1,2,3-Trimetben	191434	197193	228204	223881	237337	237890	219323	9.202
4 Naphthalene	213238	216541	229212	224164	240841	240261	227376	5.122
7 Acenaphthene	199093	205855	221749	218129	235859	234173	219143	6.743
3 Pyrene	184602	191251	203229	197225	214605	207275	199698	5.474
1 Benzo-ghi-per	178290	180537	192963	187635	203195	198613	190205	5.200
1 o-Terph Surr	201436	208092	221843	218933	236273	231635	219702	6.075

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 02-OCT-2020 00:13
 End Cal Date : 02-OCT-2020 02:19
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 4.14
 Integrator : Falcon
 Method file : \\target\share\chem2\fid8.i\20201001aliph.b\EPHaliph.m
 Last Edit : 02-Oct-2020 15:45 jrains
 Curve Type : Average

Calibration File Names:

Level 1: \\target\share\chem2\fid8.i\20201001aliph.b\820J0115.D
 Level 2: \\target\share\chem2\fid8.i\20201001aliph.b\820J0116.D
 Level 3: \\target\share\chem2\fid8.i\20201001aliph.b\820J0117.D
 Level 4: \\target\share\chem2\fid8.i\20201001aliph.b\820J0118.D
 Level 5: \\target\share\chem2\fid8.i\20201001aliph.b\820J0119.D
 Level 6: \\target\share\chem2\fid8.i\20201001aliph.b\820J0120.D

Compound	20.000	50.000	100.000	150.000	200.000	300.000	400.000	500.000	600.000	700.000	800.000	900.000	1000.000	RRF	% RSD
1 C8	176338	175062	188683	191276	198627	194095	187347	187347	187347	187347	187347	187347	187347	187347	5.131
2 C10	176420	177478	200312	204928	214702	212340	197697	197697	197697	197697	197697	197697	197697	197697	8.537
3 C12	195247	190902	206967	204132	217696	216877	205303	205303	205303	205303	205303	205303	205303	205303	5.337
4 C16	187421	187647	206440	200811	216724	215676	202453	202453	202453	202453	202453	202453	202453	202453	6.411
6 C21	202391	188336	194246	190241	200304	194799	195053	195053	195053	195053	195053	195053	195053	195053	2.812
7 C34	166616	167083	182209	181067	186280	190891	179024	179024	179024	179024	179024	179024	179024	179024	5.610
5 1-Chloro-Octadecane	132313	153399	174967	173349	185447	188648	168020	168020	168020	168020	168020	168020	168020	168020	12.750

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem2\fid8.i\20201001arom.b\EPHARom.m
 Batch File: \\target\share\chem2\fid8.i\20201001arom.b
 Inst ID: fid8.i

ID	RT01	RT02	RT03	RT04	RT05	RT06	RT06	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
FILENAME:	820J0108	820J0109	820J0110	820J0111	820J0112	820J0113	820J0112	820J0113				
INJ. DATE:	01-OCT-2020	01-OCT-2020	01-OCT-2020	01-OCT-2020	01-OCT-2020	01-OCT-2020	01-OCT-2020	01-OCT-2020				
INJ. TIME:	21:16	21:41	22:07	22:32	22:57	23:23						
Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV		
2 Toluene	1.881	1.886	1.889	1.889	1.892	1.895	1.889	1.839-1.939	1.889	0.005		
75 1-chlorooctodecane (ARO)	6.978	7.003	7.003	7.006	6.973	6.974	7.002	6.952-7.052	6.990	0.016		
3 1,2,3-Trimetben	3.357	3.360	3.364	3.365	3.367	3.371	3.357	3.307-3.407	3.364	0.005		
4 Naphthalene	4.074	4.076	4.081	4.083	4.085	4.088	4.086	4.036-4.136	4.081	0.005		
7 Acenaphthene	5.124	5.126	5.130	5.133	5.135	5.138	5.137	5.087-5.187	5.131	0.005		
11 o-Terph Surr	6.397	6.397	6.403	6.405	6.408	6.412	6.410	6.360-6.460	6.404	0.006		
13 Pyrene	7.182	7.184	7.193	7.196	7.200	7.205	7.204	7.154-7.254	7.193	0.009		
21 Benzo-ghi-per	10.312	10.323	10.342	10.350	10.359	10.371	10.353	10.303-10.403	10.343	0.022		

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

Security Status Report

Date: 05-Oct-2020 17:34

820J0107.D	Data Locked	Jrains,	05-Oct-2020	17:34
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820J0197.D | Data Locked | jrains, 05-Oct-2020 17:34 |

Security Status Report

Date: 05-Oct-2020 17:40

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Date: 01-OCT-2020 20:50

Client ID:

Sample Info: ALIB

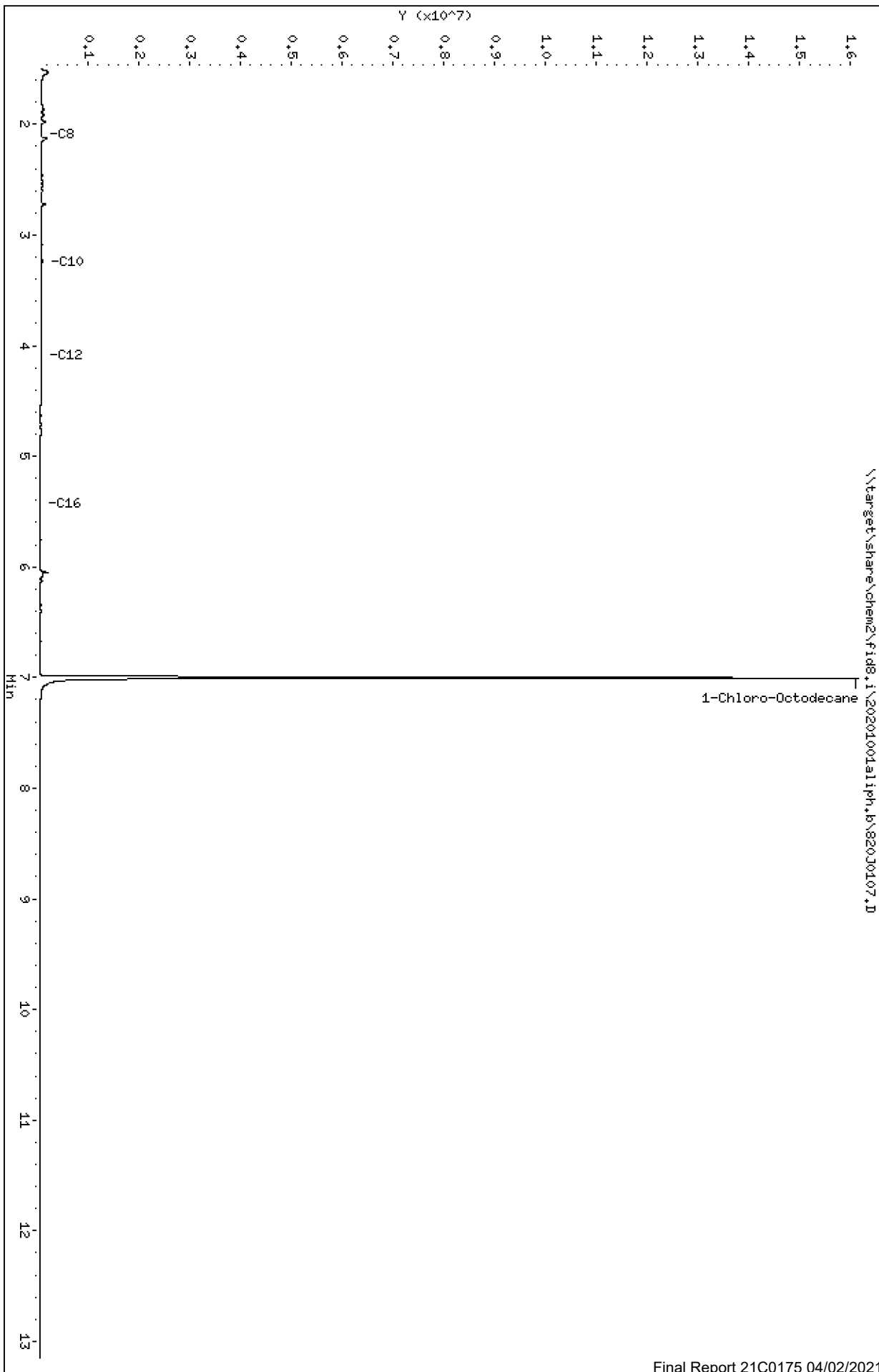
Column phase: RTX-1

Instrument: fid8.1

Operator: JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
WA. EPH Aliphatics Report

Data file: 20201001aliph.b/820J0107.D
Method: 20201001aliph.b\EPHALiph.m
Instrument: fid8.i
Operator: JGR
Macro: ALIPH020217FID8

ARI ID: ALIB
Client ID:
Injection: 01-OCT-2020 20:50
Matrix: NONE
Dilution Factor: 1

EPH-ALIPHATIC RESULTS

Quant	Range	Area	Conc	Time Range
C8-C10	Aliph.	2241826	11.6	(2.018 - 3.359)
C10-C12	Aliph.	762525	3.7	(3.359 - 4.199)
C12-C16	Aliph.	509118	2.5	(4.199 - 5.538)
C16-C21	Aliph.	608631	3.1	(5.538 - 7.147)
C21-C34	Aliph.	161111	0.9	(7.147 - 10.769)
Surrogate Rec:		61.1%	91.6 ug/mL	

Data File: \\target\share\chem2\fid8.1\20201001arom,b\820J0108.D

Date : 01-OCT-2020 21:16

Client ID:

Sample Info: 20AROM

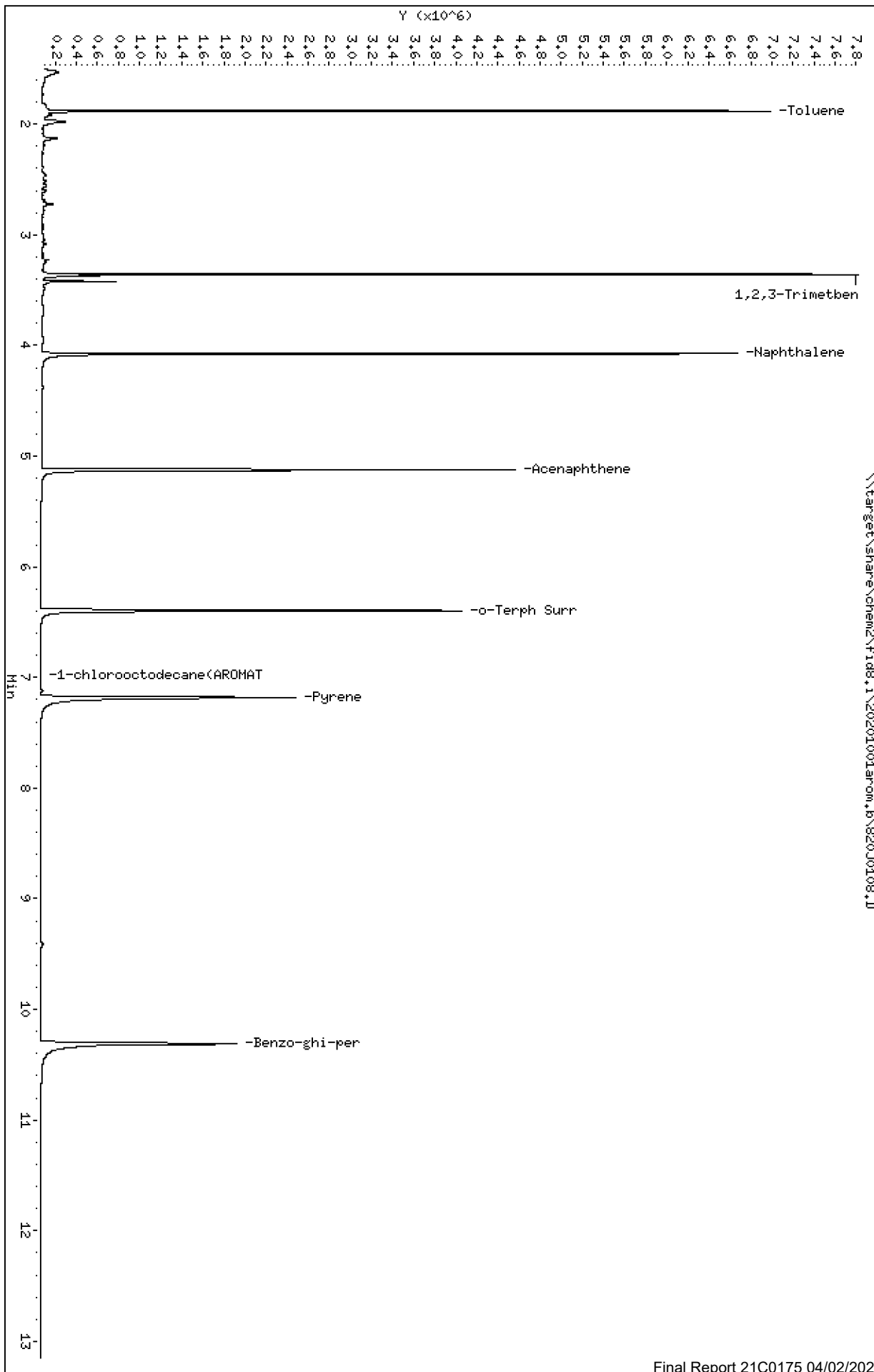
Column phase: RTX-1

Instrument: fid8.1

Operator: JGR

Column diameter: 0.25

Page 1



EPH AROMATIC CALIBRATION REPORT

Lab Name: ANALYTICAL RESOURCES, INC.

Lab ID: 20AROM

ICal Date: 01-OCT-2020

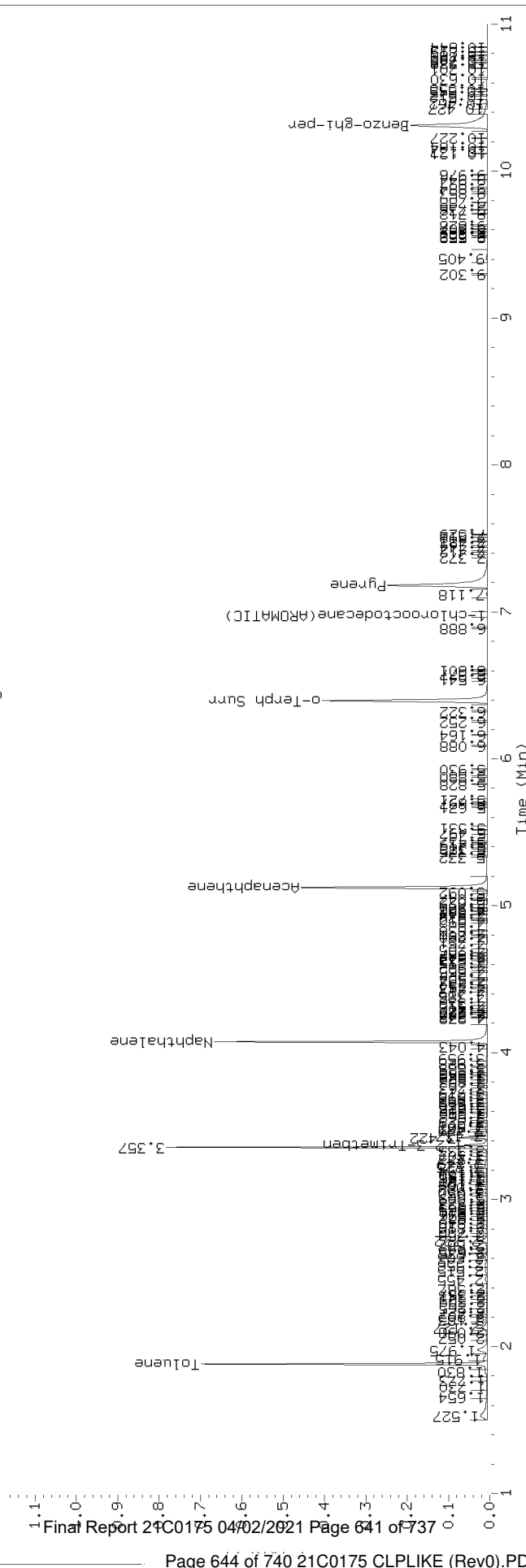
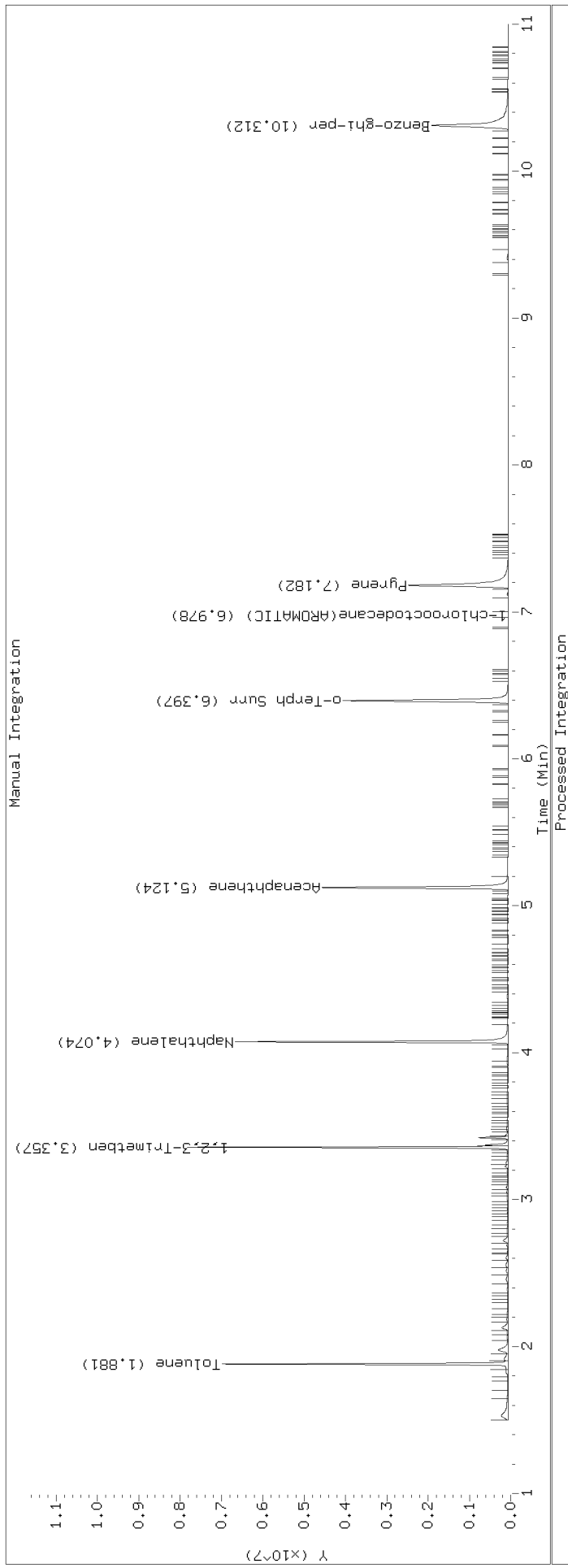
Instrument: FID8.I

Analysis Time: 21:16

Lab File Name: 820J0108.D

Quant Range	Area*	Conc
C8-C10 Arom.	7879500	36.8
C10-C12 Arom.	4264763	18.8
C12-C16 Arom.	3981855	18.2
C16-C21 Arom.	3692046	18.5
C21-C34 Arom.	3565794	18.7
Surrogate	4028722	18.3

* From Range Reference Peak(s)



Data File: \\target\share\chem2\fid8.1\20201001arom_b\820J0109.D

Date: 01-OCT-2020 21:41

Client ID:

Sample Info: SOAROM

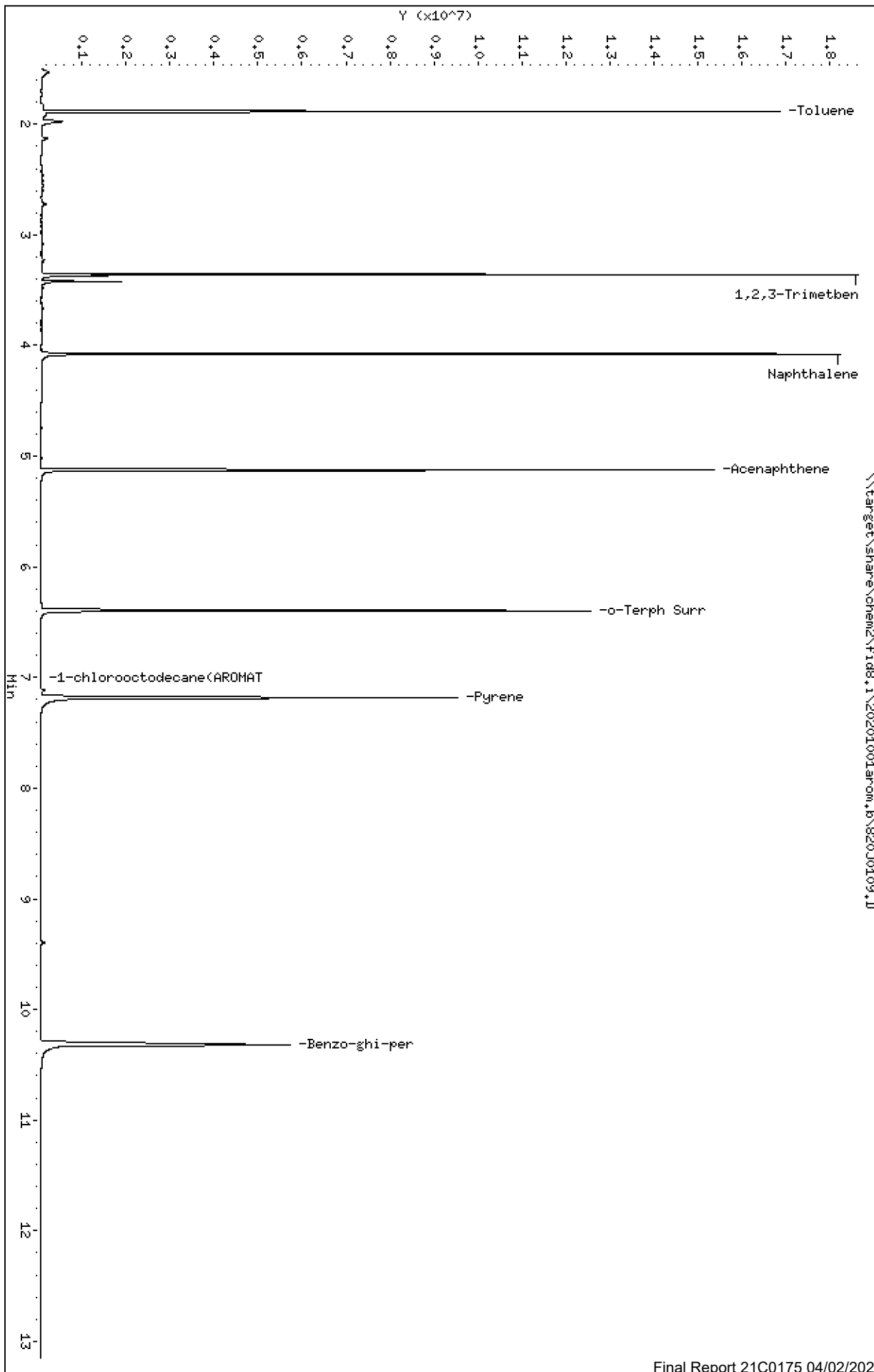
Column phase: RTX-1

Instrument: fid8.1

Operator: JGR

Column diameter: 0.25

Page 1



EPH AROMATIC CALIBRATION REPORT

Lab Name: ANALYTICAL RESOURCES, INC.

