Pace Analytical Services, LLC.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

Report Prepared for:

State of Indiana
Attention: IDEM
100 North Senate Avenue

Indianapolis IN 46204

REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

Report Prepared Date:
March 8, 2023

Report Information:

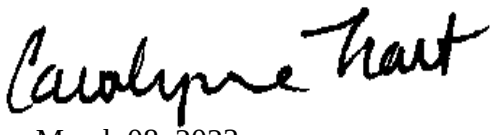
Pace Project #: 10644640
Sample Receipt Date: 03/04/2023
Client Project #: Waste Sampling - OH Derailme
Client Sub PO #: N/A
State Cert #: C-MN-01

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 4 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Carolynne Trout, your Pace Project Manager.

This report has been reviewed by:



March 08, 2023

Carolynne Trout, Project Manager
(612) 607-6351
(612) 607-6444 (fax)
Carolynne.Trout@pacelabs.com

Report of Laboratory Analysis

Pace Analytical Services, LLC.
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DISCUSSION

This report presents the results from the analyses performed on three samples submitted by a representative of the State of Indiana. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. The estimated detection limits (EDLs) were based on signal-to-noise measurements. Estimated maximum possible concentration (EMPC) values were treated as positives in the toxic equivalence calculations. This report was revised with changes to the client contact information.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 32-94%. Except for four low values, which were flagged "R" on the results tables, the labeled internal standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

Values were flagged "I" where incorrect isotope ratios were obtained or "P" where polychlorinated diphenyl ethers were present. Concentrations below the calibration range were flagged "J" and should be regarded as estimates. Values obtained from analyses of diluted extracts were flagged "D" and "N2". Values obtained from second column confirmation analyses were flagged "C".

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to contain trace levels of selected congeners. These levels were below the calibration range of the method. The concentrations reported for the affected congeners in the field samples were higher than the corresponding blank levels by one or more orders of magnitude.

Laboratory and matrix spike samples were also prepared using clean reference matrix or sample matrix that had been fortified with native standard materials. The results show that the spiked native compounds in the laboratory spike sample were recovered at 79-97%. These results were within the target range for the method. Fifteen background-subtracted recovery values obtained for the matrix spike samples were below the 70-130% target range and flagged "R" on the results tables. These deviations may be due to the levels of the affected congeners in the sample material and/or sample inhomogeneity. The relative percent difference values obtained for the matrix spike analyses ranged from 2.3-19.9% and were within the 0-20% target range.

The responses obtained for selected labeled congeners in calibration standard analysis L230305B_10 were outside the target range. As specified in our procedures for this method, the averages of the daily response factors for these compounds were used in the calculations for the samples from this runshift. The affected values were flagged "Y" on the results tables.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Minneapolis, MN 55414

Tel: 612-607-1700
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Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
		Missouri	10100
A2LA	2926.01	Montana	CERT0092
Alabama	40770	Nebraska	NE-OS-18-06
Alaska-DW	MN00064	Nevada	MN00064
Alaska-UST	17-009	New Hampshire	2081
Arizona	AZ0014	New Jersey	MN002
Arkansas - WW	88-0680	New York	11647
Arkansas-DW	MN00064	North Carolina-	27700
California	2929	North Carolina-	530
Colorado	MN00064	North Dakota	R-036
Connecticut	PH-0256	Ohio-DW	41244
Florida	E87605	Ohio-VAP (170	CL101
Georgia	959	Ohio-VAP (180	CL110
Hawaii	MN00064	Oklahoma	9507
Idaho	MN00064	Oregon-Primary	MN300001
Illinois	200011	Oregon-Second	MN200001
Indiana	C-MN-01	Pennsylvania	68-00563
Iowa	368	Puerto Rico	MN00064
Kansas	E-10167	South Carolina	74003
Kentucky-DW	90062	Tennessee	TN02818
Kentucky-WW	90062	Texas	T104704192
Louisiana-DEQ	AI-84596	Utah	MN00064
Louisiana-DW	MN00064	Vermont	VT-027053137
Maine	MN00064	Virginia	460163
Maryland	322	Washington	C486
Michigan	9909	West Virginia-D	382
Minnesota	027-053-137	West Virginia-D	9952C
Minnesota-Ag	via MN 027-053	Wisconsin	999407970
Minnesota-Petr	1240	Wyoming-UST	via A2LA 2926.
Mississippi	MN00064		

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Reporting Flags

A = Reporting Limit based on signal to noise (EDL)

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

H2 = Extracted outside of holding time

I = Isotope ratio out of specification

J = Estimated value

L = Suppressive interference, analyte may be biased low

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

REPORT OF LABORATORY ANALYSIS

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2,3,7,8-TCDD Equivalency Factors (TEFs) for the Polychlorinated Dibenzo-p-dioxins and Dibenzofurans

WHO2005 Factors

Compound	TEF
2,3,7,8-TCDD	1.000000
1,2,3,7,8-PeCDD	1.000000
1,2,3,4,7,8-HxCDD	0.100000
1,2,3,6,7,8-HxCDD	0.100000
1,2,3,7,8,9-HxCDD	0.100000
1,2,3,4,6,7,8-HpCDD	0.010000
OCDD	0.000300
Total TCDD	0.000000
Total PeCDD	0.000000
Total HxCDD	0.000000
Total HpCDD	0.000000
2,3,7,8-TCDF	0.100000
1,2,3,7,8-PeCDF	0.030000
2,3,4,7,8-PeCDF	0.300000
1,2,3,4,7,8-HxCDF	0.100000
1,2,3,6,7,8-HxCDF	0.100000
2,3,4,6,7,8-HxCDF	0.100000
1,2,3,7,8,9-HxCDF	0.100000
1,2,3,4,6,7,8-HpCDF	0.010000
1,2,3,4,7,8,9-HpCDF	0.010000
OCDF	0.000300
Total TCDF	0.000000
Total PeCDF	0.000000
Total HxCDF	0.000000
Total HpCDF	0.000000

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Appendix A

Sample Management

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Sample ID Cross Reference

Client Sample ID	Pace Sample ID	Date Received	Sample Type
WS-1	10644640001	03/04/2023	Solid
WS-2	10644640002	03/04/2023	Solid
WS-2 Dup	10644640003	03/04/2023	Solid

REPORT OF LABORATORY ANALYSIS

Report No: SW8290EC_14_R1.dfr
Revision 1
Page 8 of 240

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: IDEM Senate Avenue	Report To: Fran Metcalfe	Attention:
Address: 100 N Senate Avenue	Copy To:	Company Name:
Office of Land Quality, Indianapolis, IN 46204		Address:
Email: fmetcalf@idem.in.gov	Purchase Order #:	Pace Quote:
Phone: 317-232-7166 Fax:	Project Name: WASTE SAMPLING - OH DERAIL MENT	Pace Project Manager:
Requested Due Date: 3 Day	Project #: AS PER B. ROCKENSUESS IDEM	Pace Profile #:

Regulatory Agency

State / Location: IN

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N: Dioxin Furan 8290	% Moisture	Residual Chlorine (Y/N)
1	WS-1	SL	G	3-4-23	0730				1	1								X	X	W1
2	WS-2	SL	G	3-4-23	0752				1	1								X	X	W2
3	WS-2 Dup	SL	G	3-4-23	0752				1	1								X	X	W3
4	WS-1 MS	SL	G	3-4-23	0730				2	2								X	X	W1
5	WS-1 MSD	SL	G	3-4-23	0730				2	2								X	X	W1
6																				
7																				
8																				
9																				
10																				
11																				
12																				

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

WO# : 10644640

10644640

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
level IV		3-4-23	0801	Joshua Richard PACE	3/4/23	0803	
RUSH	Joshua Richard PACE	3-4-23	1131		3/4/23	1131	
		3/4/23	1145		3/4/23	1145	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chelsea McCammack

SIGNATURE of SAMPLER: DATE Signed: 3/4/23 0801

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

DC#_Title: Excel Form Template
Effective Date:

Sample Condition Upon Receipt

Client Name: IDEM

Project #: WO#: 10644640

PM: CT1 Due Date: 03/13/23
CLIENT: IDEM-OLQ

Courier: ☐ FedEx ☐ UPS ☐ USPS ☐ Client ☑ Pace ☐ SpeeDee ☐ Commercial

Tracking Number: _____ ☐ See Exceptions ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No **Biological Tissue Frozen?** ☐ Yes ☐ No ☑ N/A

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other **Temp Blank?** ☐ Yes ☑ No

Thermometer: ☐ T1 (0461) ☐ T2 (1336) ☐ T3 (0459) ☐ T4 (0254) ☐ T5 (0178) ☑ T6 (0235) ☐ T7 (0042) ☐ T8 (0775) ☐ T9(0727) ☐ 01339252/1710 **Type of Ice:** ☑ Wet ☐ Blue ☐ Dry ☐ None ☐ Melted

Did Samples Originate in West Virginia? ☐ Yes ☑ No **Were All Container Temps Taken?** ☐ Yes ☐ No ☑ N/A

Temp should be above freezing to 6 °C **Cooler temp Read w/Temp Blank:** _____ °C

Correction Factor: -0.1 **Cooler Temp Corrected w/temp blank:** _____ °C

Average Corrected Temp (no temp blank only): 5.0 °C
☑ See Exceptions ENV-FRM-MIN4-0142 ☐ 1 Container

USDA Regulated Soil: ☑ N/A, water sample/other: _____ **Date/Initials of Person Examining Contents:** DM 3/4/23

Did samples originate in a quarantine zone within the United States: AL, AR, AZ CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

Location (Check one): ☐ Duluth ☑ Minneapolis ☐ Virginia				**COMMENTS**
Chain of Custody Present and Filled Out?	☑ Yes	☐ No		1.
Chain of Custody Relinquished?	☑ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	3.
Samples Arrived within Hold Time?	☑ Yes	☐ No		4. If fecal: ☐ <8 hrs ☐ >8 hr, <24 ☐ No
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E.coli ☐ BOD/cBOD ☐ Hex Chrom ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other _____
Rush Turn Around Time Requested?	☑ Yes	☐ No		6. 3Day
Sufficient Sample Volume?	☑ Yes	☐ No		7.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	8.
-Pace Containers Used?	☑ Yes	☐ No		
Containers Intact?	☑ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC?	☑ Yes	☐ No		11. **If no, write ID/Date/Time of container below:** ☐ See Exceptions ENV-FRM-MIN4-0142
Matrix: ☐ Water ☑ Soil ☐ Oil ☐ Other				
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☑ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO3, H2SO4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☐ Yes	☐ No	☑ N/A	☐ NaOH ☐ HNO3 ☐ H2SO4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxins/PFAS (*If adding preservative to a container, it must be added to associated field and equipment blanks--verify with PM first.)	☐ Yes	☐ No	☑ N/A	Positive for Residual Chlorine? ☐ Yes ☐ No ☐ See Exceptions ENV-FRM-MIN4-0142
				pH Paper Lot #
				Residual Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Headspace in Methyl Mercury Container?	☐ Yes	☐ No	☑ N/A	13.
Extra labels present on soil VOA or WIDRO containers?	☐ Yes	☐ No	☑ N/A	14. ☐ See Exceptions ENV-FRM-MIN4-0142
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☑ N/A	
3 Trip Blanks Present?	☐ Yes	☐ No	☑ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Carolynne Trout **Date:** 03/04/2023

NOTE: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled By: DM **Line:** 2

Pace ANALYTICAL SERVICES	**DC#_Title: ENV-FRM-MIN4-0142 v02_Sample Condition Upon Receipt (SCUR) Exception Form**
	Effective Date: 09/22/2022

Workorder #: _____

No Temp Blank		
Read Temp	**Corrected Temp**	**Average temp**
4.2	4.1	5.0
5.0	4.9	
5.1	5.3	
5.8	5.7	

PM Notified of Out of Temp Cooler? ☐ Yes ☐ No

If yes, indicate who was contacted, date and time.
If no, indicate reason why.

_____

Multiple Cooler Project? ☐ Yes ☐ No

If anything is OVER 6.0° C, you MUST document containers in this section HERE

Tracking Number	Temperature

Out of Temp Sample ID	Container Type	# of Containers

pH Adjustment Log for Preserved Samples

Sample ID	Type Of Preserve	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance After Addition?		Initials
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	

Comments:

_____

_____

_____

Qualtrax ID: 52763

Dioxin | Solid | Soxhlet | EB-34879

QC Matrix Lot #: Sand 216016
Time of Spiking: 03/04/23 13:30
Balance: 10BALO

Extract Solvents:
Toluene Lot # 221591
Hexane Lot #
MeCl Lot #

Extraction On (Date/Time): 03/04/23 14:30
Extraction Off (Date/Time): 03/05/23 06:30

Standards	Name/ID	Amount	Initial	Witness	Expiration Date	Dispenser
Internal Std.	FL-I-21266-122	100	JEF	CW1	02/14/24	Q763
Native	FL-N-21266-106	50	JEF	CW1	12/02/23	Q763
Cl37 Std.	DWCL4-21266-111	50	JEF		12/15/23	Q844
Recovery	FL-R-21266-192	10	CBS		03/02/24	Q763
Tridecane	A0424714	10	CBS			Q763
Others						

#	Sample ID	Internal Standards	Native Standards	Extracted mL or g	Glassware Set	Location	Comments
1	BLANK-104421	x		10.5			
2	LCS-104422	x	x	10.7			
3	10644640001-MS	x	x	10.3		Rcving	
4	10644640001-MSD	x	x	10.8		Rcving	
5	10644640001	x		10.5		Rcving	
6	10644640002	x		10.7		Rcving	
7	10644640003	x		10.6		Rcving	
8	10644584001	x		1.0		10-C16-153	
9	10644584002	x		1.0		10-C16-153	
10	10644584003	x		1.0		10-C16-153	
11	10644584004	x		1.0		10-C16-153	
12	10644584005	x		1.0		10-C16-153	
13	10644586001	x		1.0		10-C16-153	
14	10644586002	x		1.0		10-C16-153	
15	10644586003	x		1.0		10-C16-153	
16	10644586004	x		1.0		10-C16-153	
17	10644586005	x		1.0		10-C16-153	
18	10644586006	x		1.0		10-C16-153	

Relinquished By: C

Received By: J Heckman

Date: 3/5/2023 4:52:35

Batch Notes:

Silica		Alumina		Carbon		Florisil	
Initials	CW1	Initials	CW1	Initials	CW1	Initials	
Date	3/5/2023	Date	3/5/2023	Date	3/5/2023	Date	
Neutral Batch	765	Alumina Lot #	42XX	Hexane Lot #	EF464-US	Florisil Lot #	
Basic Batch	828	Hexane Lot #	EF464-US	Dispenser	Q771	Hexane Lot #	
Acid Batch	954	Dispenser	Q771	50% Batch		Dispenser	
Hexane Lot #	EF464-US	60% Batch	2023	Dispenser		6% Batch	
Dispenser	Q771	Dispenser	Q771	75% Batch		Dispenser	
				Dispenser			
				Toluene Lot #	EF407-US		
				Dispenser	Q757		
				Methanol Lot #			
				Dispenser			

Acid Base	
Sulphuric Acid Lot #	224621
Base Batch	

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Solid Sample Moisture Log

Sample ID	Container Weight	Wet Weight	Dry Weight	% Moisture	% Solids	Assayed
10644640001	1.2457	6.6525	5.3305	24.4506	75.5494	3/5/2023
10644640002	1.2481	9.7701	7.8522	22.5052	77.4948	3/5/2023
10644640003	1.2491	9.8199	8.0524	20.6223	79.3777	3/5/2023

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Client names have been blacked out on notebook pages in order to preserve client confidentiality

REPORT OF LABORATORY ANALYSIS

Analysis Key Code List

- = Not used

✔ = Worked up

= See comment # below

Li = Liner, replace or clean

Ba = Baseplate, change

SyB = Syringe, replace – bent

SyP = Syringe, replace – plugged

SyO = Syringe, replace – other

IS = Injector Septum, replace

BS = Batch Septum, replace

Fi = Filament, replace

Co = Contacts, adjust

Ca = re-Calibrate

Tu = Tune

TC = Tune and Calibrate

CC () = Cut Column (length cut)

CO = Carry-Over possible

RRM = ReRun - Matrix

RRLM = ReRun – Lock Mass

RRBI = ReRun – Bad Injection

RRRT = ReRun – Retention Time shift

RR>S = Rerun – need better Sensitivity

Re = Re-extract

AS = Adjust Slits

LC = Leak Check

RB = Re-Boot system

CiS = Cleaned inner Source

CoS = Cleaned outer Source

AiS = Alternate inner Source

AoS = Alternate outer Source

<Y = Adjust Y focus down

>Y = Adjust Y focus up

Di () = Dilution needed (amount needed)

FE = Front End – liner, baseplate and septum

Sample List Report **MassLynx 4.2 SCN992**

10MSHRS — 3/2/23

Sample List: C:\MassLynx\PaceNew.PRO\SampleDB\L230302A.SPL

Last Modified: Thursday, March 02, 2023 13:36:17 Central Standard Time

Printed: Thursday, March 02, 2023 13:45:09 Central Standard Time

	File Name	File Text	Stnd Exp.	Method	MS File	Inlet File	VIAL	VOL	Control
1	L230302A_01	BLANK BLANK-100017-10X - SMT	—	HOUSE	dioxfurL	dioxfur	Tray1:3	1.000000	—
2	L230302A_02	SAMP 50337675013 - SMT [redacted]	—	8290	dioxfurL	dioxfur	Tray1:28	1.000000	—
3	L230302A_03	SAMP 50337675015 - SMT [redacted]	—	8290	dioxfurL	dioxfur	Tray1:29	1.000000	—
4	L230302A_04	SAMP 50337675016 - SMT [redacted]	—	8290	dioxfurL	dioxfur	Tray1:30	1.000000	—
5	L230302A_05	SAMP 50337675018 - SMT [redacted]	—	8290	dioxfurL	dioxfur	Tray1:31	1.000000	—
6	L230302A_06	CAL CS3/CPM-22-171-022 - SMT FE 2" TC	240502	8290/1613B	dioxfurL	dioxfur	Tray1:1	1.000000	—
7	L230302A_07	CAL ICV-102062 - SMT	231025	8290/1613B	dioxfurL	dioxfur	Tray1:4	1.000000	—
8	L230302A_08	CAL CS3/CPM-22-171-022 - SMT 03/01 tune	240502	8290/1613B	dioxfurL	dioxfur	Tray1:1	1.000000	—
9	L230302A_09	CAL CS2-22-171-006 - SMT	231005	8290/1613B	dioxfurL	dioxfur	Tray1:5	1.000000	—
10	L230302A_10	CAL CS1-20-123-108 - SMT	230418	8290/1613B	dioxfurL	dioxfur	Tray1:6	1.000000	—
11	L230302A_11	CAL CS5-22-171-008 - SMT	231005	8290/1613B	dioxfurL	dioxfur	Tray1:7	1.000000	—
12	L230302A_12	CAL CS4-22-171-007 - SMT	231005	8290/1613B	dioxfurL	dioxfur	Tray1:8	1.000000	—
13	L230302A_13	BLANK NONANE - SMT	—	HOUSE	dioxfurL	dioxfur	Tray1:2	1.000000	—
14	L230302A_14	CAL ICV-102062 - SMT	231025	8290/1613B	dioxfurL	dioxfur	Tray1:4	1.000000	—

Sm 3/3/23

Sample List Report MassLynx 4.2 SCN992 10 MSA/215 3/5/23

Sample List: C:\MassLynx\PaceNew.PRO\SampleDB\L230305A.SPL
Last Modified: Sunday, March 05, 2023 15:49:23 Central Standard Time
Printed: Sunday, March 05, 2023 15:50:16 Central Standard Time

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	File Name	File Text	Stnd Exp.	Method	MS File	Inlet File	VIAL	VOL	Control
1	L230305A_01	CAL CS3/CPM-22-171-022 - JRH FECC12" TC	240502	8290/1613B	dioxfurL	dioxfur	Tray1:1	1.000000	pass 8290 + Tetras
2	L230305A_02	BLANK BLANK-100017-10X - JRH	—	HOUSE	dioxfurL	dioxfur	Tray1:3	1.000000	—
3	L230305A_03	SAMP 10643345001 - JRH [redacted]	—	8290	dioxfurL	dioxfur	Tray1:33	1.000000	—
4	L230305A_04	SAMP 10643345002 - JRH [redacted]	—	8290	dioxfurL	dioxfur	Tray1:34	1.000000	—
5	L230305A_05	SAMP 10643345003 - JRH [redacted]	—	8290	dioxfurL	dioxfur	Tray1:35	1.000000	—
6	L230305A_06	SAMP 10643345004 - JRH [redacted]	—	8290	dioxfurL	dioxfur	Tray1:36	1.000000	—
7	L230305A_07	SAMP 10643345005 - JRH [redacted]	—	8290	dioxfurL	dioxfur	Tray1:37	1.000000	—
8	L230305A_08	BLANK BLANK-100017-10X - JRH	—	HOUSE	dioxfurL	dioxfur	Tray1:3	1.000000	—
9	L230305A_09	SAMP 92653933001 - JRH [redacted]	—	8290	dioxfurL	dioxfur	Tray1:38	1.000000	—
10	L230305A_10	SAMP 92653933003 - JRH [redacted]	—	8290	dioxfurL	dioxfur	Tray1:39	1.000000	—
11	L230305A_11	SAMP 92653933004 - JRH [redacted]	—	8290	dioxfurL	dioxfur	Tray1:40	1.000000	—
12	L230305A_12	SAMP 92653933005 - JRH [redacted]	—	8290	dioxfurL	dioxfur	Tray1:41	1.000000	—
13	L230305A_13	SAMP 92653933006 - JRH [redacted]	—	8290	dioxfurL	dioxfur	Tray1:42	1.000000	—
14	L230305A_14	SAMP 10644341001 - JRH [redacted]	—	8290	dioxfurL	dioxfur	Tray1:43	1.000000	—
15	L230305A_15	SAMP 10644342001 - JRH [redacted]	—	8290	dioxfurL	dioxfur	Tray1:44	1.000000	—
16	L230305A_16	SAMP 10644346001 - JRH [redacted]	—	8290	dioxfurL	dioxfur	Tray1:45	1.000000	—
17	L230305A_17	SAMP 10644225001 - JRH [redacted]	—	1613B-TD	dioxfurL	dioxfur	Tray1:46	1.000000	—
18	L230305A_18	CAL CS3/CPM-22-171-022 - JRH	240502	8290/1613B	dioxfurL	dioxfur	Tray1:1	1.000000	— pass all

3/24 3/24 3/15 3/15 3/15

3/6/23

JRH 3/5/23

Sample List Report **MassLynx 4.2 SCN992** 10M5HR IS 3/5/23

Sample List: C:\MassLynx\PaceNew.PRO\SampleDB\L230305B.SPL

Last Modified: Monday, March 06, 2023 08:08:41 Central Standard Time

Printed: Monday, March 06, 2023 08:09:45 Central Standard Time

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	File Name	File Text	Stnd Exp.	Method	MS File	Inlet File	VIAL	VOL	Control
1	L230305B_01	LCS LCS-104422 - JRH	---	8290	dioxfurL	dioxfur	Tray1:5	1.000000	---
2	L230305B_02	SAMP 10644640001-MS - JRH IDEM	---	8290	dioxfurL	dioxfur	Tray1:6	1.000000	---
3	L230305B_03	SAMP 10644640001-MSD - JRH IDEM	---	8290	dioxfurL	dioxfur	Tray1:7	1.000000	---
4	L230305B_04	BLANK BLANK-100017-10X - JRH	---	HOUSE	dioxfurL	dioxfur	Tray1:3	1.000000	---
5	L230305B_05	BLANK BLANK-104421 - JRH	---	8290	dioxfurL	dioxfur	Tray1:4	1.000000	---
6	L230305B_06	SAMP 10644640001 - JRH IDEM	---	8290	dioxfurL	dioxfur	Tray1:8	1.000000	---
7	L230305B_07	SAMP 10644640002 - JRH IDEM	---	8290	dioxfurL	dioxfur	Tray1:9	1.000000	---
8	L230305B_08	SAMP 10644640003 - JRH IDEM	---	8290	dioxfurL	dioxfur	Tray1:10	1.000000	---
9	L230305B_09	BLANK NONANE - JRH prev matrix	---	HOUSE	dioxfurL	dioxfur	Tray1:2	1.000000	---
10	L230305B_10	CAL CS3/CPM-22-171-022 - JRH	240502	8290/1613B	dioxfurL	dioxfur	Tray1:1	1.000000	--- C/D51M 8290

Vm 03/06/23

Sma 3/6/23

Sample List Report **MassLynx 4.2 SCN992** 10MSHR15 3/6/23

Sample List: C:\MassLynx\PaceNew.PRO\SampleDB\L230306A.SPL
Last Modified: Monday, March 06, 2023 11:54:58 Central Standard Time
Printed: Monday, March 06, 2023 12:09:15 Central Standard Time

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	File Name	File Text	Stnd Exp.	Method	MS File	Inlet File	VIAL	VOL	Control
1	L230306A_01	CAL CS3/CPM-22-171-022 - SMT FE 3"	240502	8290/1613B	dioxfurL	dioxfur	Tray1:1	1.000000	—
2	L230306A_02	BLANK BLANK-100017-10X - SMT	—	HOUSE	dioxfurL	dioxfur	Tray1:3	1.000000	—
3	L230306A_03	SAMP 10644584001 - SMT [redacted]	—	8290	dioxfurL	dioxfur	Tray1:4	1.000000	—
4	L230306A_04	SAMP 10644584002 - SMT [redacted]	—	8290	dioxfurL	dioxfur	Tray1:5	1.000000	—
5	L230306A_05	SAMP 10644584003 - SMT [redacted]	—	8290	dioxfurL	dioxfur	Tray1:6	1.000000	—
6	L230306A_06	SAMP 10644584004 - SMT [redacted]	—	8290	dioxfurL	dioxfur	Tray1:7	1.000000	—
7	L230306A_07	SAMP 10644584005 - SMT [redacted]	—	8290	dioxfurL	dioxfur	Tray1:8	1.000000	—
8	L230306A_08	SAMP 10644586001 - SMT [redacted]	—	8290	dioxfurL	dioxfur	Tray1:9	1.000000	—
9	L230306A_09	SAMP 10644586002 - SMT [redacted]	—	8290	dioxfurL	dioxfur	Tray1:10	1.000000	—
10	L230306A_10	SAMP 10644586003 - SMT [redacted]	—	8290	dioxfurL	dioxfur	Tray1:11	1.000000	—
11	L230306A_11	SAMP 10644586004 - SMT [redacted]	—	8290	dioxfurL	dioxfur	Tray1:12	1.000000	—
12	L230306A_12	SAMP 10644586005 - SMT [redacted]	—	8290	dioxfurL	dioxfur	Tray1:13	1.000000	—
13	L230306A_13	SAMP 10644586006 - SMT [redacted]	—	8290	dioxfurL	dioxfur	Tray1:14	1.000000	—
14	L230306A_14	BLANK BLANK-104391 - SMT [redacted]	—	8290/1613B	dioxfurL	dioxfur	Tray1:15	1.000000	—
15	L230306A_15	LCS MDL-104388 - SMT [redacted]	—	8290/1613B	dioxfurL	dioxfur	Tray1:16	1.000000	—
16	L230306A_16	LCS MDL-104389 - SMT [redacted]	—	8290/1613B	dioxfurL	dioxfur	Tray1:17	1.000000	—
17	L230306A_17	CAL CS3/CPM-22-171-022 - SMT	240502	8290/1613B	dioxfurL	dioxfur	Tray1:1	1.000000	— pass all

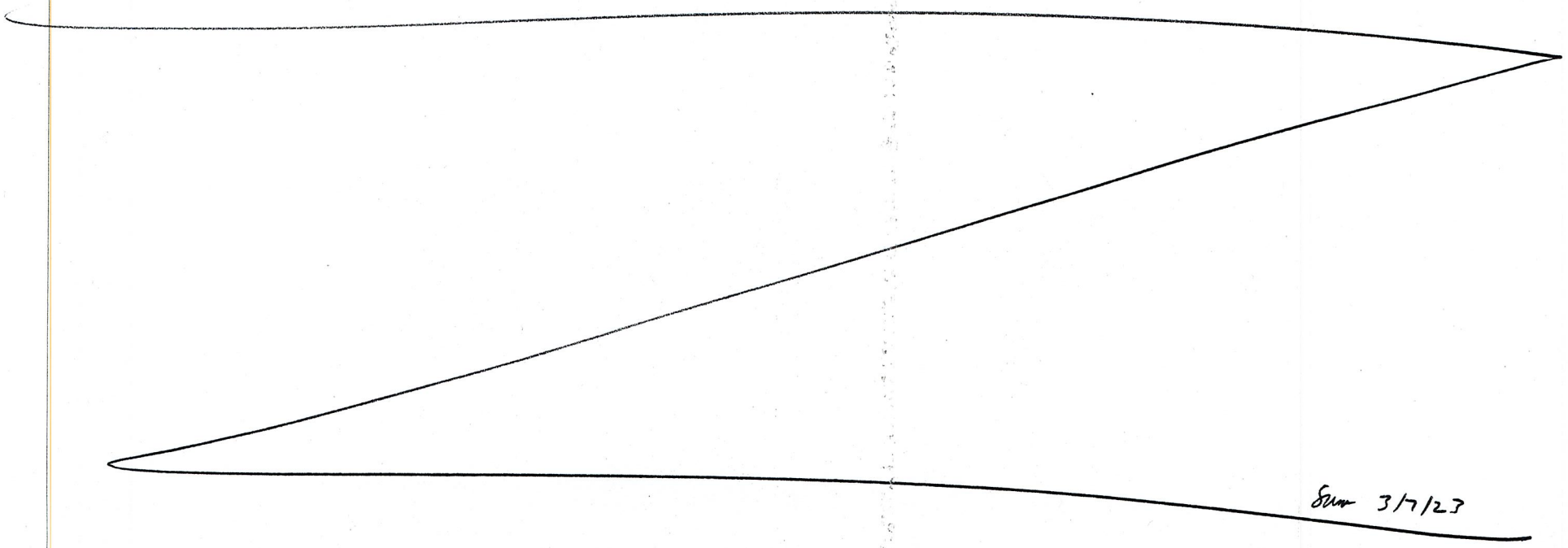
SMK 3/6/23

Sample List Report **MassLynx 4.2 SCN992**

10MS shr 15 3/6/23

Sample List: C:\MassLynx\PaceNew.PRO\SampleDB\L230306B.SPL
Last Modified: Monday, March 06, 2023 12:31:15 Central Standard Time
Printed: Monday, March 06, 2023 12:31:39 Central Standard Time

	File Name	File Text	Stnd Exp.	Method	MS File	Inlet File	VIAL	VOL	Control
1	L230306B_01	SAMP 50337714009-MS - SMT [redacted]	3/14	8290	dioxfurL	dioxfur	Tray1:18	1.000000	—
2	L230306B_02	SAMP 50337714009-MSD - SMT [redacted]	—	8290	dioxfurL	dioxfur	Tray1:19	1.000000	—
3	L230306B_03	BLANK BLANK-100017-10X - SMT	—	HOUSE	dioxfurL	dioxfur	Tray1:3	1.000000	—
4	L230306B_04	BLANK BLANK-104390 - SMT [redacted]	—	8290/1613B	dioxfurL	dioxfur	Tray1:20	1.000000	—
5	L230306B_05	SAMP 50337714009 - SMT [redacted]	—	8290	dioxfurL	dioxfur	Tray1:21	1.000000	—
6	L230306B_06	SAMP 50337714006 - SMT [redacted]	3/14 —	8290	dioxfurL	dioxfur	Tray1:22	1.000000	—
7	L230306B_07	SAMP 50337714001 - SMT [redacted]	—	8290	dioxfurL	dioxfur	Tray1:23	1.000000	—
8	L230306B_08	SAMP 10644156001 - SMT [redacted]	—	1613B	dioxfurL	dioxfur	Tray1:24	1.000000	—
9	L230306B_09	SAMP 10644156002 - SMT [redacted]	3/24 —	1613B	dioxfurL	dioxfur	Tray1:25	1.000000	—
10	L230306B_10	SAMP 10644156003 - SMT [redacted]	—	1613B	dioxfurL	dioxfur	Tray1:26	1.000000	—
11	L230306B_11	SAMP 10644156004 - SMT [redacted]	—	1613B	dioxfurL	dioxfur	Tray1:27	1.000000	—
12	L230306B_12	SAMP 10644340001 - SMT [redacted]	3/15 —	1613B	dioxfurL	dioxfur	Tray1:28	1.000000	—
13	L230306B_13	SAMP 10643984001 - SMT [redacted]	3/20 —	1613B	dioxfurL	dioxfur	Tray1:29	1.000000	—
14	L230306B_14	SAMP 10643983001 - SMT [redacted]	3/27 —	8290	dioxfurL	dioxfur	Tray1:30	1.000000	—
15	L230306B_15	SAMP 10644640002 - SMT IDEM 10X	—	8290	dioxfurL	dioxfur	Tray1:31	1.000000	—
16	L230306B_16	BLANK NONANE - SMT high level	—	HOUSE	dioxfurL	dioxfur	Tray1:2	1.000000	—
17	L230306B_17	CAL CS3/CPM-22-171-022 - SMT	240502	8290/1613B	dioxfurL	dioxfur	Tray1:1	1.000000	—



Sum 3/7/23

Sample List Report **MassLynx 4.2 SCN992** 10/11SH/2022 10/9/22

Sample List: C:\MassLynx\Default.pro\Sampledb\U221009A.SPL
Last Modified: Sunday, October 09, 2022 10:59:07 Central Daylight Time
Printed: Sunday, October 09, 2022 10:59:09 Central Daylight Time

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	File Name	File Text	Stnd Exp	Method	MS File	Inlet File	Vial	Vol	Control
1	U221009A_01	CAL CPM-11321-090 - JRH TC col. US2588526H	NA	TCDF-conf	DB225	DB225	Tray1:4	1.000000	---
2	U221009A_02	CAL CS3/CPM-22-171-005 - JRH	231003	TCDF-conf	DB225	DB225	Tray1:1	1.000000	---
3	U221009A_03	CAL CS2-22-171-006 - JRH	231005	TCDF-conf	DB225	DB225	Tray1:5	1.000000	---
4	U221009A_04	CAL CS1-20-123-108 - JRH	230418	TCDF-conf	DB225	DB225	Tray1:6	1.000000	---
5	U221009A_05	CAL CS5-22-171-008 - JRH	231005	TCDF-conf	DB225	DB225	Tray1:7	1.000000	---
6	U221009A_06	CAL CS4-22-171-007 - JRH	231005	TCDF-conf	DB225	DB225	Tray1:8	1.000000	---
7	U221009A_07	BLANK NONANE - JRH	---	TCDF-conf	DB225	DB225	Tray1:2	1.000000	---
8	U221009A_08	CAL ICV-101693 - JRH	230902	TCDF-conf	DB225	DB225	Tray1:9	1.000000	---
9	U221009A_09	BLANK NONANE - JRH	---	TCDF-conf	DB225	DB225	Tray1:2	1.000000	---

ver 10/9/22 JRH

JRH 10/9/22

Sample List Report **MassLynx 4.2 SCN992**

10MSHR06 3/7/23

Sample List: C:\MassLynx\Default.pro\Sampledb\U230307A.SPL
Last Modified: Tuesday, March 07, 2023 09:22:35 Central Standard Time
Printed: Tuesday, March 07, 2023 14:24:44 Central Standard Time

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	File Name	File Text	Stnd Exp	Method	MS File	Inlet File	Vial	Vol	Control
1	U230307A_01	CAL CPM-11321-090 - SMT (empty)	NA	TCDF-conf	DB225	DB225	Tray1:4	1.000000	---
2	U230307A_02	CAL CPM-11321-090 - SMT	NA	TCDF-conf	DB225	DB225	Tray1:4	1.000000	---
3	U230307A_03	CAL CS3-22-171-004 - SMT	231001	TCDF-conf	DB225	DB225	Tray1:5	1.000000	---
4	U230307A_04	BLANK NONANE - SMT	---	TCDF-conf	DB225	DB225	Tray1:2	1.000000	---
5	U230307A_05	SAMP 10644640001 - SMT IDEM	---	TCDF-conf	DB225	DB225	Tray1:6	1.000000	---
6	U230307A_06	SAMP 10644640002 - SMT IDEM	---	TCDF-conf	DB225	DB225	Tray1:7	1.000000	---
7	U230307A_07	SAMP 10644640003 - SMT IDEM	---	TCDF-conf	DB225	DB225	Tray1:8	1.000000	---
8	U230307A_08	CAL CS3-22-171-004 - SMT	231001	TCDF-conf	DB225	DB225	Tray1:5	1.000000	---
9	U230307A_09	CAL CS1-20-123-108 - SMT	230418	TCDF-conf	DB225	DB225	Tray1:9	1.000000	---

Ver 03/07/23

Sma 3/8/23

Pace Analytical Services, LLC
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444
www.pacelabs.com

Appendix B

Sample Analysis Summary

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - State of Indiana

Client's Sample ID	WS-1		
Lab Sample ID	10644640001		
Filename	L230305B_06		
Injected By	JRH		
Total Amount Extracted	10.5 g	Matrix	Solid
% Moisture	24.5	Dilution	NA
Dry Weight Extracted	7.96 g	Collected	03/04/2023 07:30
ICAL ID	L230302	Received	03/04/2023 11:55
CCal Filename(s)	L230305A_18 & L230305B_10	Extracted	03/04/2023 14:30
Method Blank ID	BLANK-104421	Analyzed	03/06/2023 02:09

Native Isomers	Conc ug/Kg	EMPC ug/Kg	EDL ug/Kg		Internal Standards	ng's Added	Percent Recovery	
2,3,7,8-TCDF	0.034	-----	0.00050	C	2,3,7,8-TCDF-13C	2.00	81	
Total TCDF	0.90	-----	0.00020		2,3,7,8-TCDD-13C	2.00	74	
					1,2,3,7,8-PeCDF-13C	2.00	77	
2,3,7,8-TCDD	0.0030	-----	0.00011		2,3,4,7,8-PeCDF-13C	2.00	73	
Total TCDD	0.17	-----	0.00011		1,2,3,7,8-PeCDD-13C	2.00	81	
					1,2,3,4,7,8-HxCDF-13C	2.00	93	
1,2,3,7,8-PeCDF	0.066	-----	0.00014		1,2,3,6,7,8-HxCDF-13C	2.00	83	
2,3,4,7,8-PeCDF	0.080	-----	0.00021		2,3,4,6,7,8-HxCDF-13C	2.00	77	
Total PeCDF	1.00	-----	0.00014		1,2,3,7,8,9-HxCDF-13C	2.00	70	
					1,2,3,4,7,8-HxCDD-13C	2.00	73	
1,2,3,7,8-PeCDD	0.021	-----	0.000085		1,2,3,6,7,8-HxCDD-13C	2.00	80	
Total PeCDD	0.31	-----	0.000085		1,2,3,4,6,7,8-HpCDF-13C	2.00	48	
					1,2,3,4,7,8,9-HpCDF-13C	2.00	50	Y
1,2,3,4,7,8-HxCDF	-----	0.13	0.00038	P	1,2,3,4,6,7,8-HpCDD-13C	2.00	48	
1,2,3,6,7,8-HxCDF	0.12	-----	0.00039		OCDD-13C	4.00	34	RY
2,3,4,6,7,8-HxCDF	0.076	-----	0.00034					
1,2,3,7,8,9-HxCDF	0.035	-----	0.00060		1,2,3,4-TCDD-13C	2.00	NA	
Total HxCDF	0.83	-----	0.00034		1,2,3,7,8,9-HxCDD-13C	2.00	NA	
1,2,3,4,7,8-HxCDD	0.024	-----	0.00033		2,3,7,8-TCDD-37Cl4	0.20	69	
1,2,3,6,7,8-HxCDD	0.046	-----	0.00040					
1,2,3,7,8,9-HxCDD	0.037	-----	0.00043					
Total HxCDD	0.50	-----	0.00033					
1,2,3,4,6,7,8-HpCDF	0.51	-----	0.00050		Total 2,3,7,8-TCDD			
1,2,3,4,7,8,9-HpCDF	0.077	-----	0.0010		Equivalence: 0.11 ug/Kg			
Total HpCDF	0.83	-----	0.00050		(Lower-bound - Using 2005 WHO Factors)			
1,2,3,4,6,7,8-HpCDD	0.34	-----	0.00053					
Total HpCDD	0.84	-----	0.00053					
OCDF	1.6	-----	0.0013					
OCDD	1.7	-----	0.0012					

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
R = Recovery outside target range
P = PCDE Interference
C = Result obtained from confirmation analysis
Y = Calculated using average of daily RFs

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - State of Indiana

Client's Sample ID	WS-2		
Lab Sample ID	10644640002		
Filename	L230305B_07		
Injected By	JRH		
Total Amount Extracted	10.7 g	Matrix	Solid
% Moisture	22.5	Dilution	NA
Dry Weight Extracted	8.32 g	Collected	03/04/2023 07:52
ICAL ID	L230302	Received	03/04/2023 11:55
CCal Filename(s)	L230305A_18 & L230305B_10	Extracted	03/04/2023 14:30
Method Blank ID	BLANK-104421	Analyzed	03/06/2023 02:53

Native Isomers	Conc ug/Kg	EMPC ug/Kg	EDL ug/Kg		Internal Standards	ng's Added	Percent Recovery	
2,3,7,8-TCDF	0.061	-----	0.00052	C	2,3,7,8-TCDF-13C	2.00	80	
Total TCDF	1.5	-----	0.00020		2,3,7,8-TCDD-13C	2.00	73	
					1,2,3,7,8-PeCDF-13C	2.00	78	
2,3,7,8-TCDD	0.0044	-----	0.00016		2,3,4,7,8-PeCDF-13C	2.00	76	
Total TCDD	0.23	-----	0.00016		1,2,3,7,8-PeCDD-13C	2.00	81	
					1,2,3,4,7,8-HxCDF-13C	2.00	94	
1,2,3,7,8-PeCDF	0.53	-----	0.00055		1,2,3,6,7,8-HxCDF-13C	2.00	89	
2,3,4,7,8-PeCDF	0.23	-----	0.00026		2,3,4,6,7,8-HxCDF-13C	2.00	79	
Total PeCDF	3.6	-----	0.00026		1,2,3,7,8,9-HxCDF-13C	2.00	71	
					1,2,3,4,7,8-HxCDD-13C	2.00	79	
1,2,3,7,8-PeCDD	0.042	-----	0.000096		1,2,3,6,7,8-HxCDD-13C	2.00	79	
Total PeCDD	0.50	-----	0.000096		1,2,3,4,6,7,8-HpCDF-13C	2.00	63	DN2
					1,2,3,4,7,8,9-HpCDF-13C	2.00	56	DN2
1,2,3,4,7,8-HxCDF	-----	2.2	0.00087	P	1,2,3,4,6,7,8-HpCDD-13C	2.00	55	
1,2,3,6,7,8-HxCDF	1.2	-----	0.00093		OCDD-13C	4.00	39	RY
2,3,4,6,7,8-HxCDF	0.32	-----	0.00078					
1,2,3,7,8,9-HxCDF	0.35	-----	0.0013		1,2,3,4-TCDD-13C	2.00	NA	
Total HxCDF	6.7	-----	0.00078		1,2,3,7,8,9-HxCDD-13C	2.00	NA	
1,2,3,4,7,8-HxCDD	0.094	-----	0.00045		2,3,7,8-TCDD-37Cl4	0.20	65	
1,2,3,6,7,8-HxCDD	0.17	-----	0.00056					
1,2,3,7,8,9-HxCDD	0.14	-----	0.00034					
Total HxCDD	1.4	-----	0.00034					
1,2,3,4,6,7,8-HpCDF	8.0	-----	0.0044	DN2	Total 2,3,7,8-TCDD			
1,2,3,4,7,8,9-HpCDF	1.3	-----	0.0064	DN2	Equivalence: 0.70 ug/Kg			
Total HpCDF	12	-----	0.0044	DN2	(Lower-bound - Using 2005 WHO Factors)			
1,2,3,4,6,7,8-HpCDD	2.1	-----	0.00039					
Total HpCDD	3.6	-----	0.00039					
OCDF	8.5	-----	0.0015					
OCDD	5.6	-----	0.0011					

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
R = Recovery outside target range
P = PCDE Interference
D = Result obtained from analysis of diluted sample
Nn = Value obtained from additional analysis
C = Result obtained from confirmation analysis
Y = Calculated using average of daily RFs

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
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Method 8290 Sample Analysis Results

Client - State of Indiana

Client's Sample ID	WS-2 Dup		
Lab Sample ID	10644640003		
Filename	L230305B_08		
Injected By	JRH		
Total Amount Extracted	10.6 g	Matrix	Solid
% Moisture	20.6	Dilution	NA
Dry Weight Extracted	8.44 g	Collected	03/04/2023 07:52
ICAL ID	L230302	Received	03/04/2023 11:55
CCal Filename(s)	L230305A_18 & L230305B_10	Extracted	03/04/2023 14:30
Method Blank ID	BLANK-104421	Analyzed	03/06/2023 03:38

Native Isomers	Conc ug/Kg	EMPC ug/Kg	EDL ug/Kg		Internal Standards	ng's Added	Percent Recovery	
2,3,7,8-TCDF	0.041	-----	0.00026	C	2,3,7,8-TCDF-13C	2.00	72	
Total TCDF	1.1	-----	0.00020		2,3,7,8-TCDD-13C	2.00	67	
					1,2,3,7,8-PeCDF-13C	2.00	67	
2,3,7,8-TCDD	0.0037	-----	0.00013		2,3,4,7,8-PeCDF-13C	2.00	65	
Total TCDD	0.20	-----	0.00013		1,2,3,7,8-PeCDD-13C	2.00	68	
					1,2,3,4,7,8-HxCDF-13C	2.00	89	
1,2,3,7,8-PeCDF	0.090	-----	0.00020		1,2,3,6,7,8-HxCDF-13C	2.00	81	
2,3,4,7,8-PeCDF	0.10	-----	0.00019		2,3,4,6,7,8-HxCDF-13C	2.00	74	
Total PeCDF	1.3	-----	0.00019		1,2,3,7,8,9-HxCDF-13C	2.00	65	
					1,2,3,4,7,8-HxCDD-13C	2.00	68	
1,2,3,7,8-PeCDD	0.026	-----	0.00011		1,2,3,6,7,8-HxCDD-13C	2.00	74	
Total PeCDD	0.41	-----	0.00011		1,2,3,4,6,7,8-HpCDF-13C	2.00	47	
					1,2,3,4,7,8,9-HpCDF-13C	2.00	47	Y
1,2,3,4,7,8-HxCDF	-----	0.19	0.00027	P	1,2,3,4,6,7,8-HpCDD-13C	2.00	44	
1,2,3,6,7,8-HxCDF	0.16	-----	0.00043		OCDD-13C	4.00	32	RY
2,3,4,6,7,8-HxCDF	0.10	-----	0.00039					
1,2,3,7,8,9-HxCDF	0.050	-----	0.00033		1,2,3,4-TCDD-13C	2.00	NA	
Total HxCDF	1.1	-----	0.00027		1,2,3,7,8,9-HxCDD-13C	2.00	NA	
1,2,3,4,7,8-HxCDD	0.032	-----	0.00045		2,3,7,8-TCDD-37Cl4	0.20	60	
1,2,3,6,7,8-HxCDD	0.065	-----	0.00041					
1,2,3,7,8,9-HxCDD	0.052	-----	0.00035					
Total HxCDD	0.69	-----	0.00035					
1,2,3,4,6,7,8-HpCDF	0.75	-----	0.00045		Total 2,3,7,8-TCDD			
1,2,3,4,7,8,9-HpCDF	0.10	-----	0.00086		Equivalence: 0.15 ug/Kg			
Total HpCDF	1.2	-----	0.00045		(Lower-bound - Using 2005 WHO Factors)			
1,2,3,4,6,7,8-HpCDD	0.45	-----	0.00044					
Total HpCDD	1.1	-----	0.00044					
OCDF	0.77	-----	0.00072					
OCDD	1.7	-----	0.0012					

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
R = Recovery outside target range
P = PCDE Interference
C = Result obtained from confirmation analysis
Y = Calculated using average of daily RFs

REPORT OF LABORATORY ANALYSIS

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Appendix C

QC and Calibration Results Summary

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Blank Analysis Results

Lab Sample Name	DFBLKYD		
Lab Sample ID	BLANK-104421	Matrix	Solid/Wipe
Filename	L230305B_05	Dilution	NA
Total Amount Extracted	10.5 g	Extracted	03/04/2023 14:30
ICAL ID	L230302	Analyzed	03/06/2023 01:24
CCal Filename(s)	L230305A_18 & L230305B_10	Injected By	JRH

Native Isomers	Conc ug/Kg	EMPC ug/Kg	EDL ug/Kg		Internal Standards	ng's Added	Percent Recovery	
2,3,7,8-TCDF	ND	-----	0.000051		2,3,7,8-TCDF-13C	2.00	84	
Total TCDF	ND	-----	0.000051		2,3,7,8-TCDD-13C	2.00	80	
					1,2,3,7,8-PeCDF-13C	2.00	94	
2,3,7,8-TCDD	ND	-----	0.000042		2,3,4,7,8-PeCDF-13C	2.00	94	
Total TCDD	0.00021	-----	0.000042	J	1,2,3,7,8-PeCDD-13C	2.00	102	
					1,2,3,4,7,8-HxCDF-13C	2.00	101	
1,2,3,7,8-PeCDF	ND	-----	0.000029		1,2,3,6,7,8-HxCDF-13C	2.00	92	
2,3,4,7,8-PeCDF	ND	-----	0.000031		2,3,4,6,7,8-HxCDF-13C	2.00	92	
Total PeCDF	ND	-----	0.000029		1,2,3,7,8,9-HxCDF-13C	2.00	78	
					1,2,3,4,7,8-HxCDD-13C	2.00	87	
1,2,3,7,8-PeCDD	ND	-----	0.000049		1,2,3,6,7,8-HxCDD-13C	2.00	87	
Total PeCDD	ND	-----	0.000049		1,2,3,4,6,7,8-HpCDF-13C	2.00	64	
					1,2,3,4,7,8,9-HpCDF-13C	2.00	64	Y
1,2,3,4,7,8-HxCDF	ND	-----	0.000029		1,2,3,4,6,7,8-HpCDD-13C	2.00	60	
1,2,3,6,7,8-HxCDF	ND	-----	0.000028		OCDD-13C	4.00	46	Y
2,3,4,6,7,8-HxCDF	ND	-----	0.000030					
1,2,3,7,8,9-HxCDF	-----	0.000076	0.000044	IJ	1,2,3,4-TCDD-13C	2.00	NA	
Total HxCDF	ND	-----	0.000028		1,2,3,7,8,9-HxCDD-13C	2.00	NA	
1,2,3,4,7,8-HxCDD	0.00017	-----	0.000090	J	2,3,7,8-TCDD-37Cl4	0.20	71	
1,2,3,6,7,8-HxCDD	ND	-----	0.000087					
1,2,3,7,8,9-HxCDD	ND	-----	0.000082					
Total HxCDD	0.00017	-----	0.000082	J				
1,2,3,4,6,7,8-HpCDF	ND	-----	0.000053		Total 2,3,7,8-TCDD			
1,2,3,4,7,8,9-HpCDF	ND	-----	0.00010		Equivalence: 0.000026 ug/Kg			
Total HpCDF	ND	-----	0.000053		(Lower-bound - Using 2005 WHO Factors)			
1,2,3,4,6,7,8-HpCDD	0.00013	-----	0.00012	J				
Total HpCDD	0.00013	-----	0.00012	J				
OCDF	ND	-----	0.00018					
OCDD	-----	0.00037	0.00023	IJ				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

Results reported on a total weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Isotope ratio out of specification
Y = Calculated using average of daily RFs

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Minneapolis, MN 55414

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Method 8290 Laboratory Control Spike Results

Lab Sample ID	LCS-104422		
Filename	L230305B_01	Matrix	Solid/Wipe
Total Amount Extracted	10.7 g	Dilution	NA
ICAL ID	L230302	Extracted	03/04/2023 14:30
CCal Filename(s)	L230305A_18 & L230305B_10	Analyzed	03/05/2023 22:26
Method Blank ID	BLANK-104421	Injected By	JRH

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery	
2,3,7,8-TCDF	0.20	0.17	84	2,3,7,8-TCDF-13C	2.0	102	
Total TCDF				2,3,7,8-TCDD-13C	2.0	95	
				1,2,3,7,8-PeCDF-13C	2.0	119	
2,3,7,8-TCDD	0.20	0.18	88	2,3,4,7,8-PeCDF-13C	2.0	119	
Total TCDD				1,2,3,7,8-PeCDD-13C	2.0	132	
				1,2,3,4,7,8-HxCDF-13C	2.0	113	
1,2,3,7,8-PeCDF	1.0	0.81	81	1,2,3,6,7,8-HxCDF-13C	2.0	104	
2,3,4,7,8-PeCDF	1.0	0.83	83	2,3,4,6,7,8-HxCDF-13C	2.0	106	
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.0	99	
				1,2,3,4,7,8-HxCDD-13C	2.0	102	
1,2,3,7,8-PeCDD	1.0	0.79	79	1,2,3,6,7,8-HxCDD-13C	2.0	107	
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.0	93	
				1,2,3,4,7,8,9-HpCDF-13C	2.0	114	Y
1,2,3,4,7,8-HxCDF	1.0	0.85	85	1,2,3,4,6,7,8-HpCDD-13C	2.0	98	
1,2,3,6,7,8-HxCDF	1.0	0.87	87	OCDD-13C	4.0	106	Y
2,3,4,6,7,8-HxCDF	1.0	0.87	87				
1,2,3,7,8,9-HxCDF	1.0	0.88	88	1,2,3,4-TCDD-13C	2.0	NA	
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.0	NA	
1,2,3,4,7,8-HxCDD	1.0	0.91	91	2,3,7,8-TCDD-37Cl4	0.20	87	
1,2,3,6,7,8-HxCDD	1.0	0.87	87				
1,2,3,7,8,9-HxCDD	1.0	0.89	89				
Total HxCDD							
1,2,3,4,6,7,8-HpCDF	1.0	0.86	86				
1,2,3,4,7,8,9-HpCDF	1.0	0.88	88				
Total HpCDF							
1,2,3,4,6,7,8-HpCDD	1.0	0.81	81				
Total HpCDD							
OCDF	2.0	1.8	92				
OCDD	2.0	1.9	97				

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Minneapolis, MN 55414

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Method 8290 Spiked Sample Report

Client - State of Indiana

Client's Sample ID	WS-1-MS		
Lab Sample ID	10644640001-MS		
Filename	L230305B_02	Matrix	Solid
Total Amount Extracted	10.3 g	Dilution	NA
ICAL ID	L230302	Extracted	03/04/2023 14:30
CCal Filename(s)	L230305A_18 & L230305B_10	Analyzed	03/05/2023 23:11
Method Blank ID	BLANK-104421	Injected By	JRH

Native Isomers	Qs (ng)	Qm (ng)	% Rec.		Internal Standards	ng's Added	Percent Recovery	
2,3,7,8-TCDF	0.20	0.39	62	R	2,3,7,8-TCDF-13C	2.00	95	
					2,3,7,8-TCDD-13C	2.00	90	
					1,2,3,7,8-PeCDF-13C	2.00	97	
2,3,7,8-TCDD	0.20	0.20	86		2,3,4,7,8-PeCDF-13C	2.00	98	
					1,2,3,7,8-PeCDD-13C	2.00	104	
					1,2,3,4,7,8-HxCDF-13C	2.00	106	
1,2,3,7,8-PeCDF	1.00	1.31	80		1,2,3,6,7,8-HxCDF-13C	2.00	99	
2,3,4,7,8-PeCDF	1.00	1.45	83		2,3,4,6,7,8-HxCDF-13C	2.00	89	
					1,2,3,7,8,9-HxCDF-13C	2.00	88	
					1,2,3,4,7,8-HxCDD-13C	2.00	91	
1,2,3,7,8-PeCDD	1.00	0.96	80		1,2,3,6,7,8-HxCDD-13C	2.00	92	
					1,2,3,4,6,7,8-HpCDF-13C	2.00	64	
					1,2,3,4,7,8,9-HpCDF-13C	2.00	73	Y
1,2,3,4,7,8-HxCDF	1.00	1.69	64	PR	1,2,3,4,6,7,8-HpCDD-13C	2.00	67	
1,2,3,6,7,8-HxCDF	1.00	1.60	68	R	OCDD-13C	4.00	53	Y
2,3,4,6,7,8-HxCDF	1.00	1.44	85					
1,2,3,7,8,9-HxCDF	1.00	1.12	85		1,2,3,4-TCDD-13C	2.00	NA	
					1,2,3,7,8,9-HxCDD-13C	2.00	NA	
1,2,3,4,7,8-HxCDD	1.00	1.04	85		2,3,7,8-TCDD-37Cl4	0.20	80	
1,2,3,6,7,8-HxCDD	1.00	1.25	89					
1,2,3,7,8,9-HxCDD	1.00	1.18	89					
1,2,3,4,6,7,8-HpCDF	1.00	3.42	0	R				
1,2,3,4,7,8,9-HpCDF	1.00	1.30	70					
1,2,3,4,6,7,8-HpCDD	1.00	2.85	20	R				
OCDF	2.00	4.52	0	R				
OCDD	2.00	11.37	0	R				

Qs = Quantity Spiked Qm = Quantity Measured Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
R = Recovery outside target range
P = PCDE Interference
Y = Calculated using average of daily RFs

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Minneapolis, MN 55414

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Method 8290 Spiked Sample Report

Client - State of Indiana

Client's Sample ID	WS-1-MSD		
Lab Sample ID	10644640001-MSD		
Filename	L230305B_03	Matrix	Solid
Total Amount Extracted	10.8 g	Dilution	NA
ICAL ID	L230302	Extracted	03/04/2023 14:30
CCal Filename(s)	L230305A_18 & L230305B_10	Analyzed	03/05/2023 23:55
Method Blank ID	BLANK-104421	Injected By	JRH

Native Isomers	Qs (ng)	Qm (ng)	% Rec.		Internal Standards	ng's Added	Percent Recovery	
2,3,7,8-TCDF	0.20	0.38	188	R	2,3,7,8-TCDF-13C	2.00	91	
					2,3,7,8-TCDD-13C	2.00	85	
					1,2,3,7,8-PeCDF-13C	2.00	90	
2,3,7,8-TCDD	0.20	0.20	102		2,3,4,7,8-PeCDF-13C	2.00	87	
					1,2,3,7,8-PeCDD-13C	2.00	92	
					1,2,3,4,7,8-HxCDF-13C	2.00	103	
1,2,3,7,8-PeCDF	1.00	1.26	126		1,2,3,6,7,8-HxCDF-13C	2.00	95	
2,3,4,7,8-PeCDF	1.00	1.37	137	R	2,3,4,6,7,8-HxCDF-13C	2.00	86	
					1,2,3,7,8,9-HxCDF-13C	2.00	79	
					1,2,3,4,7,8-HxCDD-13C	2.00	87	
1,2,3,7,8-PeCDD	1.00	0.94	94		1,2,3,6,7,8-HxCDD-13C	2.00	89	
					1,2,3,4,6,7,8-HpCDF-13C	2.00	54	
					1,2,3,4,7,8,9-HpCDF-13C	2.00	56	Y
1,2,3,4,7,8-HxCDF	1.00	1.61	161	PR	1,2,3,4,6,7,8-HpCDD-13C	2.00	53	
1,2,3,6,7,8-HxCDF	1.00	1.46	145	R	OCDD-13C	4.00	37	RY
2,3,4,6,7,8-HxCDF	1.00	1.32	132	R				
1,2,3,7,8,9-HxCDF	1.00	1.09	109		1,2,3,4-TCDD-13C	2.00	NA	
					1,2,3,7,8,9-HxCDD-13C	2.00	NA	
1,2,3,4,7,8-HxCDD	1.00	1.01	101		2,3,7,8-TCDD-37Cl4	0.20	78	
1,2,3,6,7,8-HxCDD	1.00	1.14	114					
1,2,3,7,8,9-HxCDD	1.00	1.07	107					
1,2,3,4,6,7,8-HpCDF	1.00	2.89	289	R				
1,2,3,4,7,8,9-HpCDF	1.00	1.24	124					
1,2,3,4,6,7,8-HpCDD	1.00	2.33	233	R				
OCDF	2.00	4.18	208	R				
OCDD	2.00	9.63	481	R				

Qs = Quantity Spiked Qm = Quantity Measured Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
R = Recovery outside target range
P = PCDE Interference
Y = Calculated using average of daily RFs

REPORT OF LABORATORY ANALYSIS

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Method 8290 Spike Sample Results

Client - State of Indiana

Client Sample ID	WS-1		
Lab Sample ID	10644640001	Sample Filename	L230305B_06
MS ID	10644640001-MS	MS Filename	L230305B_02
MSD ID	10644640001-MSD	MSD Filename	L230305B_03

	Quantity	Unspiked Sample Contribution		Quantity Measured			Subtracted Recovery	
	Spiked	to MS	to MSD	MS	MSD		MS	MSD
Analyte	(ng)	(ng)	(ng)	(ng)	(ng)	RPD	(%)	(%)
2,3,7,8-TCDF	0.20	0.267	0.000280	0.39	0.38	3.9	62	188
2,3,7,8-TCDD	0.20	0.0235	0.0000247	0.20	0.20	3.8	86	102
1,2,3,7,8-PeCDF	1.00	0.510	0.000536	1.31	1.26	3.9	80	126
2,3,4,7,8-PeCDF	1.00	0.621	0.000652	1.45	1.37	5.1	83	137
1,2,3,7,8-PeCDD	1.00	0.163	0.000171	0.96	0.94	2.6	80	94
1,2,3,4,7,8-HxCDF	1.00	1.05	0.00110	1.69	1.61	5.0	64	161
1,2,3,6,7,8-HxCDF	1.00	0.920	0.000967	1.60	1.46	9.2	68	145
2,3,4,6,7,8-HxCDF	1.00	0.592	0.000622	1.44	1.32	9.0	85	132
1,2,3,7,8,9-HxCDF	1.00	0.268	0.000282	1.12	1.09	2.3	85	109
1,2,3,4,7,8-HxCDD	1.00	0.189	0.000199	1.04	1.01	3.2	85	101
1,2,3,6,7,8-HxCDD	1.00	0.359	0.000378	1.25	1.14	9.5	89	114
1,2,3,7,8,9-HxCDD	1.00	0.289	0.000304	1.18	1.07	10.1	89	107
1,2,3,4,6,7,8-HpCDF	1.00	3.95	0.00415	3.42	2.89	16.6	0	289
1,2,3,4,7,8,9-HpCDF	1.00	0.596	0.000626	1.30	1.24	4.3	70	124
1,2,3,4,6,7,8-HpCDD	1.00	2.65	0.00279	2.85	2.33	19.9	20	233
OCDF	2.00	12.1	0.0127	4.52	4.18	8.0	0	208
OCDD	2.00	13.3	0.0140	11.37	9.63	16.6	0	481

Quantity Spiked - the amount of analyte spiked into the spiked samples
Unspiked Sample Contribution - calculated based on the amount found in the sample and the extracted amounts of the spiked and unspiked samples
Quantity Measured - the total amount of analyte measured in the spiked samples
RPD - the Relative Percent Difference of the spiked sample Quantity Measured values
Subtracted Recovery - calculated after subtracting the unspiked sample contribution

Method 8290
Initial Calibration (ICAL) - Response Factor Summary

ICAL ID	**L230302**	Data Files:		Time	Injected
Calibration Date	03/02/2023	CS-1	L230302A_10	11:30	SMT
Instrument	10MSHR15 (L)	CS-2	L230302A_09	10:47	SMT
Column Phase	DB-5MS 0.25mm	CS-3	L230302A_08	09:49	SMT
Column ID No.	US1824614H	CS-4	L230302A_12	13:05	SMT
		CS-5	L230302A_11	12:22	SMT

Isomer	CS-1	CS-2	CS-3	CS-4	CS-5	Ave RF	%RSD
2,3,7,8-TCDF	0.9967	0.9738	1.0199	1.0034	1.0247	1.0037	2.02
2,3,7,8-TCDD	0.9761	0.9618	0.9687	0.9775	1.0048	0.9778	1.68
1,2,3,7,8-PeCDF	0.9300	0.9718	0.9886	1.0335	1.0326	0.9913	4.40
2,3,4,7,8-PeCDF	1.0135	1.0774	1.1028	1.1295	1.1357	1.0918	4.54
1,2,3,7,8-PeCDD	0.9519	0.9674	1.0093	1.0128	1.0143	0.9911	2.96
1,2,3,4,7,8-HxCDF	1.1368	1.1204	1.1615	1.1752	1.2021	1.1592	2.76
1,2,3,6,7,8-HxCDF	1.0907	1.1235	1.1163	1.1604	1.1453	1.1272	2.38
2,3,4,6,7,8-HxCDF	1.1006	1.1452	1.1842	1.1966	1.2229	1.1699	4.09
1,2,3,7,8,9-HxCDF	1.0734	1.0689	1.0876	1.1272	1.1043	1.0923	2.19
1,2,3,4,7,8-HxCDD	0.9716	0.9938	1.0001	1.0138	1.0405	1.0040	2.54
1,2,3,6,7,8-HxCDD	0.9782	0.9443	0.9738	0.9988	0.9942	0.9779	2.20
1,2,3,7,8,9-HxCDD	0.9538	0.9647	1.0091	0.9943	0.9903	0.9824	2.30
1,2,3,4,6,7,8-HpCDF	1.3217	1.3083	1.3062	1.3783	1.3773	1.3384	2.73
1,2,3,4,7,8,9-HpCDF	1.2433	1.2738	1.2851	1.3380	1.3420	1.2964	3.29
1,2,3,4,6,7,8-HpCDD	1.1192	1.0946	1.0543	1.1169	1.1074	1.0985	2.42
OCDF	1.0679	1.0881	1.1153	1.2061	1.2364	1.1427	6.51
OCDD	0.8692	0.9083	0.8881	0.9231	0.9212	0.9020	2.55
Total PeCDF	0.9718	1.0246	1.0457	1.0815	1.0842	1.0416	4.45
Total HxCDF	1.1004	1.1145	1.1374	1.1648	1.1686	1.1372	2.65
Total HxCDD	0.9679	0.9676	0.9943	1.0023	1.0083	0.9881	1.95
Total HpCDF	1.2825	1.2911	1.2956	1.3581	1.3597	1.3174	2.90
2,3,7,8-TCDF-13C	1.4440	1.3694	1.3217	1.4502	1.4563	1.4083	4.25
2,3,7,8-TCDD-13C	1.1251	1.0798	1.0844	1.1348	1.1669	1.1182	3.26
2,3,7,8-TCDD-37Cl4	0.9996	0.9304	0.9498	1.0488	1.0811	1.0020	6.37
1,2,3,7,8-PeCDF-13C	0.9608	0.8916	0.9187	1.0143	1.1047	0.9780	8.65
2,3,4,7,8-PeCDF-13C	0.9338	0.8424	0.8770	0.9821	1.0734	0.9417	9.66
1,2,3,7,8-PeCDD-13C	0.6028	0.5569	0.5722	0.6415	0.7003	0.6147	9.39
1,2,3,4,7,8-HxCDF-13C	1.1185	1.1203	1.1236	1.0630	1.0271	1.0905	3.98
1,2,3,6,7,8-HxCDF-13C	1.2839	1.2487	1.2773	1.2585	1.2927	1.2722	1.43
2,3,4,6,7,8-HxCDF-13C	1.2075	1.1739	1.1679	1.1545	1.1186	1.1645	2.77
1,2,3,7,8,9-HxCDF-13C	1.0013	0.9843	0.9887	0.9808	0.9759	0.9862	0.98
1,2,3,4,7,8-HxCDD-13C	0.8779	0.8577	0.8680	0.8469	0.8220	0.8545	2.52
1,2,3,6,7,8-HxCDD-13C	1.0253	1.0204	1.0257	1.0173	1.0681	1.0314	2.02
1,2,3,4,6,7,8-HpCDF-13C	0.9806	0.9706	0.9434	0.9280	0.9139	0.9473	2.97
1,2,3,4,7,8,9-HpCDF-13C	0.7660	0.7548	0.7618	0.7578	0.7548	0.7590	0.64
1,2,3,4,6,7,8-HpCDD-13C	0.6833	0.6770	0.6734	0.6565	0.6679	0.6716	1.51
OCDD-13C	0.6890	0.6402	0.6544	0.7095	0.7747	0.6935	7.65

REPORT OF LABORATORY ANALYSIS

Method 8290
Initial Calibration (ICAL) - Isotope Ratio Summary

ICAL ID	**L230302**	Data Files:		Time	Injected
Calibration Date	03/02/2023	CS-1	L230302A_10	11:30	SMT
Instrument	10MSHR15 (L)	CS-2	L230302A_09	10:47	SMT
Column Phase	DB-5MS 0.25mm	CS-3	L230302A_08	09:49	SMT
Column ID No.	US1824614H	CS-4	L230302A_12	13:05	SMT
		CS-5	L230302A_11	12:22	SMT

Isomer	CS-1	CS-2	CS-3	CS-4	CS-5	Limits
2,3,7,8-TCDF	0.84	0.84	0.79	0.81	0.80	0.65 - 0.89
2,3,7,8-TCDD	0.85	0.82	0.79	0.79	0.78	0.65 - 0.89
1,2,3,7,8-PeCDF	1.46	1.50	1.52	1.52	1.52	1.32 - 1.78
2,3,4,7,8-PeCDF	1.53	1.53	1.58	1.53	1.52	1.32 - 1.78
1,2,3,7,8-PeCDD	0.59	0.64	0.61	0.62	0.64	0.52 - 0.70
1,2,3,4,7,8-HxCDF	1.32	1.21	1.23	1.25	1.24	1.05 - 1.43
1,2,3,6,7,8-HxCDF	1.27	1.17	1.25	1.27	1.25	1.05 - 1.43
2,3,4,6,7,8-HxCDF	1.29	1.29	1.26	1.28	1.25	1.05 - 1.43
1,2,3,7,8,9-HxCDF	1.29	1.20	1.21	1.24	1.25	1.05 - 1.43
1,2,3,4,7,8-HxCDD	1.20	1.28	1.26	1.24	1.24	1.05 - 1.43
1,2,3,6,7,8-HxCDD	1.25	1.25	1.24	1.25	1.24	1.05 - 1.43
1,2,3,7,8,9-HxCDD	1.17	1.26	1.21	1.24	1.24	1.05 - 1.43
1,2,3,4,6,7,8-HpCDF	1.03	1.05	1.03	1.07	1.03	0.88 - 1.20
1,2,3,4,7,8,9-HpCDF	1.05	1.02	1.09	1.03	1.07	0.88 - 1.20
1,2,3,4,6,7,8-HpCDD	1.04	1.04	1.06	1.08	1.05	0.88 - 1.20
OCDF	0.86	0.92	0.91	0.90	0.90	0.76 - 1.02
OCDD	0.89	0.90	0.91	0.93	0.87	0.76 - 1.02
1,2,3,4-TCDD-13C	0.88	0.88	0.89	0.89	0.89	0.65 - 0.89
1,2,3,7,8,9-HxCDD-13C	1.25	1.25	1.26	1.26	1.27	1.05 - 1.43
2,3,7,8-TCDF-13C	0.79	0.77	0.78	0.78	0.78	0.65 - 0.89
2,3,7,8-TCDD-13C	0.86	0.88	0.88	0.88	0.87	0.65 - 0.89
1,2,3,7,8-PeCDF-13C	1.56	1.56	1.58	1.56	1.58	1.32 - 1.78
2,3,4,7,8-PeCDF-13C	1.59	1.59	1.58	1.57	1.54	1.32 - 1.78
1,2,3,7,8-PeCDD-13C	1.59	1.57	1.60	1.58	1.59	1.32 - 1.78
1,2,3,4,7,8-HxCDF-13C	0.54	0.53	0.53	0.53	0.53	0.43 - 0.59
1,2,3,6,7,8-HxCDF-13C	0.52	0.52	0.53	0.53	0.53	0.43 - 0.59
2,3,4,6,7,8-HxCDF-13C	0.54	0.52	0.53	0.54	0.54	0.43 - 0.59
1,2,3,7,8,9-HxCDF-13C	0.53	0.53	0.52	0.54	0.50	0.43 - 0.59
1,2,3,4,7,8-HxCDD-13C	1.35	1.27	1.27	1.28	1.28	1.05 - 1.43
1,2,3,6,7,8-HxCDD-13C	1.20	1.24	1.28	1.28	1.28	1.05 - 1.43
1,2,3,4,6,7,8-HpCDF-13C	0.47	0.48	0.46	0.47	0.46	0.37 - 0.51
1,2,3,4,7,8,9-HpCDF-13C	0.47	0.46	0.46	0.48	0.47	0.37 - 0.51
1,2,3,4,6,7,8-HpCDD-13C	1.08	1.06	1.08	1.03	1.07	0.88 - 1.20
OCDD-13C	0.83	0.88	0.84	0.85	0.83	0.76 - 1.02

REPORT OF LABORATORY ANALYSIS

Method 8290
Initial Calibration (ICAL) - Response Factor Summary

ICAL ID	**U221009-DB225**	Data Files:		Time	Injected
Calibration Date	10/09/2022	CS-1	U221009A_04	12:07	JRH
Instrument	10MSHR06 (U)	CS-2	U221009A_03	11:20	JRH
Column Phase	DB-225 0.25mm	CS-3	U221009A_02	10:34	JRH
Column ID No.	US2588526H	CS-4	U221009A_06	13:42	JRH
		CS-5	U221009A_05	12:57	JRH

Isomer	CS-1	CS-2	CS-3	CS-4	CS-5	Ave RF	%RSD
Native Analyte							
2,3,7,8-TCDF	1.0377	1.0108	1.0130	0.9370	0.9233	0.9844	5.16
Labeled Analyte							
2,3,7,8-TCDF-13C	1.3925	1.4025	1.2954	1.4038	1.4140	1.3816	3.53
CleanupStandard							
2,3,7,8-TCDD-37Cl4	1.1900	1.2057	1.0599	1.1241	1.0966	1.1353	5.44

REPORT OF LABORATORY ANALYSIS

Method 8290
Initial Calibration (ICAL) - Isotope Ratio Summary

ICAL ID	**U221009-DB225**	Data Files:		Time	Injected
Calibration Date	10/09/2022	CS-1	U221009A_04	12:07	JRH
Instrument	10MSHR06 (U)	CS-2	U221009A_03	11:20	JRH
Column Phase	DB-225 0.25mm	CS-3	U221009A_02	10:34	JRH
Column ID No.	US2588526H	CS-4	U221009A_06	13:42	JRH
		CS-5	U221009A_05	12:57	JRH

Isomer	CS-1	CS-2	CS-3	CS-4	CS-5	Limits
Native Analyte						
2,3,7,8-TCDF	0.78	0.78	0.79	0.79	0.78	0.65 - 0.89
Labeled Analyte						
2,3,7,8-TCDF-13C	0.79	0.76	0.79	0.77	0.79	0.65 - 0.89
Recovery Standard						
1,2,3,4-TCDD-13C	0.79	0.80	0.80	0.79	0.79	0.65 - 0.89

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Method 8290
PCDD/PCDF Calibration Verification

Run Name:	L230305A_18	Instrument ID	10MSHR15 (L)
Standard	CS3/CPM-22-171-022	GC Column ID	US1824614H
Analyzed	03/05/2023 21:42	ICAL ID	L230302

Compound	Known Conc.	Conc Found	Ion Abund. Ratio	Average RF	Daily RF	Deviation (%)
2,3,7,8-TCDF	10	9.8	0.79	1.0037	0.9810	-2.3
2,3,7,8-TCDD	10	9.9	0.78	0.9778	0.9649	-1.3
1,2,3,7,8-PeCDF	50	50.7	1.53	0.9913	1.0046	1.3
2,3,4,7,8-PeCDF	50	50.6	1.52	1.0918	1.1040	1.1
1,2,3,7,8-PeCDD	50	50.6	0.62	0.9911	1.0038	1.3
1,2,3,4,7,8-HxCDF	50	50.1	1.24	1.1592	1.1610	0.2
1,2,3,6,7,8-HxCDF	50	50.6	1.22	1.1272	1.1398	1.1
2,3,4,6,7,8-HxCDF	50	50.3	1.27	1.1699	1.1766	0.6
1,2,3,7,8,9-HxCDF	50	51.1	1.24	1.0923	1.1163	2.2
1,2,3,4,7,8-HxCDD	50	51.0	1.24	1.0040	1.0249	2.1
1,2,3,6,7,8-HxCDD	50	50.5	1.25	0.9779	0.9876	1.0
1,2,3,7,8,9-HxCDD	50	52.8	1.20	0.9824	1.0366	5.5
1,2,3,4,6,7,8-HpCDF	50	47.3	1.04	1.3384	1.2666	-5.4
1,2,3,4,7,8,9-HpCDF	50	49.8	1.06	1.2964	1.2914	-0.4
1,2,3,4,6,7,8-HpCDD	50	47.3	1.09	1.0985	1.0389	-5.4
OCDF	100	97.5	0.91	1.1427	1.1137	-2.5
OCDD	100	102.6	0.89	0.9020	0.9254	2.6
Total PeCDF	100	101.2	NA	1.0416	1.0543	1.2
Total HxCDF	200	202.0	NA	1.1372	1.1484	1.0
Total HxCDD	150	154.3	NA	0.9881	1.0164	2.9
Total HpCDF	100	97.1	NA	1.3174	1.2790	-2.9
2,3,7,8-TCDF-13C	100	103.1	0.78	1.4083	1.4513	3.1
2,3,7,8-TCDD-13C	100	106.1	0.87	1.1182	1.1866	6.1
2,3,7,8-TCDD-37Cl4	10	10.5	NA	1.0020	1.0546	5.3
1,2,3,7,8-PeCDF-13C	100	112.7	1.57	0.9780	1.1022	12.7
2,3,4,7,8-PeCDF-13C	100	114.3	1.58	0.9417	1.0761	14.3
1,2,3,7,8-PeCDD-13C	100	113.3	1.57	0.6147	0.6962	13.3
1,2,3,4,7,8-HxCDF-13C	100	103.9	0.53	1.0905	1.1326	3.9
1,2,3,6,7,8-HxCDF-13C	100	100.8	0.53	1.2722	1.2819	0.8
2,3,4,6,7,8-HxCDF-13C	100	100.7	0.55	1.1645	1.1732	0.7
1,2,3,7,8,9-HxCDF-13C	100	99.6	0.53	0.9862	0.9819	-0.4
1,2,3,4,7,8-HxCDD-13C	100	99.7	1.29	0.8545	0.8518	-0.3
1,2,3,6,7,8-HxCDD-13C	100	100.1	1.28	1.0314	1.0325	0.1
1,2,3,4,6,7,8-HpCDF-13C	100	94.0	0.47	0.9473	0.8906	-6.0
1,2,3,4,7,8,9-HpCDF-13C	100	90.9	0.46	0.7590	0.6898	-9.1
1,2,3,4,6,7,8-HpCDD-13C	100	92.5	1.08	0.6716	0.6212	-7.5
OCDD-13C	200	171.4	0.82	0.6935	0.5944	-14.3
1,2,3,4-TCDD-13C	100	NA	0.89	NA	NA	NA
1,2,3,7,8,9-HxCDD-13C	100	NA	1.26	NA	NA	NA

Concentrations expressed as pg/ul NA = Not Applicable * = Outside target range

REPORT OF LABORATORY ANALYSIS

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Method 8290
PCDD/PCDF Calibration Verification

Run Name:	L230305B_10	Instrument ID	10MSHR15 (L)
Standard	CS3/CPM-22-171-022	GC Column ID	US1824614H
Analyzed	03/06/2023 05:07	ICAL ID	L230302

Compound	Known Conc.	Conc Found	Ion Abund. Ratio	Average RF	Daily RF	Deviation (%)
2,3,7,8-TCDF	10	10.0	0.81	1.0037	1.0056	0.2
2,3,7,8-TCDD	10	10.2	0.77	0.9778	0.9942	1.7
1,2,3,7,8-PeCDF	50	50.6	1.53	0.9913	1.0025	1.1
2,3,4,7,8-PeCDF	50	50.1	1.53	1.0918	1.0939	0.2
1,2,3,7,8-PeCDD	50	50.7	0.63	0.9911	1.0040	1.3
1,2,3,4,7,8-HxCDF	50	51.1	1.26	1.1592	1.1856	2.3
1,2,3,6,7,8-HxCDF	50	50.1	1.25	1.1272	1.1301	0.3
2,3,4,6,7,8-HxCDF	50	50.1	1.22	1.1699	1.1720	0.2
1,2,3,7,8,9-HxCDF	50	50.5	1.27	1.0923	1.1028	1.0
1,2,3,4,7,8-HxCDD	50	47.5	1.26	1.0040	0.9537	-5.0
1,2,3,6,7,8-HxCDD	50	54.4	1.27	0.9779	1.0645	8.9
1,2,3,7,8,9-HxCDD	50	53.1	1.32	0.9824	1.0425	6.1
1,2,3,4,6,7,8-HpCDF	50	48.3	1.08	1.3384	1.2916	-3.5
1,2,3,4,7,8,9-HpCDF	50	50.8	1.01	1.2964	1.3179	1.7
1,2,3,4,6,7,8-HpCDD	50	49.2	1.05	1.0985	1.0803	-1.6
OCDF	100	94.4	0.87	1.1427	1.0782	-5.6
OCDD	100	100.6	0.93	0.9020	0.9075	0.6
Total PeCDF	100	100.7	NA	1.0416	1.0482	0.6
Total HxCDF	200	201.8	NA	1.1372	1.1476	0.9
Total HxCDD	150	155.0	NA	0.9881	1.0202	3.3
Total HpCDF	100	99.1	NA	1.3174	1.3047	-1.0
2,3,7,8-TCDF-13C	100	104.0	0.78	1.4083	1.4646	4.0
2,3,7,8-TCDD-13C	100	102.6	0.89	1.1182	1.1469	2.6
2,3,7,8-TCDD-37Cl4	10	10.0	NA	1.0020	1.0051	0.3
1,2,3,7,8-PeCDF-13C	100	98.9	1.59	0.9780	0.9669	-1.1
2,3,4,7,8-PeCDF-13C	100	98.6	1.56	0.9417	0.9289	-1.4
1,2,3,7,8-PeCDD-13C	100	93.6	1.58	0.6147	0.5753	-6.4
1,2,3,4,7,8-HxCDF-13C	100	114.4	0.53	1.0905	1.2477	14.4
1,2,3,6,7,8-HxCDF-13C	100	110.2	0.53	1.2722	1.4022	10.2
2,3,4,6,7,8-HxCDF-13C	100	110.0	0.53	1.1645	1.2813	10.0
1,2,3,7,8,9-HxCDF-13C	100	95.7	0.53	0.9862	0.9441	-4.3
1,2,3,4,7,8-HxCDD-13C	100	105.9	1.28	0.8545	0.9050	5.9
1,2,3,6,7,8-HxCDD-13C	100	98.0	1.29	1.0314	1.0106	-2.0
1,2,3,4,6,7,8-HpCDF-13C	100	83.1	0.46	0.9473	0.7869	-16.9
1,2,3,4,7,8,9-HpCDF-13C	100	67.1	0.47	0.7590	0.5094	* -32.9
1,2,3,4,6,7,8-HpCDD-13C	100	72.1	1.05	0.6716	0.4843	-27.9
OCDD-13C	200	102.2	0.82	0.6935	0.3545	* -48.9
1,2,3,4-TCDD-13C	100	NA	0.89	NA	NA	NA
1,2,3,7,8,9-HxCDD-13C	100	NA	1.28	NA	NA	NA

Concentrations expressed as pg/ul NA = Not Applicable * = Outside target range

REPORT OF LABORATORY ANALYSIS

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Fax: 612- 607-6444

Method 8290
PCDD/PCDF Calibration Verification

Run Name:	L230306A_17	Instrument ID	10MSHR15 (L)
Standard	CS3/CPM-22-171-022	GC Column ID	US1824614H
Analyzed	03/06/2023 20:03	ICAL ID	L230302

Compound	Known Conc.	Conc Found	Ion Abund. Ratio	Average RF	Daily RF	Deviation (%)
2,3,7,8-TCDF	10	10.3	0.80	1.0037	1.0379	3.4
2,3,7,8-TCDD	10	10.1	0.79	0.9778	0.9858	0.8
1,2,3,7,8-PeCDF	50	52.4	1.52	0.9913	1.0384	4.7
2,3,4,7,8-PeCDF	50	50.5	1.52	1.0918	1.1017	0.9
1,2,3,7,8-PeCDD	50	51.3	0.63	0.9911	1.0172	2.6
1,2,3,4,7,8-HxCDF	50	51.1	1.25	1.1592	1.1841	2.1
1,2,3,6,7,8-HxCDF	50	51.2	1.26	1.1272	1.1536	2.3
2,3,4,6,7,8-HxCDF	50	51.1	1.26	1.1699	1.1958	2.2
1,2,3,7,8,9-HxCDF	50	51.1	1.26	1.0923	1.1157	2.1
1,2,3,4,7,8-HxCDD	50	51.3	1.25	1.0040	1.0298	2.6
1,2,3,6,7,8-HxCDD	50	52.1	1.27	0.9779	1.0195	4.3
1,2,3,7,8,9-HxCDD	50	54.4	1.30	0.9824	1.0693	8.8
1,2,3,4,6,7,8-HpCDF	50	47.6	1.02	1.3384	1.2744	-4.8
1,2,3,4,7,8,9-HpCDF	50	51.1	1.03	1.2964	1.3238	2.1
1,2,3,4,6,7,8-HpCDD	50	48.1	1.04	1.0985	1.0576	-3.7
OCDF	100	99.6	0.88	1.1427	1.1386	-0.4
OCDD	100	101.1	0.90	0.9020	0.9119	1.1
Total PeCDF	100	102.8	NA	1.0416	1.0701	2.7
Total HxCDF	200	204.4	NA	1.1372	1.1623	2.2
Total HxCDD	150	157.8	NA	0.9881	1.0395	5.2
Total HpCDF	100	98.7	NA	1.3174	1.2991	-1.4
2,3,7,8-TCDF-13C	100	104.0	0.78	1.4083	1.4642	4.0
2,3,7,8-TCDD-13C	100	104.0	0.89	1.1182	1.1627	4.0
2,3,7,8-TCDD-37Cl4	10	10.3	NA	1.0020	1.0321	3.0
1,2,3,7,8-PeCDF-13C	100	115.6	1.57	0.9780	1.1304	15.6
2,3,4,7,8-PeCDF-13C	100	122.9	1.60	0.9417	1.1578	22.9
1,2,3,7,8-PeCDD-13C	100	116.1	1.57	0.6147	0.7136	16.1
1,2,3,4,7,8-HxCDF-13C	100	105.9	0.53	1.0905	1.1553	5.9
1,2,3,6,7,8-HxCDF-13C	100	105.3	0.53	1.2722	1.3398	5.3
2,3,4,6,7,8-HxCDF-13C	100	106.1	0.55	1.1645	1.2351	6.1
1,2,3,7,8,9-HxCDF-13C	100	104.8	0.53	0.9862	1.0337	4.8
1,2,3,4,7,8-HxCDD-13C	100	99.5	1.28	0.8545	0.8502	-0.5
1,2,3,6,7,8-HxCDD-13C	100	100.3	1.28	1.0314	1.0347	0.3
1,2,3,4,6,7,8-HpCDF-13C	100	99.2	0.48	0.9473	0.9396	-0.8
1,2,3,4,7,8,9-HpCDF-13C	100	98.8	0.48	0.7590	0.7503	-1.2
1,2,3,4,6,7,8-HpCDD-13C	100	96.0	1.07	0.6716	0.6445	-4.0
OCDD-13C	200	196.9	0.83	0.6935	0.6829	-1.5
1,2,3,4-TCDD-13C	100	NA	0.88	NA	NA	NA
1,2,3,7,8,9-HxCDD-13C	100	NA	1.27	NA	NA	NA

Concentrations expressed as pg/ul NA = Not Applicable * = Outside target range

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Minneapolis, MN 55414

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Fax: 612- 607-6444

Method 8290
PCDD/PCDF Calibration Verification

Run Name:	L230306B_17	Instrument ID	10MSHR15 (L)
Standard	CS3/CPM-22-171-022	GC Column ID	US1824614H
Analyzed	03/07/2023 08:40	ICAL ID	L230302

Compound	Known Conc.	Conc Found	Ion Abund. Ratio	Average RF	Daily RF	Deviation (%)
2,3,7,8-TCDF	10	10.3	0.79	1.0037	1.0355	3.2
2,3,7,8-TCDD	10	10.4	0.82	0.9778	1.0165	4.0
1,2,3,7,8-PeCDF	50	52.2	1.55	0.9913	1.0340	4.3
2,3,4,7,8-PeCDF	50	51.5	1.53	1.0918	1.1238	2.9
1,2,3,7,8-PeCDD	50	52.0	0.62	0.9911	1.0317	4.1
1,2,3,4,7,8-HxCDF	50	50.9	1.25	1.1592	1.1798	1.8
1,2,3,6,7,8-HxCDF	50	50.2	1.21	1.1272	1.1306	0.3
2,3,4,6,7,8-HxCDF	50	51.0	1.22	1.1699	1.1935	2.0
1,2,3,7,8,9-HxCDF	50	50.9	1.28	1.0923	1.1111	1.7
1,2,3,4,7,8-HxCDD	50	49.8	1.24	1.0040	0.9995	-0.4
1,2,3,6,7,8-HxCDD	50	54.6	1.27	0.9779	1.0672	9.1
1,2,3,7,8,9-HxCDD	50	53.3	1.29	0.9824	1.0480	6.7
1,2,3,4,6,7,8-HpCDF	50	49.0	1.01	1.3384	1.3107	-2.1
1,2,3,4,7,8,9-HpCDF	50	50.2	1.04	1.2964	1.3021	0.4
1,2,3,4,6,7,8-HpCDD	50	49.7	1.05	1.0985	1.0929	-0.5
OCDF	100	98.1	0.92	1.1427	1.1214	-1.9
OCDD	100	99.7	0.89	0.9020	0.8989	-0.3
Total PeCDF	100	103.6	NA	1.0416	1.0789	3.6
Total HxCDF	200	202.9	NA	1.1372	1.1538	1.5
Total HxCDD	150	157.7	NA	0.9881	1.0382	5.1
Total HpCDF	100	99.2	NA	1.3174	1.3064	-0.8
2,3,7,8-TCDF-13C	100	106.2	0.79	1.4083	1.4952	6.2
2,3,7,8-TCDD-13C	100	104.5	0.88	1.1182	1.1690	4.5
2,3,7,8-TCDD-37Cl4	10	10.3	NA	1.0020	1.0288	2.7
1,2,3,7,8-PeCDF-13C	100	112.2	1.58	0.9780	1.0971	12.2
2,3,4,7,8-PeCDF-13C	100	113.4	1.57	0.9417	1.0677	13.4
1,2,3,7,8-PeCDD-13C	100	107.6	1.58	0.6147	0.6617	7.6
1,2,3,4,7,8-HxCDF-13C	100	108.1	0.55	1.0905	1.1793	8.1
1,2,3,6,7,8-HxCDF-13C	100	109.4	0.52	1.2722	1.3923	9.4
2,3,4,6,7,8-HxCDF-13C	100	106.9	0.52	1.1645	1.2451	6.9
1,2,3,7,8,9-HxCDF-13C	100	103.5	0.53	0.9862	1.0208	3.5
1,2,3,4,7,8-HxCDD-13C	100	100.4	1.38	0.8545	0.8575	0.4
1,2,3,6,7,8-HxCDD-13C	100	99.2	1.20	1.0314	1.0233	-0.8
1,2,3,4,6,7,8-HpCDF-13C	100	93.7	0.48	0.9473	0.8875	-6.3
1,2,3,4,7,8,9-HpCDF-13C	100	85.3	0.48	0.7590	0.6476	-14.7
1,2,3,4,6,7,8-HpCDD-13C	100	84.2	1.04	0.6716	0.5657	-15.8
OCDD-13C	200	143.5	0.83	0.6935	0.4975	-28.3
1,2,3,4-TCDD-13C	100	NA	0.89	NA	NA	NA
1,2,3,7,8,9-HxCDD-13C	100	NA	1.26	NA	NA	NA

Concentrations expressed as pg/ul NA = Not Applicable * = Outside target range

REPORT OF LABORATORY ANALYSIS

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Method 8290
PCDD/PCDF Calibration Verification

Run Name:	U230307A_03	Instrument ID	10MSHR06 (U)
Standard	CS3-22-171-004	GC Column ID	US2588526H
Analyzed	03/07/2023 10:26	ICAL ID	U221009-DB225

Compound	Known Conc.	Conc Found	Ion Abund. Ratio	Average RF	Daily RF	Deviation (%)
Native Analyte						
2,3,7,8-TCDF	10	10.5	0.77	0.9844	1.0304	4.7
Labeled Analyte						
2,3,7,8-TCDF-13C	100	95.9	0.78	1.3816	1.3244	-4.1
Recovery Standard						
1,2,3,4-TCDD-13C	100	NA	0.79	NA	NA	NA
Cleanup Standard						
2,3,7,8-TCDD-37Cl4	10	10.2	NA	1.1353	1.1626	2.4

Concentrations expressed as pg/ul NA = Not Applicable * = Outside target range

REPORT OF LABORATORY ANALYSIS

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Method 8290
PCDD/PCDF Calibration Verification

Run Name:	U230307A_08	Instrument ID	10MSHR06 (U)
Standard	CS3-22-171-004	GC Column ID	US2588526H
Analyzed	03/07/2023 14:24	ICAL ID	U221009-DB225

Compound	Known Conc.	Conc Found	Ion Abund. Ratio	Average RF	Daily RF	Deviation (%)
Native Analyte						
2,3,7,8-TCDF	10	10.3	0.79	0.9844	1.0156	3.2
Labeled Analyte						
2,3,7,8-TCDF-13C	100	91.8	0.76	1.3816	1.2689	-8.2
Recovery Standard						
1,2,3,4-TCDD-13C	100	NA	0.79	NA	NA	NA
Cleanup Standard						
2,3,7,8-TCDD-37Cl4	10	9.9	NA	1.1353	1.1273	-0.7

Concentrations expressed as pg/ul NA = Not Applicable * = Outside target range

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Appendix D

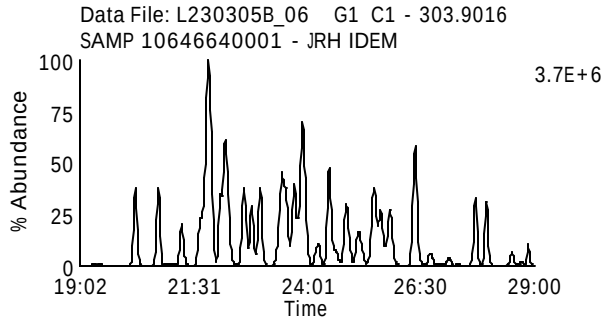
Sample Raw Data

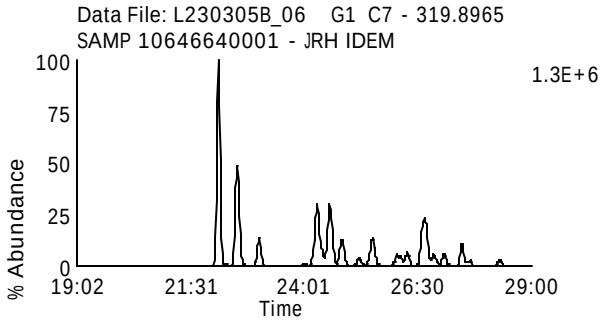
REPORT OF LABORATORY ANALYSIS

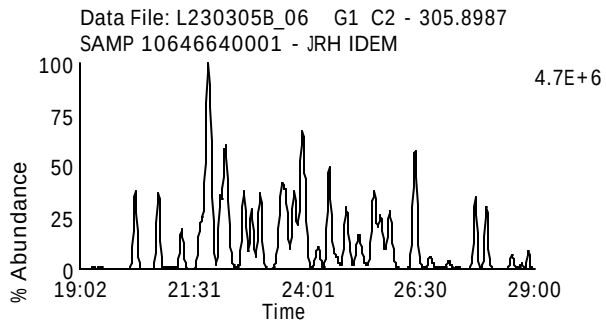
Homologue Group: Tetras

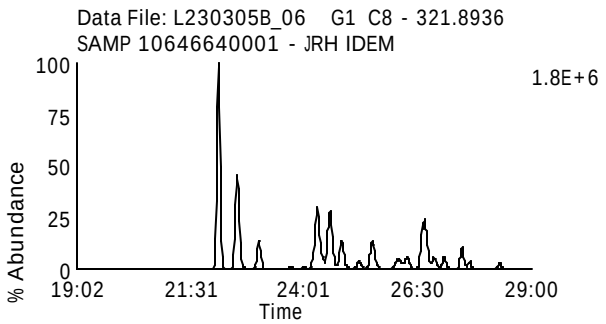
Data File Name: L230305B_06
Date Acquired: 3/6/2023
Sample Description: SAMP 10646640001 - JRH IDEM

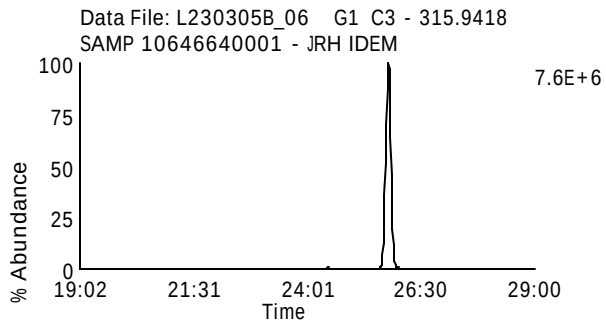
Lab Sample ID: 10644640001
Client Sample ID: WS-1
Instrument: 10MSHR15 (L)

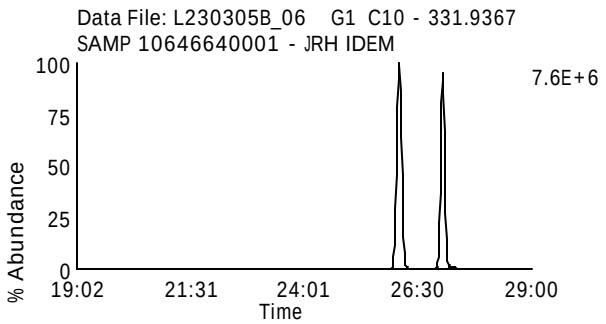


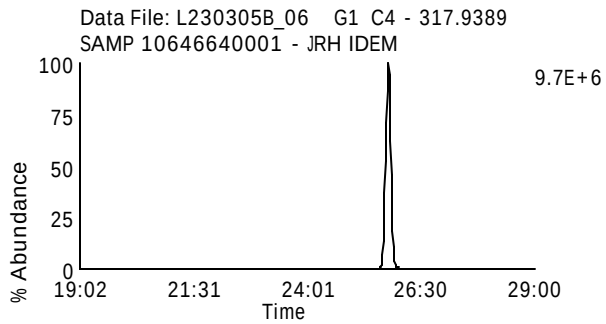


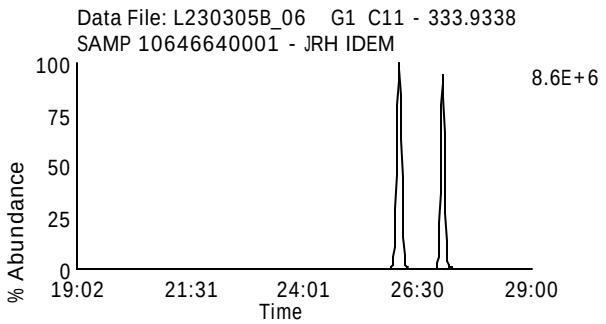


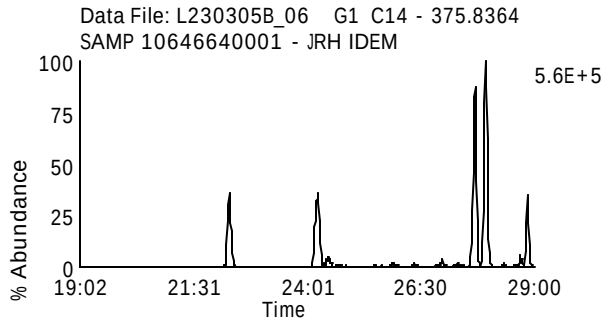


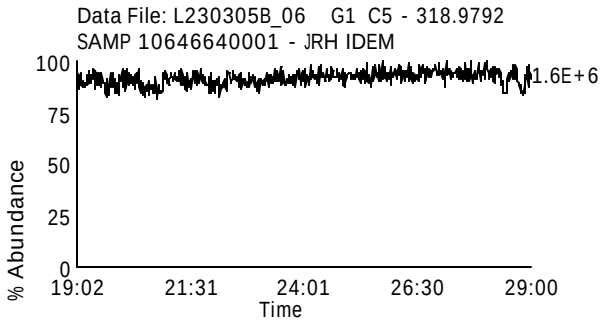








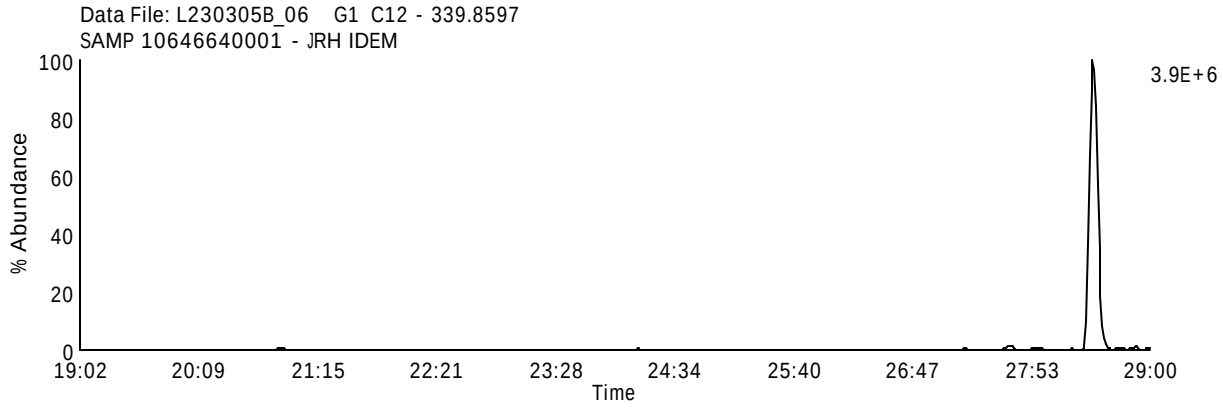


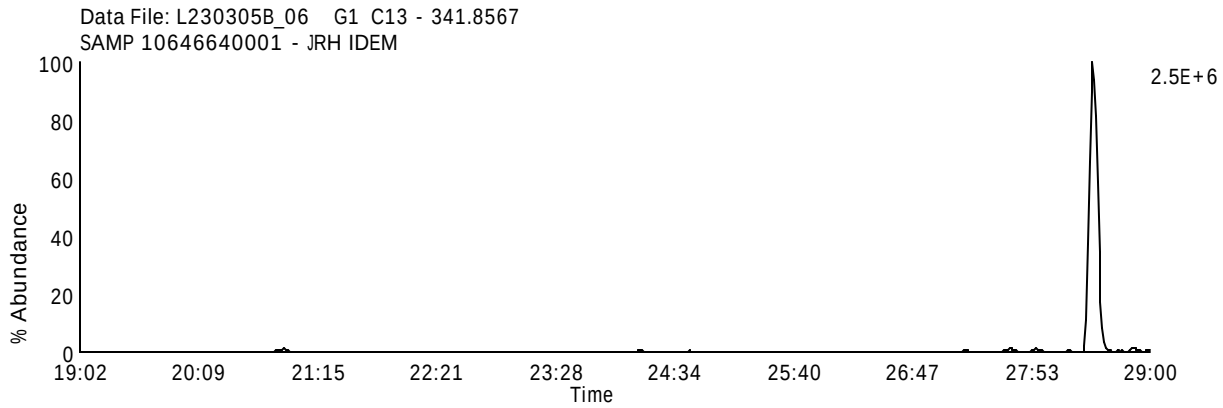


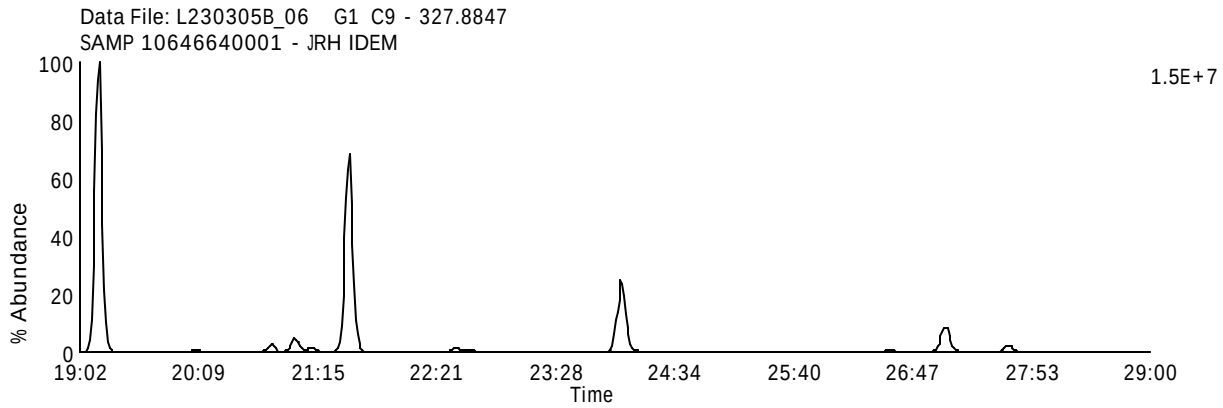
Homologue Group: Penta & Cleanup

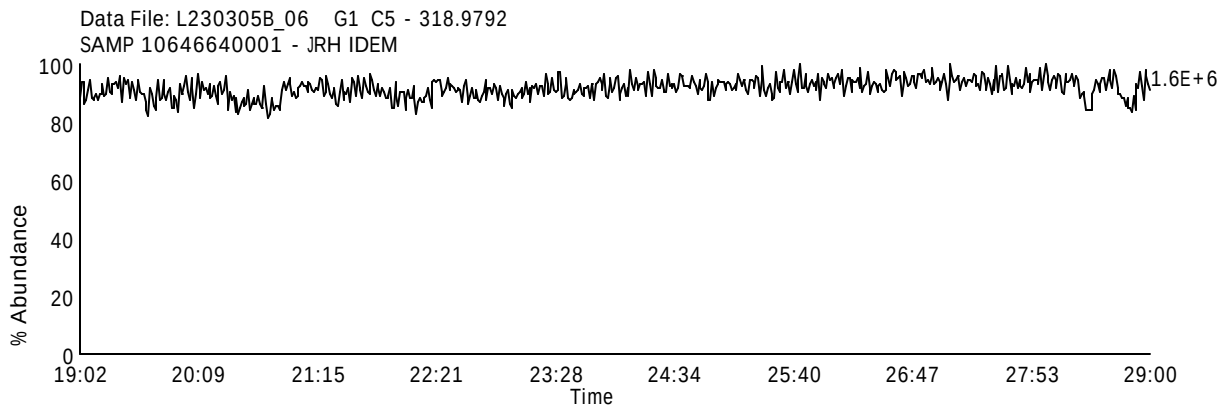
Data File Name: L230305B_06
Date Acquired: 3/6/2023
Sample Description: SAMP 10646640001 - JRH IDEM

Lab Sample ID: 10644640001
Client Sample ID: WS-1
Instrument: 10MSHR15 (L)





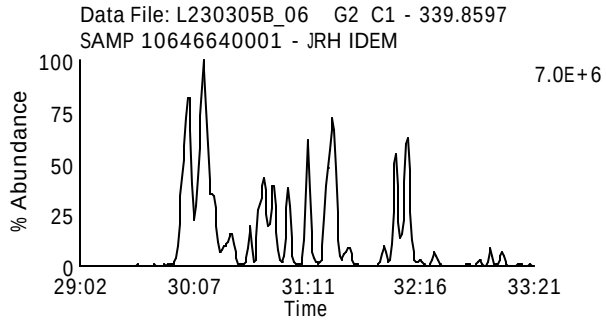


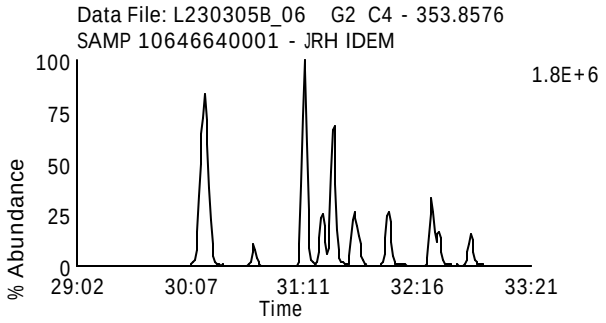


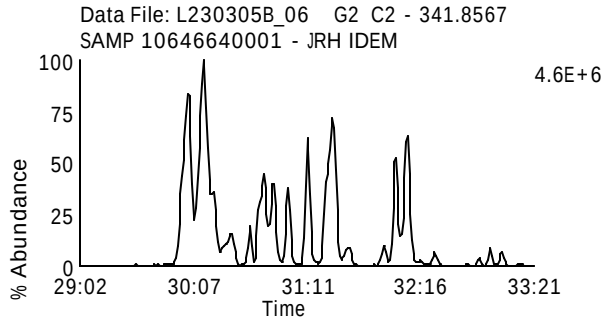
Homologue Group: Pentas

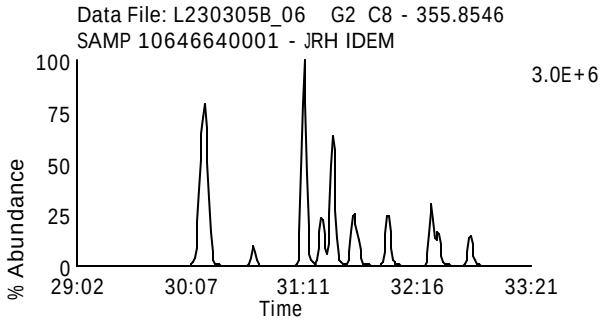
Data File Name: L230305B_06
Date Acquired: 3/6/2023
Sample Description: SAMP 10646640001 - JRH IDEM

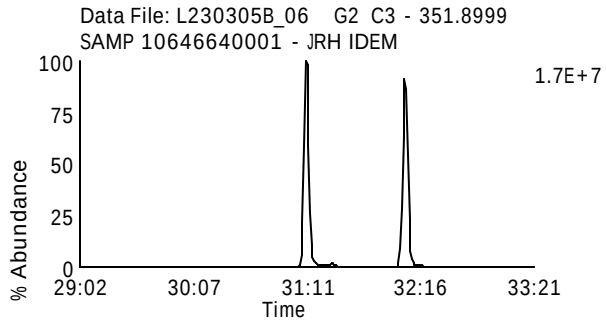
Lab Sample ID: 10644640001
Client Sample ID: WS-1
Instrument: 10MSHR15 (L)

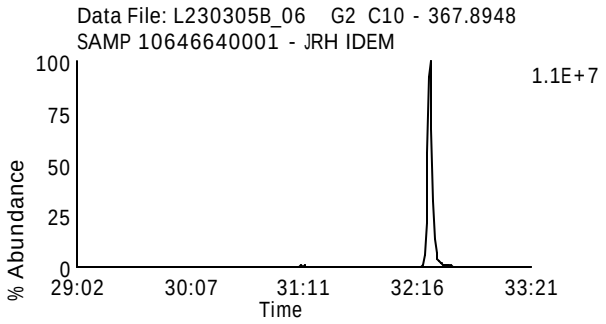


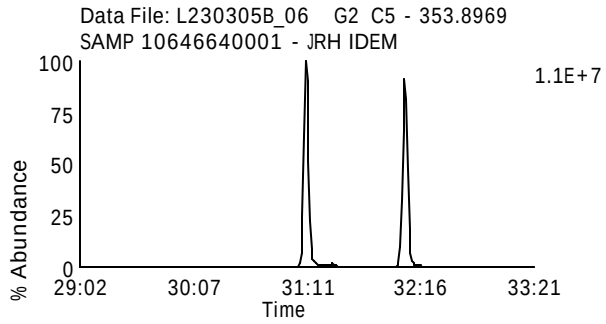


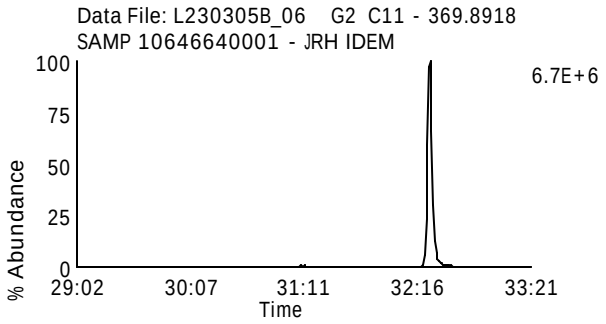


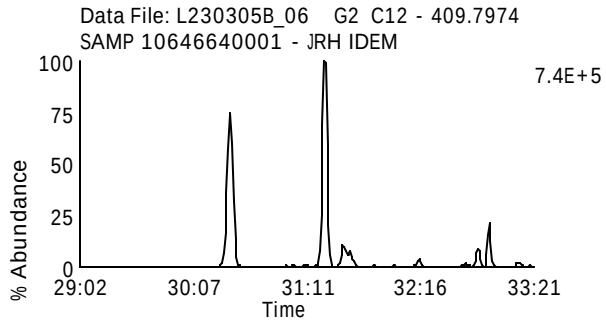


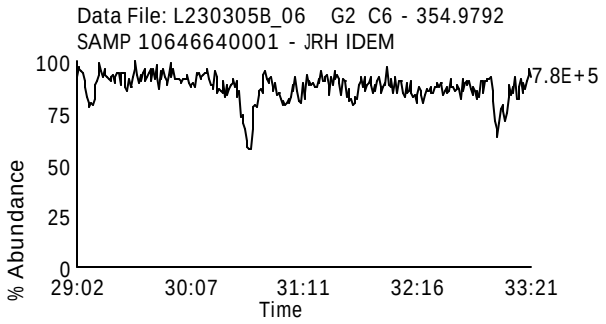








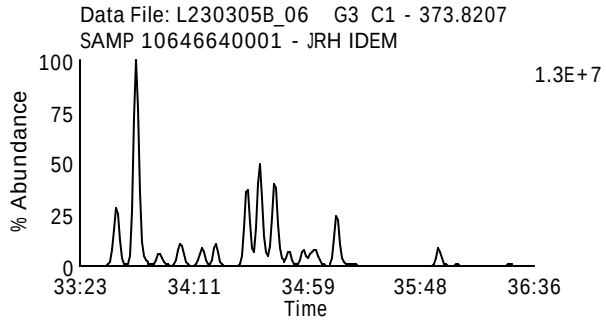


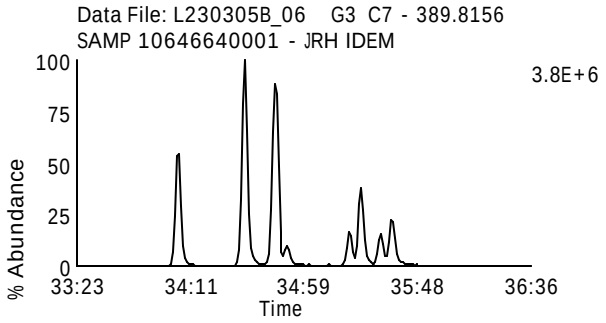


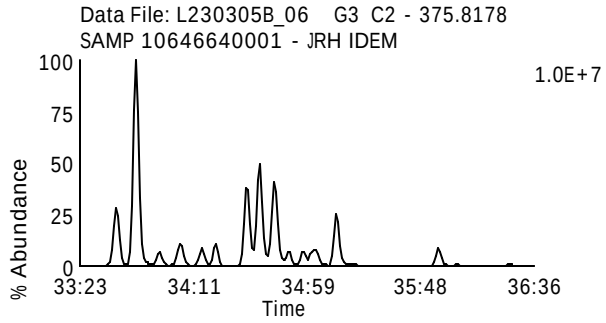
Homologue Group: Hexas

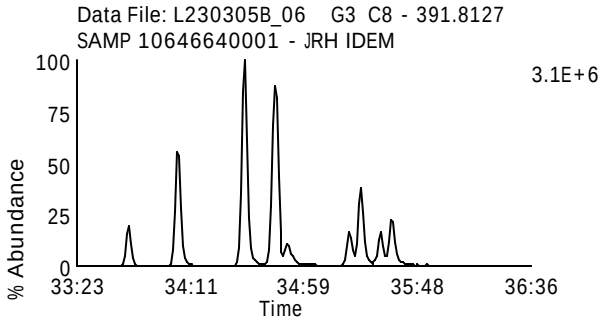
Data File Name: L230305B_06
Date Acquired: 3/6/2023
Sample Description: SAMP 10646640001 - JRH IDEM

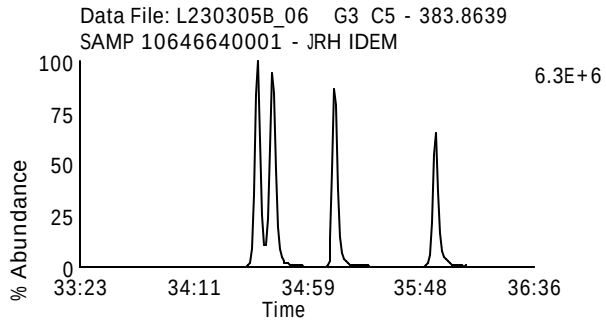
Lab Sample ID: 10644640001
Client Sample ID: WS-1
Instrument: 10MSHR15 (L)

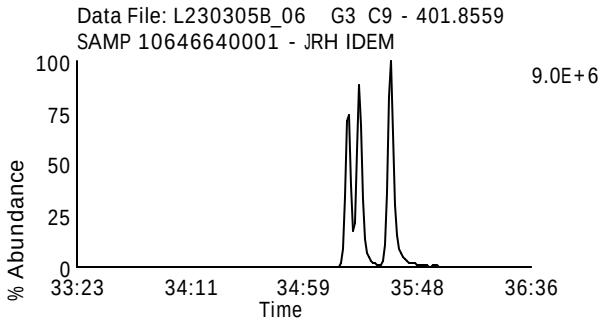


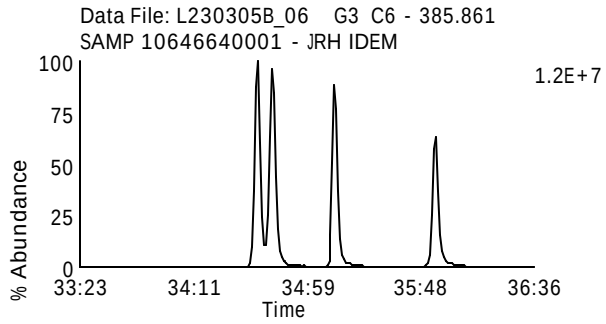


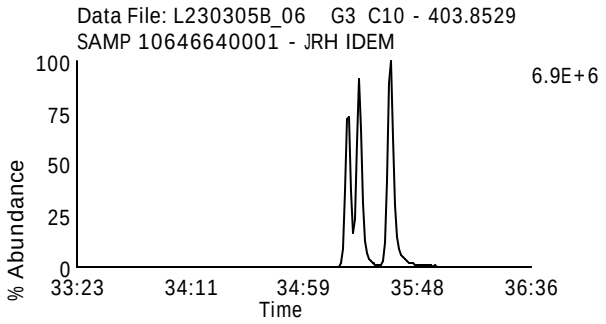


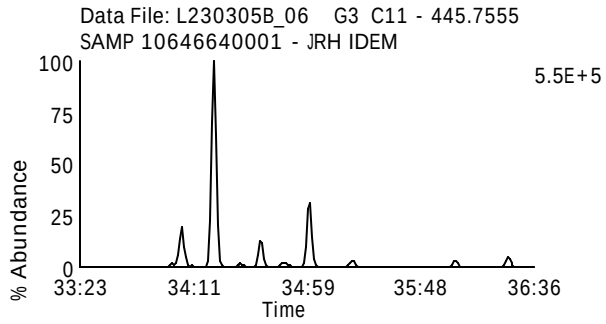


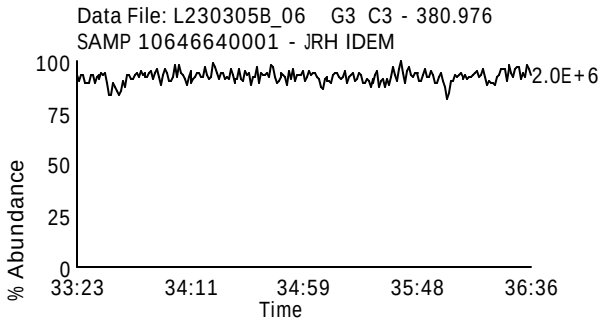








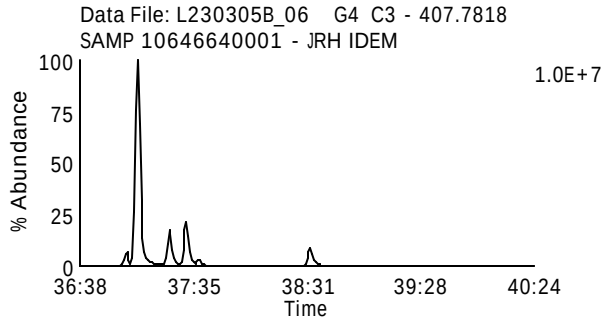


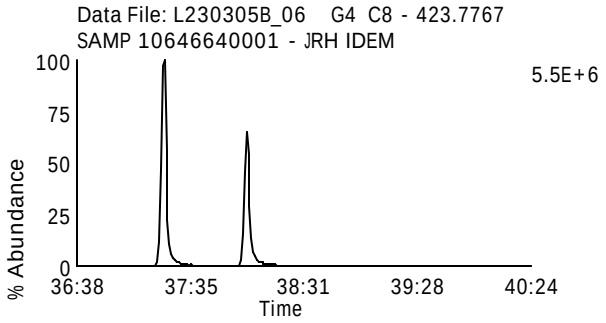


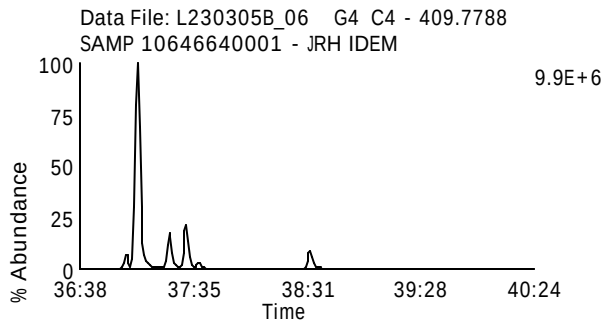
Homologue Group: Heptas

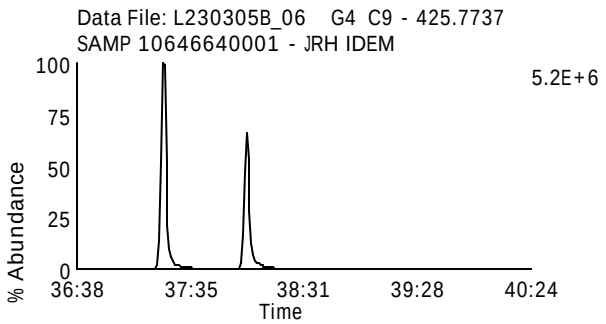
Data File Name: L230305B_06
Date Acquired: 3/6/2023
Sample Description: SAMP 10646640001 - JRH IDEM

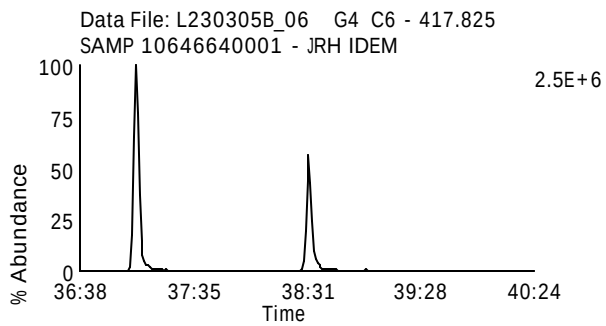
Lab Sample ID: 10644640001
Client Sample ID: WS-1
Instrument: 10MSHR15 (L)

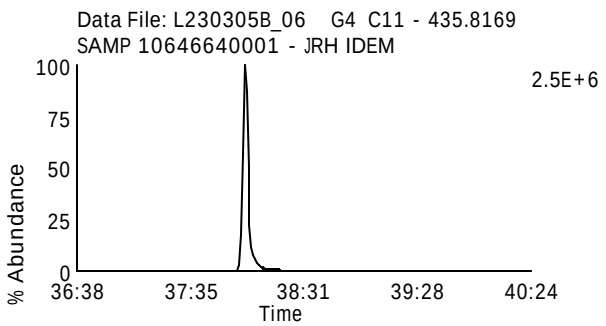


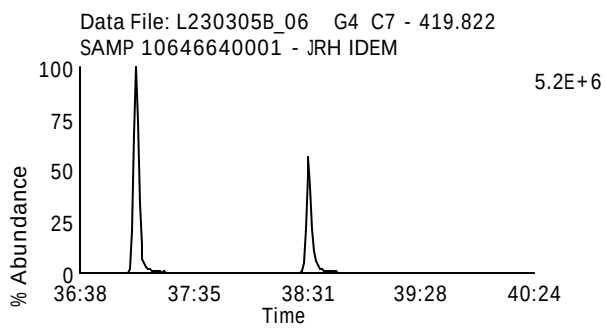


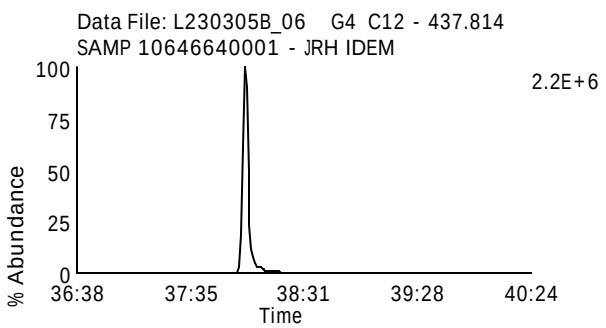


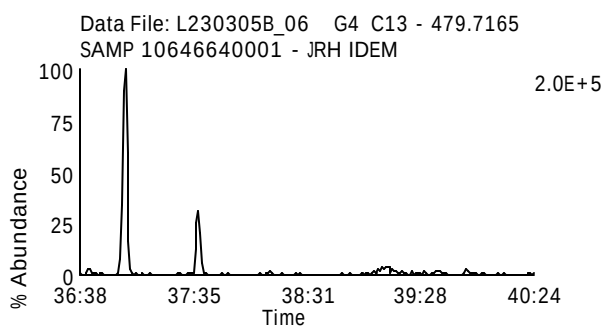


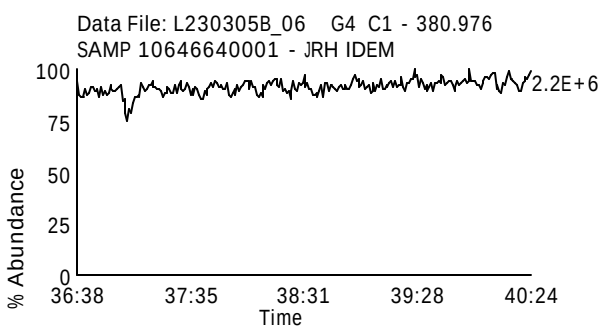








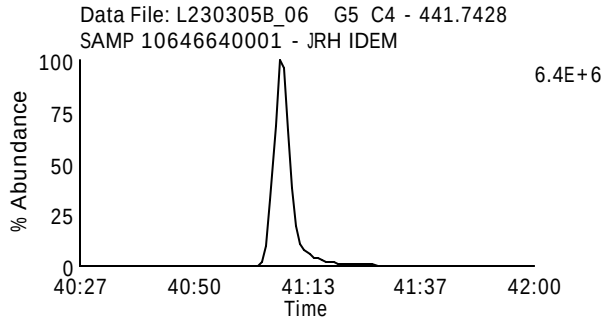


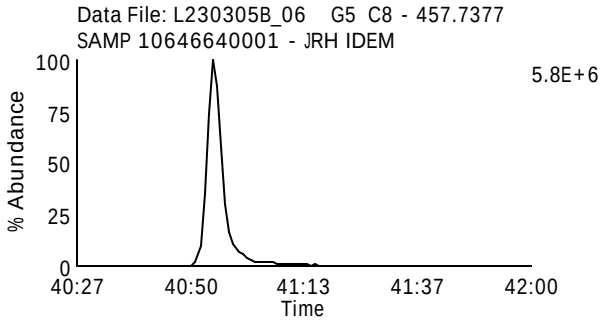


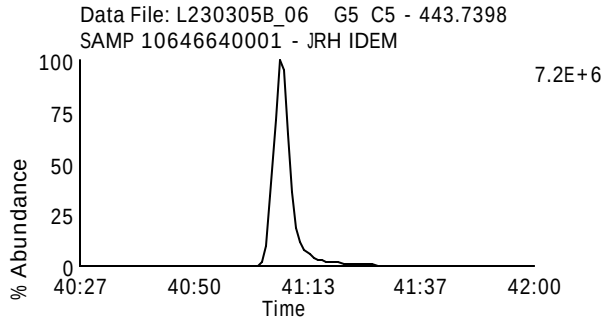
Homologue Group: Octas

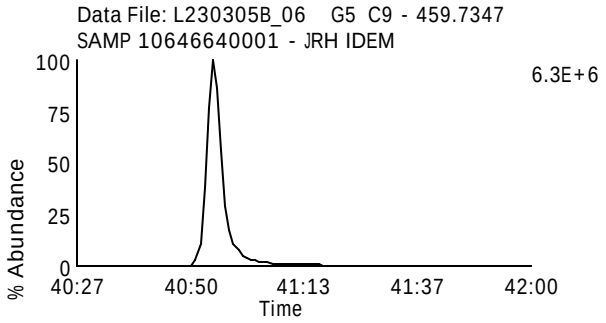
Data File Name: L230305B_06
Date Acquired: 3/6/2023
Sample Description: SAMP 10646640001 - JRH IDEM

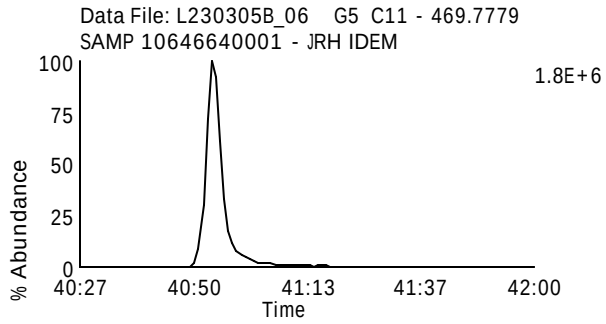
Lab Sample ID: 10644640001
Client Sample ID: WS-1
Instrument: 10MSHR15 (L)

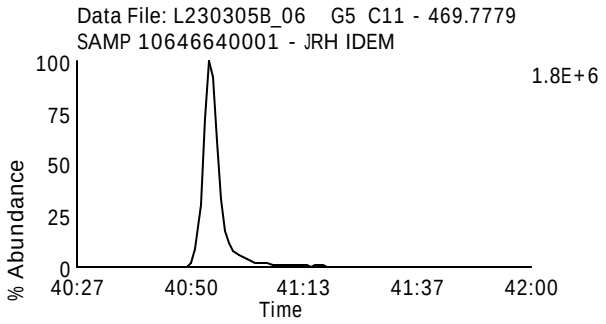


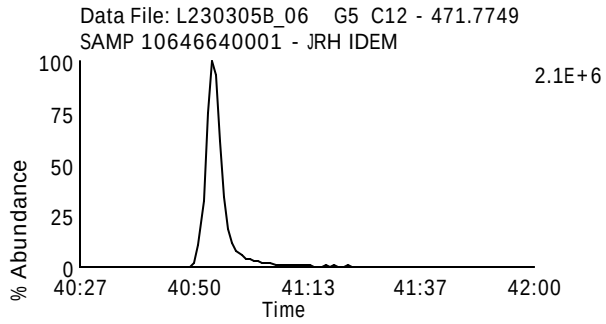


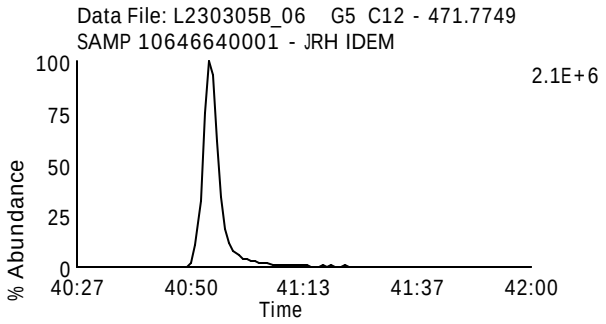


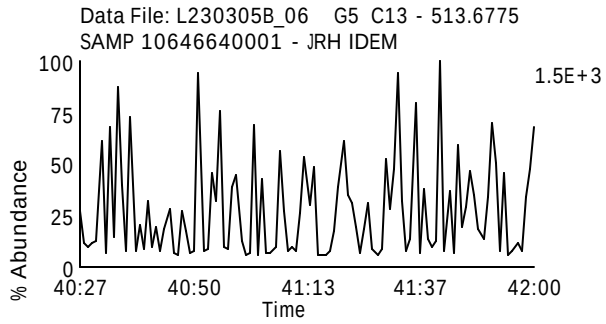


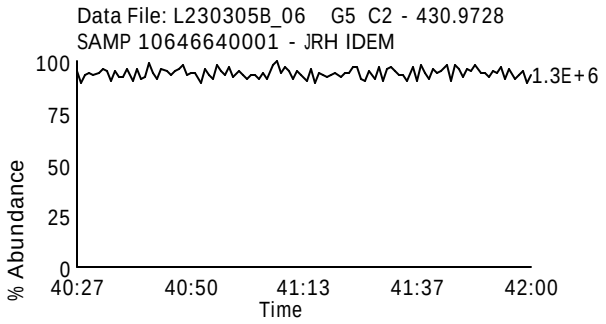








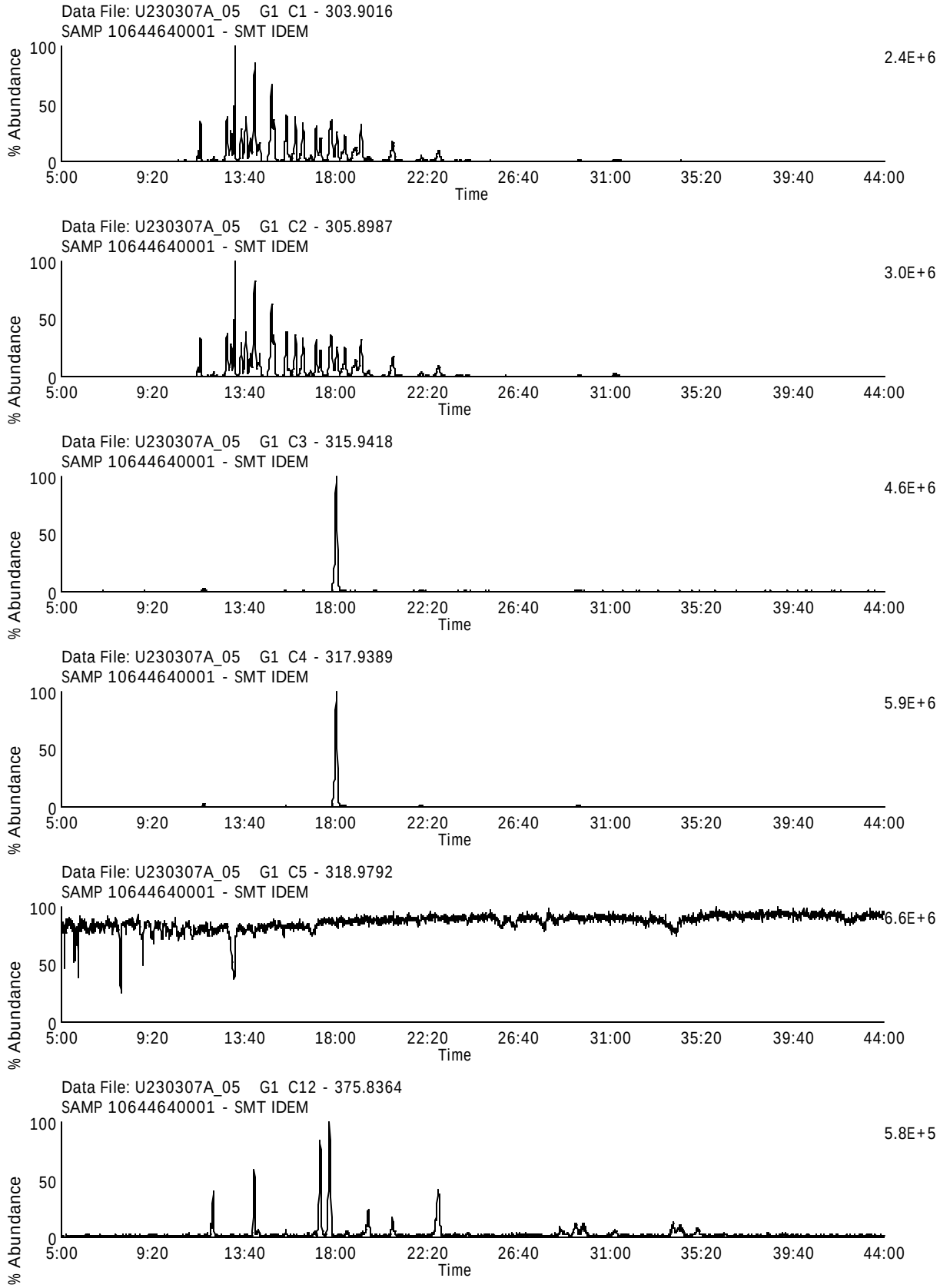




TCDF Confirmation Analysis

Data File Name: U230307A_05
Date Acquired: 3/7/2023
Sample Description: SAMP 10644640001 - SMT IDEM

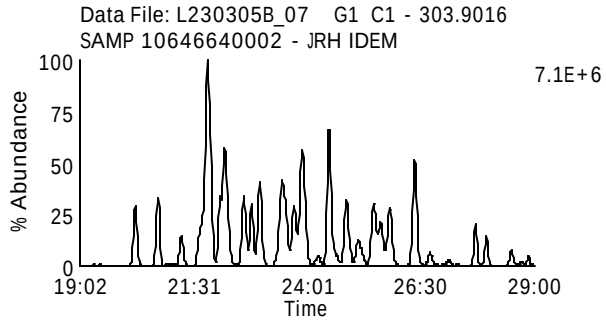
Lab Sample ID: 10644640001
Client Sample ID: WS-1
Instrument: 10MSHR06 (U)

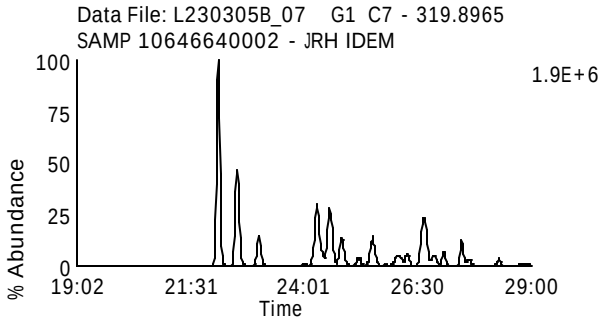


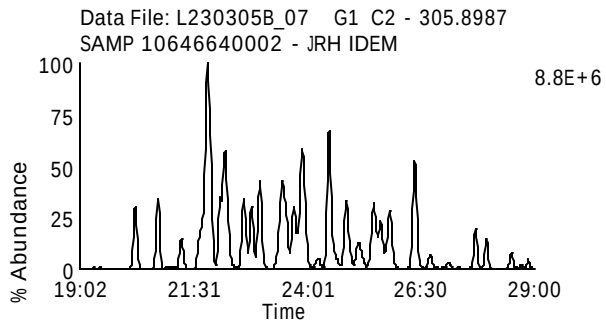
Homologue Group: Tetras

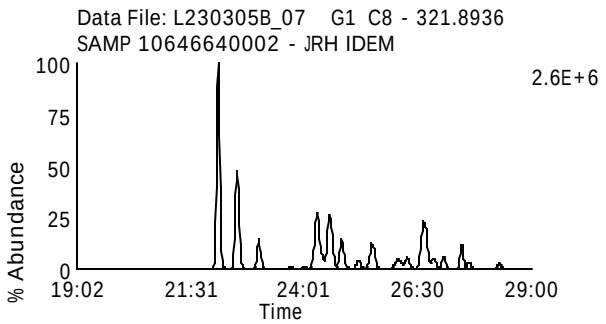
Data File Name: L230305B_07
Date Acquired: 3/6/2023
Sample Description: SAMP 10646640002 - JRH IDEM

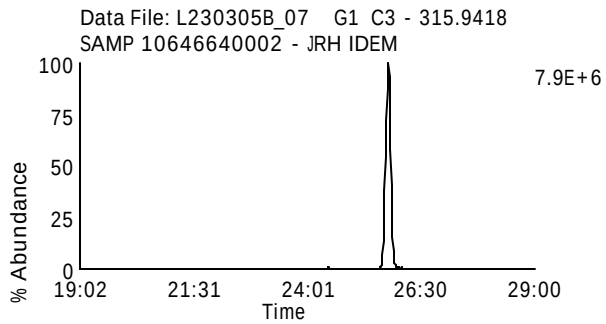
Lab Sample ID: 10644640002
Client Sample ID: WS-2
Instrument: 10MSHR15 (L)

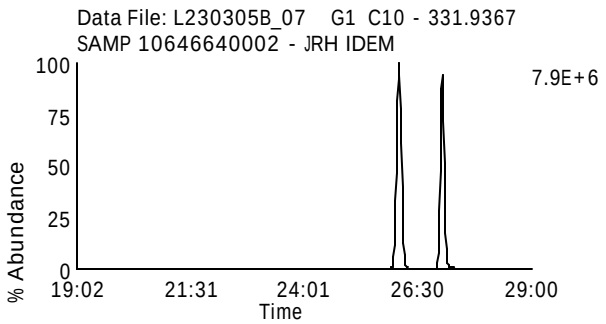


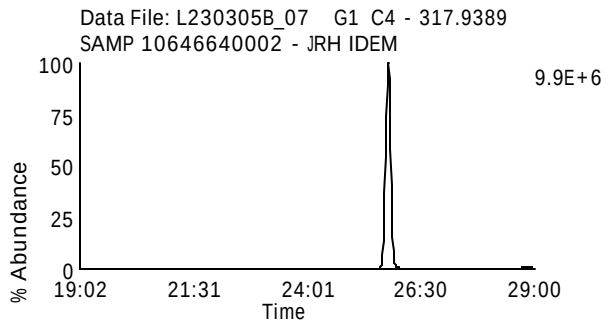


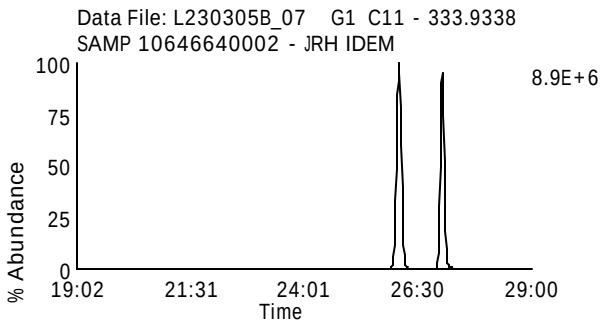


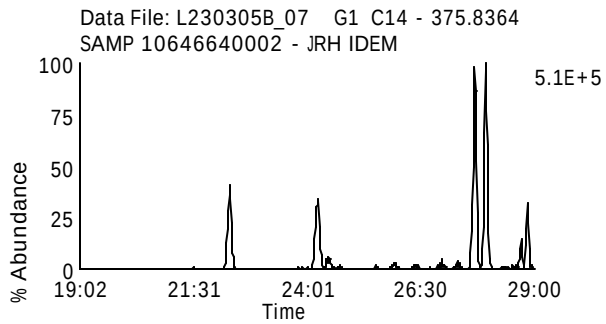


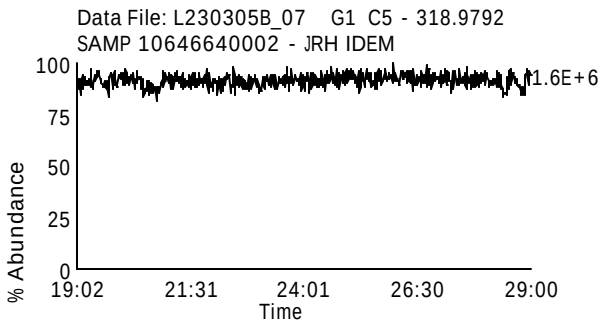






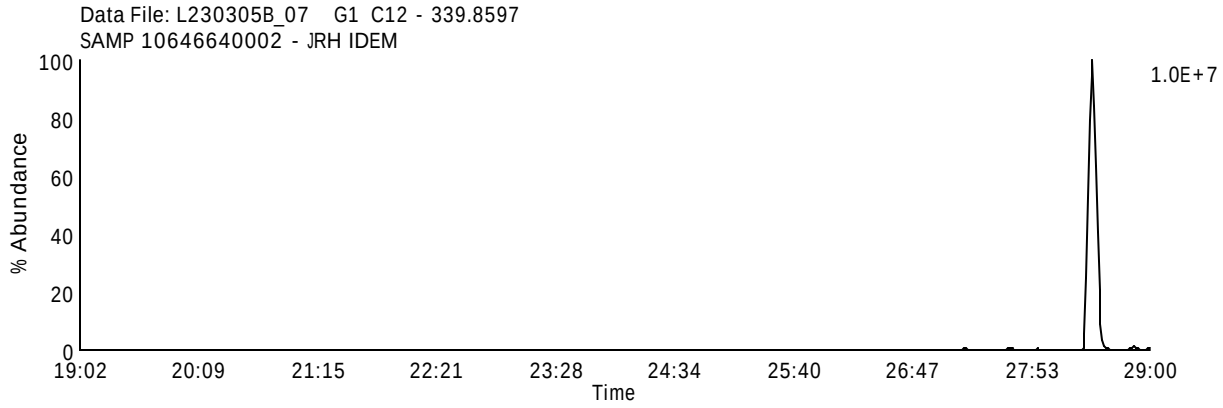


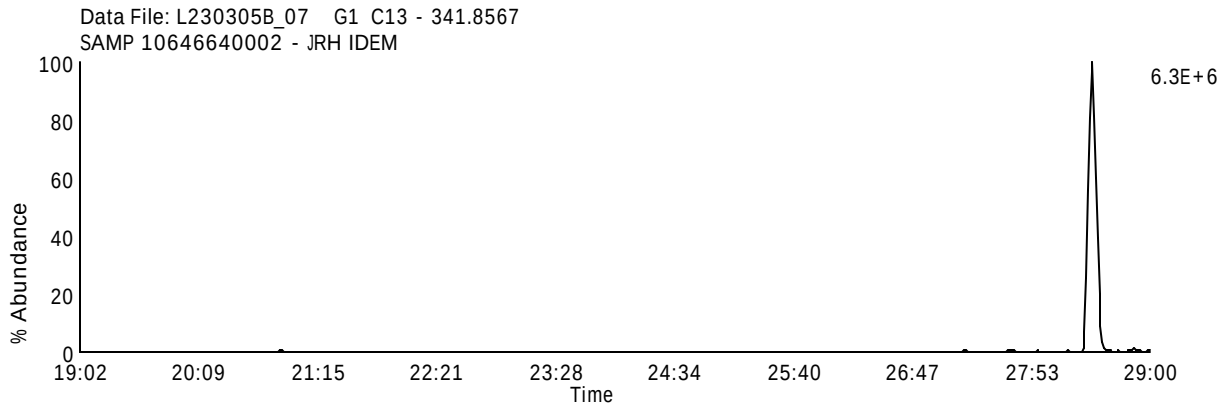


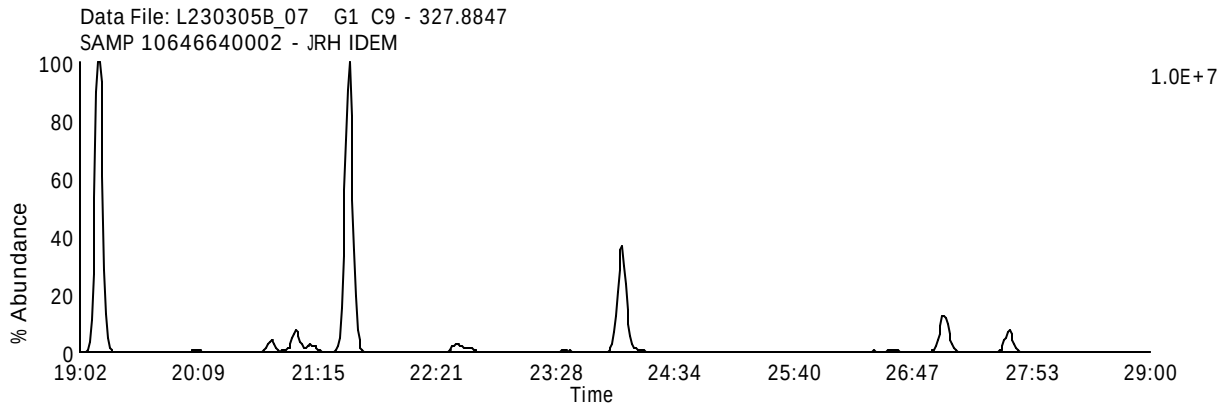


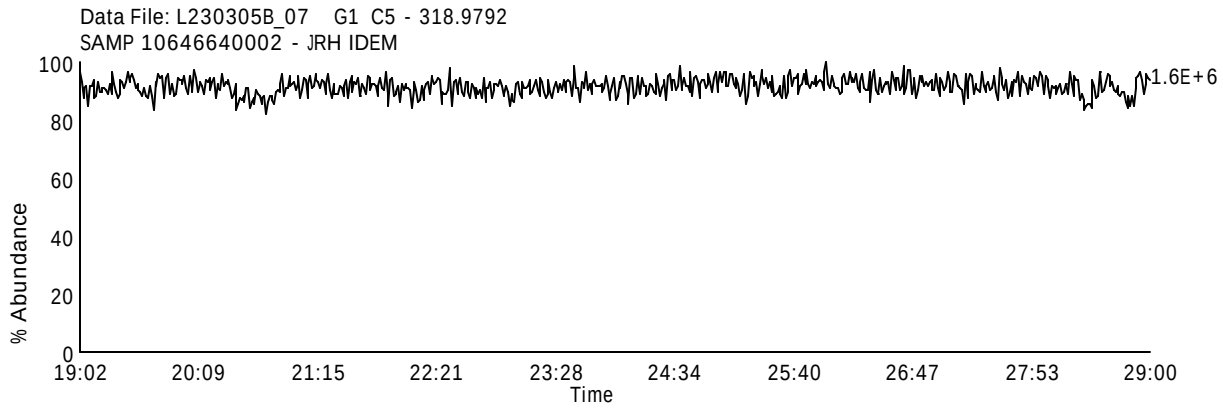
Homologue Group: Penta & Cleanup

Data File Name: L230305B_07	Lab Sample ID: 10644640002
Date Acquired: 3/6/2023	Client Sample ID: WS-2
Sample Description: SAMP 10646640002 - JRH IDEM	Instrument: 10MSHR15 (L)





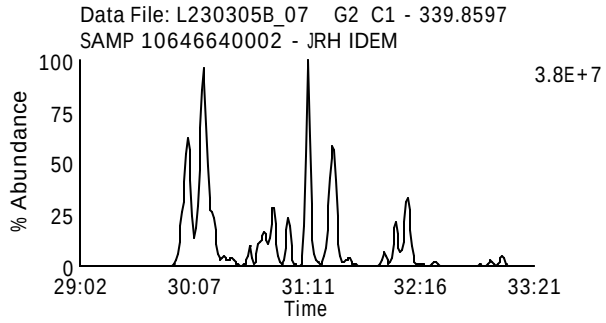


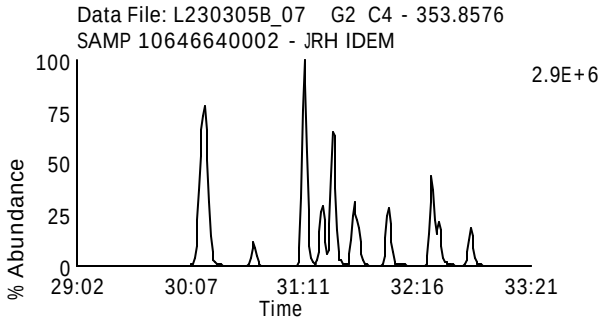


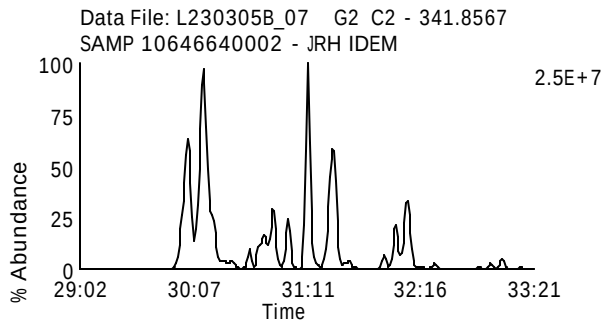
Homologue Group: Pentas

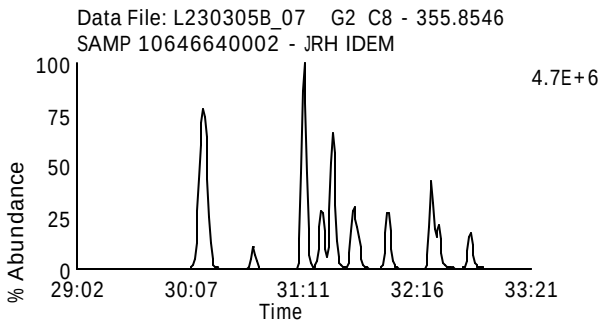
Data File Name: L230305B_07
Date Acquired: 3/6/2023
Sample Description: SAMP 10646640002 - JRH IDEM

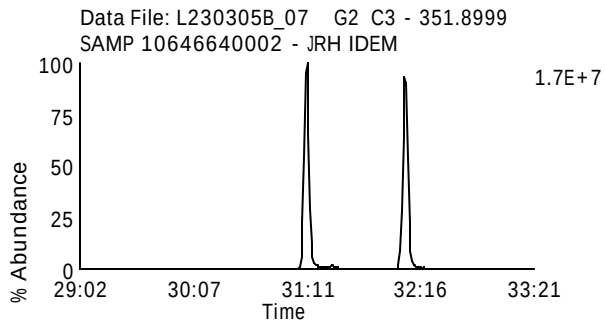
Lab Sample ID: 10644640002
Client Sample ID: WS-2
Instrument: 10MSHR15 (L)

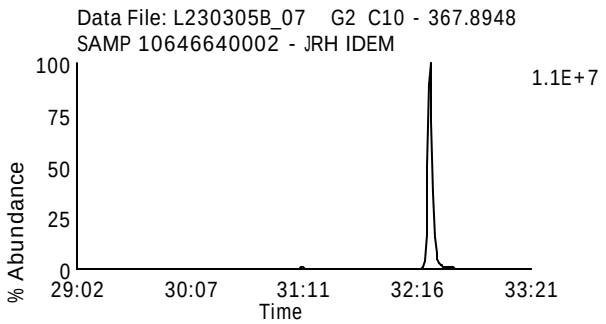


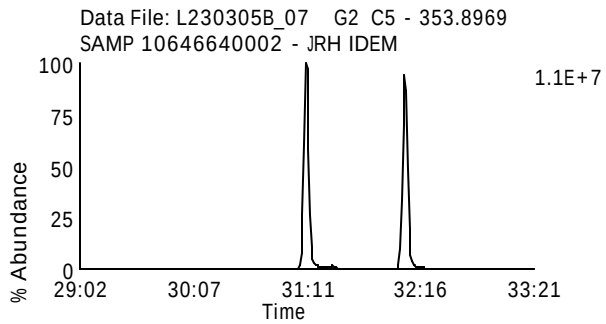


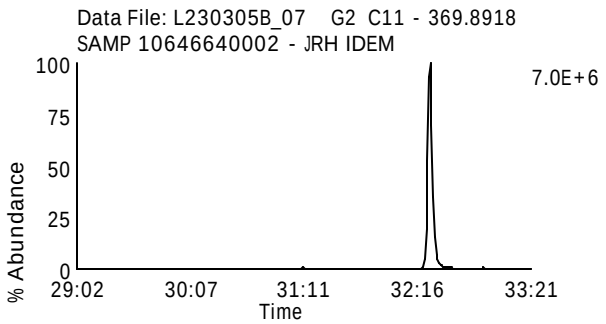


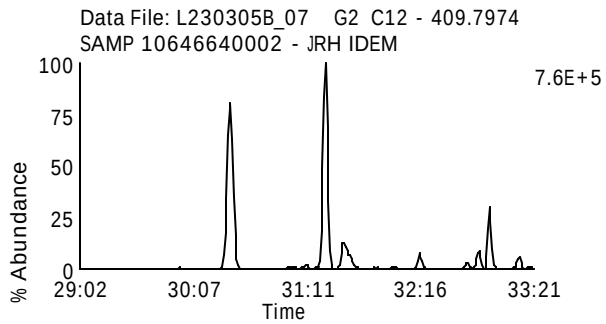


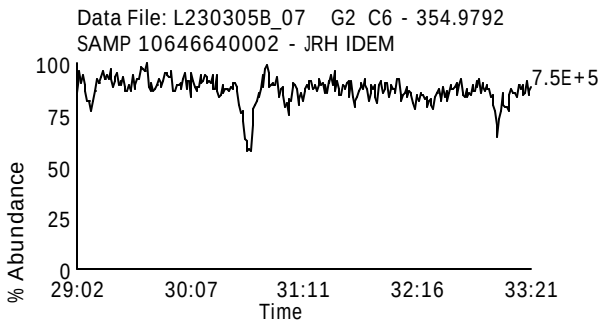








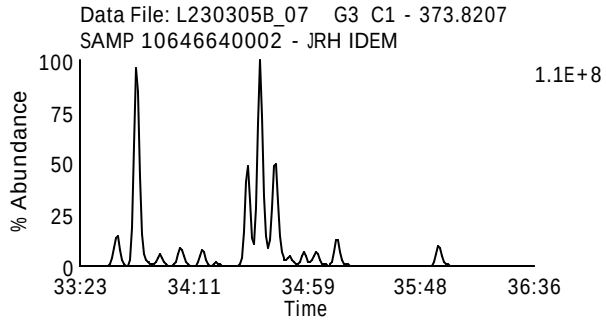


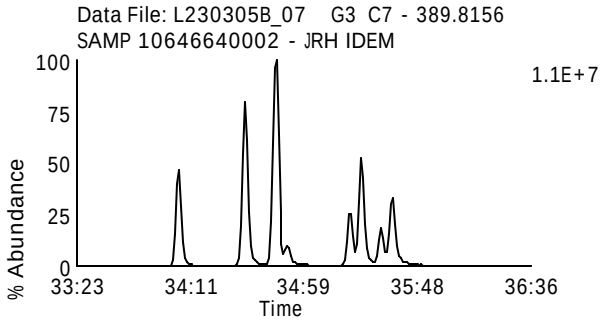


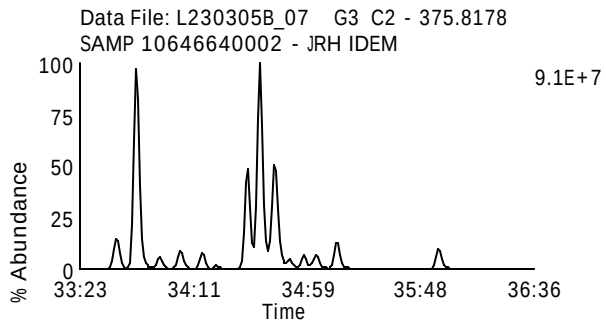
Homologue Group: Hexas

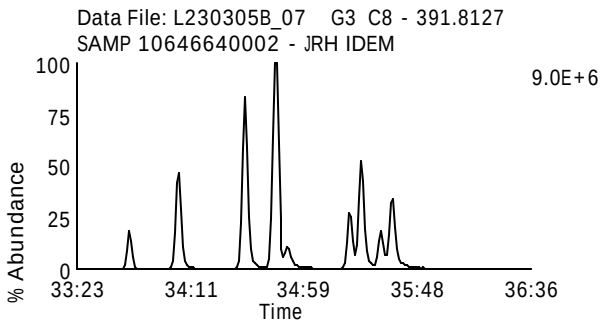
Data File Name: L230305B_07
Date Acquired: 3/6/2023
Sample Description: SAMP 10646640002 - JRH IDEM

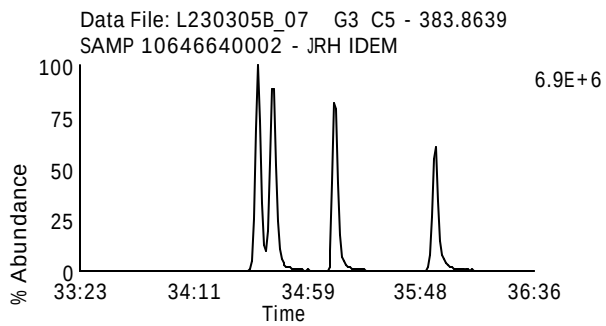
Lab Sample ID: 10644640002
Client Sample ID: WS-2
Instrument: 10MSHR15 (L)

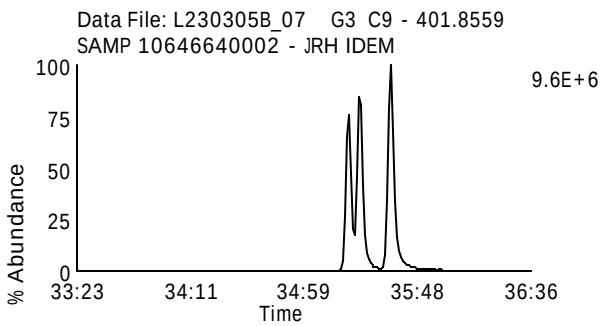


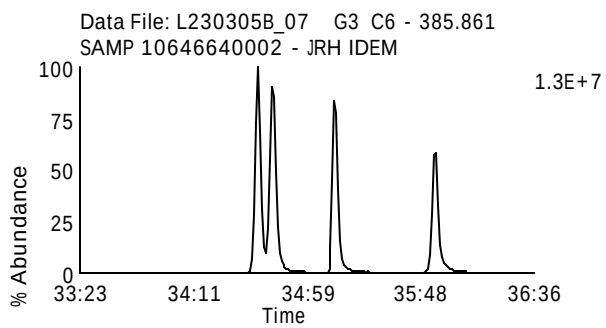


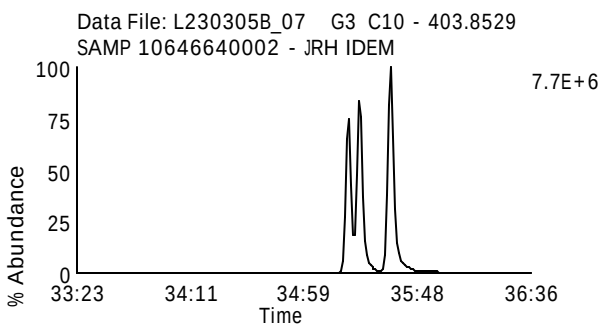


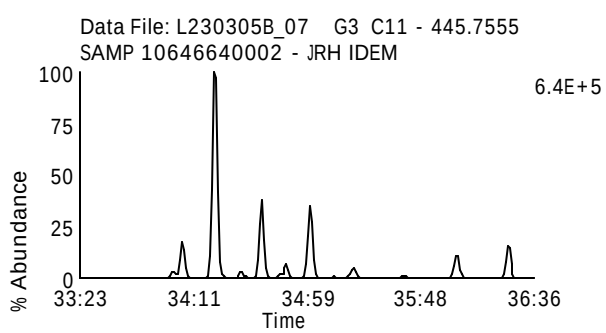


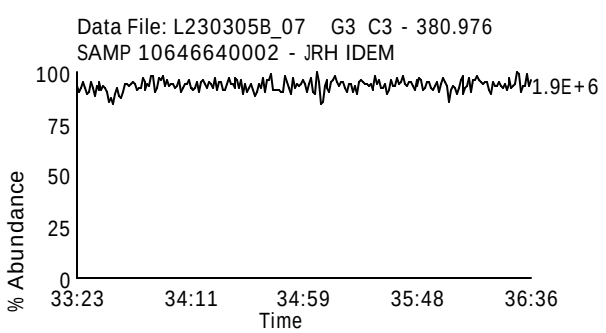










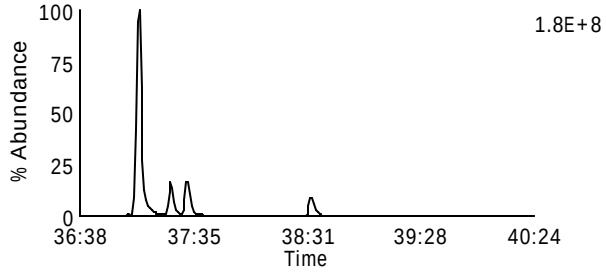


Homologue Group: Heptas

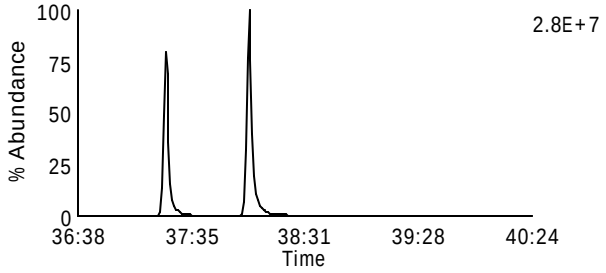
Data File Name: L230305B_07
Date Acquired: 3/6/2023
Sample Description: SAMP 10646640002 - JRH IDEM

Lab Sample ID: 10644640002
Client Sample ID: WS-2
Instrument: 10MSHR15 (L)

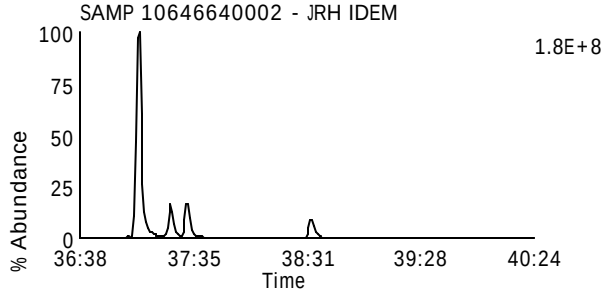
Data File: L230305B_07 G4 C3 - 407.7818
SAMP 10646640002 - JRH IDEM



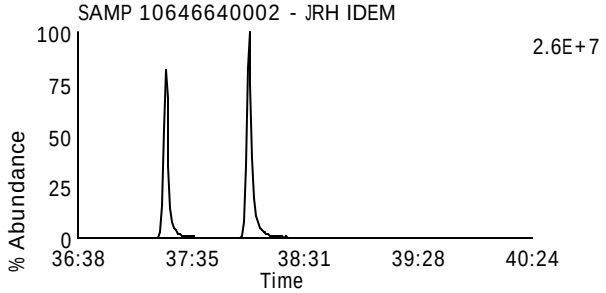
Data File: L230305B_07 G4 C8 - 423.7767
SAMP 10646640002 - JRH IDEM



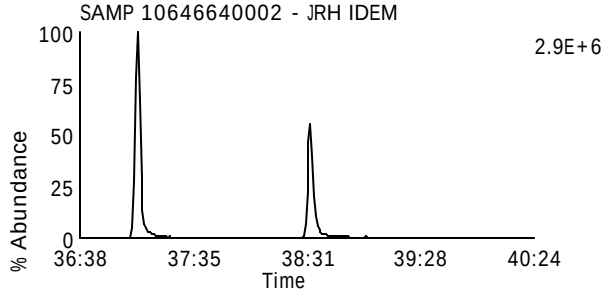
Data File: L230305B_07 G4 C4 - 409.7788
SAMP 10646640002 - JRH IDEM



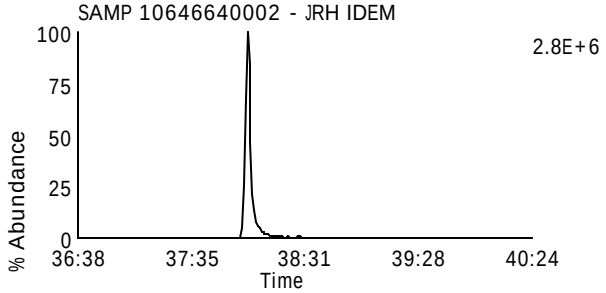
Data File: L230305B_07 G4 C9 - 425.7737
SAMP 10646640002 - JRH IDEM



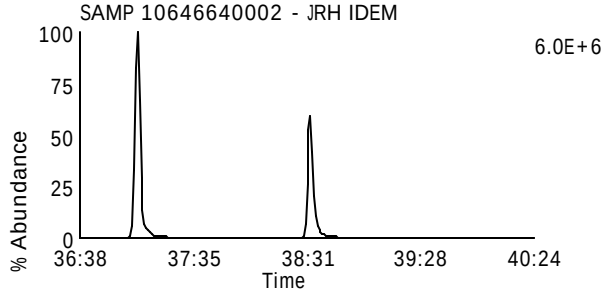
Data File: L230305B_07 G4 C6 - 417.825
SAMP 10646640002 - JRH IDEM



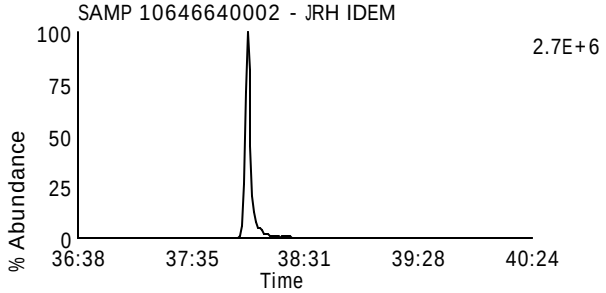
Data File: L230305B_07 G4 C11 - 435.8169
SAMP 10646640002 - JRH IDEM



Data File: L230305B_07 G4 C7 - 419.822
SAMP 10646640002 - JRH IDEM



Data File: L230305B_07 G4 C12 - 437.814
SAMP 10646640002 - JRH IDEM



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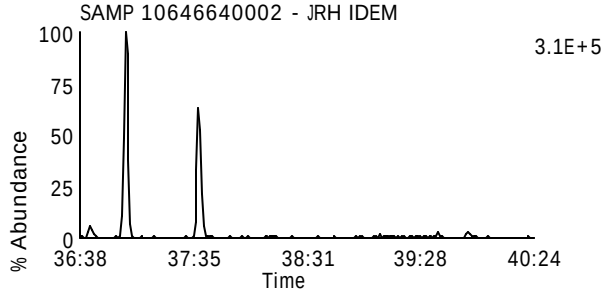
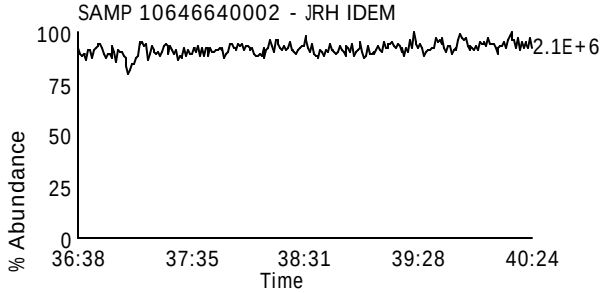
SAMP 10646640002 - JRH IDEM



Data File: L230305B_07 G4 C1 - 380.976
SAMP 10646640002 - JRH IDEM

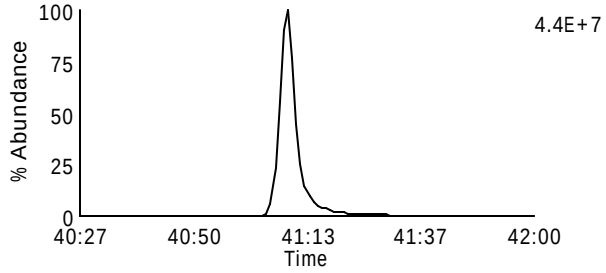


Homologue Group: Octas

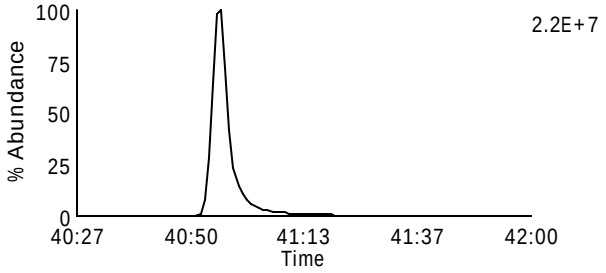
Data File Name: L230305B_07
Date Acquired: 3/6/2023
Sample Description: SAMP 10646640002 - JRH IDEM

Lab Sample ID: 10644640002
Client Sample ID: WS-2
Instrument: 10MSHR15 (L)

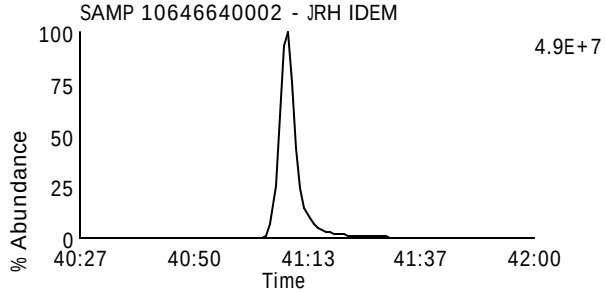
Data File: L230305B_07 G5 C4 - 441.7428
SAMP 10646640002 - JRH IDEM



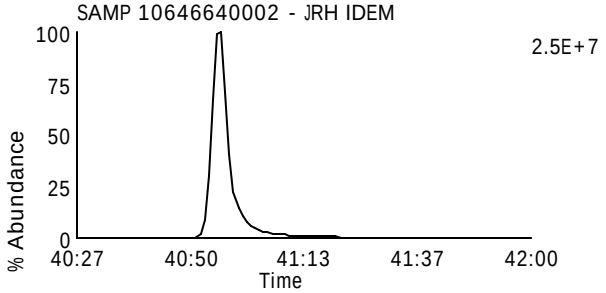
Data File: L230305B_07 G5 C8 - 457.7377
SAMP 10646640002 - JRH IDEM



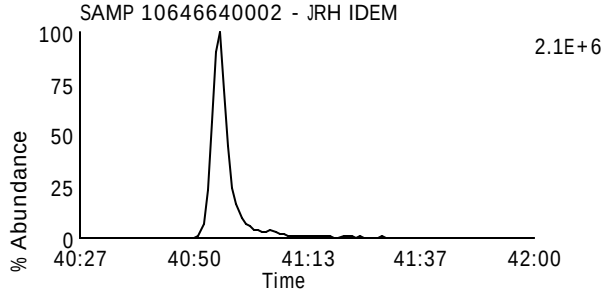
Data File: L230305B_07 G5 C5 - 443.7398
SAMP 10646640002 - JRH IDEM



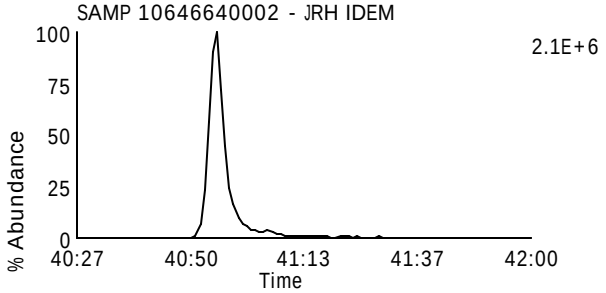
Data File: L230305B_07 G5 C9 - 459.7347
SAMP 10646640002 - JRH IDEM



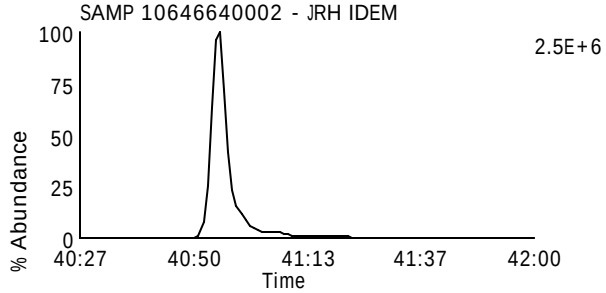
Data File: L230305B_07 G5 C11 - 469.7779
SAMP 10646640002 - JRH IDEM



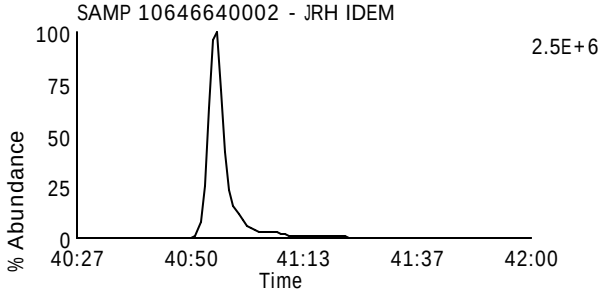
Data File: L230305B_07 G5 C11 - 469.7779
SAMP 10646640002 - JRH IDEM



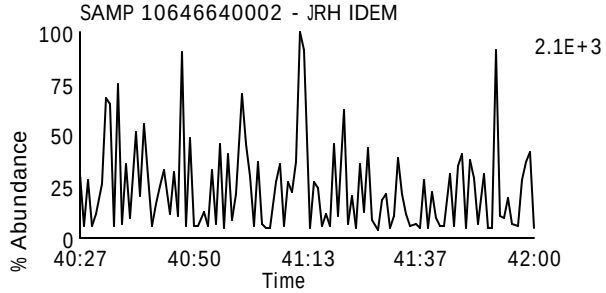
Data File: L230305B_07 G5 C12 - 471.7749
SAMP 10646640002 - JRH IDEM