Lab ID: 50AROM

ICal Date: 01-OCT-2020

Instrument: FID8.I

Analysis Time: 21:41

Lab File Name: 820J0109.D

Quant Range	Area*	Conc
C8-C10 Arom.	19864827	92.7
C10-C12 Arom.	10827055	47.6
C12-C16 Arom.	10292755	47.0
C16-C21 Arom.	9562568	47.9
C21-C34 Arom.	9026865	47.5
Surrogate	10404619	47.4

* From Range Reference Peak(s)

Data File: \\target\share\chem2\fid8.1\20201001arom_b\820J0110.D

Date: 01-OCT-2020 22:07

Client ID:

Sample Info: 100AROM

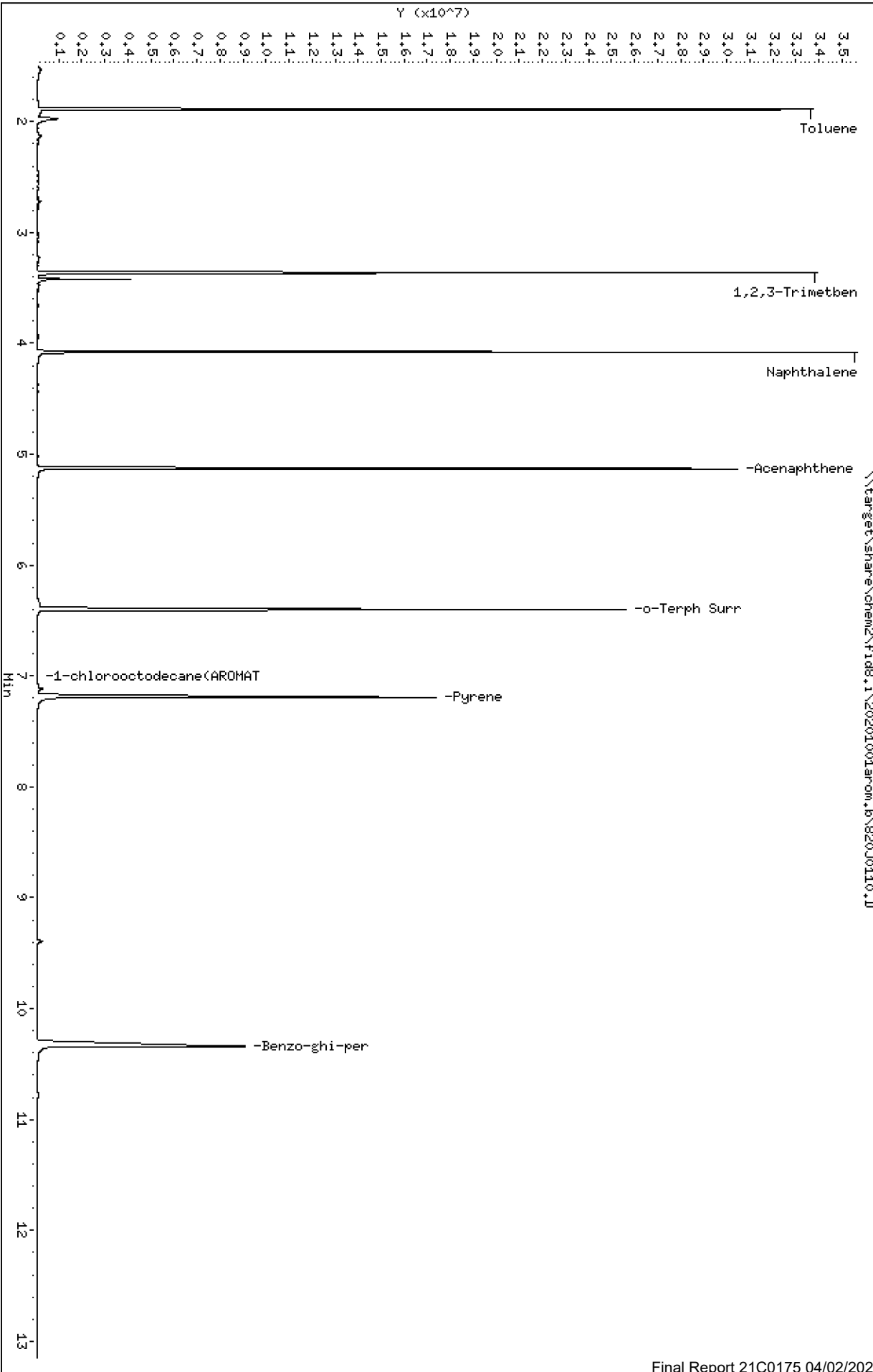
Column phase: RTX-1

Instrument: fid8.1

Operator: JGR

Column diameter: 0.25

Page 1



EPH AROMATIC CALIBRATION REPORT

Lab Name: ANALYTICAL RESOURCES, INC.

Lab ID: 100AROM

ICal Date: 01-OCT-2020

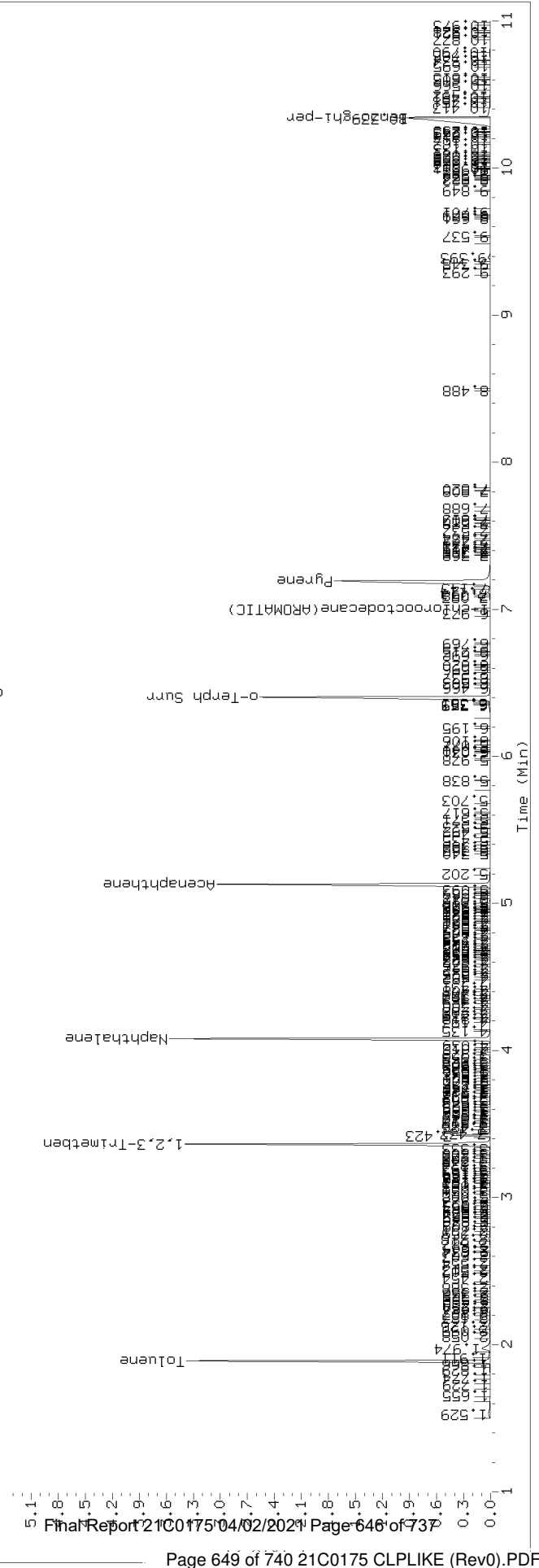
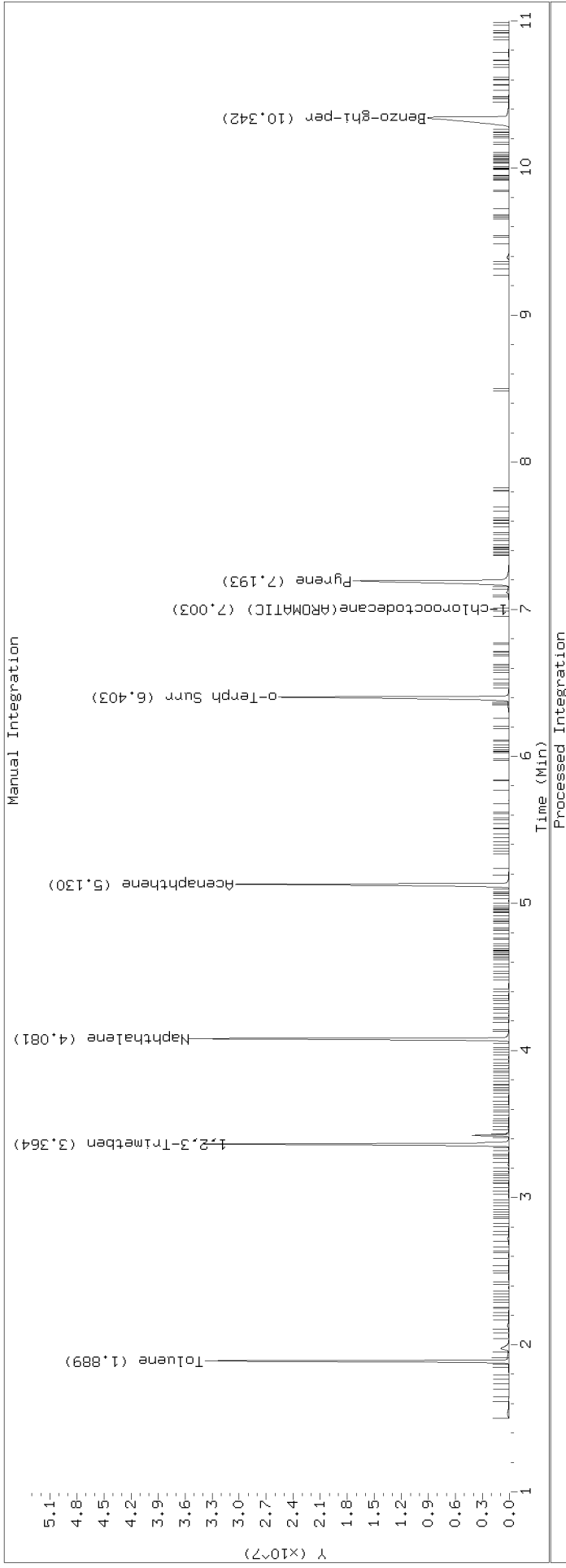
Instrument: FID8.I

Analysis Time: 22:07

Lab File Name: 820J0110.D

Quant Range		Area*	Conc
C8-C10	Arom.	43838545	204.3
C10-C12	Arom.	22921214	100.8
C12-C16	Arom.	22174890	101.2
C16-C21	Arom.	20322928	101.8
C21-C34	Arom.	19296272	101.4
Surrogate		22184280	101.0

* From Range Reference Peak(s)



Data File: \\target\share\chem2\fid8.1\20201001arom_b\820J0111.D

Date: 01-OCT-2020 22:32

Client ID:

Sample Info: 1256R0M

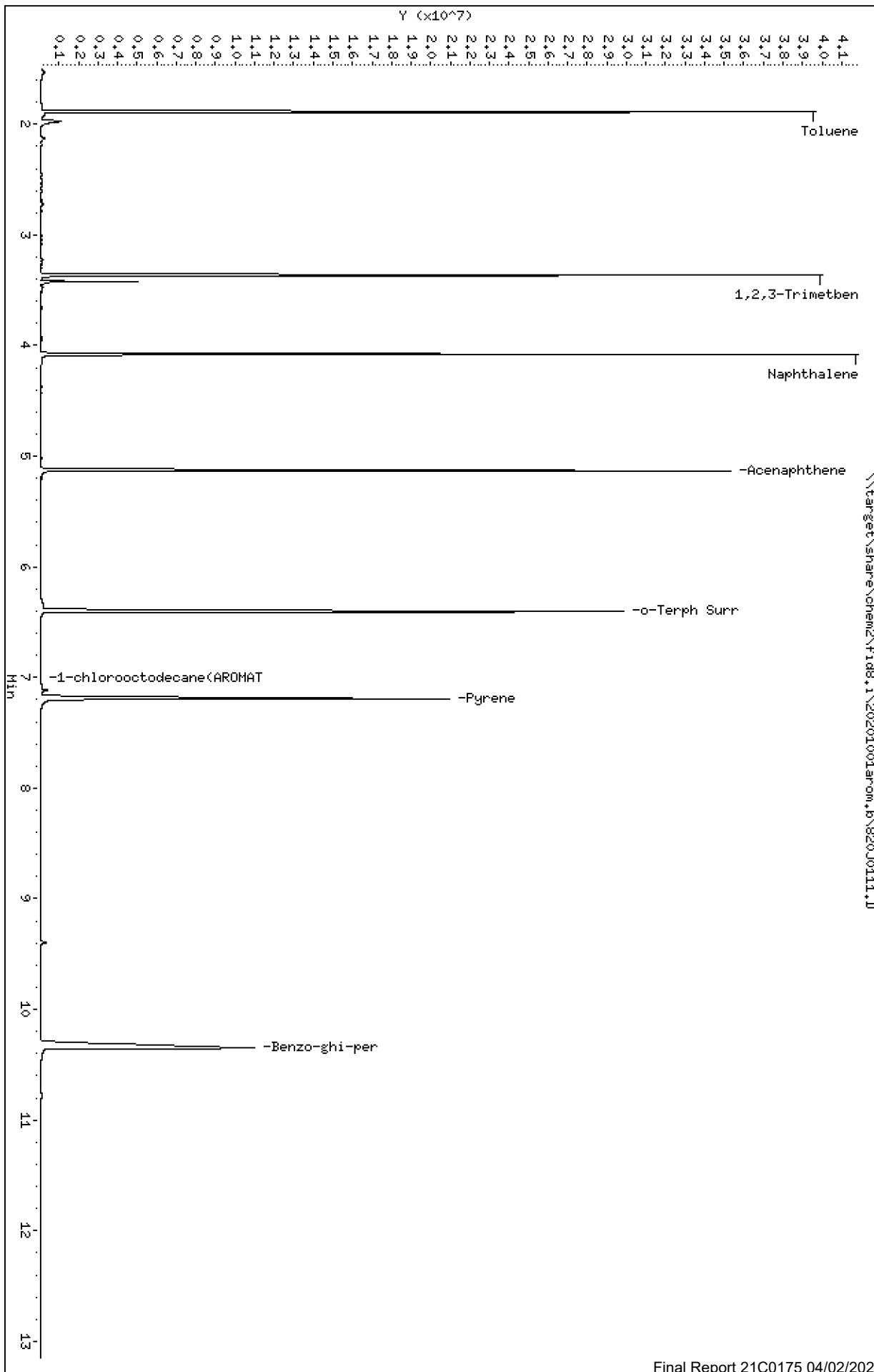
Column phase: RTX-1

Instrument: fid8.1

Operator: JGR

Column diameter: 0.25

Page 1



EPH AROMATIC CALIBRATION REPORT

Lab Name: ANALYTICAL RESOURCES, INC.

Lab ID: 125AROM

ICal Date: 01-OCT-2020

Instrument: FID8.I

Analysis Time: 22:32

Lab File Name: 820J0111.D

Quant Range	Area*	Conc
C8-C10 Arom.	53839388	250.9
C10-C12 Arom.	28020461	123.2
C12-C16 Arom.	27266098	124.4
C16-C21 Arom.	24653071	123.5
C21-C34 Arom.	23454396	123.3
Surrogate	27366622	124.6

* From Range Reference Peak(s)

Data File: \\target\share\chem2\fid8.1\20201001arom_b\820J0112.D

Date: 01-OCT-2020 22:57

Client ID:

Sample Info: 150AROM

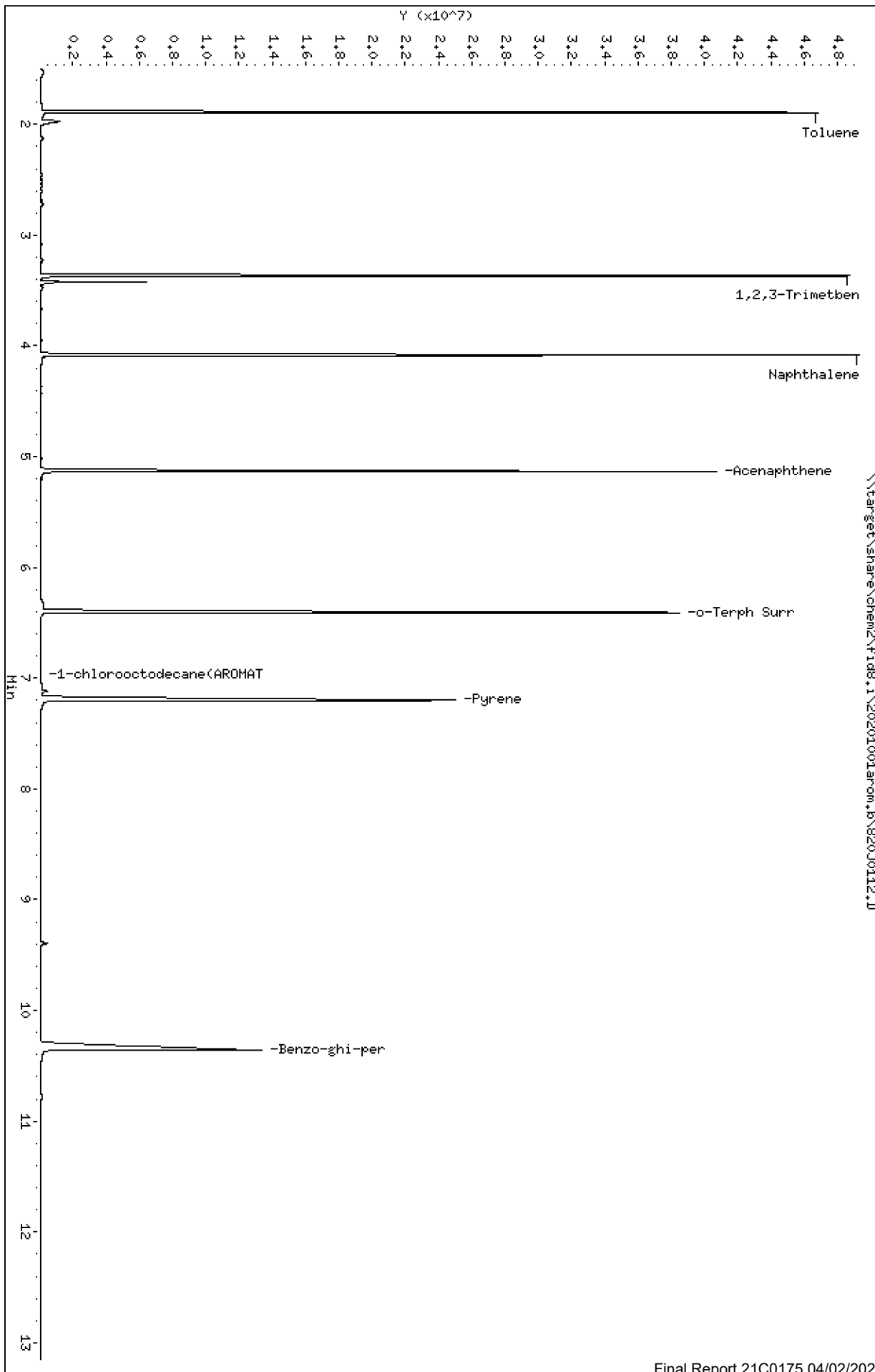
Column phase: RTX-1

Instrument: fid8.1

Operator: JGR

Column diameter: 0.25

Page 1



EPH AROMATIC CALIBRATION REPORT

Lab Name: ANALYTICAL RESOURCES, INC.

Lab ID: 150AROM

Ical Date: 01-OCT-2020

Instrument: FID8.I

Analysis Time: 22:57

Lab File Name: 820J0112.D

Quant Range		Area*	Conc
C8-C10	Arom.	68321514	318.4
C10-C12	Arom.	36126191	158.9
C12-C16	Arom.	35378805	161.4
C16-C21	Arom.	32190721	161.2
C21-C34	Arom.	30479246	160.2
Surrogate		35440907	161.3

* From Range Reference Peak(s)

Data File: \\target\share\chem2\fid8.1\20201001arom_b\820J0113.D

Date: 01-OCT-2020 23:23

Client ID:

Sample Info: 200AROM

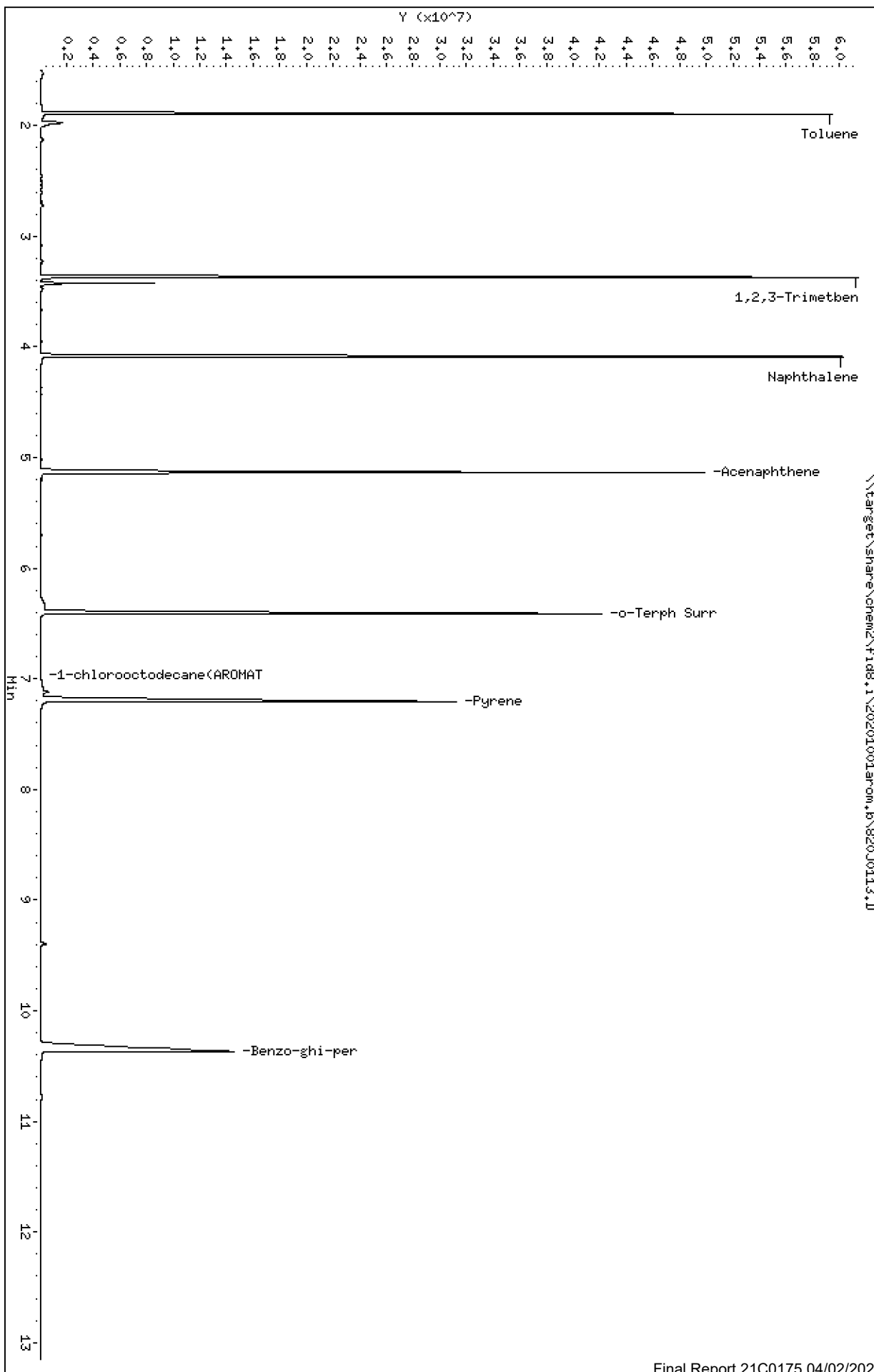
Column phase: RTX-1

Instrument: fid8.1

Operator: JGR

Column diameter: 0.25

Page 1



EPH AROMATIC CALIBRATION REPORT

Lab Name: ANALYTICAL RESOURCES, INC.