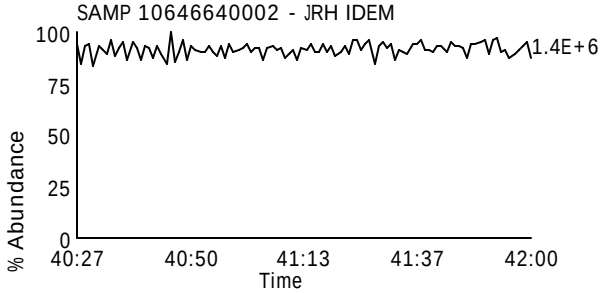
Data File: L230305B_07 G5 C12 - 471.7749
SAMP 10646640002 - JRH IDEM



Data File: L230305B_07 G5 C13 - 513.6775
SAMP 10646640002 - JRH IDEM



Data File: L230305B_07 G5 C2 - 430.9728
SAMP 10646640002 - JRH IDEM

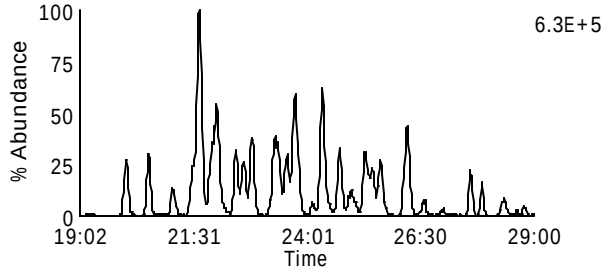


Homologue Group: Tetras

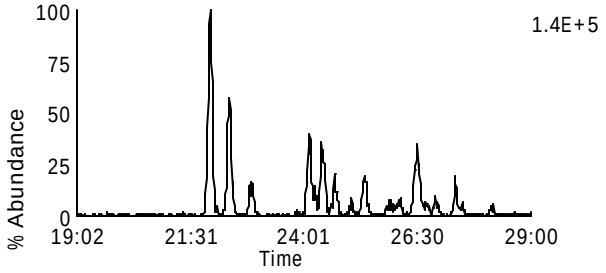
Data File Name: L230306B_15
Date Acquired: 3/7/2023
Sample Description: SAMP 10644640002 - SMT IDEM 10X

Lab Sample ID: 10644640002
Client Sample ID: WS-2
Instrument: 10MSHR15 (L)

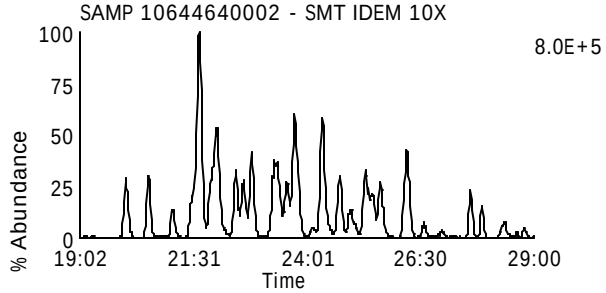
Data File: L230306B_15 G1 C1 - 303.9016
SAMP 10644640002 - SMT IDEM 10X



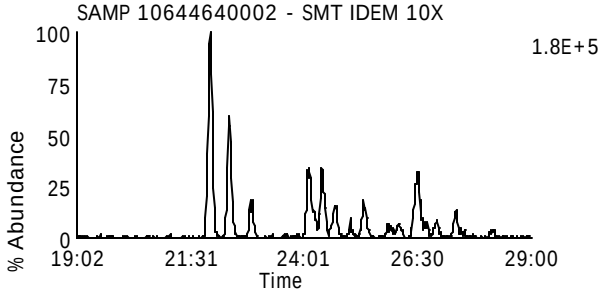
Data File: L230306B_15 G1 C7 - 319.8965
SAMP 10644640002 - SMT IDEM 10X



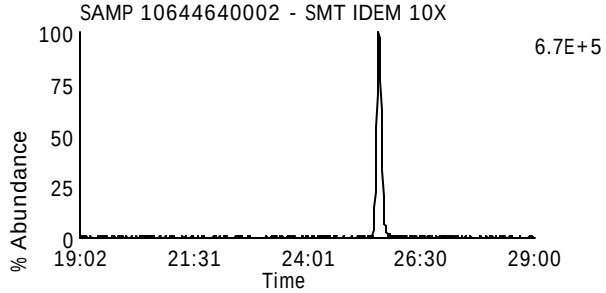
Data File: L230306B_15 G1 C2 - 305.8987
SAMP 10644640002 - SMT IDEM 10X



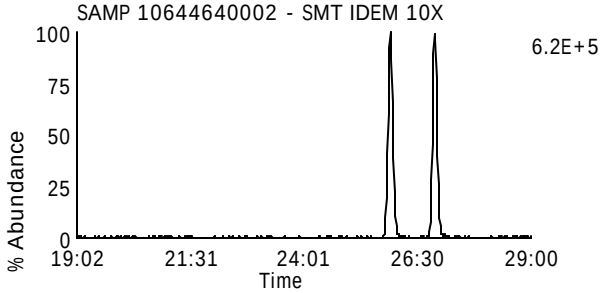
Data File: L230306B_15 G1 C8 - 321.8936
SAMP 10644640002 - SMT IDEM 10X



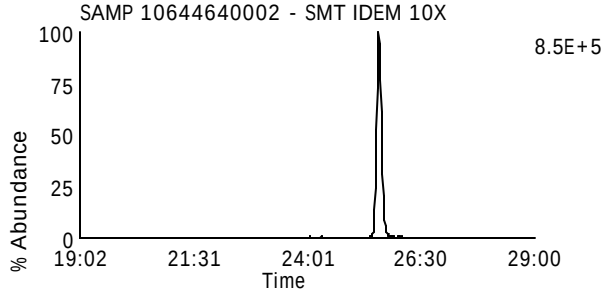
Data File: L230306B_15 G1 C3 - 315.9418
SAMP 10644640002 - SMT IDEM 10X



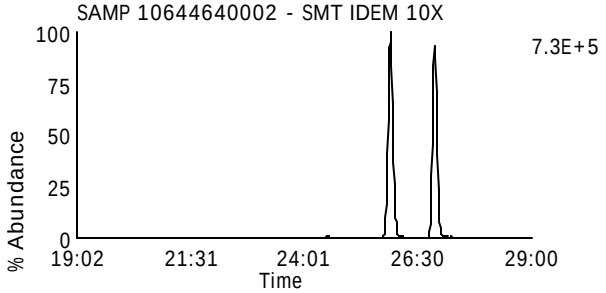
Data File: L230306B_15 G1 C10 - 331.9367
SAMP 10644640002 - SMT IDEM 10X



Data File: L230306B_15 G1 C4 - 317.9389
SAMP 10644640002 - SMT IDEM 10X



Data File: L230306B_15 G1 C11 - 333.9338
SAMP 10644640002 - SMT IDEM 10X



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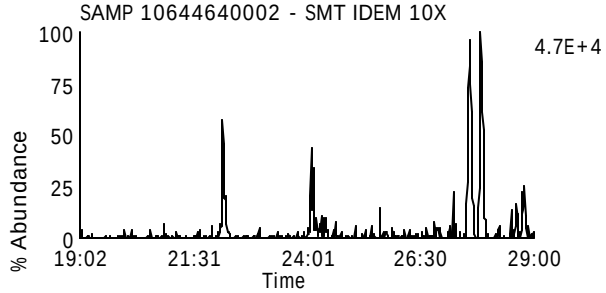
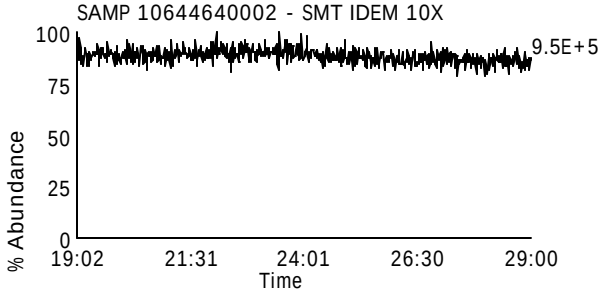
SAMP 10644640002 - SMT IDEM 10X



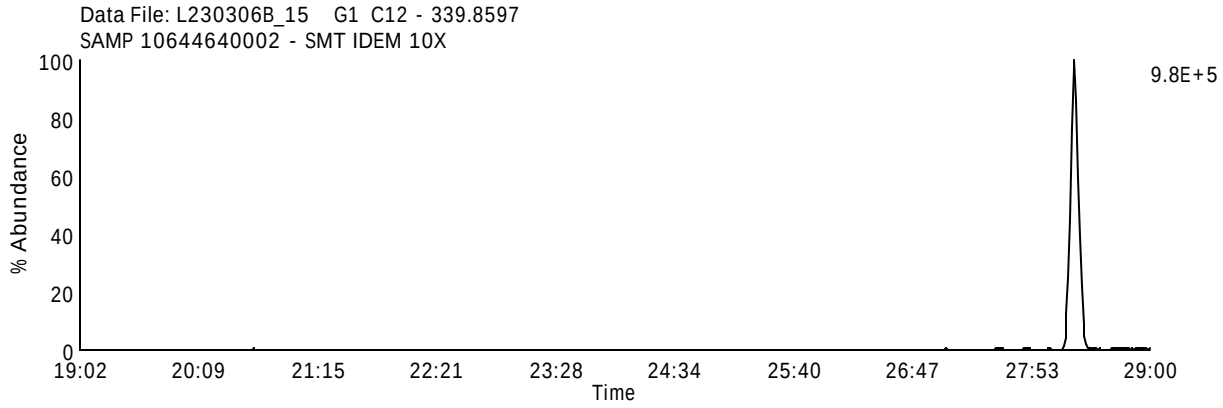
Data File: L230306B_15 G1 C5 - 318.9792
SAMP 10644640002 - SMT IDEM 10X

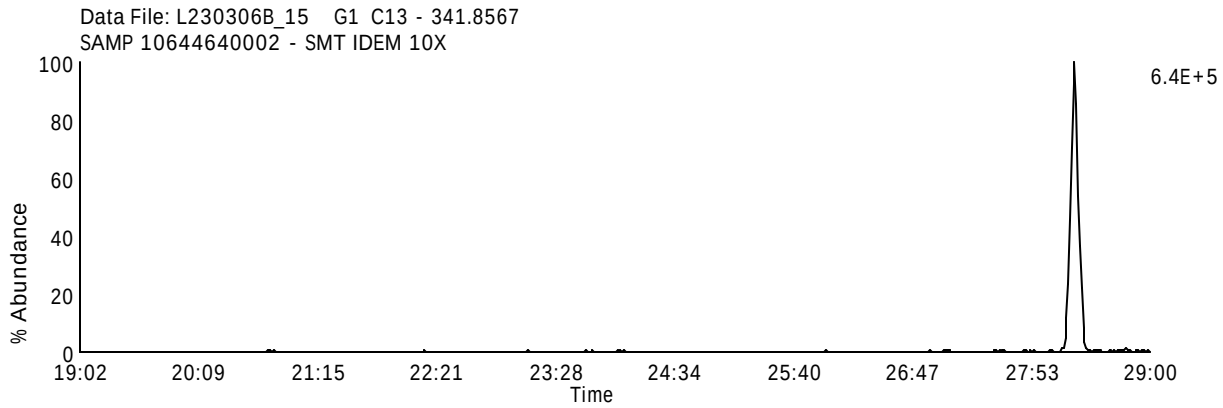


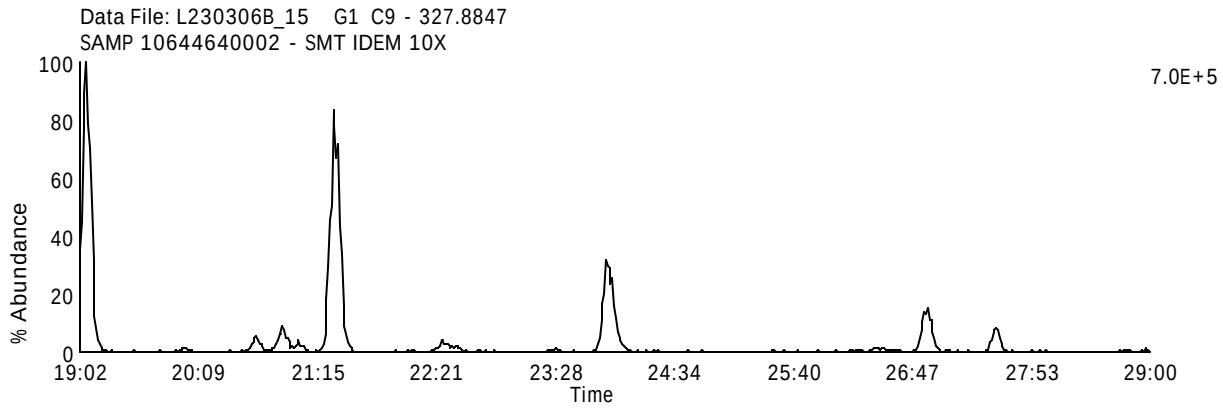
Homologue Group: Penta & Cleanup

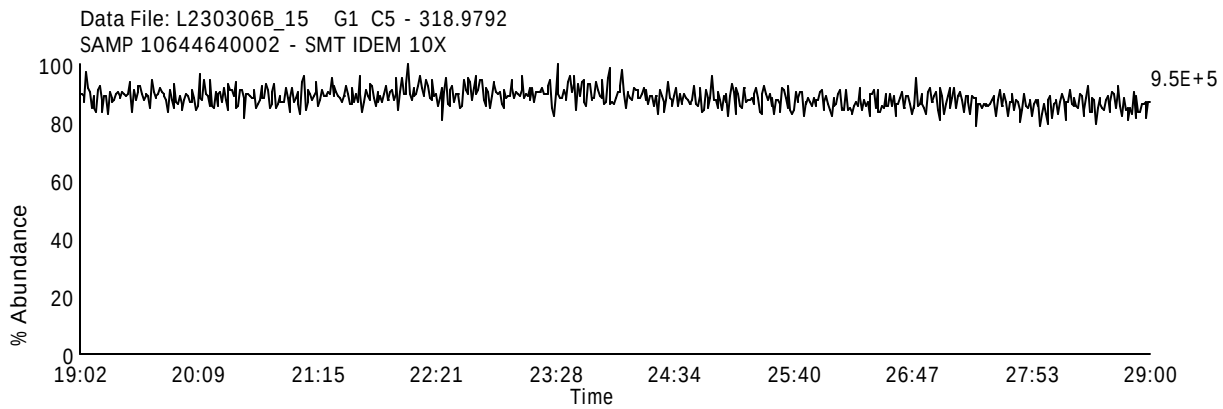
Data File Name: L230306B_15
Date Acquired: 3/7/2023
Sample Description: SAMP 10644640002 - SMT IDEM 10X

Lab Sample ID: 10644640002
Client Sample ID: WS-2
Instrument: 10MSHR15 (L)







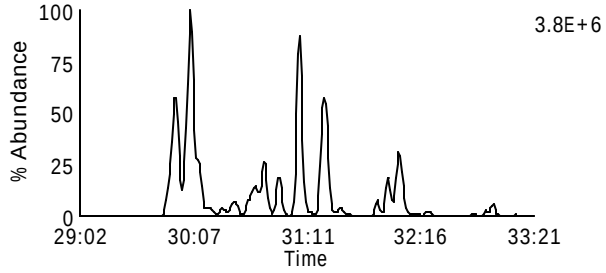


Homologue Group: Pentas

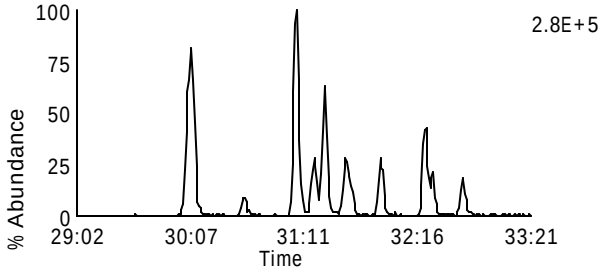
Data File Name: L230306B_15
Date Acquired: 3/7/2023
Sample Description: SAMP 10644640002 - SMT IDEM 10X

Lab Sample ID: 10644640002
Client Sample ID: WS-2
Instrument: 10MSHR15 (L)

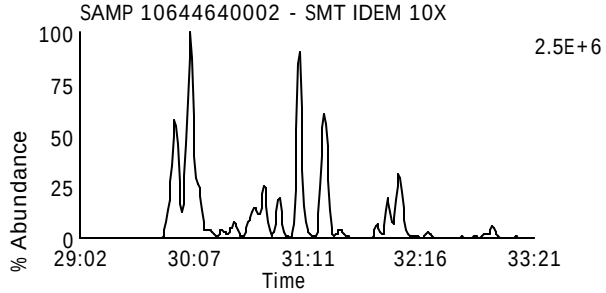
Data File: L230306B_15 G2 C1 - 339.8597
SAMP 10644640002 - SMT IDEM 10X



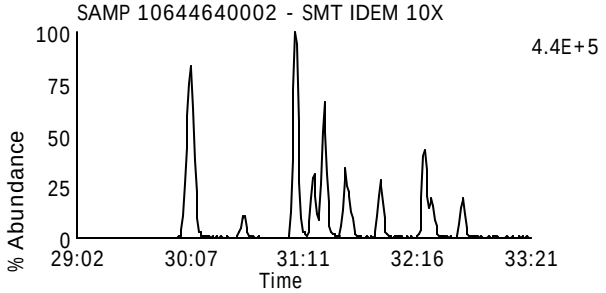
Data File: L230306B_15 G2 C4 - 353.8576
SAMP 10644640002 - SMT IDEM 10X



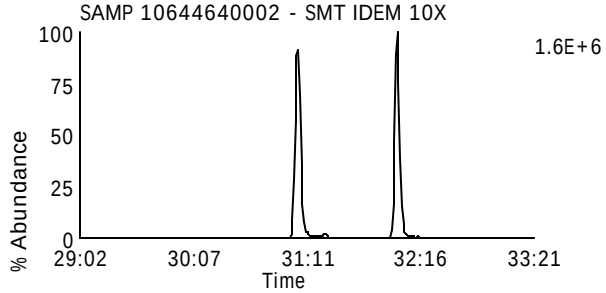
Data File: L230306B_15 G2 C2 - 341.8567
SAMP 10644640002 - SMT IDEM 10X



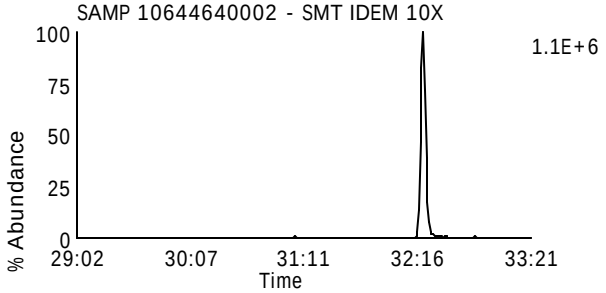
Data File: L230306B_15 G2 C8 - 355.8546
SAMP 10644640002 - SMT IDEM 10X



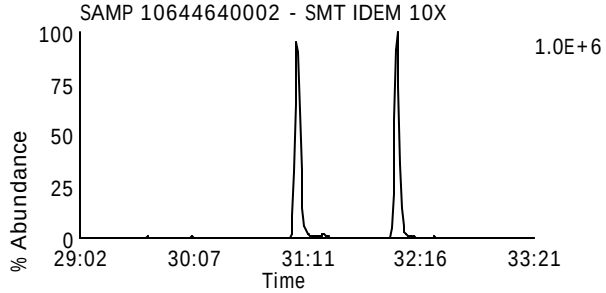
Data File: L230306B_15 G2 C3 - 351.8999
SAMP 10644640002 - SMT IDEM 10X



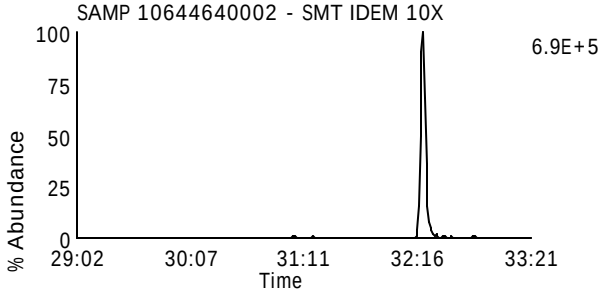
Data File: L230306B_15 G2 C10 - 367.8948
SAMP 10644640002 - SMT IDEM 10X



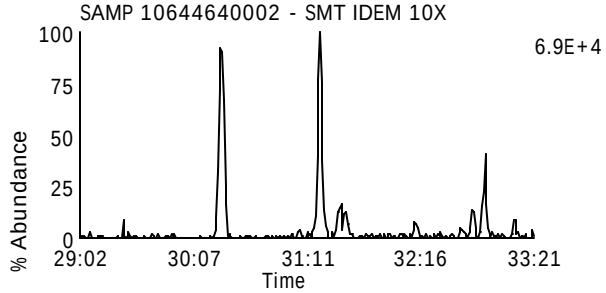
Data File: L230306B_15 G2 C5 - 353.8969
SAMP 10644640002 - SMT IDEM 10X



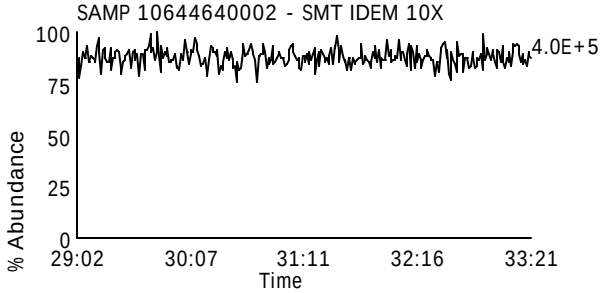
Data File: L230306B_15 G2 C11 - 369.8918
SAMP 10644640002 - SMT IDEM 10X



Data File: L230306B_15 G2 C12 - 409.7974
SAMP 10644640002 - SMT IDEM 10X



Data File: L230306B_15 G2 C6 - 354.9792
SAMP 10644640002 - SMT IDEM 10X

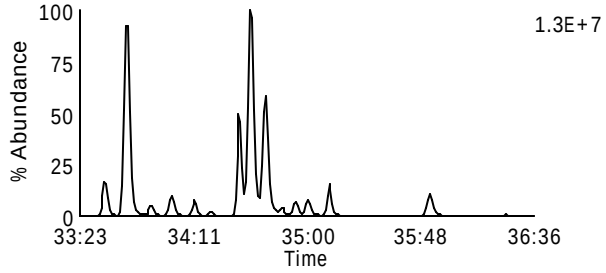


Homologue Group: Hexas

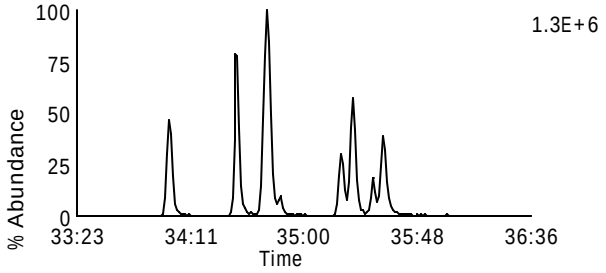
Data File Name: L230306B_15
Date Acquired: 3/7/2023
Sample Description: SAMP 10644640002 - SMT IDEM 10X

Lab Sample ID: 10644640002
Client Sample ID: WS-2
Instrument: 10MSHR15 (L)

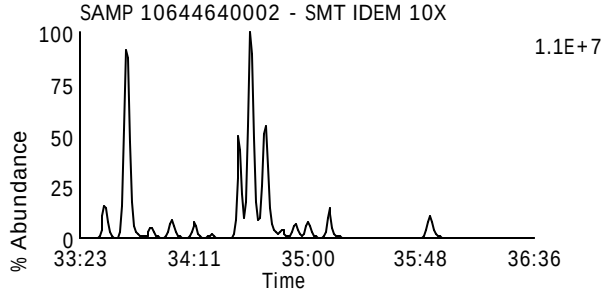
Data File: L230306B_15 G3 C1 - 373.8207
SAMP 10644640002 - SMT IDEM 10X



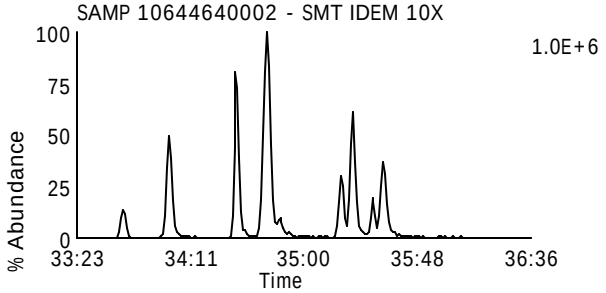
Data File: L230306B_15 G3 C7 - 389.8156
SAMP 10644640002 - SMT IDEM 10X



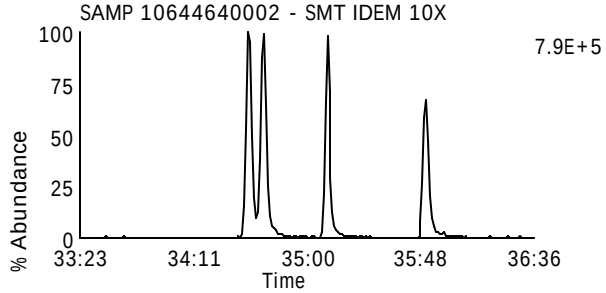
Data File: L230306B_15 G3 C2 - 375.8178
SAMP 10644640002 - SMT IDEM 10X



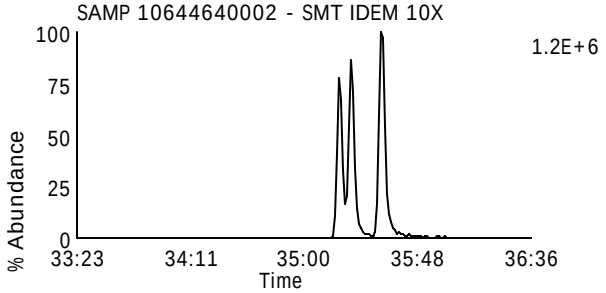
Data File: L230306B_15 G3 C8 - 391.8127
SAMP 10644640002 - SMT IDEM 10X



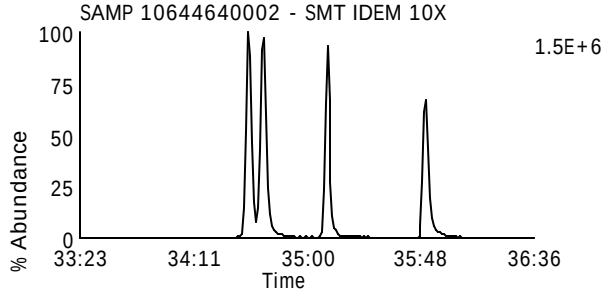
Data File: L230306B_15 G3 C5 - 383.8639
SAMP 10644640002 - SMT IDEM 10X



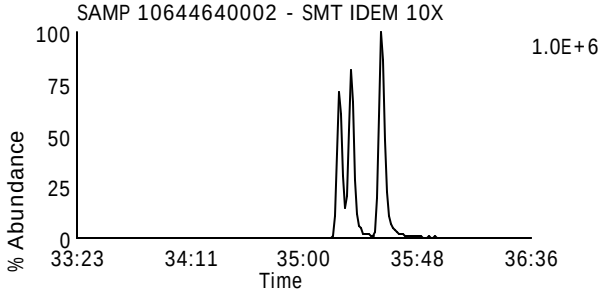
Data File: L230306B_15 G3 C9 - 401.8559
SAMP 10644640002 - SMT IDEM 10X



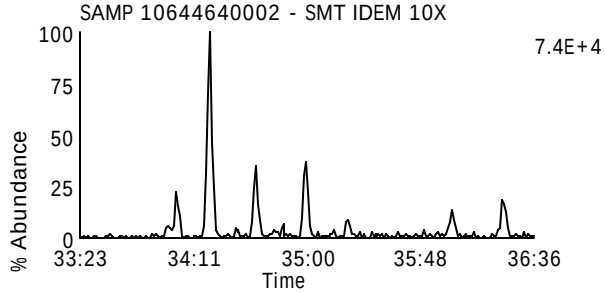
Data File: L230306B_15 G3 C6 - 385.861
SAMP 10644640002 - SMT IDEM 10X



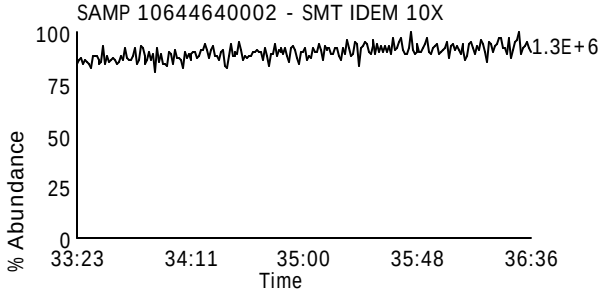
Data File: L230306B_15 G3 C10 - 403.8529
SAMP 10644640002 - SMT IDEM 10X



Data File: L230306B_15 G3 C11 - 445.7555
SAMP 10644640002 - SMT IDEM 10X



Data File: L230306B_15 G3 C3 - 380.976
SAMP 10644640002 - SMT IDEM 10X

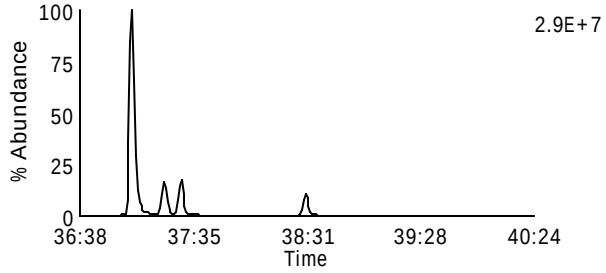


Homologue Group: Heptas

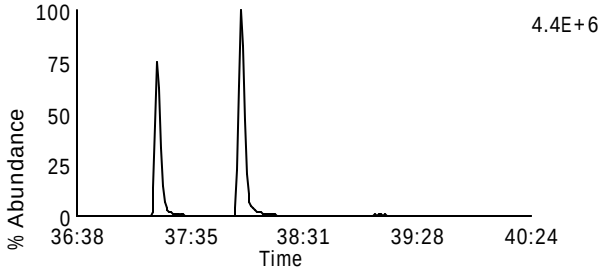
Data File Name: L230306B_15
Date Acquired: 3/7/2023
Sample Description: SAMP 10644640002 - SMT IDEM 10X

Lab Sample ID: 10644640002
Client Sample ID: WS-2
Instrument: 10MSHR15 (L)

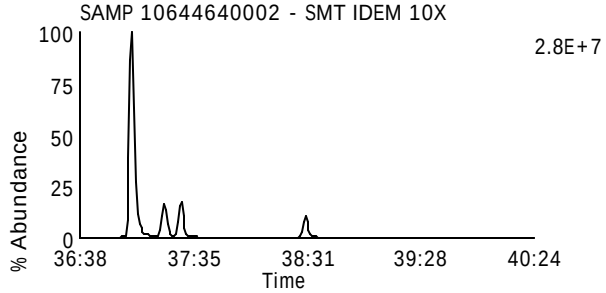
Data File: L230306B_15 G4 C3 - 407.7818
SAMP 10644640002 - SMT IDEM 10X



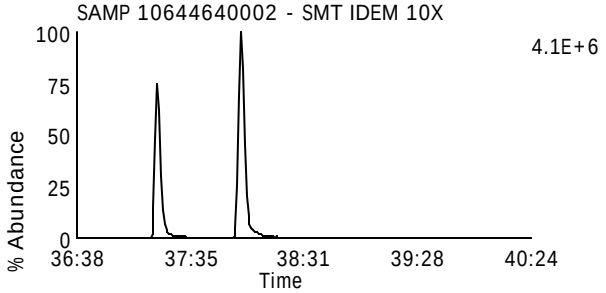
Data File: L230306B_15 G4 C8 - 423.7767
SAMP 10644640002 - SMT IDEM 10X



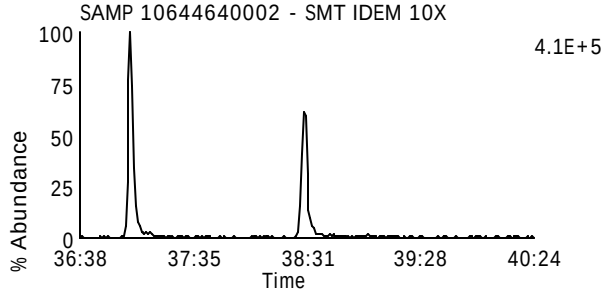
Data File: L230306B_15 G4 C4 - 409.7788
SAMP 10644640002 - SMT IDEM 10X



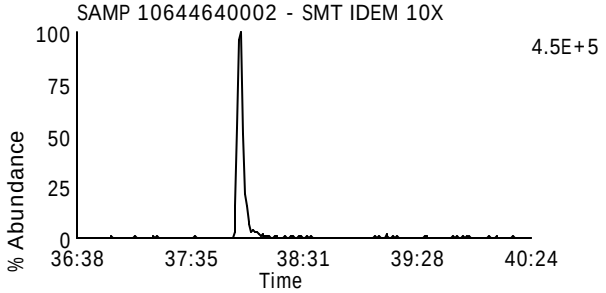
Data File: L230306B_15 G4 C9 - 425.7737
SAMP 10644640002 - SMT IDEM 10X



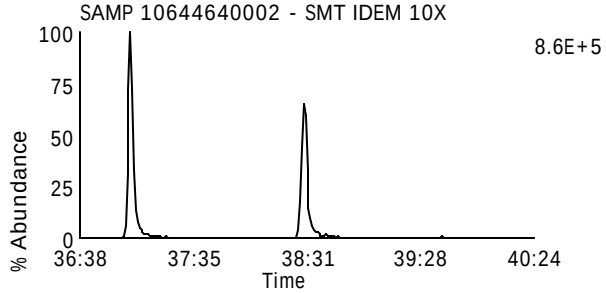
Data File: L230306B_15 G4 C6 - 417.825
SAMP 10644640002 - SMT IDEM 10X



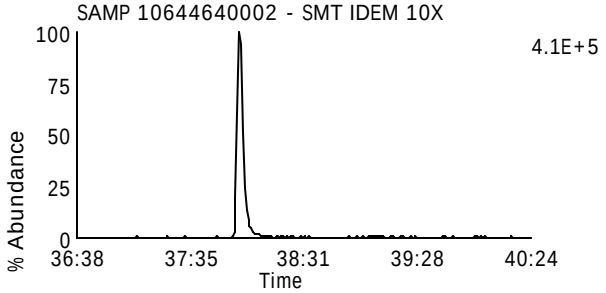
Data File: L230306B_15 G4 C11 - 435.8169
SAMP 10644640002 - SMT IDEM 10X



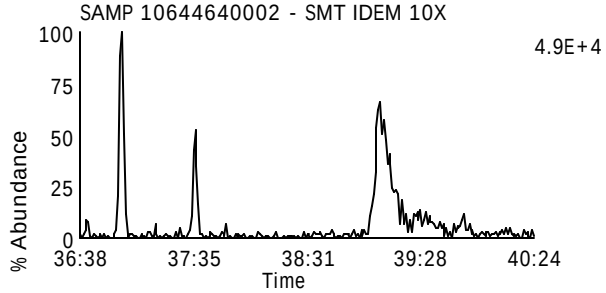
Data File: L230306B_15 G4 C7 - 419.822
SAMP 10644640002 - SMT IDEM 10X



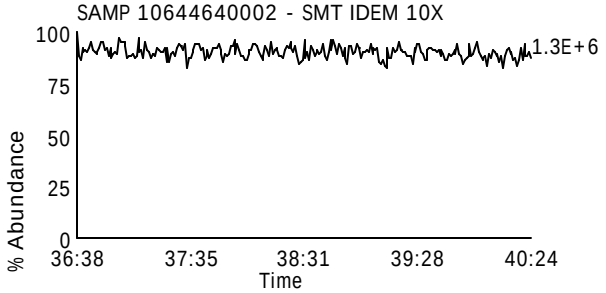
Data File: L230306B_15 G4 C12 - 437.814
SAMP 10644640002 - SMT IDEM 10X



Data File: L230306B_15 G4 C13 - 479.7165
SAMP 10644640002 - SMT IDEM 10X



Data File: L230306B_15 G4 C1 - 380.976
SAMP 10644640002 - SMT IDEM 10X

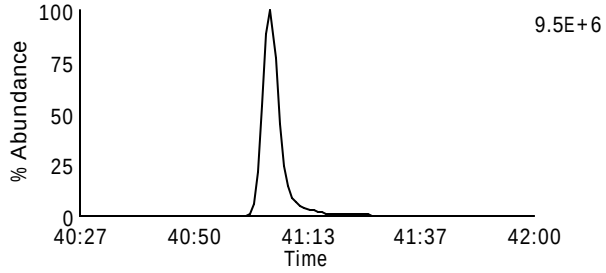


Homologue Group: Octas

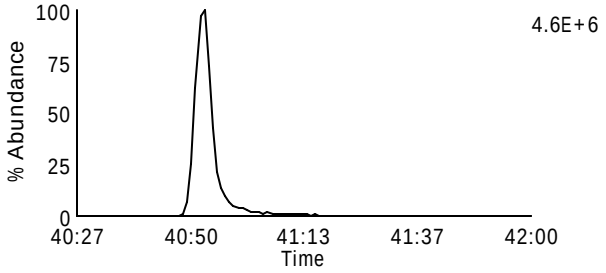
Data File Name: L230306B_15
Date Acquired: 3/7/2023
Sample Description: SAMP 10644640002 - SMT IDEM 10X

Lab Sample ID: 10644640002
Client Sample ID: WS-2
Instrument: 10MSHR15 (L)

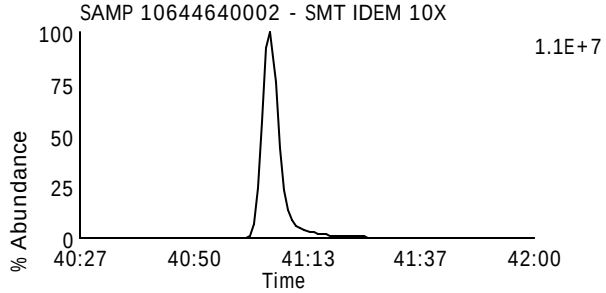
Data File: L230306B_15 G5 C4 - 441.7428
SAMP 10644640002 - SMT IDEM 10X



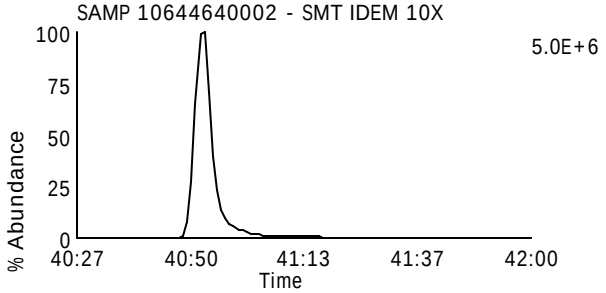
Data File: L230306B_15 G5 C8 - 457.7377
SAMP 10644640002 - SMT IDEM 10X



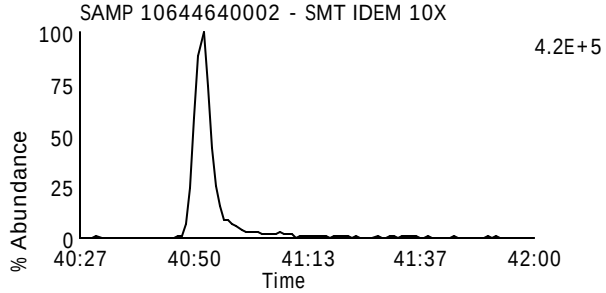
Data File: L230306B_15 G5 C5 - 443.7398
SAMP 10644640002 - SMT IDEM 10X



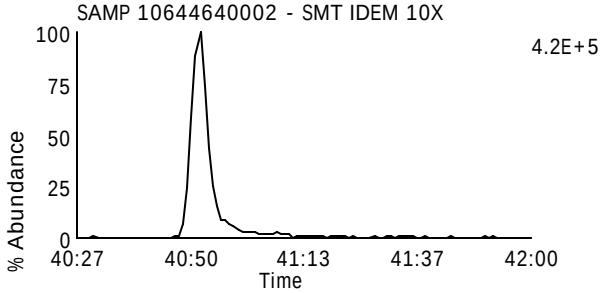
Data File: L230306B_15 G5 C9 - 459.7347
SAMP 10644640002 - SMT IDEM 10X



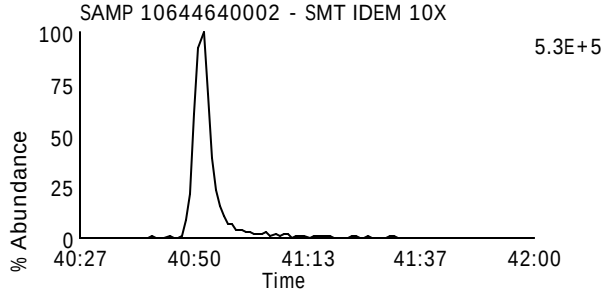
Data File: L230306B_15 G5 C11 - 469.7779
SAMP 10644640002 - SMT IDEM 10X



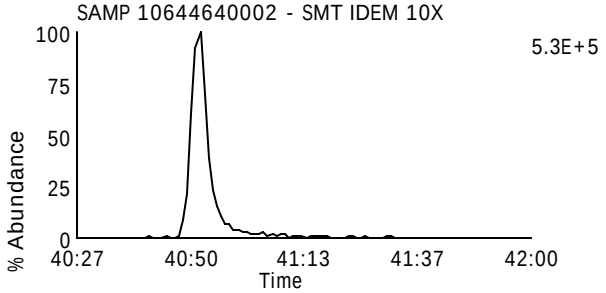
Data File: L230306B_15 G5 C11 - 469.7779
SAMP 10644640002 - SMT IDEM 10X



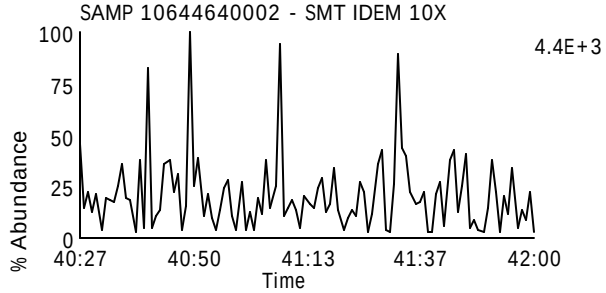
Data File: L230306B_15 G5 C12 - 471.7749
SAMP 10644640002 - SMT IDEM 10X



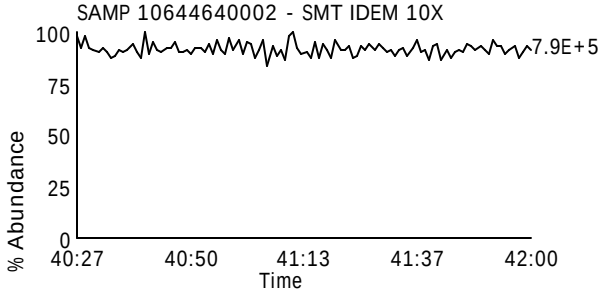
Data File: L230306B_15 G5 C12 - 471.7749
SAMP 10644640002 - SMT IDEM 10X



Data File: L230306B_15 G5 C13 - 513.6775
SAMP 10644640002 - SMT IDEM 10X



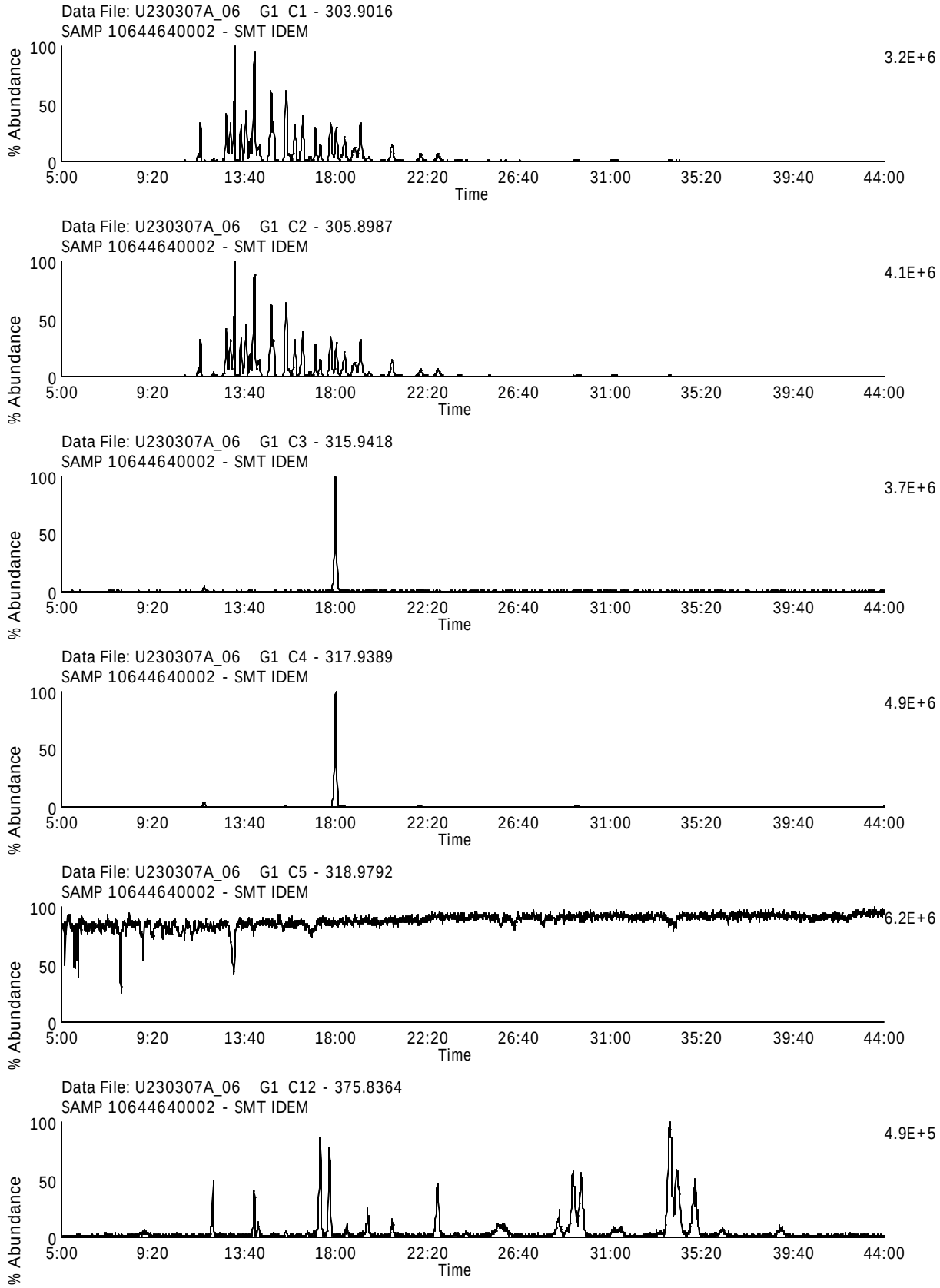
Data File: L230306B_15 G5 C2 - 430.9728
SAMP 10644640002 - SMT IDEM 10X



TCDF Confirmation Analysis

Data File Name: U230307A_06
Date Acquired: 3/7/2023
Sample Description: SAMP 10644640002 - SMT IDEM

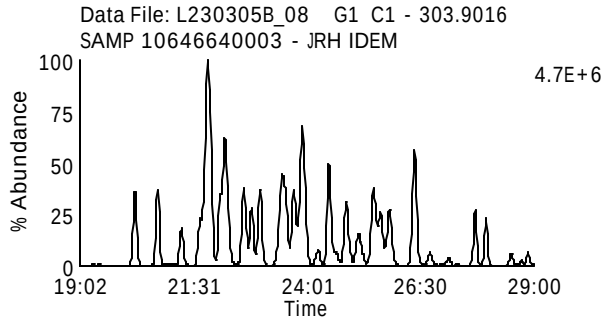
Lab Sample ID: 10644640002
Client Sample ID: WS-2
Instrument: 10MSHR06 (U)

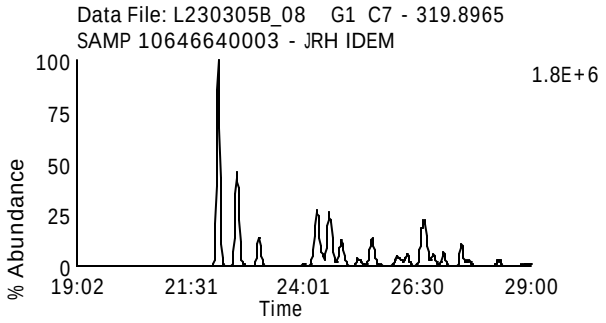


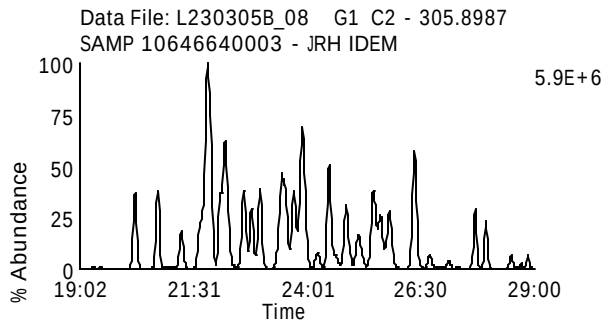
Homologue Group: Tetras

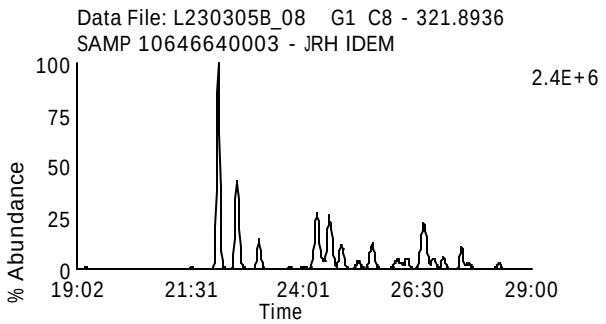
Data File Name: L230305B_08
Date Acquired: 3/6/2023
Sample Description: SAMP 10646640003 - JRH IDEM

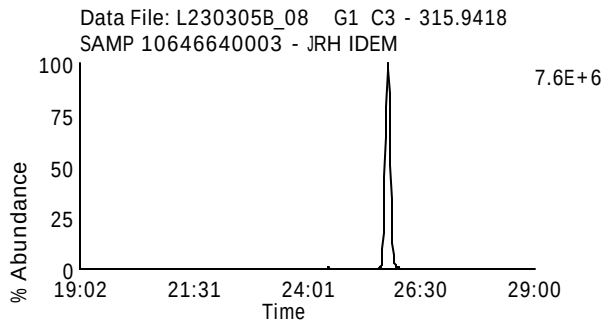
Lab Sample ID: 10644640003
Client Sample ID: WS-2 Dup
Instrument: 10MSHR15 (L)

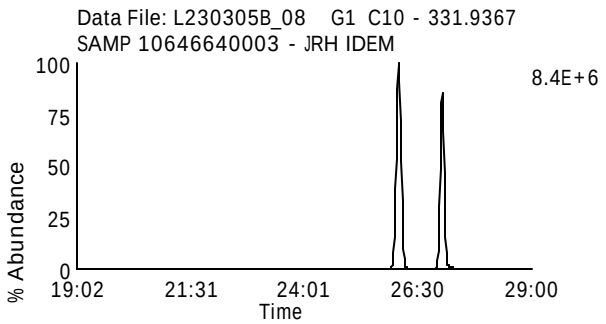


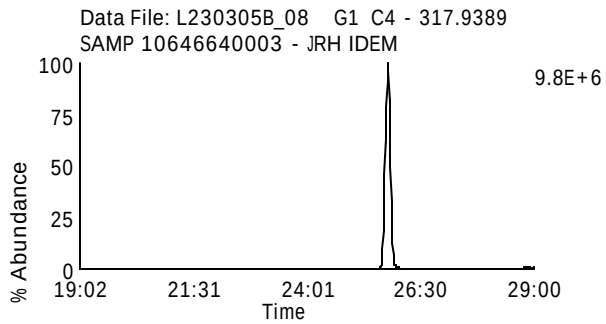


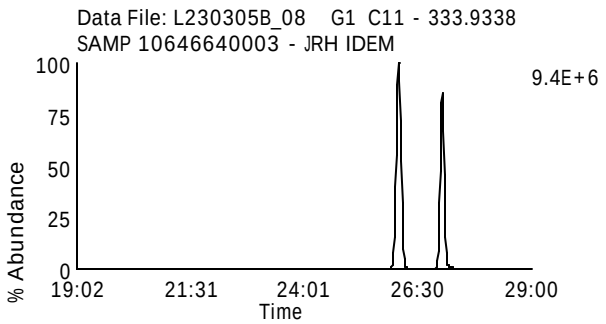


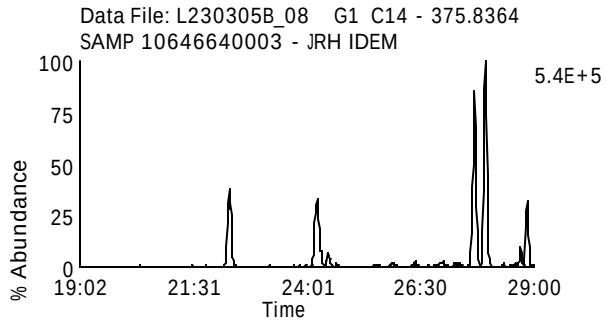


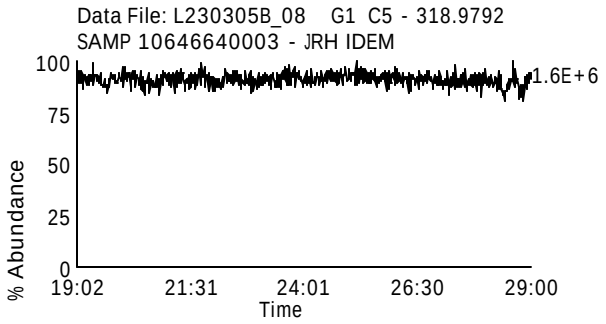








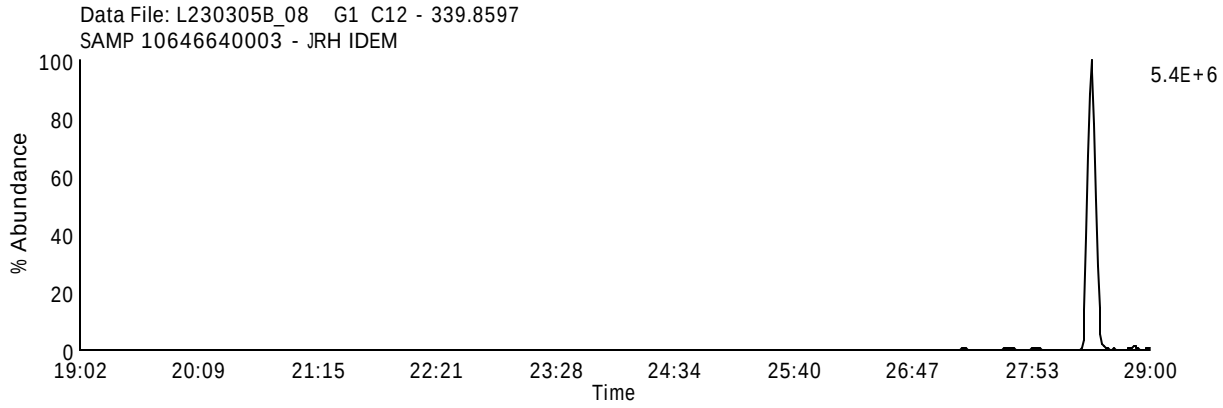


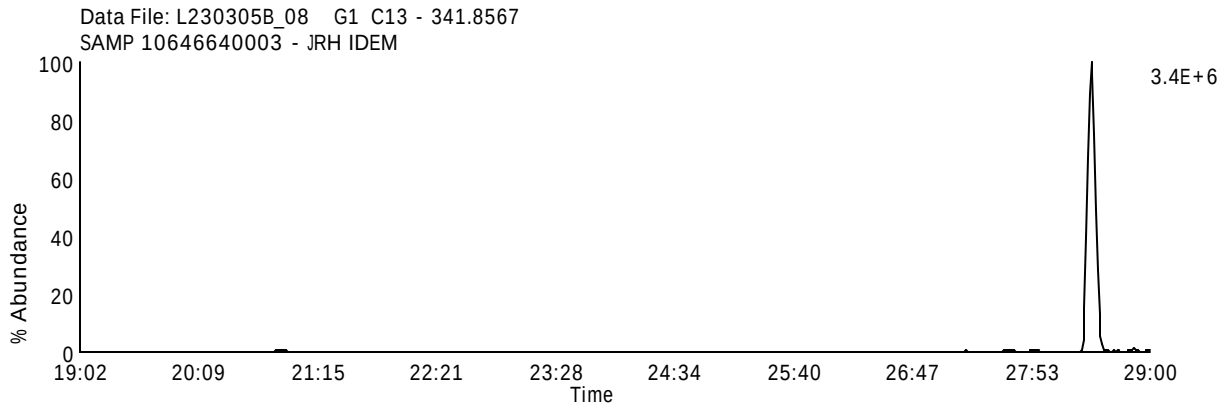


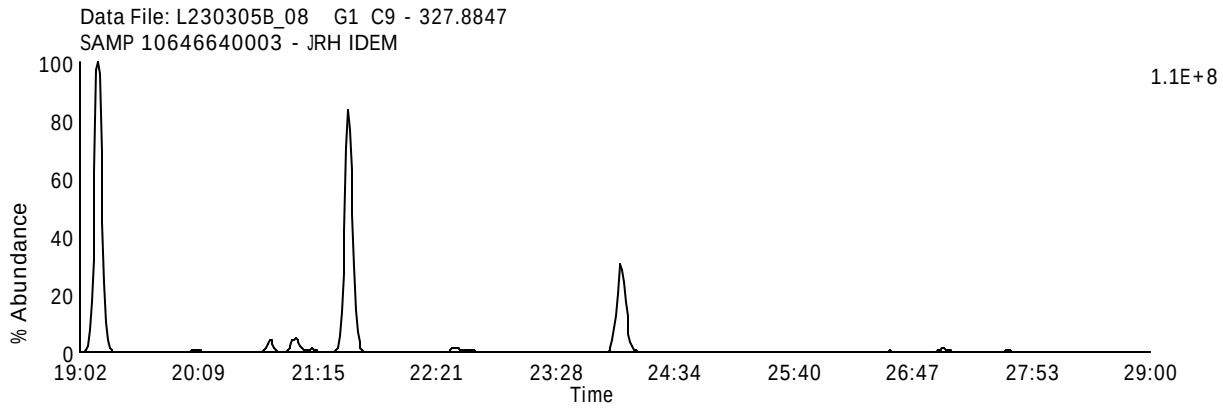
Homologue Group: Penta & Cleanup

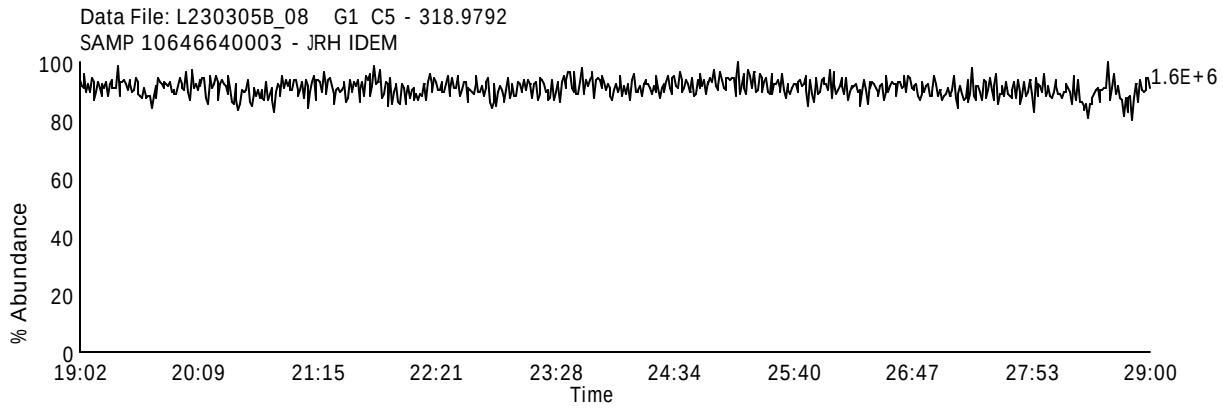
Data File Name: L230305B_08
Date Acquired: 3/6/2023
Sample Description: SAMP 10646640003 - JRH IDEM

Lab Sample ID: 10644640003
Client Sample ID: WS-2 Dup
Instrument: 10MSHR15 (L)





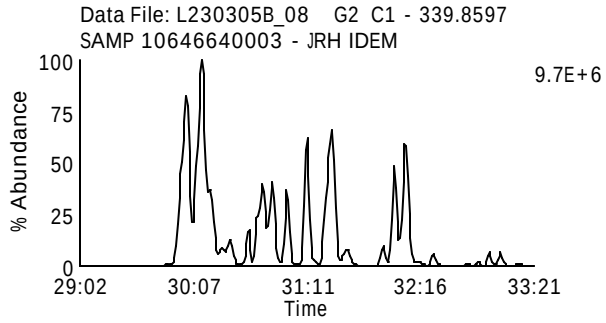


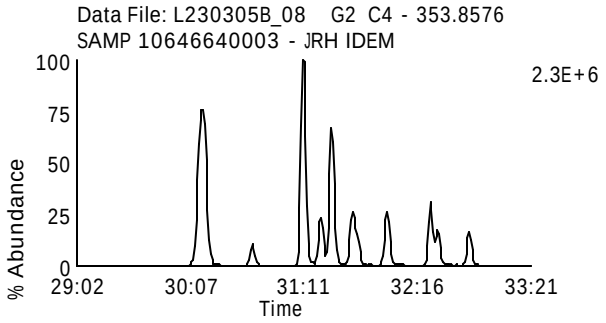


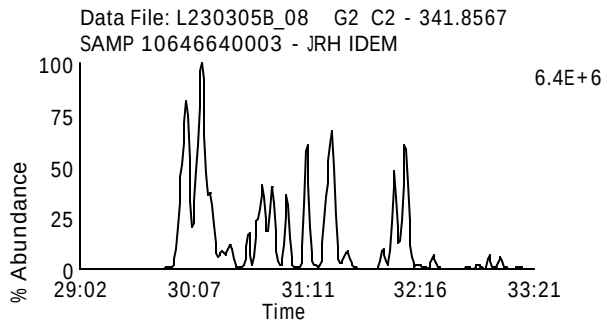
Homologue Group: Pentas

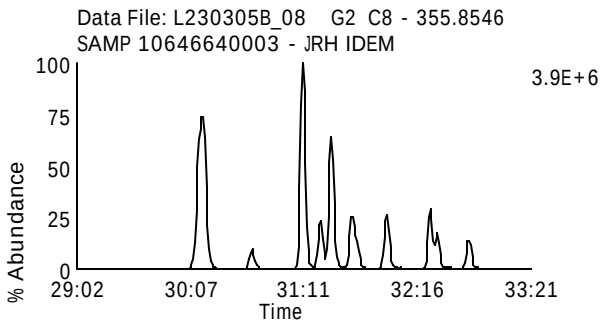
Data File Name: L230305B_08
Date Acquired: 3/6/2023
Sample Description: SAMP 10646640003 - JRH IDEM

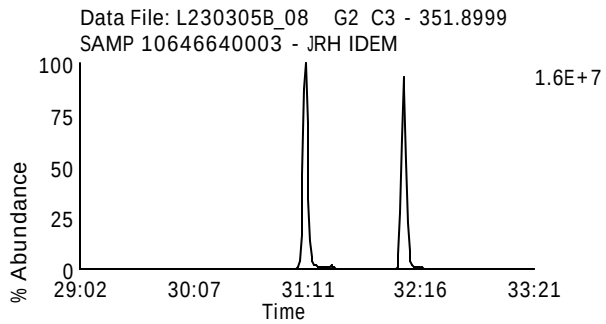
Lab Sample ID: 10644640003
Client Sample ID: WS-2 Dup
Instrument: 10MSHR15 (L)

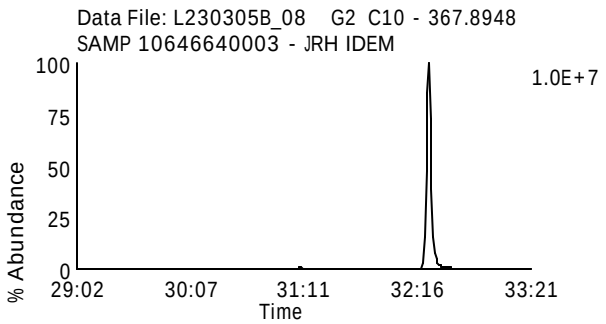


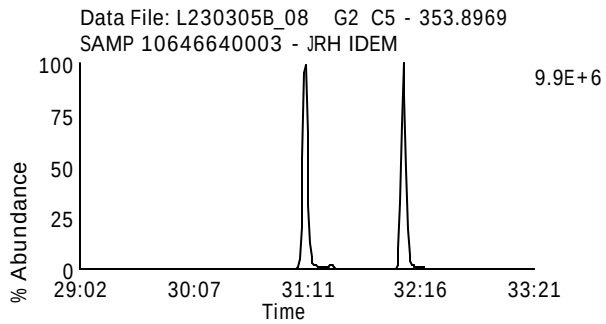


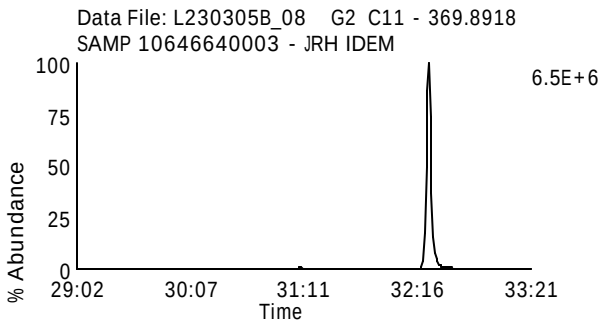


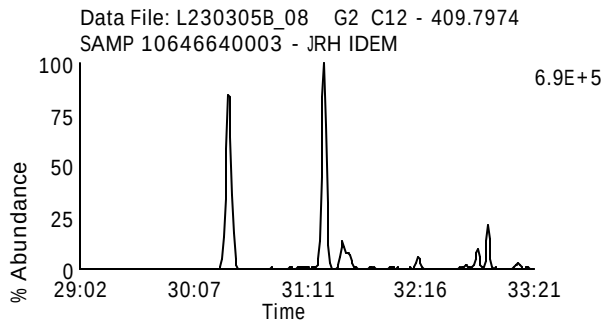


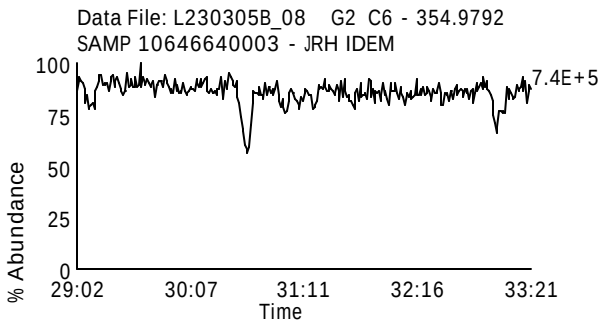








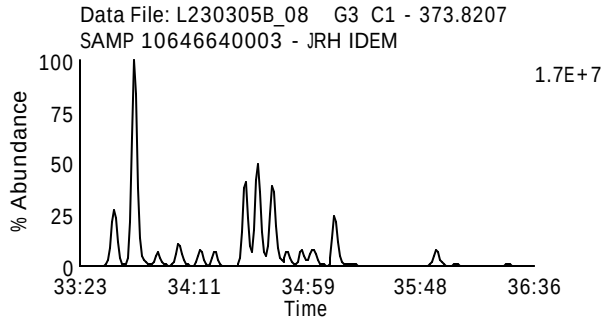


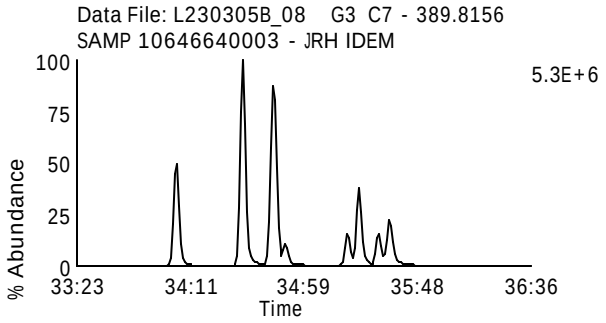


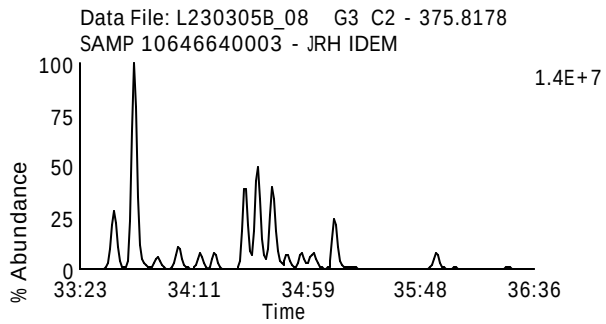
Homologue Group: Hexas

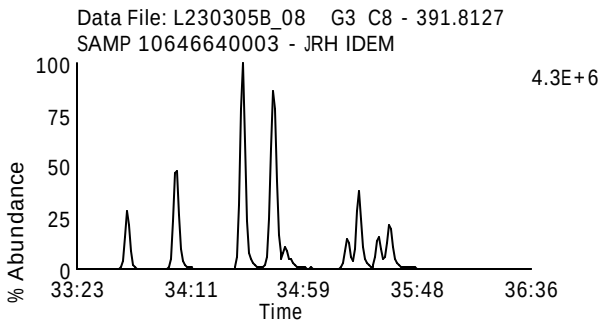
Data File Name: L230305B_08
Date Acquired: 3/6/2023
Sample Description: SAMP 10646640003 - JRH IDEM

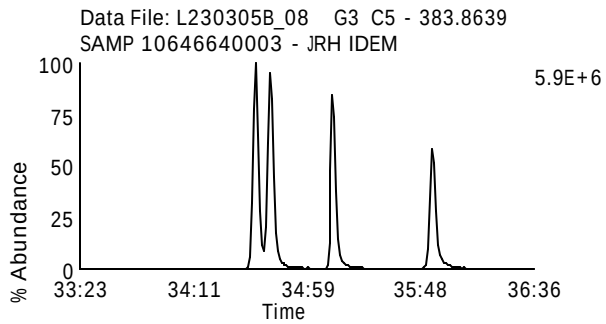
Lab Sample ID: 10644640003
Client Sample ID: WS-2 Dup
Instrument: 10MSHR15 (L)

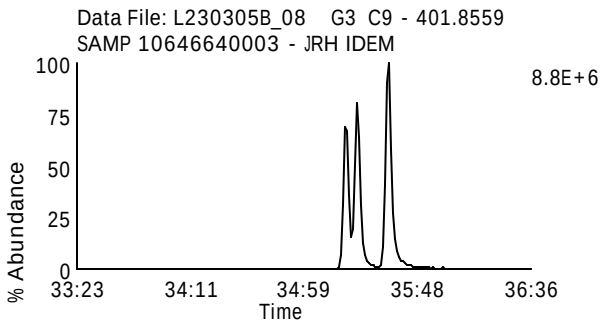


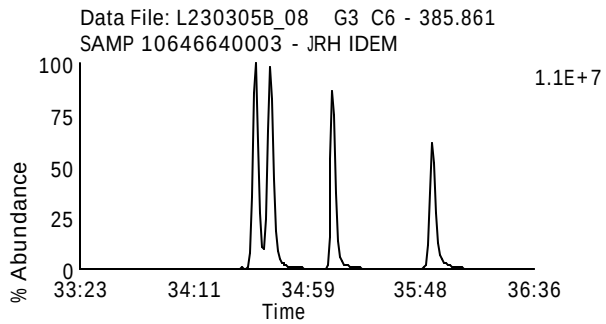


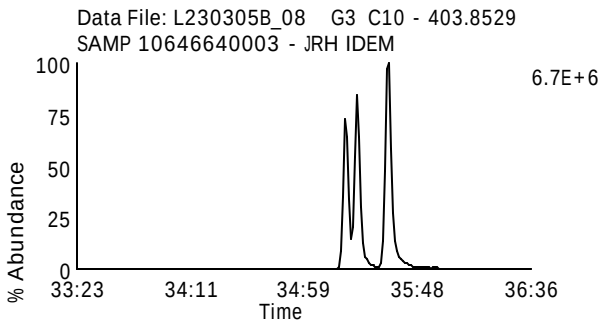


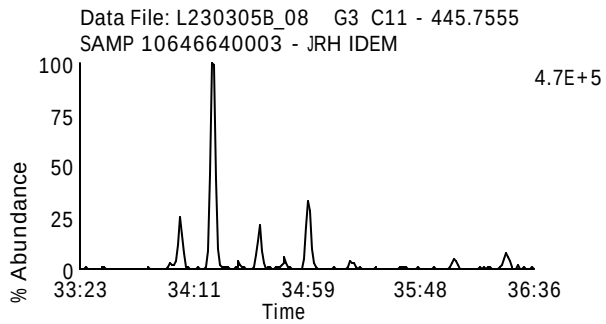


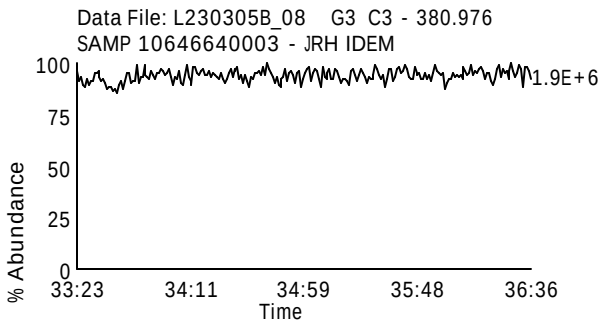








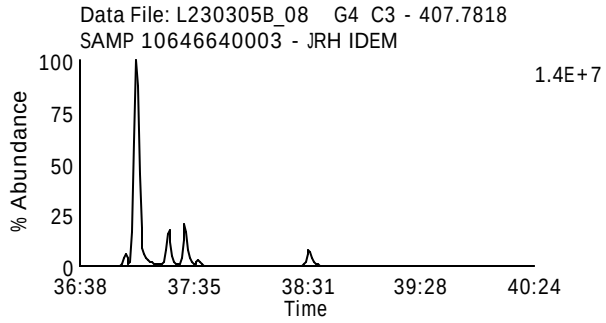


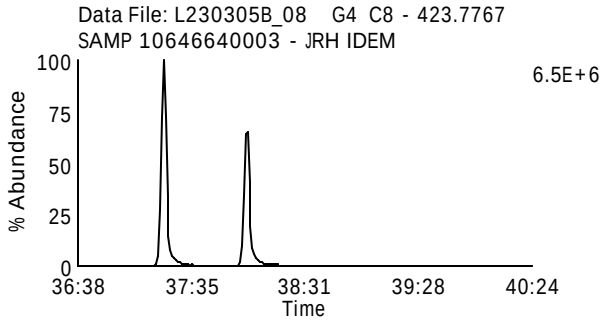


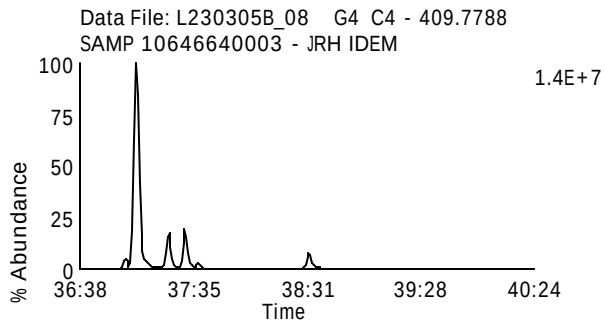
Homologue Group: Heptas

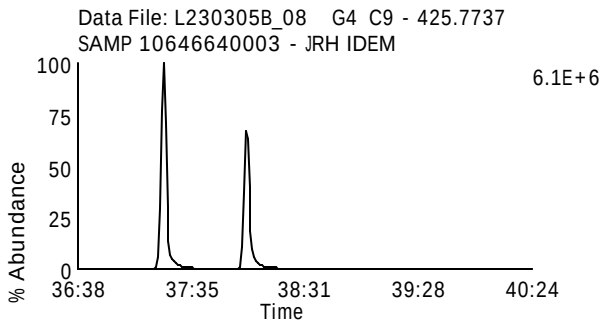
Data File Name: L230305B_08
Date Acquired: 3/6/2023
Sample Description: SAMP 10646640003 - JRH IDEM

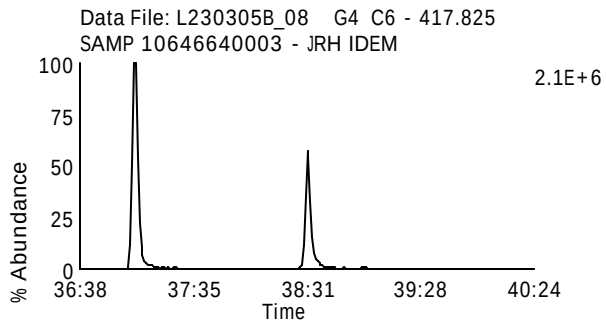
Lab Sample ID: 10644640003
Client Sample ID: WS-2 Dup
Instrument: 10MSHR15 (L)

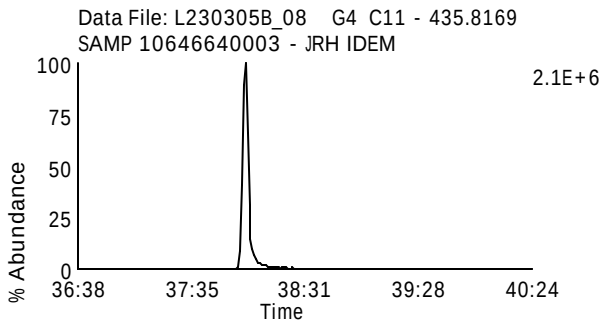


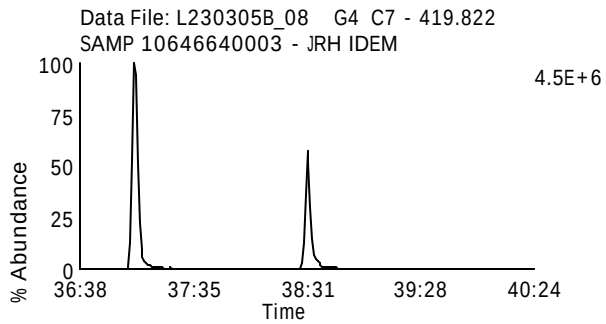


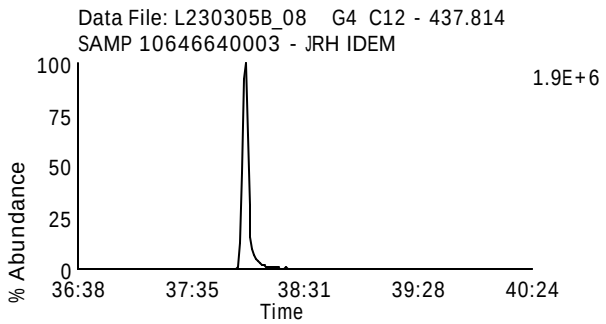


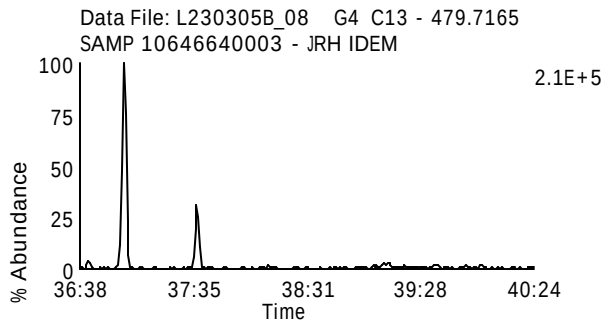


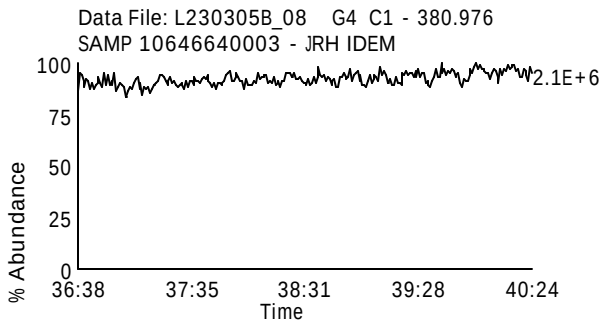








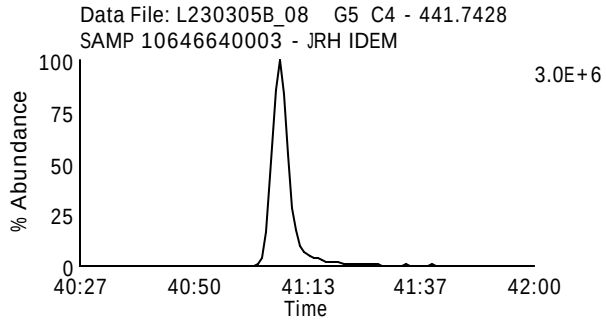


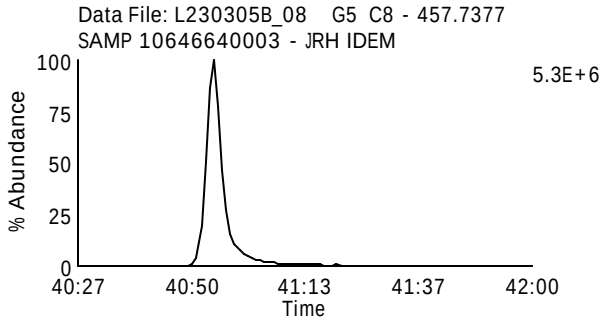


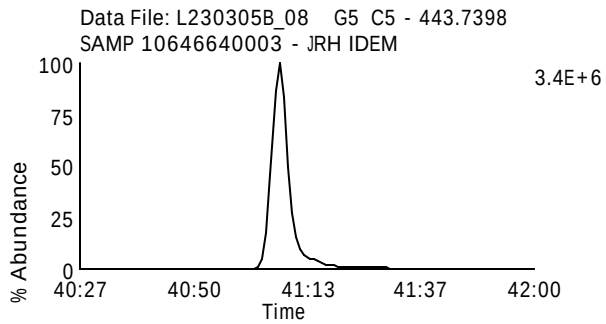
Homologue Group: Octas

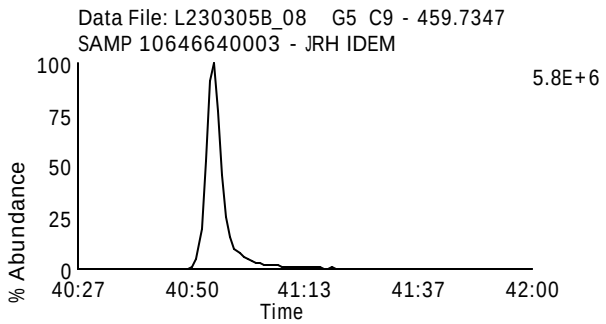
Data File Name: L230305B_08
Date Acquired: 3/6/2023
Sample Description: SAMP 10646640003 - JRH IDEM

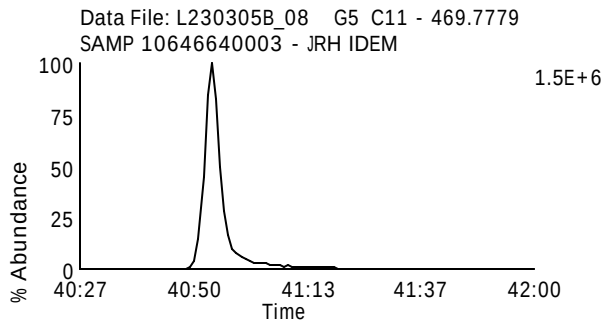
Lab Sample ID: 10644640003
Client Sample ID: WS-2 Dup
Instrument: 10MSHR15 (L)

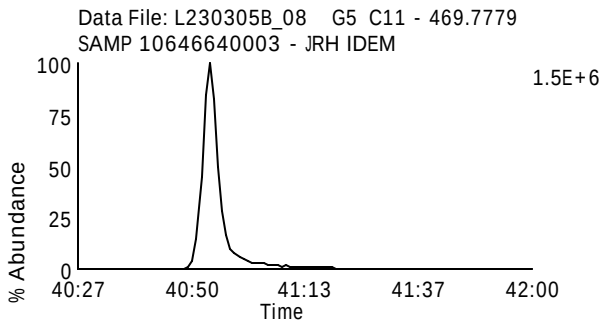


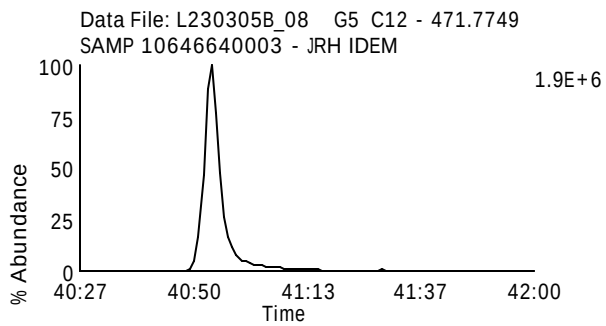


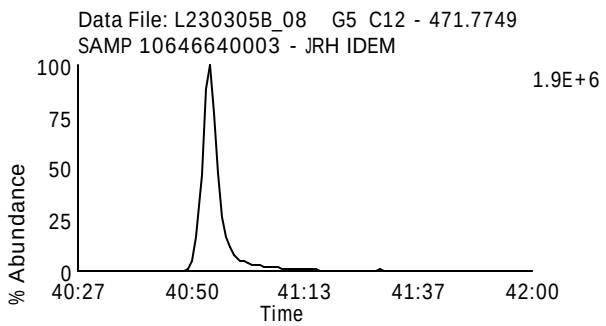


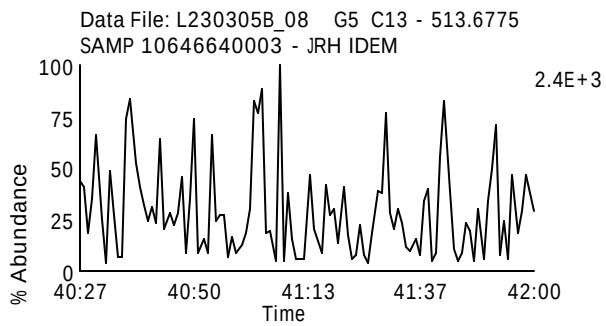


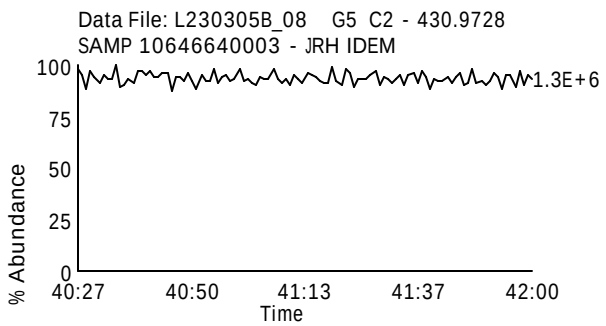








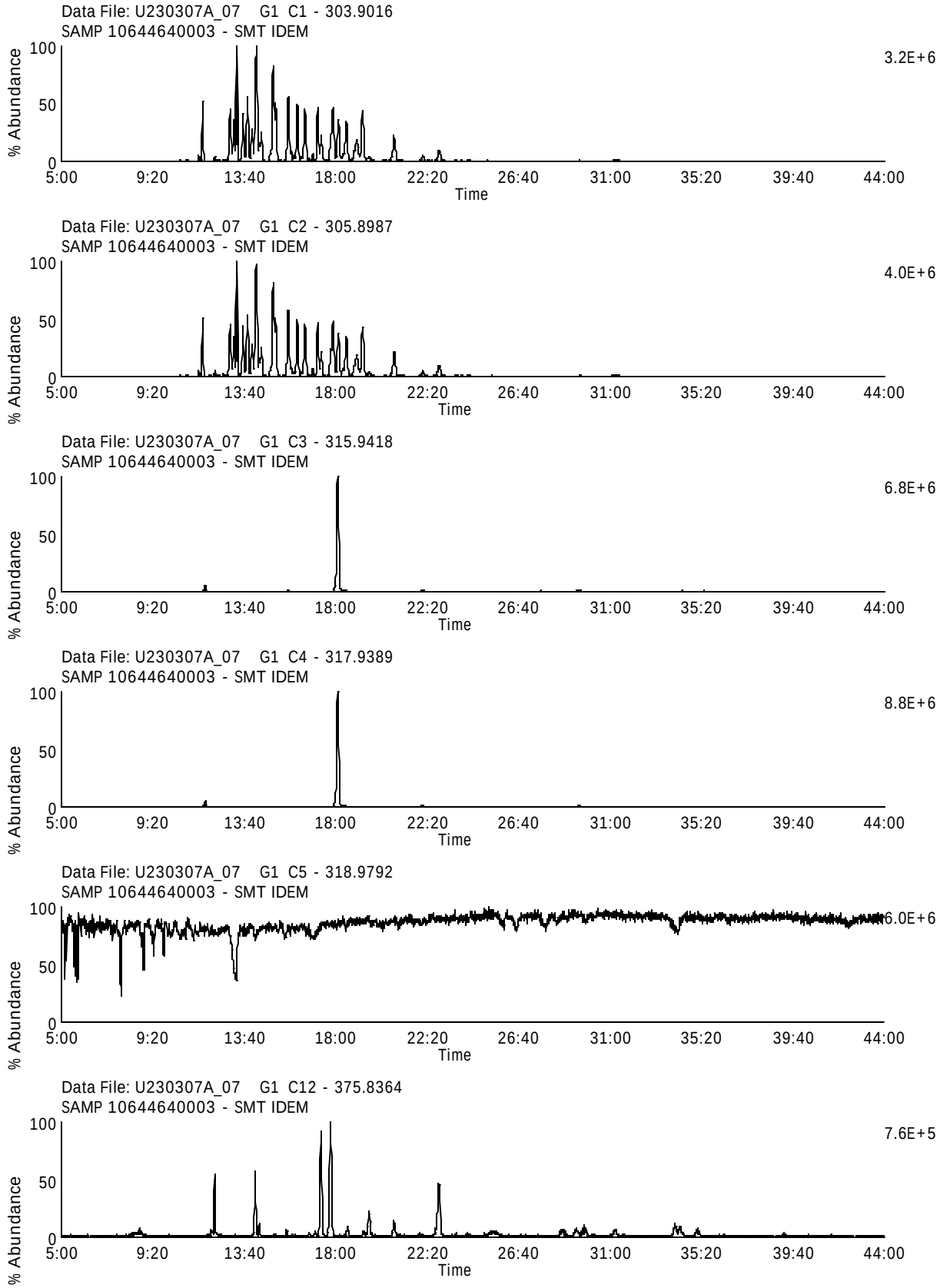




TCDF Confirmation Analysis

Data File Name: U230307A_07
Date Acquired: 3/7/2023
Sample Description: SAMP 10644640003 - SMT IDEM

Lab Sample ID: 10644640003
Client Sample ID: WS-2 Dup
Instrument: 10MSHR06 (U)



Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

ReviewedBy_____ Date _____

Client Name	State of Indiana		
Client ID	WS-1	Injected By	JRH
Lab ID	10644640001	Instrument ID	10MSHR15 (L)
Filename	L230305B_06	GC Column ID	US1824614H
Analyzed	03/06/2023 02:09	ICAL ID	L230302

Tetra-Furans:		RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C		25:48	5.91e7	7.42e7	7.63e6	9.68e6	3.356e3	2.783e3	0.80	
2,3,7,8-TCDF		25:49	7.77e6	1.02e7	1.00e6	1.30e6	2.859e3	2.597e3	0.76	
Other TCDF	1	19:29	1.63e5	1.96e5					0.83	
	2	20:15	7.88e6	9.92e6					0.79	
	3	20:45	6.59e6	8.27e6					0.80	
	4	21:16	4.28e6	5.07e6					0.85	
	5	21:52	3.77e7	4.74e7					0.80	
	6	22:06	5.99e6	7.98e6					0.75	
	7	22:14	1.75e7	2.21e7					0.79	
	8	22:38	8.27e6	1.09e7					0.76	
	9	22:47	6.61e6	7.83e6					0.84	
	10	22:59	8.59e6	1.05e7					0.82	
	11	23:28	1.87e7	2.28e7					0.82	
	12	23:45	9.79e6	1.20e7					0.81	
	13	23:55	2.19e7	2.74e7					0.80	
	14	24:52	8.36e6	1.02e7					0.82	
	15	25:08	5.74e6	7.00e6					0.82	
	16	25:30	1.12e7	1.40e7					0.80	
	17	25:38	7.13e6	8.46e6					0.84	
	18	26:24	1.50e7	1.92e7					0.78	
	19	26:42	1.78e6	2.18e6					0.81	
	20	27:08	9.85e5	1.23e6					0.80	
	21	28:30	1.45e6	1.86e6					0.78	
Ethers	1	28:44	3.39e5	4.18e5					0.81	P
	2	28:51	1.40e6	1.68e6					0.83	P
	3	24:31	1.31e7	1.63e7					0.80	P
	4	26:57	1.74e5	2.42e5					0.72	P
	5	27:42	6.70e6	8.58e6					0.78	P
	6	27:58	5.91e6	7.45e6					0.79	P

Tetra-Dioxins:		RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C		26:06	5.52e7	6.22e7	7.57e6	8.60e6	4.651e3	8.369e3	0.89	
2,3,7,8-TCDD-13C		27:04	4.56e7	5.16e7	7.20e6	8.12e6	6.916e3	3.840e3	0.88	
2,3,7,8-TCDD-37Cl4		27:05	8.07e6		1.25e6		3.233e3	-----		
2,3,7,8-TCDD		27:05	4.91e5	6.54e5	8.00e4	1.07e5	1.347e3	1.361e3	0.75	
Other TCDD	1	22:08	6.93e6	9.06e6					0.76	
	2	22:34	4.35e6	5.34e6					0.82	
	3	23:02	1.03e6	1.36e6					0.75	
	4	24:01	9.18e4	1.25e5					0.73	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Client Name	State of Indiana		
Client ID	WS-1	Injected By	JRH
Lab ID	10644640001	Instrument ID	10MSHR15 (L)
Filename	L230305B_06	GC Column ID	US1824614H
Analyzed	03/06/2023 02:09	ICAL ID	L230302

	5	24:18	3.29e6	4.33e6	0.76
	6	24:35	2.88e6	3.48e6	0.83
	7	24:51	1.33e6	1.76e6	0.76
	8	25:13	3.68e5	4.53e5	0.81
	9	25:33	1.41e6	1.81e6	0.78
	10	26:03	6.37e5	7.71e5	0.83
	11	26:17	5.68e5	7.46e5	0.76
	12	26:39	3.07e6	3.95e6	0.78
	13	26:52	4.47e5	5.94e5	0.75
	14	27:29	8.10e5	1.11e6	0.73
	15	27:39	2.05e5	2.82e5	0.73
	16	28:20	2.41e5	2.99e5	0.81

Penta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDF-13C	31:11	5.39e7	3.41e7	1.67e7	1.09e7	1.237e4	7.024e3	1.58	
2,3,4,7,8-PeCDF-13C	32:07	(M)5.01e7	3.10e7	1.52e7	9.92e6	1.630e4	1.106e4	1.62	
1,2,3,7,8-PeCDF	31:11	1.39e7	8.90e6	4.32e6	2.81e6	3.609e3	2.505e3	1.56	
2,3,4,7,8-PeCDF	32:09	1.70e7	1.11e7	4.37e6	2.86e6	5.459e3	3.830e3	1.53	

Other PeCDF	1	30:04	3.47e7	2.27e7	1.53
	2	30:13	3.97e7	2.57e7	1.54
	3	30:17	8.90e6	5.75e6	1.55
	4	30:39	3.51e6	2.28e6	1.54
	5	30:47	1.51e7	9.94e6	1.52
	6	30:53	1.11e7	7.32e6	1.51
	7	31:01	7.90e6	5.10e6	1.55
	8	31:26	2.16e7	1.40e7	1.54
	9	31:56	2.05e6	1.44e6	1.42
	10	32:02	1.20e7	7.74e6	1.55
	11	32:24	1.39e6	9.45e5	1.47
	12	32:43	1.30e5	8.85e4	1.47
	13	33:03	1.35e6	8.66e5	1.56
	14	28:28	2.16e7	1.39e7	1.56
Ethers	1	30:28	6.92e6	4.59e6	1.51 P
	2	31:35	3.04e6	1.99e6	1.52 P
	3	32:16	5.68e5	4.21e5	1.35 P
	4	32:50	6.32e5	4.36e5	1.45 P
	5	32:56	1.40e6	9.70e5	1.44 P

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	32:23	3.58e7	2.24e7	1.08e7	6.69e6	4.579e3	6.081e3	1.60	
1,2,3,7,8-PeCDD	32:24	(M)1.80e6	(M)3.01e6	6.39e4	9.17e5	8.787e2	1.457e3	0.60	

Other PeCDD	1	30:15	7.88e6	1.29e7	0.61

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Client Name	State of Indiana		
Client ID	WS-1	Injected By	JRH
Lab ID	10644640001	Instrument ID	10MSHR15 (L)
Filename	L230305B_06	GC Column ID	US1824614H
Analyzed	03/06/2023 02:09	ICAL ID	L230302

	2	30:43	4.99e5	8.50e5		0.59
	3	31:11	6.10e6	9.91e6		0.62
	4	31:22	1.53e6	2.53e6		0.60
	5	31:29	4.11e6	6.45e6		0.64
	6	31:40	2.04e6	3.51e6		0.58
	7	32:00	1.62e6	2.61e6		0.62
	8	32:27	9.48e5	1.46e6		0.65
	9	32:46	9.00e5	1.45e6		0.62

Hexa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDF-13C	34:39	1.70e7	3.21e7	6.30e6	1.18e7	3.119e3	8.149e3	0.53	
1,2,3,6,7,8-HxCDF-13C	34:44	1.81e7	3.35e7	5.92e6	1.13e7	1.272e3	8.328e3	0.54	
2,3,4,6,7,8-HxCDF-13C	35:11	1.53e7	2.81e7	5.46e6	1.04e7	1.924e3	2.173e3	0.54	
1,2,3,7,8,9-HxCDF-13C	35:54	1.16e7	2.18e7	4.08e6	7.41e6	2.458e3	1.695e4	0.53	
1,2,3,4,7,8-HxCDF	34:40	1.70e7	1.34e7	6.24e6	4.89e6	6.534e3	6.147e3	1.27	P
1,2,3,6,7,8-HxCDF	34:45	1.53e7	1.22e7	4.99e6	4.01e6	5.417e3	6.638e3	1.25	
2,3,4,6,7,8-HxCDF	35:12	8.64e6	6.75e6	3.08e6	2.47e6	5.417e3	4.705e3	1.28	
1,2,3,7,8,9-HxCDF	35:55	2.76e6	2.25e6	1.06e6	8.21e5	5.417e3	6.638e3	1.23	
Other HxCDF	1	33:39	9.63e6	8.04e6				1.20	
	2	33:47	3.38e7	2.72e7				1.24	
	3	33:57	2.14e6	1.90e6				1.12	
	4	34:15	2.50e6	2.13e6				1.17	
	5	34:35	1.34e7	1.08e7				1.24	
	6	34:52	2.43e6	1.86e6				1.31	
	7	34:57	2.44e6	1.92e6				1.27	
	8	35:19	3.37e5	3.05e5				1.10	
Ethers	1	34:05	4.05e6	3.25e6				1.25	P
	2	34:21	2.95e6	2.43e6				1.21	P
	3	34:40	1.70e7	1.34e7				1.27	P
	4	35:03	4.02e6	3.13e6				1.29	P

Hexa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDD-13C	35:18	1.72e7	1.31e7	6.59e6	5.04e6	6.229e3	2.362e3	1.31	
1,2,3,6,7,8-HxCDD-13C	35:23	2.27e7	1.72e7	7.91e6	6.33e6	6.229e3	2.362e3	1.32	
1,2,3,7,8,9-HxCDD-13C	35:36	2.75e7	2.10e7	8.97e6	6.91e6	2.491e3	1.382e3	1.31	
1,2,3,4,7,8-HxCDD	35:19	1.65e6	1.30e6	1.45e6	1.17e6	3.093e3	3.050e3	1.27	
1,2,3,6,7,8-HxCDD	35:23	4.01e6	3.18e6	1.45e6	1.17e6	4.522e3	4.329e3	1.26	
1,2,3,7,8,9-HxCDD	35:36	2.95e6	2.16e6	8.46e5	6.98e5	3.900e3	4.766e3	1.36	
Other HxCDD	1	34:06	5.72e6	4.74e6				1.21	
	2	34:35	1.04e7	8.33e6				1.24	
	3	34:47	1.09e7	8.66e6				1.26	
	4	34:53	1.23e6	1.07e6				1.15	

REPORT OF LABORATORY ANALYSIS

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Client Name	State of Indiana		
Client ID	WS-1	Injected By	JRH
Lab ID	10644640001	Instrument ID	10MSHR15 (L)
Filename	L230305B_06	GC Column ID	US1824614H
Analyzed	03/06/2023 02:09	ICAL ID	L230302

	5	35:32	1.58e6	1.22e6					1.30	
Hepta-Furans:		RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDF-13C		37:06	7.18e6	1.49e7	2.48e6	5.24e6	2.610e3	5.947e3	0.48	
1,2,3,4,7,8,9-HpCDF-13C		38:32	4.60e6	1.01e7	1.40e6	2.97e6	2.881e3	1.997e3	0.46	
1,2,3,4,6,7,8-HpCDF		37:07	3.07e7	2.91e7	1.04e7	9.86e6	4.198e3	3.982e3	1.05	
1,2,3,4,7,8,9-HpCDF		38:33	3.02e6	2.79e6	8.94e5	9.04e5	5.167e3	3.982e3	1.08	
Other HpCDF	1	37:23	5.66e6	5.02e6					1.13	
	2	37:31	6.68e6	6.10e6					1.09	
Hepta-Dioxins:		RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDD-13C		38:02	(M)8.12e6	7.38e6	2.47e6	2.24e6	8.467e3	6.523e3	1.10	
1,2,3,4,6,7,8-HpCDD		38:03	1.20e7	1.11e7	3.60e6	3.42e6	2.205e3	2.139e3	1.08	
Other HpCDD	1	37:22	1.74e7	1.64e7					1.06	
Octa-Furans:		RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF		41:08	2.60e7	2.86e7	6.40e6	7.18e6	2.584e3	1.862e3	0.91	
Octa-Dioxins:		RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C		40:54	7.02e6	8.43e6	1.75e6	2.11e6	8.848e2	1.189e3	0.83	
OCDD		40:55	2.22e7	2.54e7	5.77e6	6.31e6	1.548e3	1.828e3	0.87	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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TCDF Confirmation Detected Peak List

Prepared By _____ Date _____

ReviewedBy _____ Date _____

Client Name	State of Indiana		
Client ID	WS-1	Injected By	SMT
Lab ID	10644640001	Instrument ID	10MSHR06 (U)
Filename	U230307A_05	GC Column ID	US2588526H
Analyzed	03/07/2023 12:06	ICAL ID	U221009-DB225

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	18:02	3.46e7	4.30e7	4.60e6	5.85e6	2.192e4	3.533e4	0.80	
2,3,7,8-TCDF	18:04	(M)4.41e6	6.03e6	6.11e5	7.70e5	3.540e3	4.696e3	0.73	

Cleanup & Recovery:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	16:08	3.26e7	4.17e7	4.83e6	6.18e6	7.728e3	7.285e3	0.78	
2,3,7,8-TCDD-37Cl4	15:45	5.60e6		8.80e5		4.474e3	-----		

REPORT OF LABORATORY ANALYSIS

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PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

ReviewedBy_____ Date _____

Client Name	State of Indiana		
Client ID	WS-2	Injected By	JRH
Lab ID	10644640002	Instrument ID	10MSHR15 (L)
Filename	L230305B_07	GC Column ID	US1824614H
Analyzed	03/06/2023 02:53	ICAL ID	L230302

Tetra-Furans:		RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C		25:48	5.98e7	7.54e7	7.93e6	9.94e6	5.630e3	3.600e3	0.79	
2,3,7,8-TCDF		25:49	1.52e7	1.92e7	1.97e6	2.46e6	3.570e3	2.280e3	0.79	
Other TCDF	1	22:05	1.07e7	1.35e7					0.79	
	2	22:13	3.26e7	4.09e7					0.80	
	3	27:07	1.18e6	1.61e6					0.73	
	4	28:30	3.04e6	4.00e6					0.76	
	5	19:10	5.55e4	6.27e4					0.89	
	6	19:19	2.02e5	2.43e5					0.83	
	7	19:28	2.36e5	2.96e5					0.80	
	8	20:15	1.24e7	1.58e7					0.78	
	9	20:45	1.16e7	1.47e7					0.79	
	10	20:57	2.85e5	4.24e5					0.67	
	11	21:15	6.08e6	8.17e6					0.74	
	12	21:50	6.61e7	8.49e7					0.78	
	13	22:38	1.41e7	1.84e7					0.77	
	14	22:47	1.22e7	1.62e7					0.75	
	15	22:59	1.90e7	2.42e7					0.78	
	16	23:28	3.09e7	3.93e7					0.79	
	17	23:44	1.46e7	1.89e7					0.77	
	18	23:55	3.50e7	4.42e7					0.79	
	19	24:53	1.68e7	2.13e7					0.79	
	20	25:09	8.10e6	1.05e7					0.77	
	21	25:29	1.65e7	2.22e7					0.74	
	22	25:38	1.15e7	1.34e7					0.86	
	23	26:23	2.45e7	3.16e7					0.78	
	24	26:43	3.04e6	4.02e6					0.76	
Ethers	1	27:19	1.73e5	2.16e5					0.80	P
	2	28:51	1.45e6	1.67e6					0.87	P
	3	28:44	6.19e5	7.21e5					0.86	P
	4	24:16	2.28e6	3.00e6					0.76	P
	5	24:30	3.28e7	4.21e7					0.78	P
	6	27:42	6.83e6	9.03e6					0.76	P
	7	27:58	4.77e6	6.48e6					0.74	P

Tetra-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	26:06	5.69e7	6.36e7	7.89e6	8.86e6	1.284e4	2.596e4	0.89	
2,3,7,8-TCDD-13C	27:03	4.51e7	5.27e7	7.43e6	8.45e6	4.527e3	4.936e3	0.86	
2,3,7,8-TCDD-37Cl4	27:05	7.85e6		1.23e6		1.837e3	-----		
2,3,7,8-TCDD	27:05	(M)7.75e5	9.89e5	1.30e5	1.57e5	1.604e3	2.455e3	0.78	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Client Name	State of Indiana		
Client ID	WS-2	Injected By	JRH
Lab ID	10644640002	Instrument ID	10MSHR15 (L)
Filename	L230305B_07	GC Column ID	US1824614H
Analyzed	03/06/2023 02:53	ICAL ID	L230302

Other TCDD	1	22:08	1.01e7	1.30e7		0.78
	2	22:34	5.96e6	7.75e6		0.77
	3	23:01	1.62e6	1.93e6		0.84
	4	24:18	4.59e6	5.82e6		0.79
	5	24:35	3.94e6	5.04e6		0.78
	6	24:50	1.88e6	2.49e6		0.75
	7	25:12	4.97e5	6.96e5		0.71
	8	25:32	1.93e6	2.49e6		0.77
	9	26:04	8.61e5	1.14e6		0.76
	10	26:17	7.65e5	9.64e5		0.79
	11	26:38	4.29e6	5.61e6		0.76
	12	26:51	6.13e5	7.82e5		0.78
	13	27:28	1.12e6	1.61e6		0.70
	14	27:38	3.05e5	4.29e5		0.71

Penta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDF-13C	31:11	5.65e7	3.59e7	1.71e7	1.09e7	1.431e4	1.454e4	1.57	
2,3,4,7,8-PeCDF-13C	32:07	5.30e7	3.29e7	1.58e7	1.03e7	1.672e4	1.193e4	1.61	
1,2,3,7,8-PeCDF	31:12	1.22e8	7.96e7	3.81e7	2.46e7	1.650e4	8.680e3	1.54	
2,3,4,7,8-PeCDF	32:09	5.33e7	3.45e7	1.27e7	8.21e6	6.466e3	5.832e3	1.54	

Other PeCDF	1	29:13	2.51e5	1.60e5		1.57
	2	29:34	3.77e5	2.45e5		1.54
	3	29:45	2.01e5	1.41e5		1.42
	4	30:04	1.25e8	8.20e7		1.52
	5	30:13	1.88e8	1.23e8		1.52
	6	30:17	3.18e7	2.01e7		1.58
	7	30:23	5.61e6	3.63e6		1.54
	8	30:38	1.02e7	6.64e6		1.54
	9	30:47	3.33e7	2.18e7		1.53
	10	30:53	4.21e7	2.74e7		1.54
	11	31:01	2.76e7	1.78e7		1.54
	12	31:26	9.42e7	6.13e7		1.54
	13	31:56	7.91e6	4.98e6		1.59
	14	32:02	2.67e7	1.76e7		1.52
	15	32:24	2.83e6	1.70e6		1.67
	16	33:03	5.38e6	3.40e6		1.58
	17	28:28	5.31e7	3.31e7		1.60

Ethers	1	30:28	5.38e6	3.55e6	1.52	P
	2	31:35	6.96e6	4.42e6	1.58	P
	3	32:43	2.45e5	1.83e5	1.34	P
	4	32:50	6.41e5	4.39e5	1.46	P
	5	32:56	2.43e6	1.58e6	1.54	P

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code

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Client Name	State of Indiana		
Client ID	WS-2	Injected By	JRH
Lab ID	10644640002	Instrument ID	10MSHR15 (L)
Filename	L230305B_07	GC Column ID	US1824614H
Analyzed	03/06/2023 02:53	ICAL ID	L230302

1,2,3,7,8-PeCDD-13C		32:23	3.71e7	2.31e7	1.12e7	6.93e6	8.812e3	2.671e4	1.61	
1,2,3,7,8-PeCDD		32:24	(M)3.88e6	(M)6.52e6	3.35e4	2.02e6	1.162e3	1.711e3	0.60	
Other PeCDD	1	30:15	1.24e7	2.05e7					0.60	
	2	30:43	9.43e5	1.53e6					0.62	
	3	31:11	9.75e6	1.58e7					0.62	
	4	31:22	2.85e6	4.73e6					0.60	
	5	31:28	6.51e6	1.05e7					0.62	
	6	31:40	3.98e6	6.56e6					0.61	
	7	32:00	2.78e6	4.54e6					0.61	
	8	32:27	1.98e6	2.94e6					0.67	
	9	32:46	1.65e6	2.66e6					0.62	

Hexa-Furans:		RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDF-13C		34:39	1.79e7	3.45e7	6.92e6	1.32e7	2.265e3	6.010e3	0.52	
1,2,3,6,7,8-HxCDF-13C		34:44	1.99e7	3.81e7	6.14e6	1.19e7	2.010e3	1.453e3	0.52	
2,3,4,6,7,8-HxCDF-13C		35:11	1.65e7	3.08e7	5.66e6	1.09e7	2.222e3	1.738e3	0.53	
1,2,3,7,8,9-HxCDF-13C		35:54	1.26e7	2.32e7	4.13e6	7.68e6	5.267e3	3.595e3	0.54	
1,2,3,4,7,8-HxCDF		34:40	3.02e8	(M)2.42e8	1.13e8	9.05e7	1.983e4	1.402e4	1.25	P
1,2,3,6,7,8-HxCDF		34:46	1.81e8	1.44e8	5.53e7	4.52e7	1.763e4	1.402e4	1.26	
2,3,4,6,7,8-HxCDF		35:13	4.23e7	3.14e7	1.46e7	1.18e7	1.554e4	9.522e3	1.35	
1,2,3,7,8,9-HxCDF		35:55	3.22e7	2.44e7	1.07e7	8.88e6	1.416e4	1.324e4	1.32	
Other HxCDF	1	33:28	4.93e5	3.99e5					1.24	
	2	33:39	4.75e7	3.81e7					1.25	
	3	33:47	3.05e8	2.44e8					1.25	
	4	33:57	1.62e7	1.32e7					1.22	
	5	34:05	2.65e7	2.16e7					1.22	
	6	34:15	2.22e7	1.75e7					1.27	
	7	34:35	1.44e8	1.20e8					1.20	
	8	34:53	1.47e7	1.05e7					1.41	
	9	34:58	1.82e7	1.41e7					1.29	
	10	35:03	2.14e7	1.55e7					1.38	
Ethers	1	34:21	3.66e6	2.59e6					1.41	P
	2	34:40	3.02e8	2.42e8					1.25	P

Hexa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDD-13C	35:19	1.94e7	1.52e7	7.29e6	5.80e6	3.811e3	2.945e3	1.27	
1,2,3,6,7,8-HxCDD-13C	35:23	2.34e7	1.81e7	8.09e6	6.43e6	3.811e3	3.578e3	1.30	
1,2,3,7,8,9-HxCDD-13C	35:36	2.85e7	2.27e7	9.59e6	7.73e6	3.687e3	2.673e3	1.26	
1,2,3,4,7,8-HxCDD	35:19	7.54e6	6.05e6	2.92e6	2.40e6	4.173e3	5.591e3	1.25	
1,2,3,6,7,8-HxCDD	35:23	1.64e7	1.30e7	5.99e6	4.70e6	7.465e3	5.742e3	1.26	
1,2,3,7,8,9-HxCDD	35:37	1.18e7	9.99e6	3.78e6	3.02e6	3.803e3	3.760e3	1.18	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
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Client Name	State of Indiana		
Client ID	WS-2	Injected By	JRH
Lab ID	10644640002	Instrument ID	10MSHR15 (L)
Filename	L230305B_07	GC Column ID	US1824614H
Analyzed	03/06/2023 02:53	ICAL ID	L230302

Other HxCDD	1	34:06	1.39e7	1.13e7					1.24	
	2	34:35	2.44e7	1.98e7					1.23	
	3	34:48	3.61e7	2.88e7					1.25	
	4	34:53	3.86e6	3.27e6					1.18	
	5	35:32	5.62e6	4.17e6					1.35	

Hepta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDF-13C	37:07	8.60e6	1.79e7	2.89e6	5.94e6	4.707e3	9.259e3	0.48	
1,2,3,4,7,8,9-HpCDF-13C	38:33	5.57e6	1.21e7	1.60e6	3.53e6	3.538e3	7.750e3	0.46	
1,2,3,4,6,7,8-HpCDF	37:08	5.88e8	5.77e8	1.83e8	1.77e8	1.336e4	1.325e4	1.02	
1,2,3,4,7,8,9-HpCDF	38:34	5.87e7	5.76e7	1.67e7	1.63e7	7.037e3	1.804e4	1.02	
Other HpCDF 1	37:23	9.55e7	9.13e7					1.05	
2	37:32	1.01e8	9.76e7					1.03	

Hepta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDD-13C	38:03	9.74e6	9.24e6	2.83e6	2.69e6	5.197e3	8.106e3	1.05	
1,2,3,4,6,7,8-HpCDD	38:03	9.30e7	8.76e7	2.76e7	2.59e7	1.601e3	2.360e3	1.06	
Other HpCDD 1	37:22	6.85e7	6.46e7					1.06	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:09	1.82e8	2.01e8	4.41e7	4.91e7	3.217e3	3.353e3	0.90	

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	40:55	8.42e6	1.06e7	2.08e6	2.53e6	6.964e3	6.411e3	0.80	
OCDD	40:56	9.42e7	1.05e8	2.23e7	2.47e7	1.895e3	1.890e3	0.90	

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PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

ReviewedBy _____ Date _____

Client Name	State of Indiana		
Client ID	WS-2	Injected By	SMT
Lab ID	10644640002	Instrument ID	10MSHR15 (L)
Filename	L230306B_15	GC Column ID	US1824614H
Analyzed	03/07/2023 07:11	ICAL ID	L230302

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	25:34	ND	ND	ND	ND	-----	-----		
2,3,7,8-TCDF	25:36	ND	ND	ND	ND	-----	-----		

Tetra-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	25:53	ND	ND	ND	ND	-----	-----		
2,3,7,8-TCDD-13C	26:52	ND	ND	ND	ND	-----	-----		
2,3,7,8-TCDD-37Cl4	26:54	ND	ND	ND	ND	-----	-----		
2,3,7,8-TCDD	26:54	ND	ND	ND	ND	-----	-----		

Penta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDF-13C	31:05	ND	ND	ND	ND	-----	-----		
2,3,4,7,8-PeCDF-13C	32:02	ND	ND	ND	ND	-----	-----		
1,2,3,7,8-PeCDF	31:06	ND	ND	ND	ND	-----	-----		
2,3,4,7,8-PeCDF	32:03	ND	ND	ND	ND	-----	-----		

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	32:18	ND	ND	ND	ND	-----	-----		
1,2,3,7,8-PeCDD	32:19	ND	ND	ND	ND	-----	-----		

Hexa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDF-13C	34:36	ND	ND	ND	ND	-----	-----		
1,2,3,6,7,8-HxCDF-13C	34:41	ND	ND	ND	ND	-----	-----		
2,3,4,6,7,8-HxCDF-13C	35:08	ND	ND	ND	ND	-----	-----		
1,2,3,7,8,9-HxCDF-13C	35:50	ND	ND	ND	ND	-----	-----		
1,2,3,4,7,8-HxCDF	34:36	ND	ND	ND	ND	-----	-----		
1,2,3,6,7,8-HxCDF	34:41	ND	ND	ND	ND	-----	-----		
2,3,4,6,7,8-HxCDF	35:08	ND	ND	ND	ND	-----	-----		
1,2,3,7,8,9-HxCDF	35:50	ND	ND	ND	ND	-----	-----		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Client Name	State of Indiana		
Client ID	WS-2	Injected By	SMT
Lab ID	10644640002	Instrument ID	10MSHR15 (L)
Filename	L230306B_15	GC Column ID	US1824614H
Analyzed	03/07/2023 07:11	ICAL ID	L230302

Hexa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDD-13C	35:15	ND	ND	ND	ND	-----	-----		
1,2,3,6,7,8-HxCDD-13C	35:19	ND	ND	ND	ND	-----	-----		
1,2,3,7,8,9-HxCDD-13C	35:32	3.58e6	3.00e6	1.18e6	9.92e5	2.801e3	2.396e3	1.19	
1,2,3,4,7,8-HxCDD	35:15	ND	ND	ND	ND	-----	-----		
1,2,3,6,7,8-HxCDD	35:19	ND	ND	ND	ND	-----	-----		
1,2,3,7,8,9-HxCDD	35:33	ND	ND	ND	ND	-----	-----		

Hepta-Furans:		RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDF-13C		37:04	1.27e6	2.64e6	4.10e5	8.54e5	3.191e3	2.600e3	0.48	
1,2,3,4,7,8,9-HpCDF-13C		38:30	(M)8.61e5	1.94e6	2.50e5	5.51e5	2.530e3	2.230e3	0.44	
1,2,3,4,6,7,8-HpCDF		37:04	8.71e7	8.74e7	2.88e7	2.79e7	7.096e3	5.190e3	1.00	
1,2,3,4,7,8,9-HpCDF		38:30	1.00e7	9.45e6	3.03e6	2.88e6	5.342e3	5.763e3	1.06	
Other HpCDF	1	37:20	1.33e7	1.41e7					0.94	
	2	37:29	1.48e7	1.54e7					0.96	

Hepta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDD-13C	38:00	ND	ND	ND	ND	-----	-----		
1,2,3,4,6,7,8-HpCDD	37:59	ND	ND	ND	ND	-----	-----		

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:05	ND	ND	ND	ND	-----	-----		

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	40:52	ND	ND	ND	ND	-----	-----		
OCDD	40:52	ND	ND	ND	ND	-----	-----		

REPORT OF LABORATORY ANALYSIS

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TCDF Confirmation Detected Peak List

Prepared By _____ Date _____

ReviewedBy _____ Date _____

Client Name	State of Indiana		
Client ID	WS-2	Injected By	SMT
Lab ID	10644640002	Instrument ID	10MSHR06 (U)
Filename	U230307A_06	GC Column ID	US2588526H
Analyzed	03/07/2023 12:51	ICAL ID	U221009-DB225

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	18:00	2.68e7	3.41e7	3.69e6	4.85e6	1.614e4	1.185e4	0.79	
2,3,7,8-TCDF	18:02	(M)6.66e6	8.51e6	9.32e5	1.20e6	3.611e3	3.705e3	0.78	

Cleanup & Recovery:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	16:07	2.76e7	3.38e7	4.30e6	5.47e6	9.146e3	5.137e3	0.82	
2,3,7,8-TCDD-37Cl4	15:44	4.40e6		6.67e5		3.185e3	-----		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

ReviewedBy_____ Date _____

Client Name	State of Indiana		
Client ID	WS-2 Dup	Injected By	JRH
Lab ID	10644640003	Instrument ID	10MSHR15 (L)
Filename	L230305B_08	GC Column ID	US1824614H
Analyzed	03/06/2023 03:38	ICAL ID	L230302

Tetra-Furans:		RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C		25:47	5.80e7	7.30e7	7.62e6	9.82e6	6.574e3	5.425e3	0.80	
2,3,7,8-TCDF		25:50	1.00e7	1.28e7	1.28e6	1.63e6	2.820e3	2.986e3	0.78	
Other TCDF	1	20:14	1.01e7	1.28e7					0.78	
	2	20:44	8.76e6	1.12e7					0.78	
	3	20:56	2.81e5	3.55e5					0.79	
	4	21:04	2.82e5	3.45e5					0.82	
	5	21:16	5.37e6	6.91e6					0.78	
	6	21:51	4.92e7	6.19e7					0.79	
	7	22:13	3.13e7	3.96e7					0.79	
	8	22:38	1.13e7	1.42e7					0.79	
	9	22:48	8.36e6	1.07e7					0.78	
	10	23:00	1.14e7	1.44e7					0.79	
	11	23:28	2.35e7	2.93e7					0.80	
	12	23:43	1.20e7	1.60e7					0.75	
	13	23:55	2.75e7	3.45e7					0.79	
	14	24:52	1.05e7	1.32e7					0.80	
	15	25:10	6.87e6	8.64e6					0.80	
	16	25:28	1.37e7	1.83e7					0.75	
	17	25:38	9.19e6	1.04e7					0.88	
	18	26:23	1.83e7	2.32e7					0.79	
	19	26:43	2.08e6	2.76e6					0.75	
	20	27:07	1.19e6	1.54e6					0.77	
	21	28:29	1.66e6	2.16e6					0.77	
Ethers	1	28:51	1.44e6	1.68e6					0.86	P
	2	28:43	5.94e5	6.68e5					0.89	P
	3	24:16	2.37e6	3.10e6					0.76	P
	4	24:30	1.69e7	2.13e7					0.79	P
	5	27:42	6.23e6	8.17e6					0.76	P
	6	27:57	5.25e6	6.67e6					0.79	P

Tetra-Dioxins:		RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C		26:06	(M)6.06e7	6.83e7	8.37e6	9.41e6	1.325e4	1.076e4	0.89	
2,3,7,8-TCDD-13C		27:03	4.52e7	5.12e7	7.13e6	8.00e6	3.650e3	3.336e3	0.88	
2,3,7,8-TCDD-37Cl4		27:05	7.70e6		1.32e6		3.811e3	-----		
2,3,7,8-TCDD		27:05	6.25e5	8.42e5	1.11e5	1.28e5	1.739e3	1.470e3	0.74	
Other TCDD	1	22:08	8.97e6	1.17e7					0.77	
	2	22:33	5.32e6	6.72e6					0.79	
	3	23:02	1.35e6	1.76e6					0.77	
	4	24:00	1.10e5	1.56e5					0.71	

REPORT OF LABORATORY ANALYSIS

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Client Name	State of Indiana		
Client ID	WS-2 Dup	Injected By	JRH
Lab ID	10644640003	Instrument ID	10MSHR15 (L)
Filename	L230305B_08	GC Column ID	US1824614H
Analyzed	03/06/2023 03:38	ICAL ID	L230302

	5	24:18	4.03e6	5.14e6	0.78
	6	24:34	3.37e6	4.38e6	0.77
	7	24:51	1.61e6	2.11e6	0.76
	8	25:12	4.32e5	6.14e5	0.70
	9	25:31	1.76e6	2.22e6	0.80
	10	26:04	7.29e5	9.87e5	0.74
	11	26:16	6.94e5	9.04e5	0.77
	12	26:40	3.78e6	4.88e6	0.77
	13	26:52	6.19e5	7.85e5	0.79
	14	27:28	1.01e6	1.30e6	0.77
	15	27:38	3.05e5	3.98e5	0.77
	16	28:17	3.00e5	3.95e5	0.76

Penta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDF-13C	31:11	5.18e7	3.25e7	1.62e7	9.80e6	1.830e4	1.939e4	1.59	
2,3,4,7,8-PeCDF-13C	32:06	4.82e7	3.04e7	1.52e7	9.93e6	1.929e4	1.616e3	1.59	
1,2,3,7,8-PeCDF	31:11	1.93e7	1.25e7	6.01e6	3.84e6	4.411e3	4.220e3	1.54	
2,3,4,7,8-PeCDF	32:07	2.31e7	1.48e7	5.68e6	3.79e6	4.812e3	3.932e3	1.55	

Other PeCDF	1	29:12	1.15e5	8.05e4	1.43
	2	29:35	2.22e5	1.32e5	1.69
	3	29:44	1.57e5	1.02e5	1.54
	4	29:50	1.37e5	9.84e4	1.40
	5	30:03	4.56e7	2.82e7	1.62
	6	30:12	6.45e7	4.35e7	1.48
	7	30:22	2.97e6	1.92e6	1.55
	8	30:37	4.81e6	3.13e6	1.54
	9	30:46	1.93e7	1.26e7	1.53
	10	30:52	1.60e7	1.05e7	1.53
	11	31:00	1.05e7	6.92e6	1.52
	12	31:25	2.83e7	1.86e7	1.53
	13	31:55	2.67e6	1.74e6	1.53
	14	32:01	1.48e7	9.51e6	1.55
	15	32:23	1.75e6	1.16e6	1.51
	16	33:02	1.66e6	1.04e6	1.61
	17	28:27	2.87e7	1.81e7	1.58

Ethers	1	30:27	4.97e6	3.18e6	1.56	P
	2	31:34	3.83e6	2.49e6	1.54	P
	3	32:49	5.43e5	3.94e5	1.38	P
	4	32:55	1.51e6	9.46e5	1.59	P

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	32:23	3.31e7	2.09e7	1.03e7	6.46e6	4.596e3	6.401e3	1.58	
1,2,3,7,8-PeCDD	32:23	2.17e6	3.63e6	9.93e6	1.13e6	1.342e3	1.686e3	0.60	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Client Name	State of Indiana		
Client ID	WS-2 Dup	Injected By	JRH
Lab ID	10644640003	Instrument ID	10MSHR15 (L)
Filename	L230305B_08	GC Column ID	US1824614H
Analyzed	03/06/2023 03:38	ICAL ID	L230302

Other PeCDD	1	30:14	1.01e7	1.63e7	0.62	
	2	30:42	7.20e5	1.08e6	0.66	
	3	31:11	7.93e6	1.28e7	0.62	
	4	31:21	1.82e6	3.00e6	0.61	
	5	31:27	5.17e6	8.39e6	0.62	
	6	31:39	2.82e6	4.57e6	0.62	
	7	31:59	2.08e6	3.52e6	0.59	
	8	32:27	1.34e6	2.04e6	0.66	
	9	32:45	1.22e6	1.96e6	0.63	

Hexa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDF-13C	34:38	1.57e7	2.95e7	5.90e6	1.08e7	3.481e3	2.471e3	0.53	
1,2,3,6,7,8-HxCDF-13C	34:44	1.68e7	3.12e7	5.65e6	1.06e7	2.455e3	2.136e4	0.54	
2,3,4,6,7,8-HxCDF-13C	35:10	1.40e7	2.61e7	4.96e6	9.40e6	1.405e3	2.192e3	0.54	
1,2,3,7,8,9-HxCDF-13C	35:53	1.04e7	1.96e7	3.45e6	6.56e6	6.802e3	1.713e4	0.53	
1,2,3,4,7,8-HxCDF	34:39	2.35e7	1.88e7	8.43e6	6.74e6	4.868e3	4.098e3	1.25	P
1,2,3,6,7,8-HxCDF	34:44	1.98e7	1.60e7	6.57e6	5.47e6	5.360e3	7.826e3	1.24	
2,3,4,6,7,8-HxCDF	35:11	1.13e7	9.19e6	4.22e6	3.38e6	7.429e3	3.724e3	1.23	
1,2,3,7,8,9-HxCDF	35:54	3.82e6	3.03e6	1.34e6	1.04e6	2.572e3	3.535e3	1.26	

Other HxCDF	1	33:38	1.38e7	1.09e7	1.27	
	2	33:46	4.58e7	3.67e7	1.25	
	3	33:56	3.00e6	2.16e6	1.39	
	4	34:14	3.43e6	2.79e6	1.23	
	5	34:34	1.84e7	1.46e7	1.26	
	6	34:57	2.97e6	2.47e6	1.20	
Ethers	1	34:05	5.67e6	4.44e6	1.28	P
	2	34:20	3.13e6	2.55e6	1.23	P
	3	34:39	2.35e7	1.88e7	1.25	P
	4	34:52	2.91e6	2.41e6	1.21	P
	5	35:02	4.44e6	3.56e6	1.25	P

Hexa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDD-13C	35:17	1.53e7	1.19e7	6.07e6	4.86e6	3.563e3	3.305e3	1.28	
1,2,3,6,7,8-HxCDD-13C	35:22	1.99e7	1.57e7	7.15e6	5.64e6	1.800e3	2.668e3	1.26	
1,2,3,7,8,9-HxCDD-13C	35:36	2.60e7	2.07e7	8.85e6	6.70e6	3.041e3	1.844e3	1.25	
1,2,3,4,7,8-HxCDD	35:18	2.02e6	1.63e6	7.96e5	6.22e5	4.134e3	4.109e3	1.24	
1,2,3,6,7,8-HxCDD	35:23	5.28e6	4.22e6	1.99e6	1.62e6	4.098e3	4.451e3	1.25	
1,2,3,7,8,9-HxCDD	35:36	3.76e6	3.02e6	1.17e6	9.18e5	2.495e3	4.414e3	1.25	

Other HxCDD	1	34:05	6.95e6	5.69e6	1.22	
	2	34:34	1.41e7	1.11e7	1.27	
	3	34:46	1.43e7	1.14e7	1.26	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Client Name	State of Indiana		
Client ID	WS-2 Dup	Injected By	JRH
Lab ID	10644640003	Instrument ID	10MSHR15 (L)
Filename	L230305B_08	GC Column ID	US1824614H
Analyzed	03/06/2023 03:38	ICAL ID	L230302

	4	34:52	1.75e6	1.59e6					1.10	
	5	35:31	2.05e6	1.75e6					1.17	

Hepta-Furans:		RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDF-13C		37:06	6.63e6	1.39e7	2.05e6	4.48e6	2.842e3	2.583e3	0.48	
1,2,3,4,7,8,9-HpCDF-13C		38:31	(M)4.25e6	8.86e6	1.18e6	2.55e6	2.474e3	1.761e3	0.48	
1,2,3,4,6,7,8-HpCDF		37:06	4.38e7	4.30e7	1.40e7	1.40e7	3.257e3	3.414e3	1.02	
1,2,3,4,7,8,9-HpCDF		38:32	3.65e6	3.66e6	1.09e6	1.04e6	3.134e3	3.878e3	1.00	
Other HpCDF	1	37:23	7.87e6	7.63e6					1.03	
	2	37:30	8.32e6	8.03e6					1.04	

Hepta-Dioxins:		RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDD-13C		38:02	7.26e6	6.47e6	2.14e6	1.93e6	3.091e3	5.077e3	1.12	
1,2,3,4,6,7,8-HpCDD		38:03	1.46e7	1.41e7	4.27e6	4.11e6	1.712e3	1.640e3	1.04	
Other HpCDD	1	37:21	1.96e7	1.85e7					1.06	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:08	1.20e7	1.40e7	3.00e6	3.38e6	1.713e3	6.806e2	0.86	

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	40:54	(M)6.19e6	7.82e6	1.53e6	1.89e6	1.387e3	2.519e3	0.79	
OCDD	40:55	2.12e7	2.38e7	5.26e6	5.85e6	1.462e3	1.606e3	0.89	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

TCDF Confirmation Detected Peak List

Prepared By _____ Date _____

ReviewedBy _____ Date _____

Client Name	State of Indiana		
Client ID	WS-2 Dup	Injected By	SMT
Lab ID	10644640003	Instrument ID	10MSHR06 (U)
Filename	U230307A_07	GC Column ID	US2588526H
Analyzed	03/07/2023 13:38	ICAL ID	U221009-DB225

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	18:06	4.57e7	5.80e7	6.83e6	8.77e6	2.115e4	1.582e4	0.79	
2,3,7,8-TCDF	18:07	7.81e6	9.92e6	1.15e6	1.49e6	3.557e3	3.266e3	0.79	

Cleanup & Recovery:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	16:13	4.60e7	5.75e7	8.42e6	1.08e7	7.119e3	6.148e3	0.80	
2,3,7,8-TCDD-37Cl4	15:50	6.70e6		1.16e6		1.045e4	-----		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444
www.pacelabs.com

Appendix E

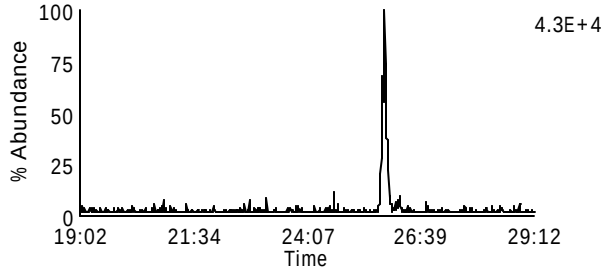
Calibration Raw Data

Homologue Group: Tetras

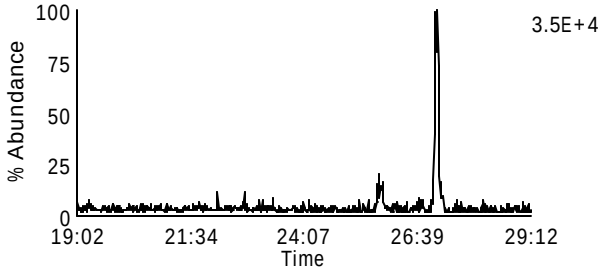
Data File Name: L230302A_10
Date Acquired: 3/2/2023
Sample Description: CAL CS1-20-123-108 - SMT

Lab Sample ID: CS1-20-123-108
Client Sample ID:
Instrument: 10MSHR15 (L)

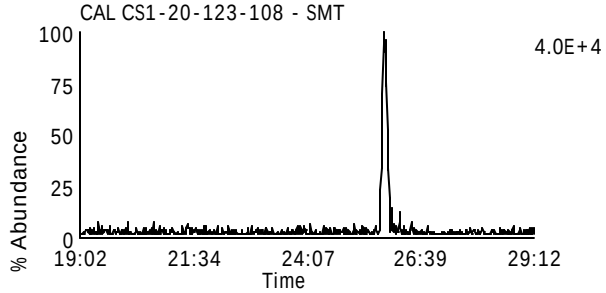
Data File: L230302A_10 G1 C1 - 303.9016
CAL CS1-20-123-108 - SMT



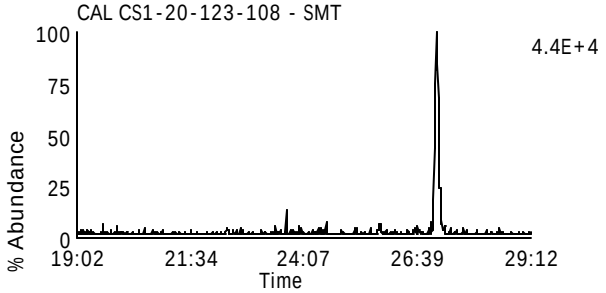
Data File: L230302A_10 G1 C7 - 319.8965
CAL CS1-20-123-108 - SMT



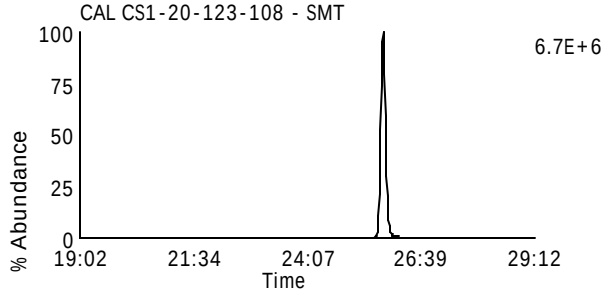
Data File: L230302A_10 G1 C2 - 305.8987
CAL CS1-20-123-108 - SMT



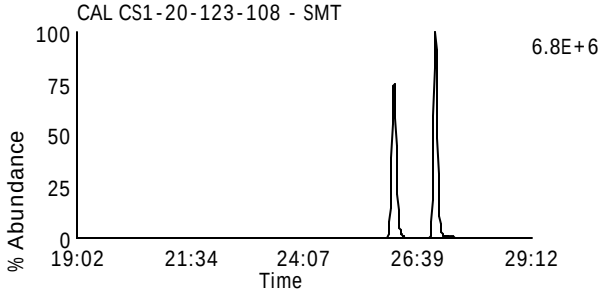
Data File: L230302A_10 G1 C8 - 321.8936
CAL CS1-20-123-108 - SMT



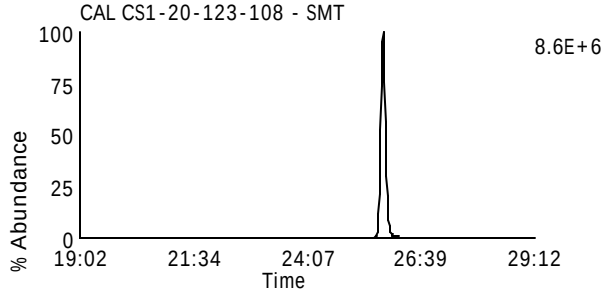
Data File: L230302A_10 G1 C3 - 315.9418
CAL CS1-20-123-108 - SMT



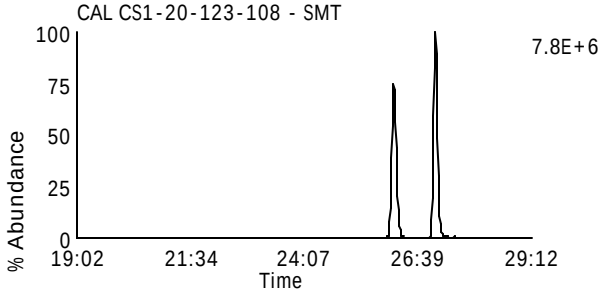
Data File: L230302A_10 G1 C10 - 331.9367
CAL CS1-20-123-108 - SMT



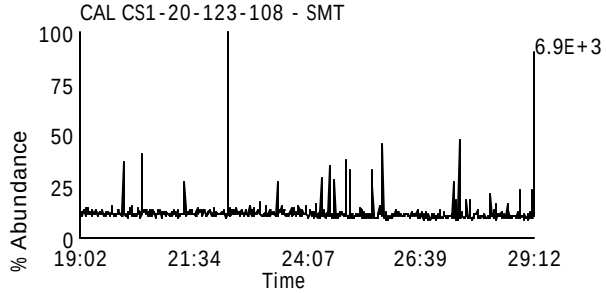
Data File: L230302A_10 G1 C4 - 317.9389
CAL CS1-20-123-108 - SMT



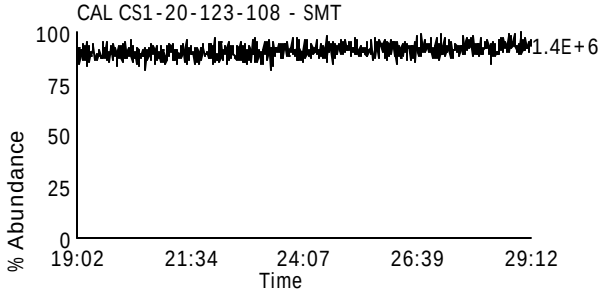
Data File: L230302A_10 G1 C11 - 333.9338
CAL CS1-20-123-108 - SMT



Data File: L230302A_10 G1 C14 - 375.8364
CAL CS1-20-123-108 - SMT



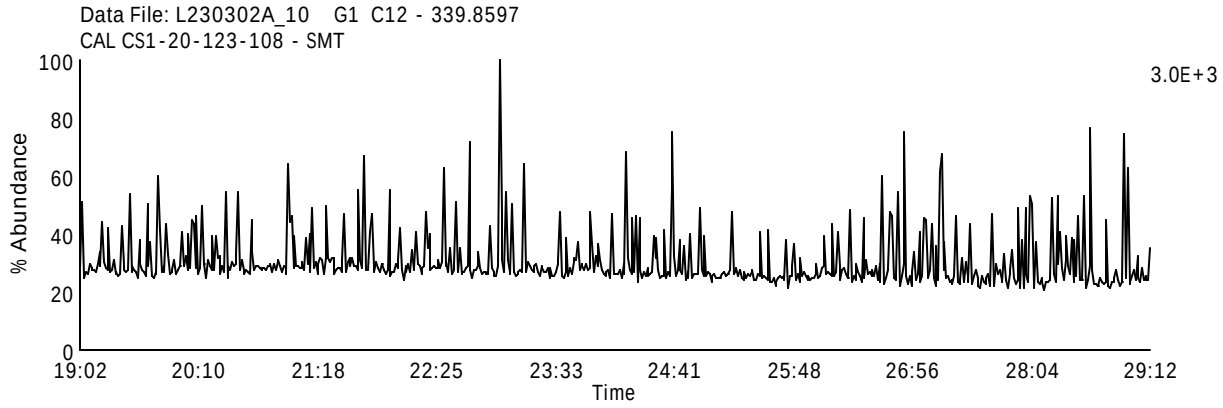
Data File: L230302A_10 G1 C5 - 318.9792
CAL CS1-20-123-108 - SMT

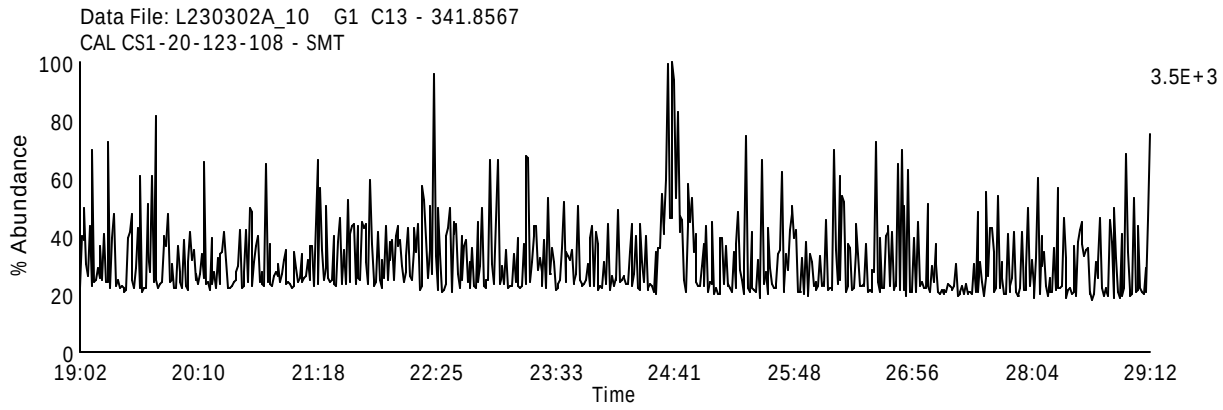


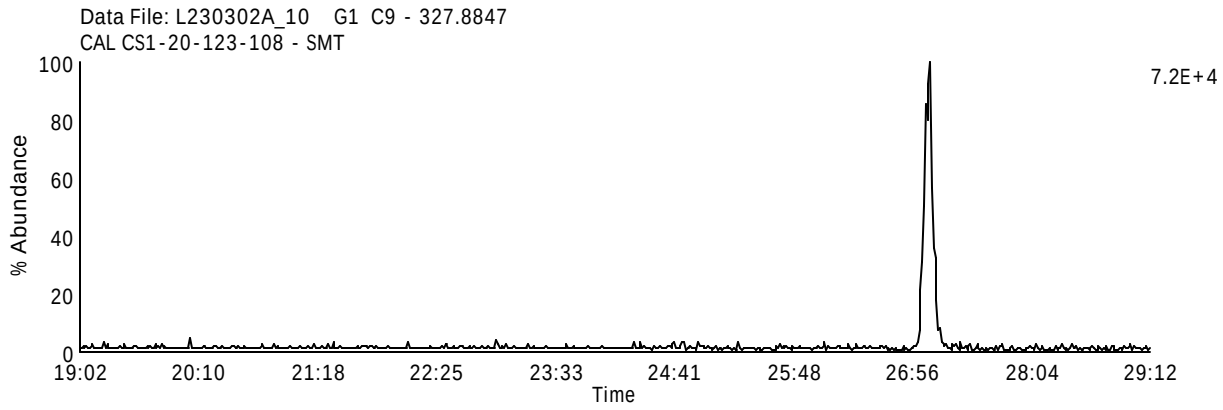
Homologue Group: Penta & Cleanup

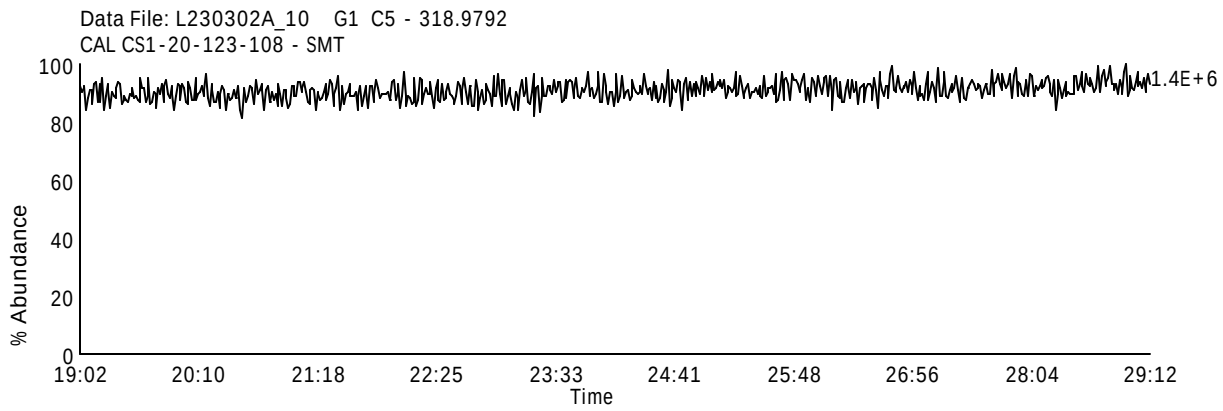
Data File Name: L230302A_10
Date Acquired: 3/2/2023
Sample Description: CAL CS1-20-123-108 - SMT

Lab Sample ID: CS1-20-123-108
Client Sample ID:
Instrument: 10MSHR15 (L)







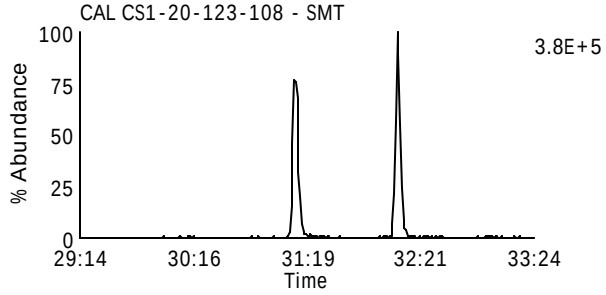


Homologue Group: Pentas

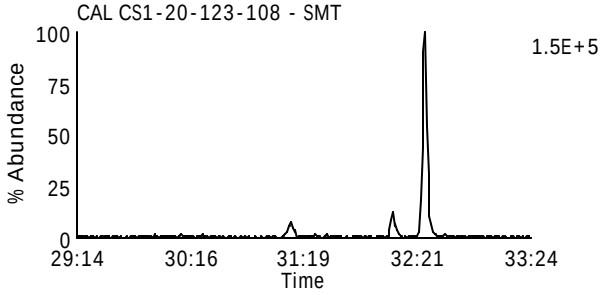
Data File Name: L230302A_10
Date Acquired: 3/2/2023
Sample Description: CAL CS1-20-123-108 - SMT

Lab Sample ID: CS1-20-123-108
Client Sample ID:
Instrument: 10MSHR15 (L)

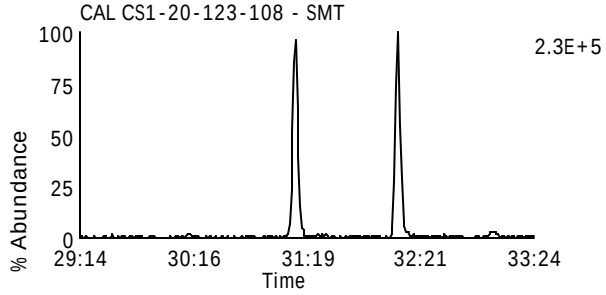
Data File: L230302A_10 G2 C1 - 339.8597
CAL CS1-20-123-108 - SMT



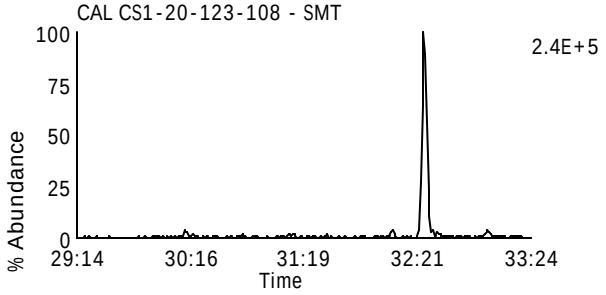
Data File: L230302A_10 G2 C4 - 353.8576
CAL CS1-20-123-108 - SMT



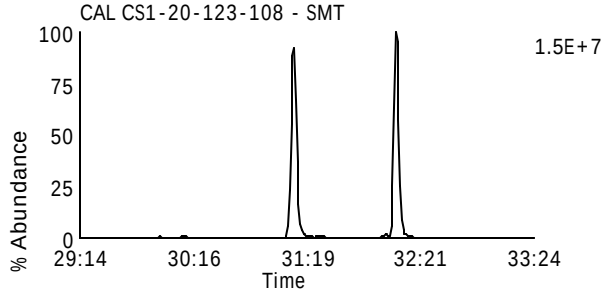
Data File: L230302A_10 G2 C2 - 341.8567
CAL CS1-20-123-108 - SMT



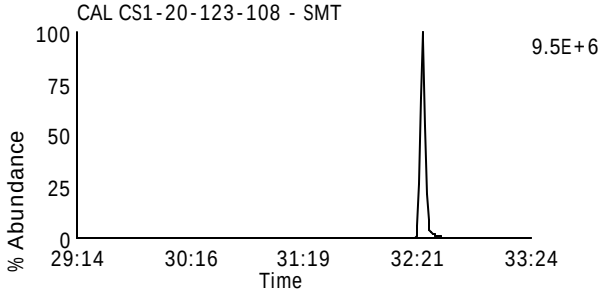
Data File: L230302A_10 G2 C8 - 355.8546
CAL CS1-20-123-108 - SMT



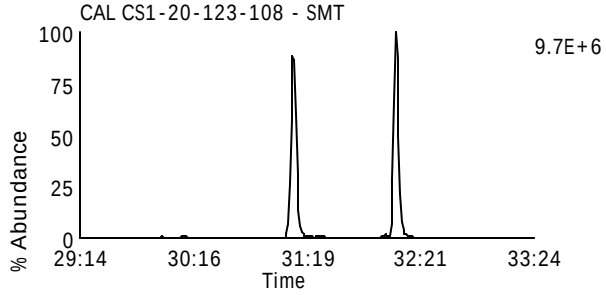
Data File: L230302A_10 G2 C3 - 351.8999
CAL CS1-20-123-108 - SMT



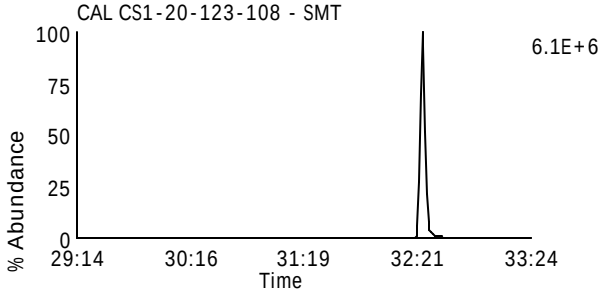
Data File: L230302A_10 G2 C10 - 367.8948
CAL CS1-20-123-108 - SMT



Data File: L230302A_10 G2 C5 - 353.8969
CAL CS1-20-123-108 - SMT



Data File: L230302A_10 G2 C11 - 369.8918
CAL CS1-20-123-108 - SMT



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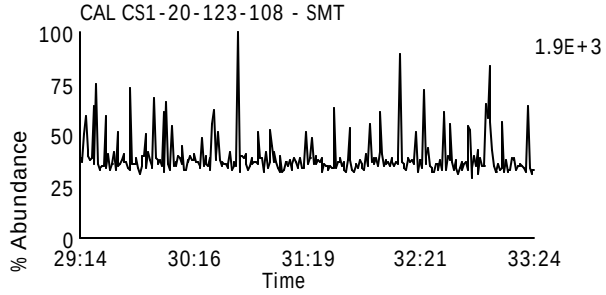
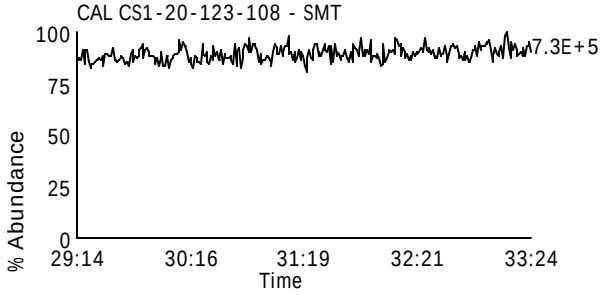
CAL CS1-20-123-108 - SMT



Data File: L230302A_10 G2 C6 - 354.9792
CAL CS1-20-123-108 - SMT

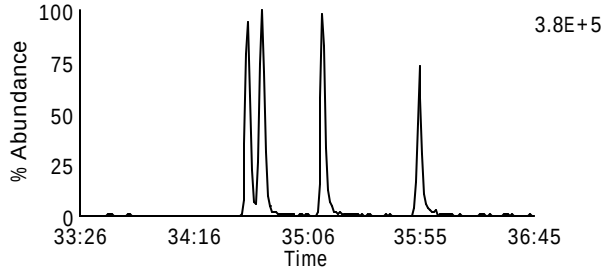


Homologue Group: Hexas

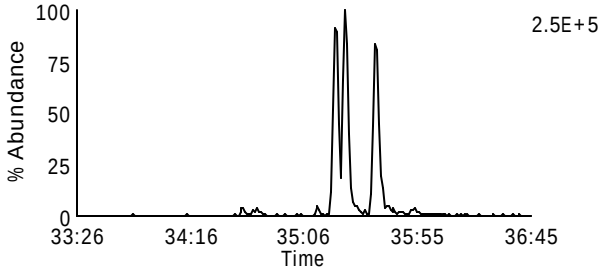
Data File Name: L230302A_10
Date Acquired: 3/2/2023
Sample Description: CAL CS1-20-123-108 - SMT

Lab Sample ID: CS1-20-123-108
Client Sample ID:
Instrument: 10MSHR15 (L)

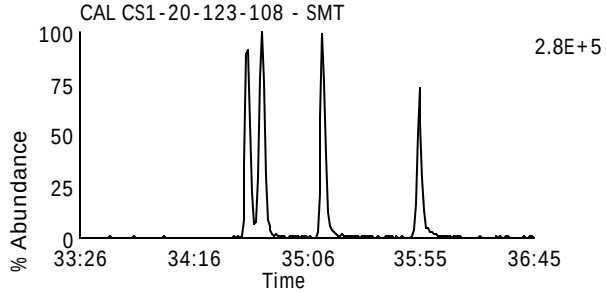
Data File: L230302A_10 G3 C1 - 373.8207
CAL CS1-20-123-108 - SMT



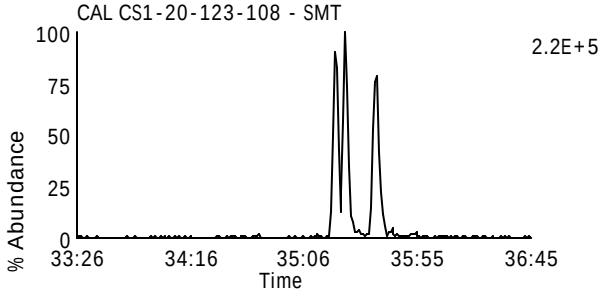
Data File: L230302A_10 G3 C7 - 389.8156
CAL CS1-20-123-108 - SMT



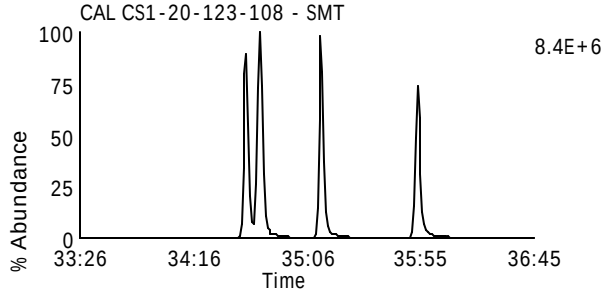
Data File: L230302A_10 G3 C2 - 375.8178
CAL CS1-20-123-108 - SMT



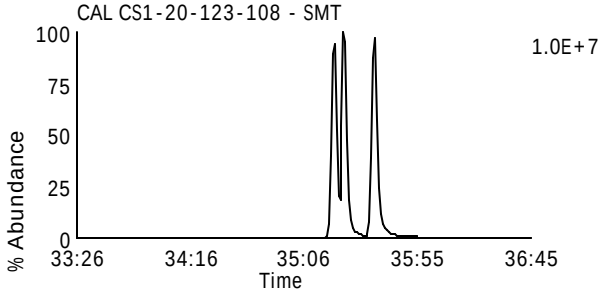
Data File: L230302A_10 G3 C8 - 391.8127
CAL CS1-20-123-108 - SMT



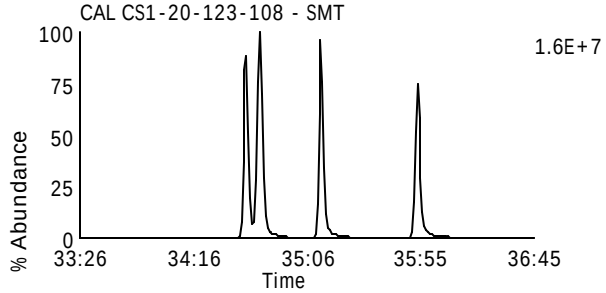
Data File: L230302A_10 G3 C5 - 383.8639
CAL CS1-20-123-108 - SMT



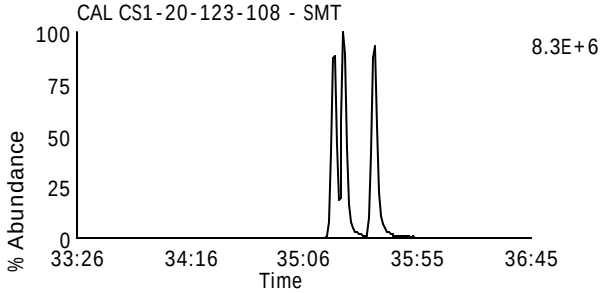
Data File: L230302A_10 G3 C9 - 401.8559
CAL CS1-20-123-108 - SMT



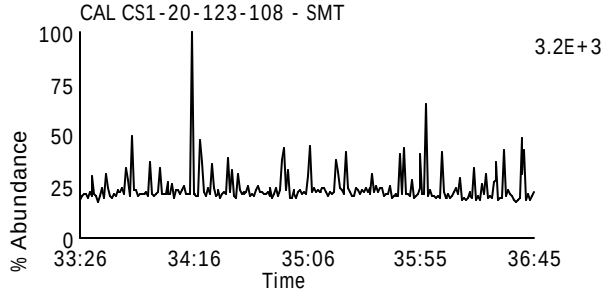
Data File: L230302A_10 G3 C6 - 385.861
CAL CS1-20-123-108 - SMT



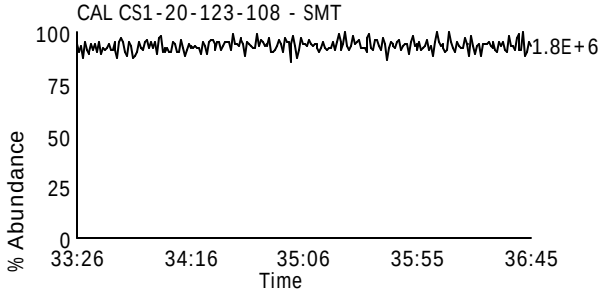
Data File: L230302A_10 G3 C10 - 403.8529
CAL CS1-20-123-108 - SMT



Data File: L230302A_10 G3 C11 - 445.7555
CAL CS1-20-123-108 - SMT



Data File: L230302A_10 G3 C3 - 380.976
CAL CS1-20-123-108 - SMT

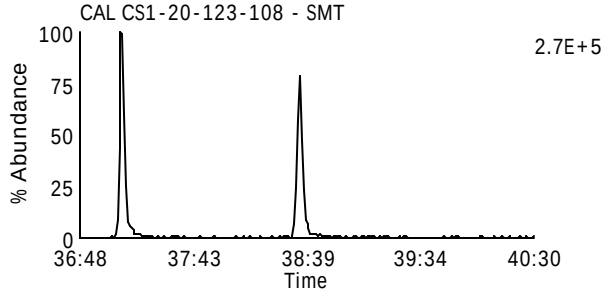


Homologue Group: Heptas

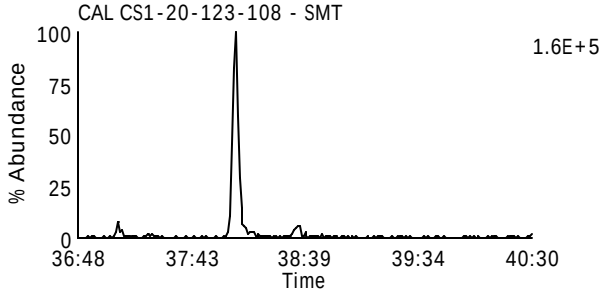
Data File Name: L230302A_10
Date Acquired: 3/2/2023
Sample Description: CAL CS1-20-123-108 - SMT

Lab Sample ID: CS1-20-123-108
Client Sample ID:
Instrument: 10MSHR15 (L)

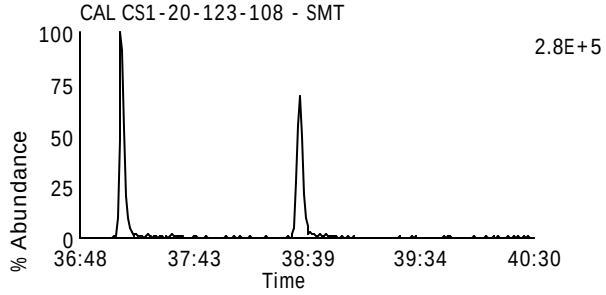
Data File: L230302A_10 G4 C3 - 407.7818
CAL CS1-20-123-108 - SMT



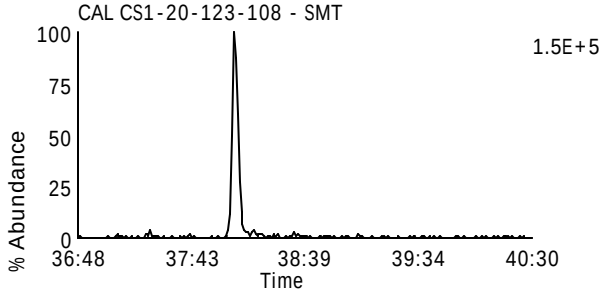
Data File: L230302A_10 G4 C8 - 423.7767
CAL CS1-20-123-108 - SMT



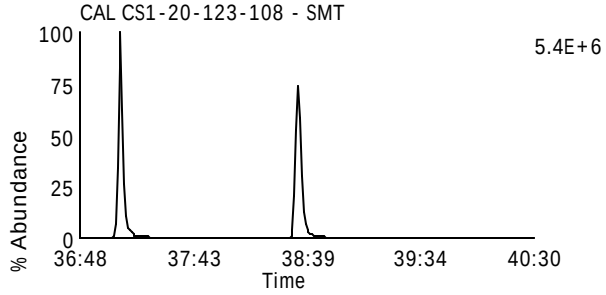
Data File: L230302A_10 G4 C4 - 409.7788
CAL CS1-20-123-108 - SMT



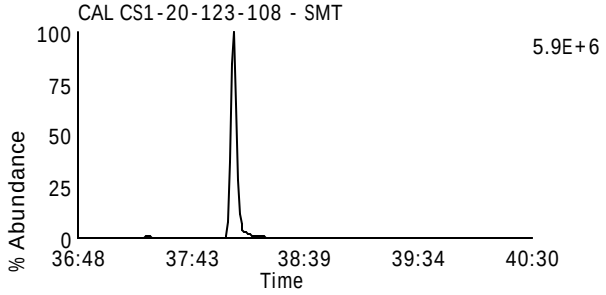
Data File: L230302A_10 G4 C9 - 425.7737
CAL CS1-20-123-108 - SMT



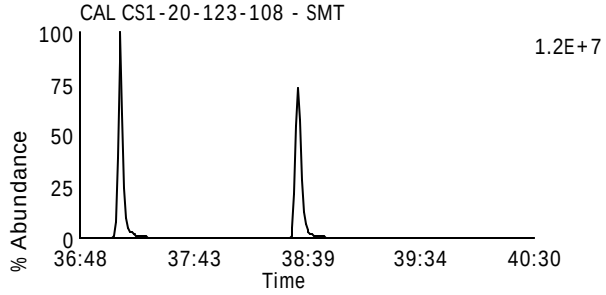
Data File: L230302A_10 G4 C6 - 417.825
CAL CS1-20-123-108 - SMT



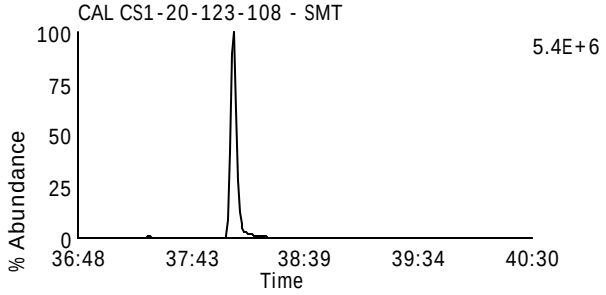
Data File: L230302A_10 G4 C11 - 435.8169
CAL CS1-20-123-108 - SMT



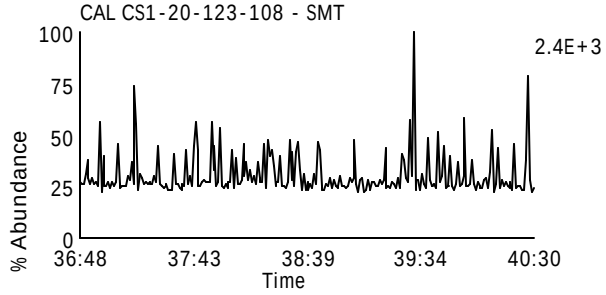
Data File: L230302A_10 G4 C7 - 419.822
CAL CS1-20-123-108 - SMT



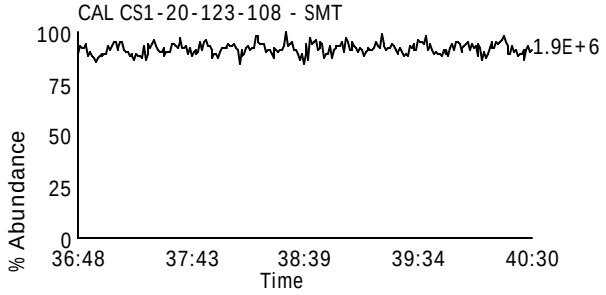
Data File: L230302A_10 G4 C12 - 437.814
CAL CS1-20-123-108 - SMT



Data File: L230302A_10 G4 C13 - 479.7165
CAL CS1-20-123-108 - SMT



Data File: L230302A_10 G4 C1 - 380.976
CAL CS1-20-123-108 - SMT

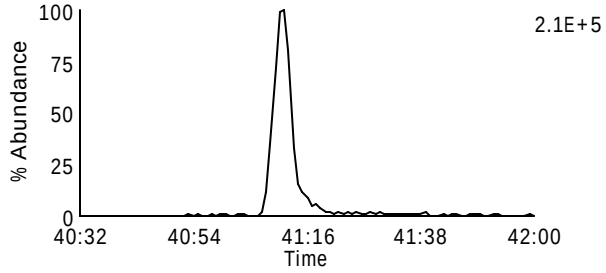


Homologue Group: Octas

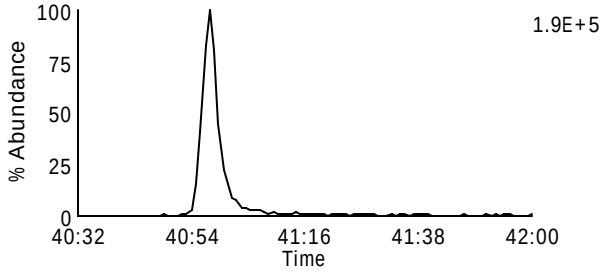
Data File Name: L230302A_10
Date Acquired: 3/2/2023
Sample Description: CAL CS1-20-123-108 - SMT

Lab Sample ID: CS1-20-123-108
Client Sample ID:
Instrument: 10MSHR15 (L)

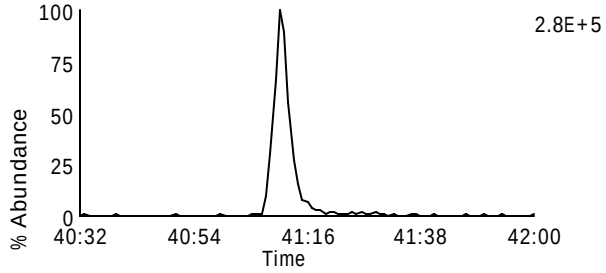
Data File: L230302A_10 G5 C4 - 441.7428
CAL CS1-20-123-108 - SMT



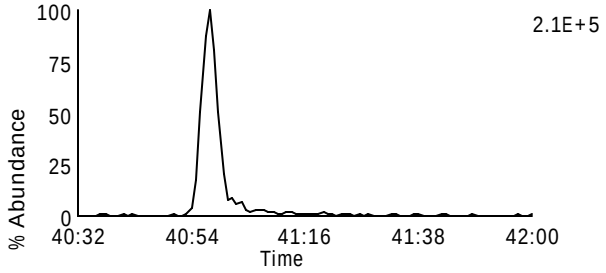
Data File: L230302A_10 G5 C8 - 457.7377
CAL CS1-20-123-108 - SMT



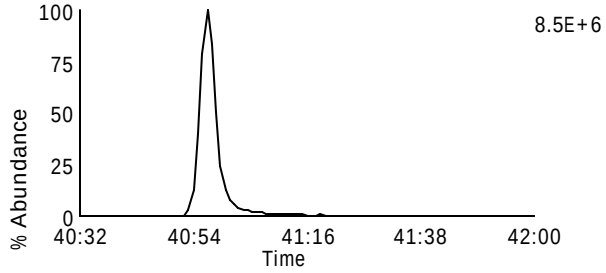
Data File: L230302A_10 G5 C5 - 443.7398
CAL CS1-20-123-108 - SMT



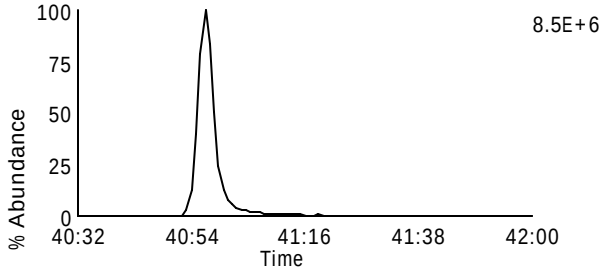
Data File: L230302A_10 G5 C9 - 459.7347
CAL CS1-20-123-108 - SMT



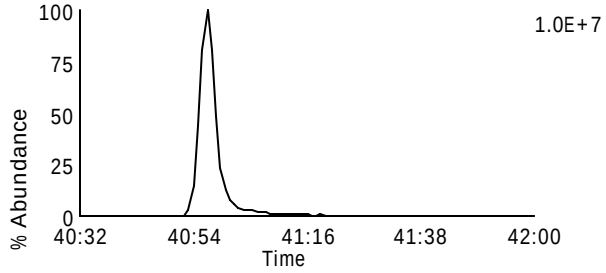
Data File: L230302A_10 G5 C11 - 469.7779
CAL CS1-20-123-108 - SMT



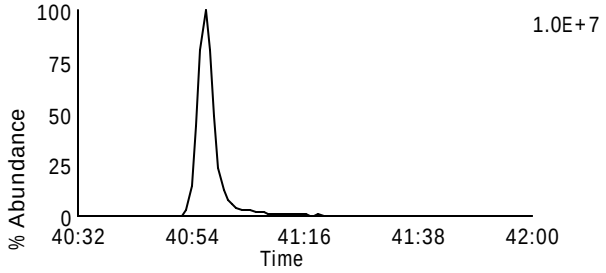
Data File: L230302A_10 G5 C11 - 469.7779
CAL CS1-20-123-108 - SMT



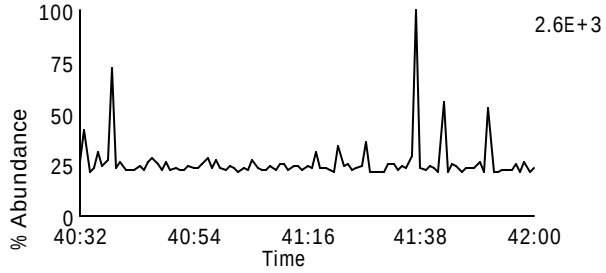
Data File: L230302A_10 G5 C12 - 471.7749
CAL CS1-20-123-108 - SMT



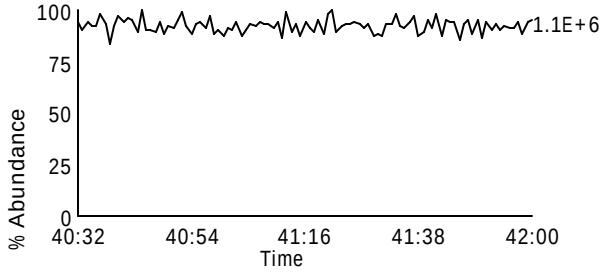
Data File: L230302A_10 G5 C12 - 471.7749
CAL CS1-20-123-108 - SMT



Data File: L230302A_10 G5 C13 - 513.6775
CAL CS1-20-123-108 - SMT



Data File: L230302A_10 G5 C2 - 430.9728
CAL CS1-20-123-108 - SMT

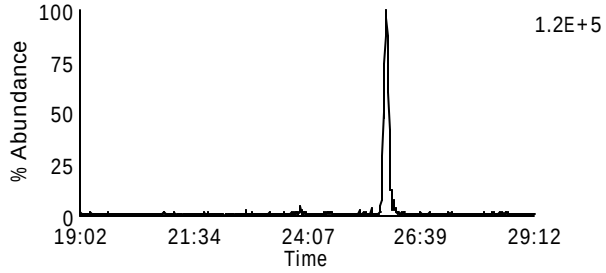


Homologue Group: Tetras

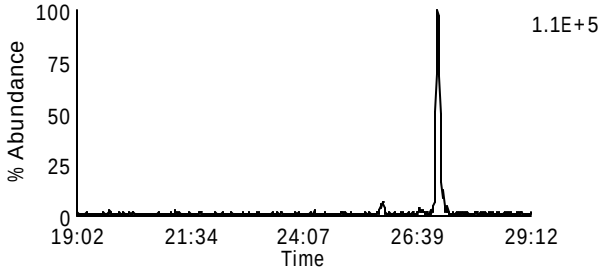
Data File Name: L230302A_09
Date Acquired: 3/2/2023
Sample Description: CAL CS2-22-171-006 - SMT

Lab Sample ID: CS2-22-171-006
Client Sample ID:
Instrument: 10MSHR15 (L)

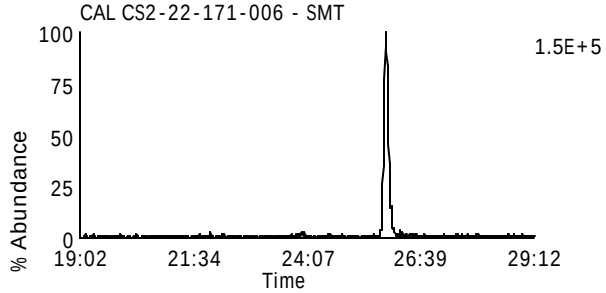
Data File: L230302A_09 G1 C1 - 303.9016
CAL CS2-22-171-006 - SMT



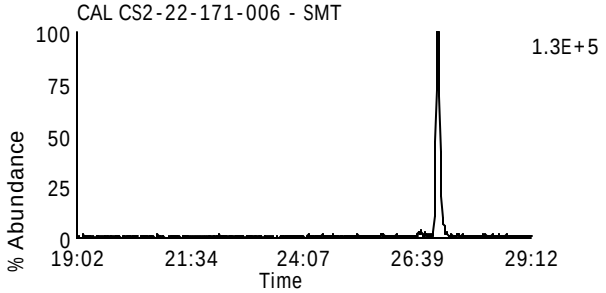
Data File: L230302A_09 G1 C7 - 319.8965
CAL CS2-22-171-006 - SMT



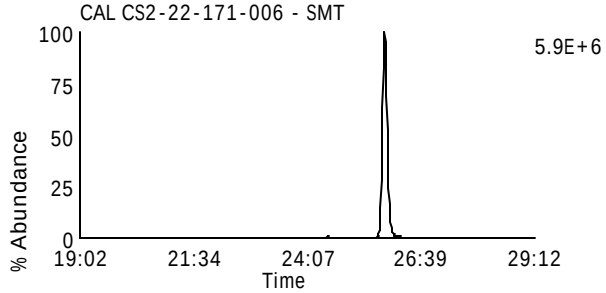
Data File: L230302A_09 G1 C2 - 305.8987
CAL CS2-22-171-006 - SMT