Lab ID: 200AROM

ICal Date: 01-OCT-2020

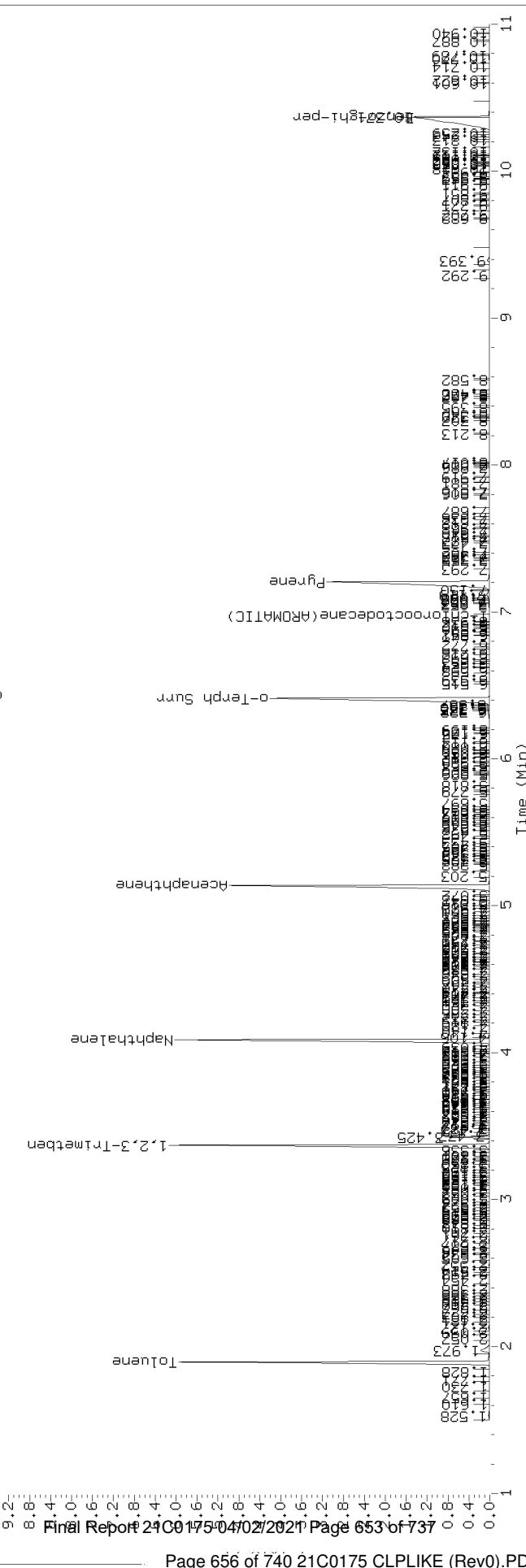
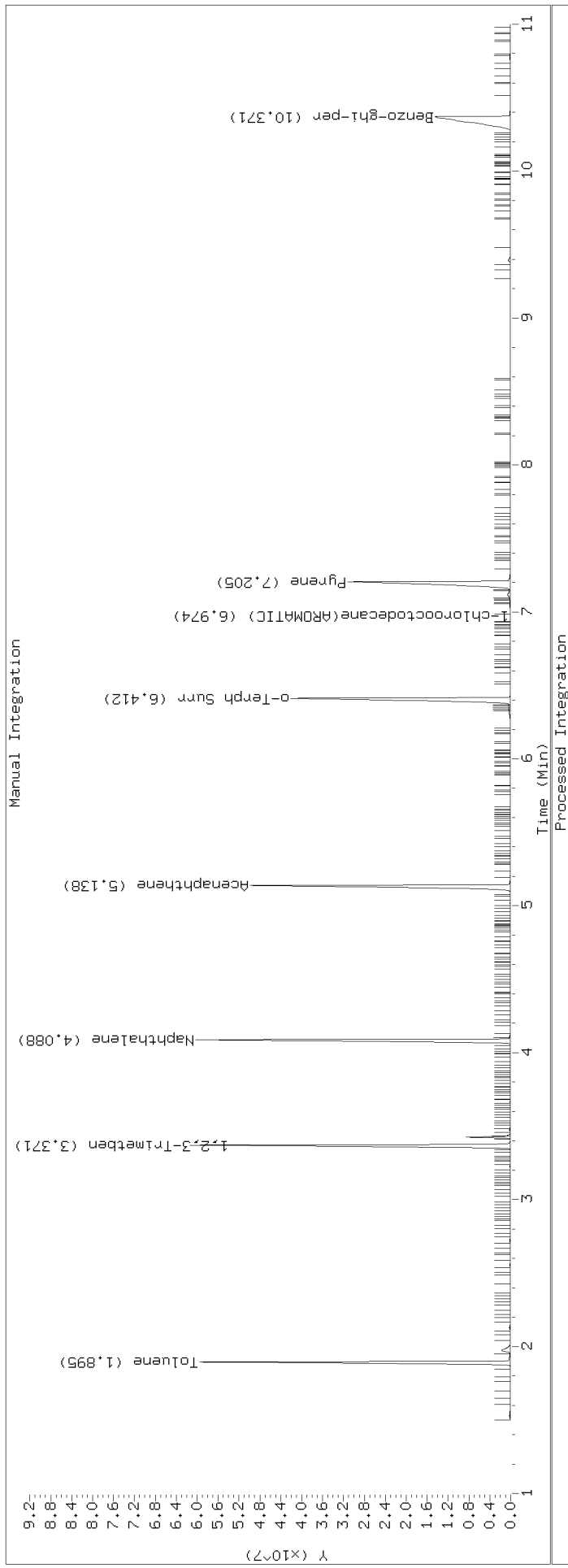
Instrument: FID8.I

Analysis Time: 23:23

Lab File Name: 820J0113.D

Quant Range	Area*	Conc
C8-C10 Arom.	91583324	426.8
C10-C12 Arom.	48052127	211.3
C12-C16 Arom.	46834541	213.7
C16-C21 Arom.	41455089	207.6
C21-C34 Arom.	39722566	208.8
Surrogate	46327076	210.9

* From Range Reference Peak(s)



Data File: \\target\share\chem2\fid8.1\20201001arom,b\820J0114.D

Date : 01-OCT-2020 23:48

Client ID:

Sample Info: ARDMSCV1

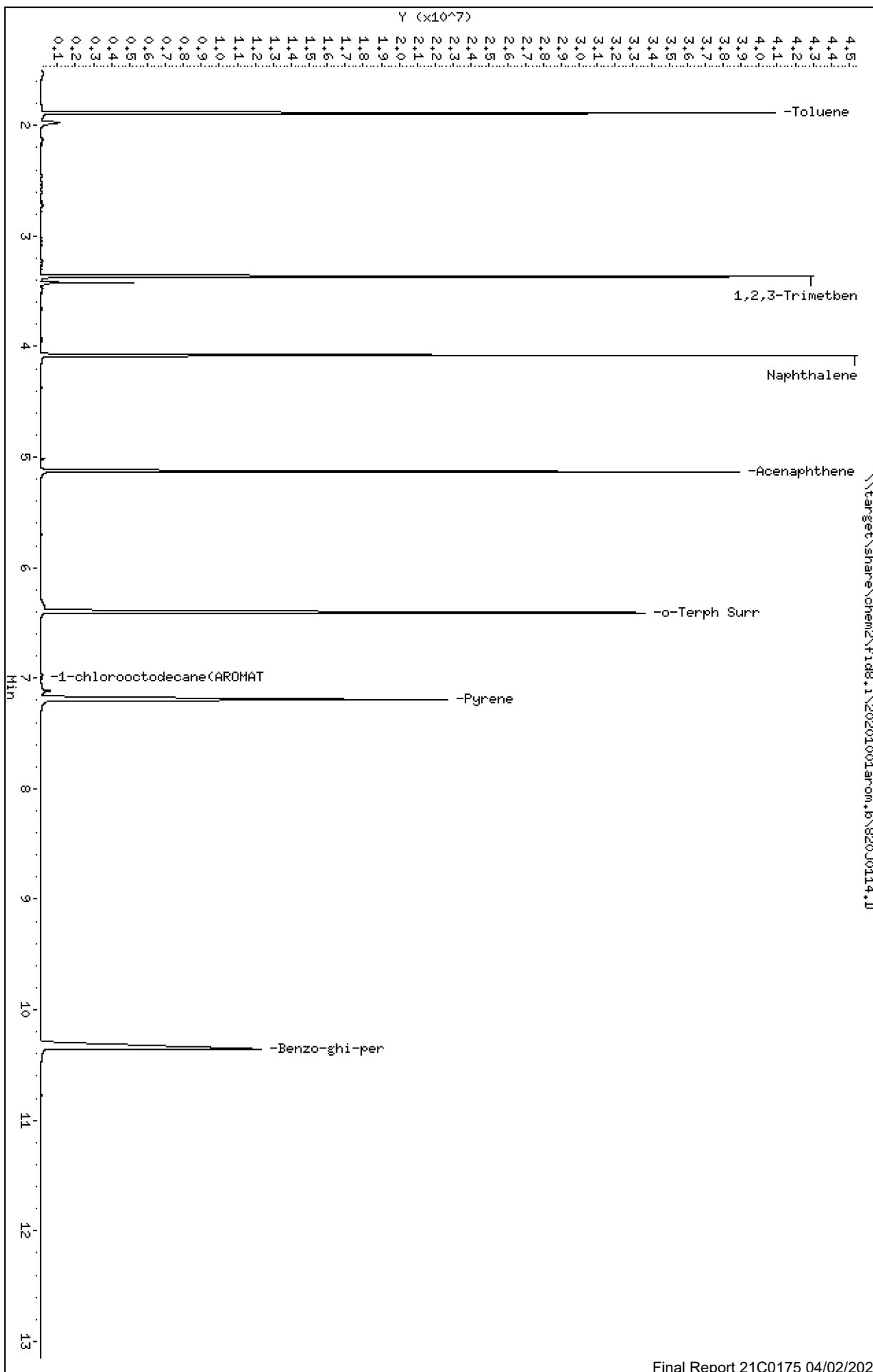
Column phase: RTX-1

Instrument: fid8.1

Operator: JGR

Column diameter: 0.25

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Analytical Resources Inc.
WA-EPH Aromatics Report

Data file: 20201001arom.b/820J0114.D
Method: 20201001arom.b\EPHArOm.m
Instrument: fid8.i
Operator: JGR
Report Date: 10/05/2020
Macro: AROM120911FID8

ARI ID: AROMSCV1
Client ID:
Injection: 01-OCT-2020 23:48
Matrix: NONE
Dilution Factor: 1

EPH-AROMATIC RESULTS

Quant Range	RF	Area	Conc	Time Range
C8-C10 Arom.	214480	64104813	298.9	(1.789 - 3.457)
C10-C12 Arom.	227376	32593872	143.3	(3.457 - 4.186)
C12-C16 Arom.	219143	31578494	144.1	(4.186 - 5.237)
C16-C21 Arom.	199698	30919014	154.8	(5.237 - 7.304)
C21-C34 Arom.	190205	27644405	145.3	(7.304 - 10.453)

Surrogate Rec: 104.4% 156.6 ug/mL

Data File: \\target\share\chem2\fid8.1\20201001a1iph,b\82030115.D

Date : 02-OCT-2020 00:13

Client ID:

Sample Info: 20HL1PH

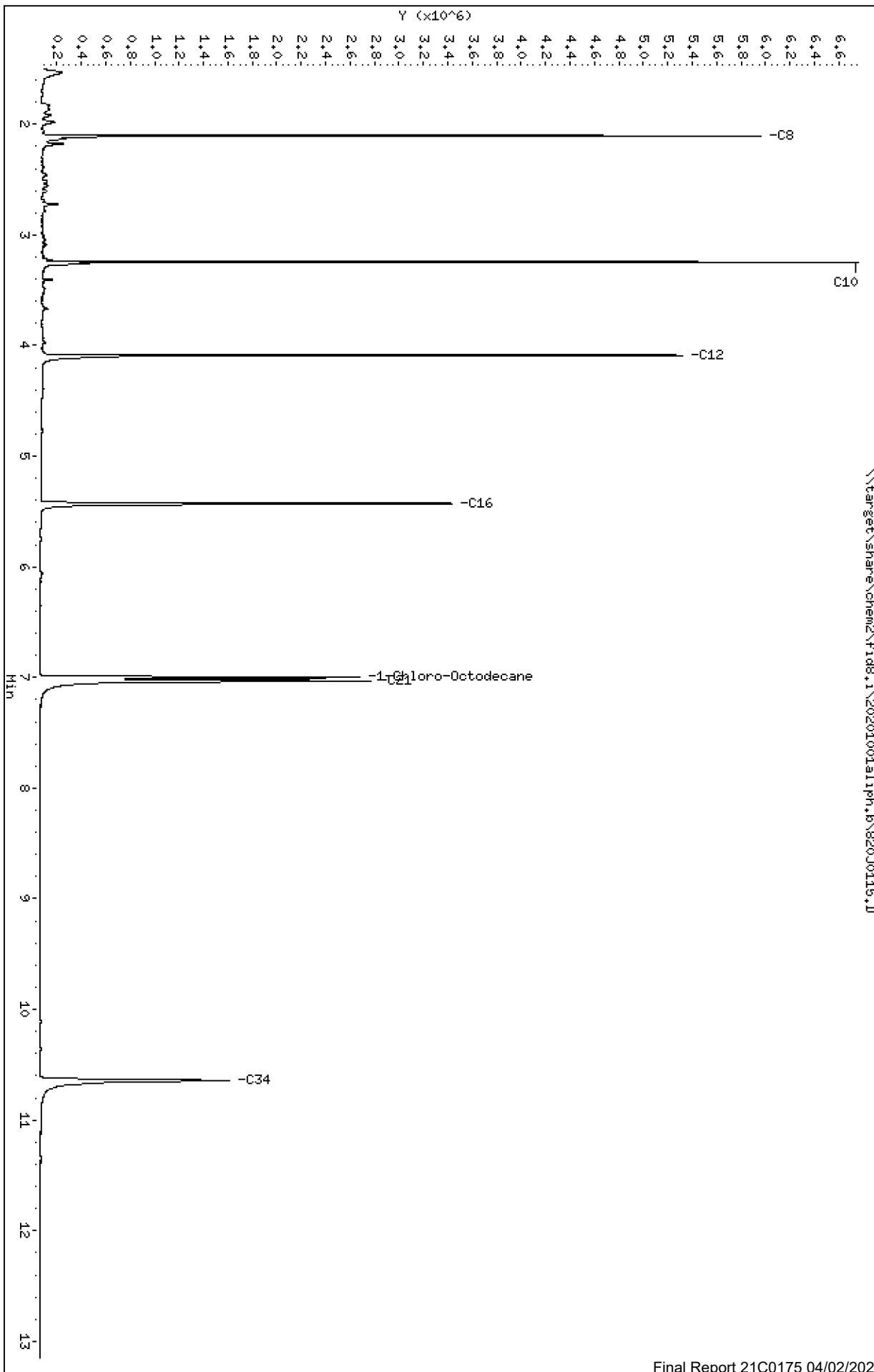
Column phase: RTX-1

Instrument: fid8.1

Operator: JGR

Column diameter: 0.25

Page 1



EPH ALIPHATIC CALIBRATION REPORT

Lab Name: ANALYTICAL RESOURCES, INC.

Lab ID: 20ALIPH

ICal Date: 02-OCT-2020

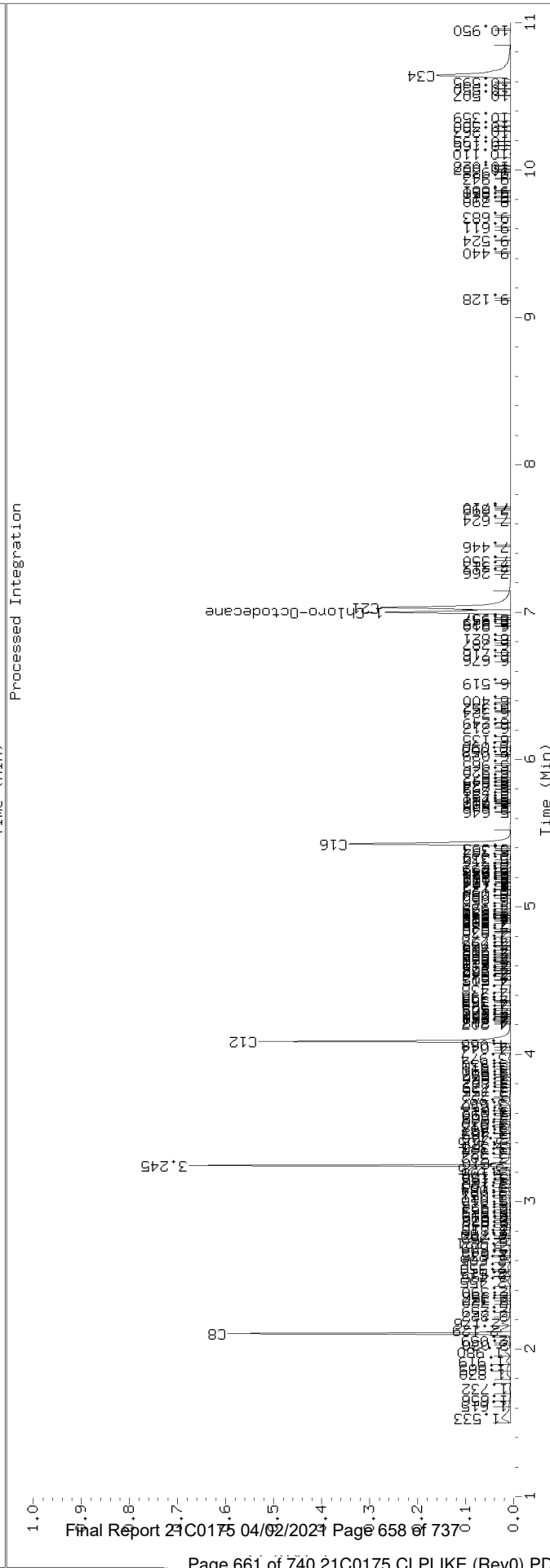
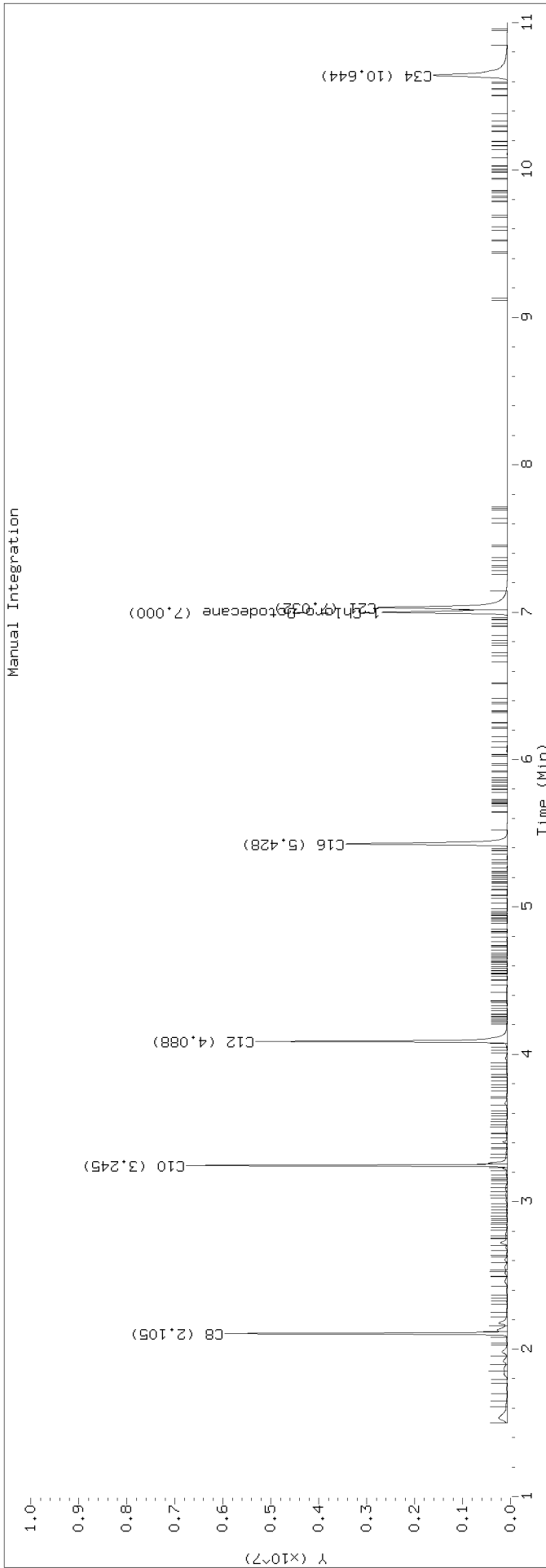
Instrument: FID8.I

Analysis Time: 00:13

Lab File Name: 820J0115.D

Quant Range	Area*	Conc
C8-C10 Aliph.	7055161	36.7
C10-C12 Aliph.	3904943	19.0
C12-C16 Aliph.	3748415	18.5
C16-C21 Aliph.	4047810	20.8
C21-C34 Aliph.	3332321	18.6
Surrogate	2646266	15.7

* From Range Reference Peak(s)



Data File: \\target\share\chem2\fid8.1\20201001a1iph.b\82030116.D

Date: 02-OCT-2020 00:39

Client ID:

Sample Info: 504LPIH

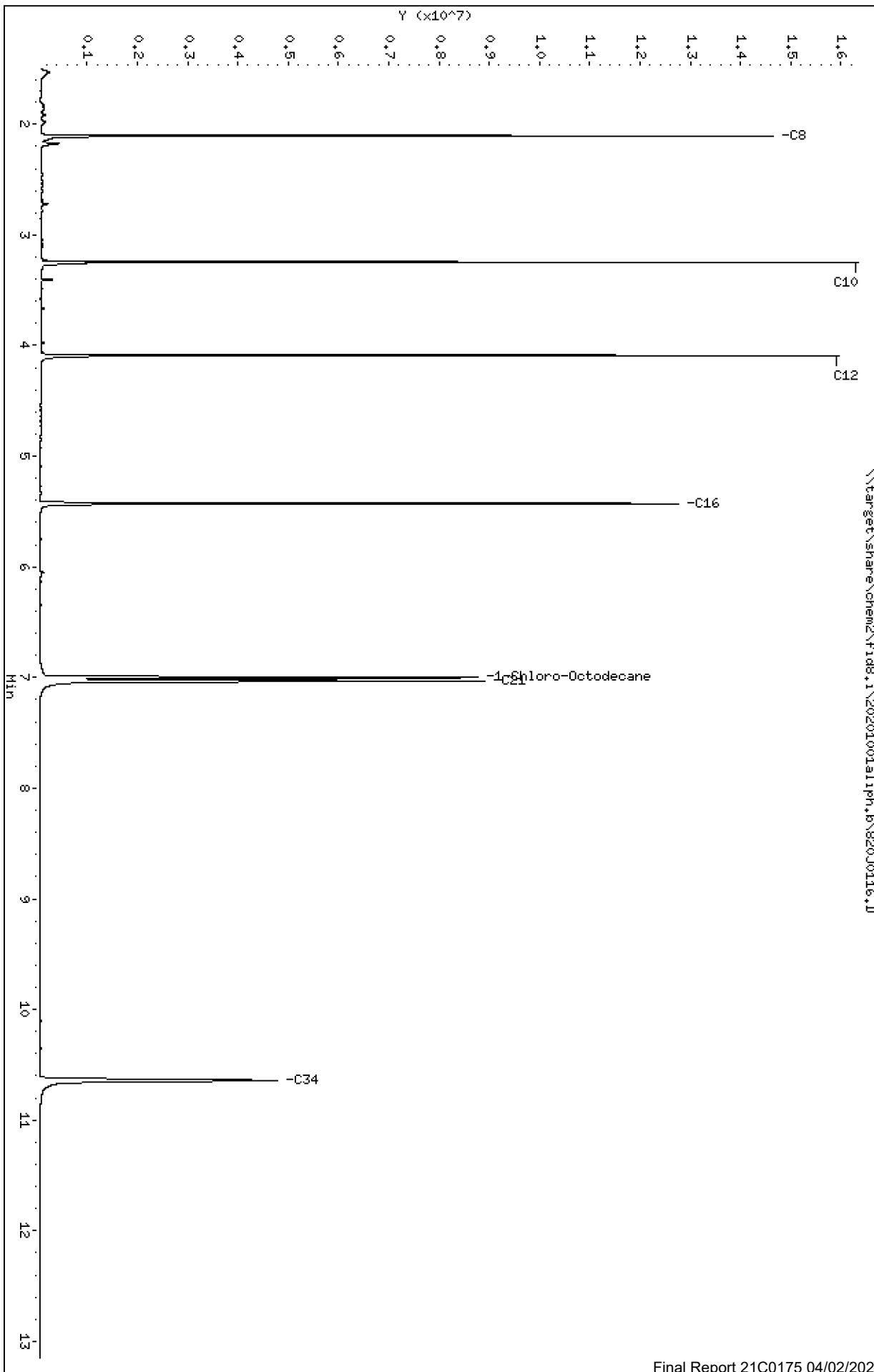
Column phase: RTX-1

Instrument: fid8.1

Operator: JGR

Column diameter: 0.25

Page 1



EPH ALIPHATIC CALIBRATION REPORT

Lab Name: ANALYTICAL RESOURCES, INC.

Lab ID: 50ALPIH

Ical Date: 02-OCT-2020

Instrument: FID8.I

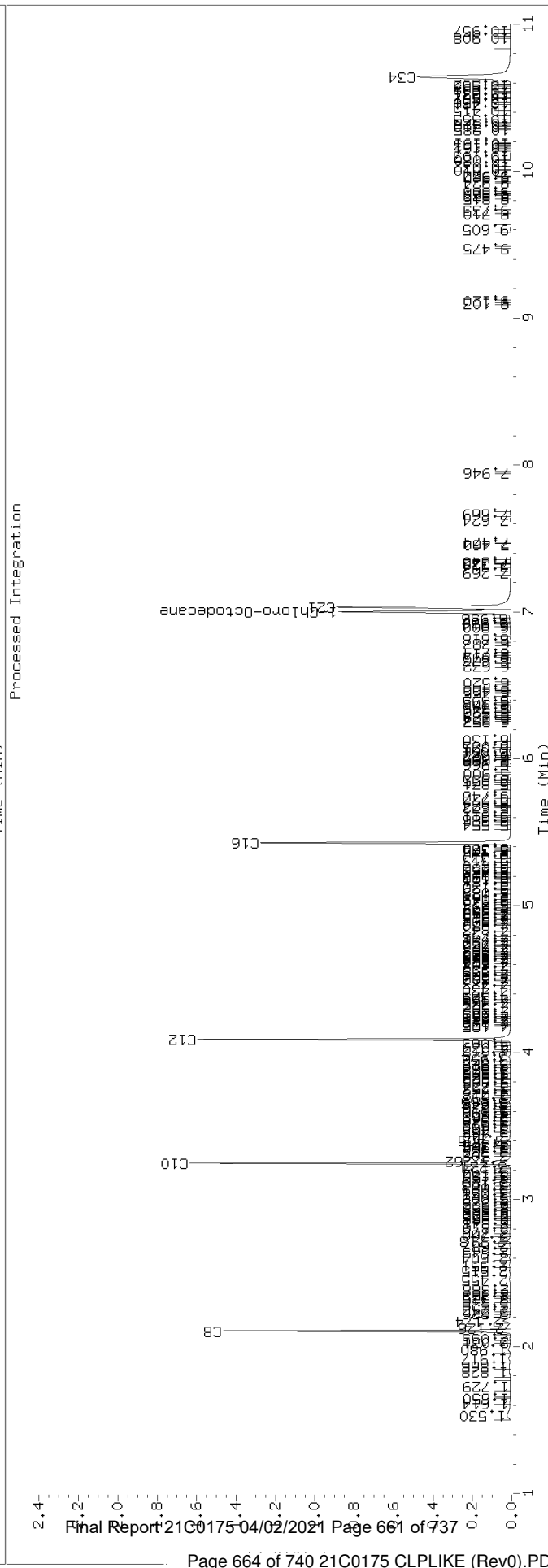
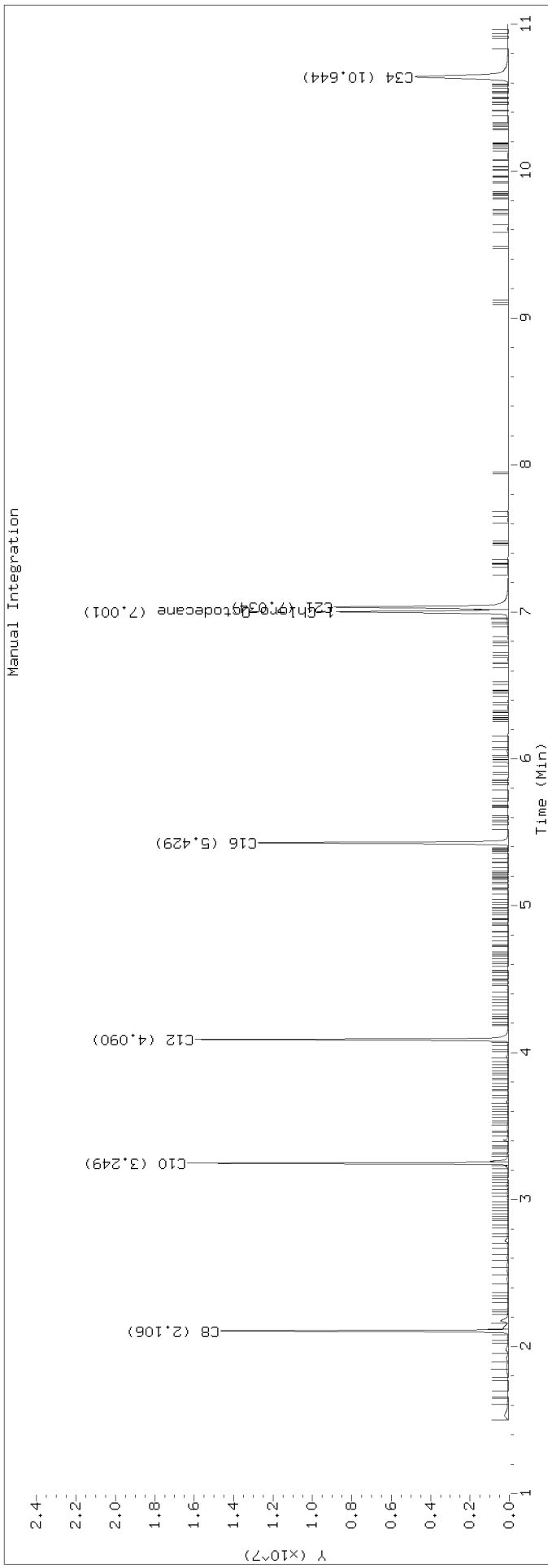
Analysis Time: 00:39

Lab File Name: 820J0116.D

Quant Range	Area*	Conc
C8-C10 Aliph.	17627010	91.6
C10-C12 Aliph.	9545076	46.5
C12-C16 Aliph.	9382326	46.3
C16-C21 Aliph.	9416813	48.3
C21-C34 Aliph.	8354165	46.7
Surrogate	7669940	45.6

* From Range Reference Peak(s)

EPH Aliphatics Manual Integrations Report



Data File: \\target\share\chem2\fid8.1\20201001a1iph,b\82030117.D

Date: 02-OCT-2020 01:04

Client ID:

Sample Info: 100ALIPH

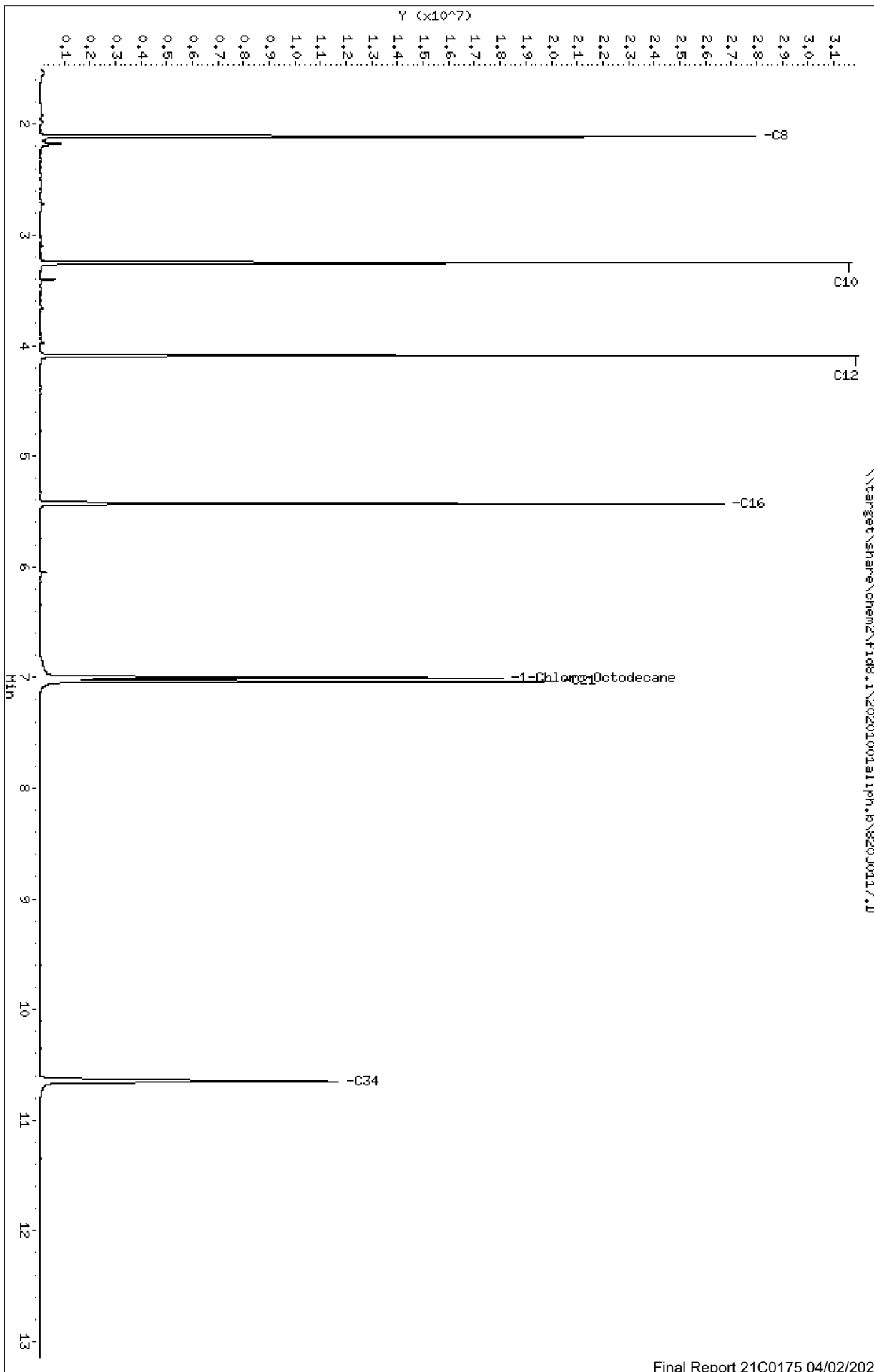
Column phase: RTX-1

Instrument: fid8.1

Operator: JGR

Column diameter: 0.25

Page 1



EPH ALIPHATIC CALIBRATION REPORT

Lab Name: ANALYTICAL RESOURCES, INC.

Lab ID: 100ALIPH

ICal Date: 02-OCT-2020

Instrument: FID8.I

Analysis Time: 01:04

Lab File Name: 820J0117.D

Quant Range	Area*	Conc
C8-C10 Aliph.	38899569	202.0
C10-C12 Aliph.	20696656	100.8
C12-C16 Aliph.	20643972	102.0
C16-C21 Aliph.	19424591	99.6
C21-C34 Aliph.	18220942	101.8
Surrogate	17496683	104.1

* From Range Reference Peak(s)

Data File: \\target\share\chem2\fid8.1\20201001a1iph,b\82030118.D

Date: 02-OCT-2020 01:29

Client ID:

Sample Info: 1256LIPH

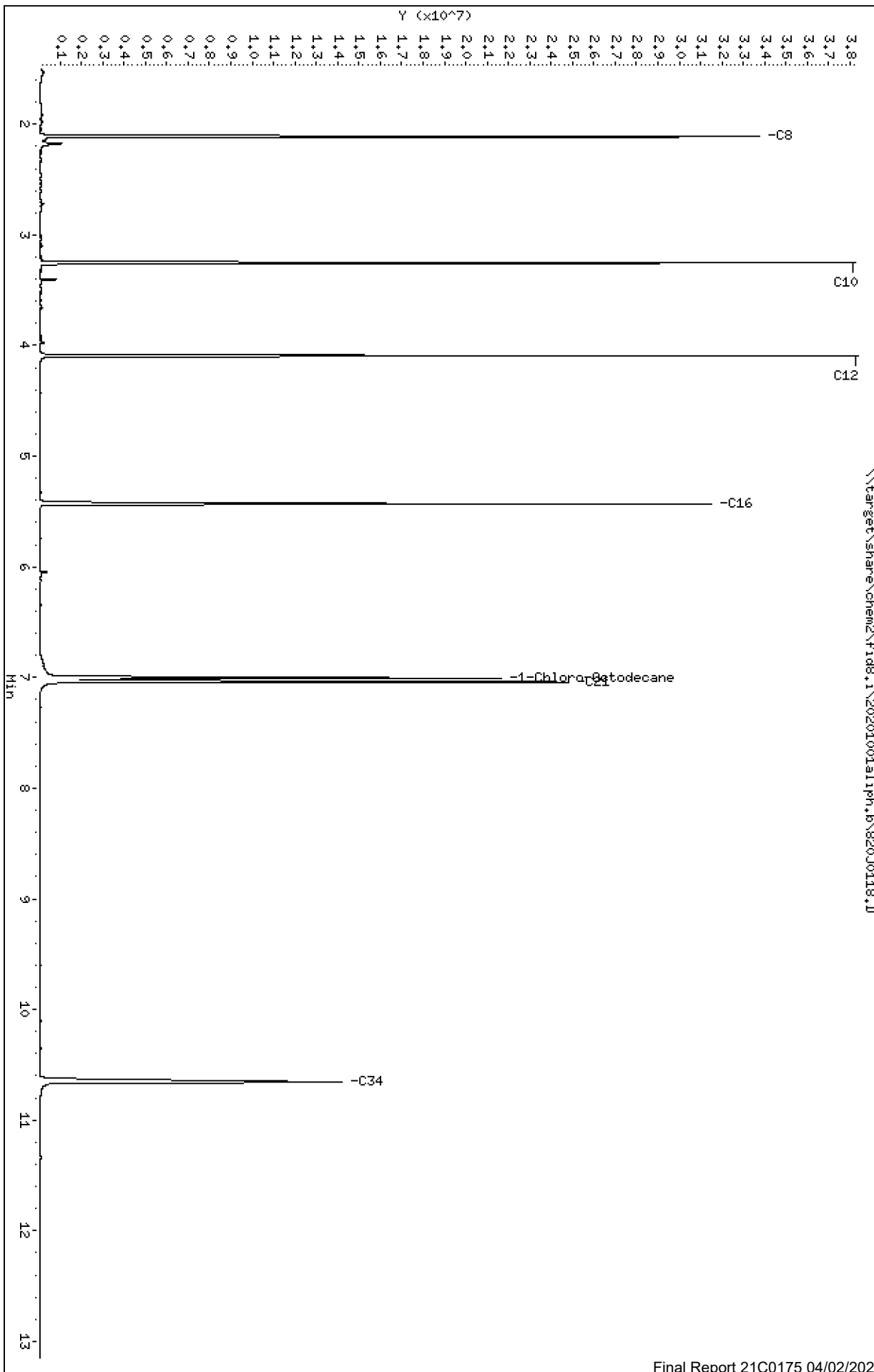
Column phase: RTX-1

Instrument: fid8.1

Operator: JGR

Column diameter: 0.25

Page 1



EPH ALIPHATIC CALIBRATION REPORT

Lab Name: ANALYTICAL RESOURCES, INC.

Lab ID: 125ALIPH

ICal Date: 02-OCT-2020

Instrument: FID8.I

Analysis Time: 01:29

Lab File Name: 820J0118.D

Quant Range	Area*	Conc
C8-C10 Aliph.	49525474	257.2
C10-C12 Aliph.	25516440	124.3
C12-C16 Aliph.	25101340	124.0
C16-C21 Aliph.	23780069	121.9
C21-C34 Aliph.	22633357	126.4
Surrogate	21668625	129.0

* From Range Reference Peak(s)

Data File: \\target\share\chem2\fid8.1\20201001a1iph.b\82030119.D

Date: 02-OCT-2020 01:54

Client ID:

Sample Info: 150ALIPH

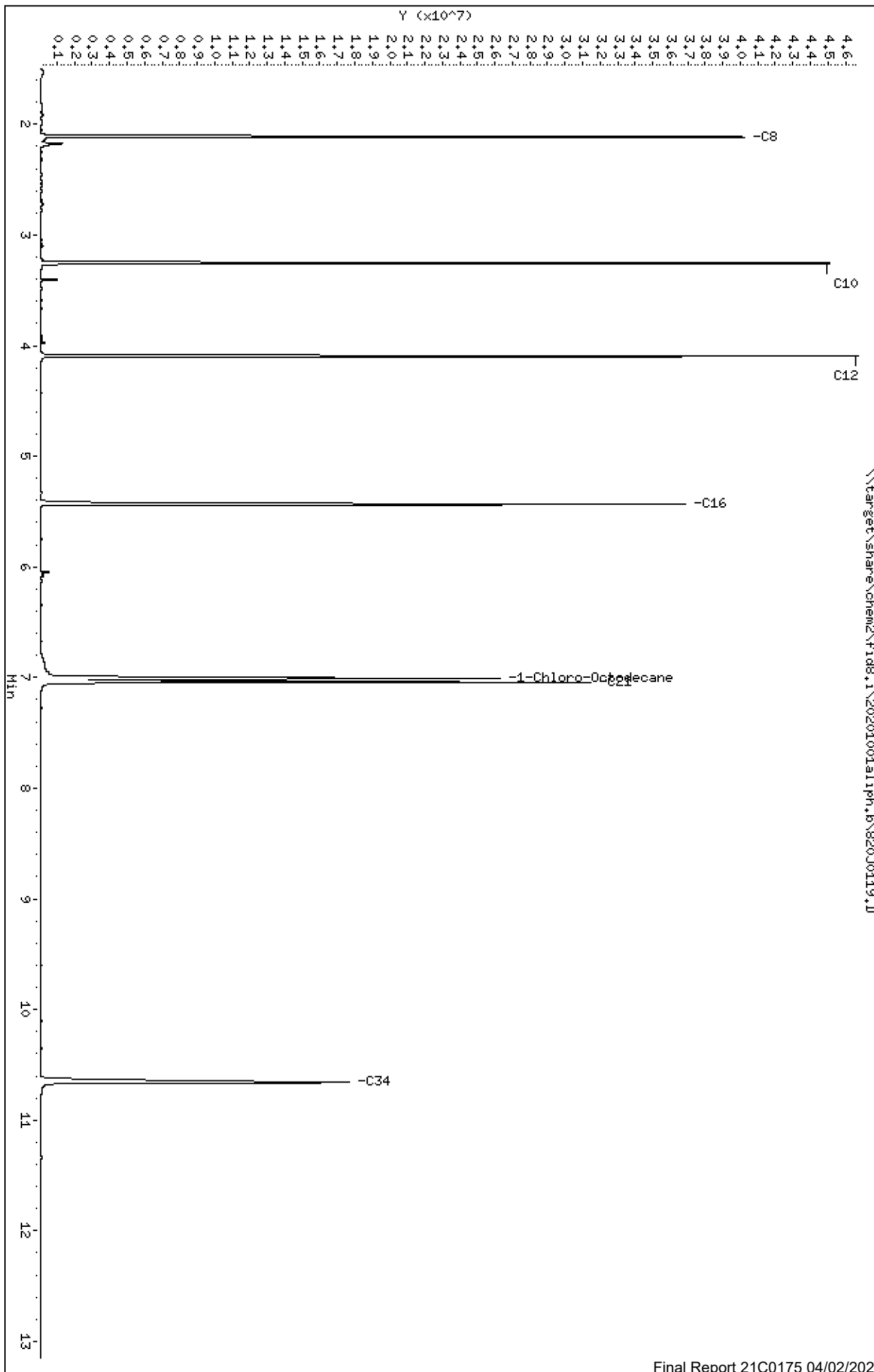
Column phase: RTX-1

Instrument: fid8.1

Operator: JGR

Column diameter: 0.25

Page 1



EPH ALIPHATIC CALIBRATION REPORT

Lab Name: ANALYTICAL RESOURCES, INC.

Lab ID: 150ALIPH

ICal Date: 02-OCT-2020

Instrument: FID8.I

Analysis Time: 01:54

Lab File Name: 820J0119.D

Quant Range	Area*	Conc
C8-C10 Aliph.	61999370	321.9
C10-C12 Aliph.	32654331	159.1
C12-C16 Aliph.	32508557	160.6
C16-C21 Aliph.	30045631	154.0
C21-C34 Aliph.	27941927	156.1
Surrogate	27816978	165.6

* From Range Reference Peak(s)

Data File: \\target\share\chem2\fid8.1\20201001a1iph,b\82030120.D

Date: 02-OCT-2020 02:19

Client ID:

Sample Info: 2000ALIPH

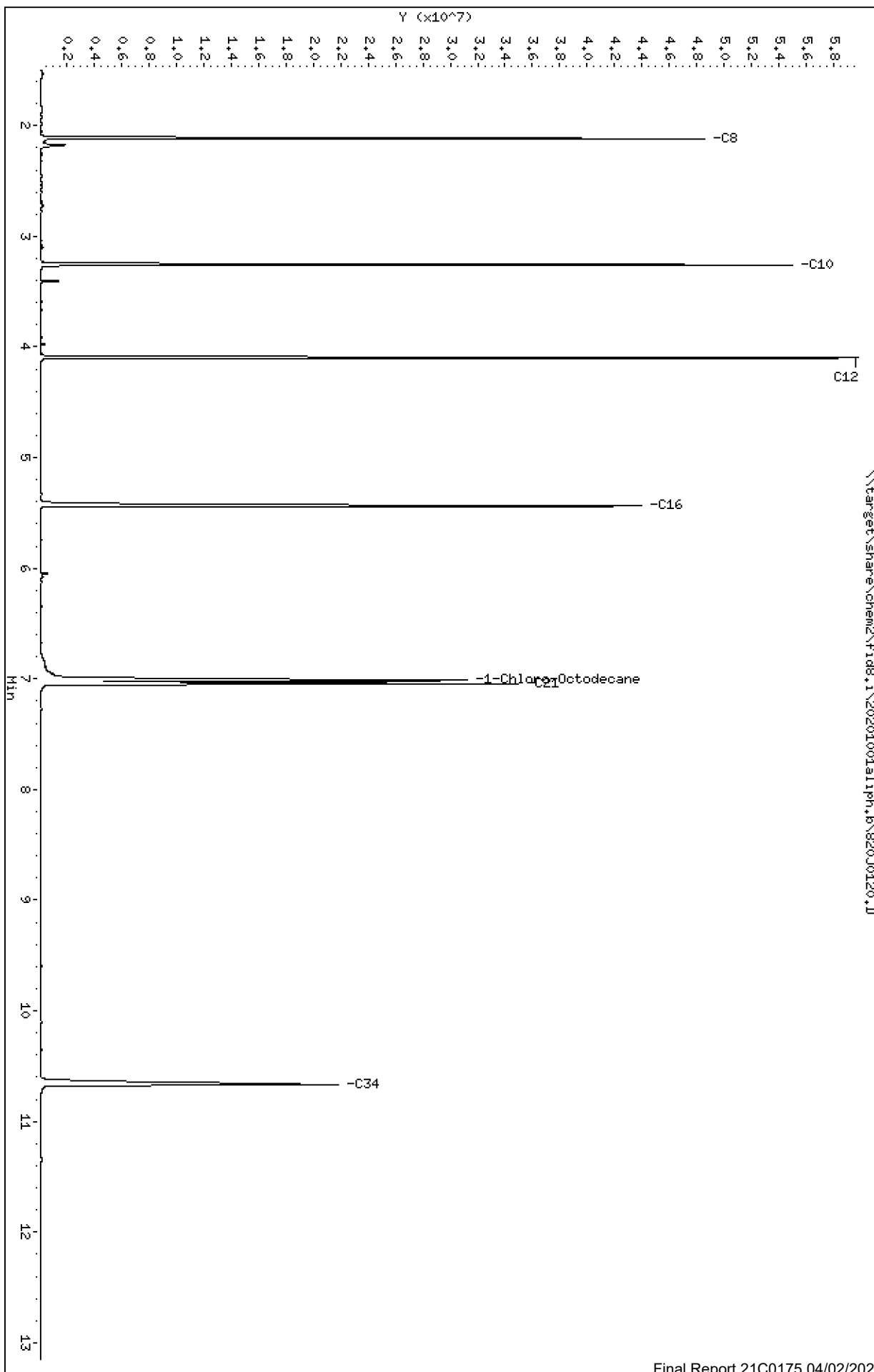
Column phase: RTX-1

Instrument: fid8.1

Operator: JGR

Column diameter: 0.25

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EPH ALIPHATIC CALIBRATION REPORT

Lab Name: ANALYTICAL RESOURCES, INC.