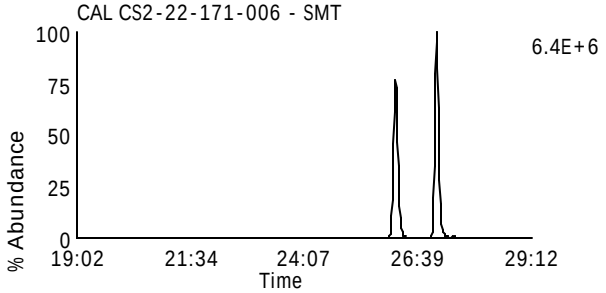
Data File: L230302A_09 G1 C8 - 321.8936
CAL CS2-22-171-006 - SMT



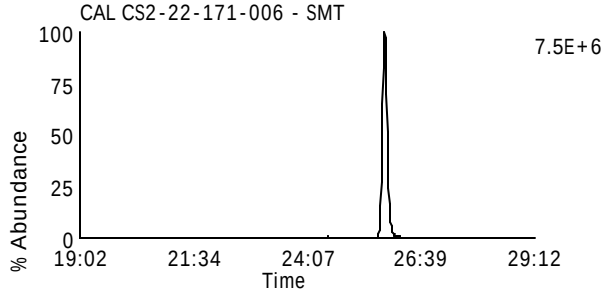
Data File: L230302A_09 G1 C3 - 315.9418
CAL CS2-22-171-006 - SMT



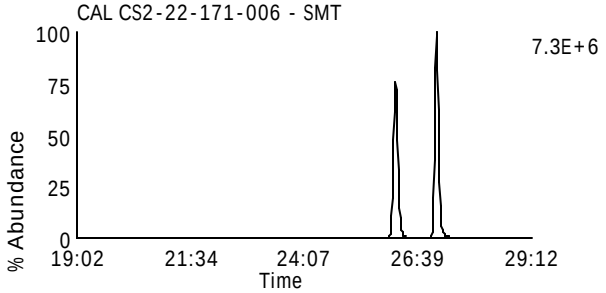
Data File: L230302A_09 G1 C10 - 331.9367
CAL CS2-22-171-006 - SMT



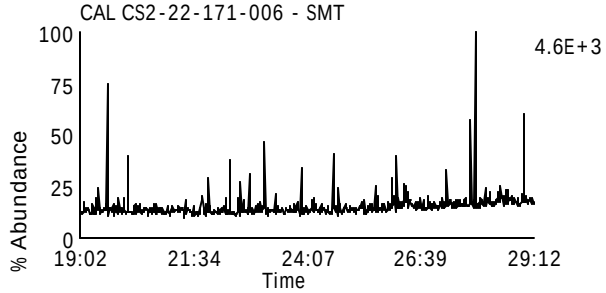
Data File: L230302A_09 G1 C4 - 317.9389
CAL CS2-22-171-006 - SMT



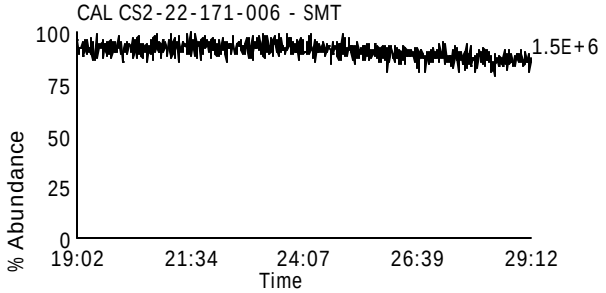
Data File: L230302A_09 G1 C11 - 333.9338
CAL CS2-22-171-006 - SMT



Data File: L230302A_09 G1 C14 - 375.8364
CAL CS2-22-171-006 - SMT



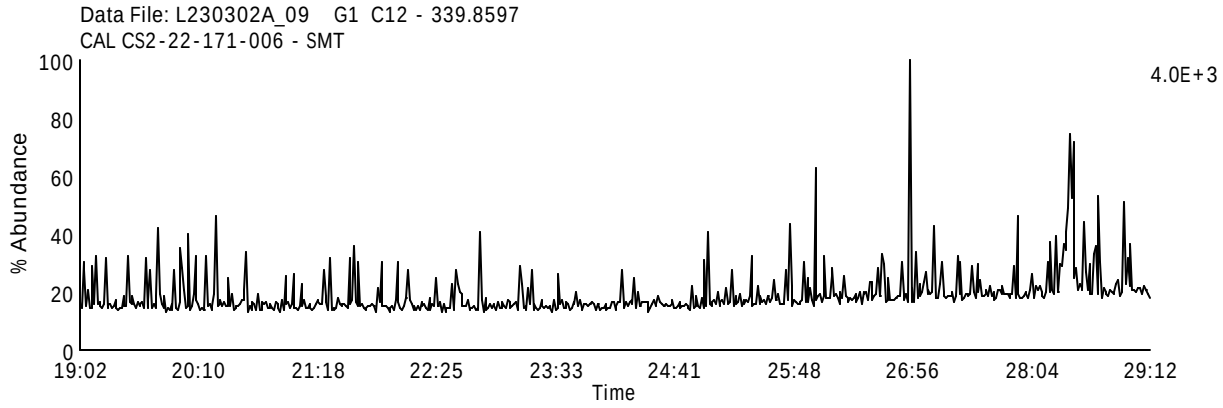
Data File: L230302A_09 G1 C5 - 318.9792
CAL CS2-22-171-006 - SMT

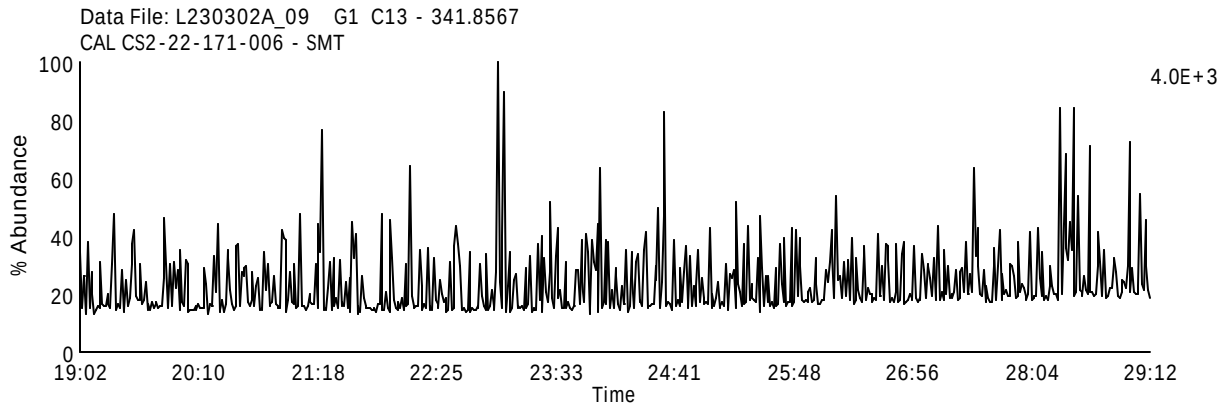


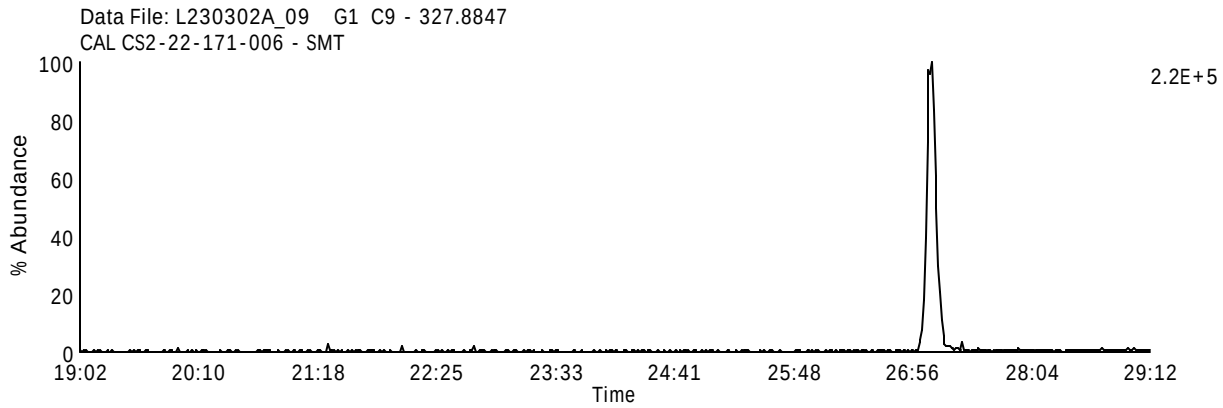
Homologue Group: Penta & Cleanup

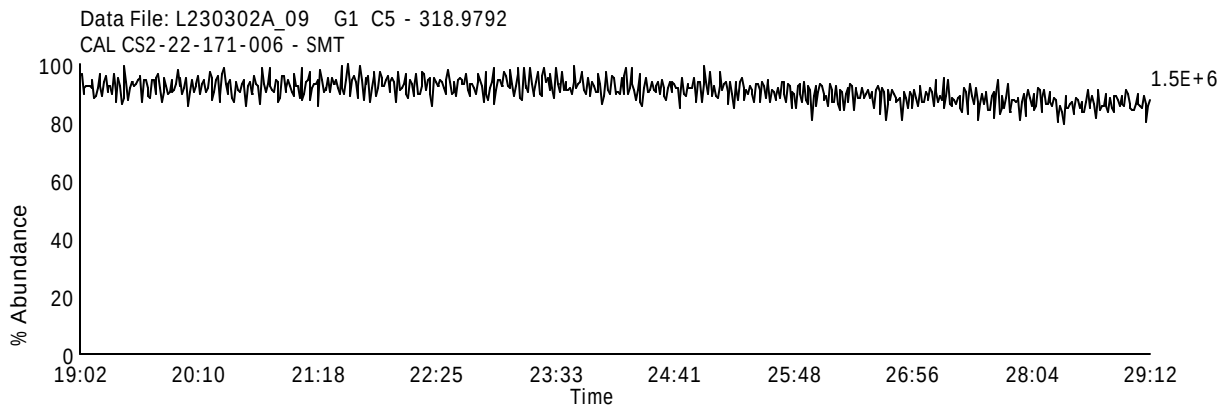
Data File Name: L230302A_09
Date Acquired: 3/2/2023
Sample Description: CAL CS2-22-171-006 - SMT

Lab Sample ID: CS2-22-171-006
Client Sample ID:
Instrument: 10MSHR15 (L)







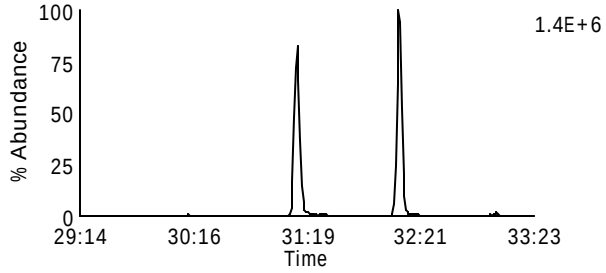


Homologue Group: Pentas

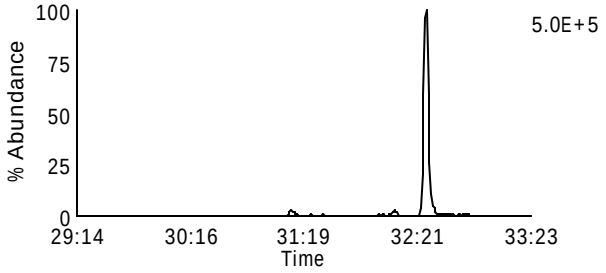
Data File Name: L230302A_09
Date Acquired: 3/2/2023
Sample Description: CAL CS2-22-171-006 - SMT

Lab Sample ID: CS2-22-171-006
Client Sample ID:
Instrument: 10MSHR15 (L)

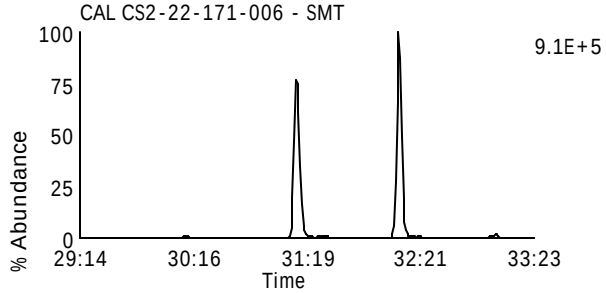
Data File: L230302A_09 G2 C1 - 339.8597
CAL CS2-22-171-006 - SMT



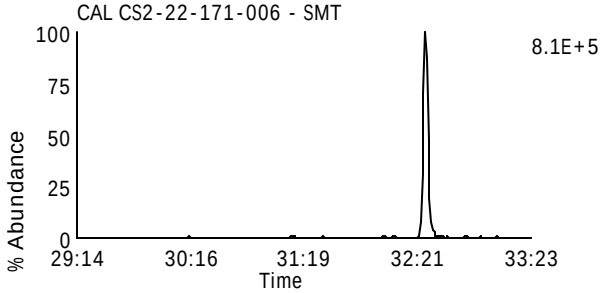
Data File: L230302A_09 G2 C4 - 353.8576
CAL CS2-22-171-006 - SMT



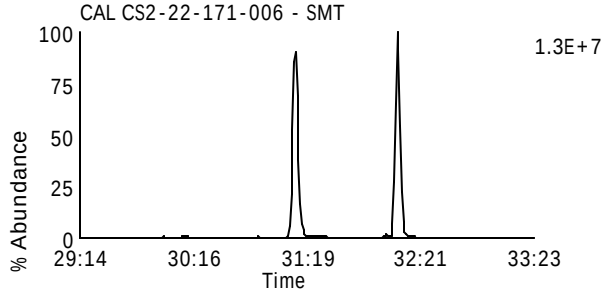
Data File: L230302A_09 G2 C2 - 341.8567
CAL CS2-22-171-006 - SMT



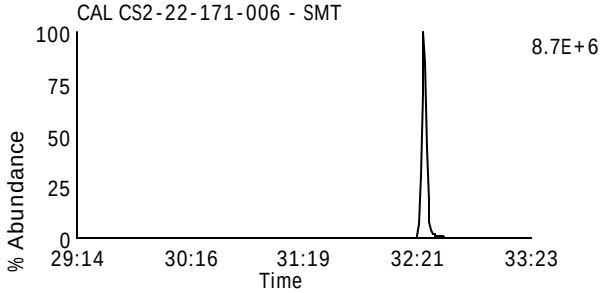
Data File: L230302A_09 G2 C8 - 355.8546
CAL CS2-22-171-006 - SMT



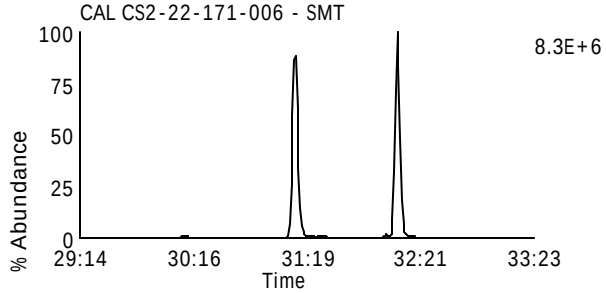
Data File: L230302A_09 G2 C3 - 351.8999
CAL CS2-22-171-006 - SMT



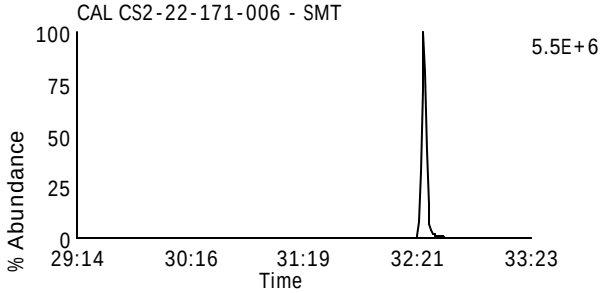
Data File: L230302A_09 G2 C10 - 367.8948
CAL CS2-22-171-006 - SMT



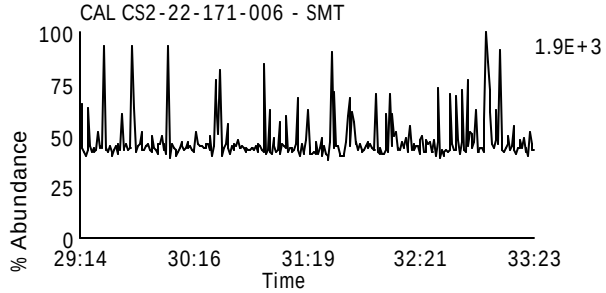
Data File: L230302A_09 G2 C5 - 353.8969
CAL CS2-22-171-006 - SMT



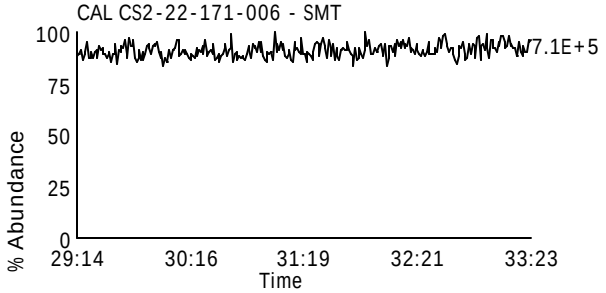
Data File: L230302A_09 G2 C11 - 369.8918
CAL CS2-22-171-006 - SMT



Data File: L230302A_09 G2 C12 - 409.7974
CAL CS2-22-171-006 - SMT



Data File: L230302A_09 G2 C6 - 354.9792
CAL CS2-22-171-006 - SMT

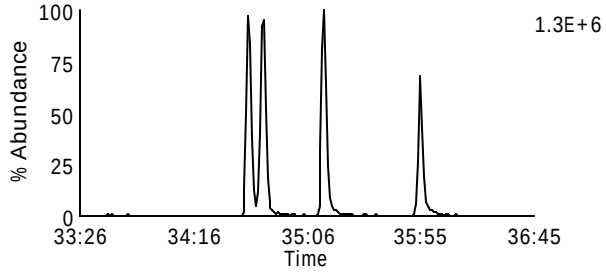


Homologue Group: Hexas

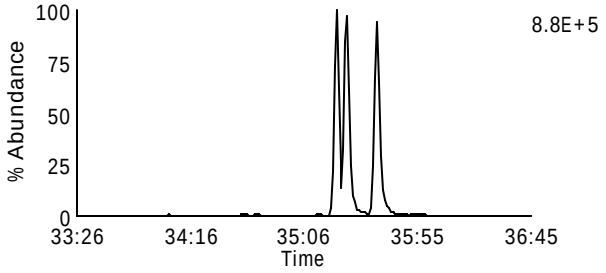
Data File Name: L230302A_09
Date Acquired: 3/2/2023
Sample Description: CAL CS2-22-171-006 - SMT

Lab Sample ID: CS2-22-171-006
Client Sample ID:
Instrument: 10MSHR15 (L)

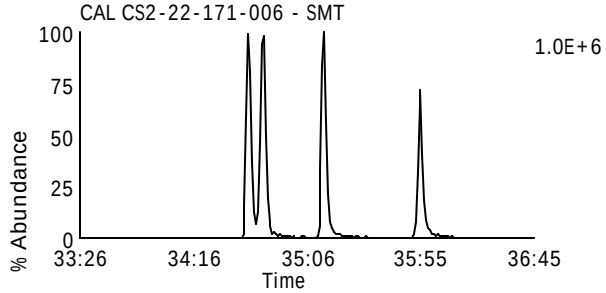
Data File: L230302A_09 G3 C1 - 373.8207
CAL CS2-22-171-006 - SMT



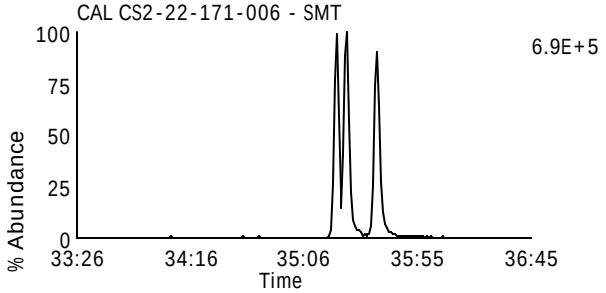
Data File: L230302A_09 G3 C7 - 389.8156
CAL CS2-22-171-006 - SMT



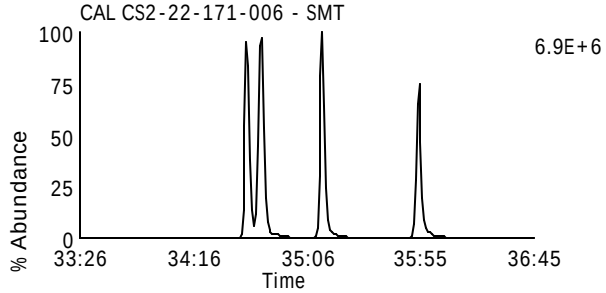
Data File: L230302A_09 G3 C2 - 375.8178
CAL CS2-22-171-006 - SMT



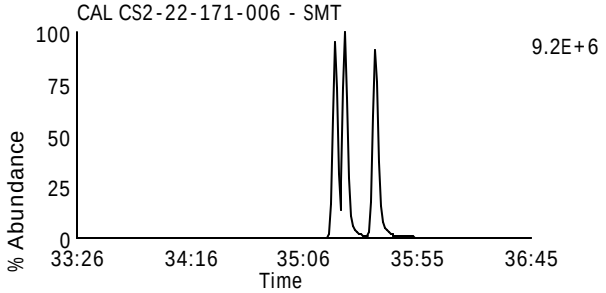
Data File: L230302A_09 G3 C8 - 391.8127
CAL CS2-22-171-006 - SMT



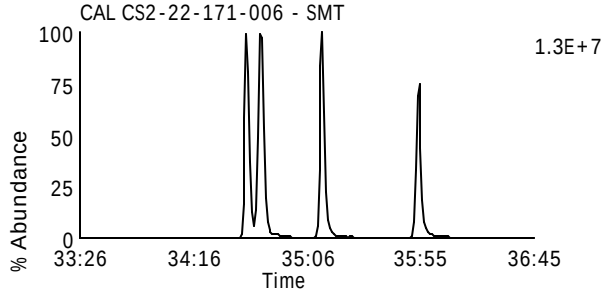
Data File: L230302A_09 G3 C5 - 383.8639
CAL CS2-22-171-006 - SMT



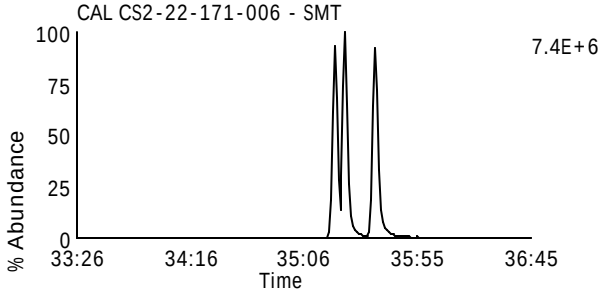
Data File: L230302A_09 G3 C9 - 401.8559
CAL CS2-22-171-006 - SMT



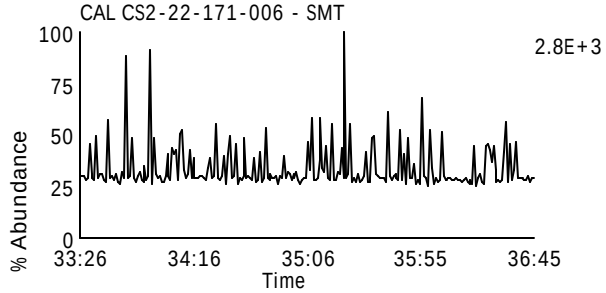
Data File: L230302A_09 G3 C6 - 385.861
CAL CS2-22-171-006 - SMT



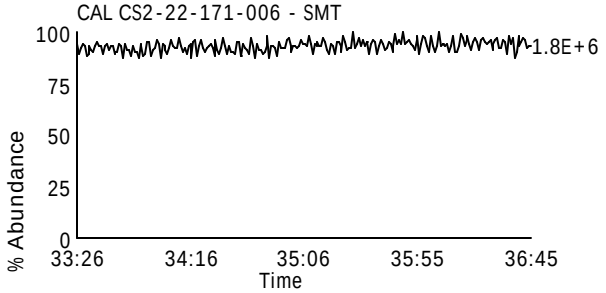
Data File: L230302A_09 G3 C10 - 403.8529
CAL CS2-22-171-006 - SMT



Data File: L230302A_09 G3 C11 - 445.7555
CAL CS2-22-171-006 - SMT



Data File: L230302A_09 G3 C3 - 380.976
CAL CS2-22-171-006 - SMT

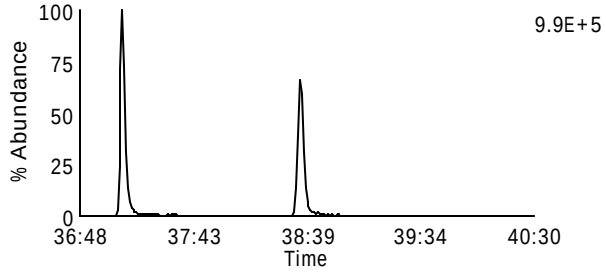


Homologue Group: Heptas

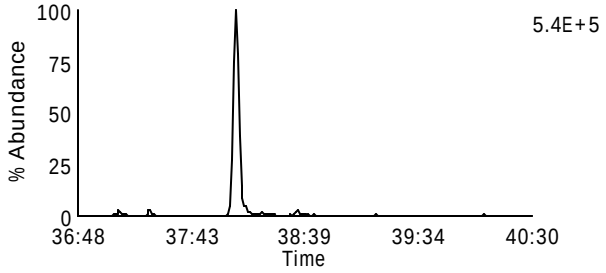
Data File Name: L230302A_09
Date Acquired: 3/2/2023
Sample Description: CAL CS2-22-171-006 - SMT

Lab Sample ID: CS2-22-171-006
Client Sample ID:
Instrument: 10MSHR15 (L)

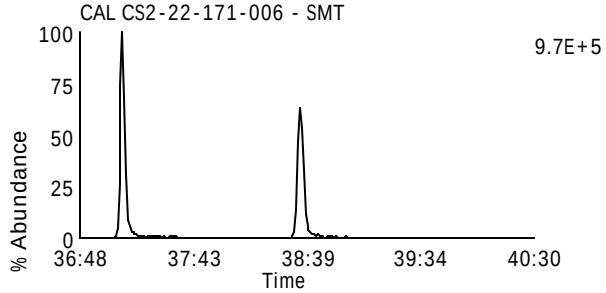
Data File: L230302A_09 G4 C3 - 407.7818
CAL CS2-22-171-006 - SMT



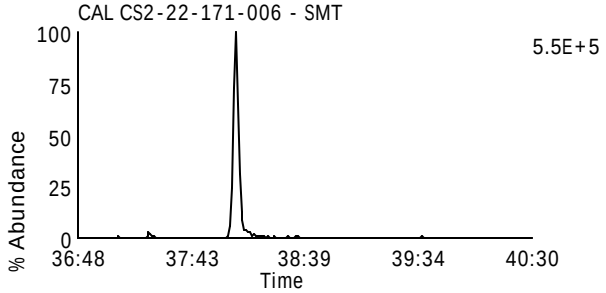
Data File: L230302A_09 G4 C8 - 423.7767
CAL CS2-22-171-006 - SMT



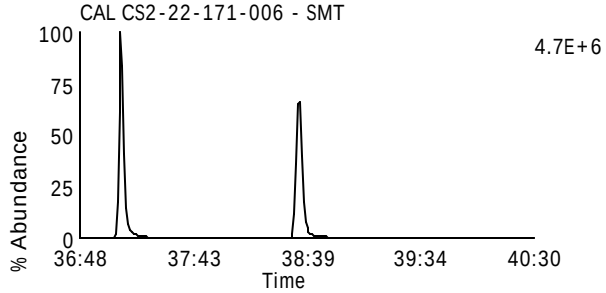
Data File: L230302A_09 G4 C4 - 409.7788
CAL CS2-22-171-006 - SMT



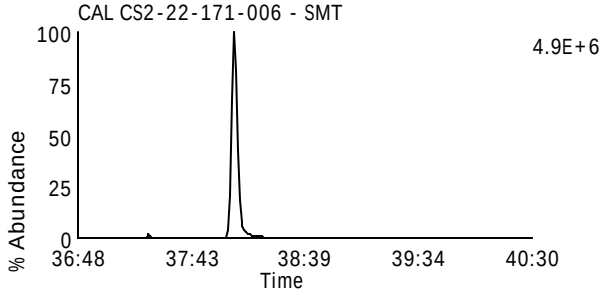
Data File: L230302A_09 G4 C9 - 425.7737
CAL CS2-22-171-006 - SMT



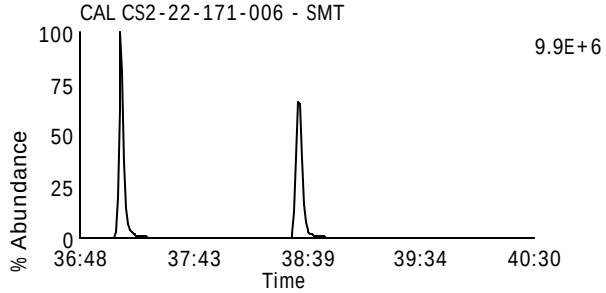
Data File: L230302A_09 G4 C6 - 417.825
CAL CS2-22-171-006 - SMT



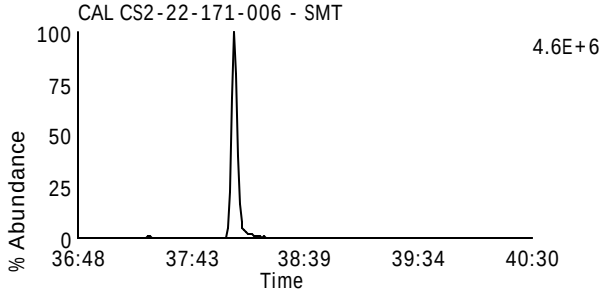
Data File: L230302A_09 G4 C11 - 435.8169
CAL CS2-22-171-006 - SMT



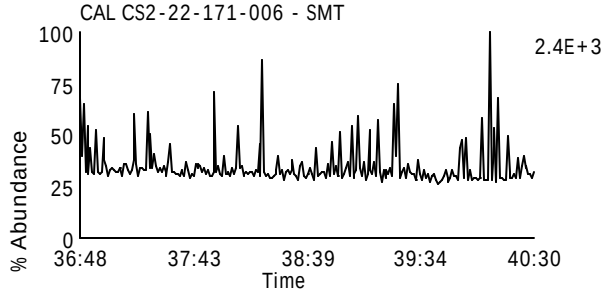
Data File: L230302A_09 G4 C7 - 419.822
CAL CS2-22-171-006 - SMT



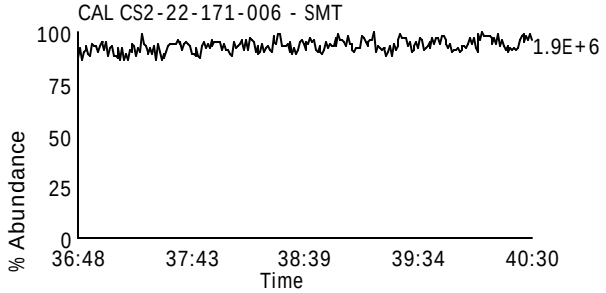
Data File: L230302A_09 G4 C12 - 437.814
CAL CS2-22-171-006 - SMT



Data File: L230302A_09 G4 C13 - 479.7165
CAL CS2-22-171-006 - SMT



Data File: L230302A_09 G4 C1 - 380.976
CAL CS2-22-171-006 - SMT

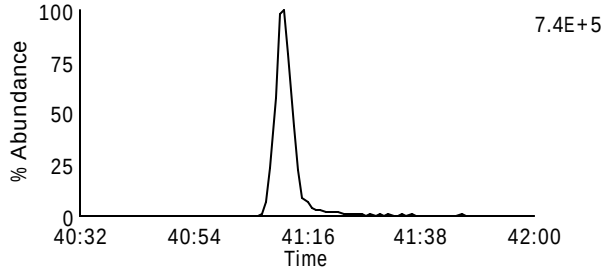


Homologue Group: Octas

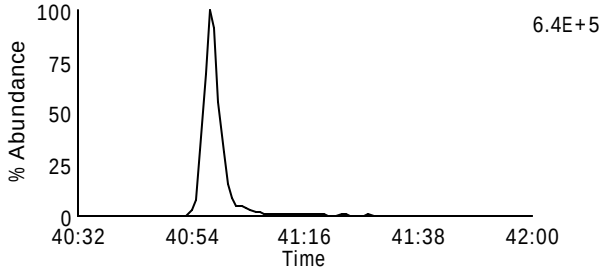
Data File Name: L230302A_09
Date Acquired: 3/2/2023
Sample Description: CAL CS2-22-171-006 - SMT

Lab Sample ID: CS2-22-171-006
Client Sample ID:
Instrument: 10MSHR15 (L)

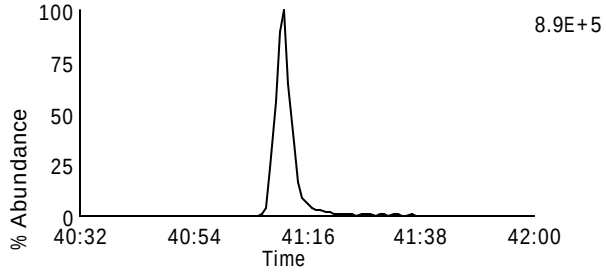
Data File: L230302A_09 G5 C4 - 441.7428
CAL CS2-22-171-006 - SMT



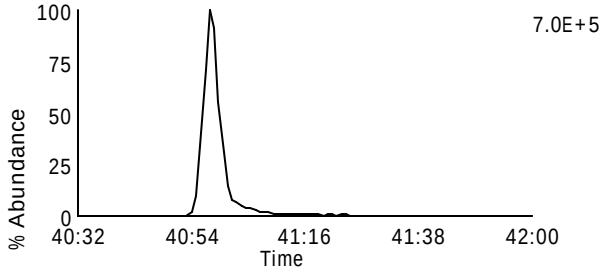
Data File: L230302A_09 G5 C8 - 457.7377
CAL CS2-22-171-006 - SMT



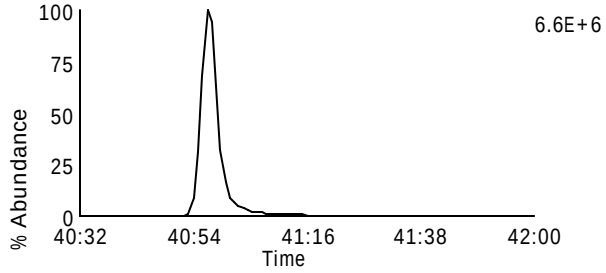
Data File: L230302A_09 G5 C5 - 443.7398
CAL CS2-22-171-006 - SMT



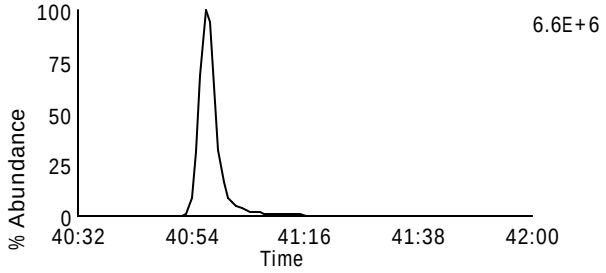
Data File: L230302A_09 G5 C9 - 459.7347
CAL CS2-22-171-006 - SMT



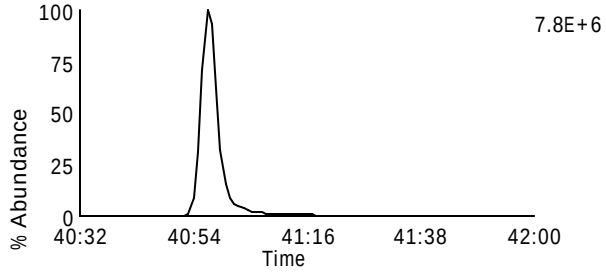
Data File: L230302A_09 G5 C11 - 469.7779
CAL CS2-22-171-006 - SMT



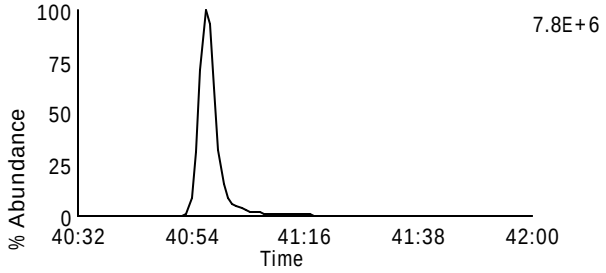
Data File: L230302A_09 G5 C11 - 469.7779
CAL CS2-22-171-006 - SMT



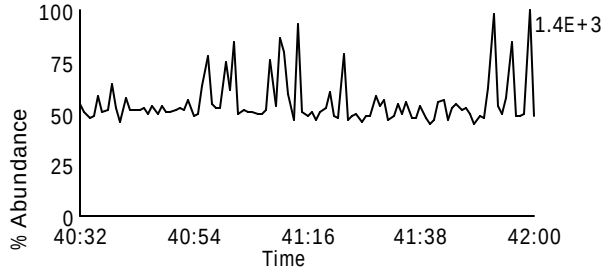
Data File: L230302A_09 G5 C12 - 471.7749
CAL CS2-22-171-006 - SMT



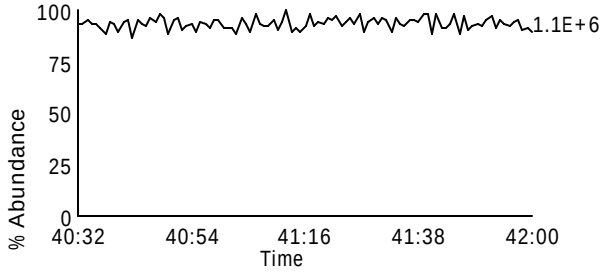
Data File: L230302A_09 G5 C12 - 471.7749
CAL CS2-22-171-006 - SMT



Data File: L230302A_09 G5 C13 - 513.6775
CAL CS2-22-171-006 - SMT



Data File: L230302A_09 G5 C2 - 430.9728
CAL CS2-22-171-006 - SMT

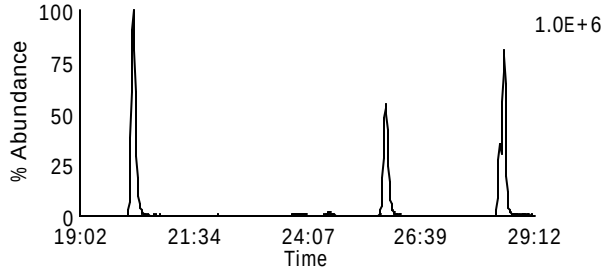


Homologue Group: Tetras

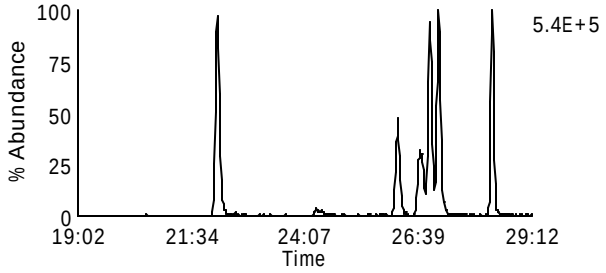
Data File Name: L230302A_08
Date Acquired: 3/2/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)

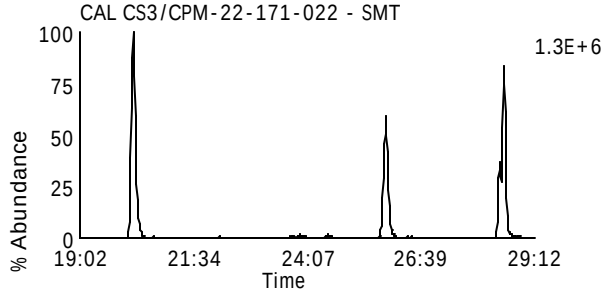
Data File: L230302A_08 G1 C1 - 303.9016
CAL CS3/CPM-22-171-022 - SMT



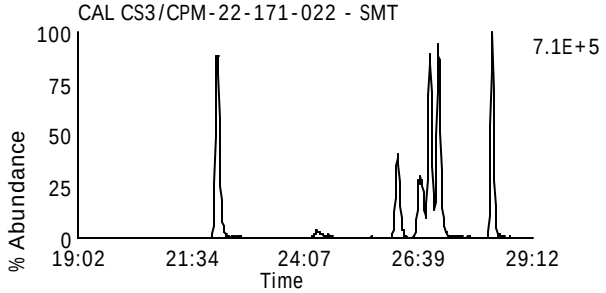
Data File: L230302A_08 G1 C7 - 319.8965
CAL CS3/CPM-22-171-022 - SMT



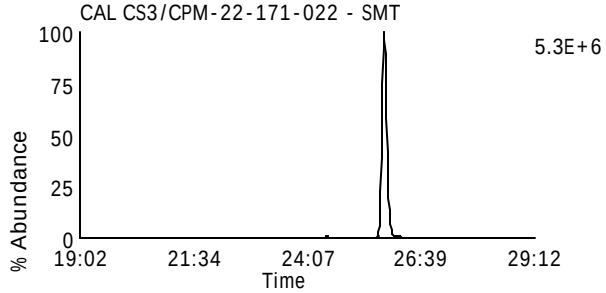
Data File: L230302A_08 G1 C2 - 305.8987
CAL CS3/CPM-22-171-022 - SMT



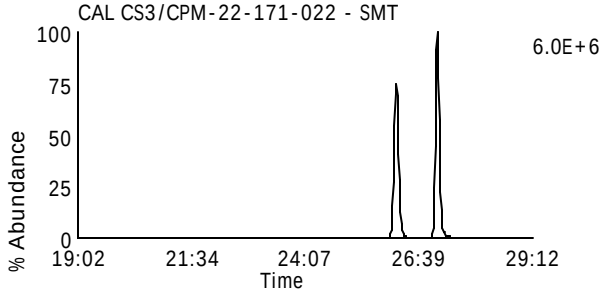
Data File: L230302A_08 G1 C8 - 321.8936
CAL CS3/CPM-22-171-022 - SMT



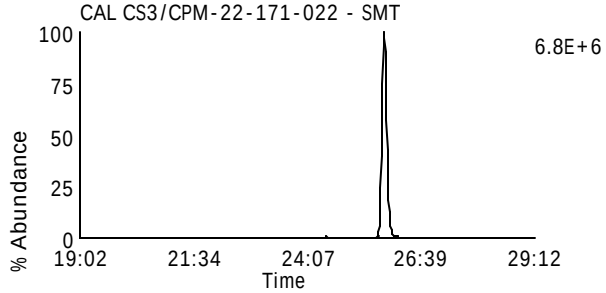
Data File: L230302A_08 G1 C3 - 315.9418
CAL CS3/CPM-22-171-022 - SMT



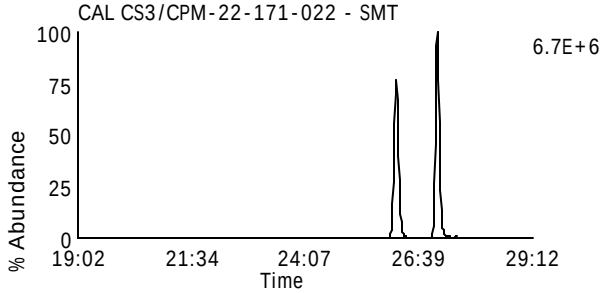
Data File: L230302A_08 G1 C10 - 331.9367
CAL CS3/CPM-22-171-022 - SMT



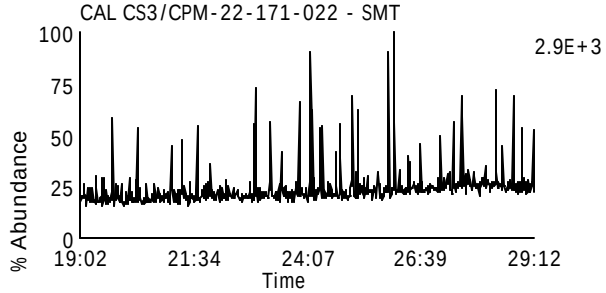
Data File: L230302A_08 G1 C4 - 317.9389
CAL CS3/CPM-22-171-022 - SMT



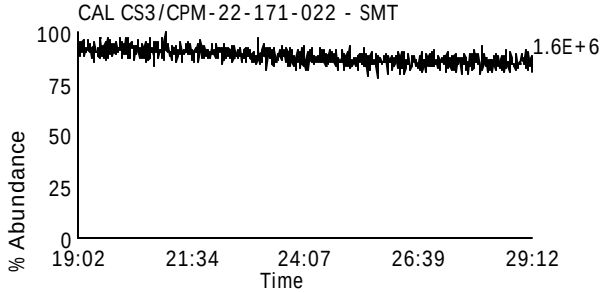
Data File: L230302A_08 G1 C11 - 333.9338
CAL CS3/CPM-22-171-022 - SMT



Data File: L230302A_08 G1 C14 - 375.8364
CAL CS3/CPM-22-171-022 - SMT

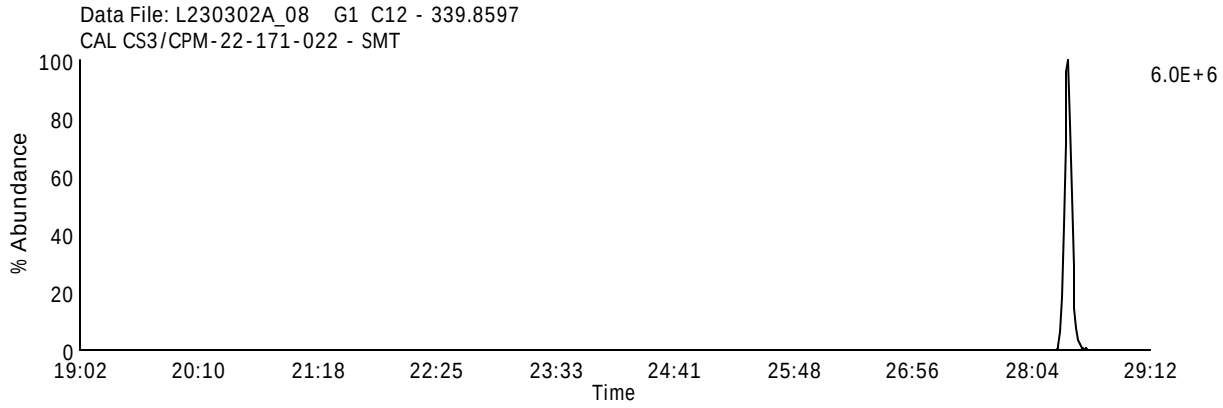


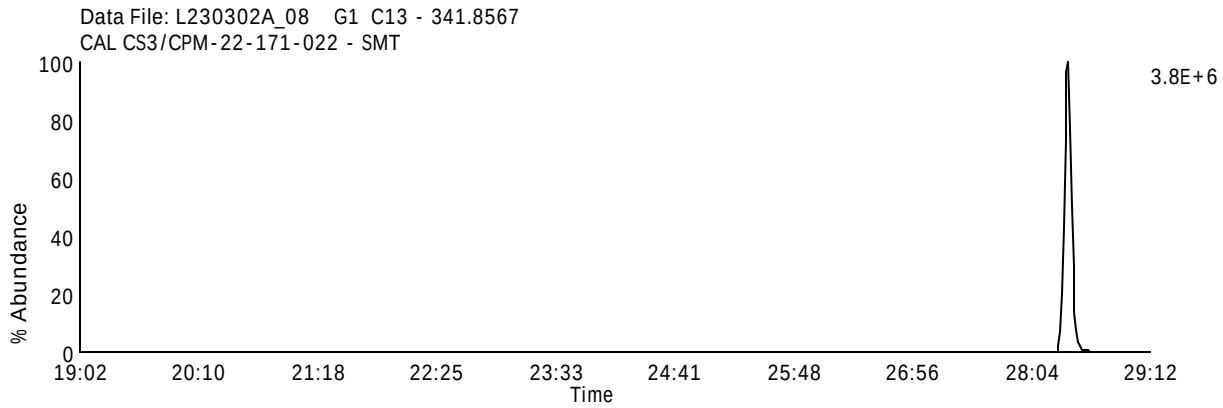
Data File: L230302A_08 G1 C5 - 318.9792
CAL CS3/CPM-22-171-022 - SMT

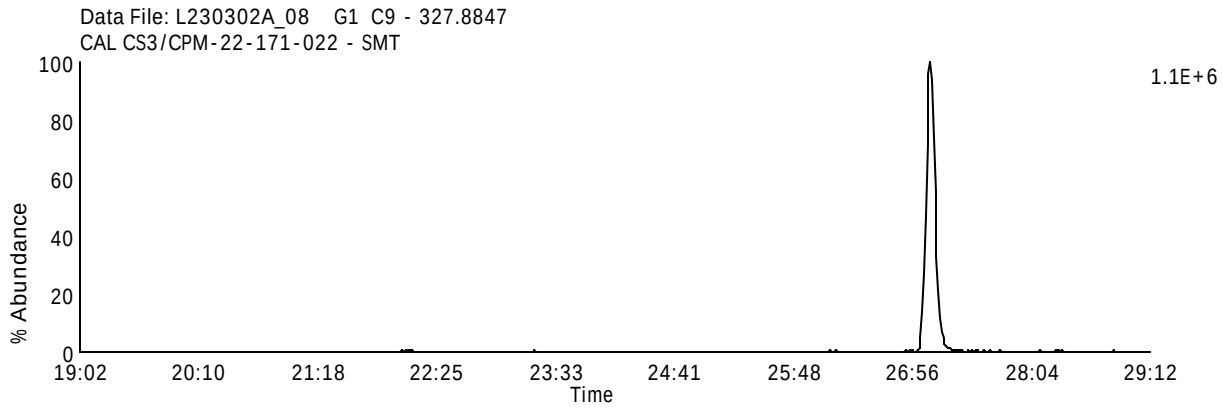


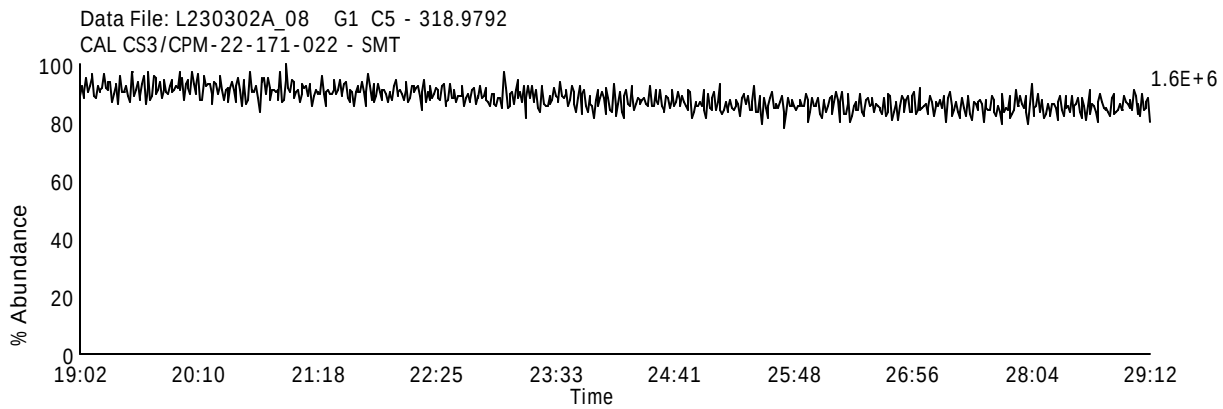
Homologue Group: Penta & Cleanup

Data File Name: L230302A_08
Lab Sample ID: CS3/CPM-22-171-022
Date Acquired: 3/2/2023
Client Sample ID:
Sample Description: CAL CS3/CPM-22-171-022 - SMT
Instrument: 10MSHR15 (L)







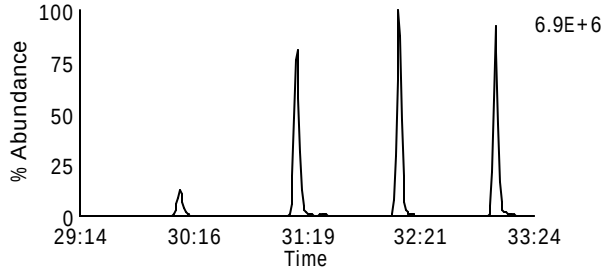


Homologue Group: Pentas

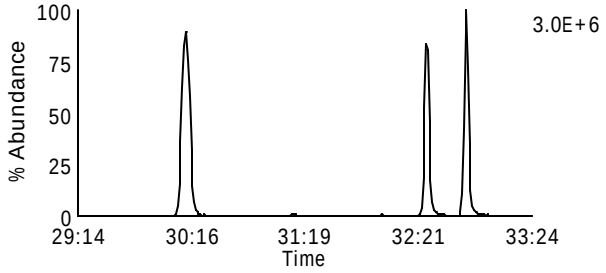
Data File Name: L230302A_08
Date Acquired: 3/2/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)

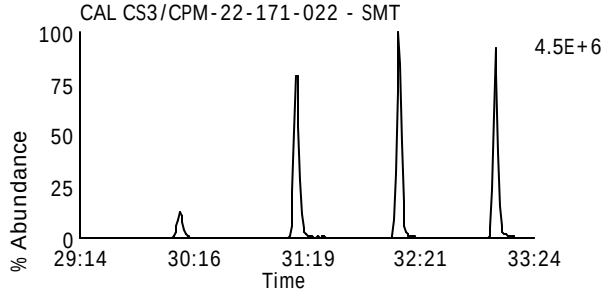
Data File: L230302A_08 G2 C1 - 339.8597
CAL CS3/CPM-22-171-022 - SMT



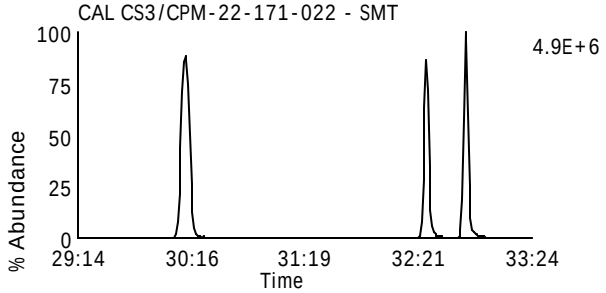
Data File: L230302A_08 G2 C4 - 353.8576
CAL CS3/CPM-22-171-022 - SMT



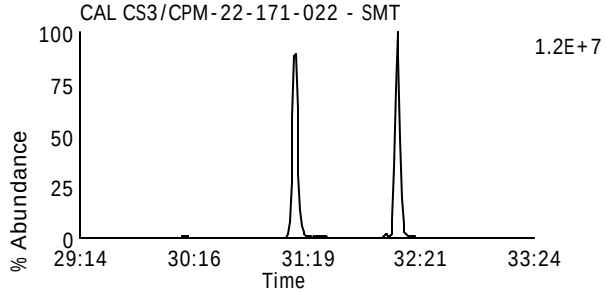
Data File: L230302A_08 G2 C2 - 341.8567
CAL CS3/CPM-22-171-022 - SMT



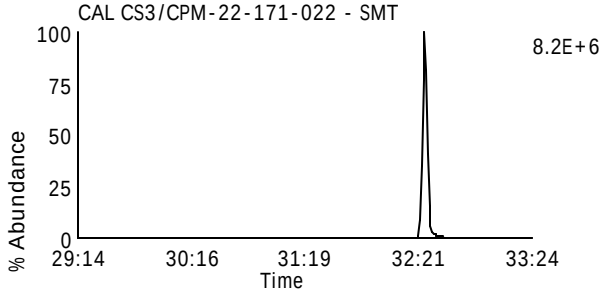
Data File: L230302A_08 G2 C8 - 355.8546
CAL CS3/CPM-22-171-022 - SMT



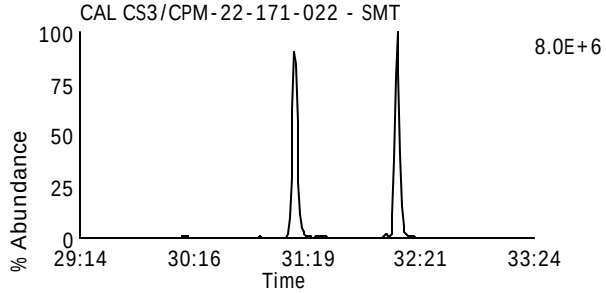
Data File: L230302A_08 G2 C3 - 351.8999
CAL CS3/CPM-22-171-022 - SMT



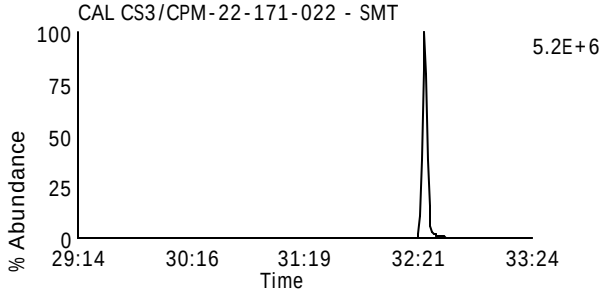
Data File: L230302A_08 G2 C10 - 367.8948
CAL CS3/CPM-22-171-022 - SMT



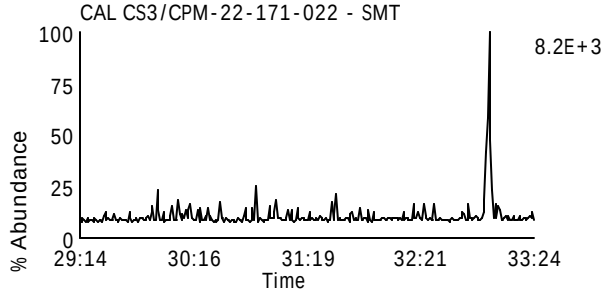
Data File: L230302A_08 G2 C5 - 353.8969
CAL CS3/CPM-22-171-022 - SMT



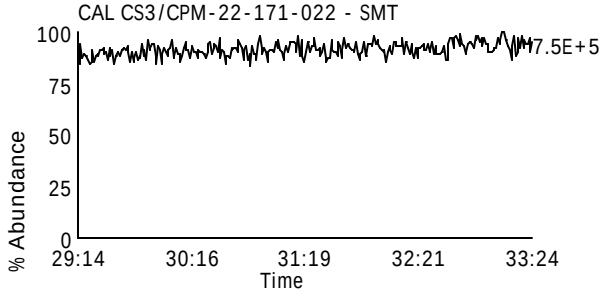
Data File: L230302A_08 G2 C11 - 369.8918
CAL CS3/CPM-22-171-022 - SMT



Data File: L230302A_08 G2 C12 - 409.7974
CAL CS3/CPM-22-171-022 - SMT



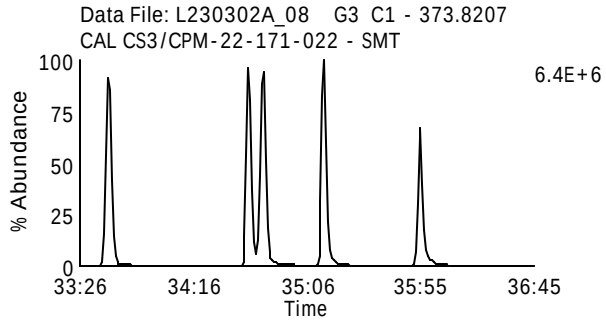
Data File: L230302A_08 G2 C6 - 354.9792
CAL CS3/CPM-22-171-022 - SMT

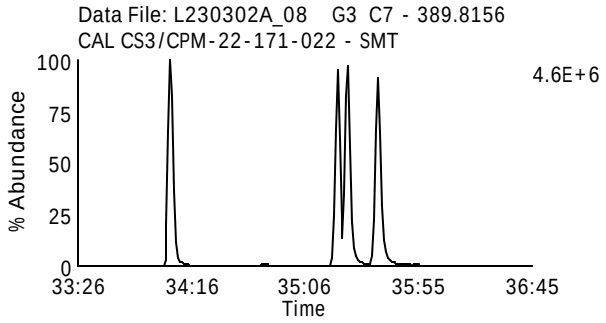


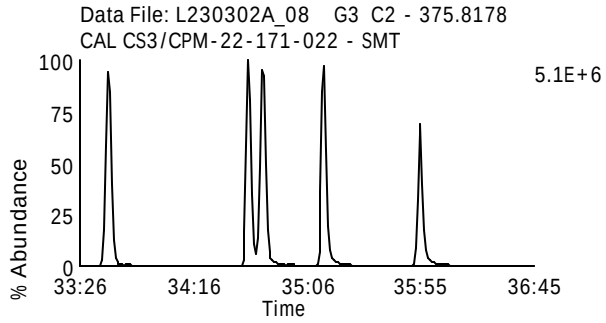
Homologue Group: Hexas

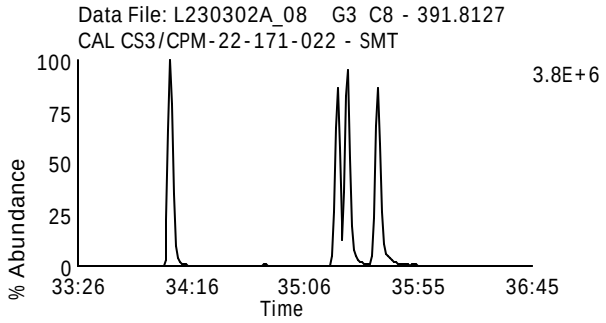
Data File Name: L230302A_08
Date Acquired: 3/2/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

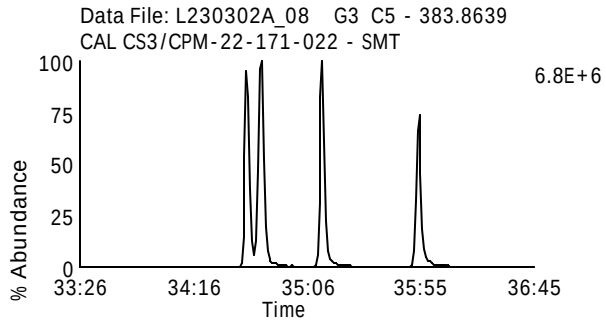
Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)

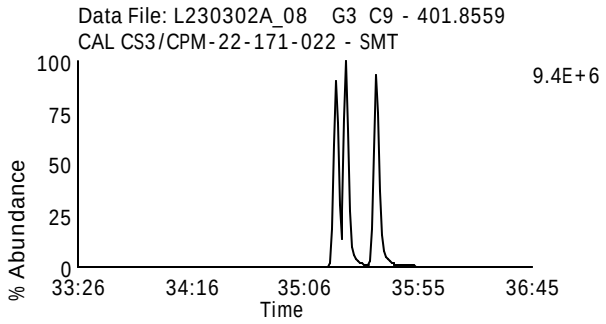


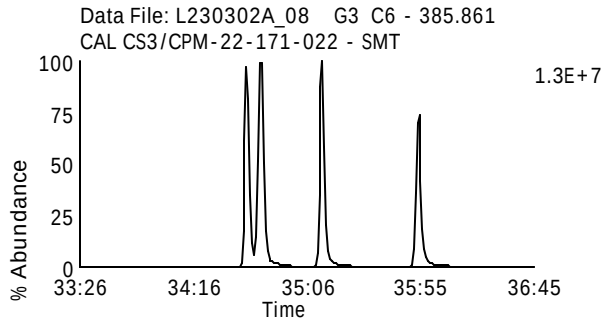


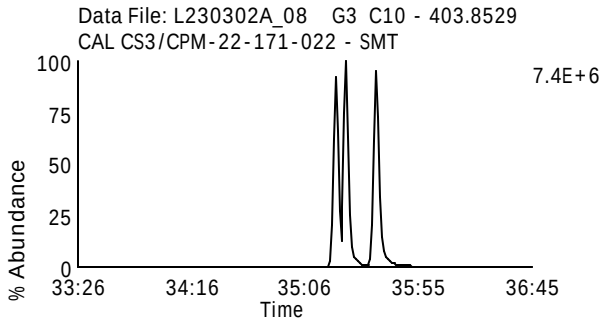


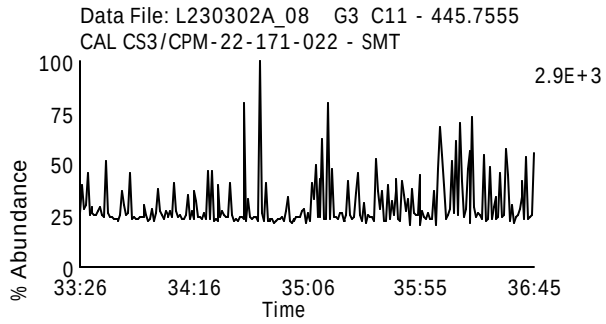


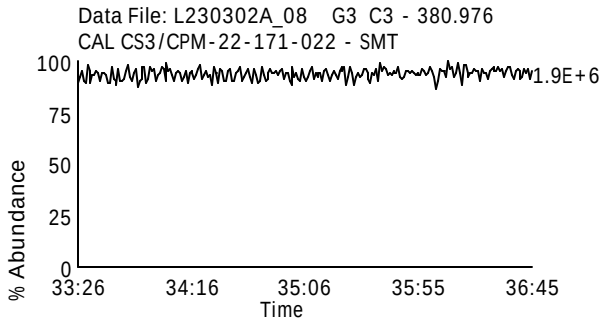










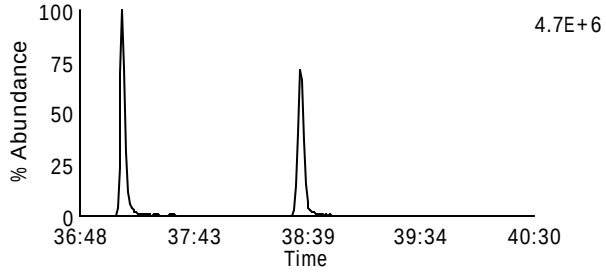


Homologue Group: Heptas

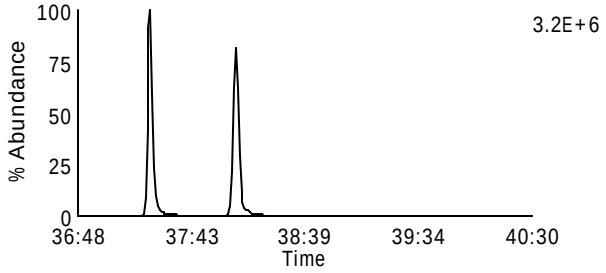
Data File Name: L230302A_08
Date Acquired: 3/2/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)

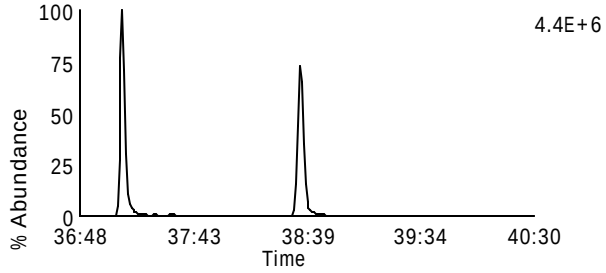
Data File: L230302A_08 G4 C3 - 407.7818
CAL CS3/CPM-22-171-022 - SMT



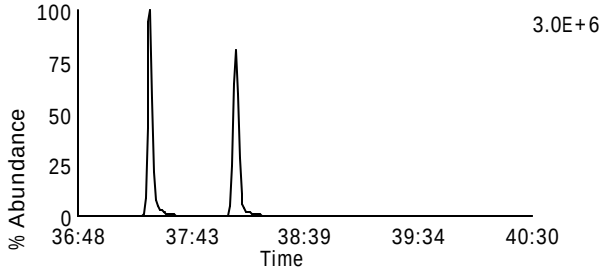
Data File: L230302A_08 G4 C8 - 423.7767
CAL CS3/CPM-22-171-022 - SMT



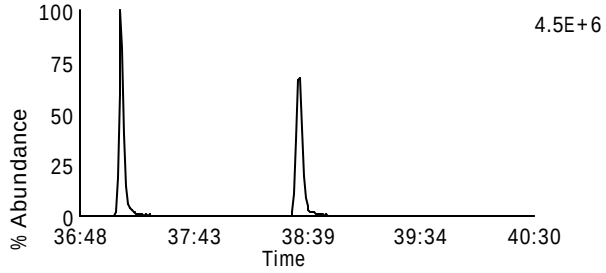
Data File: L230302A_08 G4 C4 - 409.7788
CAL CS3/CPM-22-171-022 - SMT



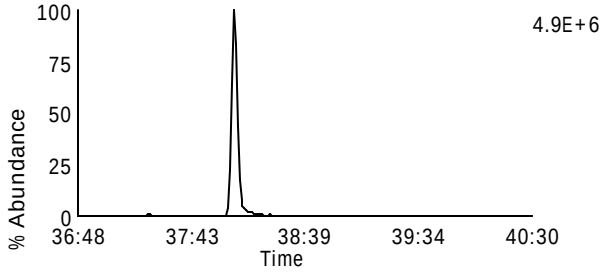
Data File: L230302A_08 G4 C9 - 425.7737
CAL CS3/CPM-22-171-022 - SMT



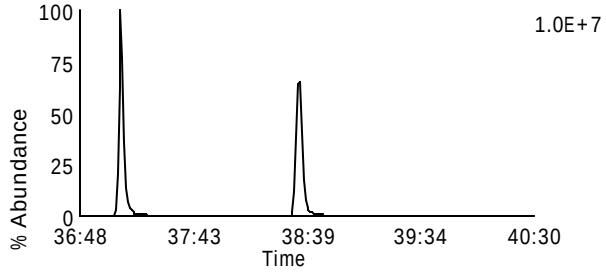
Data File: L230302A_08 G4 C6 - 417.825
CAL CS3/CPM-22-171-022 - SMT



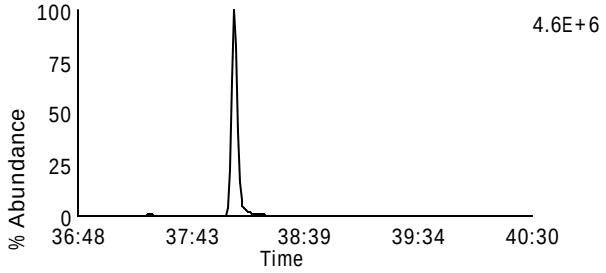
Data File: L230302A_08 G4 C11 - 435.8169
CAL CS3/CPM-22-171-022 - SMT



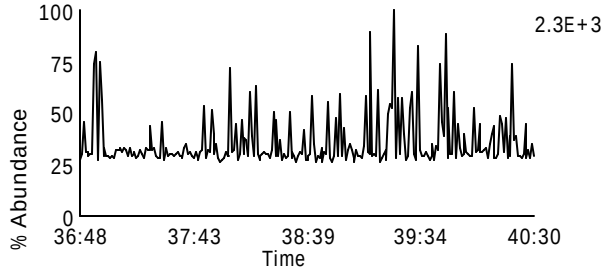
Data File: L230302A_08 G4 C7 - 419.822
CAL CS3/CPM-22-171-022 - SMT



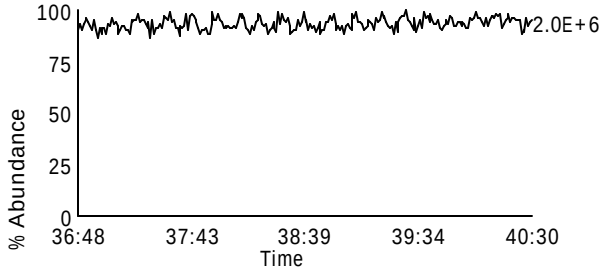
Data File: L230302A_08 G4 C12 - 437.814
CAL CS3/CPM-22-171-022 - SMT



Data File: L230302A_08 G4 C13 - 479.7165
CAL CS3/CPM-22-171-022 - SMT



Data File: L230302A_08 G4 C1 - 380.976
CAL CS3/CPM-22-171-022 - SMT

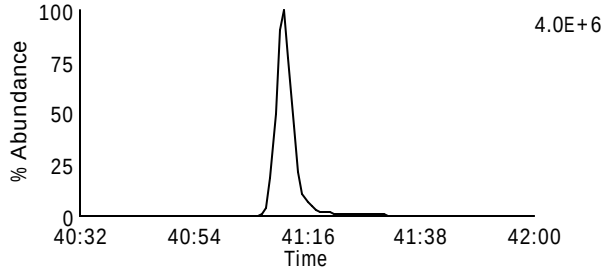


Homologue Group: Octas

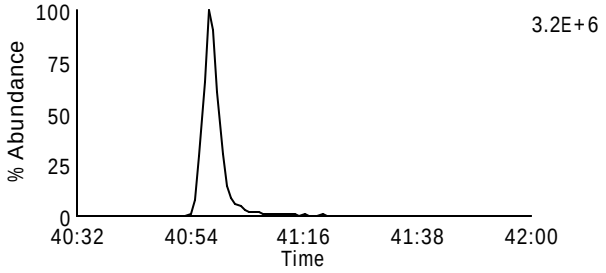
Data File Name: L230302A_08
Date Acquired: 3/2/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)

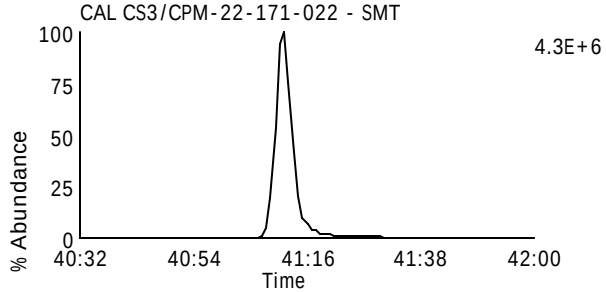
Data File: L230302A_08 G5 C4 - 441.7428
CAL CS3/CPM-22-171-022 - SMT



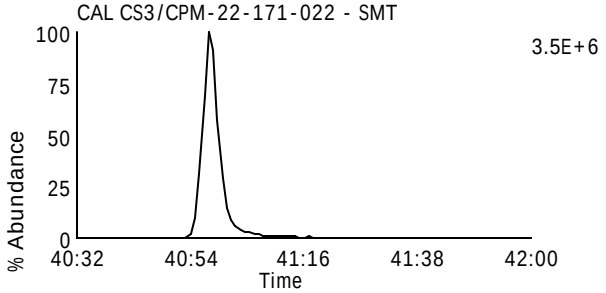
Data File: L230302A_08 G5 C8 - 457.7377
CAL CS3/CPM-22-171-022 - SMT



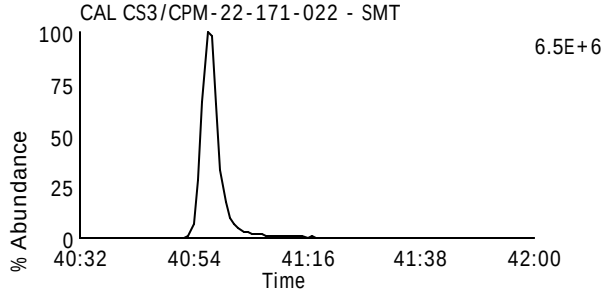
Data File: L230302A_08 G5 C5 - 443.7398
CAL CS3/CPM-22-171-022 - SMT



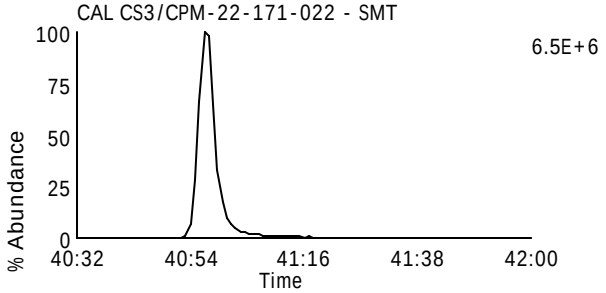
Data File: L230302A_08 G5 C9 - 459.7347
CAL CS3/CPM-22-171-022 - SMT



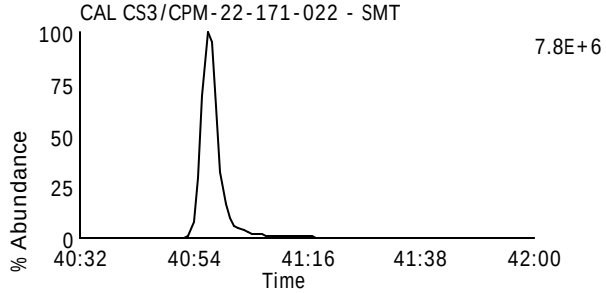
Data File: L230302A_08 G5 C11 - 469.7779
CAL CS3/CPM-22-171-022 - SMT



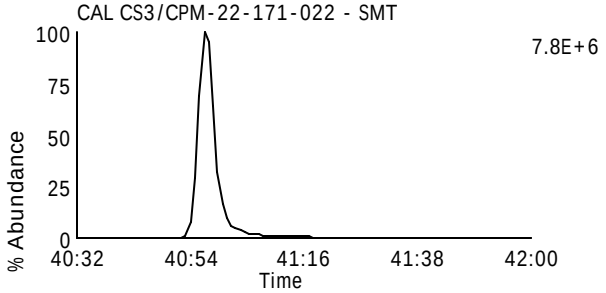
Data File: L230302A_08 G5 C11 - 469.7779
CAL CS3/CPM-22-171-022 - SMT



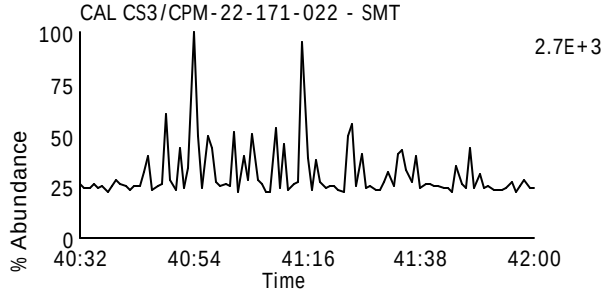
Data File: L230302A_08 G5 C12 - 471.7749
CAL CS3/CPM-22-171-022 - SMT



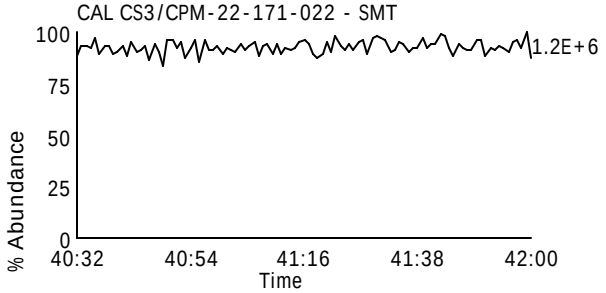
Data File: L230302A_08 G5 C12 - 471.7749
CAL CS3/CPM-22-171-022 - SMT



Data File: L230302A_08 G5 C13 - 513.6775
CAL CS3/CPM-22-171-022 - SMT



Data File: L230302A_08 G5 C2 - 430.9728
CAL CS3/CPM-22-171-022 - SMT

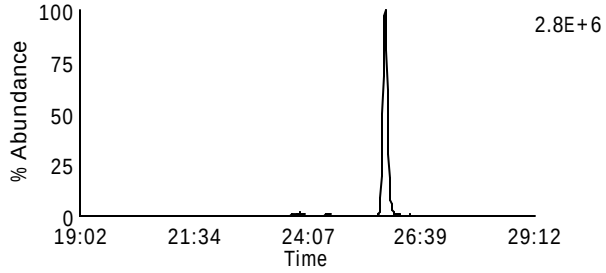


Homologue Group: Tetras

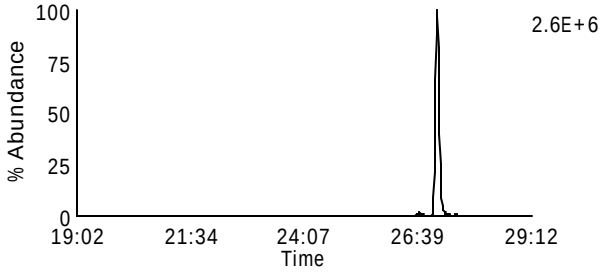
Data File Name: L230302A_12
Date Acquired: 3/2/2023
Sample Description: CAL CS4-22-171-007 - SMT

Lab Sample ID: CS4-22-171-007
Client Sample ID:
Instrument: 10MSHR15 (L)

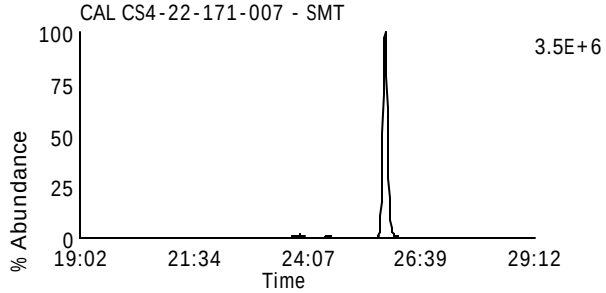
Data File: L230302A_12 G1 C1 - 303.9016
CAL CS4-22-171-007 - SMT



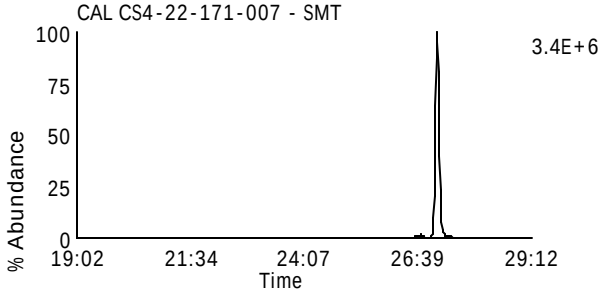
Data File: L230302A_12 G1 C7 - 319.8965
CAL CS4-22-171-007 - SMT



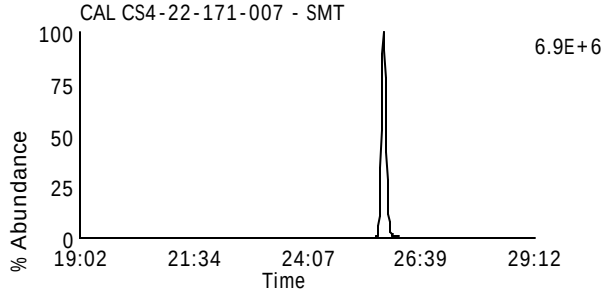
Data File: L230302A_12 G1 C2 - 305.8987
CAL CS4-22-171-007 - SMT



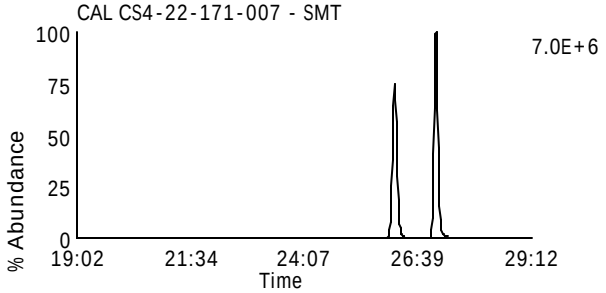
Data File: L230302A_12 G1 C8 - 321.8936
CAL CS4-22-171-007 - SMT



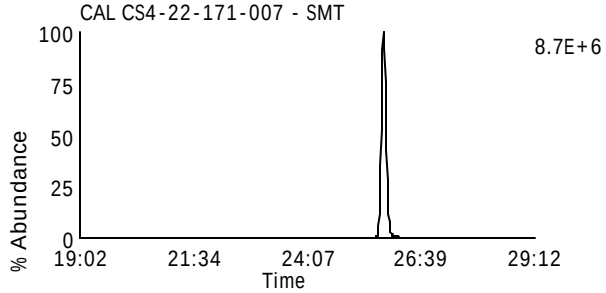
Data File: L230302A_12 G1 C3 - 315.9418
CAL CS4-22-171-007 - SMT



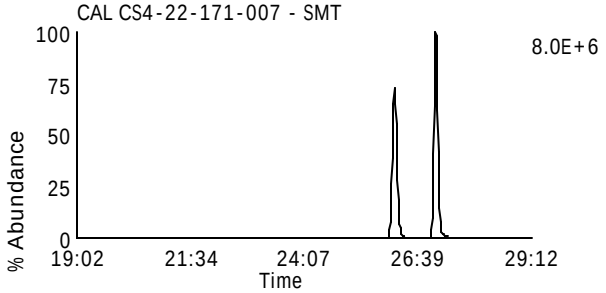
Data File: L230302A_12 G1 C10 - 331.9367
CAL CS4-22-171-007 - SMT



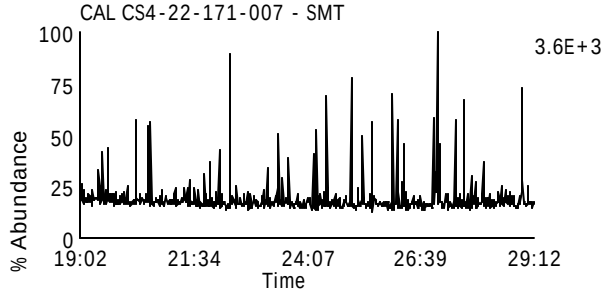
Data File: L230302A_12 G1 C4 - 317.9389
CAL CS4-22-171-007 - SMT



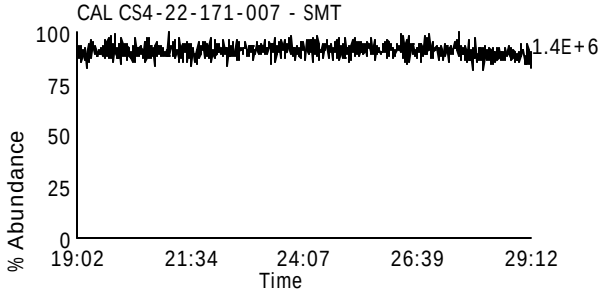
Data File: L230302A_12 G1 C11 - 333.9338
CAL CS4-22-171-007 - SMT



Data File: L230302A_12 G1 C14 - 375.8364
CAL CS4-22-171-007 - SMT



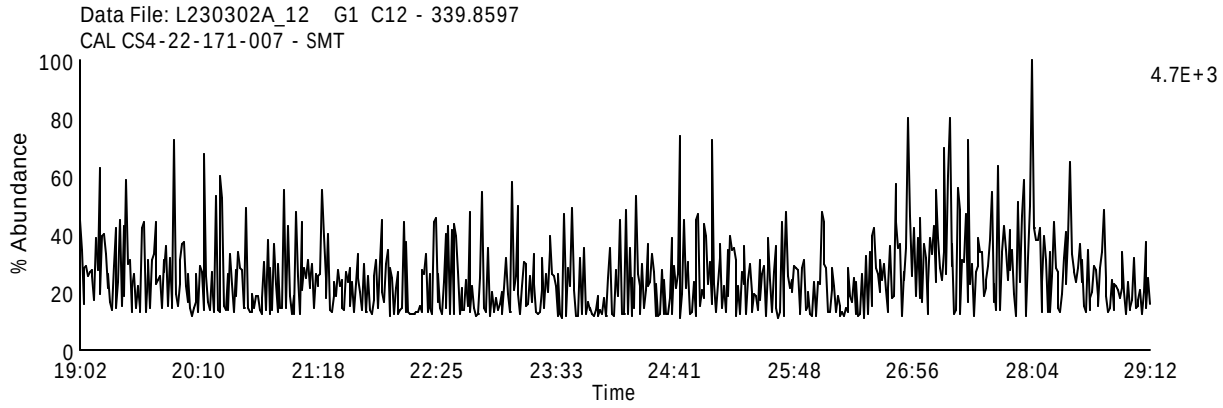
Data File: L230302A_12 G1 C5 - 318.9792
CAL CS4-22-171-007 - SMT