Lab ID: 200ALIPH

Ical Date: 02-OCT-2020

Instrument: FID8.I

Analysis Time: 02:19

Lab File Name: 820J0120.D

Quant Range	Area*	Conc
C8-C10 Aliph.	81286980	422.0
C10-C12 Aliph.	43375398	211.3
C12-C16 Aliph.	43135136	213.1
C16-C21 Aliph.	38959755	199.7
C21-C34 Aliph.	38178185	213.3
Surrogate	37729526	224.6

* From Range Reference Peak(s)

Data File: \\target\share\chem2\fid8.1\20201001a1iph.b\82030121.D

Date : 02-OCT-2020 02:45

Client ID:

Sample Info: ALIPHSC2

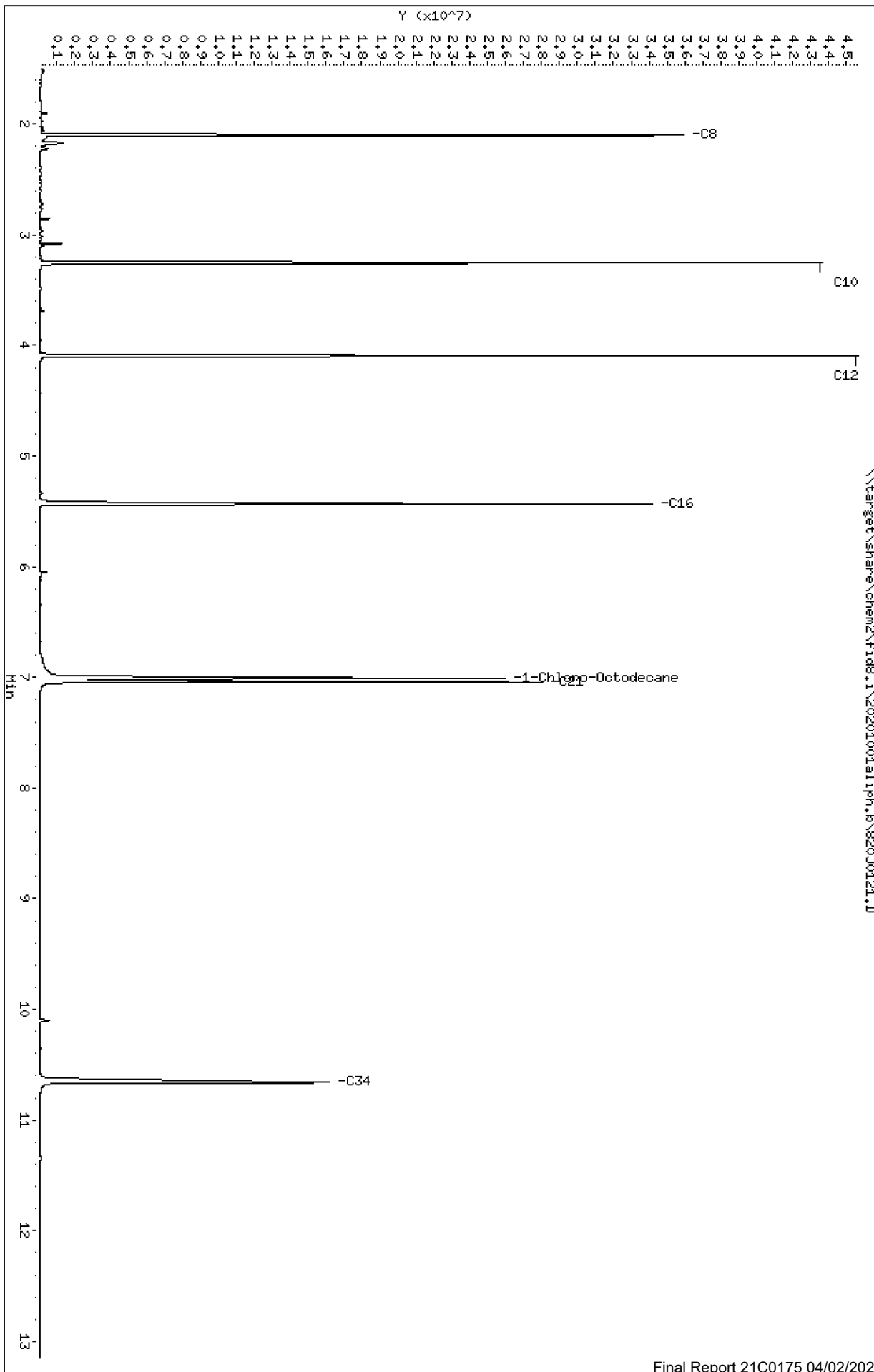
Column phase: RTX-1

Instrument: fid8.1

Operator: JGR

Column diameter: 0.25

Page 1



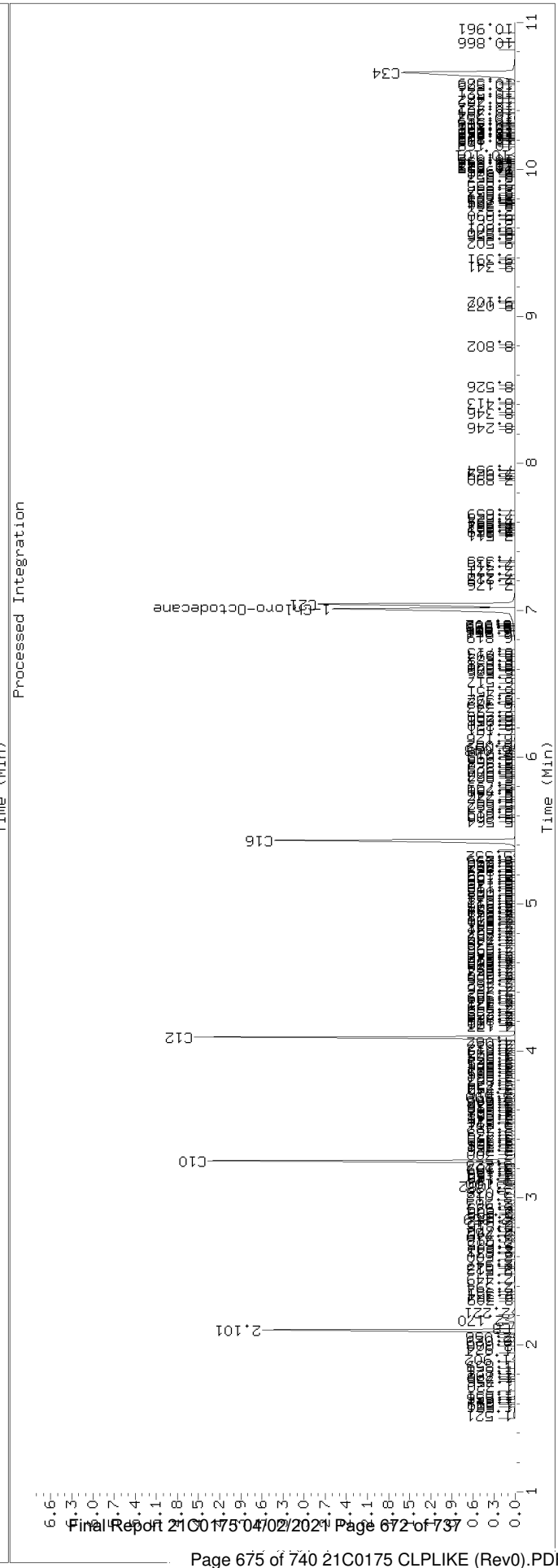
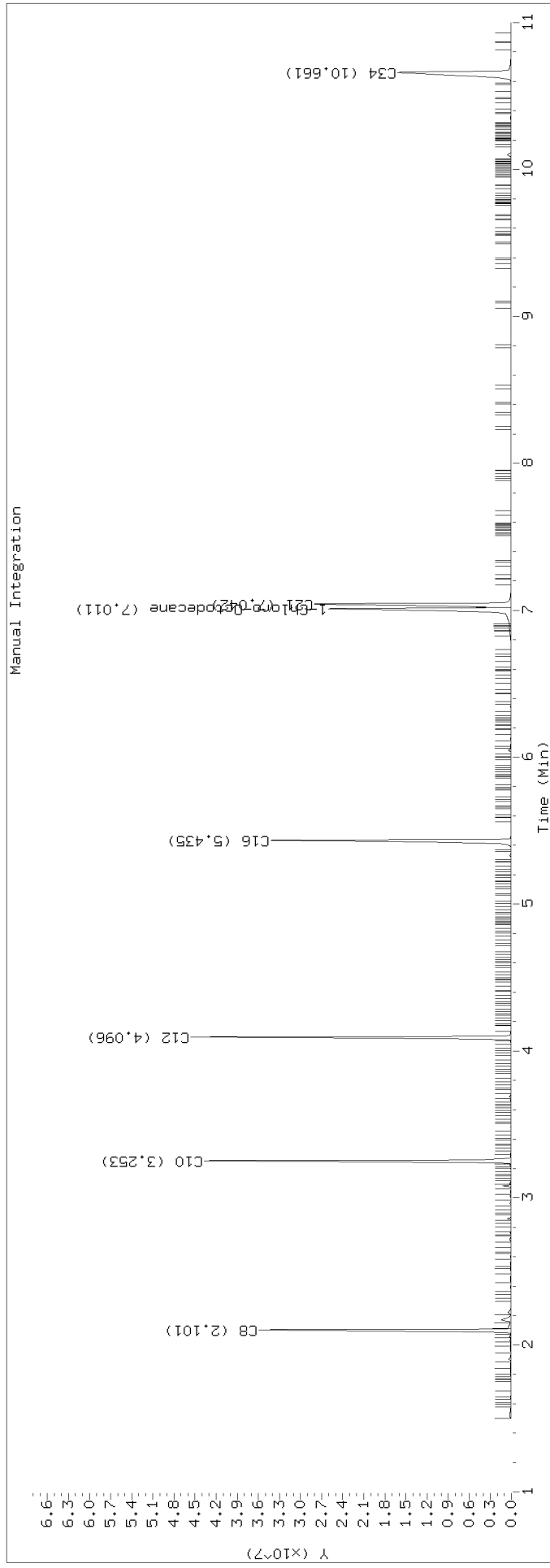
Analytical Resources Inc.
WA. EPH Aliphatics Report

Data file: 20201001aliph.b/820J0121.D
Method: 20201001aliph.b\EPHALiph.m
Instrument: fid8.i
Operator: JGR
Macro: ALIPH020217FID8

ARI ID: ALIPHSC2
Client ID:
Injection: 02-OCT-2020 02:45
Matrix: NONE
Dilution Factor: 1

EPH-ALIPHATIC RESULTS

Quant	Range	Area	Conc	Time Range
C8-C10	Aliph.	61966510	321.9	(2.018 - 3.359)
C10-C12	Aliph.	31342373	152.7	(3.359 - 4.199)
C12-C16	Aliph.	31575101	156.0	(4.199 - 5.538)
C16-C21	Aliph.	29727101	152.4	(5.538 - 7.147)
C21-C34	Aliph.	28321380	158.2	(7.147 - 10.769)
Surrogate Rec: 116.1%		174.2 ug/mL		





SECOND-SOURCE CALIBRATION VERIFICATION WA EPH

Laboratory: Analytical Resources, Inc.

Client: Anchor QEA, LLC

Calibration: DJ00015

Sequence: SIJ0055

SDG: 21C0175

Project: GascoSiltronic: US Moorings

Laboratory ID: SIJ0055-SCV2

Sequence Name: ALIPH SCV

Standard ID: I005686

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DRIFT	QC LIMIT
C10-C12 Aliphatics	125.00	153	22.2	30.00
1-Chloro-octadecane	125.00	174	39.4 *	30.00

* Indicates values outside of QC limits

Data File: \\target\share\chem2\fid8.1\20201001a1iph,b\82030121.D

Date : 02-OCT-2020 02:45

Client ID:

Sample Info: ALIPHSC2

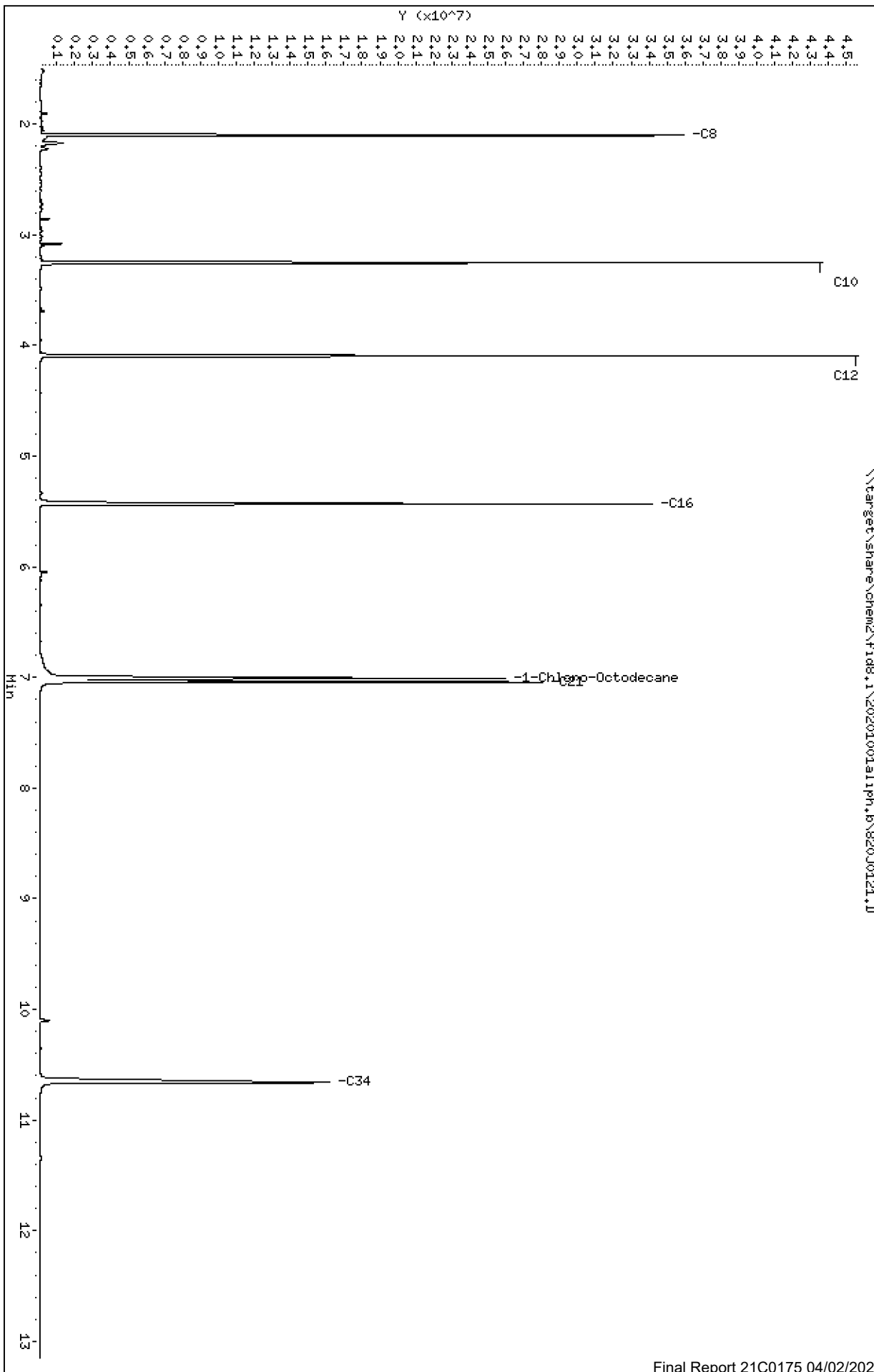
Column phase: RTX-1

Instrument: fid8.1

Operator: JGR

Column diameter: 0.25

Page 1



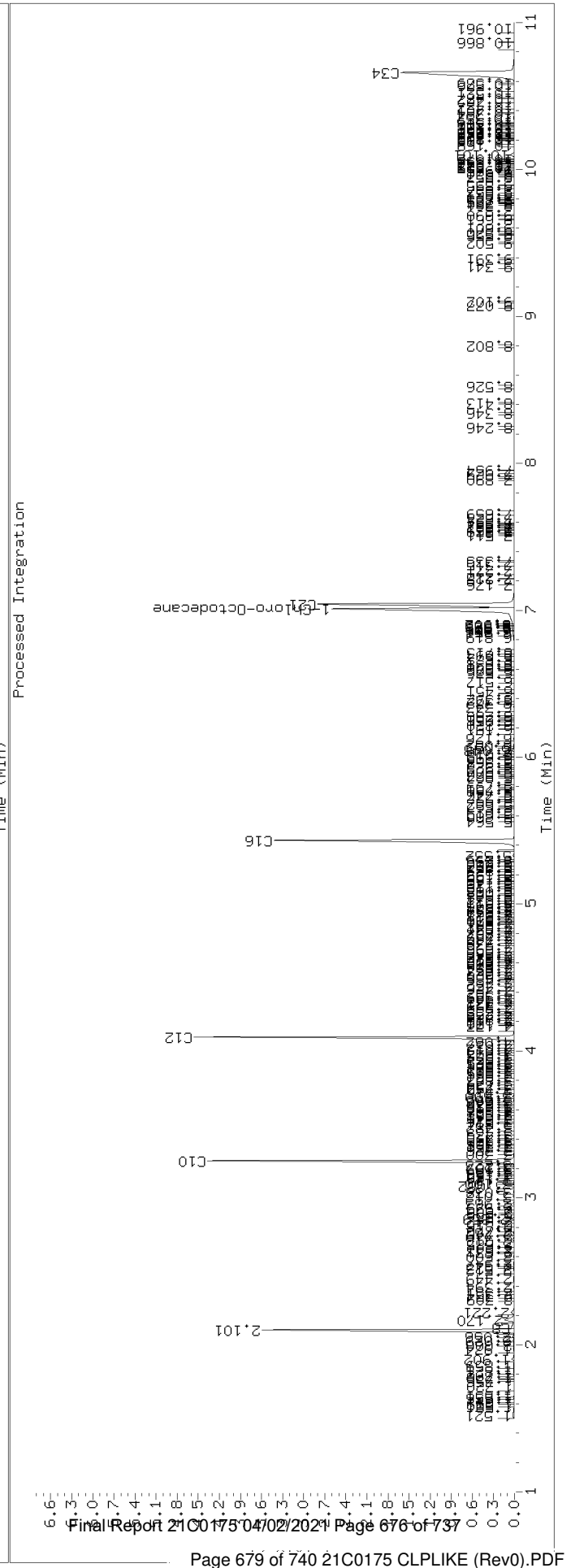
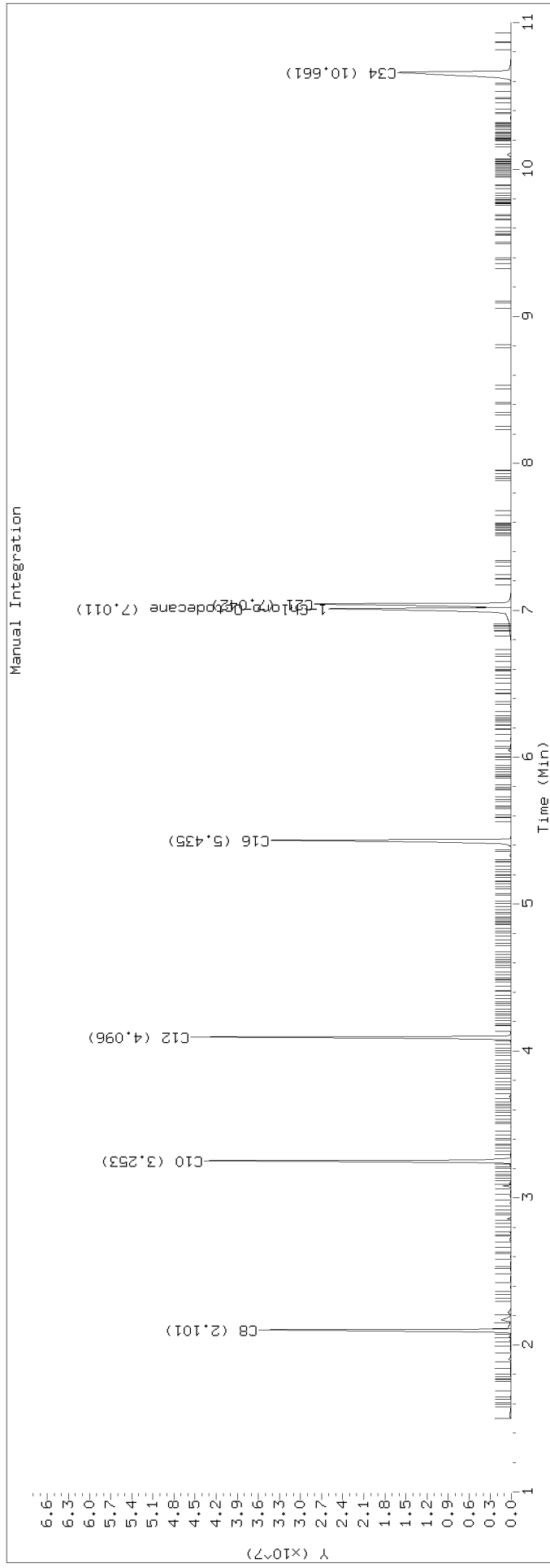
Analytical Resources Inc.
WA. EPH Aliphatics Report

Data file: 20201001aliph.b/820J0121.D
Method: 20201001aliph.b\EPHALiph.m
Instrument: fid8.i
Operator: JGR
Macro: ALIPH020217FID8

ARI ID: ALIPHSC2
Client ID:
Injection: 02-OCT-2020 02:45
Matrix: NONE
Dilution Factor: 1

EPH-ALIPHATIC RESULTS

Quant	Range	Area	Conc	Time Range
C8-C10	Aliph.	61966510	321.9	(2.018 - 3.359)
C10-C12	Aliph.	31342373	152.7	(3.359 - 4.199)
C12-C16	Aliph.	31575101	156.0	(4.199 - 5.538)
C16-C21	Aliph.	29727101	152.4	(5.538 - 7.147)
C21-C34	Aliph.	28321380	158.2	(7.147 - 10.769)
Surrogate Rec: 116.1%		174.2 ug/mL		



Data File: \\target\share\chem2\fid8.1\20210328a11ph.b\821C2820.D

Date: 28-MAR-2021 18:05

Client ID:

Sample Info: ALIPHICV2

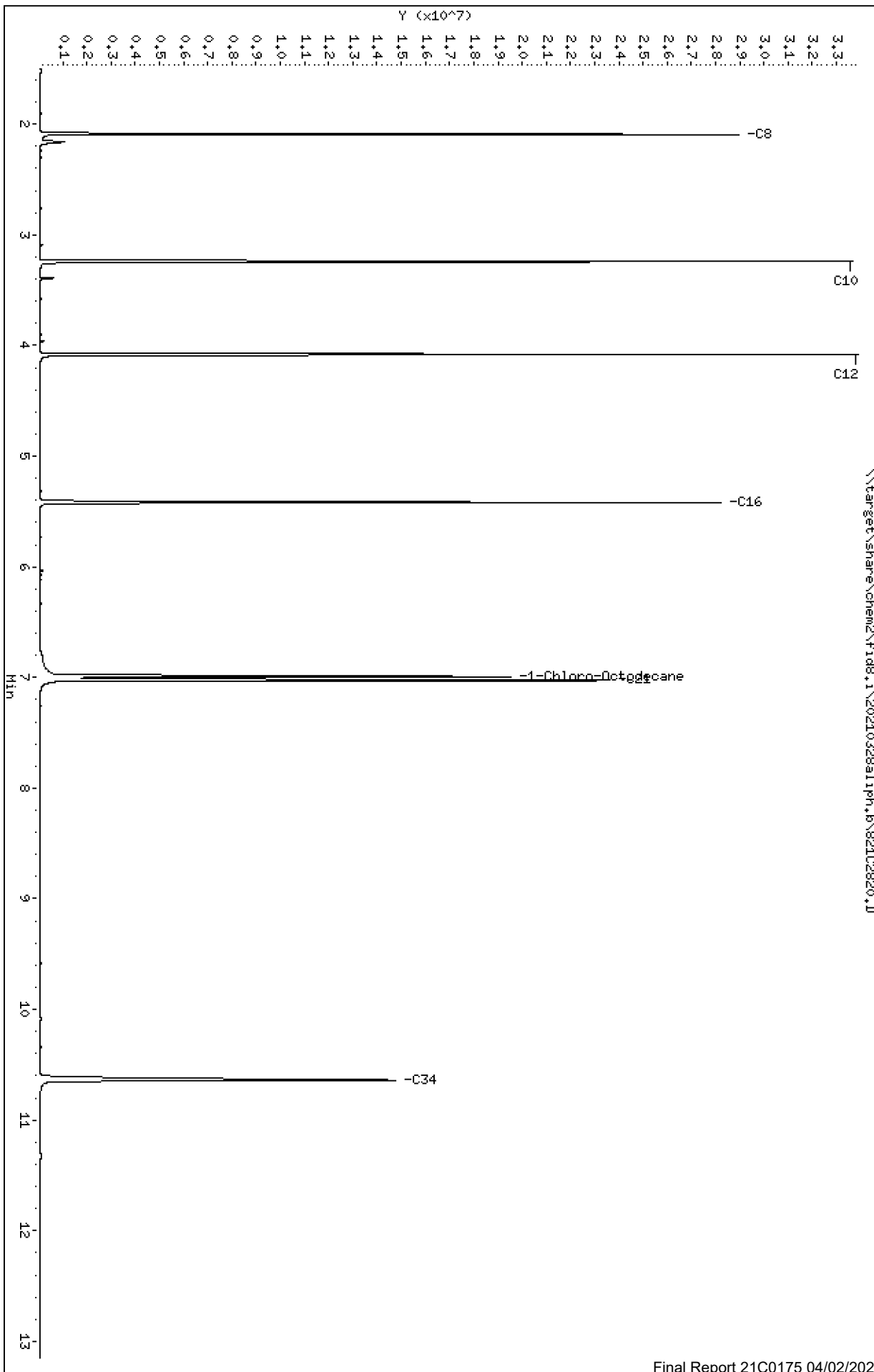
Column phase: RTX-1

Instrument: fid8.1

Operator: JGR

Column diameter: 0.25

Page 1



Analytical Resources Inc.
WA. EPH Aliphatics Report

Data file: 20210328aliph.b/821C2820.D
Method: 20210328aliph.b\EPHALiph.m
Instrument: fid8.i
Operator: JGR
Macro: ALIPH020217FID8

ARI ID: ALIPHICV2
Client ID:
Injection: 28-MAR-2021 18:05
Matrix: NONE
Dilution Factor: 1

EPH-ALIPHATIC RESULTS

Quant Range	Area	Conc	Time Range
C8-C10 Aliph.	44760720	232.5	(2.001 - 3.348)
C10-C12 Aliph.	23565723	114.8	(3.348 - 4.191)
C12-C16 Aliph.	22912293	113.2	(4.191 - 5.530)
C16-C21 Aliph.	23869929	122.4	(5.530 - 7.137)
C21-C34 Aliph.	22744430	127.0	(7.137 - 10.756)
Surrogate Rec:	75.8%	113.7 ug/mL	

Analytical Resources Inc.
WA. EPH Aliphatics Report

Data file: 20210330aliph.b/821C3004.D
Method: 20210330aliph.b\EPHALiph.m
Instrument: fid8.i
Operator: JGR
Macro: ALIPH020217FID8

ARI ID: ALIPHICV2
Client ID:
Injection: 30-MAR-2021 13:16
Matrix: NONE
Dilution Factor: 1

EPH-ALIPHATIC RESULTS

Quant	Range	Area	Conc	Time Range
C8-C10	Aliph.	47103551	244.7	(2.001 - 3.348)
C10-C12	Aliph.	24794516	120.8	(3.348 - 4.191)
C12-C16	Aliph.	24270256	119.9	(4.191 - 5.530)
C16-C21	Aliph.	25253360	129.5	(5.530 - 7.137)
C21-C34	Aliph.	22930824	128.1	(7.137 - 10.756)
Surrogate Rec: 80.0% 120.0 ug/mL				

Data File: \\target\share\chem2\fid8.1\20201001a1iph,b\82030121.D

Date: 02-OCT-2020 02:45

Client ID:

Sample Info: ALIPHSC2

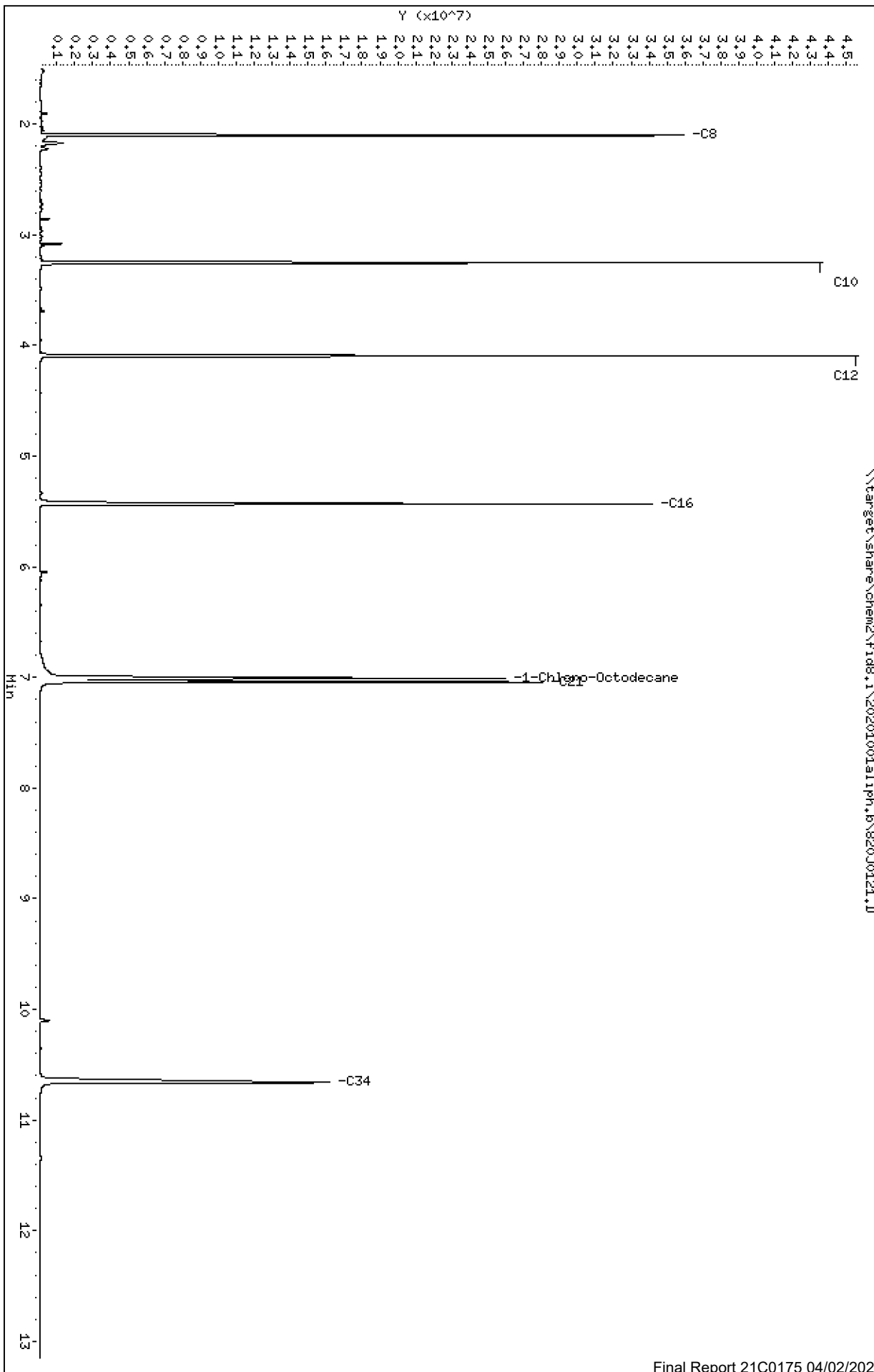
Column phase: RTX-1

Instrument: fid8.1

Operator: JGR

Column diameter: 0.25

Page 1



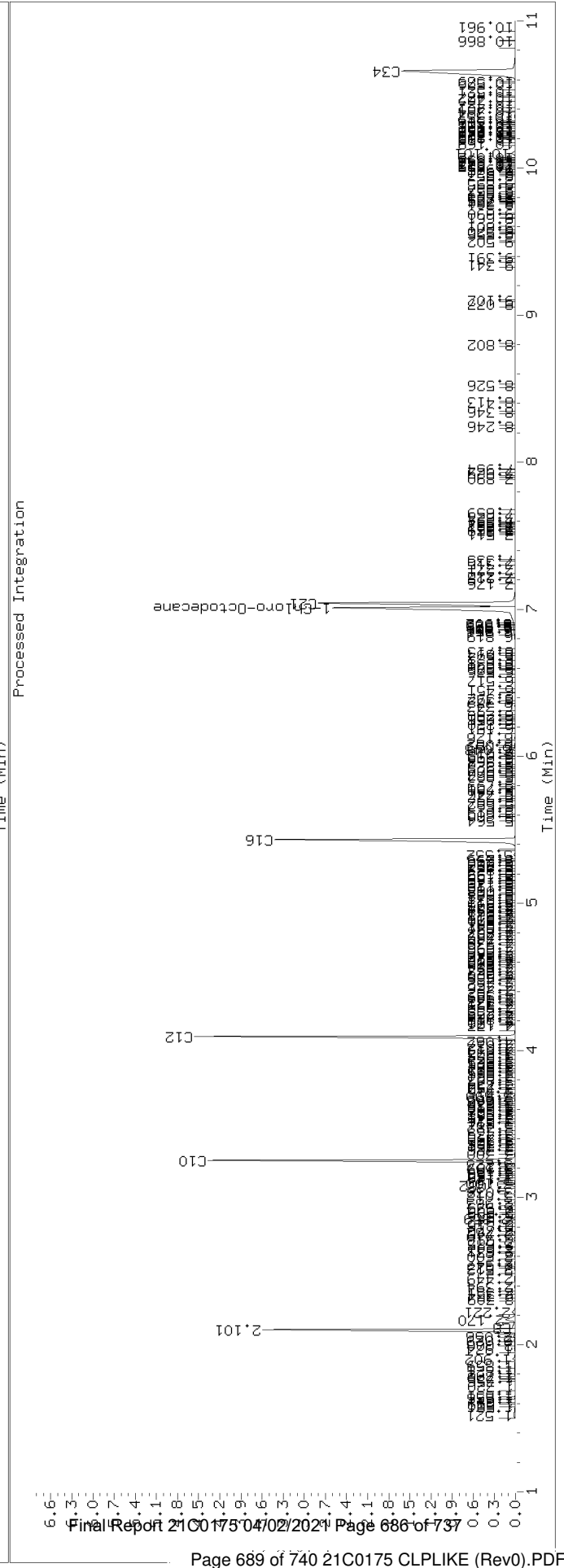
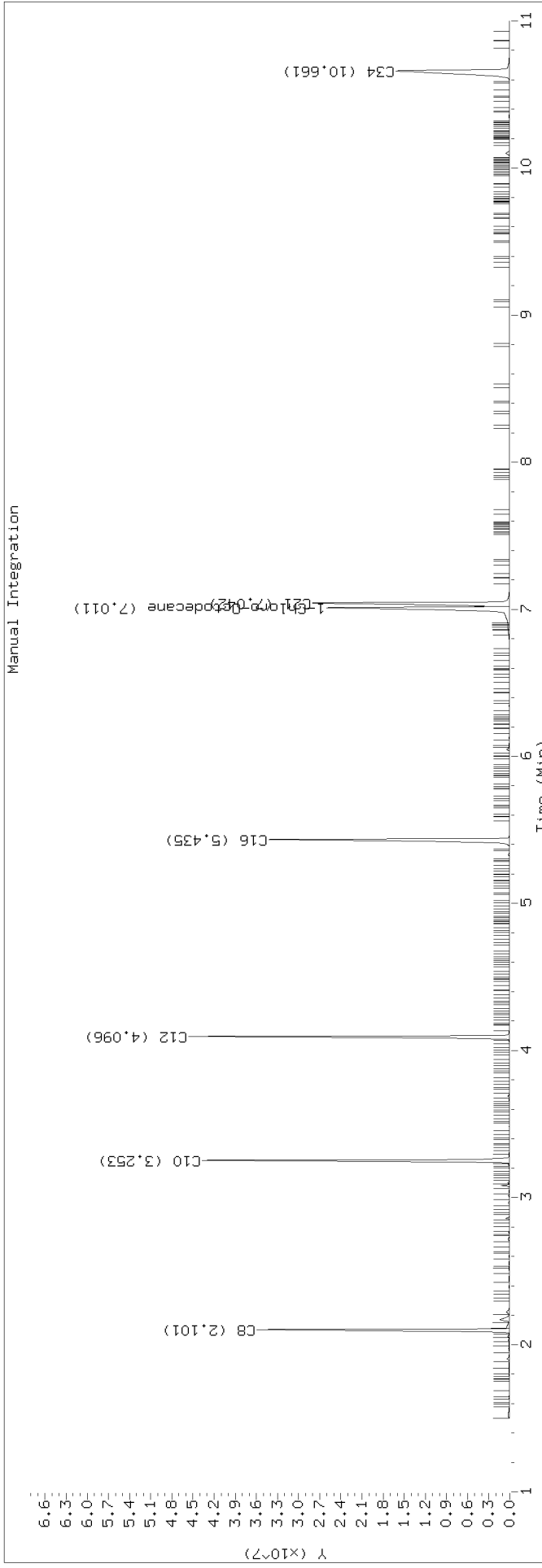
Analytical Resources Inc.
WA. EPH Aliphatics Report

Data file: 20201001aliph.b/820J0121.D
Method: 20201001aliph.b\EPHALiph.m
Instrument: fid8.i
Operator: JGR
Macro: ALIPH020217FID8

ARI ID: ALIPHSC2
Client ID:
Injection: 02-OCT-2020 02:45
Matrix: NONE
Dilution Factor: 1

EPH-ALIPHATIC RESULTS

Quant Range	Area	Conc	Time Range
C8-C10 Aliph.	61966510	321.9	(2.018 - 3.359)
C10-C12 Aliph.	31342373	152.7	(3.359 - 4.199)
C12-C16 Aliph.	31575101	156.0	(4.199 - 5.538)
C16-C21 Aliph.	29727101	152.4	(5.538 - 7.147)
C21-C34 Aliph.	28321380	158.2	(7.147 - 10.769)
Surrogate Rec: 116.1% 174.2 ug/mL			



Data File: \\target\share\chem2\fid8.1\20210328a11ph.b\821C2834.D

Date: 28-MAR-2021 23:48

Client ID:

Sample Info: ALIPHCCV2

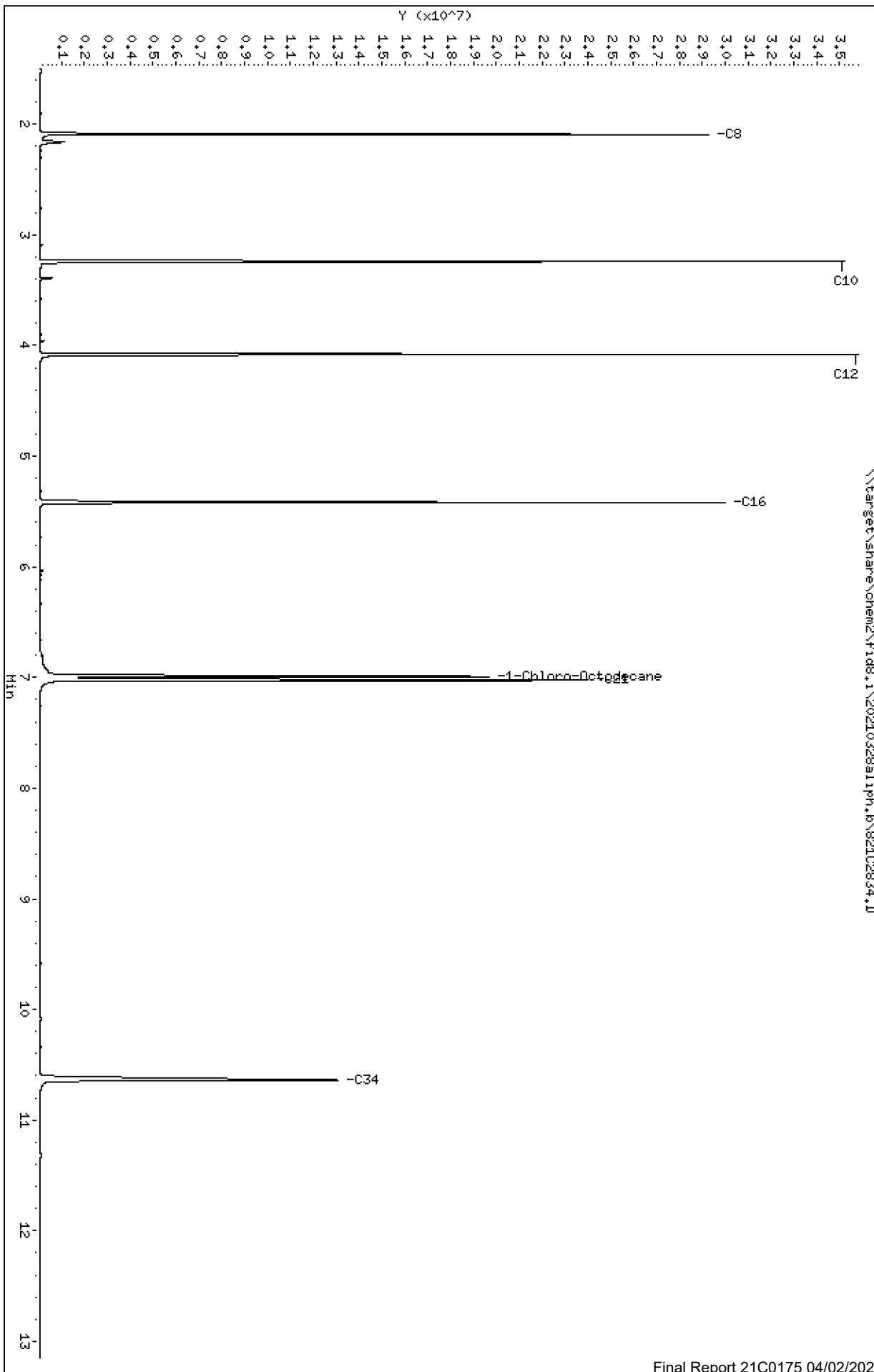
Column phase: RTX-1

Instrument: fid8.1

Operator: JGR

Column diameter: 0.25

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Analytical Resources Inc.
WA. EPH Aliphatics Report

Data file: 20210328aliph.b/821C2834.D
Method: 20210328aliph.b\EPHALiph.m
Instrument: fid8.i
Operator: JGR
Macro: ALIPH020217FID8

ARI ID: ALIPHCCV2
Client ID:
Injection: 28-MAR-2021 23:48
Matrix: NONE
Dilution Factor: 1

EPH-ALIPHATIC RESULTS

Quant Range	Area	Conc	Time Range
C8-C10 Aliph.	45304039	235.3	(2.001 - 3.348)
C10-C12 Aliph.	23879149	116.3	(3.348 - 4.191)
C12-C16 Aliph.	23165057	114.4	(4.191 - 5.530)
C16-C21 Aliph.	24216462	124.2	(5.530 - 7.137)
C21-C34 Aliph.	21999284	122.9	(7.137 - 10.756)
Surrogate Rec:	75.1%	112.7 ug/mL	

Data File: \\target\share\chem2\fid8.1\20210330a11ph.b\821C3018.D

Date: 30-MAR-2021 19:08

Client ID:

Sample Info: ALIPHCCV2

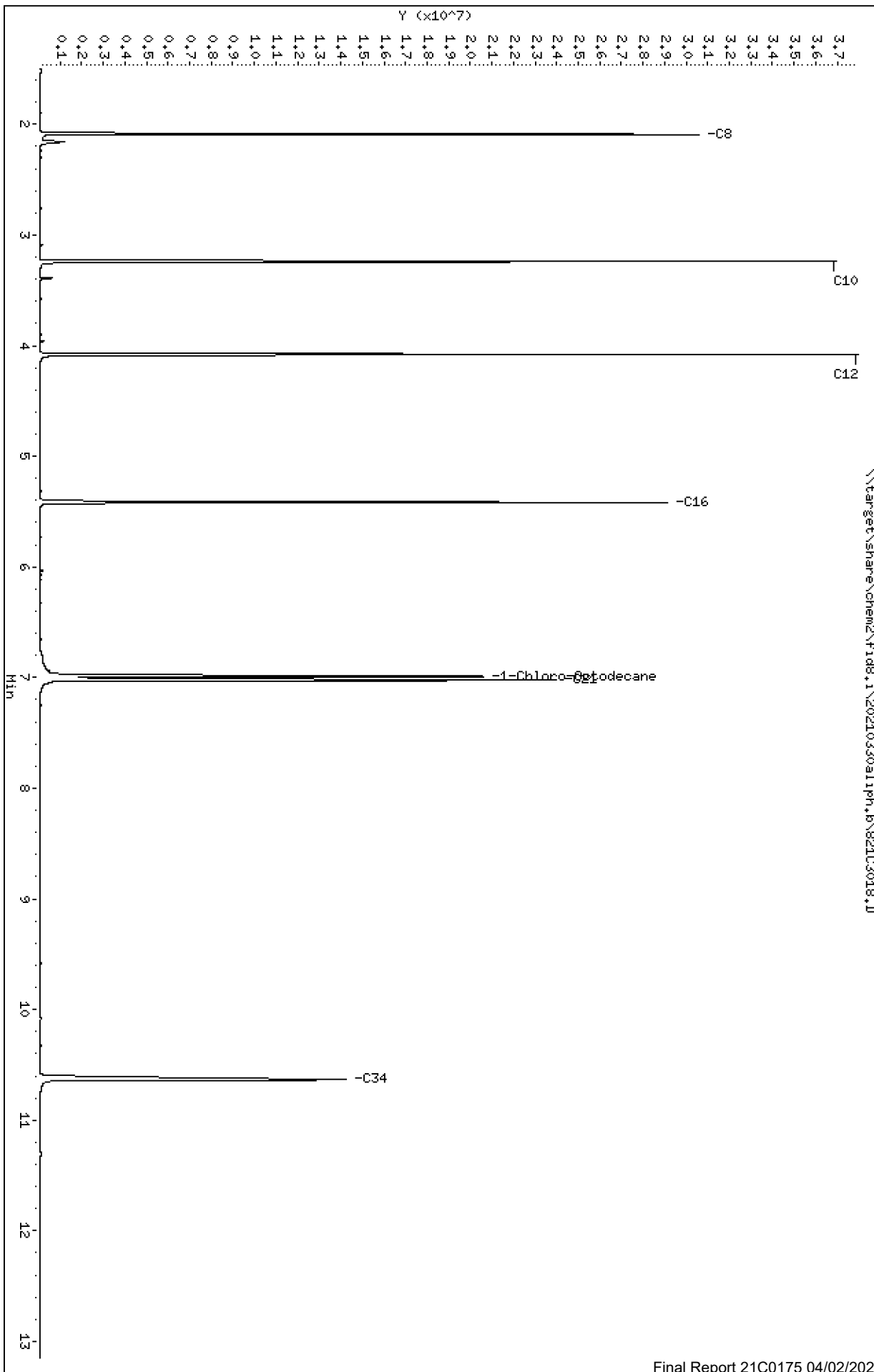
Column phase: RTX-1

Instrument: fid8.1

Operator: JGR

Column diameter: 0.25

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Analytical Resources Inc.
WA. EPH Aliphatics Report

Data file: 20210330aliph.b/821C3018.D
Method: 20210330aliph.b\EPHALiph.m
Instrument: fid8.i
Operator: JGR
Macro: ALIPH020217FID8

ARI ID: ALIPHCCV2
Client ID:
Injection: 30-MAR-2021 19:08
Matrix: NONE
Dilution Factor: 1

EPH-ALIPHATIC RESULTS

Quant	Range	Area	Conc	Time Range
C8-C10	Aliph.	48462998	251.7	(2.001 - 3.348)
C10-C12	Aliph.	25534927	124.4	(3.348 - 4.191)
C12-C16	Aliph.	24877861	122.9	(4.191 - 5.530)
C16-C21	Aliph.	25630528	131.4	(5.530 - 7.137)
C21-C34	Aliph.	23665638	132.2	(7.137 - 10.756)
Surrogate Rec:		80.4%	120.6 ug/mL	



ANALYSIS BATCH (SEQUENCE) SUMMARY

WA EPH

Laboratory: Analytical Resources, Inc.