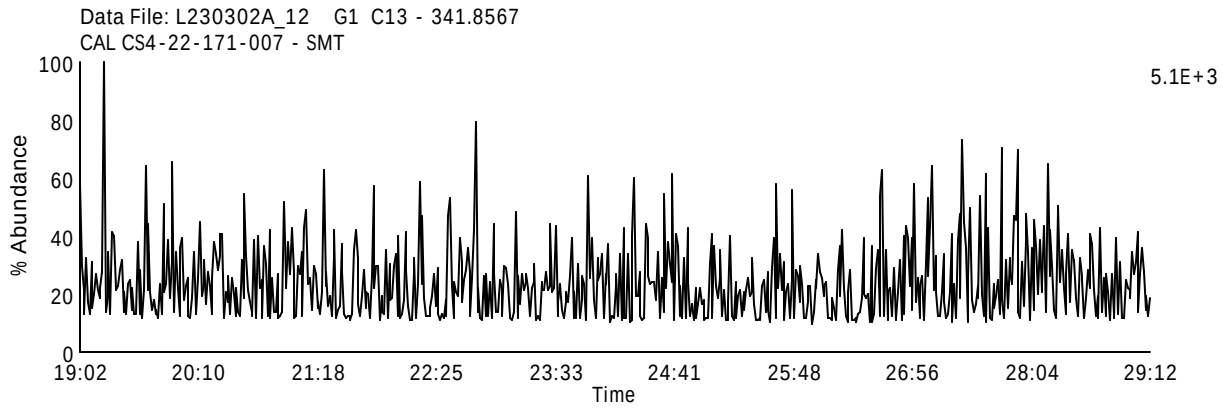


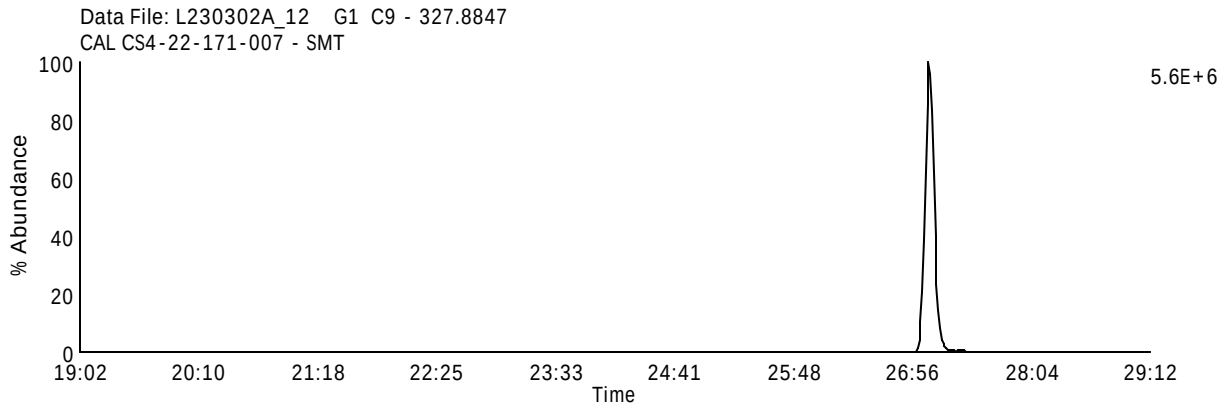
Homologue Group: Penta & Cleanup

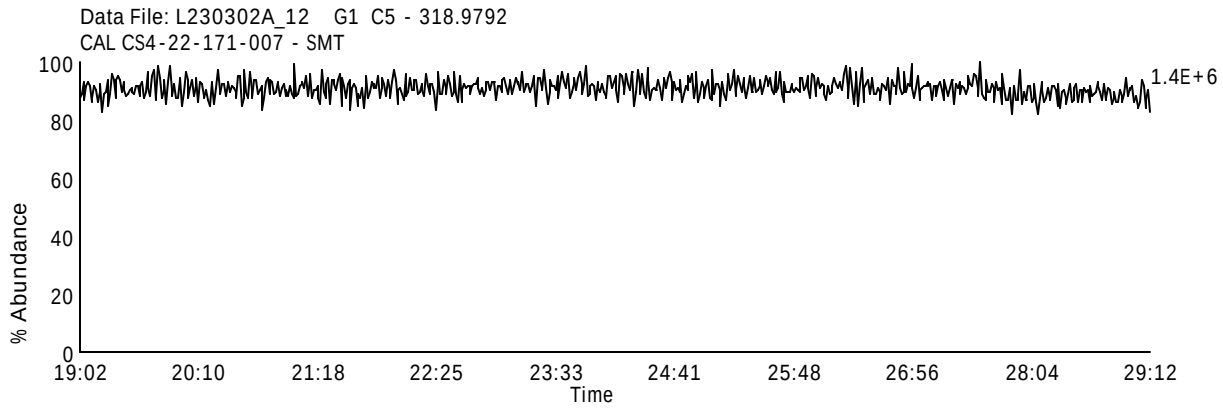
Data File Name: L230302A_12
Date Acquired: 3/2/2023
Sample Description: CAL CS4-22-171-007 - SMT

Lab Sample ID: CS4-22-171-007
Client Sample ID:
Instrument: 10MSHR15 (L)







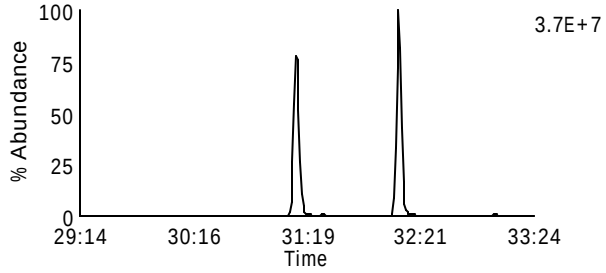


Homologue Group: Pentas

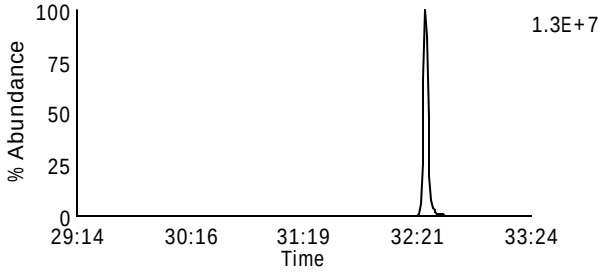
Data File Name: L230302A_12
Date Acquired: 3/2/2023
Sample Description: CAL CS4-22-171-007 - SMT

Lab Sample ID: CS4-22-171-007
Client Sample ID:
Instrument: 10MSHR15 (L)

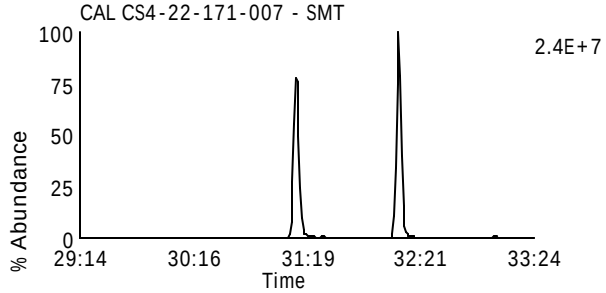
Data File: L230302A_12 G2 C1 - 339.8597
CAL CS4-22-171-007 - SMT



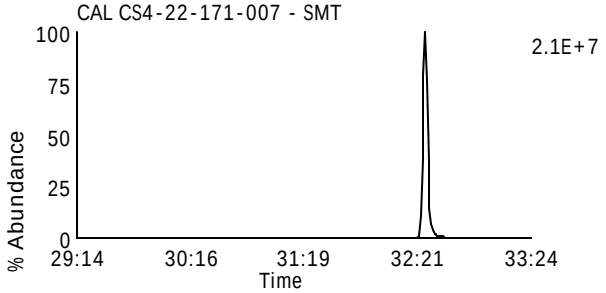
Data File: L230302A_12 G2 C4 - 353.8576
CAL CS4-22-171-007 - SMT



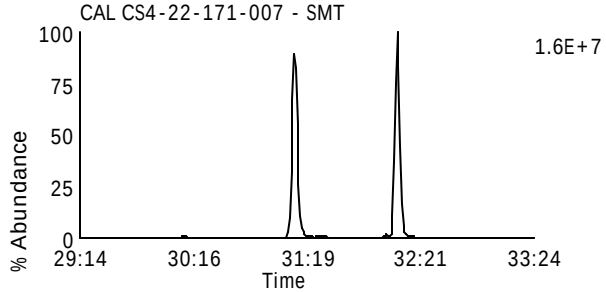
Data File: L230302A_12 G2 C2 - 341.8567
CAL CS4-22-171-007 - SMT



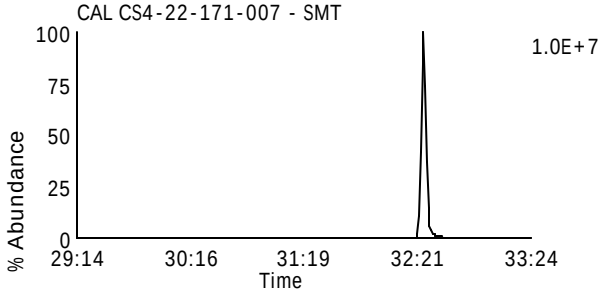
Data File: L230302A_12 G2 C8 - 355.8546
CAL CS4-22-171-007 - SMT



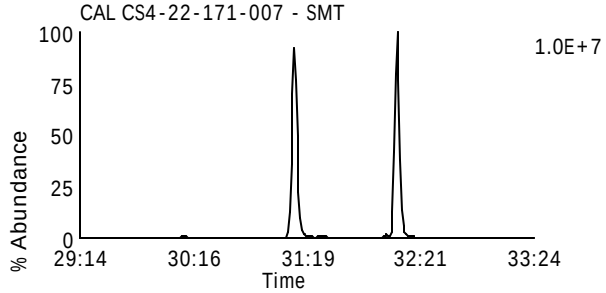
Data File: L230302A_12 G2 C3 - 351.8999
CAL CS4-22-171-007 - SMT



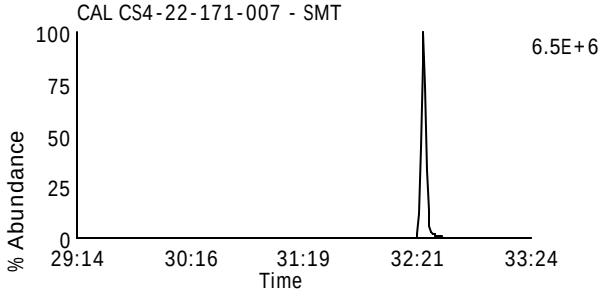
Data File: L230302A_12 G2 C10 - 367.8948
CAL CS4-22-171-007 - SMT



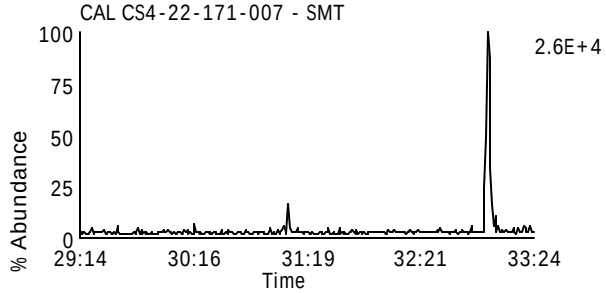
Data File: L230302A_12 G2 C5 - 353.8969
CAL CS4-22-171-007 - SMT



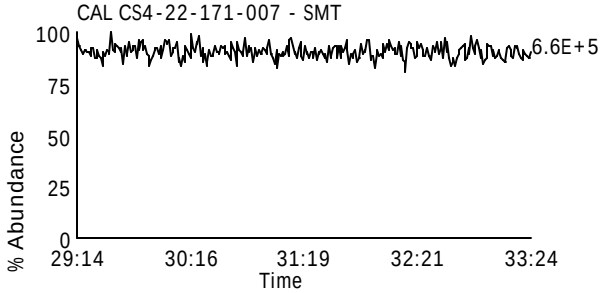
Data File: L230302A_12 G2 C11 - 369.8918
CAL CS4-22-171-007 - SMT



Data File: L230302A_12 G2 C12 - 409.7974
CAL CS4-22-171-007 - SMT



Data File: L230302A_12 G2 C6 - 354.9792
CAL CS4-22-171-007 - SMT

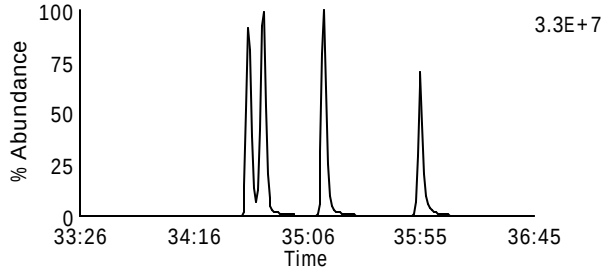


Homologue Group: Hexas

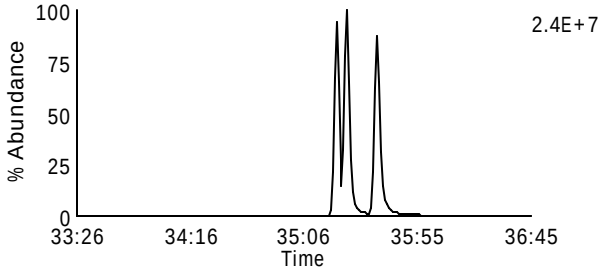
Data File Name: L230302A_12
Date Acquired: 3/2/2023
Sample Description: CAL CS4-22-171-007 - SMT

Lab Sample ID: CS4-22-171-007
Client Sample ID:
Instrument: 10MSHR15 (L)

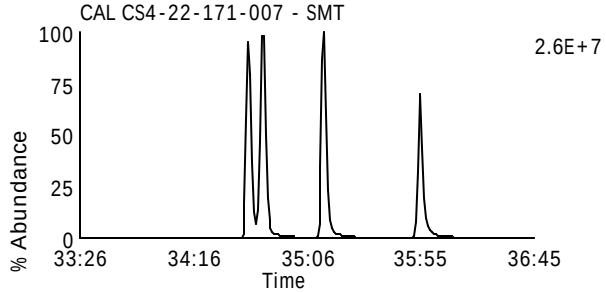
Data File: L230302A_12 G3 C1 - 373.8207
CAL CS4-22-171-007 - SMT



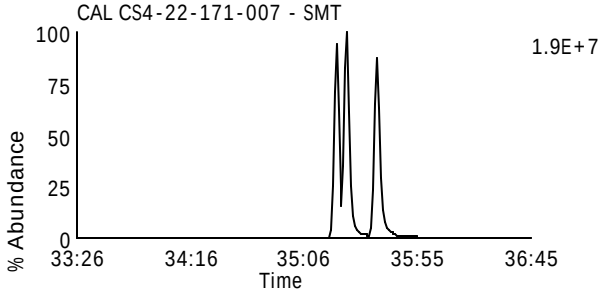
Data File: L230302A_12 G3 C7 - 389.8156
CAL CS4-22-171-007 - SMT



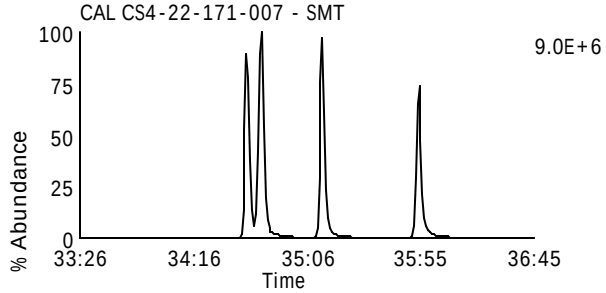
Data File: L230302A_12 G3 C2 - 375.8178
CAL CS4-22-171-007 - SMT



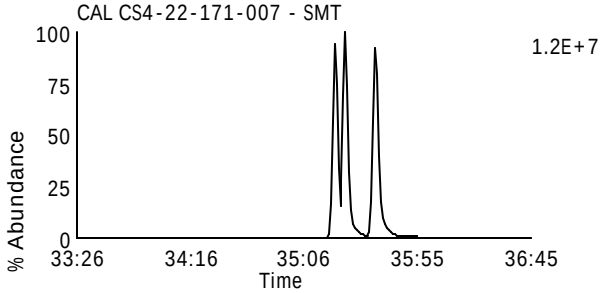
Data File: L230302A_12 G3 C8 - 391.8127
CAL CS4-22-171-007 - SMT



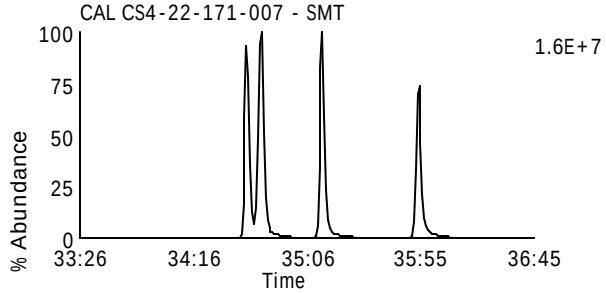
Data File: L230302A_12 G3 C5 - 383.8639
CAL CS4-22-171-007 - SMT



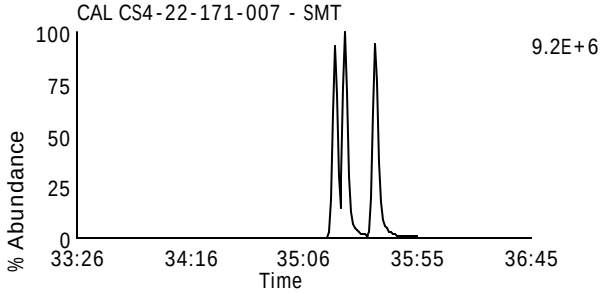
Data File: L230302A_12 G3 C9 - 401.8559
CAL CS4-22-171-007 - SMT



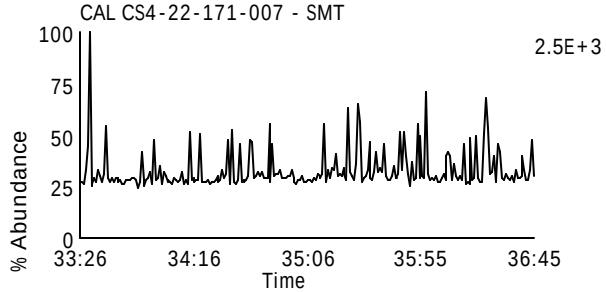
Data File: L230302A_12 G3 C6 - 385.861
CAL CS4-22-171-007 - SMT



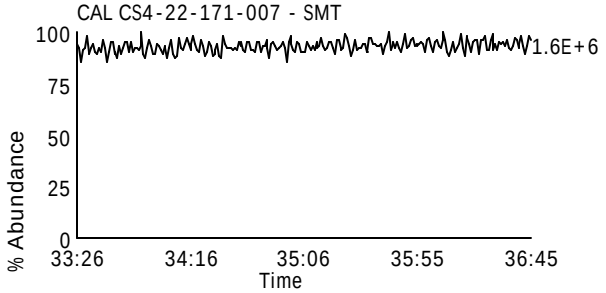
Data File: L230302A_12 G3 C10 - 403.8529
CAL CS4-22-171-007 - SMT



Data File: L230302A_12 G3 C11 - 445.7555
CAL CS4-22-171-007 - SMT



Data File: L230302A_12 G3 C3 - 380.976
CAL CS4-22-171-007 - SMT

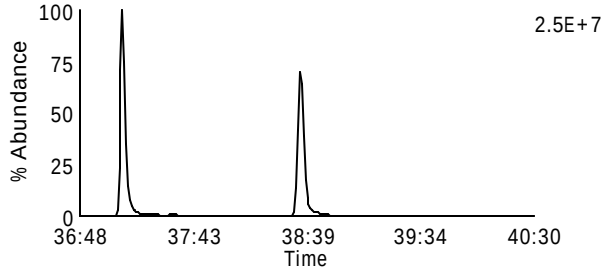


Homologue Group: Heptas

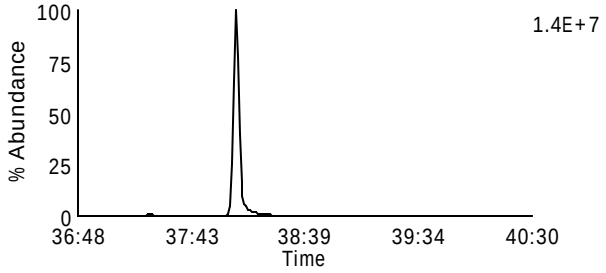
Data File Name: L230302A_12
Date Acquired: 3/2/2023
Sample Description: CAL CS4-22-171-007 - SMT

Lab Sample ID: CS4-22-171-007
Client Sample ID:
Instrument: 10MSHR15 (L)

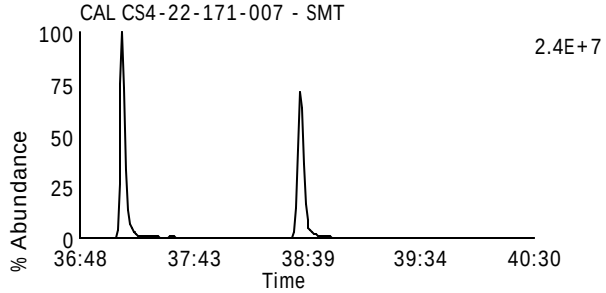
Data File: L230302A_12 G4 C3 - 407.7818
CAL CS4-22-171-007 - SMT



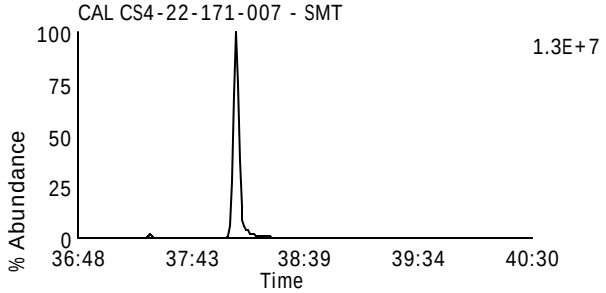
Data File: L230302A_12 G4 C8 - 423.7767
CAL CS4-22-171-007 - SMT



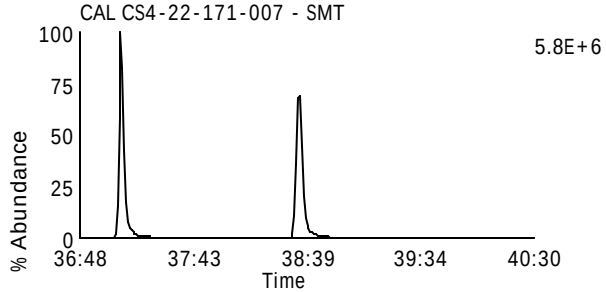
Data File: L230302A_12 G4 C4 - 409.7788
CAL CS4-22-171-007 - SMT



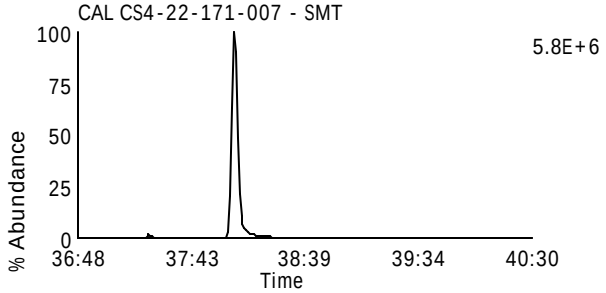
Data File: L230302A_12 G4 C9 - 425.7737
CAL CS4-22-171-007 - SMT



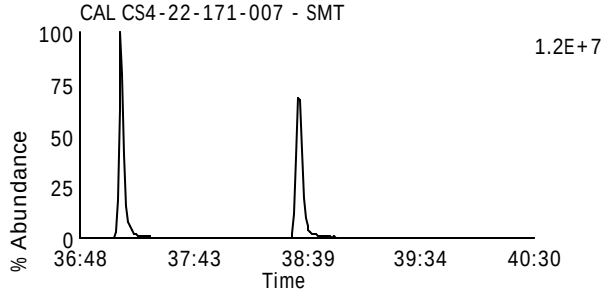
Data File: L230302A_12 G4 C6 - 417.825
CAL CS4-22-171-007 - SMT



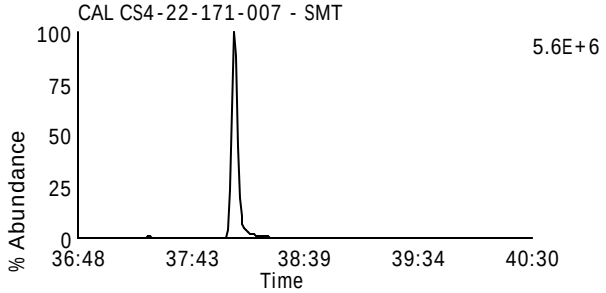
Data File: L230302A_12 G4 C11 - 435.8169
CAL CS4-22-171-007 - SMT



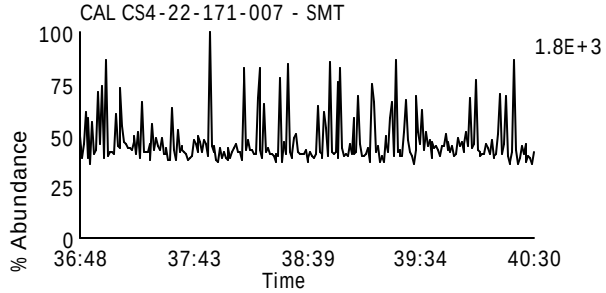
Data File: L230302A_12 G4 C7 - 419.822
CAL CS4-22-171-007 - SMT



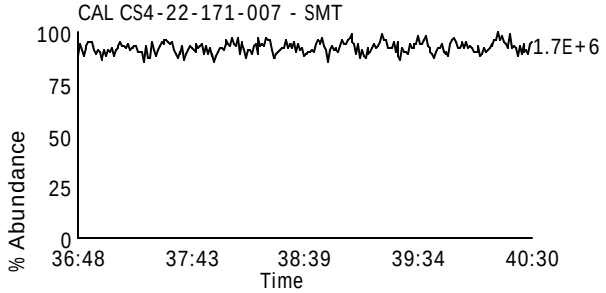
Data File: L230302A_12 G4 C12 - 437.814
CAL CS4-22-171-007 - SMT



Data File: L230302A_12 G4 C13 - 479.7165
CAL CS4-22-171-007 - SMT



Data File: L230302A_12 G4 C1 - 380.976
CAL CS4-22-171-007 - SMT

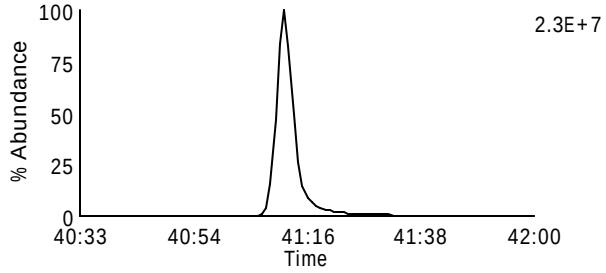


Homologue Group: Octas

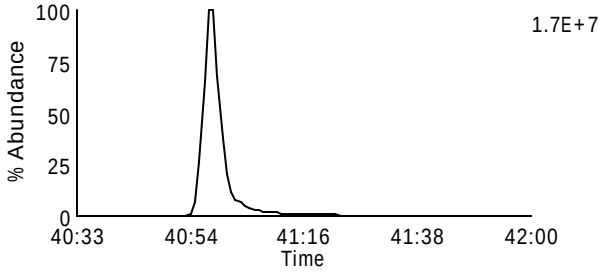
Data File Name: L230302A_12
Date Acquired: 3/2/2023
Sample Description: CAL CS4-22-171-007 - SMT

Lab Sample ID: CS4-22-171-007
Client Sample ID:
Instrument: 10MSHR15 (L)

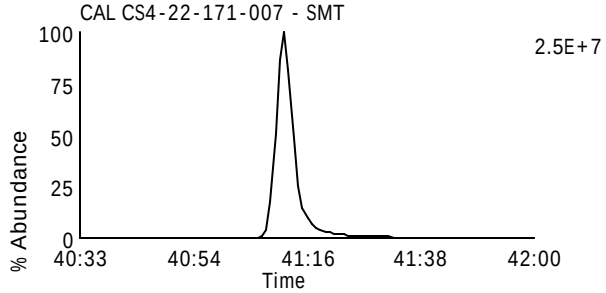
Data File: L230302A_12 G5 C4 - 441.7428
CAL CS4-22-171-007 - SMT



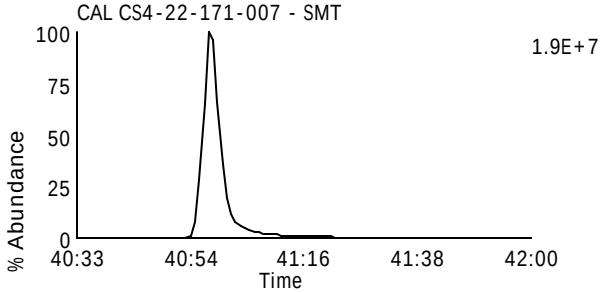
Data File: L230302A_12 G5 C8 - 457.7377
CAL CS4-22-171-007 - SMT



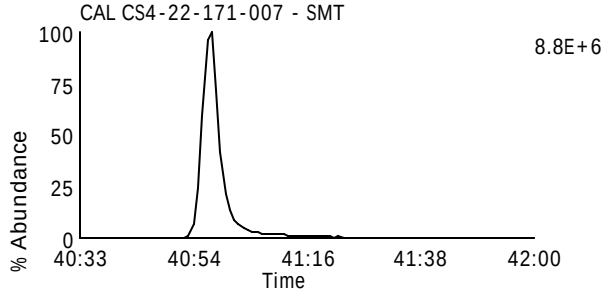
Data File: L230302A_12 G5 C5 - 443.7398
CAL CS4-22-171-007 - SMT



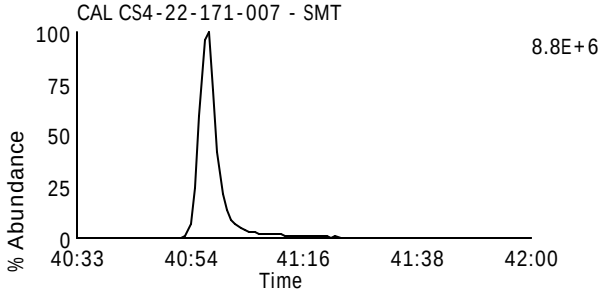
Data File: L230302A_12 G5 C9 - 459.7347
CAL CS4-22-171-007 - SMT



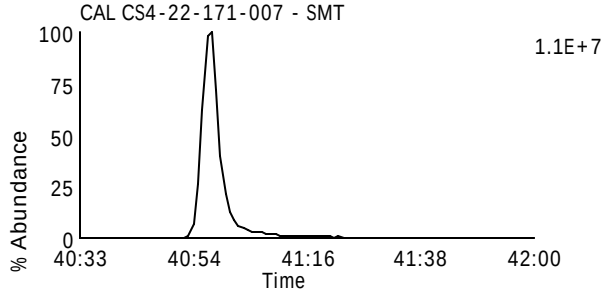
Data File: L230302A_12 G5 C11 - 469.7779
CAL CS4-22-171-007 - SMT



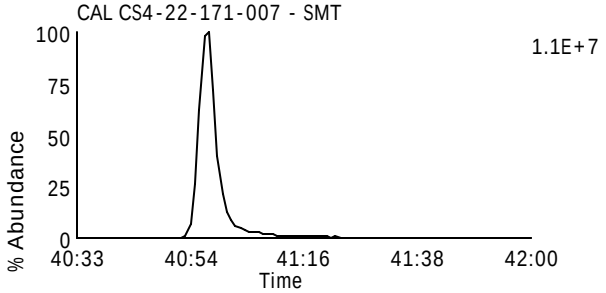
Data File: L230302A_12 G5 C11 - 469.7779
CAL CS4-22-171-007 - SMT



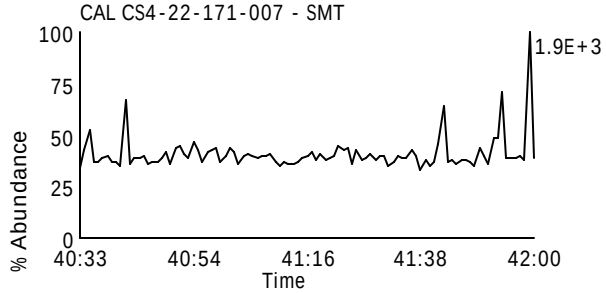
Data File: L230302A_12 G5 C12 - 471.7749
CAL CS4-22-171-007 - SMT



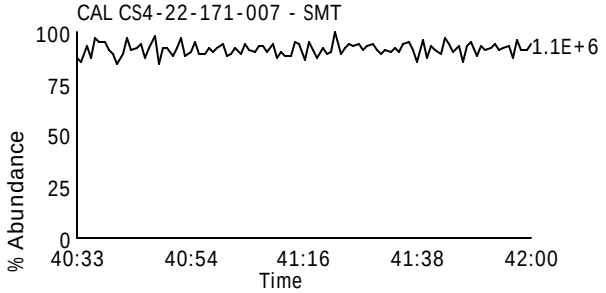
Data File: L230302A_12 G5 C12 - 471.7749
CAL CS4-22-171-007 - SMT



Data File: L230302A_12 G5 C13 - 513.6775
CAL CS4-22-171-007 - SMT



Data File: L230302A_12 G5 C2 - 430.9728
CAL CS4-22-171-007 - SMT

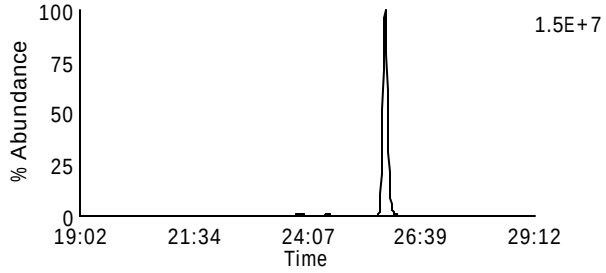


Homologue Group: Tetras

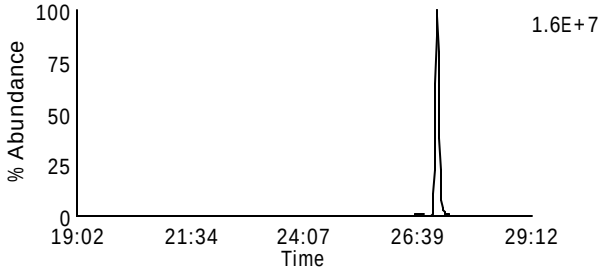
Data File Name: L230302A_11
Date Acquired: 3/2/2023
Sample Description: CAL CS5-22-171-008 - SMT

Lab Sample ID: CS5-22-171-008
Client Sample ID:
Instrument: 10MSHR15 (L)

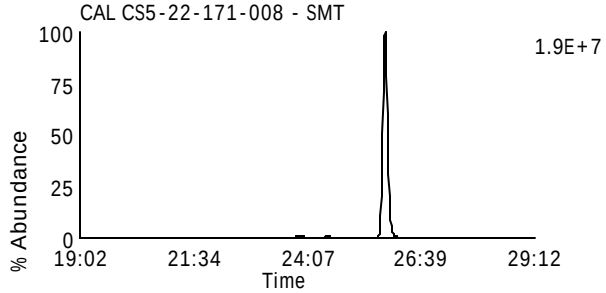
Data File: L230302A_11 G1 C1 - 303.9016
CAL CS5-22-171-008 - SMT



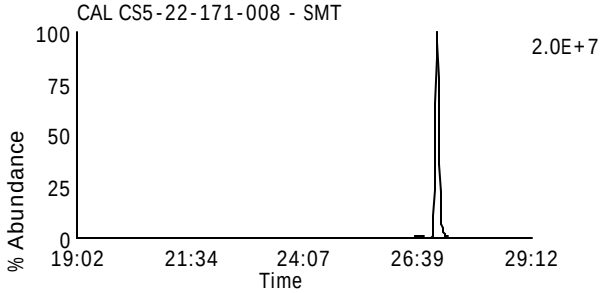
Data File: L230302A_11 G1 C7 - 319.8965
CAL CS5-22-171-008 - SMT



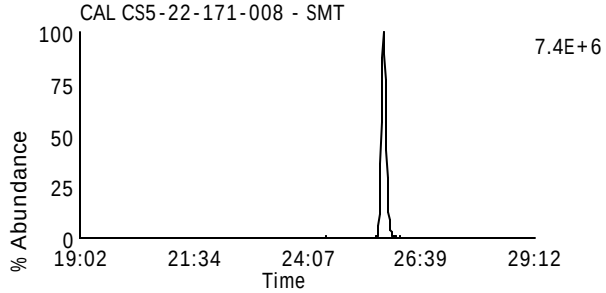
Data File: L230302A_11 G1 C2 - 305.8987
CAL CS5-22-171-008 - SMT



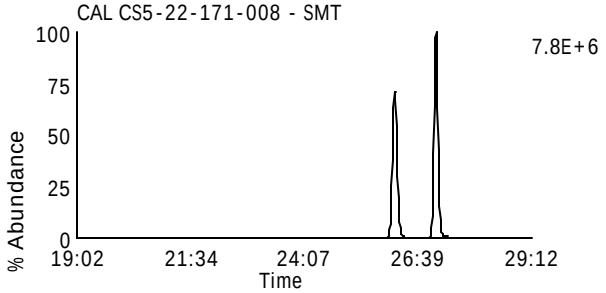
Data File: L230302A_11 G1 C8 - 321.8936
CAL CS5-22-171-008 - SMT



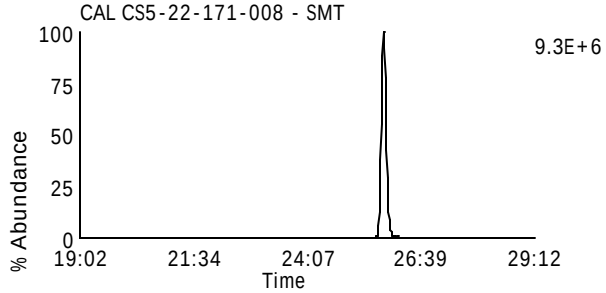
Data File: L230302A_11 G1 C3 - 315.9418
CAL CS5-22-171-008 - SMT



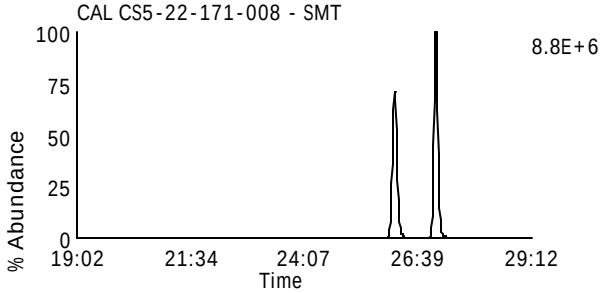
Data File: L230302A_11 G1 C10 - 331.9367
CAL CS5-22-171-008 - SMT



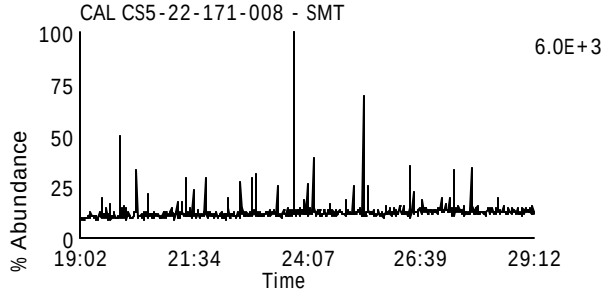
Data File: L230302A_11 G1 C4 - 317.9389
CAL CS5-22-171-008 - SMT



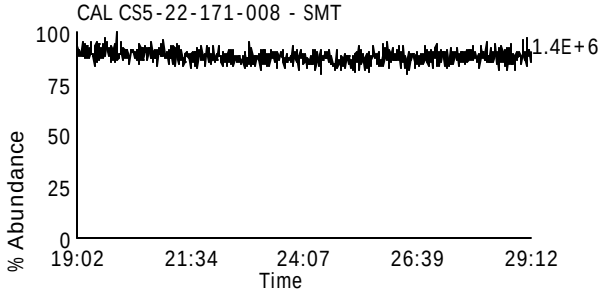
Data File: L230302A_11 G1 C11 - 333.9338
CAL CS5-22-171-008 - SMT



Data File: L230302A_11 G1 C14 - 375.8364
CAL CS5-22-171-008 - SMT



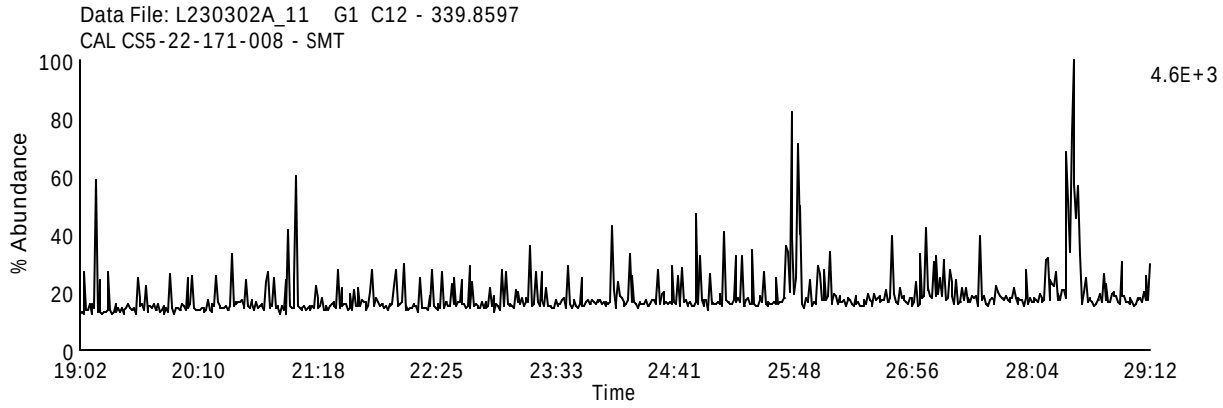
Data File: L230302A_11 G1 C5 - 318.9792
CAL CS5-22-171-008 - SMT

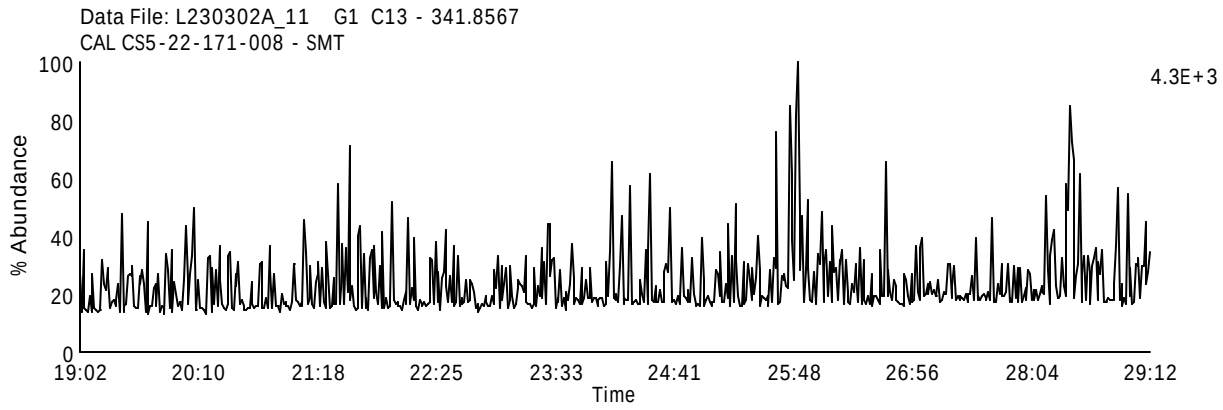


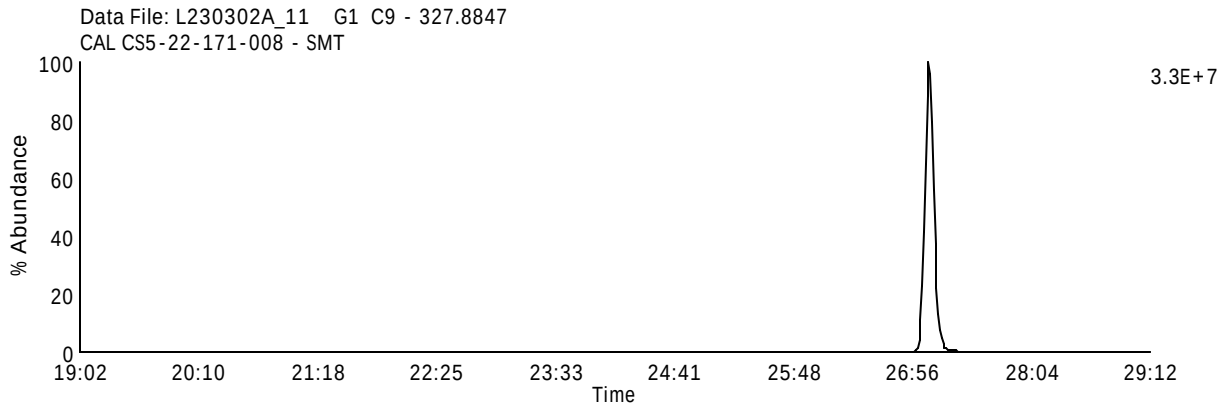
Homologue Group: Penta & Cleanup

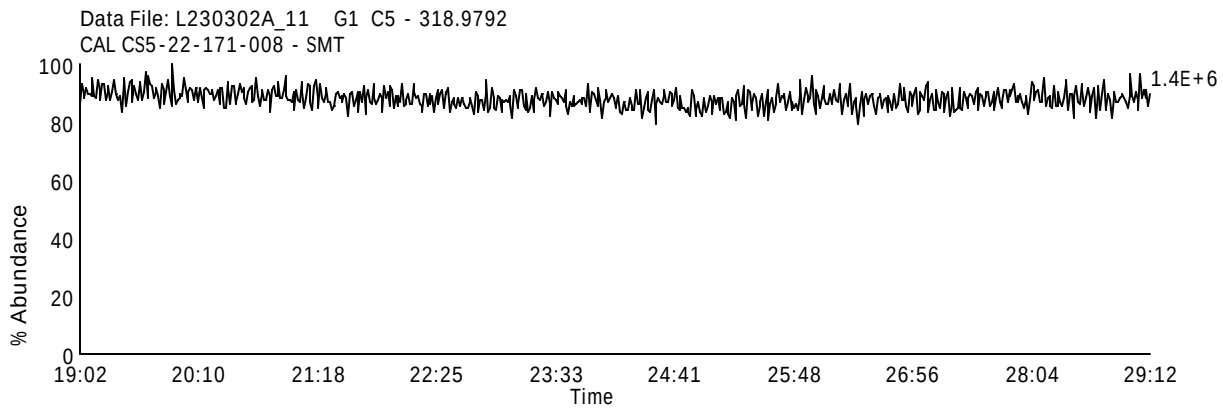
Data File Name: L230302A_11
Date Acquired: 3/2/2023
Sample Description: CAL CS5-22-171-008 - SMT

Lab Sample ID: CS5-22-171-008
Client Sample ID:
Instrument: 10MSHR15 (L)







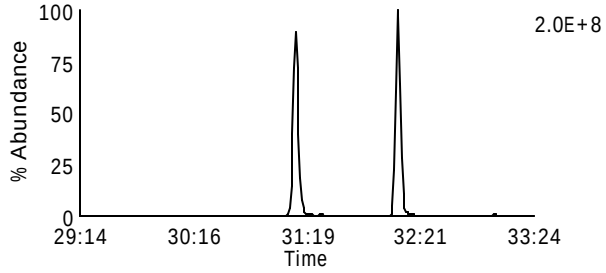


Homologue Group: Pentas

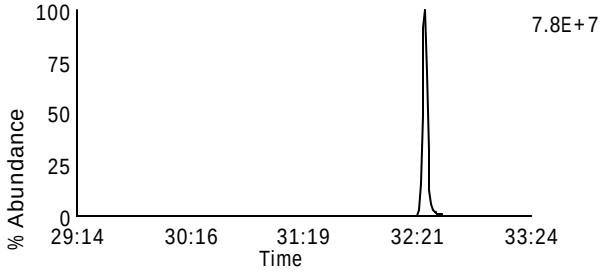
Data File Name: L230302A_11
Date Acquired: 3/2/2023
Sample Description: CAL CS5-22-171-008 - SMT

Lab Sample ID: CS5-22-171-008
Client Sample ID:
Instrument: 10MSHR15 (L)

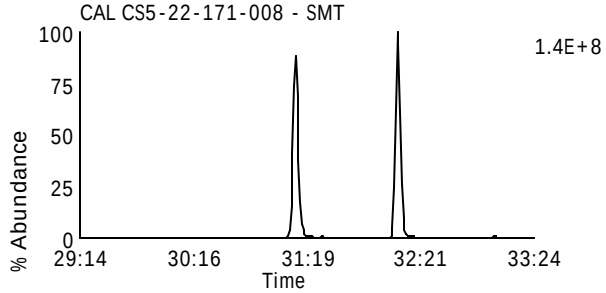
Data File: L230302A_11 G2 C1 - 339.8597
CAL CS5-22-171-008 - SMT



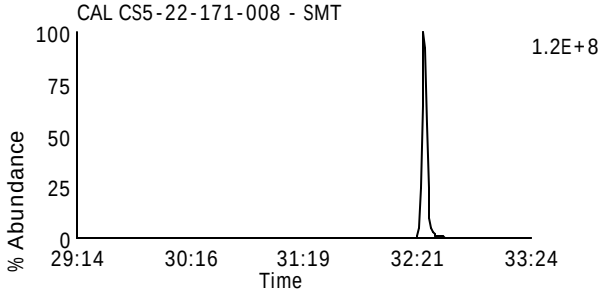
Data File: L230302A_11 G2 C4 - 353.8576
CAL CS5-22-171-008 - SMT



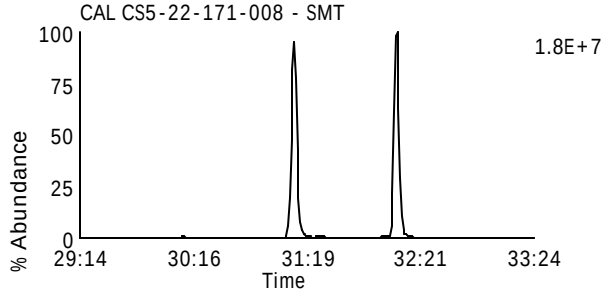
Data File: L230302A_11 G2 C2 - 341.8567
CAL CS5-22-171-008 - SMT



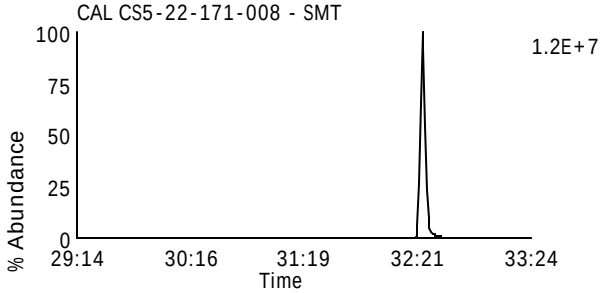
Data File: L230302A_11 G2 C8 - 355.8546
CAL CS5-22-171-008 - SMT



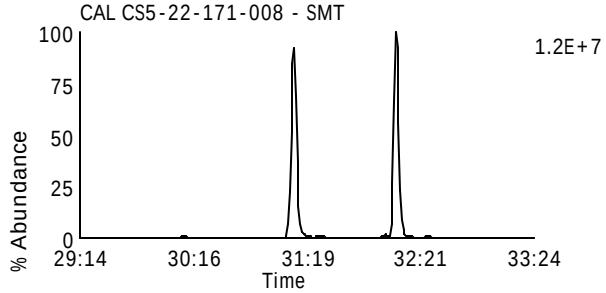
Data File: L230302A_11 G2 C3 - 351.8999
CAL CS5-22-171-008 - SMT



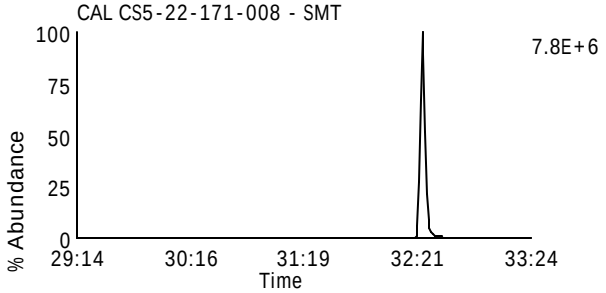
Data File: L230302A_11 G2 C10 - 367.8948
CAL CS5-22-171-008 - SMT



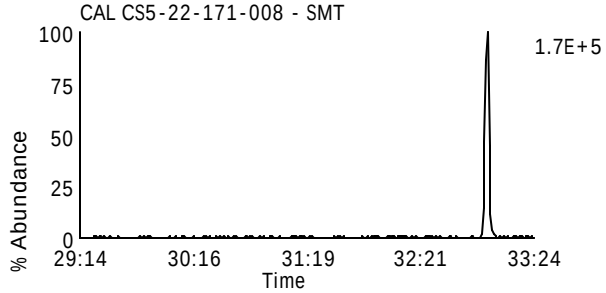
Data File: L230302A_11 G2 C5 - 353.8969
CAL CS5-22-171-008 - SMT



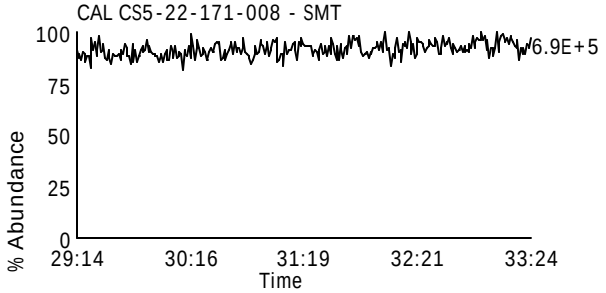
Data File: L230302A_11 G2 C11 - 369.8918
CAL CS5-22-171-008 - SMT



Data File: L230302A_11 G2 C12 - 409.7974
CAL CS5-22-171-008 - SMT



Data File: L230302A_11 G2 C6 - 354.9792
CAL CS5-22-171-008 - SMT

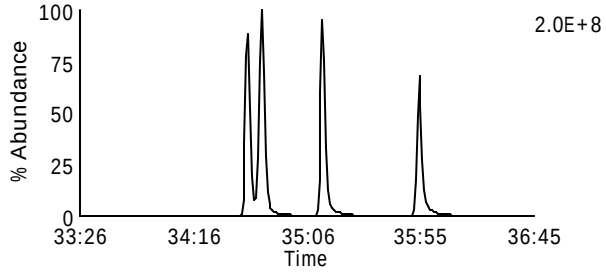


Homologue Group: Hexas

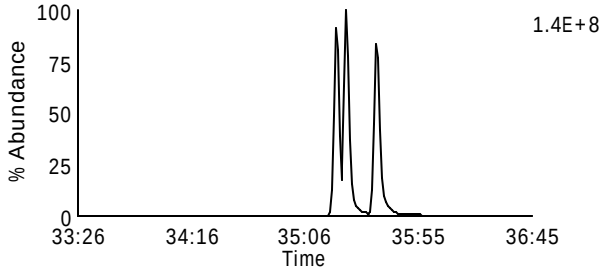
Data File Name: L230302A_11
Date Acquired: 3/2/2023
Sample Description: CAL CS5-22-171-008 - SMT

Lab Sample ID: CS5-22-171-008
Client Sample ID:
Instrument: 10MSHR15 (L)

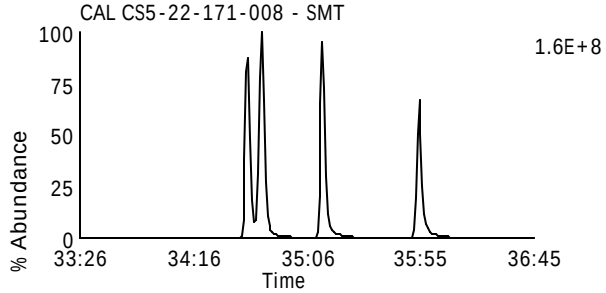
Data File: L230302A_11 G3 C1 - 373.8207
CAL CS5-22-171-008 - SMT



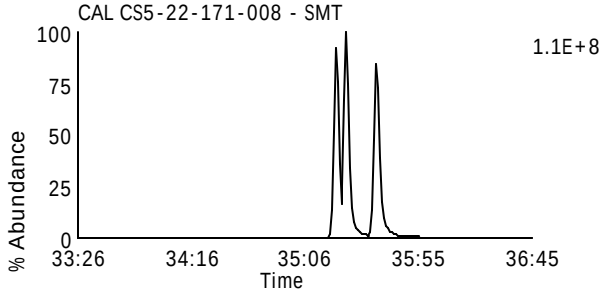
Data File: L230302A_11 G3 C7 - 389.8156
CAL CS5-22-171-008 - SMT



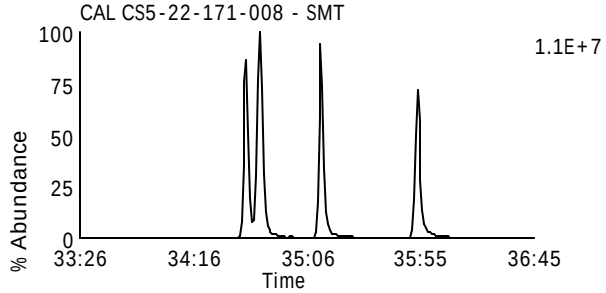
Data File: L230302A_11 G3 C2 - 375.8178
CAL CS5-22-171-008 - SMT



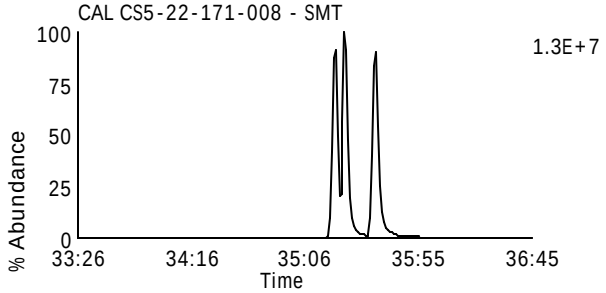
Data File: L230302A_11 G3 C8 - 391.8127
CAL CS5-22-171-008 - SMT



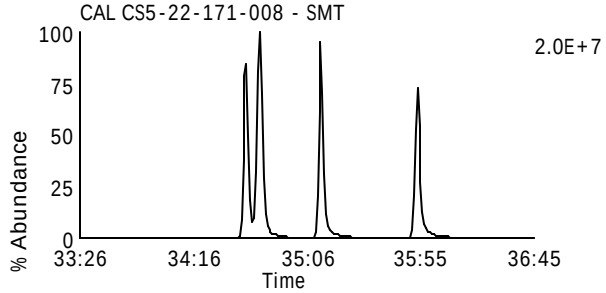
Data File: L230302A_11 G3 C5 - 383.8639
CAL CS5-22-171-008 - SMT



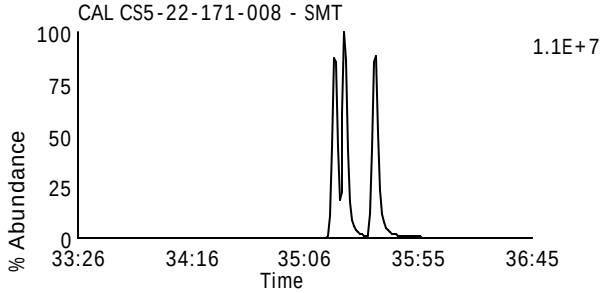
Data File: L230302A_11 G3 C9 - 401.8559
CAL CS5-22-171-008 - SMT



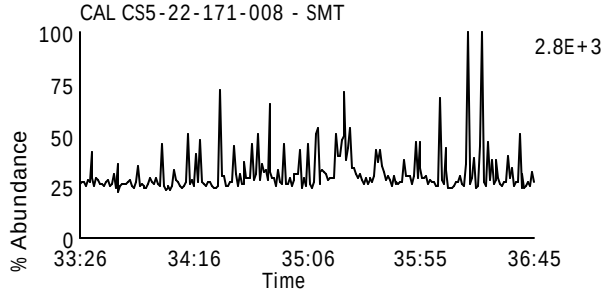
Data File: L230302A_11 G3 C6 - 385.861
CAL CS5-22-171-008 - SMT



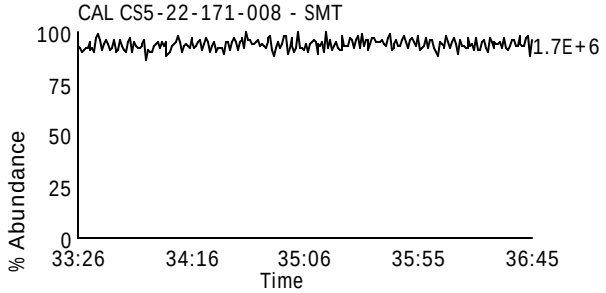
Data File: L230302A_11 G3 C10 - 403.8529
CAL CS5-22-171-008 - SMT



Data File: L230302A_11 G3 C11 - 445.7555
CAL CS5-22-171-008 - SMT



Data File: L230302A_11 G3 C3 - 380.976
CAL CS5-22-171-008 - SMT

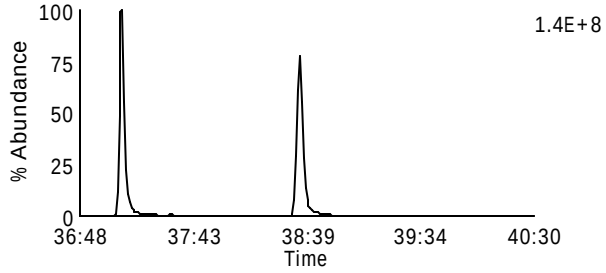


Homologue Group: Heptas

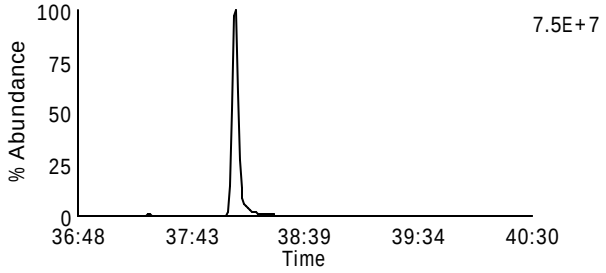
Data File Name: L230302A_11
Date Acquired: 3/2/2023
Sample Description: CAL CS5-22-171-008 - SMT

Lab Sample ID: CS5-22-171-008
Client Sample ID:
Instrument: 10MSHR15 (L)

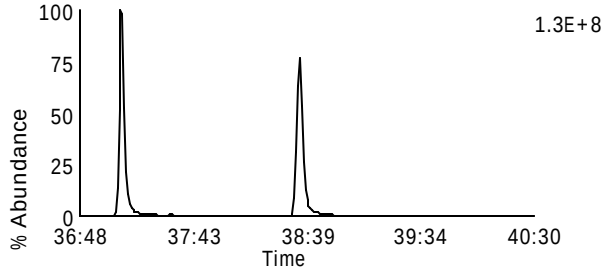
Data File: L230302A_11 G4 C3 - 407.7818
CAL CS5-22-171-008 - SMT



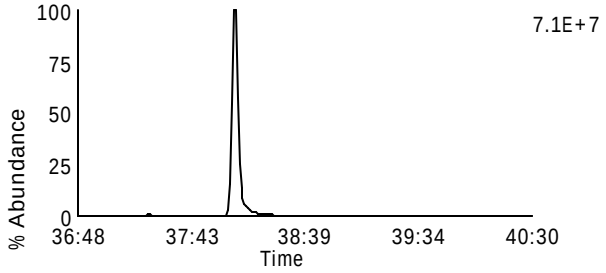
Data File: L230302A_11 G4 C8 - 423.7767
CAL CS5-22-171-008 - SMT



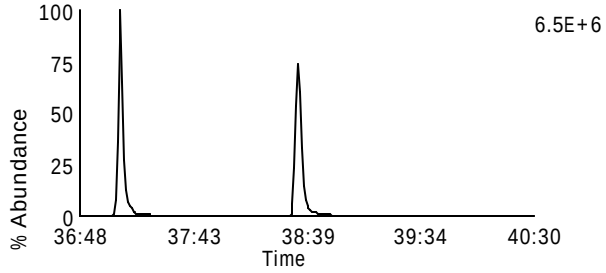
Data File: L230302A_11 G4 C4 - 409.7788
CAL CS5-22-171-008 - SMT



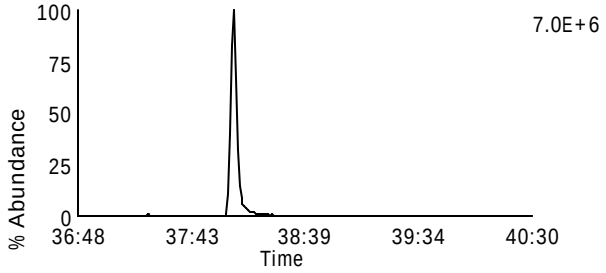
Data File: L230302A_11 G4 C9 - 425.7737
CAL CS5-22-171-008 - SMT



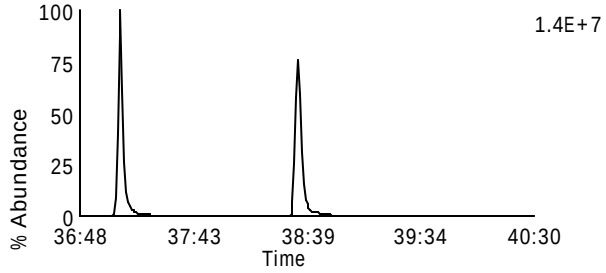
Data File: L230302A_11 G4 C6 - 417.825
CAL CS5-22-171-008 - SMT



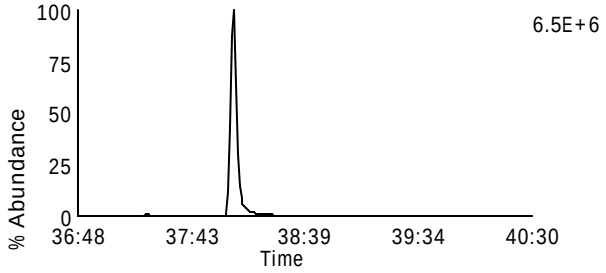
Data File: L230302A_11 G4 C11 - 435.8169
CAL CS5-22-171-008 - SMT



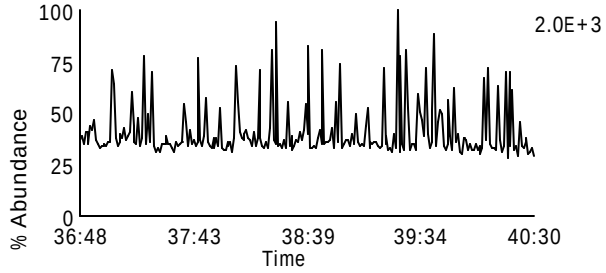
Data File: L230302A_11 G4 C7 - 419.822
CAL CS5-22-171-008 - SMT



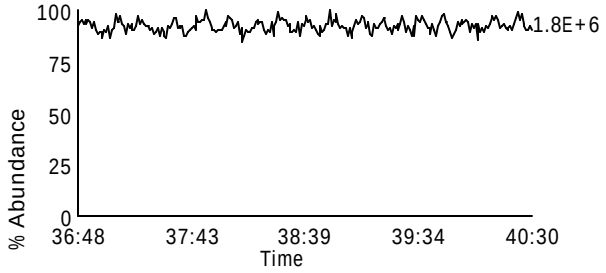
Data File: L230302A_11 G4 C12 - 437.814
CAL CS5-22-171-008 - SMT



Data File: L230302A_11 G4 C13 - 479.7165
CAL CS5-22-171-008 - SMT



Data File: L230302A_11 G4 C1 - 380.976
CAL CS5-22-171-008 - SMT

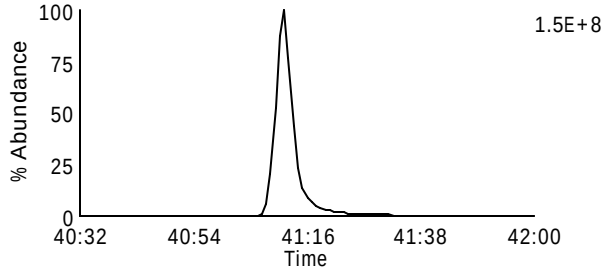


Homologue Group: Octas

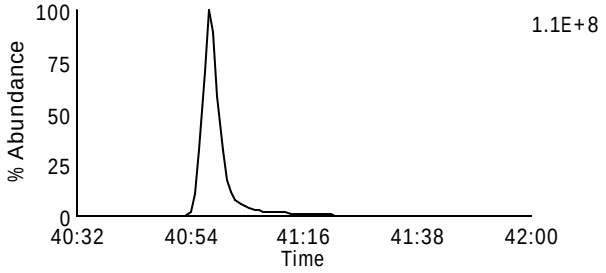
Data File Name: L230302A_11
Date Acquired: 3/2/2023
Sample Description: CAL CS5-22-171-008 - SMT

Lab Sample ID: CS5-22-171-008
Client Sample ID:
Instrument: 10MSHR15 (L)

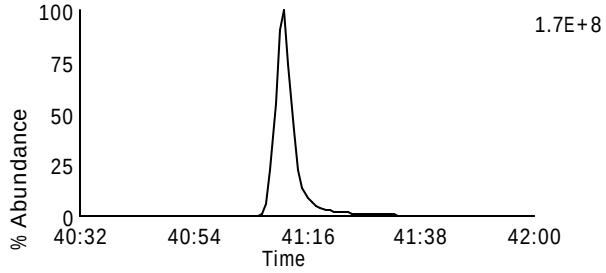
Data File: L230302A_11 G5 C4 - 441.7428
CAL CS5-22-171-008 - SMT



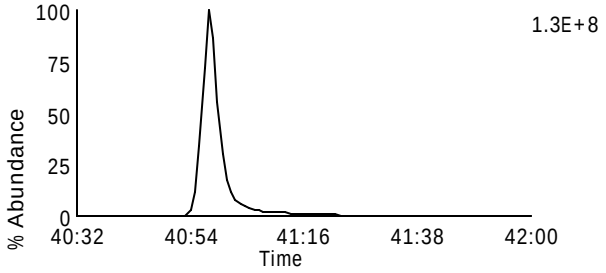
Data File: L230302A_11 G5 C8 - 457.7377
CAL CS5-22-171-008 - SMT



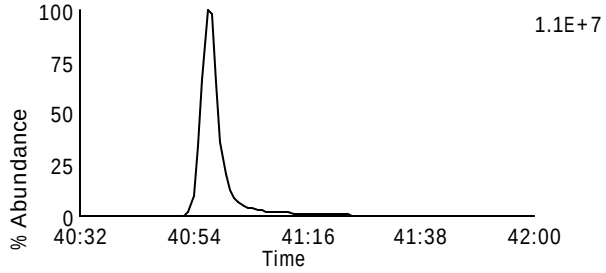
Data File: L230302A_11 G5 C5 - 443.7398
CAL CS5-22-171-008 - SMT



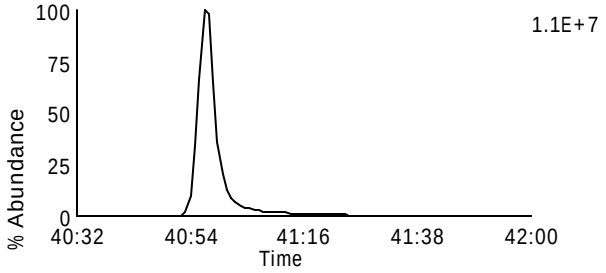
Data File: L230302A_11 G5 C9 - 459.7347
CAL CS5-22-171-008 - SMT



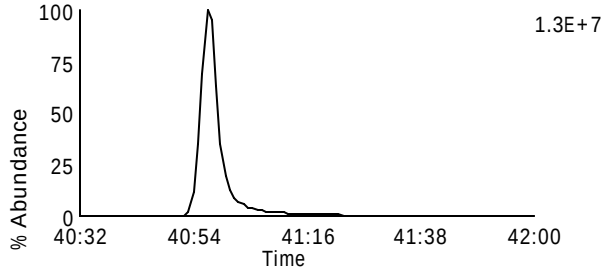
Data File: L230302A_11 G5 C11 - 469.7779
CAL CS5-22-171-008 - SMT



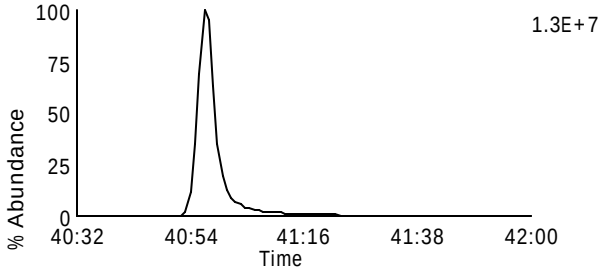
Data File: L230302A_11 G5 C11 - 469.7779
CAL CS5-22-171-008 - SMT



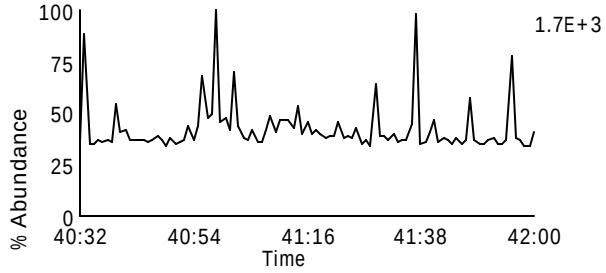
Data File: L230302A_11 G5 C12 - 471.7749
CAL CS5-22-171-008 - SMT



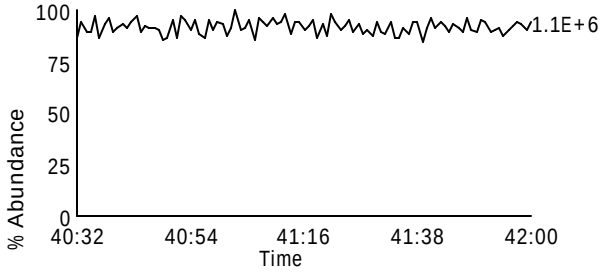
Data File: L230302A_11 G5 C12 - 471.7749
CAL CS5-22-171-008 - SMT



Data File: L230302A_11 G5 C13 - 513.6775
CAL CS5-22-171-008 - SMT



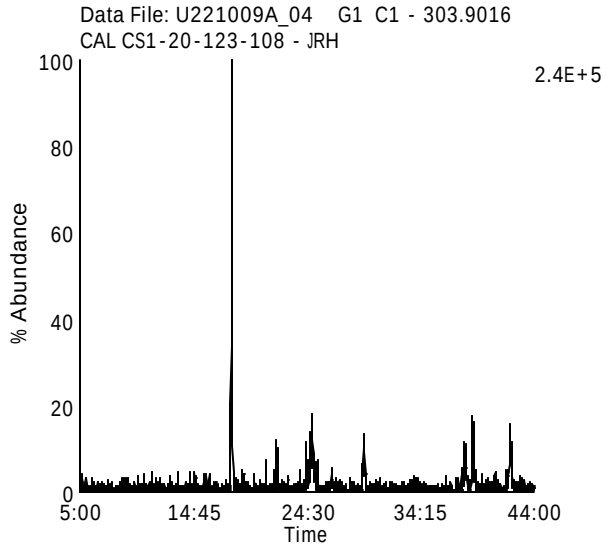
Data File: L230302A_11 G5 C2 - 430.9728
CAL CS5-22-171-008 - SMT

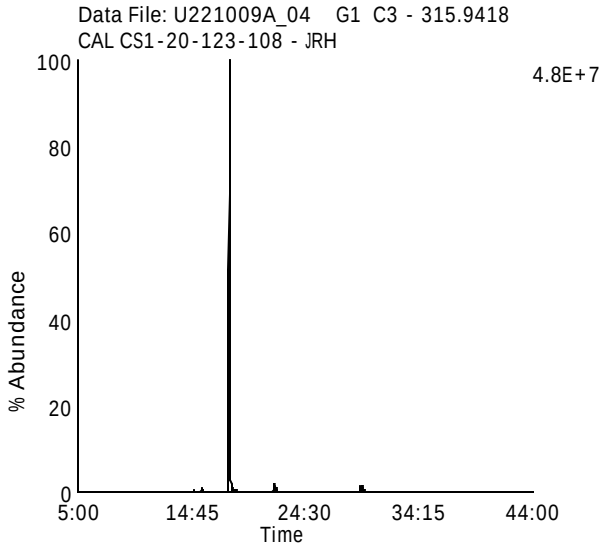


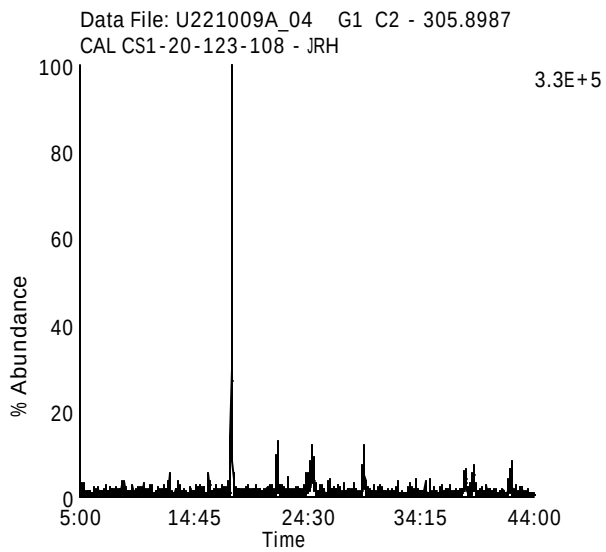
TCDF Confirmation Analysis

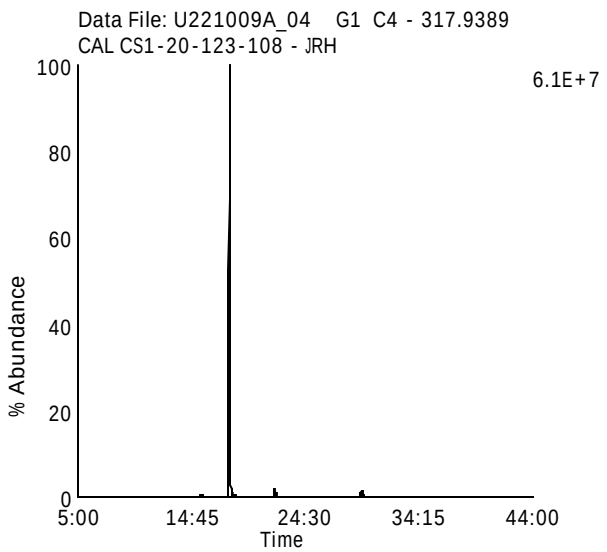
Data File Name: U221009A_04
Date Acquired: 10/9/2022
Sample Description: CAL CS1-20-123-108 - JRH

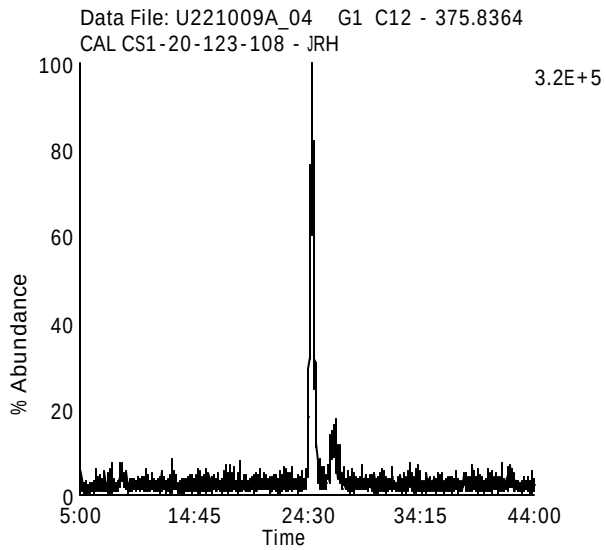
Lab Sample ID: CS1-20-123-108
Client Sample ID:
Instrument: 10MSHR06 (U)

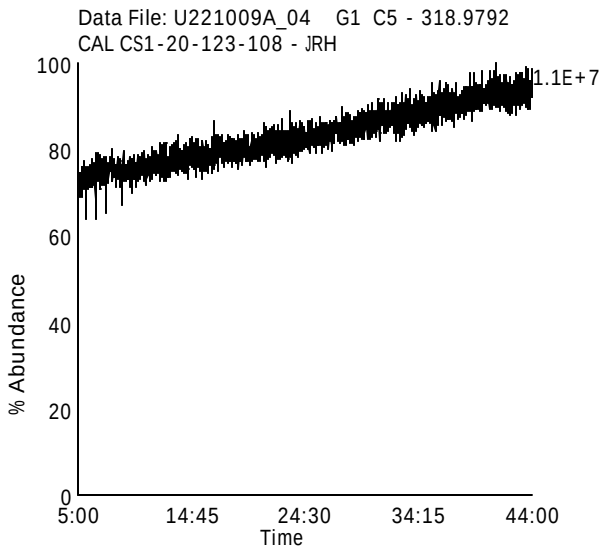








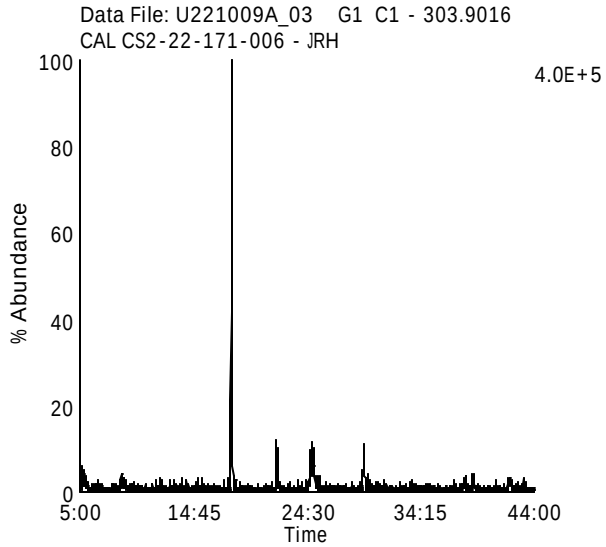


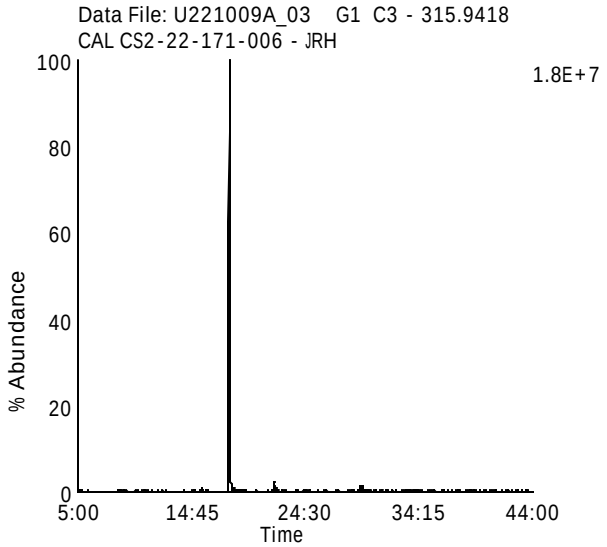


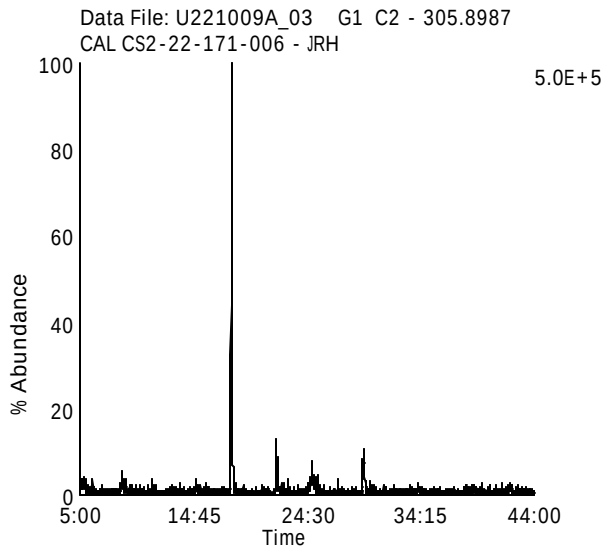
TCDF Confirmation Analysis

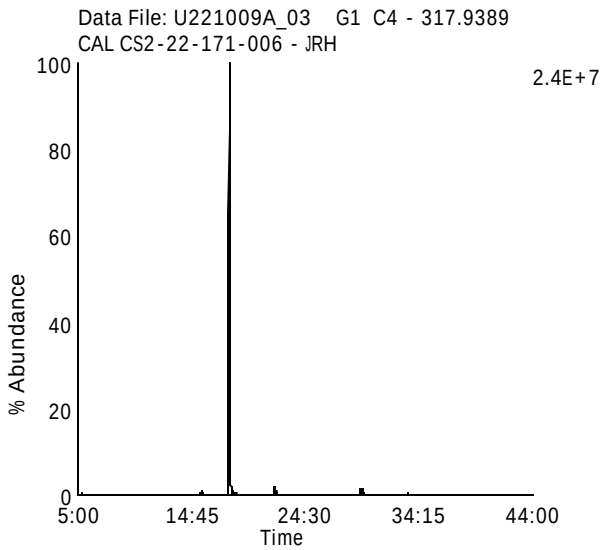
Data File Name: U221009A_03
Date Acquired: 10/9/2022
Sample Description: CAL CS2-22-171-006 - JRH

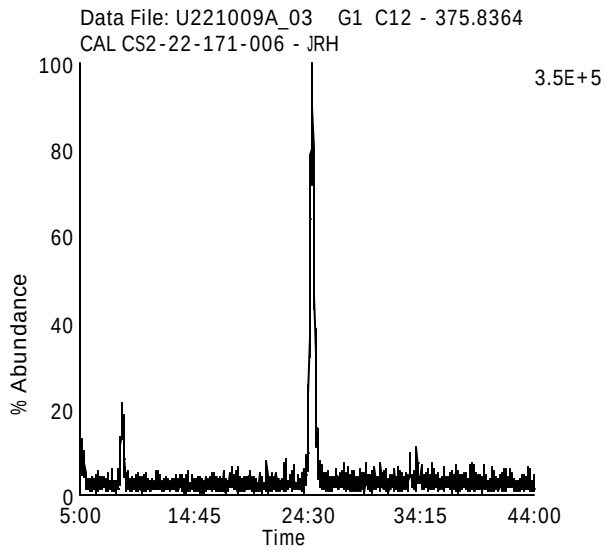
Lab Sample ID: CS2-22-171-006
Client Sample ID:
Instrument: 10MSHR06 (U)

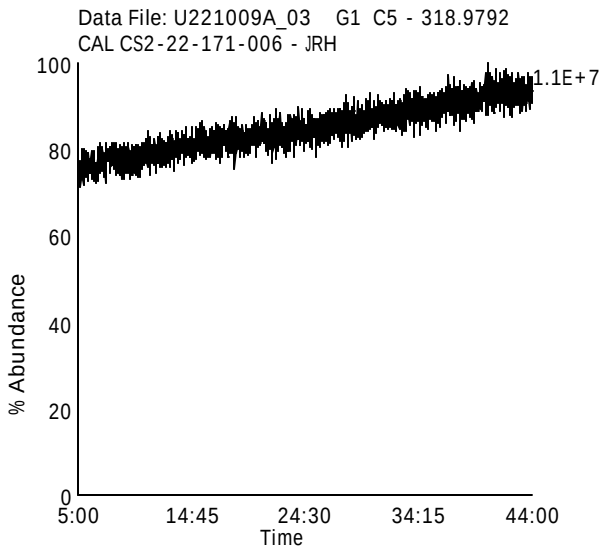








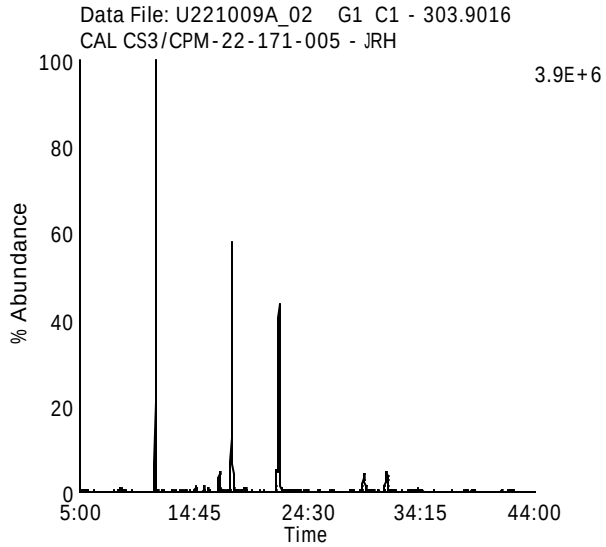


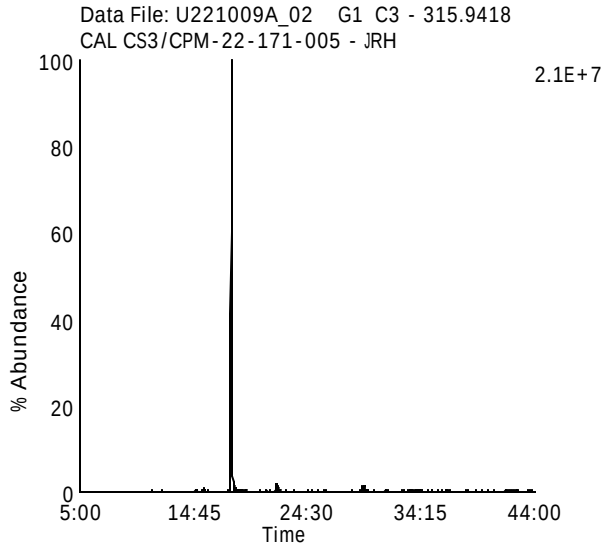


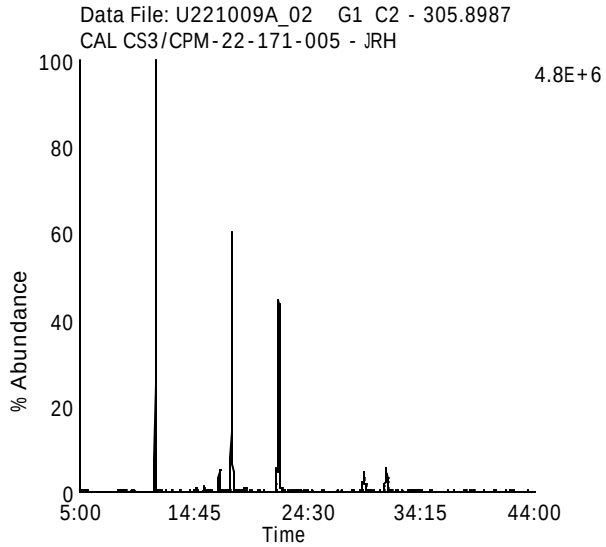
TCDF Confirmation Analysis

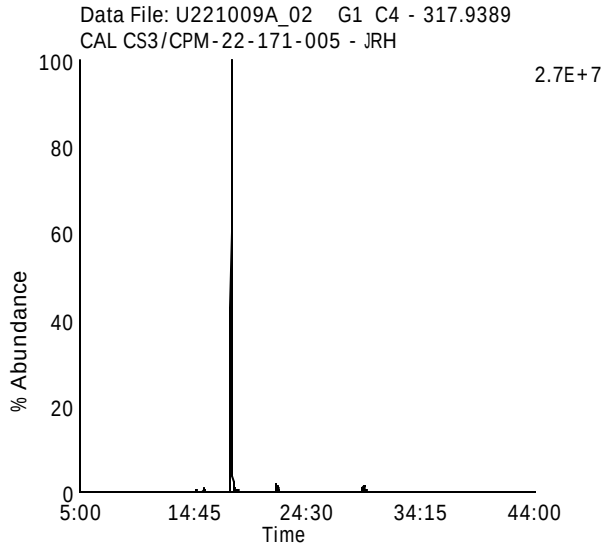
Data File Name: U221009A_02
Date Acquired: 10/9/2022
Sample Description: CAL CS3/CPM-22-171-005 - JRH