SDG: 21C0175

Client: Anchor QEA, LLC

Project: GascoSiltronic: US Moorings

Sequence: SIJ0055

Instrument: FID8

Calibration: DJ00015

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ALIPH 20PPM	SIJ0055-CAL7	820J0115.D	NA	10/02/20 00:13
ALIPH 50PPM	SIJ0055-CAL8	820J0116.D	NA	10/02/20 00:39
ALIPH 100PPM	SIJ0055-CAL9	820J0117.D	NA	10/02/20 01:04
ALIPH 125PPM	SIJ0055-CALA	820J0118.D	NA	10/02/20 01:29
ALIPH 150PPM	SIJ0055-CALB	820J0119.D	NA	10/02/20 01:54
ALIPH 200PPM	SIJ0055-CALC	820J0120.D	NA	10/02/20 02:19
ALIPH SCV	SIJ0055-SCV2	820J0121.D	NA	10/02/20 02:45



ANALYSIS SEQUENCE

SIJ0055

Instrument: FID8 Element Column ID: d002555
Calibration ID: DJ00015

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SIJ0055-CAL1	AROM 20PPM	QC		1	1009169		
SIJ0055-CAL2	AROM 50PPM	QC		2	1009168		
SIJ0055-CAL3	AROM 100PPM	QC		3	1009167		
SIJ0055-CAL4	AROM 125PPM	QC		4	1009166		
SIJ0055-CAL5	AROM 150PPM	QC		5	1009165		
SIJ0055-CAL6	AROM 200PPM	QC		6	1009164		
SIJ0055-SCV1	AROM SCV	QC		7	1005685		
SIJ0055-CAL7	ALIPH 20PPM	QC		8	1009163		
SIJ0055-CAL8	ALIPH 50PPM	QC		9	1009160		
SIJ0055-CAL9	ALIPH 100PPM	QC		10	1009157		
SIJ0055-CALA	ALIPH 125PPM	QC		11	1009154		
SIJ0055-CALB	ALIPH 150PPM	QC		12	1009151		
SIJ0055-CALC	ALIPH 200PPM	QC		13	1009150		
SIJ0055-SCV2	ALIPH SCV	QC		14	1005686		

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid8.i\20201001aliph.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	01-OCT-2020	20:50	820J0107.D	1	ALIB	
2	02-OCT-2020	00:13	820J0115.D	1	20ALIPH	
3	02-OCT-2020	00:39	820J0116.D	1	50ALPIH	
4	02-OCT-2020	01:04	820J0117.D	1	100ALIPH	
5	02-OCT-2020	01:29	820J0118.D	1	125ALIPH	
6	02-OCT-2020	01:54	820J0119.D	1	150ALIPH	
7	02-OCT-2020	02:19	820J0120.D	1	200ALIPH	
8	02-OCT-2020	02:45	820J0121.D	1	ALIPHSC2	
9	02-OCT-2020	12:28	820J0144.D	1	ALIPHICV2	
10	02-OCT-2020	12:54	820J0145.D	1	BII0795-BLK1	
11	02-OCT-2020	13:20	820J0146.D	1	BII0795-BS1	
12	02-OCT-2020	13:46	820J0147.D	1	20I0109-02	
13	02-OCT-2020	14:12	820J0148.D	1	20I0109-03	
14	02-OCT-2020	14:38	820J0149.D	1	20I0109-05	
15	02-OCT-2020	15:04	820J0150.D	1	20I0109-07	
16	02-OCT-2020	15:29	820J0151.D	1	20I0109-08	
17	02-OCT-2020	15:55	820J0152.D	1	20I0109-09	
18	02-OCT-2020	16:21	820J0153.D	1	20I0109-10	
19	02-OCT-2020	16:46	820J0154.D	1	BII0795-MS1	
20	02-OCT-2020	17:12	820J0155.D	1	BII0795-MSD1	
21	02-OCT-2020	17:38	820J0156.D	1	ALIPHCCV3	
22	02-OCT-2020	18:03	820J0157.D	1	20I0109-11	
23	02-OCT-2020	18:29	820J0158.D	1	20I0149-01	
24	02-OCT-2020	18:54	820J0159.D	1	20I0149-02	
25	02-OCT-2020	19:20	820J0160.D	1	20I0149-05	
26	02-OCT-2020	19:45	820J0161.D	1	20I0149-07	
27	02-OCT-2020	20:10	820J0162.D	1	20I0149-08	
28	02-OCT-2020	20:36	820J0163.D	1	20I0149-09	
29	02-OCT-2020	21:01	820J0164.D	1	20I0149-10	
30	02-OCT-2020	21:27	820J0165.D	1	ALIPHCCV4	
31	02-OCT-2020	22:17	820J0167.D	1	BII0478-BLK1	
32	02-OCT-2020	22:42	820J0168.D	1	BII0478-BS1	
33	02-OCT-2020	23:08	820J0169.D	1	BII0478-BSD1	
34	02-OCT-2020	23:33	820J0170.D	1	20I0212-03	
35	02-OCT-2020	23:58	820J0171.D	1	BII0481-BLK1	
36	03-OCT-2020	00:23	820J0172.D	1	BII0481-BS1	
37	03-OCT-2020	00:49	820J0173.D	1	BII0481-BSD1	
38	03-OCT-2020	01:14	820J0174.D	1	20I0212-06	
39	03-OCT-2020	01:39	820J0175.D	1	20I0212-24	
40	03-OCT-2020	05:52	820J0185.D	1	ALIPHCCV6	
41	03-OCT-2020	06:42	820J0187.D	1	BII0585-BLK1	
42	03-OCT-2020	07:07	820J0188.D	1	BII0585-BS1	
43	03-OCT-2020	07:32	820J0189.D	1	BII0585-BSD1	
44	03-OCT-2020	07:57	820J0190.D	1	20I0267-08	
45	03-OCT-2020	08:21	820J0191.D	1	20I0267-16	
46	03-OCT-2020	10:51	820J0197.D	1	ALIPHCCV8	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid8.i\20201001aliph.b

ARI Job No.: ALIB Method: EPHaliph.m Instrument: fid8.i Date: 01-OCT-2020

Time Filename LabID ClientId DF Manually Integrated Compounds

2050	820J0107.D	ALIB		1	NO MANUAL INTEGRATION
0013	820J0115.D	20ALIPH		1	C10,
0039	820J0116.D	50ALPHI		1	C10,
0104	820J0117.D	100ALIPH		1	NO MANUAL INTEGRATION
0129	820J0118.D	125ALIPH		1	NO MANUAL INTEGRATION
0154	820J0119.D	150ALIPH		1	NO MANUAL INTEGRATION
0219	820J0120.D	200ALIPH		1	NO MANUAL INTEGRATION
0245	820J0121.D	ALIPHSC2		1	C8,
1228	820J0144.D	ALIPHICV2		1	NO MANUAL INTEGRATION
1254	820J0145.D	BII0795-BLK1		1	NO MANUAL INTEGRATION
1320	820J0146.D	BII0795-BS1		1	C10,
1344	820J0147.D	20I0109-02		1	1-Chloro-Octodecane,
1411	820J0148.D	20I0109-03		1	1-Chloro-Octodecane,
433	820J0149.D	20I0109-05		1	1-Chloro-Octodecane,
504	820J0150.D	20I0109-07		1	1-Chloro-Octodecane,
522	820J0151.D	20I0109-08		1	1-Chloro-Octodecane,
554	820J0152.D	20I0109-09		1	1-Chloro-Octodecane,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid8.i\20201001aliph.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1621	820J0153.D	20I0109-10	1	1	1-Chloro-Octadecane,
1646	820J0154.D	BII0795-MS1	1	1	C10, 1-Chloro-Octadecate,
1712	820J0155.D	BII0795-MSD1	1	1	C10, 1-Chloro-Octadecane,
1738	820J0156.D	ALIPHCCV3	1	1	NO MANUAL INTEGRATION
1803	820J0157.D	20I0109-11	1	1	NO MANUAL INTEGRATION
1829	820J0158.D	20I0149-01	1	1	1-Chloro-Octadecane,
1854	820J0159.D	20I0149-02	1	1	1-Chloro-Octadecane,
1920	820J0160.D	20I0149-05	1	1	1-Chloro-Octadecane,
1945	820J0161.D	20I0149-07	1	1	1-Chloro-Octadecane,
2010	820J0162.D	20I0149-08	1	1	1-Chloro-Octadecane,
2036	820J0163.D	20I0149-09	1	1	1-Chloro-Octadecane,
2101	820J0164.D	20I0149-10	1	1	1-Chloro-Octadecane,
2122	820J0165.D	ALIPHCCV4	1	1	C10,
2211	820J0167.D	BII0478-BLK1	1	1	NO MANUAL INTEGRATION
2242	820J0168.D	BII0478-BS1	1	1	C10,
2308	820J0169.D	BII0478-BSD1	1	1	C10,
2333	820J0170.D	20I0212-03	1	1	NO MANUAL INTEGRATION
2358	820J0171.D	BII0481-BLK1	1	1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid8.i\20201001aliph.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0023	820J0172.D	BII0481-BS1	1	C10,	
0049	820J0173.D	BII0481-BSD1	1	C10,	
0114	820J0174.D	20I0212-06	1	NO MANUAL INTEGRATION	
0139	820J0175.D	20I0212-24	1	NO MANUAL INTEGRATION	
0552	820J0185.D	ALIPHCCV6	1	NO MANUAL INTEGRATION	
0642	820J0187.D	BII0585-BLKI	1	NO MANUAL INTEGRATION	
0707	820J0188.D	BII0585-BS1	1	C10,	
0732	820J0189.D	BII0585-BSD1	1	C10,	
0757	820J0190.D	20I0267-08	1	NO MANUAL INTEGRATION	
0821	820J0191.D	20I0267-16	1	NO MANUAL INTEGRATION	
1051	820J0197.D	ALIPHCCV8	1	NO MANUAL INTEGRATION	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid8.i\20201001arom.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	01-OCT-2020	17:18	820J0101.D	1	RINSE	
2	01-OCT-2020	18:00	820J0102.D	1	RINSE	
3	01-OCT-2020	18:25	820J0103.D	1	RINSE	
4	01-OCT-2020	19:34	820J0104.D	1	RINSE	
5	01-OCT-2020	19:59	820J0105.D	1	RINSE	
6	01-OCT-2020	20:25	820J0106.D	1	ARIB	
7	01-OCT-2020	21:16	820J0108.D	1	20AROM	
8	01-OCT-2020	21:41	820J0109.D	1	50AROM	
9	01-OCT-2020	22:07	820J0110.D	1	100AROM	
10	01-OCT-2020	22:32	820J0111.D	1	125AROM	
11	01-OCT-2020	22:57	820J0112.D	1	150AROM	
12	01-OCT-2020	23:23	820J0113.D	1	200AROM	
13	01-OCT-2020	23:48	820J0114.D	1	AROMSCV1	
14	02-OCT-2020	03:10	820J0122.D	1	AROMICV1	
15	02-OCT-2020	03:36	820J0123.D	1	BII0795-BLK2	
16	02-OCT-2020	04:01	820J0124.D	1	BII0795-BS2	
17	02-OCT-2020	04:27	820J0125.D	1	20I0109-02	
18	02-OCT-2020	04:52	820J0126.D	1	20I0109-03	
19	02-OCT-2020	05:18	820J0127.D	1	20I0109-05	
20	02-OCT-2020	05:43	820J0128.D	1	20I0109-07	
21	02-OCT-2020	06:09	820J0129.D	1	20I0109-08	
22	02-OCT-2020	06:34	820J0130.D	1	20I0109-09	
23	02-OCT-2020	06:59	820J0131.D	1	20I0109-10	
24	02-OCT-2020	07:24	820J0132.D	1	BII0795-MS2	
25	02-OCT-2020	07:49	820J0133.D	1	BII0795-MSD2	
26	02-OCT-2020	08:14	820J0134.D	1	20I0109-11	
27	02-OCT-2020	08:39	820J0135.D	1	20I0149-01	
28	02-OCT-2020	09:05	820J0136.D	1	AROMCCV1	
29	02-OCT-2020	09:30	820J0137.D	1	20I0149-02	
30	02-OCT-2020	09:55	820J0138.D	1	20I0149-05	
31	02-OCT-2020	10:21	820J0139.D	1	20I0149-07	
32	02-OCT-2020	10:46	820J0140.D	1	20I0149-08	
33	02-OCT-2020	11:12	820J0141.D	1	20I0149-09	
34	02-OCT-2020	11:37	820J0142.D	1	20I0149-10	
35	02-OCT-2020	12:03	820J0143.D	1	AROMCCV2	
36	02-OCT-2020	21:52	820J0166.D	1	AROMCCV5	
37	03-OCT-2020	02:05	820J0176.D	1	BII0478-BLK2	
38	03-OCT-2020	02:30	820J0177.D	1	BII0478-BS2	
39	03-OCT-2020	02:55	820J0178.D	1	BII0478-BSD2	
40	03-OCT-2020	03:20	820J0179.D	1	20I0212-03	
41	03-OCT-2020	03:46	820J0180.D	1	BII0481-BLK2	
42	03-OCT-2020	04:11	820J0181.D	1	BII0481-BS2	
43	03-OCT-2020	04:36	820J0182.D	1	BII0481-BSD2	
44	03-OCT-2020	05:01	820J0183.D	1	20I0212-06	
45	03-OCT-2020	05:26	820J0184.D	1	20I0212-24	
46	03-OCT-2020	06:17	820J0186.D	1	AROMCCV7	
47	03-OCT-2020	08:46	820J0192.D	1	BII0585-BLK2	
48	03-OCT-2020	09:11	820J0193.D	1	BII0585-BS2	
49	03-OCT-2020	09:35	820J0194.D	1	BII0585-BSD2	
50	03-OCT-2020	10:01	820J0195.D	1	20I0267-08	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid8.i\20201001arom.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
51	03-OCT-2020	10:26	820J0196.D	1	20I0267-16	
52	03-OCT-2020	11:16	820J0198.D	1	AROMCCV9	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid8.i\20201001arom.b

ARI Job No.: RINS Method: EPHArom.m Instrument: fid8.i Date: 01-OCT-2020

Time Filename LabID ClientId DF Manually Integrated Compounds

1718	820J0101.D	RINSE		1	NO MANUAL INTEGRATION
1800	820J0102.D	RINSE		1	NO MANUAL INTEGRATION
1825	820J0103.D	RINSE		1	NO MANUAL INTEGRATION
1934	820J0104.D	RINSE		1	NO MANUAL INTEGRATION
1959	820J0105.D	RINSE		1	NO MANUAL INTEGRATION
2025	820J0106.D	ARIB		1	NO MANUAL INTEGRATION
2116	820J0108.D	20AROM		1	1,2,3-Trimetben, Benzo-ghi-per,
2141	820J0109.D	50AROM		1	NO MANUAL INTEGRATION
2207	820J0110.D	100AROM		1	Benzo-ghi-per,
2232	820J0111.D	125AROM		1	NO MANUAL INTEGRATION
2257	820J0112.D	150AROM		1	NO MANUAL INTEGRATION
2322	820J0113.D	200AROM		1	Benzo-ghi-per,
2344	820J0114.D	AROMSCV1		1	NO MANUAL INTEGRATION
3111	820J0122.D	AROMICV1		1	NO MANUAL INTEGRATION
3136	820J0123.D	BII0795-BLK2		1	NO MANUAL INTEGRATION
4010	820J0124.D	BII0795-BS2		1	NO MANUAL INTEGRATION
4021	820J0125.D	20I0109-02		1	1-chlorooctodecane (AROMATIC),

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid8.i\20201001arom.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0452	820J0126.D	20I0109-03	1	1	1-chlorooctodecane (AROMATIC), o-Terph Surr,
0518	820J0127.D	20I0109-05	1	1	1-chlorooctodecane (AROMATIC), o-Terph Surr,
0543	820J0128.D	20I0109-07	1	1	1-chlorooctodecane (AROMATIC), o-Terph Surr,
0609	820J0129.D	20I0109-08	1	1	1-chlorooctodecane (AROMATIC), o-Terph Surr,
0634	820J0130.D	20I0109-09	1	1	1-chlorooctodecane (AROMATIC), o-Terph Surr,
0659	820J0131.D	20I0109-10	1	1	1-chlorooctodecane (AROMATIC), o-Terph Surr,
0724	820J0132.D	BII0795-MS2	1	1	Benzo-ghi-per, 1-chlorooctodecane (AROMATIC), o-Terph Surr,
0749	820J0133.D	BII0795-MSD2	1	1	1-chlorooctodecane (AROMATIC), o-Terph Surr,
0814	820J0134.D	20I0109-11	1	1	NO MANUAL INTEGRATION
0839	820J0135.D	20I0149-01	1	1	NO MANUAL INTEGRATION
0905	820J0136.D	AROMCCV1	1	1	NO MANUAL INTEGRATION
0930	820J0137.D	20I0149-02	1	1	1-chlorooctodecane (AROMATIC), o-Terph Surr,
0955	820J0138.D	20I0149-05	1	1	1-chlorooctodecane (AROMATIC), o-Terph Surr,
1022	820J0139.D	20I0149-07	1	1	1-chlorooctodecane (AROMATIC), o-Terph Surr,
1048	820J0140.D	20I0149-08	1	1	1-chlorooctodecane (AROMATIC), o-Terph Surr,
1111	820J0141.D	20I0149-09	1	1	1-chlorooctodecane (AROMATIC), o-Terph Surr,
1131	820J0142.D	20I0149-10	1	1	1-chlorooctodecane (AROMATIC), o-Terph Surr,
1203	820J0143.D	AROMCCV2	1	1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid8.i\20201001arom.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2152	820J0166.D	AROMCCV5	1	1	Benzo-ghi-per,
0205	820J0176.D	BII0478-BLK2	1	1	NO MANUAL INTEGRATION
0230	820J0177.D	BII0478-BS2	1	1	NO MANUAL INTEGRATION
0255	820J0178.D	BII0478-BSD2	1	1	NO MANUAL INTEGRATION
0320	820J0179.D	20I0212-03	1	1	NO MANUAL INTEGRATION
0346	820J0180.D	BII0481-BLK2	1	1	NO MANUAL INTEGRATION
0411	820J0181.D	BII0481-BS2	1	1	NO MANUAL INTEGRATION
0436	820J0182.D	BII0481-BSD2	1	1	NO MANUAL INTEGRATION
0501	820J0183.D	20I0212-06	1	1	NO MANUAL INTEGRATION
0526	820J0184.D	20I0212-24	1	1	NO MANUAL INTEGRATION
0617	820J0186.D	AROMCCV7	1	1	NO MANUAL INTEGRATION
0846	820J0192.D	BII0585-BLK2	1	1	NO MANUAL INTEGRATION
0911	820J0193.D	BII0585-BS2	1	1	NO MANUAL INTEGRATION
0933	820J0194.D	BII0585-BSD2	1	1	NO MANUAL INTEGRATION
1001	820J0195.D	20I0267-08	1	1	NO MANUAL INTEGRATION
1026	820J0196.D	20I0267-16	1	1	NO MANUAL INTEGRATION
1111	820J0198.D	AROMCCV9	1	1	Benzo-ghi-per,

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820J0107.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0115.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0116.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0117.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0118.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0119.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0120.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0121.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0144.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0145.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0146.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0147.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0148.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0149.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0150.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0151.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0152.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0153.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0154.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0155.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0156.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0157.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0158.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0159.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0160.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0161.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0162.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0163.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0164.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0165.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0167.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0168.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0169.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0170.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0171.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0172.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0173.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0174.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0175.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0185.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0187.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0188.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0189.D	Data Locked	j rains,	05-Oct-2020	17:34
820J0190.D	Data Locked	j rains,	05-Oct-2020	17:34

820J0191.D | Data Locked | jrains, 05-Oct-2020 17:34 |
820J0197.D | Data Locked | jrains, 05-Oct-2020 17:34 |

Security Status Report

Date: 05-Oct-2020 17:40

820J0101.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0102.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0103.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0104.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0105.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0106.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0108.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0109.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0110.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0111.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0112.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0113.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0114.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0122.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0123.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0124.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0125.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0126.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0127.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0128.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0129.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0130.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0131.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0132.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0133.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0134.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0135.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0136.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0137.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0138.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0139.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0140.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0141.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0142.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0143.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0166.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0176.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0177.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0178.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0179.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0180.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0181.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0182.D	Data Locked	Jrains,	05-Oct-2020	17:40
820J0183.D	Data Locked	Jrains,	05-Oct-2020	17:40

820J0184.D	Data Locked	j rains,	05-Oct-2020	17:40
820J0186.D	Data Locked	j rains,	05-Oct-2020	17:40
820J0192.D	Data Locked	j rains,	05-Oct-2020	17:40
820J0193.D	Data Locked	j rains,	05-Oct-2020	17:40
820J0194.D	Data Locked	j rains,	05-Oct-2020	17:40
820J0195.D	Data Locked	j rains,	05-Oct-2020	17:40
820J0196.D	Data Locked	j rains,	05-Oct-2020	17:40
820J0198.D	Data Locked	j rains,	05-Oct-2020	17:40



ANALYSIS BATCH (SEQUENCE) SUMMARY

WA EPH

Laboratory: Analytical Resources, Inc.

SDG: 21C0175

Client: Anchor QEA, LLC

Project: GascoSiltronic: US Moorings

Sequence: SJC0462

Instrument: FID8

Calibration: DJ00015

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	21C0177-02	821C2816.D	Water	03/28/21 16:26
ZZZZZ	21C0177-03	821C2817.D	Water	03/28/21 16:50
ZZZZZ	21C0177-04	821C2818.D	Water	03/28/21 17:15
ALIPHATICS	SJC0462-ICV2	821C2820.D	NA	03/28/21 18:05
ZZZZZ	21C0177-02	821C2826.D	Water	03/28/21 20:33
ZZZZZ	21C0177-03	821C2827.D	Water	03/28/21 20:57
ZZZZZ	21C0177-04	821C2828.D	Water	03/28/21 21:21
Blank	BJC0358-BLK1	821C2829.D	Water	03/28/21 21:46
LCS	BJC0358-BS1	821C2830.D	Water	03/28/21 22:10
LCS Dup	BJC0358-BSD1	821C2831.D	Water	03/28/21 22:35
RAB-RB-2103091709	21C0175-02	821C2833.D	Water	03/28/21 23:23
ALIPHATICS	SJC0462-CCV2	821C2834.D	NA	03/28/21 23:48



ANALYSIS SEQUENCE

SJC0462

Instrument: FID8 Element Column ID: D002555
Calibration ID: DJ00015

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SJC0462-ICV1	AROMATIC	QC		1	I012098		
21C0177-02	A1C0400-02	WA EPH Aromatics	A 02	2			
21C0177-03	A1C0400-03	WA EPH Aromatics	A 02	3			
21C0177-04	A1C0400-04	WA EPH Aromatics	A 02	4			
SJC0462-CCV1	AROMATIC	QC		5	I012098		
SJC0462-ICV2	ALIPHATICS	QC		6	J001291		
BJC0358-BLK1	Blank	QC		7			
BJC0358-BS1	LCS	QC		8			
BJC0358-BSD1	LCS Dup	QC		9			
21C0175-02	RAB-RB-2103091709	WA EPH Aliphatic C10-C12 mod	E 01	10			
21C0177-02	A1C0400-02	WA EPH Aliphatics	A 01	11			
21C0177-03	A1C0400-03	WA EPH Aliphatics	A 01	12			
21C0177-04	A1C0400-04	WA EPH Aliphatics	A 01	13			
SJC0462-CCV2	ALIPHATICS	QC		14	J001291		

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid8.i\20210328aliph.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	28-MAR-2021	18:05	821C2820.D	1	ALIPHICV2	
2	28-MAR-2021	18:30	821C2821.D	1	BJC0337-BLK1	
3	28-MAR-2021	18:54	821C2822.D	1	BJC0337-BS1	
4	28-MAR-2021	19:19	821C2823.D	1	21C0177-01	
5	28-MAR-2021	19:43	821C2824.D	1	BJC0337-MS1	
6	28-MAR-2021	20:08	821C2825.D	1	BJC0337-MSD1	
7	28-MAR-2021	20:33	821C2826.D	1	21C0177-02	
8	28-MAR-2021	20:57	821C2827.D	1	21C0177-03	
9	28-MAR-2021	21:21	821C2828.D	1	21C0177-04	
10	28-MAR-2021	21:46	821C2829.D	1	BJC0358-BLK1	
11	28-MAR-2021	22:10	821C2830.D	1	BJC0358-BS1	
12	28-MAR-2021	22:35	821C2831.D	1	BJC0358-BSD1	
13	28-MAR-2021	22:59	821C2832.D	1	21C0175-01	
14	28-MAR-2021	23:23	821C2833.D	1	21C0175-02	
15	28-MAR-2021	23:48	821C2834.D	1	ALIPHCCV2	
16	28-MAR-2021	10:14	821C2801.D	1	DCM	
17	28-MAR-2021	10:38	821C2802.D	1	DCM	
18	28-MAR-2021	11:03	821C2803.D	1	DCM	
19	28-MAR-2021	11:28	821C2804.D	1	DCM	
20	28-MAR-2021	11:53	821C2805.D	1	AROMICV1	
21	28-MAR-2021	12:17	821C2806.D	1	BJC0358-BLK2	
22	28-MAR-2021	12:42	821C2807.D	1	BJC0358-BS2	
23	28-MAR-2021	13:07	821C2808.D	1	BJC0358-BSD2	
24	28-MAR-2021	13:32	821C2809.D	1	21C0175-01	
25	28-MAR-2021	13:57	821C2810.D	1	21C0175-02	
26	28-MAR-2021	14:21	821C2811.D	1	BJC0337-BLK2	
27	28-MAR-2021	14:46	821C2812.D	1	BJC0337-BS2	
28	28-MAR-2021	15:11	821C2813.D	1	21C0177-01	
29	28-MAR-2021	15:36	821C2814.D	1	BJC0337-MS2	
30	28-MAR-2021	16:01	821C2815.D	1	BJC0337-MSD2	
31	28-MAR-2021	16:26	821C2816.D	1	21C0177-02	
32	28-MAR-2021	16:50	821C2817.D	1	21C0177-03	
33	28-MAR-2021	17:15	821C2818.D	1	21C0177-04	
34	28-MAR-2021	17:40	821C2819.D	1	AROMCCV1	
35	29-MAR-2021	17:52	821C2901.D	1	21C0197-05AL	
36	29-MAR-2021	18:17	821C2902.D	1	21C0197-05AL	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid8.i\20210328aliph.b