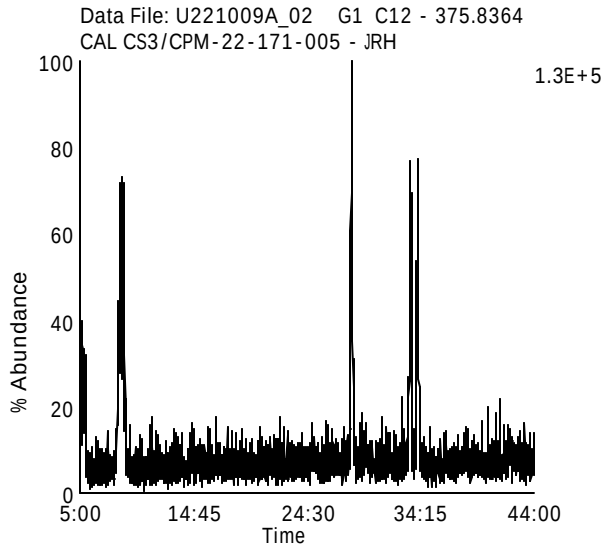
Lab Sample ID: CS3/CPM-22-171-005
Client Sample ID:
Instrument: 10MSHR06 (U)

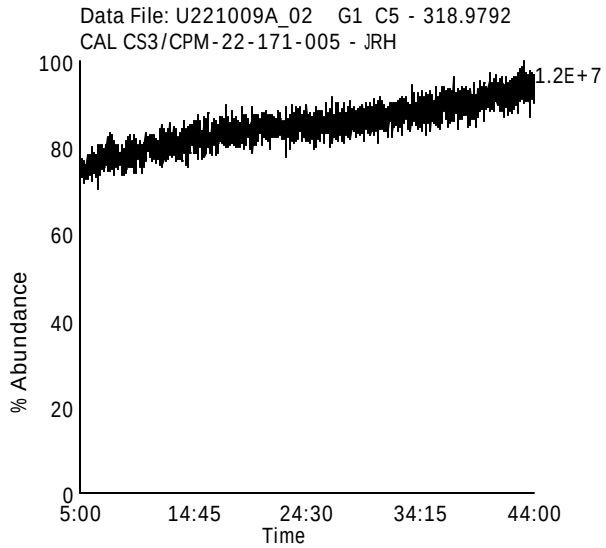










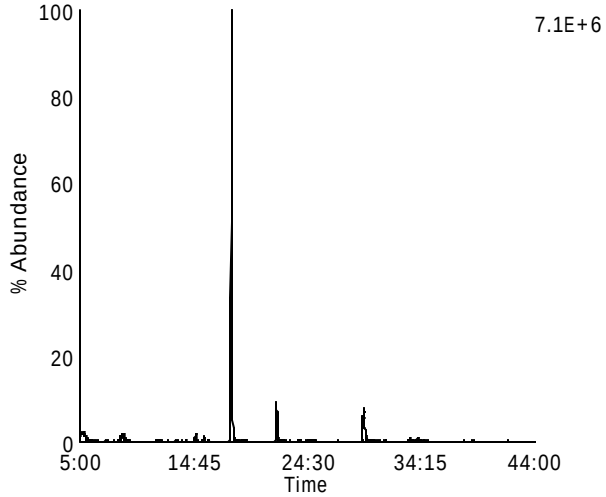


TCDF Confirmation Analysis

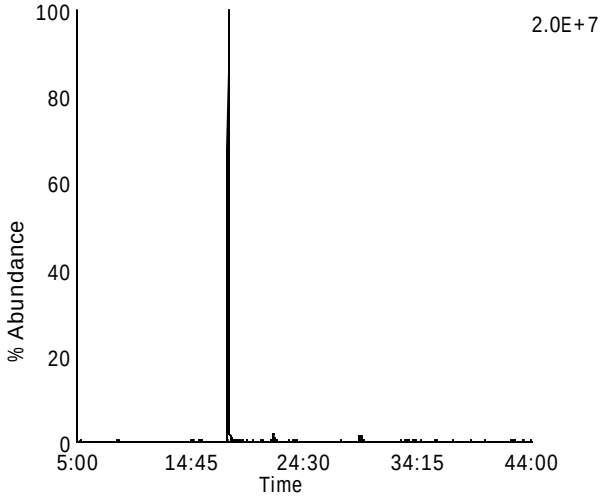
Data File Name: U221009A_06
Date Acquired: 10/9/2022
Sample Description: CAL CS4-22-171-007 - JRH

Lab Sample ID: CS4-22-171-007
Client Sample ID:
Instrument: 10MSHR06 (U)

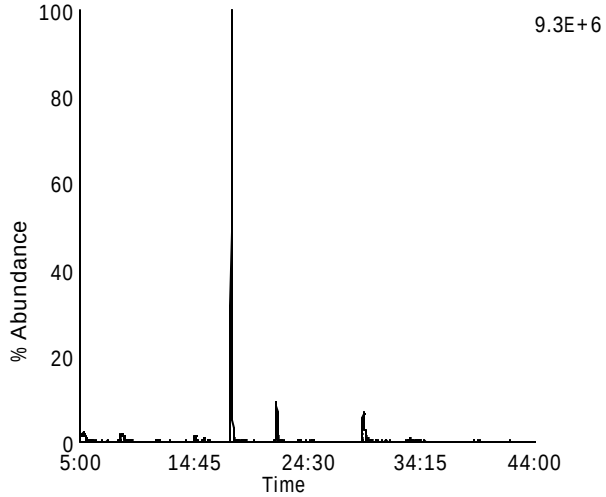
Data File: U221009A_06 G1 C1 - 303.9016
CAL CS4-22-171-007 - JRH



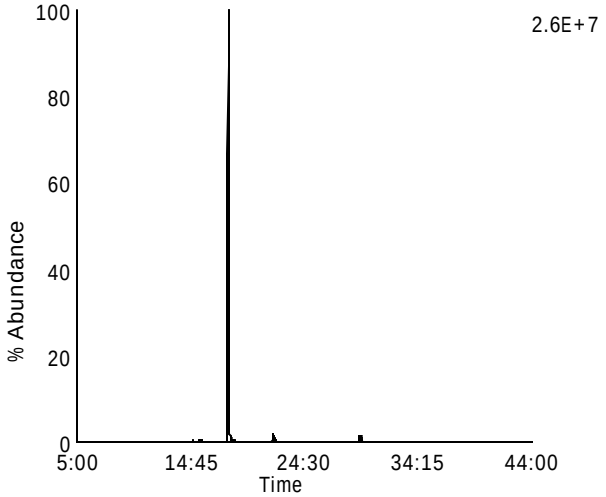
Data File: U221009A_06 G1 C3 - 315.9418
CAL CS4-22-171-007 - JRH



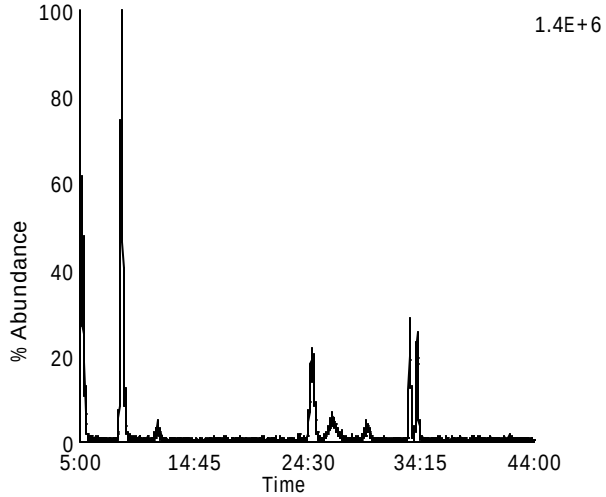
Data File: U221009A_06 G1 C2 - 305.8987
CAL CS4-22-171-007 - JRH



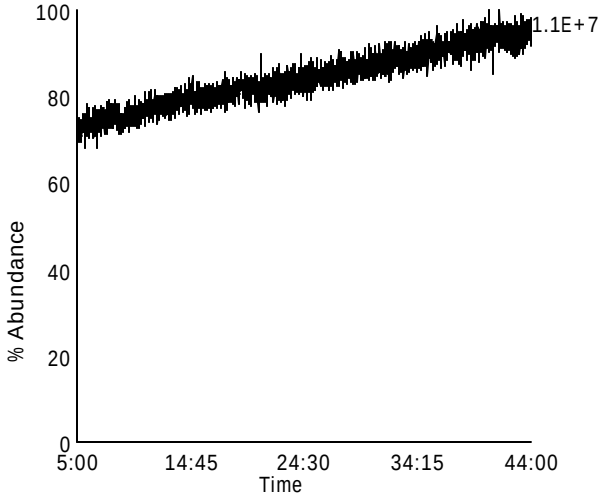
Data File: U221009A_06 G1 C4 - 317.9389
CAL CS4-22-171-007 - JRH



Data File: U221009A_06 G1 C12 - 375.8364
CAL CS4-22-171-007 - JRH



Data File: U221009A_06 G1 C5 - 318.9792
CAL CS4-22-171-007 - JRH

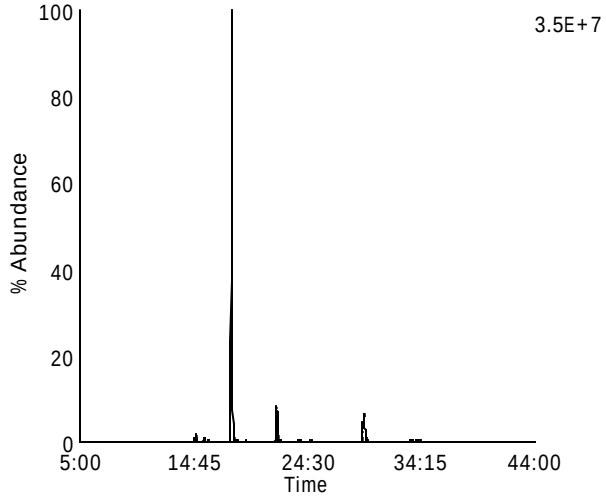


TCDF Confirmation Analysis

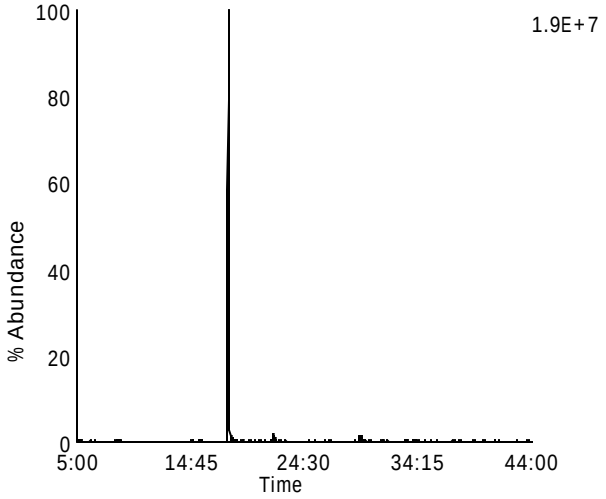
Data File Name: U221009A_05
Date Acquired: 10/9/2022
Sample Description: CAL CS5-22-171-008 - JRH

Lab Sample ID: CS5-22-171-008
Client Sample ID:
Instrument: 10MSHR06 (U)

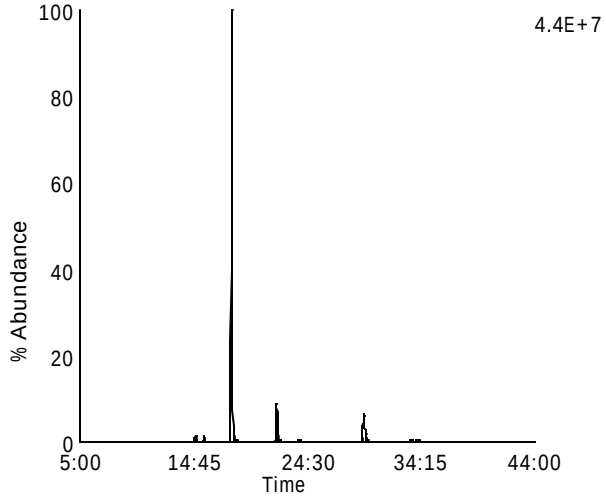
Data File: U221009A_05 G1 C1 - 303.9016
CAL CS5-22-171-008 - JRH



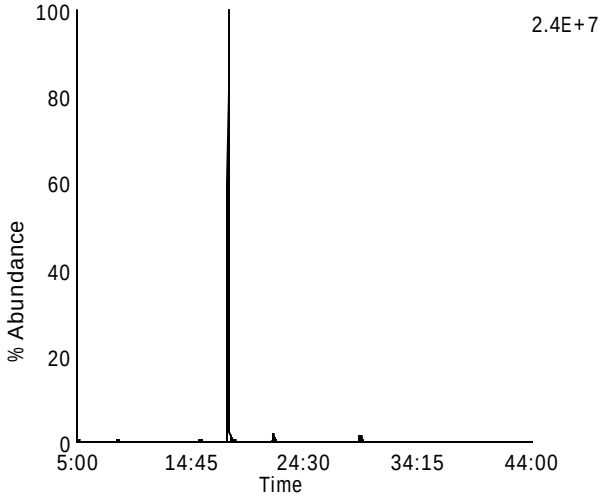
Data File: U221009A_05 G1 C3 - 315.9418
CAL CS5-22-171-008 - JRH



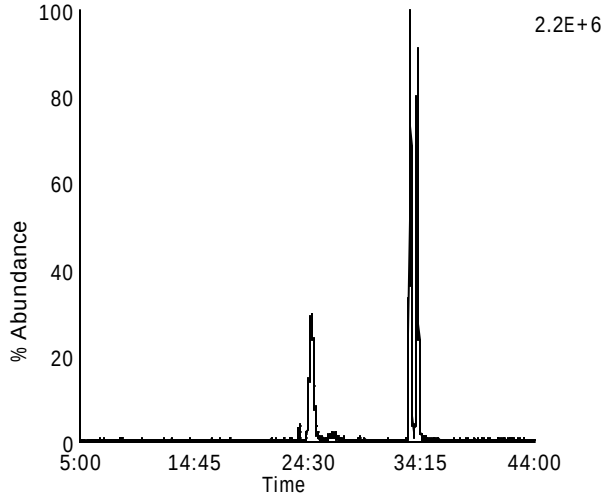
Data File: U221009A_05 G1 C2 - 305.8987
CAL CS5-22-171-008 - JRH



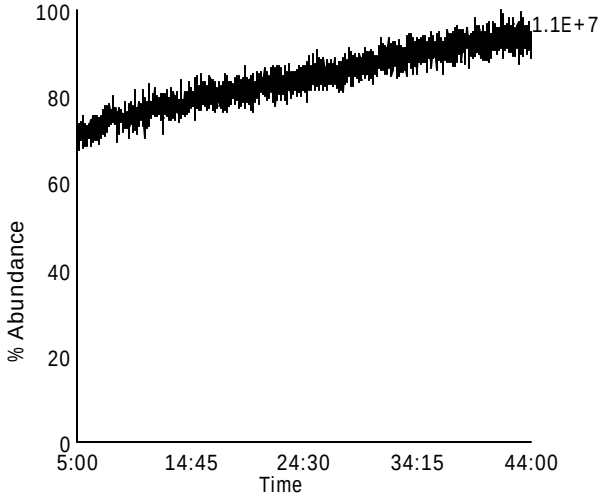
Data File: U221009A_05 G1 C4 - 317.9389
CAL CS5-22-171-008 - JRH



Data File: U221009A_05 G1 C12 - 375.8364
CAL CS5-22-171-008 - JRH



Data File: U221009A_05 G1 C5 - 318.9792
CAL CS5-22-171-008 - JRH

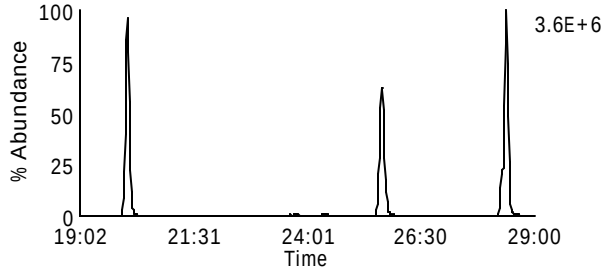


Homologue Group: Tetras

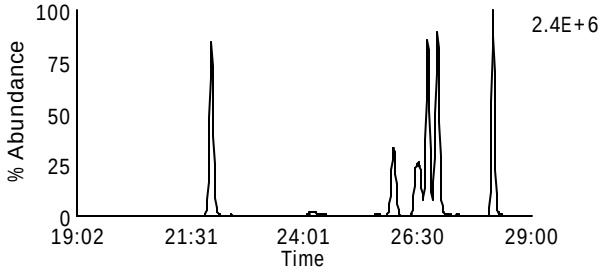
Data File Name: L230305A_18
Date Acquired: 3/5/2023
Sample Description: CAL CS3/CPM-22-171-022 - JRH

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)

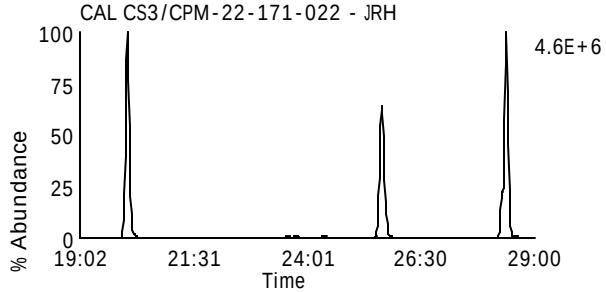
Data File: L230305A_18 G1 C1 - 303.9016
CAL CS3/CPM-22-171-022 - JRH



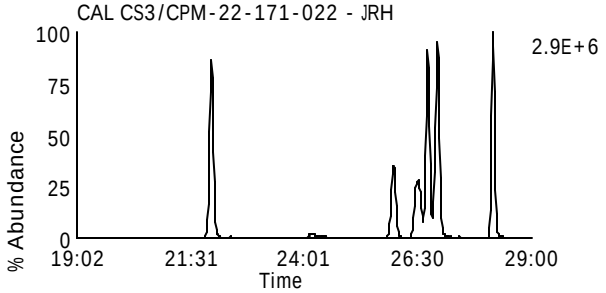
Data File: L230305A_18 G1 C7 - 319.8965
CAL CS3/CPM-22-171-022 - JRH



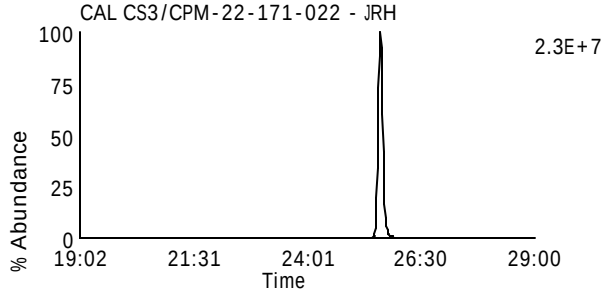
Data File: L230305A_18 G1 C2 - 305.8987
CAL CS3/CPM-22-171-022 - JRH



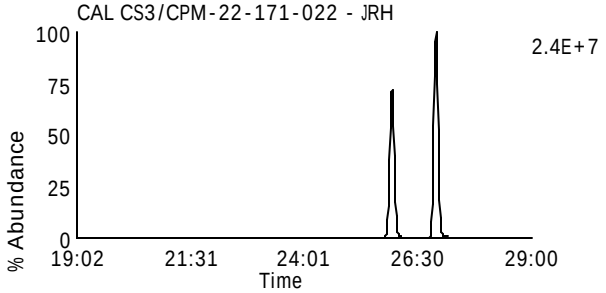
Data File: L230305A_18 G1 C8 - 321.8936
CAL CS3/CPM-22-171-022 - JRH



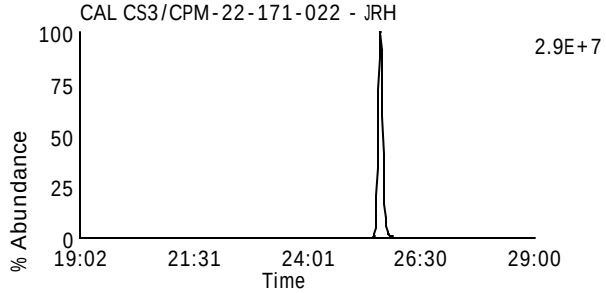
Data File: L230305A_18 G1 C3 - 315.9418
CAL CS3/CPM-22-171-022 - JRH



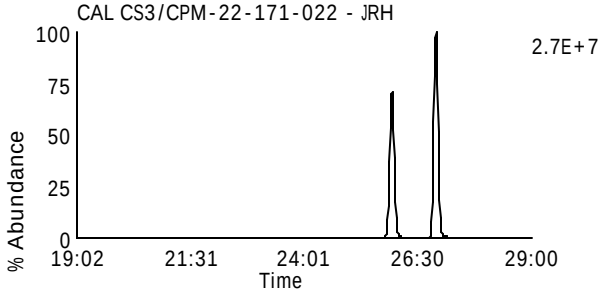
Data File: L230305A_18 G1 C10 - 331.9367
CAL CS3/CPM-22-171-022 - JRH



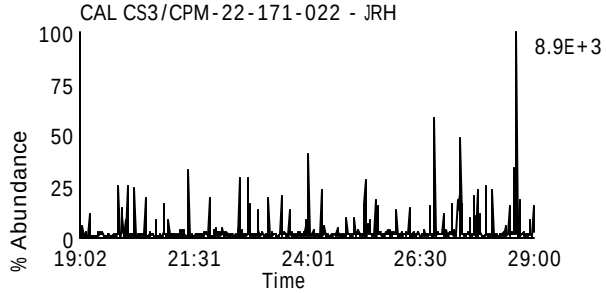
Data File: L230305A_18 G1 C4 - 317.9389
CAL CS3/CPM-22-171-022 - JRH



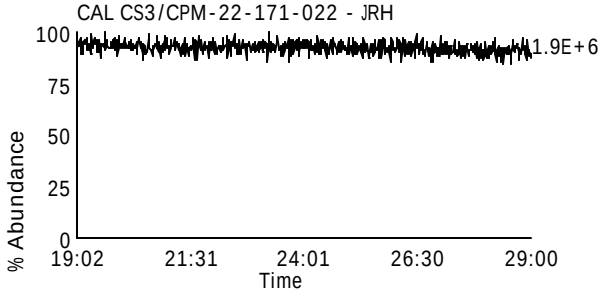
Data File: L230305A_18 G1 C11 - 333.9338
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305A_18 G1 C14 - 375.8364
CAL CS3/CPM-22-171-022 - JRH

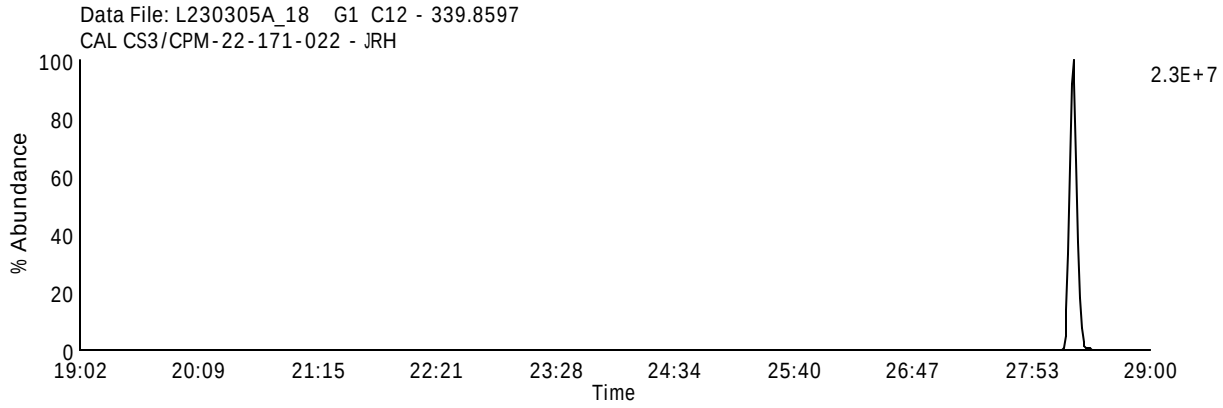


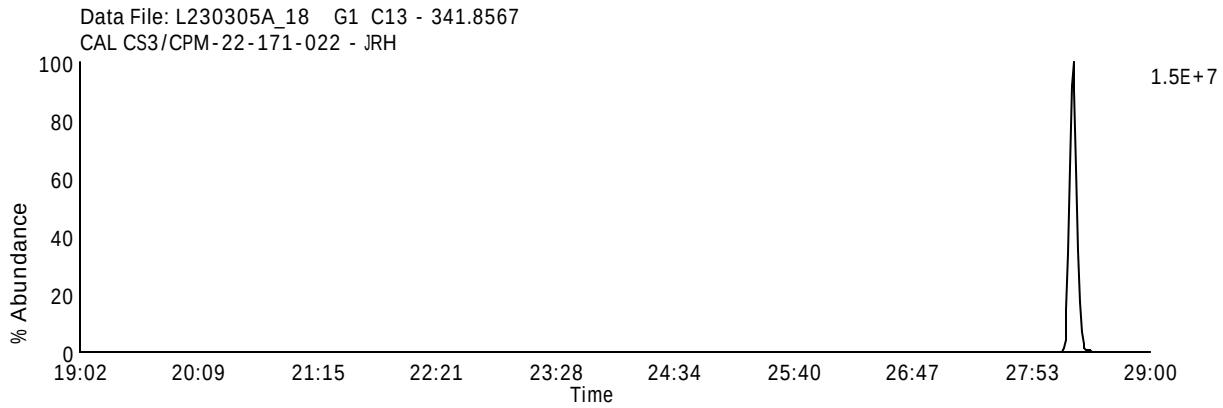
Data File: L230305A_18 G1 C5 - 318.9792
CAL CS3/CPM-22-171-022 - JRH

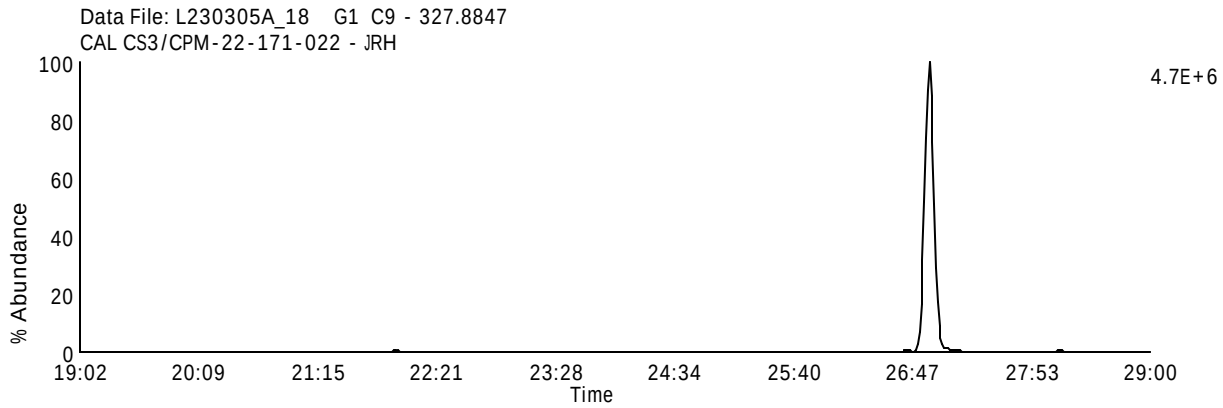


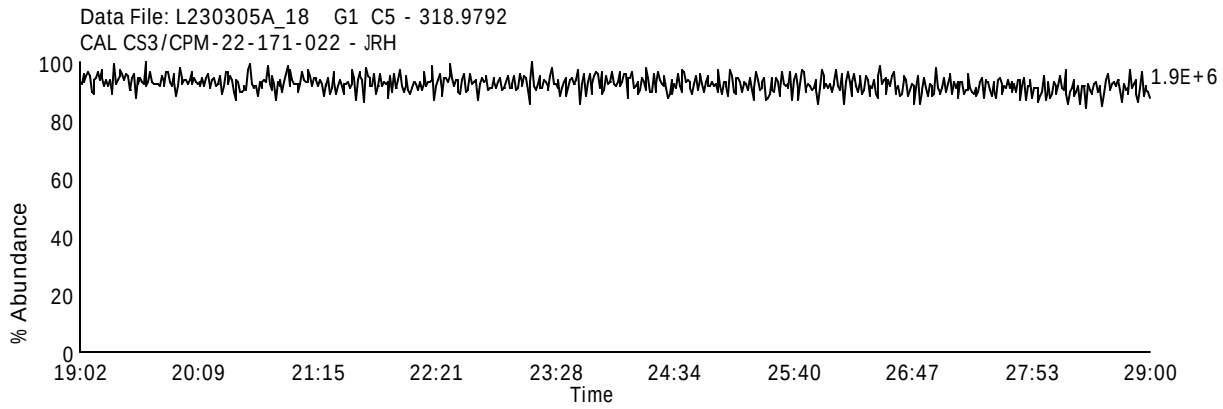
Homologue Group: Penta & Cleanup

Data File Name: L230305A_18
Lab Sample ID: CS3/CPM-22-171-022
Date Acquired: 3/5/2023
Client Sample ID:
Sample Description: CAL CS3/CPM-22-171-022 - JRH
Instrument: 10MSHR15 (L)







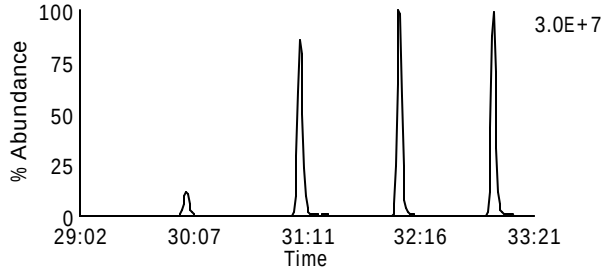


Homologue Group: Pentas

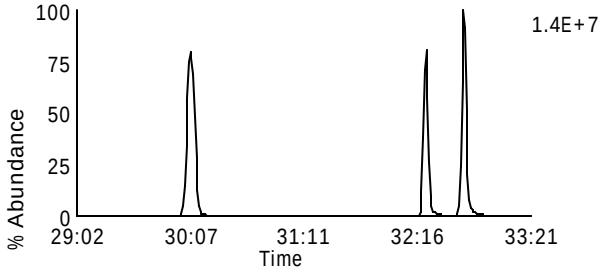
Data File Name: L230305A_18
Date Acquired: 3/5/2023
Sample Description: CAL CS3/CPM-22-171-022 - JRH

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)

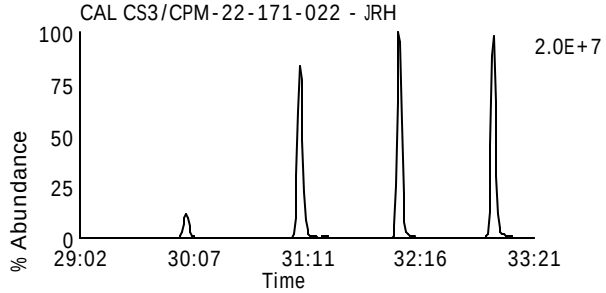
Data File: L230305A_18 G2 C1 - 339.8597
CAL CS3/CPM-22-171-022 - JRH



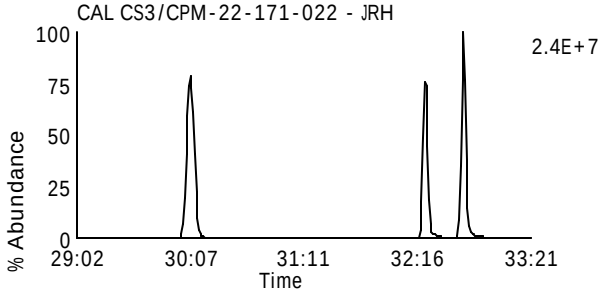
Data File: L230305A_18 G2 C4 - 353.8576
CAL CS3/CPM-22-171-022 - JRH



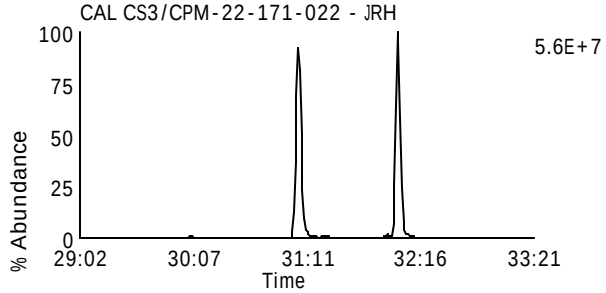
Data File: L230305A_18 G2 C2 - 341.8567
CAL CS3/CPM-22-171-022 - JRH



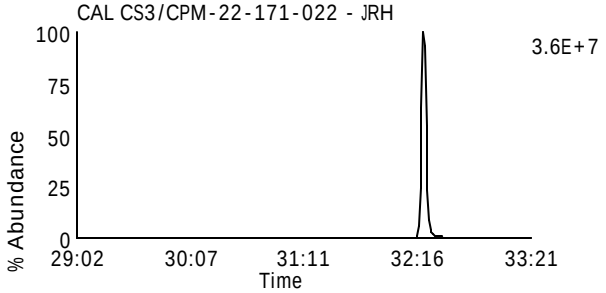
Data File: L230305A_18 G2 C8 - 355.8546
CAL CS3/CPM-22-171-022 - JRH



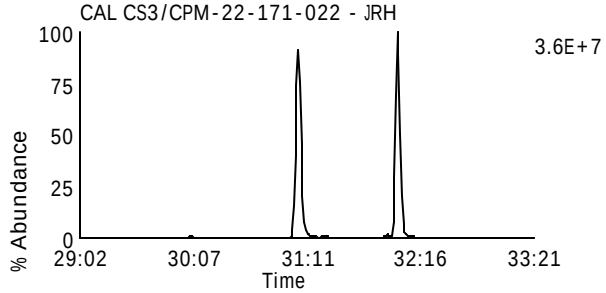
Data File: L230305A_18 G2 C3 - 351.8999
CAL CS3/CPM-22-171-022 - JRH



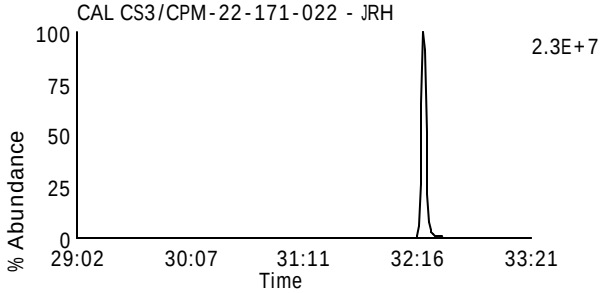
Data File: L230305A_18 G2 C10 - 367.8948
CAL CS3/CPM-22-171-022 - JRH



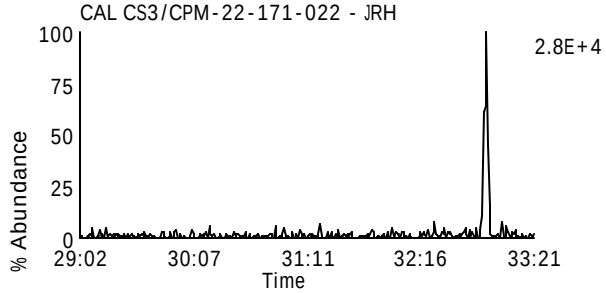
Data File: L230305A_18 G2 C5 - 353.8969
CAL CS3/CPM-22-171-022 - JRH



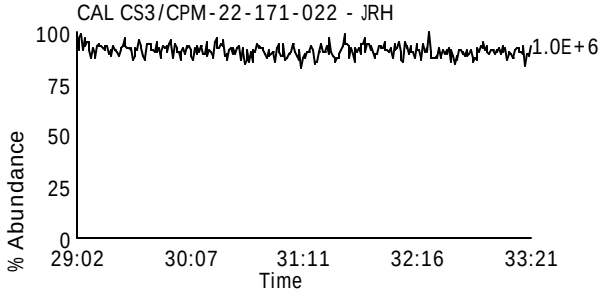
Data File: L230305A_18 G2 C11 - 369.8918
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305A_18 G2 C12 - 409.7974
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305A_18 G2 C6 - 354.9792
CAL CS3/CPM-22-171-022 - JRH

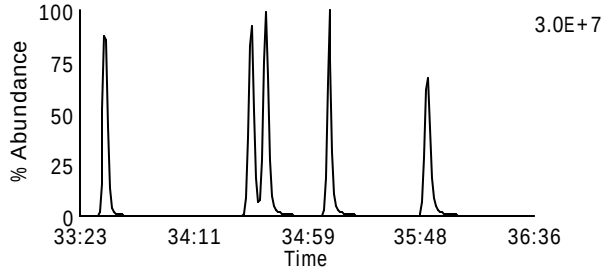


Homologue Group: Hexas

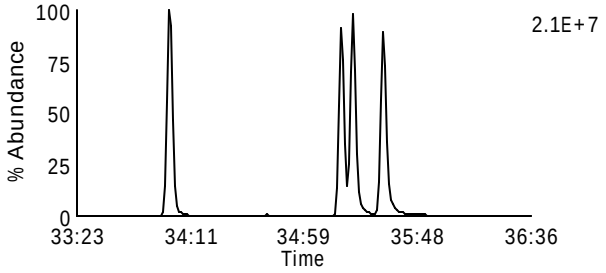
Data File Name: L230305A_18
Date Acquired: 3/5/2023
Sample Description: CAL CS3/CPM-22-171-022 - JRH

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)

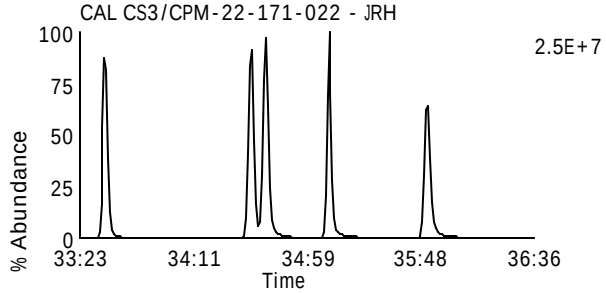
Data File: L230305A_18 G3 C1 - 373.8207
CAL CS3/CPM-22-171-022 - JRH



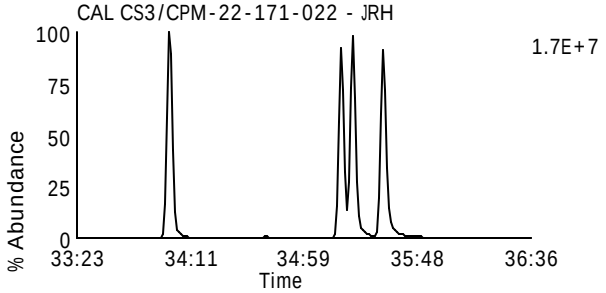
Data File: L230305A_18 G3 C7 - 389.8156
CAL CS3/CPM-22-171-022 - JRH



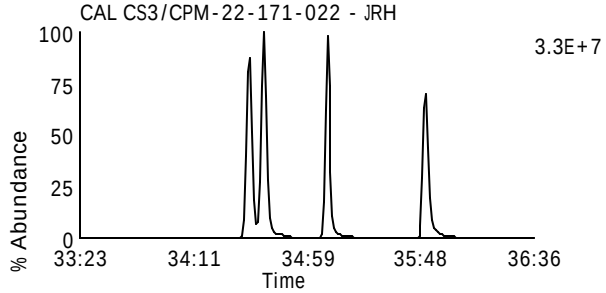
Data File: L230305A_18 G3 C2 - 375.8178
CAL CS3/CPM-22-171-022 - JRH



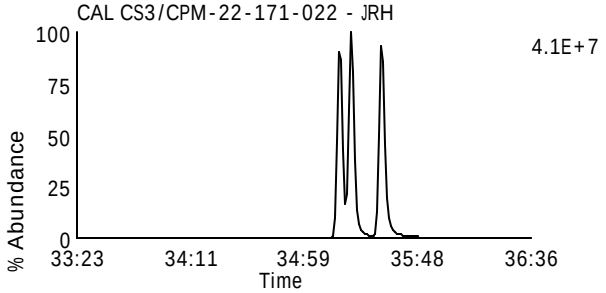
Data File: L230305A_18 G3 C8 - 391.8127
CAL CS3/CPM-22-171-022 - JRH



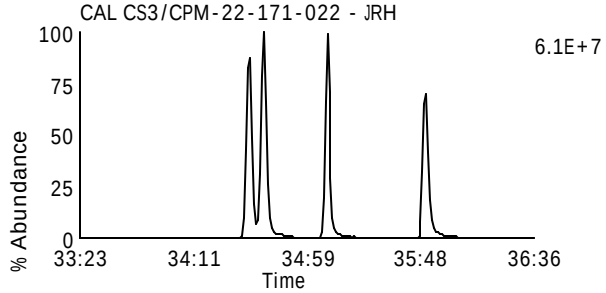
Data File: L230305A_18 G3 C5 - 383.8639
CAL CS3/CPM-22-171-022 - JRH



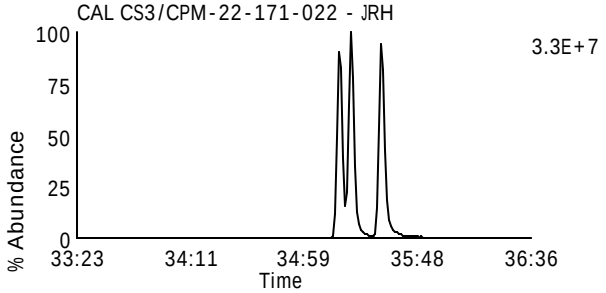
Data File: L230305A_18 G3 C9 - 401.8559
CAL CS3/CPM-22-171-022 - JRH



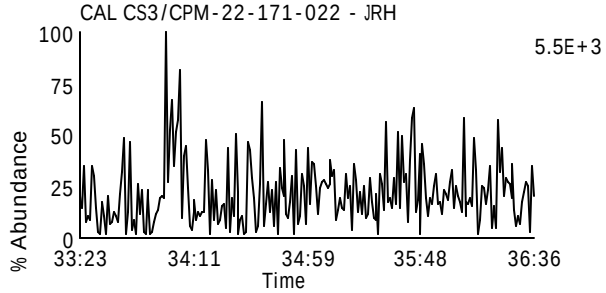
Data File: L230305A_18 G3 C6 - 385.861
CAL CS3/CPM-22-171-022 - JRH



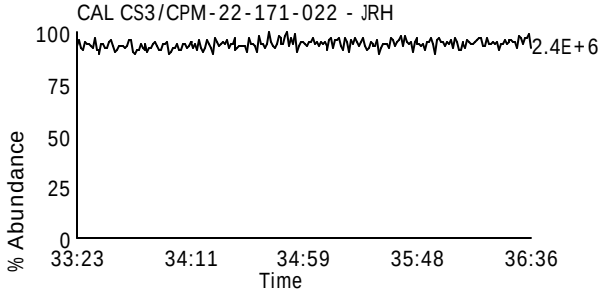
Data File: L230305A_18 G3 C10 - 403.8529
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305A_18 G3 C11 - 445.7555
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305A_18 G3 C3 - 380.976
CAL CS3/CPM-22-171-022 - JRH

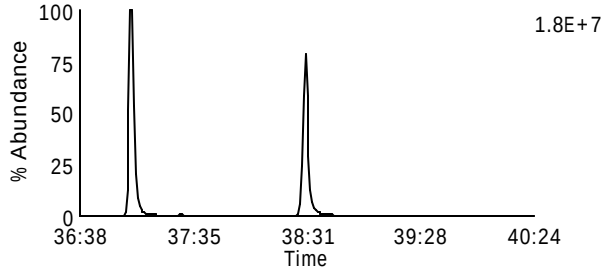


Homologue Group: Heptas

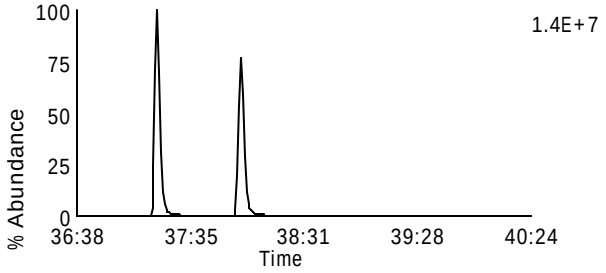
Data File Name: L230305A_18
Date Acquired: 3/5/2023
Sample Description: CAL CS3/CPM-22-171-022 - JRH

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)

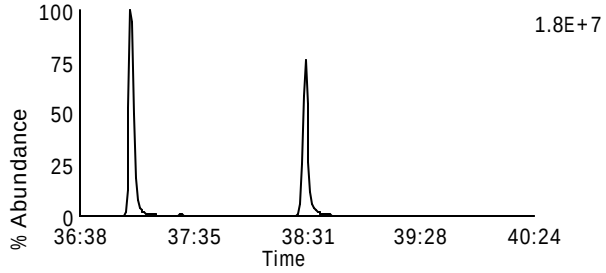
Data File: L230305A_18 G4 C3 - 407.7818
CAL CS3/CPM-22-171-022 - JRH



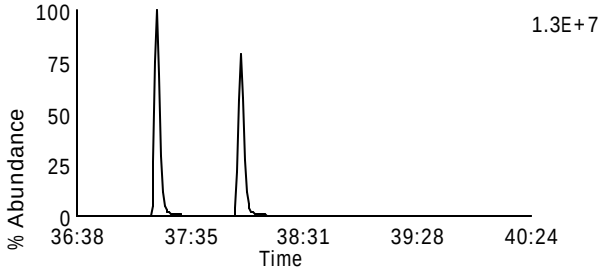
Data File: L230305A_18 G4 C8 - 423.7767
CAL CS3/CPM-22-171-022 - JRH



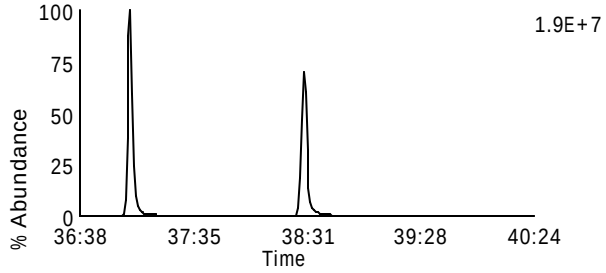
Data File: L230305A_18 G4 C4 - 409.7788
CAL CS3/CPM-22-171-022 - JRH



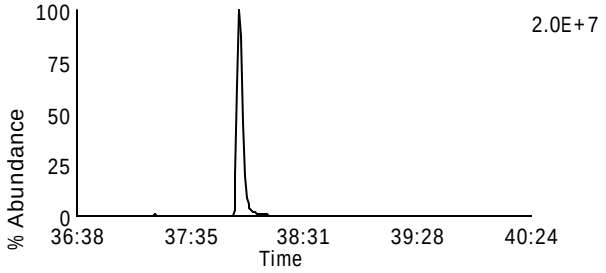
Data File: L230305A_18 G4 C9 - 425.7737
CAL CS3/CPM-22-171-022 - JRH



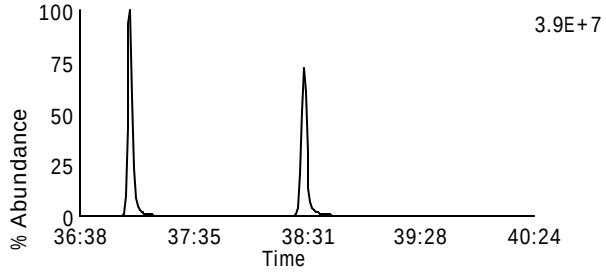
Data File: L230305A_18 G4 C6 - 417.825
CAL CS3/CPM-22-171-022 - JRH



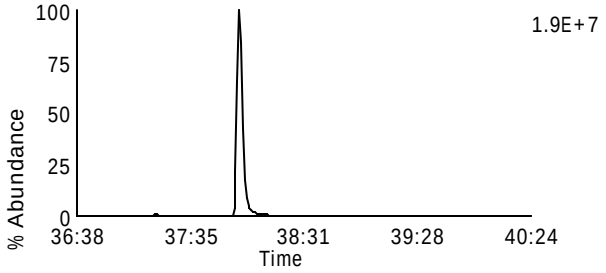
Data File: L230305A_18 G4 C11 - 435.8169
CAL CS3/CPM-22-171-022 - JRH



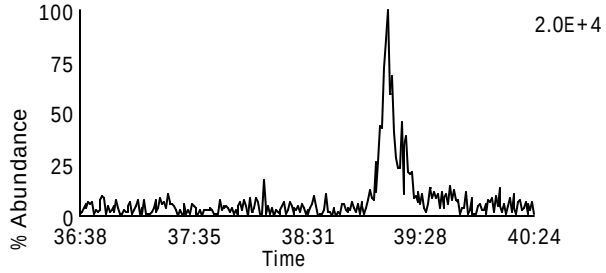
Data File: L230305A_18 G4 C7 - 419.822
CAL CS3/CPM-22-171-022 - JRH



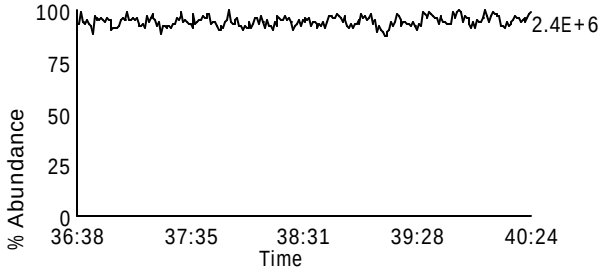
Data File: L230305A_18 G4 C12 - 437.814
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305A_18 G4 C13 - 479.7165
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305A_18 G4 C1 - 380.976
CAL CS3/CPM-22-171-022 - JRH

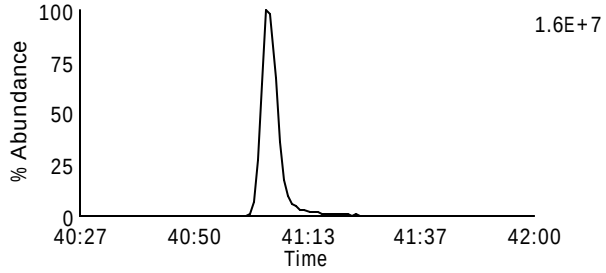


Homologue Group: Octas

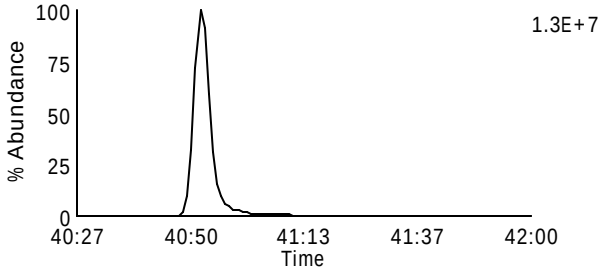
Data File Name: L230305A_18
Date Acquired: 3/5/2023
Sample Description: CAL CS3/CPM-22-171-022 - JRH

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)

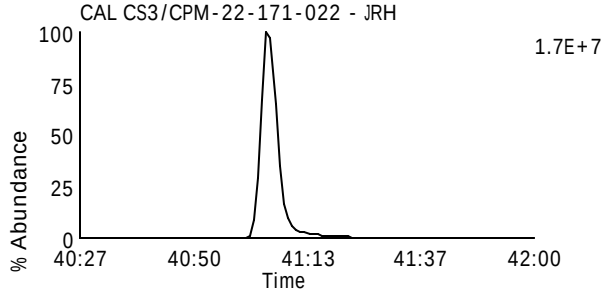
Data File: L230305A_18 G5 C4 - 441.7428
CAL CS3/CPM-22-171-022 - JRH



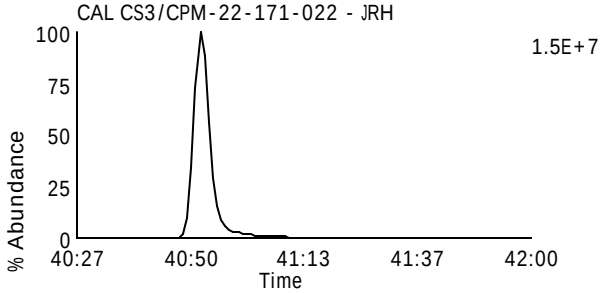
Data File: L230305A_18 G5 C8 - 457.7377
CAL CS3/CPM-22-171-022 - JRH



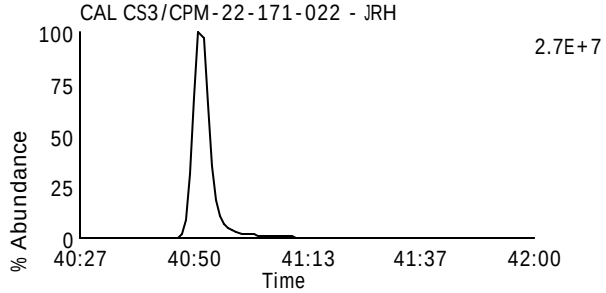
Data File: L230305A_18 G5 C5 - 443.7398
CAL CS3/CPM-22-171-022 - JRH



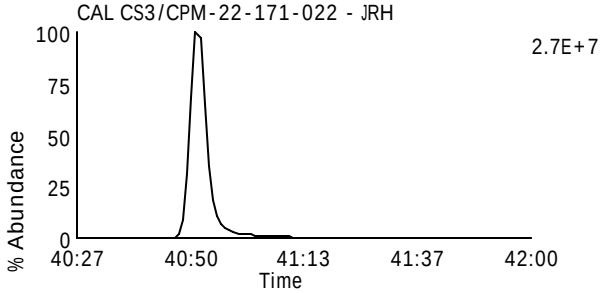
Data File: L230305A_18 G5 C9 - 459.7347
CAL CS3/CPM-22-171-022 - JRH



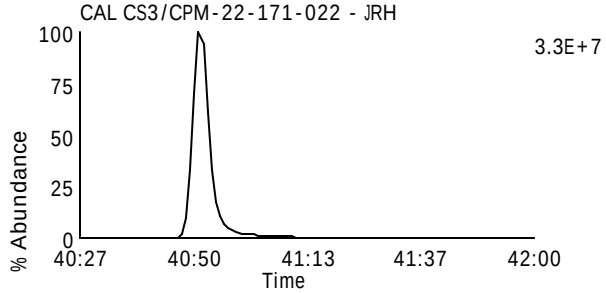
Data File: L230305A_18 G5 C11 - 469.7779
CAL CS3/CPM-22-171-022 - JRH



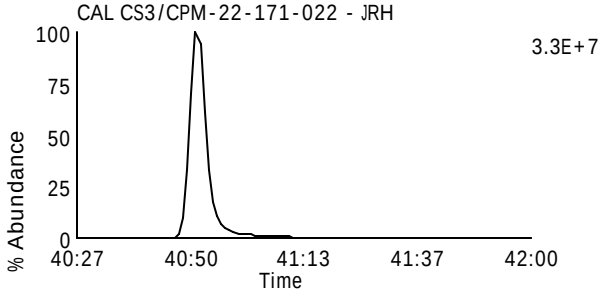
Data File: L230305A_18 G5 C11 - 469.7779
CAL CS3/CPM-22-171-022 - JRH



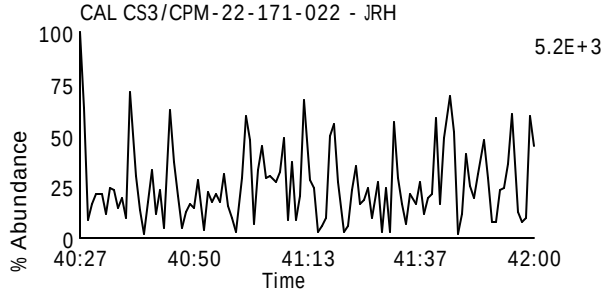
Data File: L230305A_18 G5 C12 - 471.7749
CAL CS3/CPM-22-171-022 - JRH



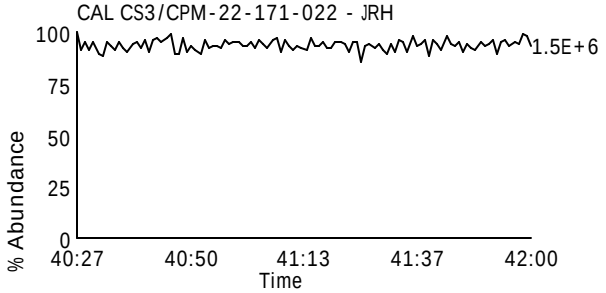
Data File: L230305A_18 G5 C12 - 471.7749
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305A_18 G5 C13 - 513.6775
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305A_18 G5 C2 - 430.9728
CAL CS3/CPM-22-171-022 - JRH

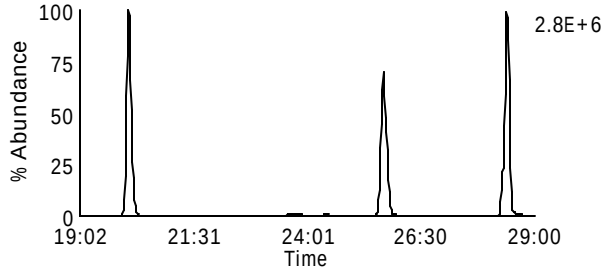


Homologue Group: Tetras

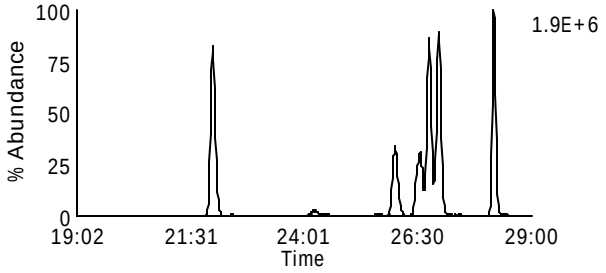
Data File Name: L230305B_10
Date Acquired: 3/6/2023
Sample Description: CAL CS3/CPM-22-171-022 - JRH

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)

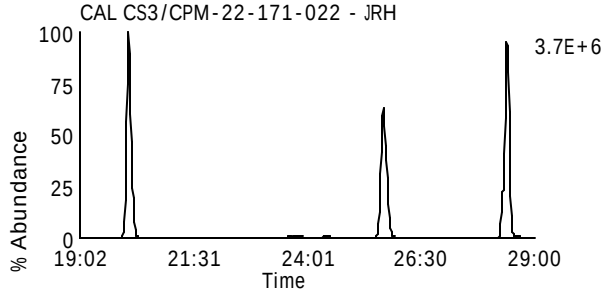
Data File: L230305B_10 G1 C1 - 303.9016
CAL CS3/CPM-22-171-022 - JRH



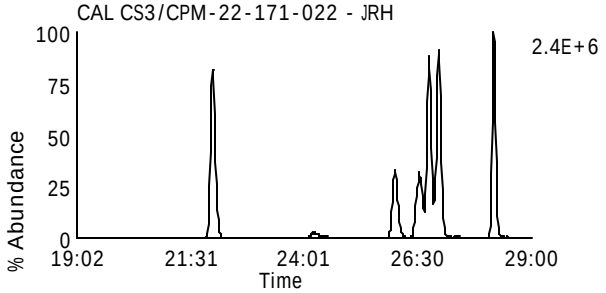
Data File: L230305B_10 G1 C7 - 319.8965
CAL CS3/CPM-22-171-022 - JRH



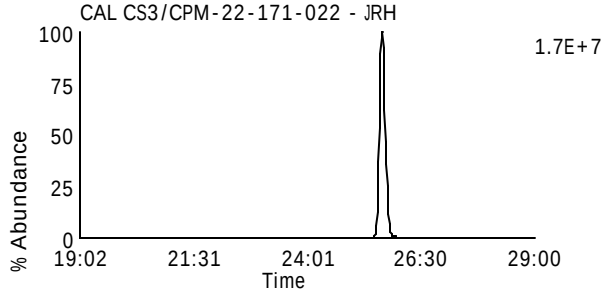
Data File: L230305B_10 G1 C2 - 305.8987
CAL CS3/CPM-22-171-022 - JRH



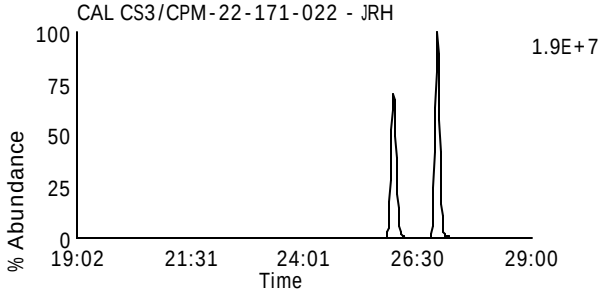
Data File: L230305B_10 G1 C8 - 321.8936
CAL CS3/CPM-22-171-022 - JRH



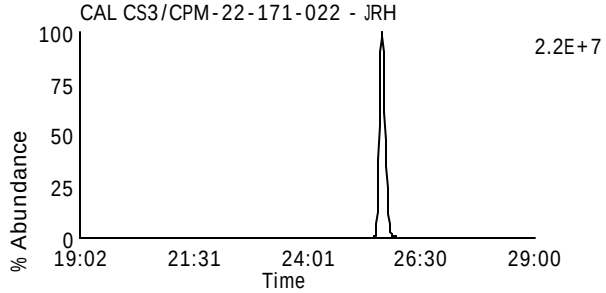
Data File: L230305B_10 G1 C3 - 315.9418
CAL CS3/CPM-22-171-022 - JRH



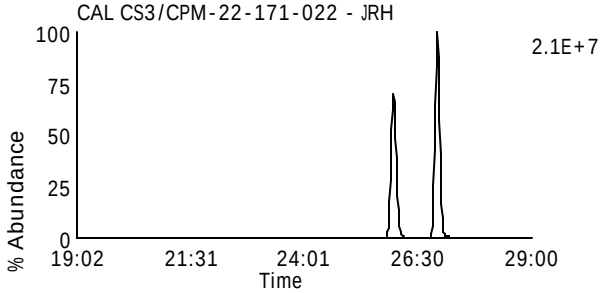
Data File: L230305B_10 G1 C10 - 331.9367
CAL CS3/CPM-22-171-022 - JRH



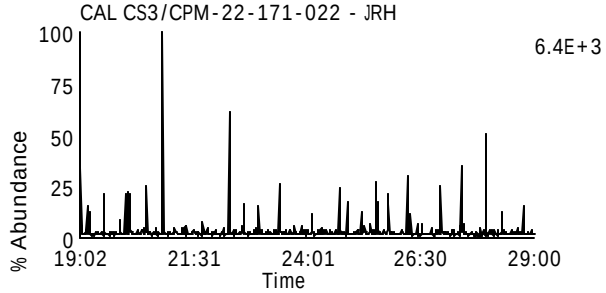
Data File: L230305B_10 G1 C4 - 317.9389
CAL CS3/CPM-22-171-022 - JRH



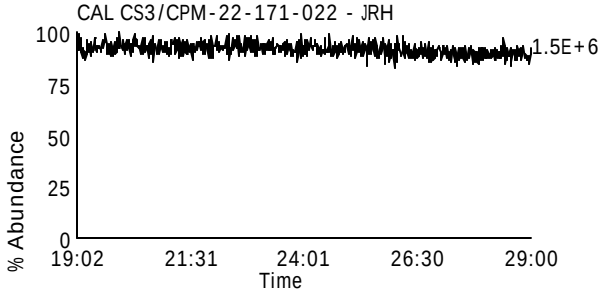
Data File: L230305B_10 G1 C11 - 333.9338
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305B_10 G1 C14 - 375.8364
CAL CS3/CPM-22-171-022 - JRH



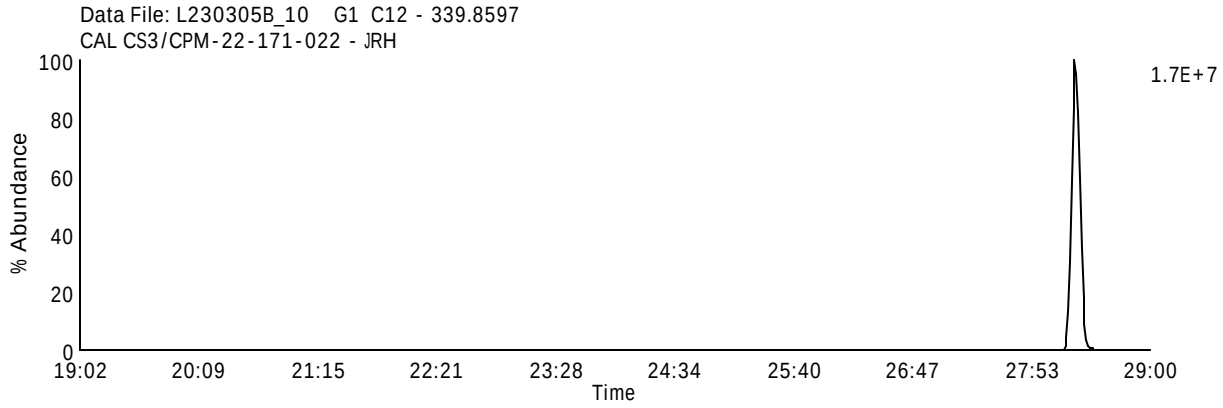
Data File: L230305B_10 G1 C5 - 318.9792
CAL CS3/CPM-22-171-022 - JRH

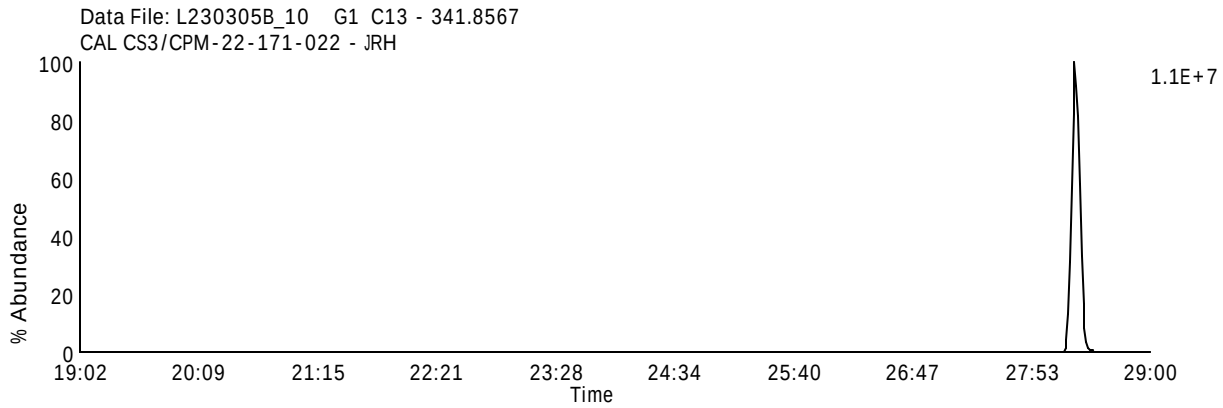


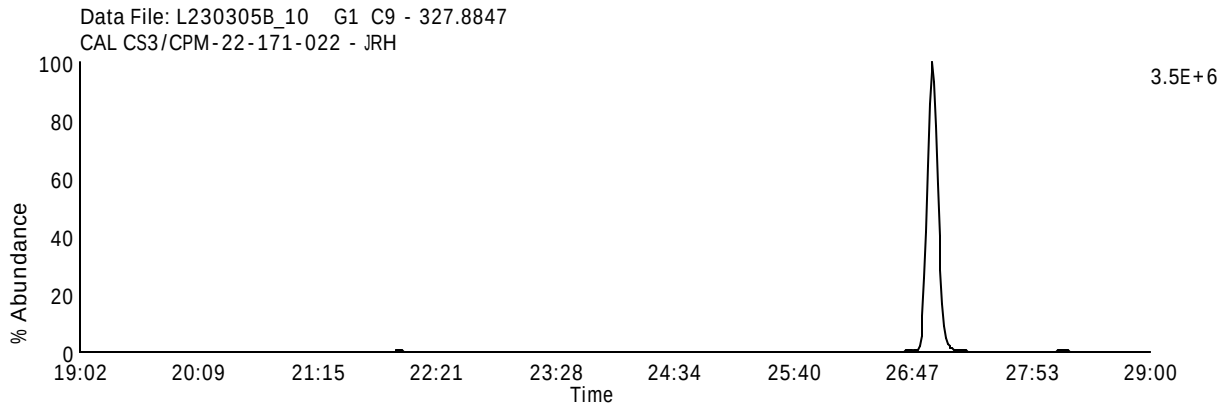
Homologue Group: Penta & Cleanup

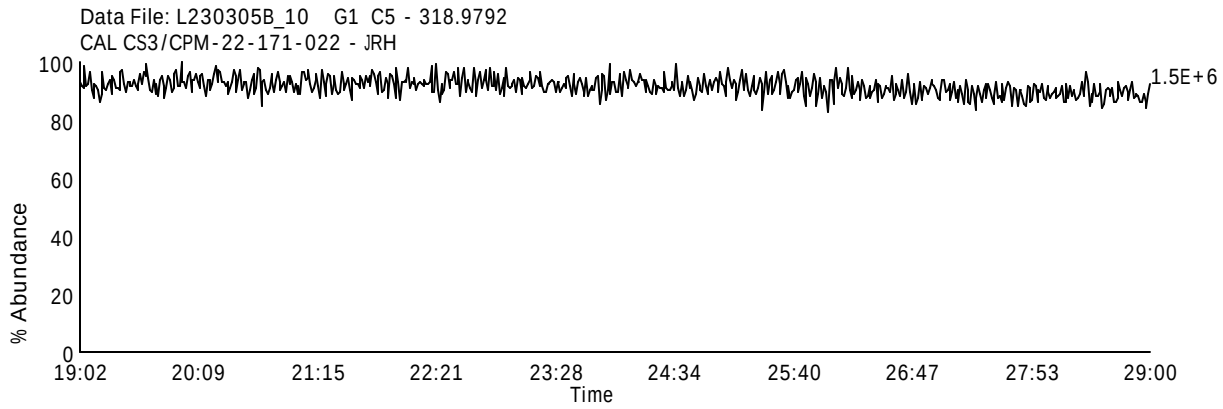
Data File Name: L230305B_10
Date Acquired: 3/6/2023
Sample Description: CAL CS3/CPM-22-171-022 - JRH

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)







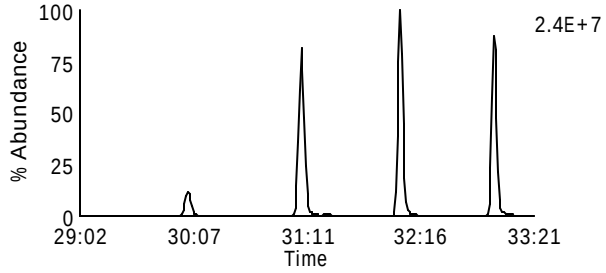


Homologue Group: Pentas

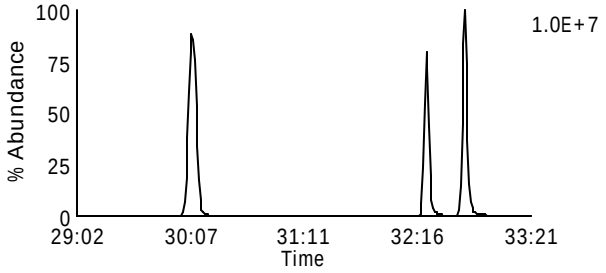
Data File Name: L230305B_10
Date Acquired: 3/6/2023
Sample Description: CAL CS3/CPM-22-171-022 - JRH

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)

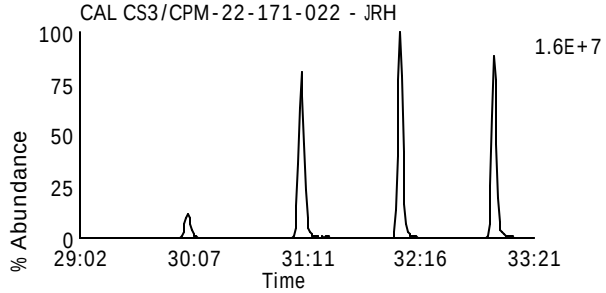
Data File: L230305B_10 G2 C1 - 339.8597
CAL CS3/CPM-22-171-022 - JRH



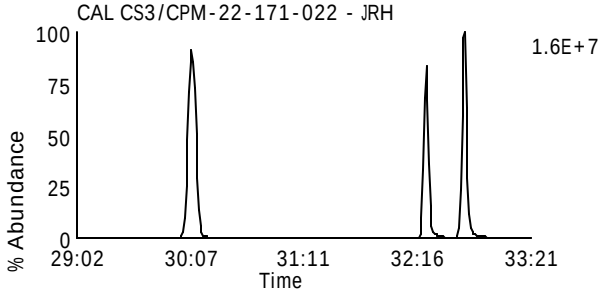
Data File: L230305B_10 G2 C4 - 353.8576
CAL CS3/CPM-22-171-022 - JRH



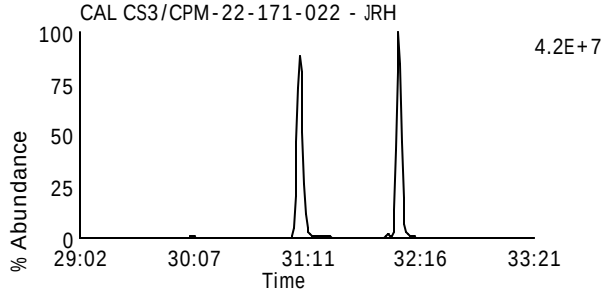
Data File: L230305B_10 G2 C2 - 341.8567
CAL CS3/CPM-22-171-022 - JRH



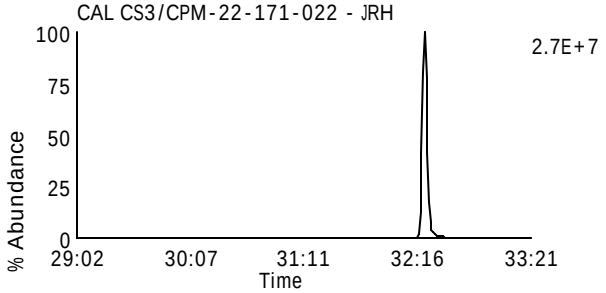
Data File: L230305B_10 G2 C8 - 355.8546
CAL CS3/CPM-22-171-022 - JRH



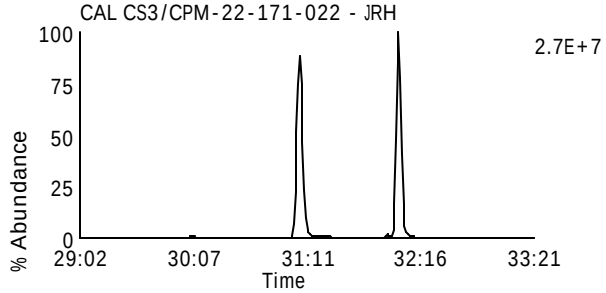
Data File: L230305B_10 G2 C3 - 351.8999
CAL CS3/CPM-22-171-022 - JRH



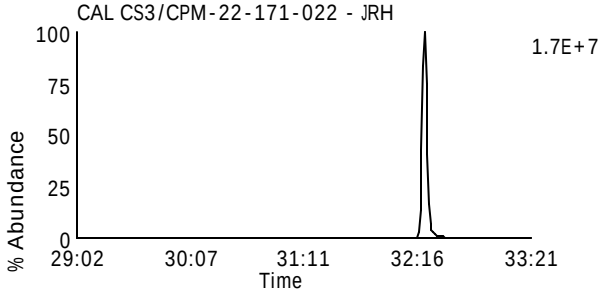
Data File: L230305B_10 G2 C10 - 367.8948
CAL CS3/CPM-22-171-022 - JRH



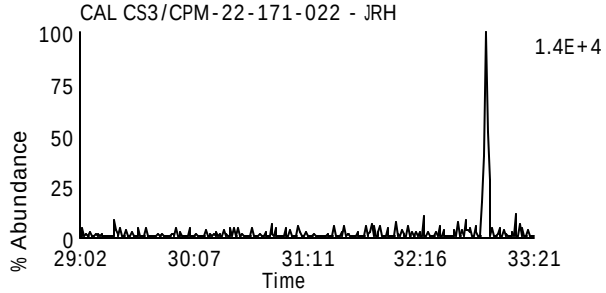
Data File: L230305B_10 G2 C5 - 353.8969
CAL CS3/CPM-22-171-022 - JRH



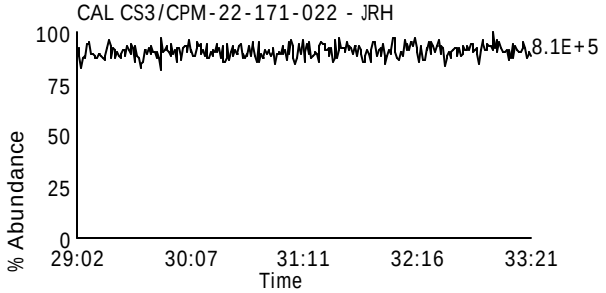
Data File: L230305B_10 G2 C11 - 369.8918
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305B_10 G2 C12 - 409.7974
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305B_10 G2 C6 - 354.9792
CAL CS3/CPM-22-171-022 - JRH

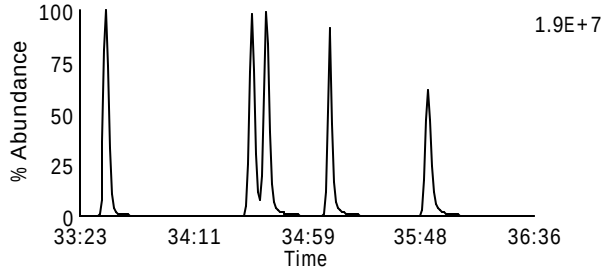


Homologue Group: Hexas

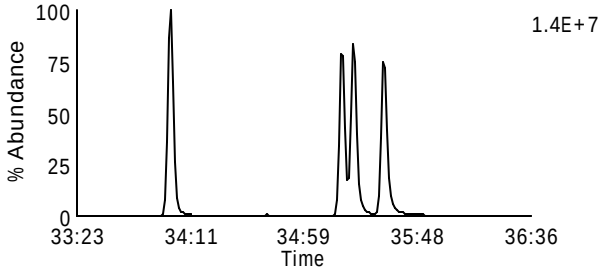
Data File Name: L230305B_10
Date Acquired: 3/6/2023
Sample Description: CAL CS3/CPM-22-171-022 - JRH

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)

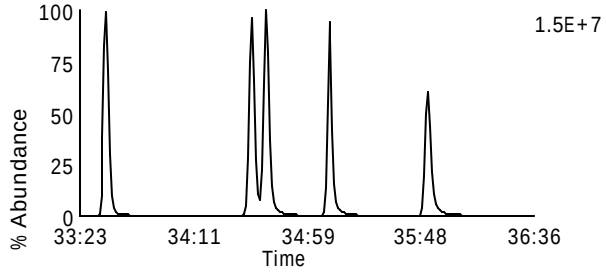
Data File: L230305B_10 G3 C1 - 373.8207
CAL CS3/CPM-22-171-022 - JRH



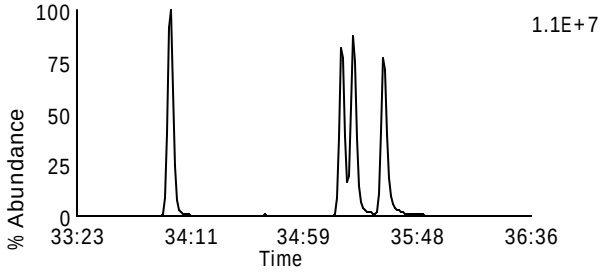
Data File: L230305B_10 G3 C7 - 389.8156
CAL CS3/CPM-22-171-022 - JRH



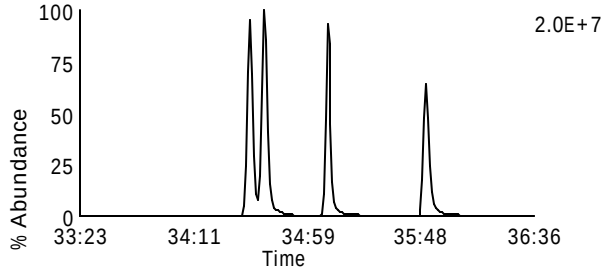
Data File: L230305B_10 G3 C2 - 375.8178
CAL CS3/CPM-22-171-022 - JRH



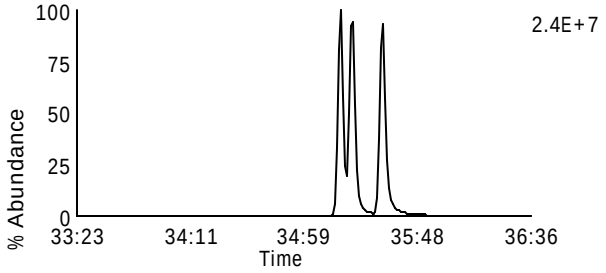
Data File: L230305B_10 G3 C8 - 391.8127
CAL CS3/CPM-22-171-022 - JRH



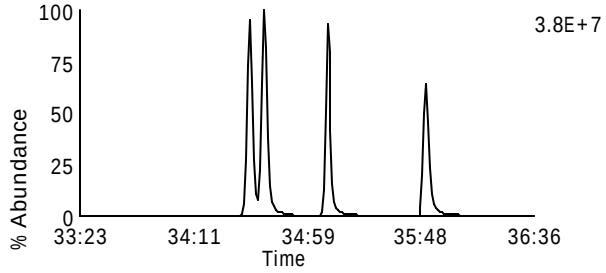
Data File: L230305B_10 G3 C5 - 383.8639
CAL CS3/CPM-22-171-022 - JRH



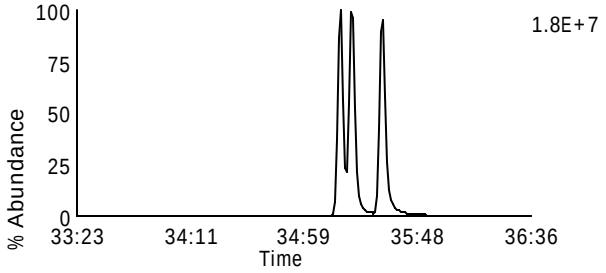
Data File: L230305B_10 G3 C9 - 401.8559
CAL CS3/CPM-22-171-022 - JRH



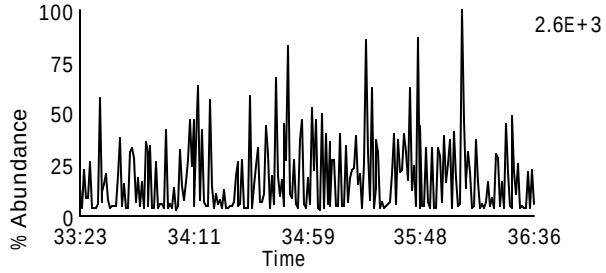
Data File: L230305B_10 G3 C6 - 385.861
CAL CS3/CPM-22-171-022 - JRH



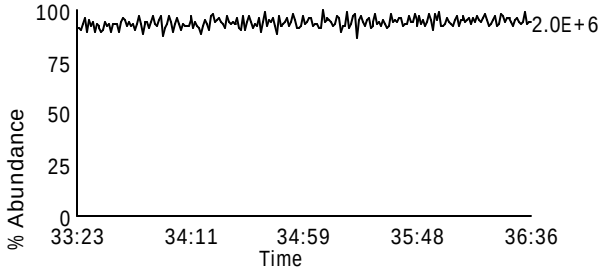
Data File: L230305B_10 G3 C10 - 403.8529
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305B_10 G3 C11 - 445.7555
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305B_10 G3 C3 - 380.976
CAL CS3/CPM-22-171-022 - JRH

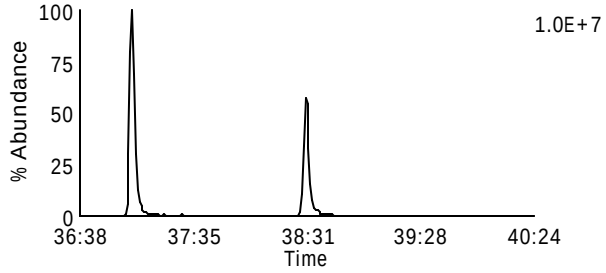


Homologue Group: Heptas

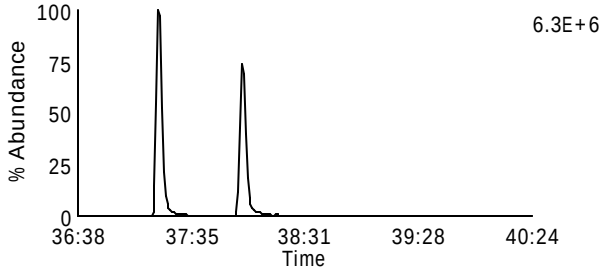
Data File Name: L230305B_10
Date Acquired: 3/6/2023
Sample Description: CAL CS3/CPM-22-171-022 - JRH

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)

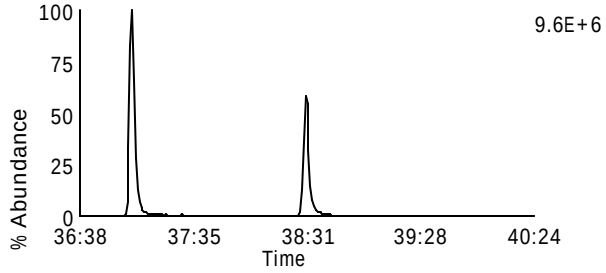
Data File: L230305B_10 G4 C3 - 407.7818
CAL CS3/CPM-22-171-022 - JRH



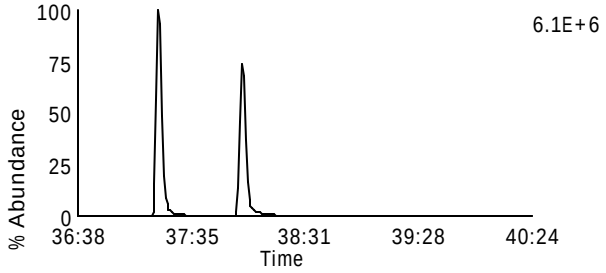
Data File: L230305B_10 G4 C8 - 423.7767
CAL CS3/CPM-22-171-022 - JRH



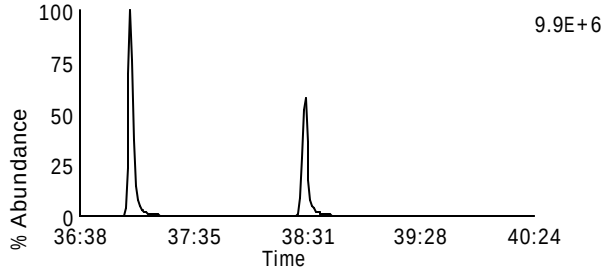
Data File: L230305B_10 G4 C4 - 409.7788
CAL CS3/CPM-22-171-022 - JRH



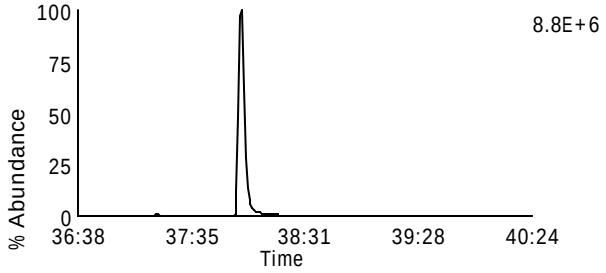
Data File: L230305B_10 G4 C9 - 425.7737
CAL CS3/CPM-22-171-022 - JRH



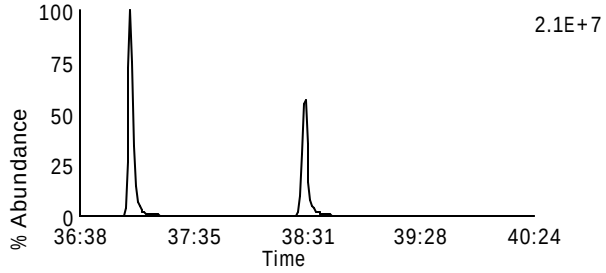
Data File: L230305B_10 G4 C6 - 417.825
CAL CS3/CPM-22-171-022 - JRH



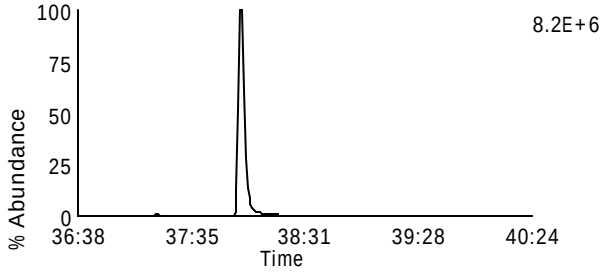
Data File: L230305B_10 G4 C11 - 435.8169
CAL CS3/CPM-22-171-022 - JRH