ARI Job No.: ALIP Method: EPHaliph.m Instrument: fid8.i Date: 28-MAR-2021

Time Filename LabID ClientId DF Manually Integrated Compounds

1805	821C2820.D ALIPHICVZ			1	NO MANUAL INTEGRATION
1830	821C2821.D BJC0337-BLKI			1	NO MANUAL INTEGRATION
1854	821C2822.D BJC0337-BS1			1	C10, C12,
1919	821C2823.D 21C0177-01			1	NO MANUAL INTEGRATION
1943	821C2824.D BJC0337-MS1			1	C10,
2008	821C2825.D BJC0337-MSD1			1	C10, C21, 1-Chloro-Octadecane,
2033	821C2826.D 21C0177-02			1	NO MANUAL INTEGRATION
2057	821C2827.D 21C0177-03			1	NO MANUAL INTEGRATION
2121	821C2828.D 21C0177-04			1	NO MANUAL INTEGRATION
2146	821C2829.D BJC0358-BLKI			1	NO MANUAL INTEGRATION
2210	821C2830.D BJC0358-BS1			1	C10, C21, C34, 1-Chloro-Octadecane,
2232	821C2831.D BJC0358-BSD1			1	C10,
2255	821C2832.D 21C0175-01			1	NO MANUAL INTEGRATION
323	821C2833.D 21C0175-02			1	NO MANUAL INTEGRATION
345	821C2834.D ALIPHCCVZ			1	NO MANUAL INTEGRATION
371	821C2801.D DCM			1	NO MANUAL INTEGRATION
373	821C2802.D DCM			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid8.i\20210328arom.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1103	821C2803.D	DCM	1	NO	MANUAL INTEGRATION
1128	821C2804.D	DCM	1	NO	MANUAL INTEGRATION
1153	821C2805.D	AROMICV1	1	NO	MANUAL INTEGRATION
1217	821C2806.D	BJC0358-BLK2	1	NO	MANUAL INTEGRATION
1242	821C2807.D	BJC0358-BS2	1	NO	MANUAL INTEGRATION
1307	821C2808.D	BJC0358-BSD2	1	NO	MANUAL INTEGRATION
1332	821C2809.D	21C0175-01	1	NO	MANUAL INTEGRATION
1357	821C2810.D	21C0175-02	1	NO	MANUAL INTEGRATION
1421	821C2811.D	BJC0337-BLK2	1	NO	MANUAL INTEGRATION
1446	821C2812.D	BJC0337-BS2	1	Benzo-ghi-per,	
1511	821C2813.D	21C0177-01	1	NO	MANUAL INTEGRATION
1536	821C2814.D	BJC0337-MS2	1	Naphthalene,	
1601	821C2815.D	BJC0337-MSD2	1	Naphthalene,	
1626	821C2816.D	21C0177-02	1	NO	MANUAL INTEGRATION
1650	821C2817.D	21C0177-03	1	NO	MANUAL INTEGRATION
1711	821C2818.D	21C0177-04	1	NO	MANUAL INTEGRATION
1744	821C2819.D	AROMICV1	1	NO	MANUAL INTEGRATION
1757	821C2901.D	21C0197-05AL	1	NO	MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid8.i\20210328arom.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1817	821C2902.D	21C0197-05AL	1	NO	MANUAL INTEGRATION

Security Status Report

Date: 01-Apr-2021 09:18

821C2820.D	Data Locked	j rains,	01-Apr-2021	09:17
821C2821.D	Data Locked	j rains,	01-Apr-2021	09:17
821C2822.D	Data Locked	j rains,	01-Apr-2021	09:17
821C2823.D	Data Locked	j rains,	01-Apr-2021	09:17
821C2824.D	Data Locked	j rains,	01-Apr-2021	09:17
821C2825.D	Data Locked	j rains,	01-Apr-2021	09:17
821C2826.D	Data Locked	j rains,	01-Apr-2021	09:17
821C2827.D	Data Locked	j rains,	01-Apr-2021	09:17
821C2828.D	Data Locked	j rains,	01-Apr-2021	09:17
821C2829.D	Data Locked	j rains,	01-Apr-2021	09:17
821C2830.D	Data Locked	j rains,	01-Apr-2021	09:17
821C2831.D	Data Locked	j rains,	01-Apr-2021	09:17
821C2832.D	Data Locked	j rains,	01-Apr-2021	09:17
821C2833.D	Data Locked	j rains,	01-Apr-2021	09:17
821C2834.D	Data Locked	j rains,	01-Apr-2021	09:17



ANALYSIS SEQUENCE

SJC0509

Instrument: FID8 Element Column ID: i10655i10656
Calibration ID: DJ00015

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
BJC0337-BLK1	Blank	QC		1			
BJC0337-BS1	LCS	QC		2			
21C0177-01	A1C0400-01	WA EPH Aliphatics	A 01	3			
BJC0337-MS1	Matrix Spike	QC		4			
BJC0337-MSD1	Matrix Spike Dup	QC		5			
21C0175-01	RAB-FB-2103091636	WA EPH Aliphatic C10-C12 mod	E 01	6			
BJC0337-BLK2	Blank	QC		7			
BJC0337-BS2	LCS	QC		8			
21C0177-01	A1C0400-01	WA EPH Aromatics	A 02	9			
BJC0337-MS2	Matrix Spike	QC		10			
BJC0337-MSD2	Matrix Spike Dup	QC		11			
21C0509-ICV1	AROMATIC	QC		12	I012098		
21C0509-ICV2	ALIPHATICS	QC		13	J001291		
21C0509-CCV1	AROMATIC	QC		14	I012098		
21C0509-CCV2	ALIPHATICS	QC		15	J001291		

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem2\fid8.i\20210330aliph.b

	Inject	Date/Time	Filename	DF	LabID	ClientID
1	30-MAR-2021	13:16	821C3004.D	1	ALIPHICV2	
2	30-MAR-2021	13:41	821C3005.D	1	BJC0337-BLK1	
3	30-MAR-2021	14:06	821C3006.D	1	BJC0337-BS1	
4	30-MAR-2021	14:31	821C3007.D	1	21C0177-01	
5	30-MAR-2021	14:56	821C3008.D	1	BJC0337-MS1	
6	30-MAR-2021	15:21	821C3009.D	1	BJC0337-MSD1	
7	30-MAR-2021	15:46	821C3010.D	1	21C0175-01	
8	30-MAR-2021	19:08	821C3018.D	1	ALIPHCCV2	
9	30-MAR-2021	12:02	821C3001.D	1	DCM	
10	30-MAR-2021	12:26	821C3002.D	1	DCM	
11	30-MAR-2021	12:51	821C3003.D	1	AROMICV1	
12	30-MAR-2021	16:12	821C3011.D	1	BJC0337-BLK2	
13	30-MAR-2021	16:37	821C3012.D	1	BJC0337-BS2	
14	30-MAR-2021	17:02	821C3013.D	1	21C0177-01	
15	30-MAR-2021	17:27	821C3014.D	1	BJC0337-MS2	
16	30-MAR-2021	17:53	821C3015.D	1	BJC0337-MSD2	
17	30-MAR-2021	18:18	821C3016.D	1	21C0175-01	
18	30-MAR-2021	18:43	821C3017.D	1	AROMCCV1	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid8.i\20210330aliph.b

ARI Job No.: ALIP Method: EPHaliph.m Instrument: fid8.i Date: 30-MAR-2021

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1316	821C3004.D	ALIPHICVZ		1	NO MANUAL INTEGRATION
1341	821C3005.D	BJC0337-BLKI		1	NO MANUAL INTEGRATION
1406	821C3006.D	BJC0337-BS1		1	C10, C21, 1-Chloro-Octadecane,
1431	821C3007.D	21C0177-01		1	NO MANUAL INTEGRATION
1456	821C3008.D	BJC0337-MS1		1	C10, C21, 1-Chloro-Octadecane,
1521	821C3009.D	BJC0337-MSD1		1	C10, C21, C34, 1-Chloro-Octadecane,
1546	821C3010.D	21C0175-01		1	NO MANUAL INTEGRATION
1908	821C3018.D	ALIPHCCVZ		1	NO MANUAL INTEGRATION
1202	821C3001.D	DCM		1	NO MANUAL INTEGRATION
1226	821C3002.D	DCM		1	NO MANUAL INTEGRATION
1251	821C3003.D	AROMICV1		1	Benzo-ghi-per,
1612	821C3011.D	BJC0337-BLK2		1	NO MANUAL INTEGRATION
163	821C3012.D	BJC0337-BS2		1	Benzo-ghi-per,
170	821C3013.D	21C0177-01		1	NO MANUAL INTEGRATION
172	821C3014.D	BJC0337-MS2		1	Naphthalene,
175	821C3015.D	BJC0337-MSD2		1	Naphthalene, Benzo-ghi-per,
1812	821C3016.D	21C0175-01		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem2\fid8.i\20210330arom.b

Time Filename LabID ClientId DF Manually Integrated Compounds

1843 821C3017.D AROMCCV1 1 NO MANUAL INTEGRATION

Security Status Report

Date: 01-Apr-2021 08:43

821C3004.D	Data Locked	jrains,	01-Apr-2021	08:43
821C3005.D	Data Locked	jrains,	01-Apr-2021	08:43
821C3006.D	Data Locked	jrains,	01-Apr-2021	08:43
821C3007.D	Data Locked	jrains,	01-Apr-2021	08:43
821C3008.D	Data Locked	jrains,	01-Apr-2021	08:43
821C3009.D	Data Locked	jrains,	01-Apr-2021	08:43
821C3010.D	Data Locked	jrains,	01-Apr-2021	08:43
821C3018.D	Data Locked	jrains,	01-Apr-2021	08:43



SURROGATE RECOVERY AND RT SUMMARY

WA EPH

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG/WO:	<u>21C0175</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>GascoSiltronic: US Moorings</u>
Sequence:	<u>SIJ0055</u>	Instrument:	<u>FID8</u>
Calibration:	<u>DJ00015</u>	Calibration Date:	<u>10/02/2020</u>

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SIJ0055-SCV2 (Water)			Lab File ID: 820J0121.D			Analyzed: 10/02/20 02:45		
1-Chloro-octadecane	125.00	139	70 - 130	7.01	7.01	0.0000	N/A	*



SURROGATE RECOVERY AND RT SUMMARY

WA EPH

Laboratory: <u>Analytical Resources, Inc.</u>	SDG/WO: <u>21C0175</u>
Client: <u>Anchor QEA, LLC</u>	Project: <u>GascoSiltronic: US Moorings</u>
Sequence: <u>SJC0462</u>	Instrument: <u>FID8</u>
Calibration: <u>DJ00015</u>	Calibration Date: <u>10/02/2020</u>

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SJC0462-ICV2 (Water)		Lab File ID: 821C2820.D			Analyzed: 03/28/21 18:05			
1-Chloro-octadecane	125.00	91.0	80 - 120	6.99	7.01	-0.0200	N/A	
BJC0358-BLK1 (Water)		Lab File ID: 821C2829.D			Analyzed: 03/28/21 21:46			
1-Chloro-octadecane	150.00	41.3	36 - 120	6.99	7.01	-0.0200	N/A	
BJC0358-BS1 (Water)		Lab File ID: 821C2830.D			Analyzed: 03/28/21 22:10			
1-Chloro-octadecane	150.00	36.1	36 - 120	6.99	7.01	-0.0200	N/A	
BJC0358-BSD1 (Water)		Lab File ID: 821C2831.D			Analyzed: 03/28/21 22:35			
1-Chloro-octadecane	150.00	57.3	36 - 120	7.02	7.01	0.0100	N/A	
21C0175-02 (Water)		Lab File ID: 821C2833.D			Analyzed: 03/28/21 23:23			
1-Chloro-octadecane	150.00	39.4	36 - 120	6.99	7.01	-0.0200	N/A	
SJC0462-CCV2 (Water)		Lab File ID: 821C2834.D			Analyzed: 03/28/21 23:48			
1-Chloro-octadecane	125.00	90.2	80 - 120	6.99	7.01	-0.0200	N/A	



SURROGATE RECOVERY AND RT SUMMARY

WA EPH

Laboratory: <u>Analytical Resources, Inc.</u>	SDG/WO: <u>21C0175</u>
Client: <u>Anchor QEA, LLC</u>	Project: <u>GascoSiltronic: US Moorings</u>
Sequence: <u>SJC0509</u>	Instrument: <u>FID8</u>
Calibration: <u>DJ00015</u>	Calibration Date: <u>10/02/2020</u>

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SJC0509-ICV2 (Water)			Lab File ID: 821C3004.D			Analyzed: 03/30/21 13:16		
1-Chloro-octadecane	125.00	96.0	80 - 120	6.99	7.01	-0.0200	N/A	
21C0175-01 (Water)			Lab File ID: 821C3010.D			Analyzed: 03/30/21 15:46		
1-Chloro-octadecane	150.00	45.2	36 - 120	6.98	7.01	-0.0300	N/A	
SJC0509-CCV2 (Water)			Lab File ID: 821C3018.D			Analyzed: 03/30/21 19:08		
1-Chloro-octadecane	125.00	96.5	80 - 120	6.99	7.01	-0.0200	N/A	



HOLDING TIME SUMMARY

Analysis: WA EPH

Laboratory: Analytical Resources, Inc.

SDG: 21C0175

Client: Anchor QEA, LLC

Project: GascoSiltronic: US Moorings

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
RAB-FB-2103091636 21C0175-01	03/09/21 16:36	03/11/21 10:30	03/16/21 11:20	6	7	03/30/21 15:46	14	40	
RAB-RB-2103091709 21C0175-02	03/09/21 17:09	03/11/21 10:30	03/16/21 11:20	6	7	03/28/21 23:23	13	40	

* Indicates hold time exceedance.



METHOD DETECTION AND REPORTING LIMITS

WA EPH

Laboratory: Analytical Resources, Inc.

SDG: 21C0175

Client: Anchor OEA, LLC

Project: GascoSiltronic: US Moorings

Matrix: Water

Instrument: FID8

Analyte	MDL	RL	Units
C10-C12 Aliphatics		20	ug/L



Certificate of Analysis

I6955
(B000658)
cert received 6/18/13
PC

TCI America
9211 N. Harborside St., Portland, OR 97203

Chemical Name: 1-Chlorooctadecane		
Product Number: C0235	Lot: OGM01	
CAS #: 3386-33-2		

Tests	Results	Specifications
Purity (GC) Freezing Point	99.4 % 20.7 °C	min. 98.0 % 20.0 to 21.0 °C

Customer Service:

TCI America

Tel: 1-800-423-8616 / 1-503-283-1681

Fax: 1-888-520-1075 / 1-503-283-1987

Email: sales@tciamerica.com



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Certificate of Analysis

Product 20134
Acenaphthene,99%

General Product Data

Version 0
CAS No 83-32-9
Country of origin UNITED KINGDOM
Molecular weight 154.21
Molecular formula C12 H10
Linear formula
Flash point (°C) 135

Product Specifications

Appearance brown crystalline powder and chunks
Infrared spectrometry authentic
Melting point 91°C to 95°C
Separat. techn. GC >=98.5 %

Lot Specific Data : A0255961

Appearance brown crystalline chunks
Infrared spectrometry authentic
Melting point 91.3°C
Separat. techn. GC 99.65 %

Issued: September 06, 2013
L. Van den Broek, QA Manager

Acros Organics

ENA23, zone 1, nr 1350, Janssen Pharmaceuticaaan 3a, B-2440 Geel, Belgium
Tel +32 14/57.52.11 - Fax +32 14/59.34.34 Internet: <http://www.acros.com>
1 Reagent Lane, Fair Lawn, NJ 07410,USA
Fax 201-796-1329



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Certificate of Analysis

Product 10486
Anthracene,99%

General Product Data

Version	0
CAS No	120-12-7
Country of origin	CHINA
Molecular weight	178.23
Molecular formula	C14 H10
Linear formula	
Flash point (°C)	121

Product Specifications

Appearance	yellowish crystalline powder
Infrared spectrometry	authentic
Melting point	215°C to 218°C
Separat. techn. HPLC	>=98.5 %

Lot Specific Data : A0284308

Appearance	yellowish crystalline powder
Infrared spectrometry	authentic
Melting point	217.9°C
Separat. techn. HPLC	99.9 %

Issued: September 06, 2013
L. Van den Broek, QA Manager

Acros Organics

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Certificate of Analysis

n-Dodecane

Product Number: RNA-003

Page: 1 of 1

Lot Number: RM01074

Lot Issue Date: Dec-2008

Expiration Date: Jan-2014

This reference material has been prepared under ULTRA's ISO 9001 quality system, verified by ULTRA's ISO 17025 accredited laboratory, and found to meet the specifications stated below.

Compound	CAS #	Purity
n-dodecane	000112-40-3	99%

The estimated uncertainty of a single measurement of the assay can be expected to be 0.5% relative at a confidence level of 95%.

Storage: Store at Room Temperature (18-25° C)

*IS809
Rec'd
08/30/10*

Balances used to measure the weight of the material in the container are calibrated with weights traceable to NIST in compliance with ANSI/NCCL Z-540-1 and ISO 9001.



ISO 17025
Accredited
A2LA
Cert. No. 0851-01

ISO 9001:2000
Registered
TUV USA, Inc.
Cert. No. 06-1004

250 Smith Street, North Kingstown, RI 02852 USA
401-294-9400 Fax: 295-2330
www.ultrasci.com

William D. Leary
Quality Assurance Manager



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Certificate of Analysis

Product 35277
n-Heneicosane,98%

General Product Data

Version	0
CAS No	629-94-7
Country of origin	JAPAN
Molecular weight	296.58
Molecular formula	C ₂₁ H ₄₄
Linear formula	CH ₃ (CH ₂) ₁₉ CH ₃
Flash point (°C)	>110

Product Specifications

Appearance	white crystalline chunks, crystals or flakes
Infrared spectrometry	authentic
Separat. techn. GC	>=97.5 %
Melting point	39°C to 43°C

Lot Specific Data : A0260437

Appearance	white crystalline chunks
Infrared spectrometry	authentic
Separat. techn. GC	99.4 %
Melting point	40.1°C

Issued: September 06, 2013
L. Van den Broek, QA Manager

Acros Organics

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1 Reagent Lane, Fair Lawn, NJ 07410,USA
Fax 201-796-1329

Certificate of Analysis

SIGMA-ALDRICH

Product Name Hexadecane,
ReagentPlus[®], 99%
Product Number H6703
Product Brand SIAL
CAS Number [544-76-3](#)
Molecular Formula CH₃(CH₂)₁₄CH₃
Molecular Weight 226.44

TEST**GAS LIQUID****COLOR TEST****QUALITY CONTROL****SPECIFICATION**

98.5% (MINIMUM)

20 APHA (MAXIMUM)

LOT 06026EU RESULTS

99.77 %

<10 APHA

JUNE; 1999



Barbara Rajzer, Supervisor
Quality Control
Milwaukee, Wisconsin USA



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ACROS
ORGANICS

Certificate of Analysis

Product 18083
Pyrene,98%

General Product Data

Version	0
CAS No	129-00-0
Country of origin	BELGIUM
Molecular weight	202.25
Molecular formula	C ₁₆ H ₁₀
Linear formula	
Flash point (°C)	210

Product Specifications

Appearance	pale yellow to yellow-greenish crystals or chunks
Infrared spectrometry	authentic
Separat. techn. GC	>=97.5 %
Melting point	>=148°C

Lot Specific Data : A0273077

Appearance	pale yellow-greenish crystalline chunks
Infrared spectrometry	authentic
Separat. techn. GC	99.2 %
Melting point	149.7°C

Issued: September 06, 2013
L. Van den Broek, QA Manager

Acros Organics

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Tel +32 14/57.52.11 - Fax +32 14/59.34.34 Internet: <http://www.acros.com>
1 Reagent Lane, Fair Lawn, NJ 07410,USA
Fax 201-796-1329

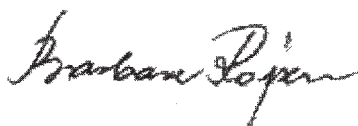
Certificate of Analysis

SIGMA-ALDRICH

Product Name Tetratriacontane,
98%
Product Number 287261
Product Brand ALDRICH
CAS Number 14167-59-0
Molecular Formula $\text{CH}_3(\text{CH}_2)_{32}\text{CH}_3$
Molecular Weight 478.92

B001736
JW
9/6/03

TEST LOT 11318BD RESULTS
APPEARANCE WHITE FLAKES
INFRARED SPECTRUM CONFORMS TO STRUCTURE.
ELEMENTAL ANALYSIS CARBON 85.35%
GAS LIQUID 98.5%
CHROMATOGRAPHY
PRODUCT CROSS REPLACES PRODUCT NUMBER T4883
REFERENCE INFORMATION
QUALITY CONTROL MARCH 2005
ACCEPTANCE DATE



Barbara Rajzer, Supervisor
Quality Control
Milwaukee, Wisconsin USA

Certificate of analysis

Product No.:	A19680
Product:	o-Terphenyl, 98%
Lot No.:	10114703
Appearance	White, crystalline powder
Melting point	55.0-55.9°C
Assay (GC)	99.9+ %

This document has been electronically generated and does not require a signature.

EPH Aliphatic Hydrocarbon Standard

Product Number: SWA-310

Page: 1 of 1

Lot Number: CR-5939

Lot Issue Date: 20-Dec-2017

Expiration Date: 31-Jan-2022

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
n-octane	000111-65-9	NT01970	1003 ± 5 µg/mL
n-decane	000124-18-5	RM11945	1002 ± 5 µg/mL
n-dodecane	000112-40-3	RM12672	1003 ± 5 µg/mL
n-hexadecane	000544-76-3	NT01442	1003 ± 5 µg/mL
n-heneicosane	000629-94-7	RM04170	1003 ± 5 µg/mL
n-tetratriacontane	014167-59-0	RM09562	1004 ± 5 µg/mL

Matrix: hexane

Storage: Store at Room Temperature (15° to 30°C).

H 9141

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSS Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

Certificate of Analysis

SIGMA-ALDRICH

Product Name
Product Number D901
Product Brand

TEST

APPEARANCE
REFRACTIVE INDEX AT
INFRARED SPECTRUM
GAS LIQUID
RECOMMENDED RETEST
PRODUCT CROSS
QUALITY CONTROL

SPECIFICATION

COLORLESS LIQUID
1.411 +/- 0.002
99.0% (MINIMUM)
THREE YEARS

LOT 03112EE RESULTS

COLORLESS LIQUID
1.411
CONFORMS TO STRUCTURE.
99.8%
MAY 2009
REPLACES PRODUCT NUMBER D4384
MAY 2006



Barbara Rajzer, Supervisor
Quality Control
Milwaukee, Wisconsin USA

CERTIFICATE OF ANALYSIS

Catalog No: EPH-WA-ALI-R1
Description: Revised EPH Aliphatic Check Mix
Lot: 213021207
Solvent: Dichloromethane
Hazards: Refer to SDS for complete safety information

Date Certified: Feb 19, 2013
Expiration: Feb 19, 2023
Sample Size: 1 mL
Components: 6
Storage Condition: Ambient (>5 °C)



Certified Reference Material



Component	CAS #	Purity %	Prepared Concentration ²	Certified Analyte Concentration ¹
		(GC/MS)	(µg/mL)	(µg/mL)
n-Octane	111-65-9	100.0	1002	1002
n-Decane	124-18-5	100.0	1001	1001
n-Dodecane	112-40-3	99.6	1000	996
n-Hexadecane	544-76-3	99.4	1001	995
n-Heneicosane	629-94-7	100.0	1001	1001
n-Tetratriacontane	14167-59-0	99.8	1001	999

I 002965

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.

² All weights are traceable through NIST, Test No. 822-275872-11

¹ Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents 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.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Certified By:



Larry Decker, Organic QC Manager