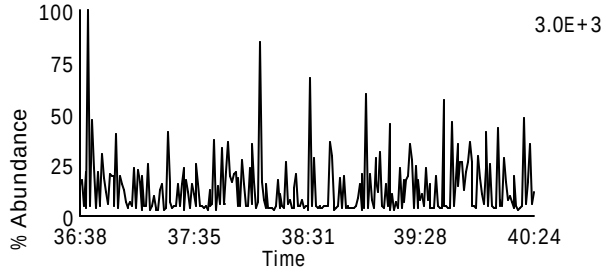
Data File: L230305B_10 G4 C7 - 419.822
CAL CS3/CPM-22-171-022 - JRH



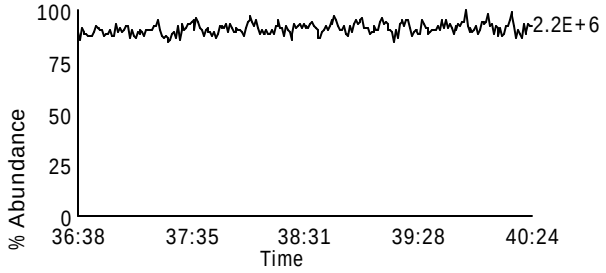
Data File: L230305B_10 G4 C12 - 437.814
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305B_10 G4 C13 - 479.7165
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305B_10 G4 C1 - 380.976
CAL CS3/CPM-22-171-022 - JRH

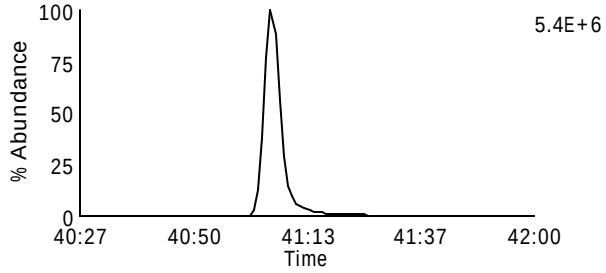


Homologue Group: Octas

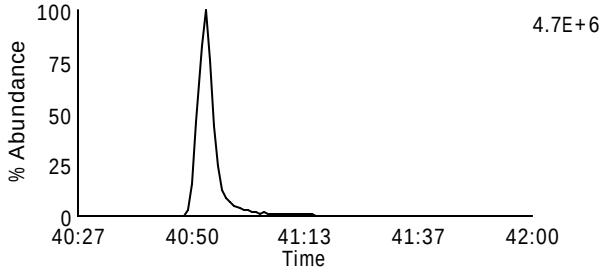
Data File Name: L230305B_10
Date Acquired: 3/6/2023
Sample Description: CAL CS3/CPM-22-171-022 - JRH

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)

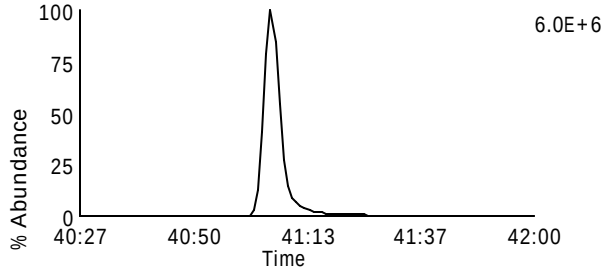
Data File: L230305B_10 G5 C4 - 441.7428
CAL CS3/CPM-22-171-022 - JRH



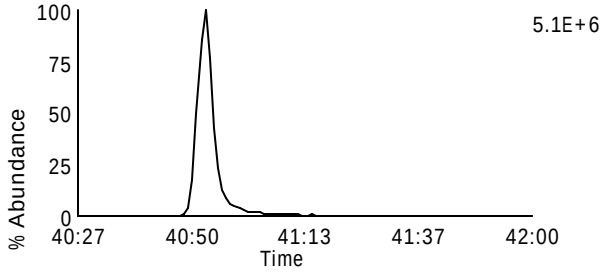
Data File: L230305B_10 G5 C8 - 457.7377
CAL CS3/CPM-22-171-022 - JRH



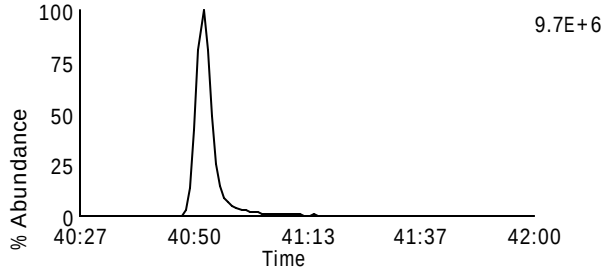
Data File: L230305B_10 G5 C5 - 443.7398
CAL CS3/CPM-22-171-022 - JRH



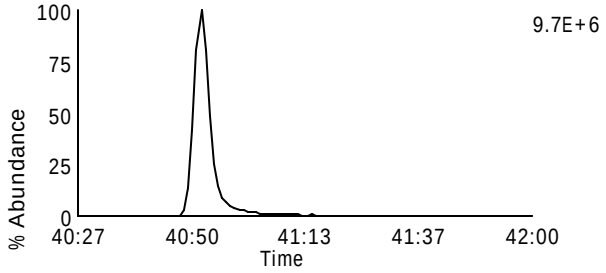
Data File: L230305B_10 G5 C9 - 459.7347
CAL CS3/CPM-22-171-022 - JRH



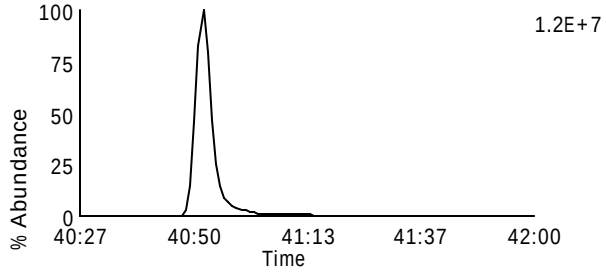
Data File: L230305B_10 G5 C11 - 469.7779
CAL CS3/CPM-22-171-022 - JRH



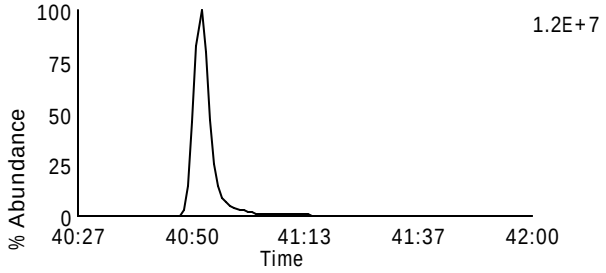
Data File: L230305B_10 G5 C11 - 469.7779
CAL CS3/CPM-22-171-022 - JRH



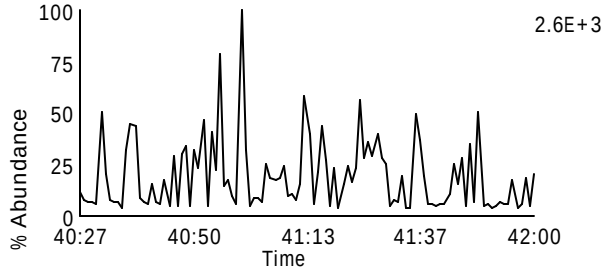
Data File: L230305B_10 G5 C12 - 471.7749
CAL CS3/CPM-22-171-022 - JRH



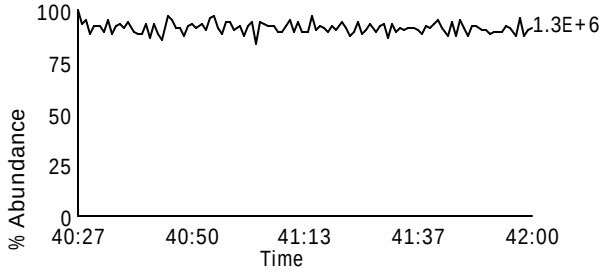
Data File: L230305B_10 G5 C12 - 471.7749
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305B_10 G5 C13 - 513.6775
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305B_10 G5 C2 - 430.9728
CAL CS3/CPM-22-171-022 - JRH

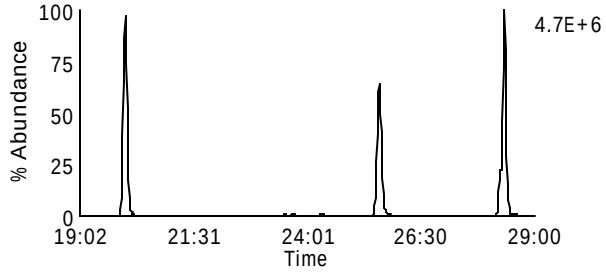


Homologue Group: Tetras

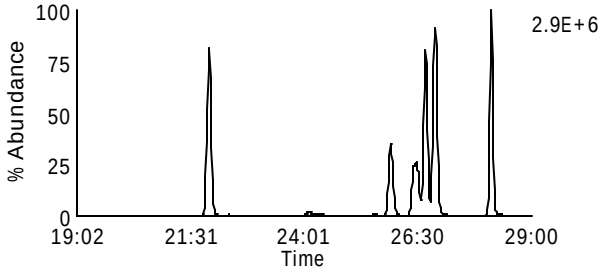
Data File Name: L230306A_17
Date Acquired: 3/6/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)

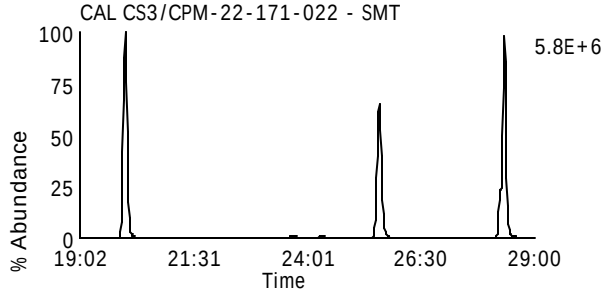
Data File: L230306A_17 G1 C1 - 303.9016
CAL CS3/CPM-22-171-022 - SMT



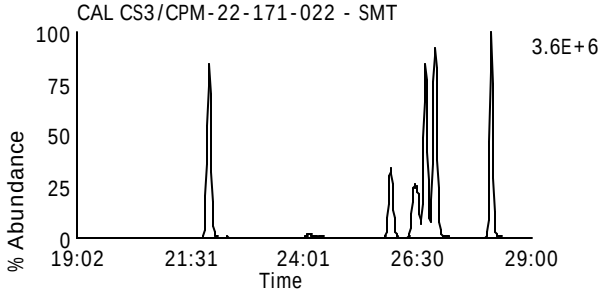
Data File: L230306A_17 G1 C7 - 319.8965
CAL CS3/CPM-22-171-022 - SMT



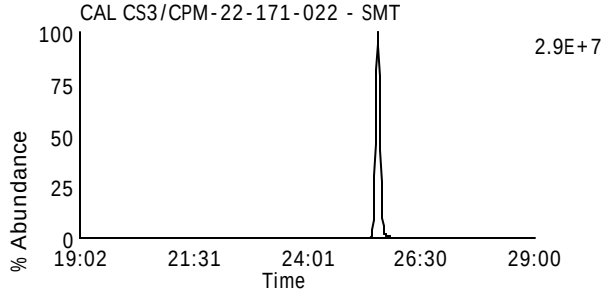
Data File: L230306A_17 G1 C2 - 305.8987
CAL CS3/CPM-22-171-022 - SMT



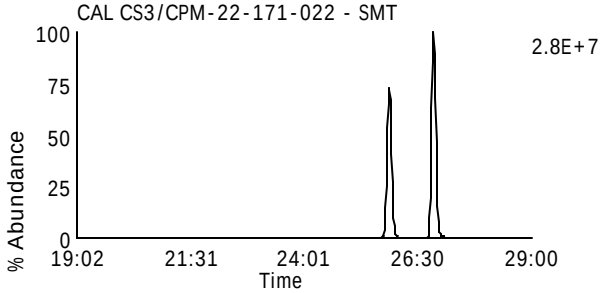
Data File: L230306A_17 G1 C8 - 321.8936
CAL CS3/CPM-22-171-022 - SMT



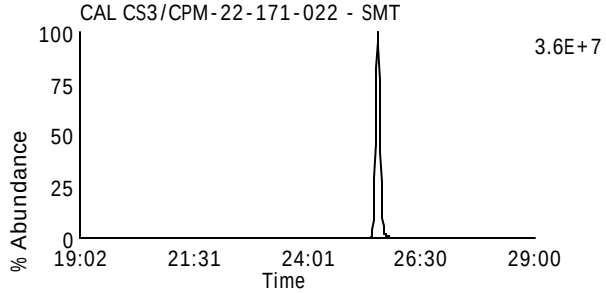
Data File: L230306A_17 G1 C3 - 315.9418
CAL CS3/CPM-22-171-022 - SMT



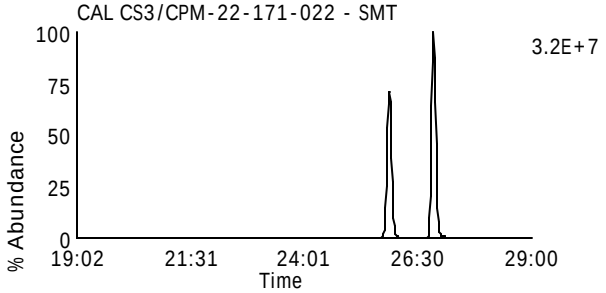
Data File: L230306A_17 G1 C10 - 331.9367
CAL CS3/CPM-22-171-022 - SMT



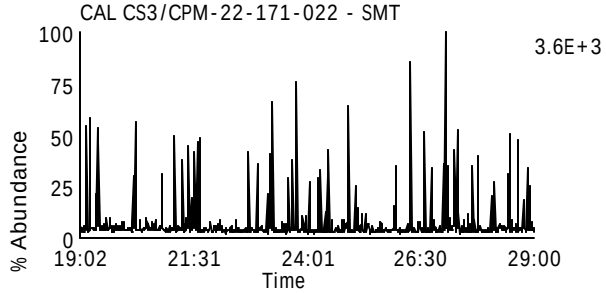
Data File: L230306A_17 G1 C4 - 317.9389
CAL CS3/CPM-22-171-022 - SMT



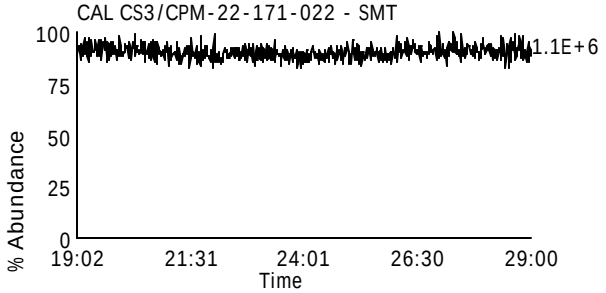
Data File: L230306A_17 G1 C11 - 333.9338
CAL CS3/CPM-22-171-022 - SMT



Data File: L230306A_17 G1 C14 - 375.8364
CAL CS3/CPM-22-171-022 - SMT



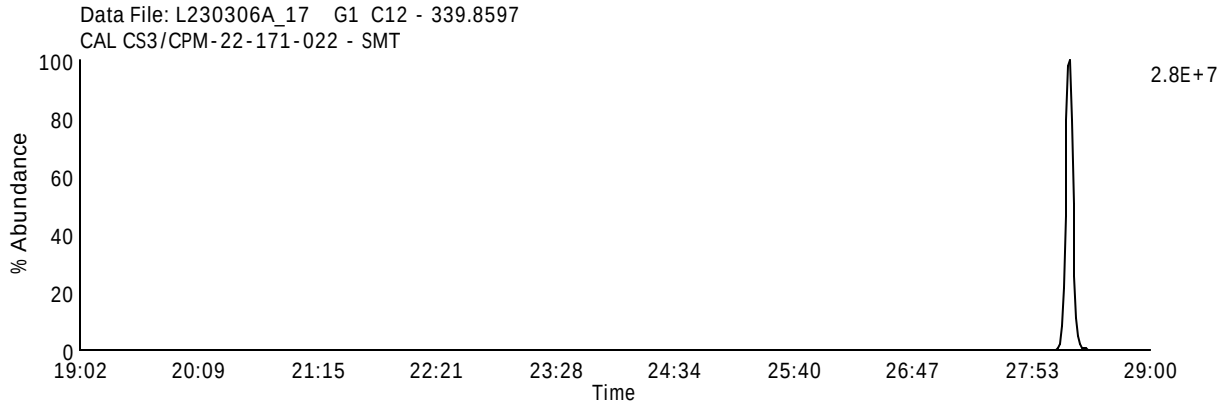
Data File: L230306A_17 G1 C5 - 318.9792
CAL CS3/CPM-22-171-022 - SMT

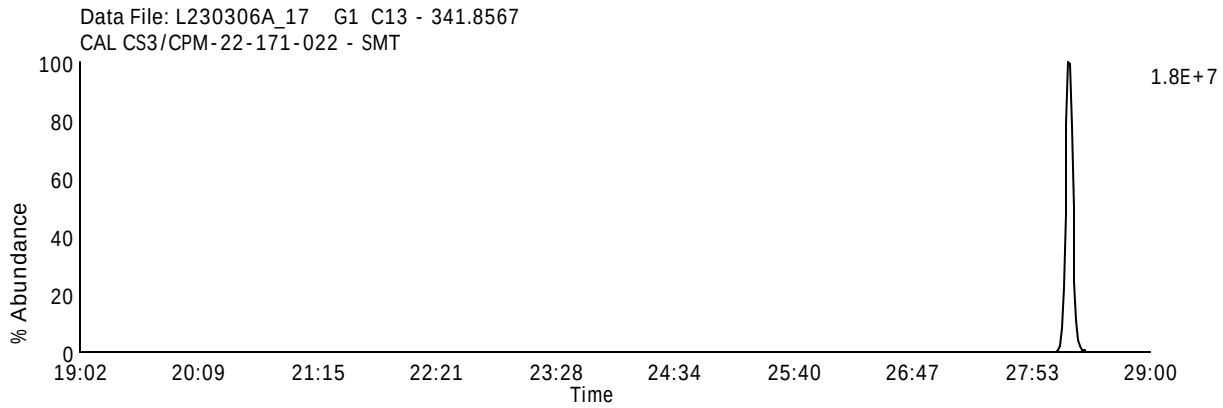


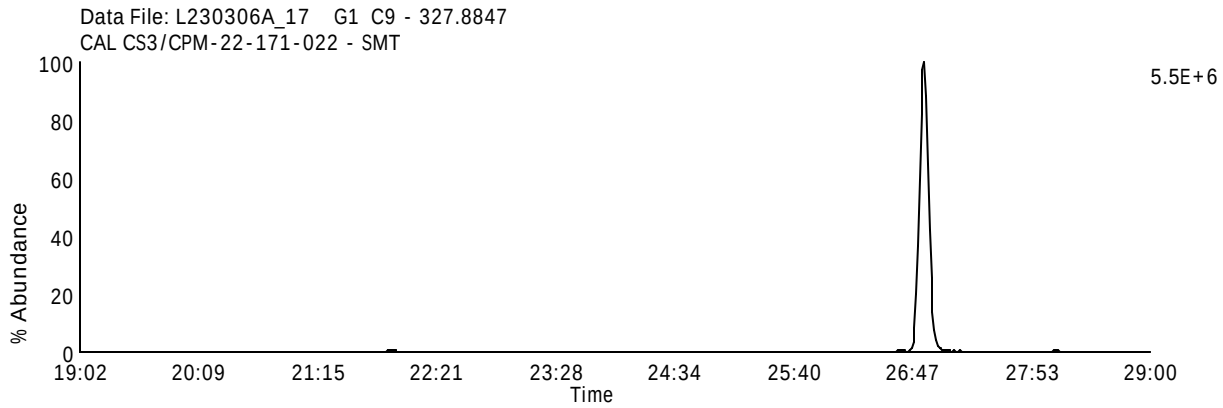
Homologue Group: Penta & Cleanup

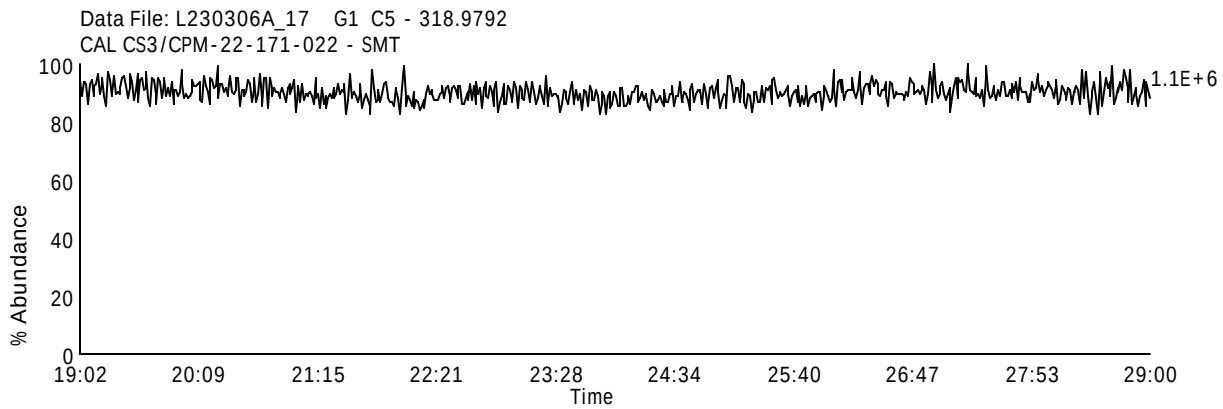
Data File Name: L230306A_17
Date Acquired: 3/6/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)







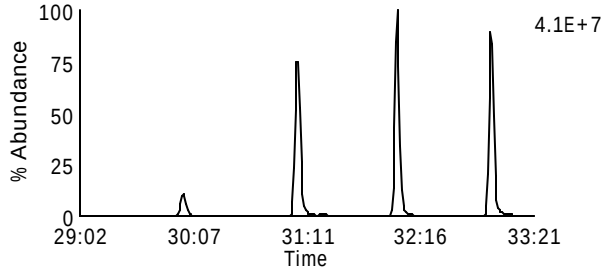


Homologue Group: Pentas

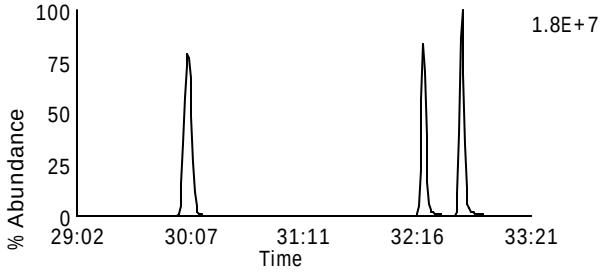
Data File Name: L230306A_17
Date Acquired: 3/6/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)

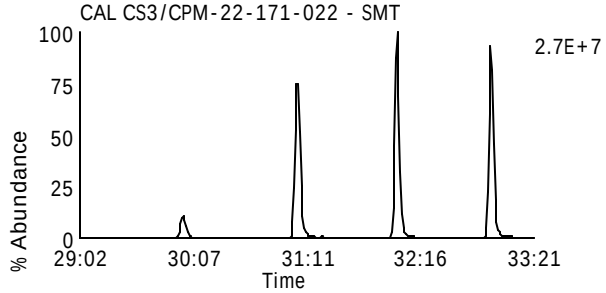
Data File: L230306A_17 G2 C1 - 339.8597
CAL CS3/CPM-22-171-022 - SMT



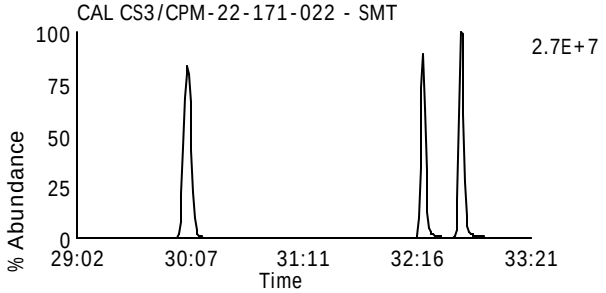
Data File: L230306A_17 G2 C4 - 353.8576
CAL CS3/CPM-22-171-022 - SMT



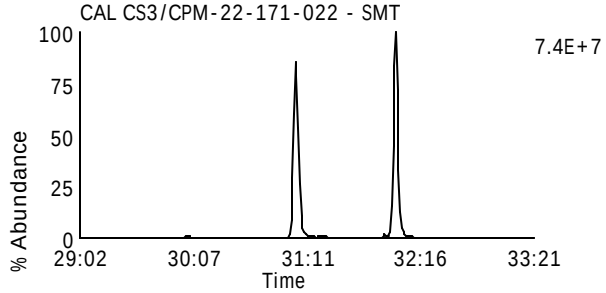
Data File: L230306A_17 G2 C2 - 341.8567
CAL CS3/CPM-22-171-022 - SMT



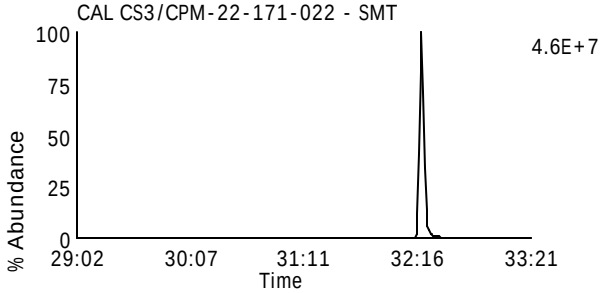
Data File: L230306A_17 G2 C8 - 355.8546
CAL CS3/CPM-22-171-022 - SMT



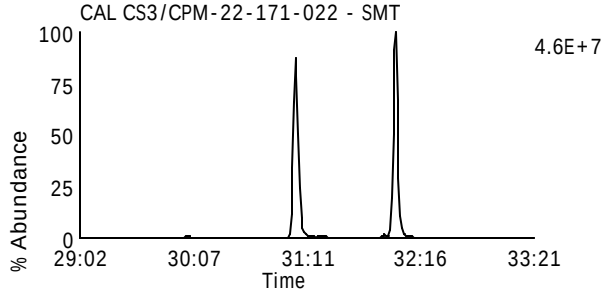
Data File: L230306A_17 G2 C3 - 351.8999
CAL CS3/CPM-22-171-022 - SMT



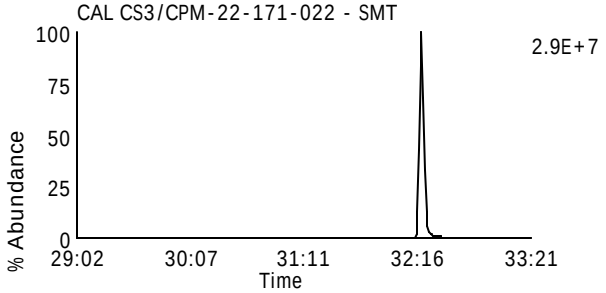
Data File: L230306A_17 G2 C10 - 367.8948
CAL CS3/CPM-22-171-022 - SMT



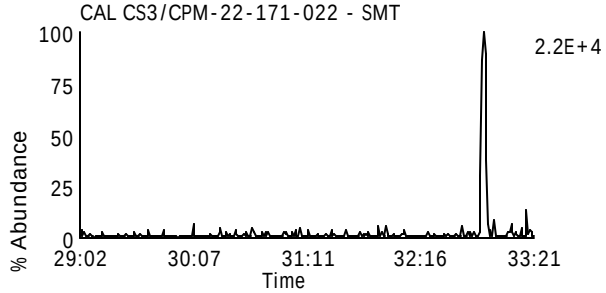
Data File: L230306A_17 G2 C5 - 353.8969
CAL CS3/CPM-22-171-022 - SMT



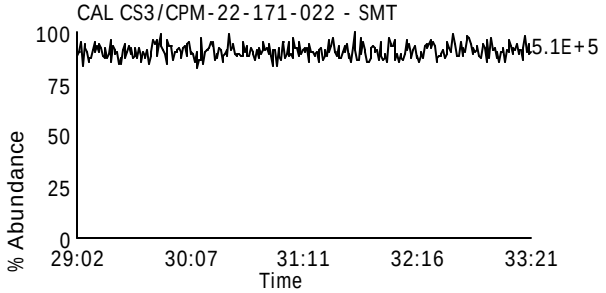
Data File: L230306A_17 G2 C11 - 369.8918
CAL CS3/CPM-22-171-022 - SMT



Data File: L230306A_17 G2 C12 - 409.7974
CAL CS3/CPM-22-171-022 - SMT



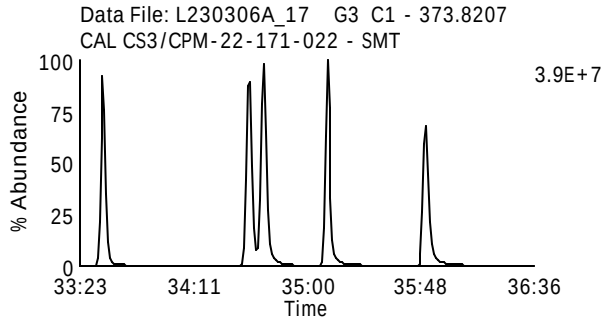
Data File: L230306A_17 G2 C6 - 354.9792
CAL CS3/CPM-22-171-022 - SMT

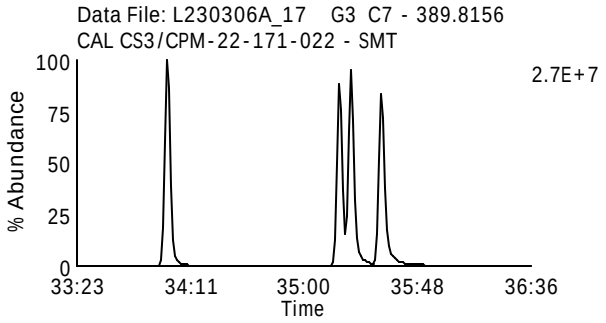


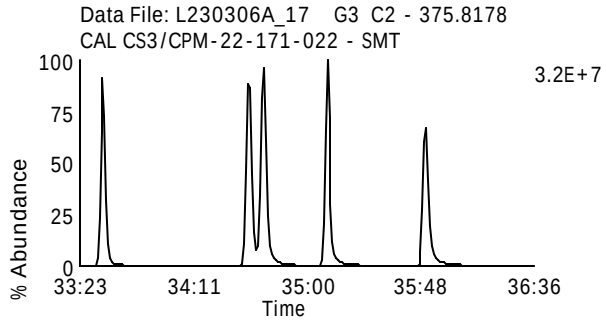
Homologue Group: Hexas

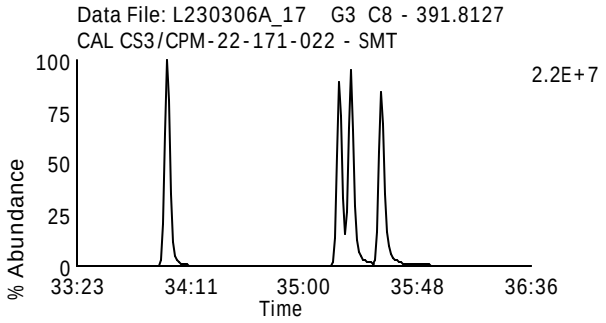
Data File Name: L230306A_17
Date Acquired: 3/6/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

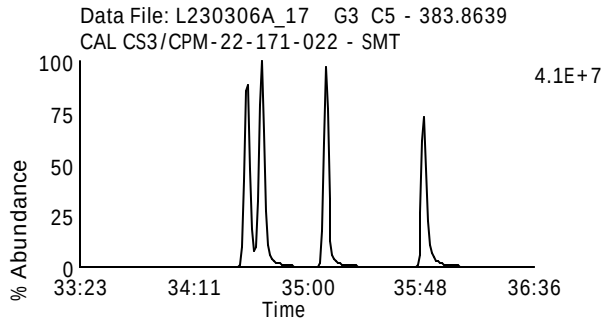
Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)

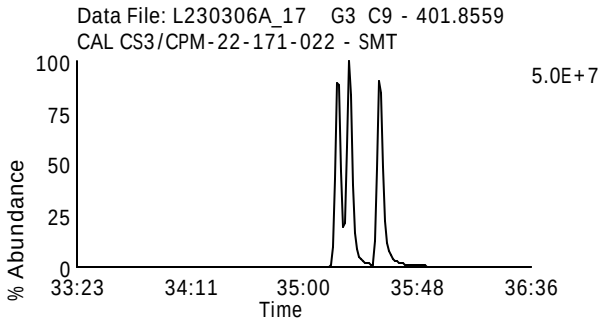


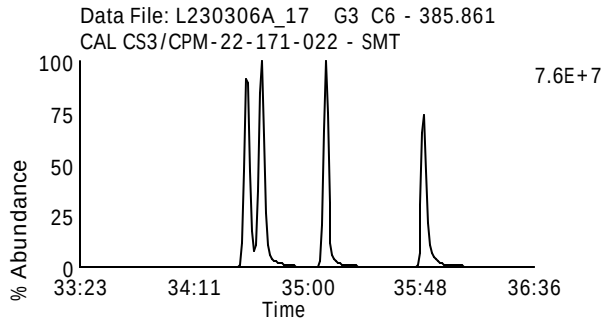


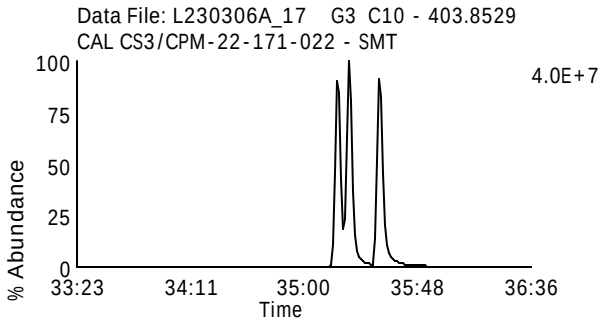


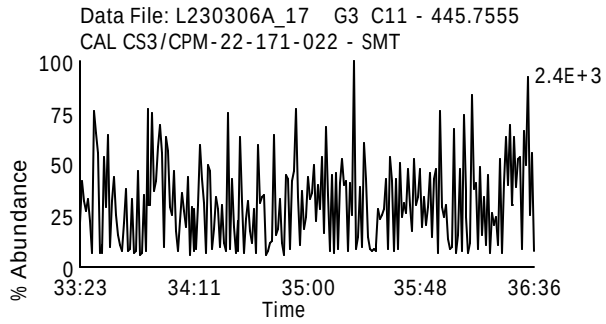


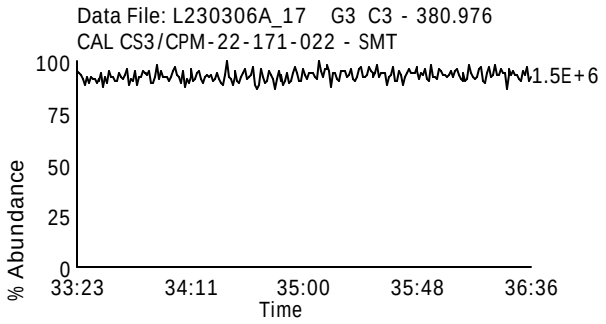










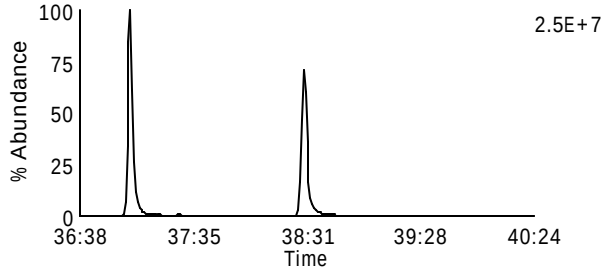


Homologue Group: Heptas

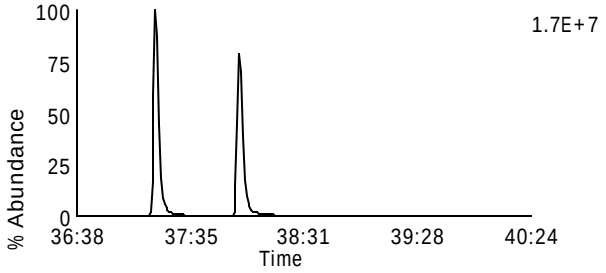
Data File Name: L230306A_17
Date Acquired: 3/6/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)

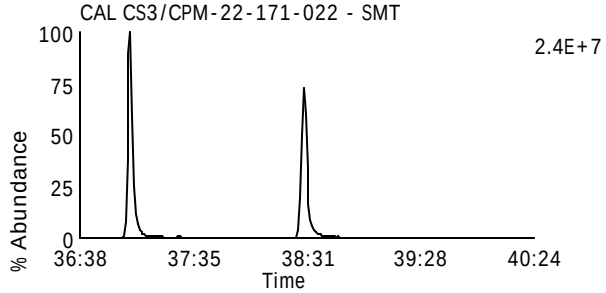
Data File: L230306A_17 G4 C3 - 407.7818
CAL CS3/CPM-22-171-022 - SMT



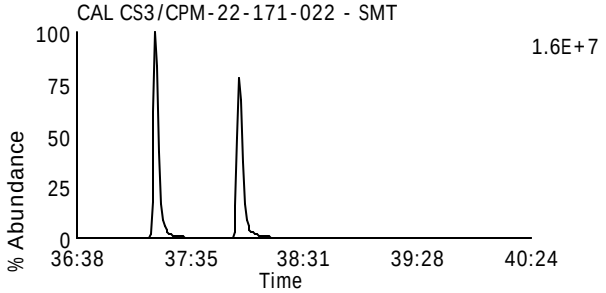
Data File: L230306A_17 G4 C8 - 423.7767
CAL CS3/CPM-22-171-022 - SMT



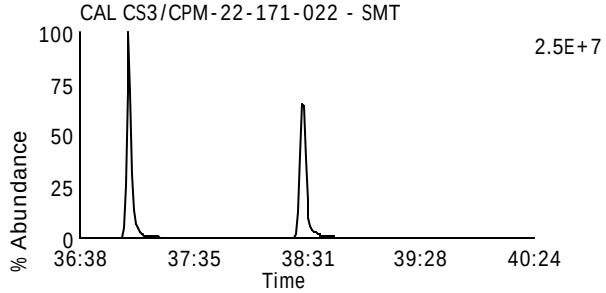
Data File: L230306A_17 G4 C4 - 409.7788
CAL CS3/CPM-22-171-022 - SMT



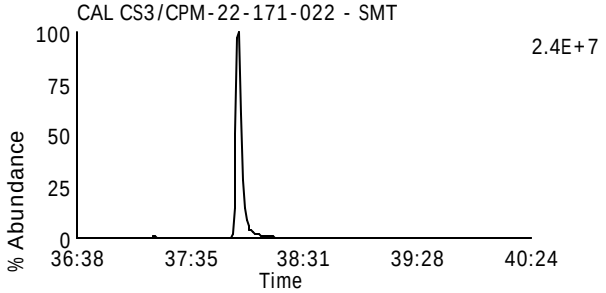
Data File: L230306A_17 G4 C9 - 425.7737
CAL CS3/CPM-22-171-022 - SMT



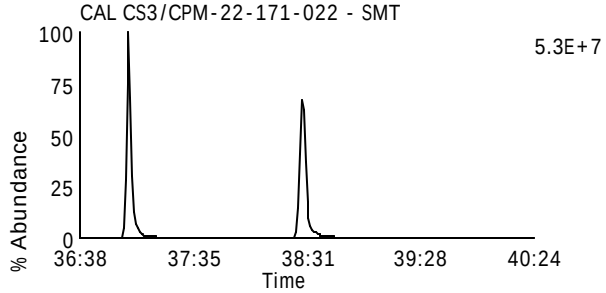
Data File: L230306A_17 G4 C6 - 417.825
CAL CS3/CPM-22-171-022 - SMT



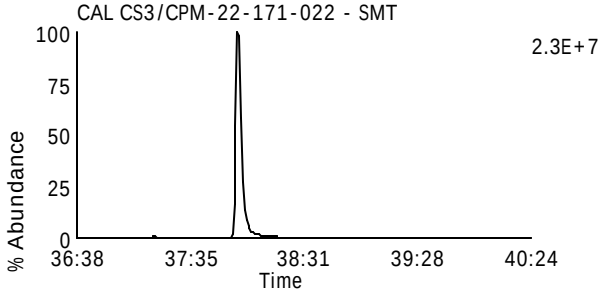
Data File: L230306A_17 G4 C11 - 435.8169
CAL CS3/CPM-22-171-022 - SMT



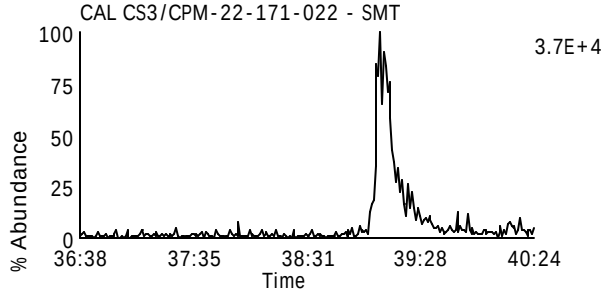
Data File: L230306A_17 G4 C7 - 419.822
CAL CS3/CPM-22-171-022 - SMT



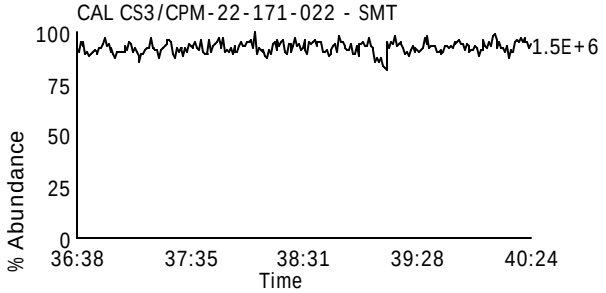
Data File: L230306A_17 G4 C12 - 437.814
CAL CS3/CPM-22-171-022 - SMT



Data File: L230306A_17 G4 C13 - 479.7165
CAL CS3/CPM-22-171-022 - SMT



Data File: L230306A_17 G4 C1 - 380.976
CAL CS3/CPM-22-171-022 - SMT

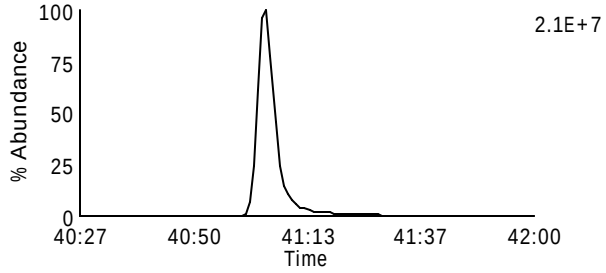


Homologue Group: Octas

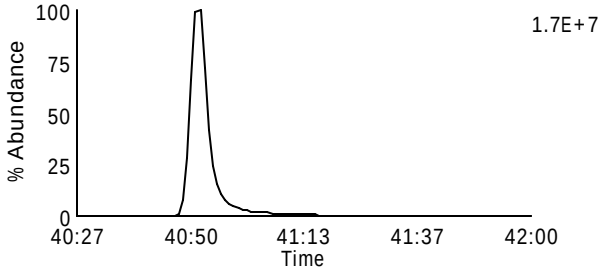
Data File Name: L230306A_17
Date Acquired: 3/6/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)

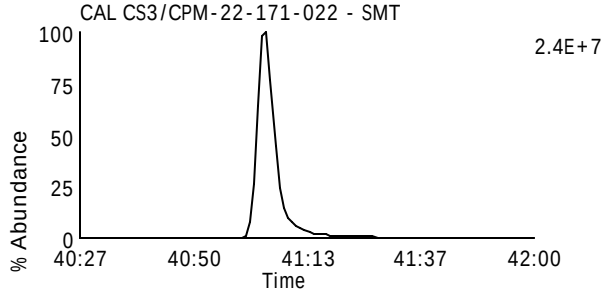
Data File: L230306A_17 G5 C4 - 441.7428
CAL CS3/CPM-22-171-022 - SMT



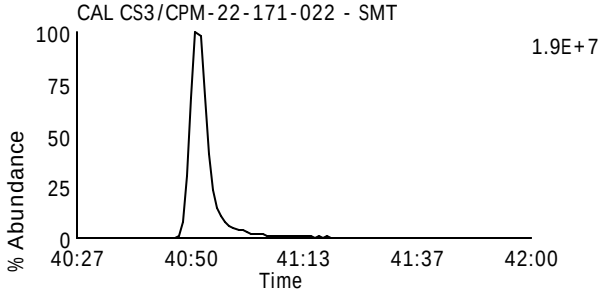
Data File: L230306A_17 G5 C8 - 457.7377
CAL CS3/CPM-22-171-022 - SMT



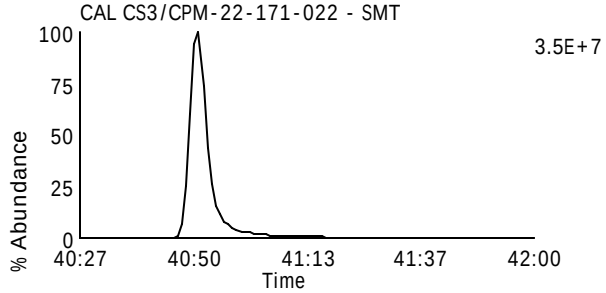
Data File: L230306A_17 G5 C5 - 443.7398
CAL CS3/CPM-22-171-022 - SMT



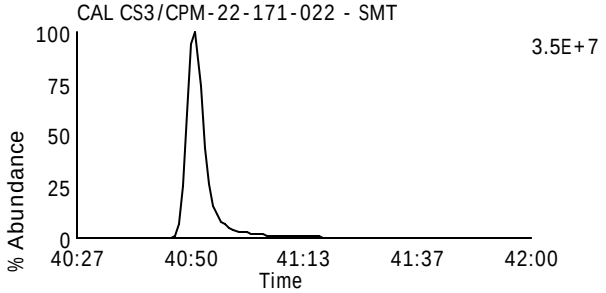
Data File: L230306A_17 G5 C9 - 459.7347
CAL CS3/CPM-22-171-022 - SMT



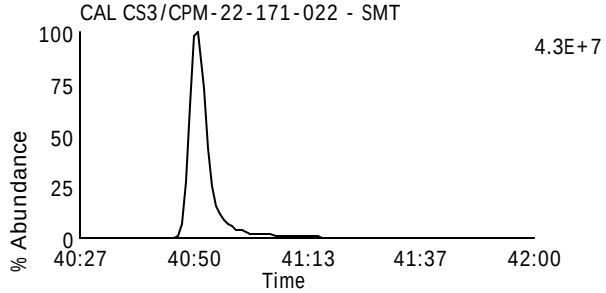
Data File: L230306A_17 G5 C11 - 469.7779
CAL CS3/CPM-22-171-022 - SMT



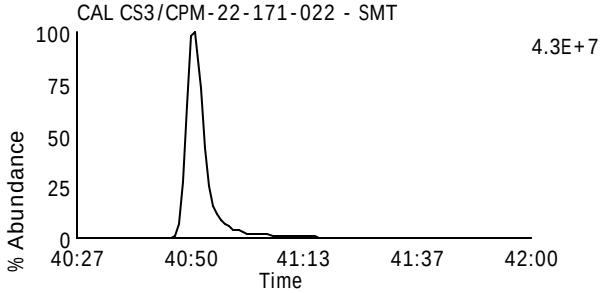
Data File: L230306A_17 G5 C11 - 469.7779
CAL CS3/CPM-22-171-022 - SMT



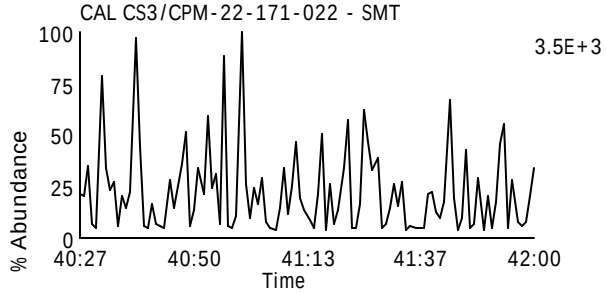
Data File: L230306A_17 G5 C12 - 471.7749
CAL CS3/CPM-22-171-022 - SMT



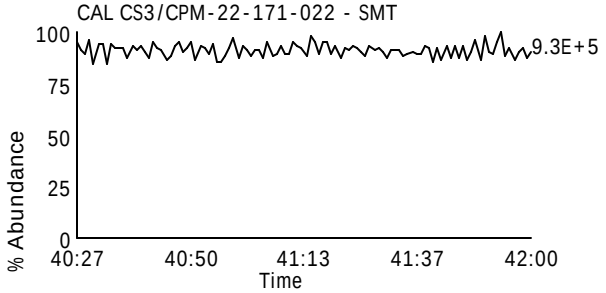
Data File: L230306A_17 G5 C12 - 471.7749
CAL CS3/CPM-22-171-022 - SMT



Data File: L230306A_17 G5 C13 - 513.6775
CAL CS3/CPM-22-171-022 - SMT



Data File: L230306A_17 G5 C2 - 430.9728
CAL CS3/CPM-22-171-022 - SMT

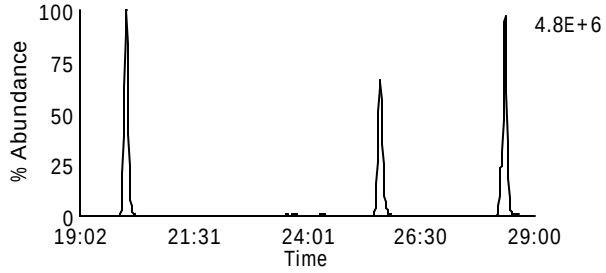


Homologue Group: Tetras

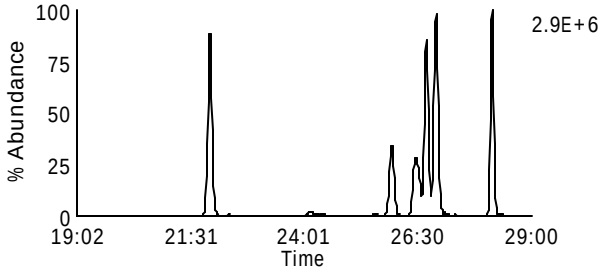
Data File Name: L230306B_17
Date Acquired: 3/7/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)

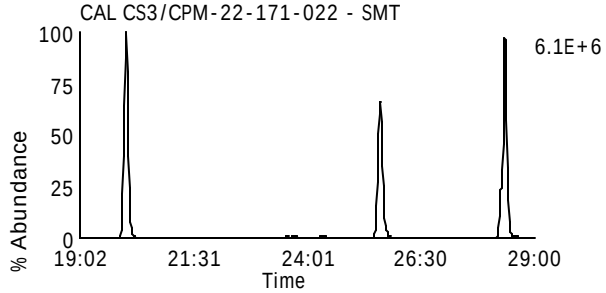
Data File: L230306B_17 G1 C1 - 303.9016
CAL CS3/CPM-22-171-022 - SMT



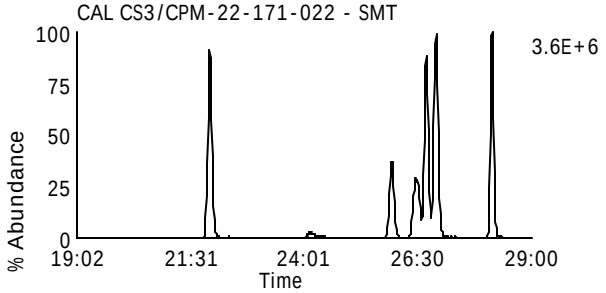
Data File: L230306B_17 G1 C7 - 319.8965
CAL CS3/CPM-22-171-022 - SMT



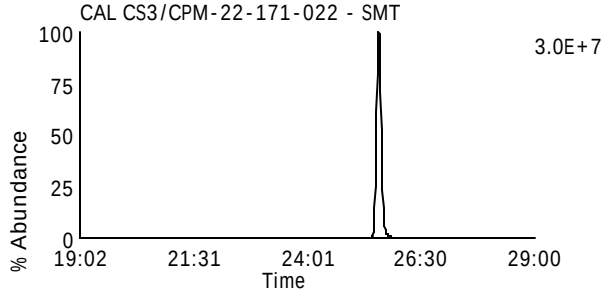
Data File: L230306B_17 G1 C2 - 305.8987
CAL CS3/CPM-22-171-022 - SMT



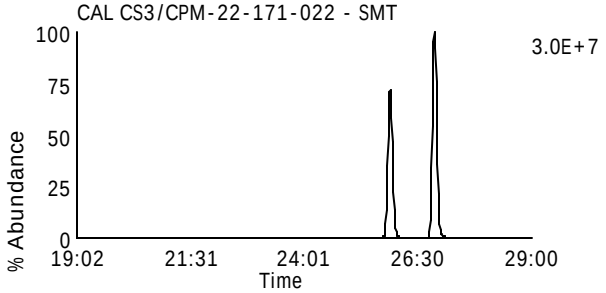
Data File: L230306B_17 G1 C8 - 321.8936
CAL CS3/CPM-22-171-022 - SMT



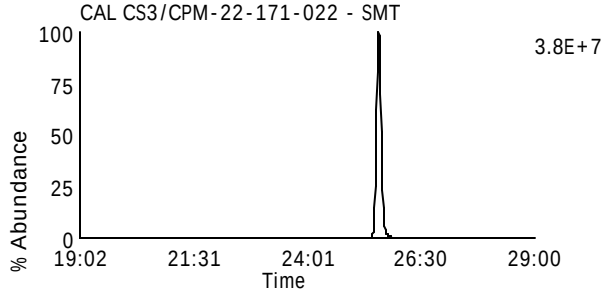
Data File: L230306B_17 G1 C3 - 315.9418
CAL CS3/CPM-22-171-022 - SMT



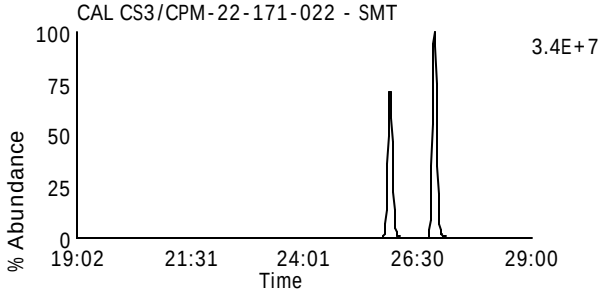
Data File: L230306B_17 G1 C10 - 331.9367
CAL CS3/CPM-22-171-022 - SMT



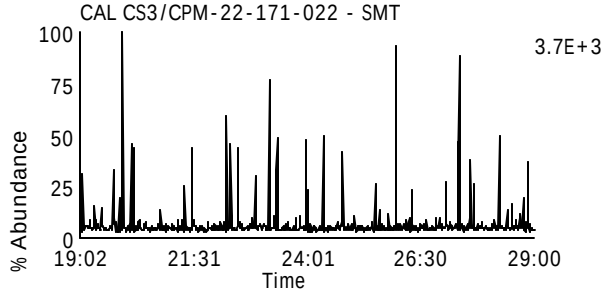
Data File: L230306B_17 G1 C4 - 317.9389
CAL CS3/CPM-22-171-022 - SMT



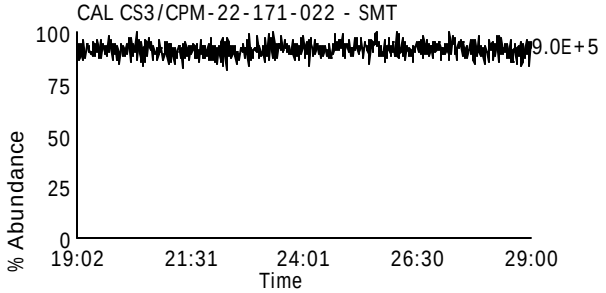
Data File: L230306B_17 G1 C11 - 333.9338
CAL CS3/CPM-22-171-022 - SMT



Data File: L230306B_17 G1 C14 - 375.8364
CAL CS3/CPM-22-171-022 - SMT



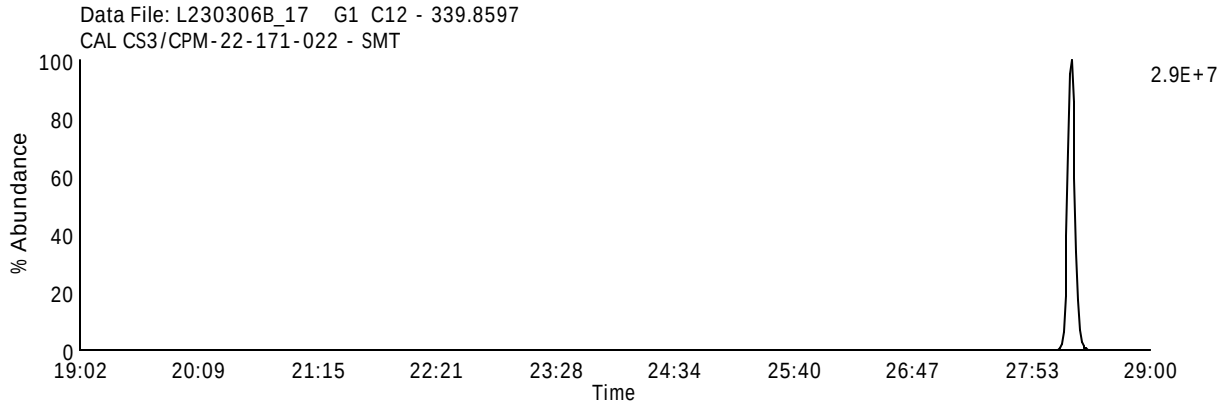
Data File: L230306B_17 G1 C5 - 318.9792
CAL CS3/CPM-22-171-022 - SMT

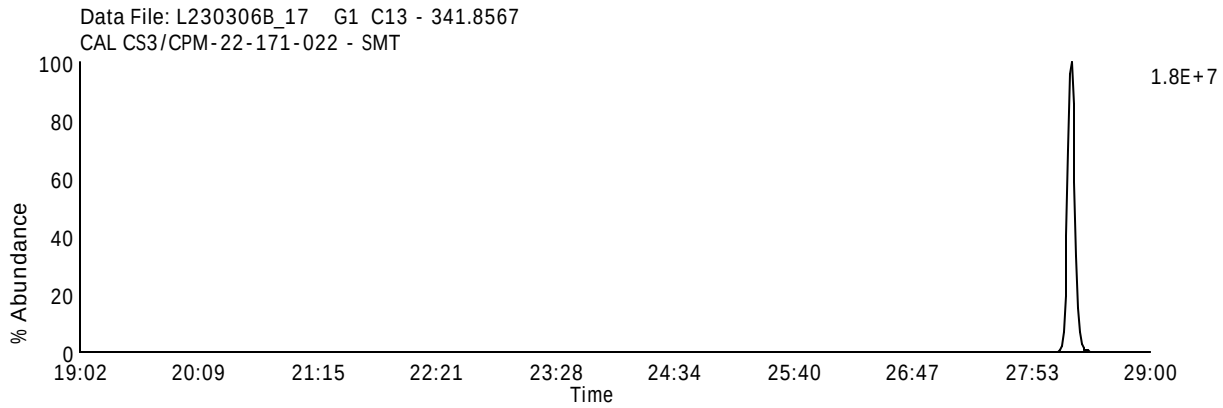


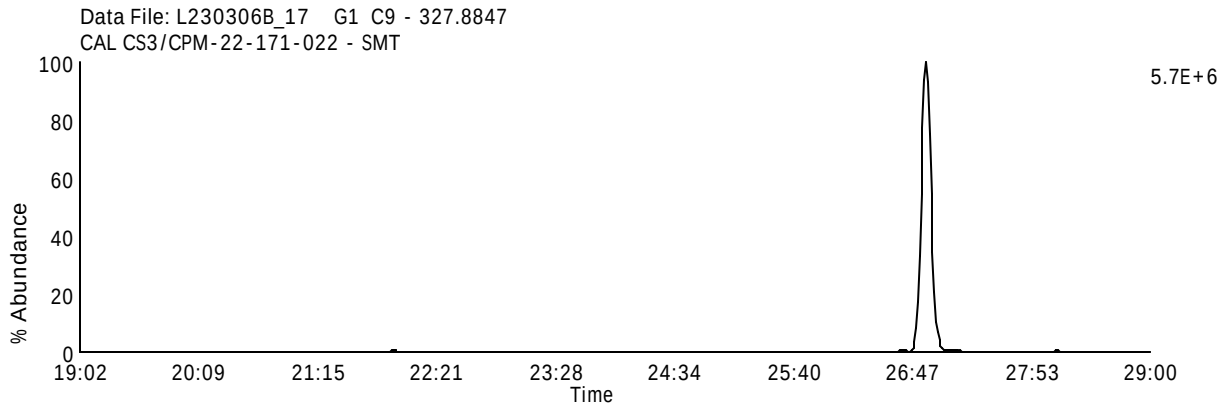
Homologue Group: Penta & Cleanup

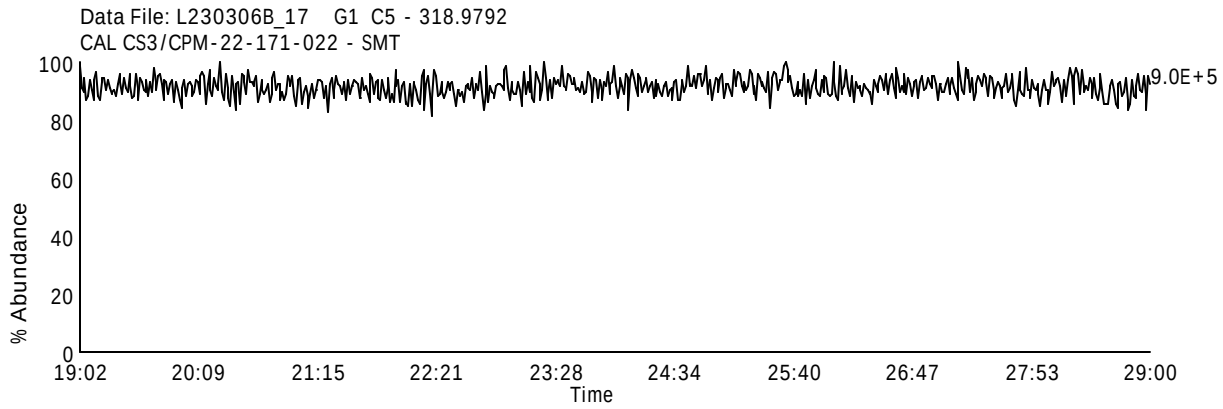
Data File Name: L230306B_17
Date Acquired: 3/7/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)







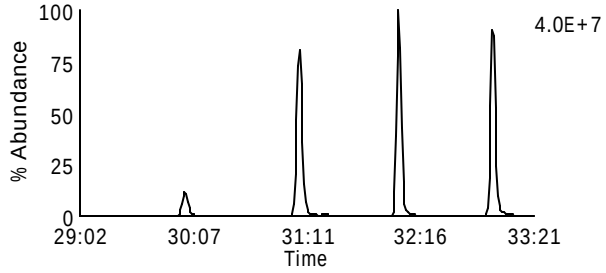


Homologue Group: Pentas

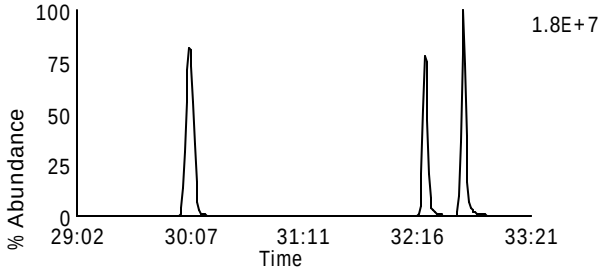
Data File Name: L230306B_17
Date Acquired: 3/7/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)

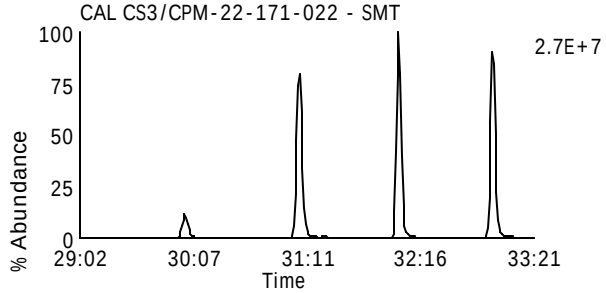
Data File: L230306B_17 G2 C1 - 339.8597
CAL CS3/CPM-22-171-022 - SMT



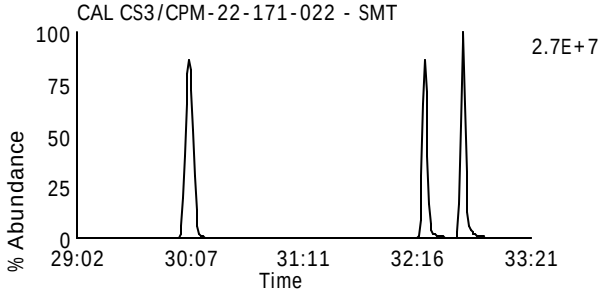
Data File: L230306B_17 G2 C4 - 353.8576
CAL CS3/CPM-22-171-022 - SMT



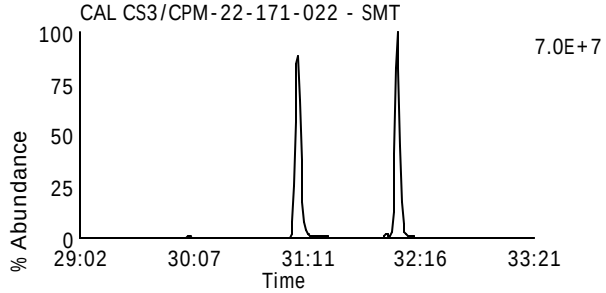
Data File: L230306B_17 G2 C2 - 341.8567
CAL CS3/CPM-22-171-022 - SMT



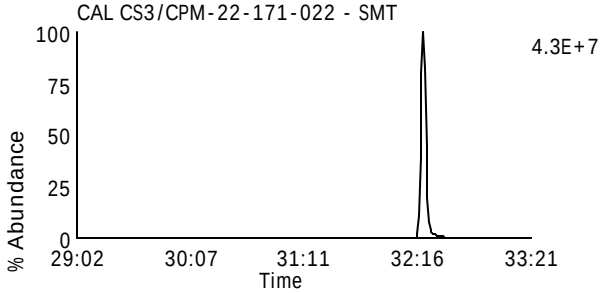
Data File: L230306B_17 G2 C8 - 355.8546
CAL CS3/CPM-22-171-022 - SMT



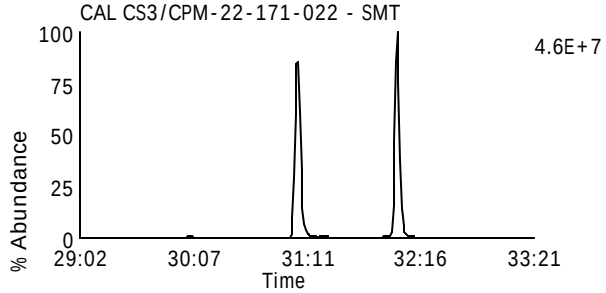
Data File: L230306B_17 G2 C3 - 351.8999
CAL CS3/CPM-22-171-022 - SMT



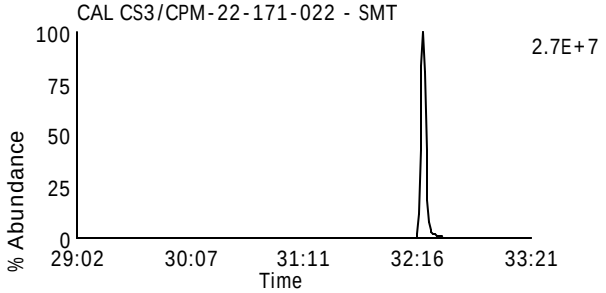
Data File: L230306B_17 G2 C10 - 367.8948
CAL CS3/CPM-22-171-022 - SMT



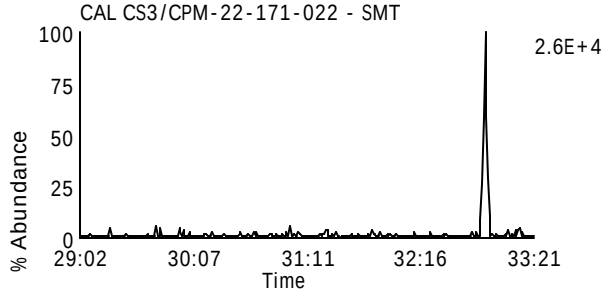
Data File: L230306B_17 G2 C5 - 353.8969
CAL CS3/CPM-22-171-022 - SMT



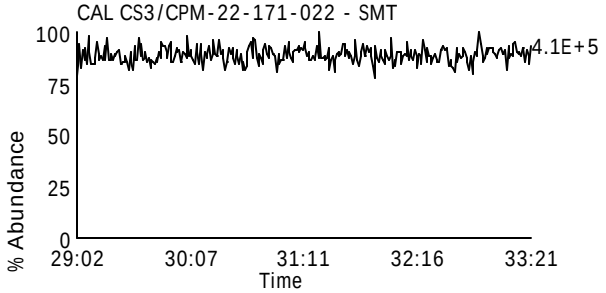
Data File: L230306B_17 G2 C11 - 369.8918
CAL CS3/CPM-22-171-022 - SMT



Data File: L230306B_17 G2 C12 - 409.7974
CAL CS3/CPM-22-171-022 - SMT



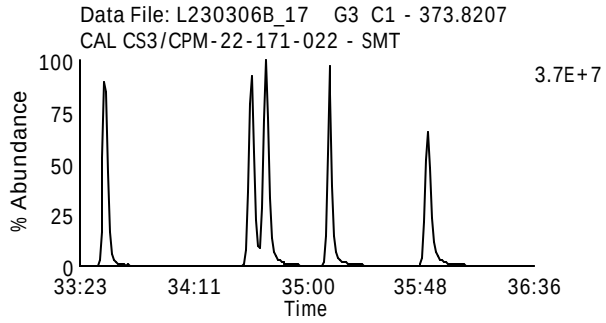
Data File: L230306B_17 G2 C6 - 354.9792
CAL CS3/CPM-22-171-022 - SMT

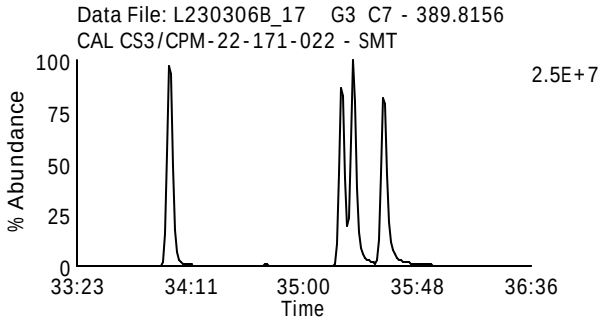


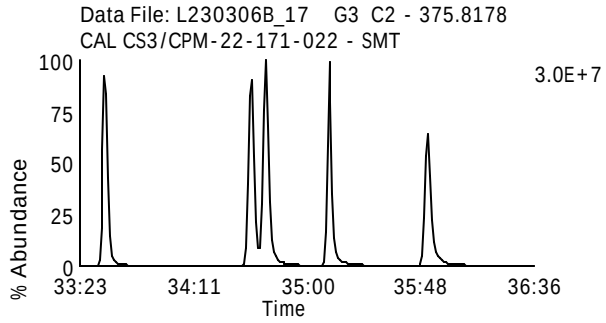
Homologue Group: Hexas

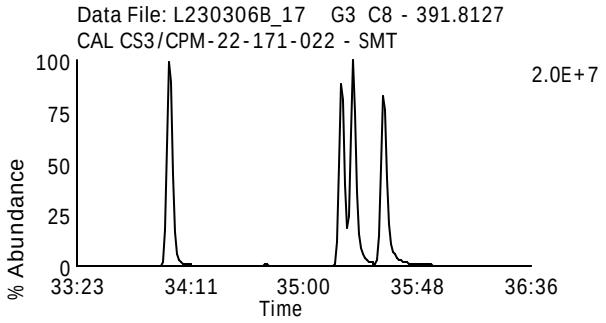
Data File Name: L230306B_17
Date Acquired: 3/7/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

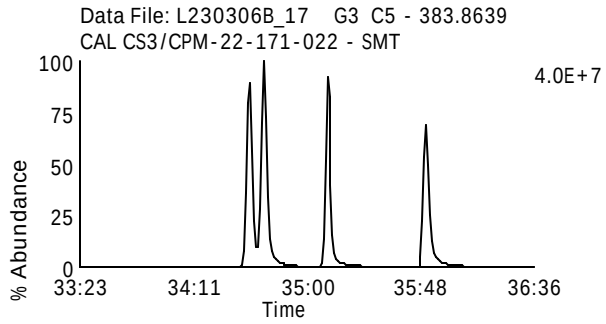
Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)

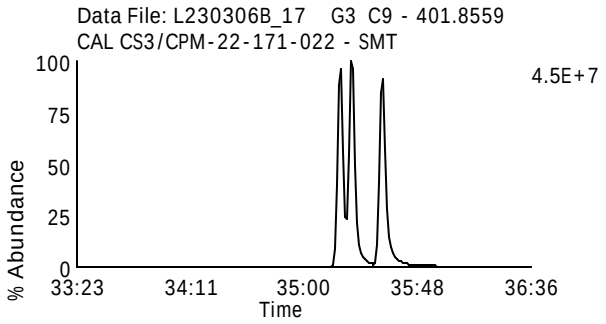


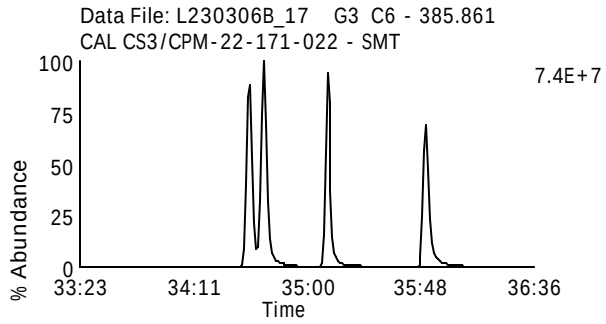


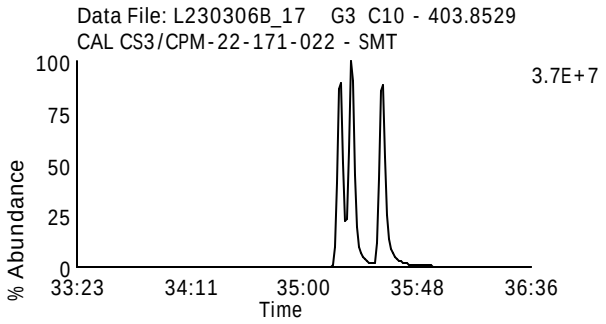


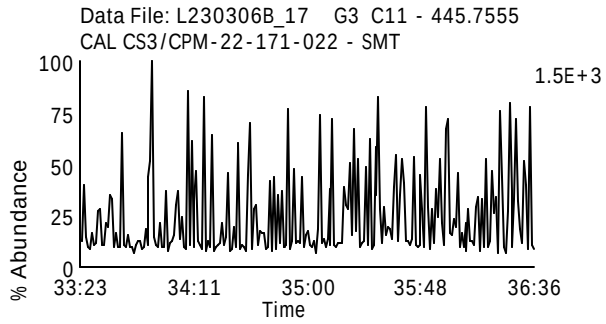


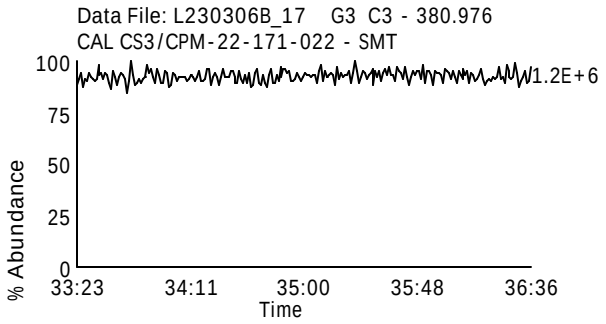










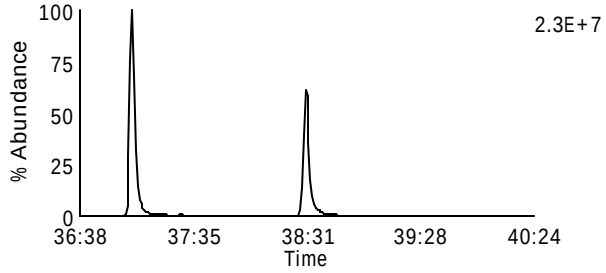


Homologue Group: Heptas

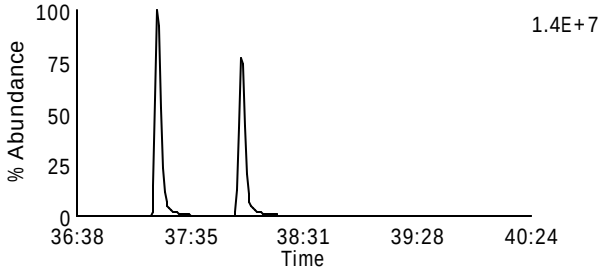
Data File Name: L230306B_17
Date Acquired: 3/7/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)

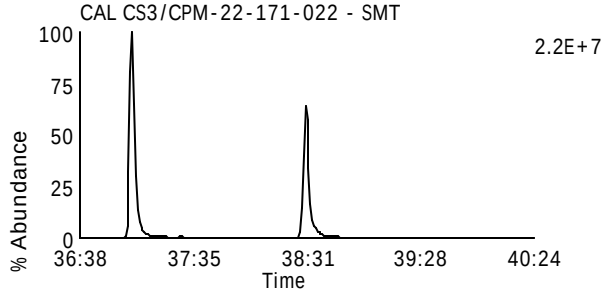
Data File: L230306B_17 G4 C3 - 407.7818
CAL CS3/CPM-22-171-022 - SMT



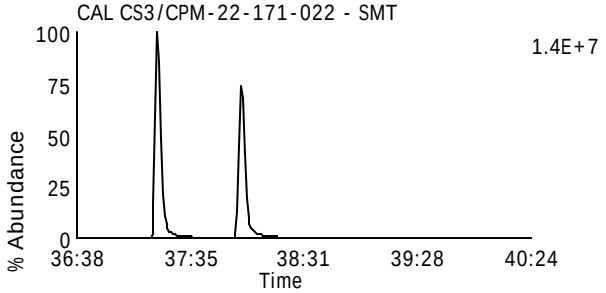
Data File: L230306B_17 G4 C8 - 423.7767
CAL CS3/CPM-22-171-022 - SMT



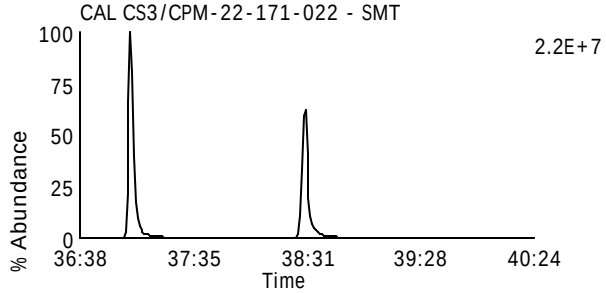
Data File: L230306B_17 G4 C4 - 409.7788
CAL CS3/CPM-22-171-022 - SMT



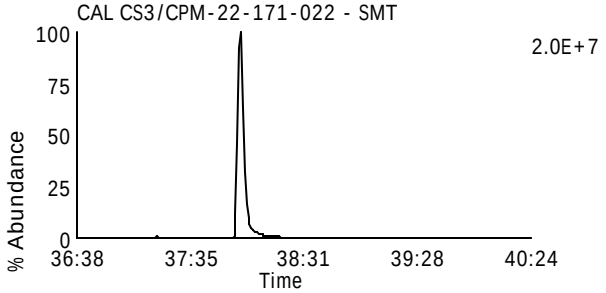
Data File: L230306B_17 G4 C9 - 425.7737
CAL CS3/CPM-22-171-022 - SMT



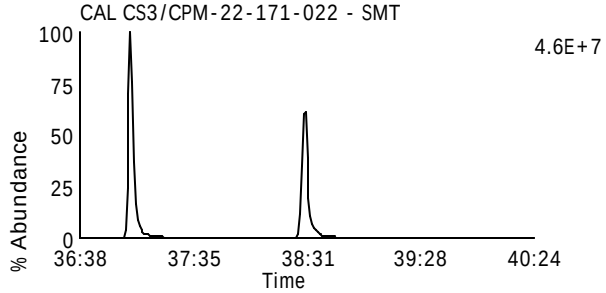
Data File: L230306B_17 G4 C6 - 417.825
CAL CS3/CPM-22-171-022 - SMT



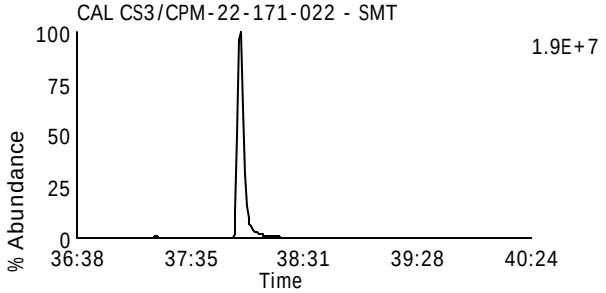
Data File: L230306B_17 G4 C11 - 435.8169
CAL CS3/CPM-22-171-022 - SMT



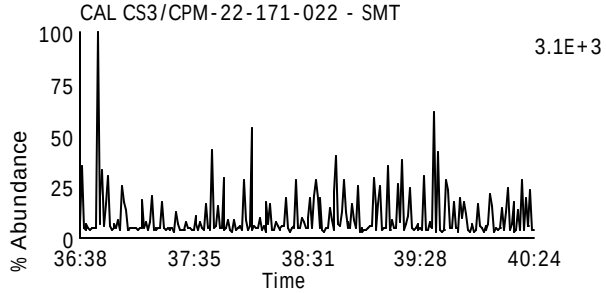
Data File: L230306B_17 G4 C7 - 419.822
CAL CS3/CPM-22-171-022 - SMT



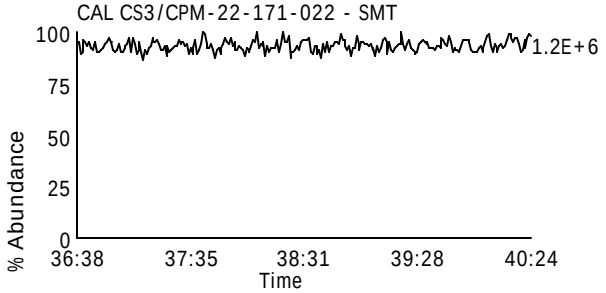
Data File: L230306B_17 G4 C12 - 437.814
CAL CS3/CPM-22-171-022 - SMT



Data File: L230306B_17 G4 C13 - 479.7165
CAL CS3/CPM-22-171-022 - SMT



Data File: L230306B_17 G4 C1 - 380.976
CAL CS3/CPM-22-171-022 - SMT

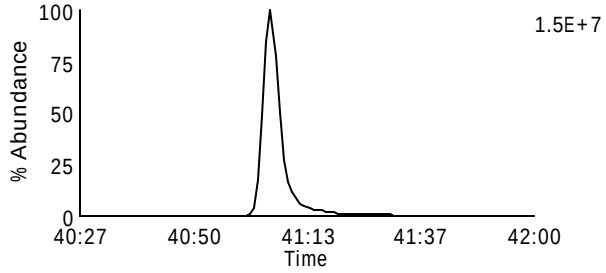


Homologue Group: Octas

Data File Name: L230306B_17
Date Acquired: 3/7/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID:
Instrument: 10MSHR15 (L)

Data File: L230306B_17 G5 C4 - 441.7428
CAL CS3/CPM-22-171-022 - SMT



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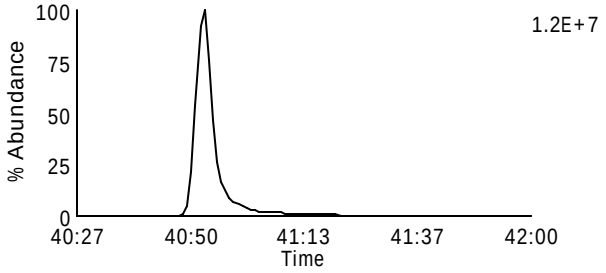
CAL CS3/CPM-22-171-022 - SMT



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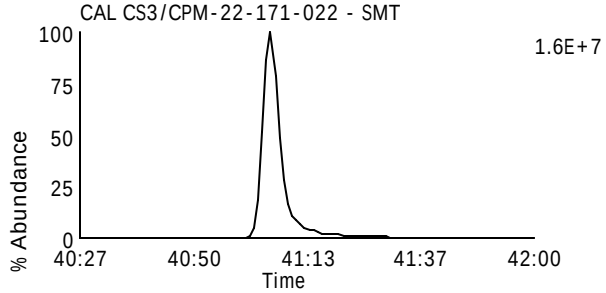
CAL CS3/CPM-22-171-022 - SMT



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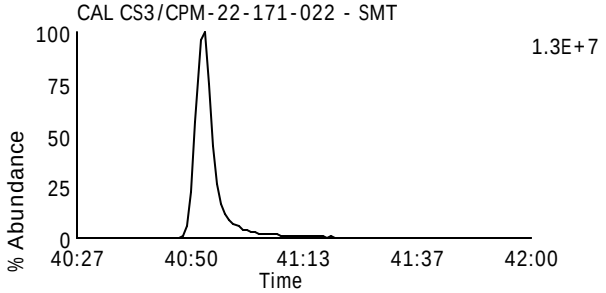
CAL CS3/CPM-22-171-022 - SMT



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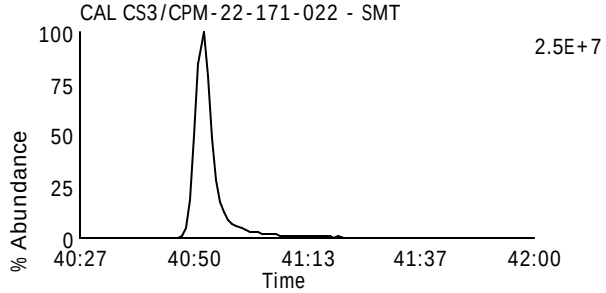
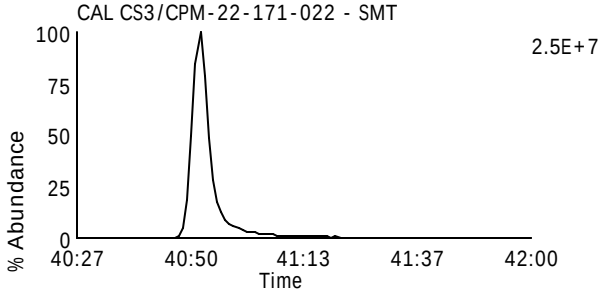
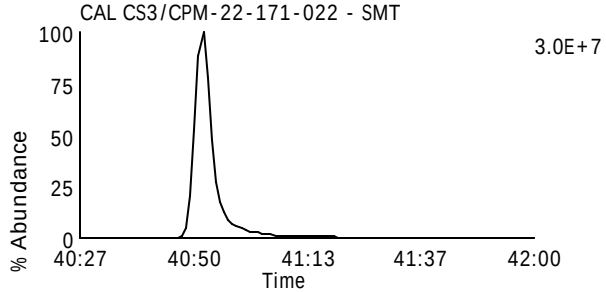
CAL CS3/CPM-22-171-022 - SMT



Data File: L230306B_17 G5 C11 - 469.7779
CAL CS3/CPM-22-171-022 - SMT



Data File: L230306B_17 G5 C12 - 471.7749
CAL CS3/CPM-22-171-022 - SMT



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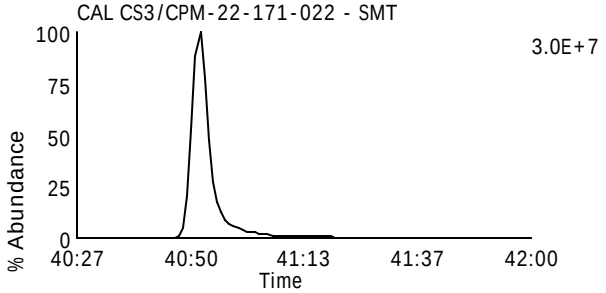
CAL CS3/CPM-22-171-022 - SMT



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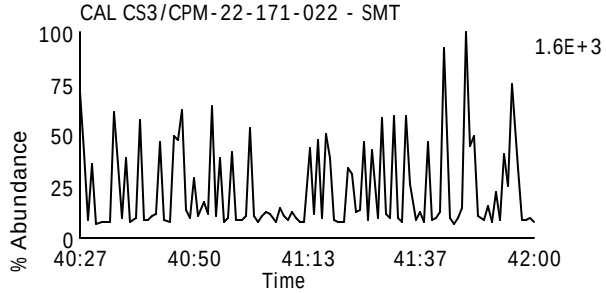
CAL CS3/CPM-22-171-022 - SMT



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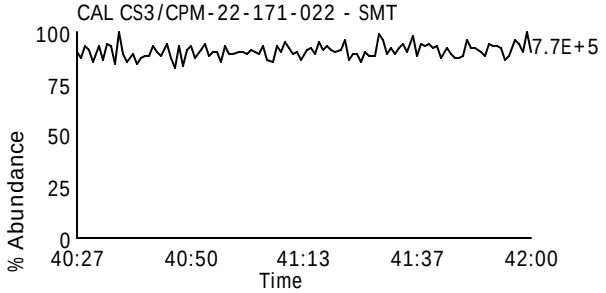
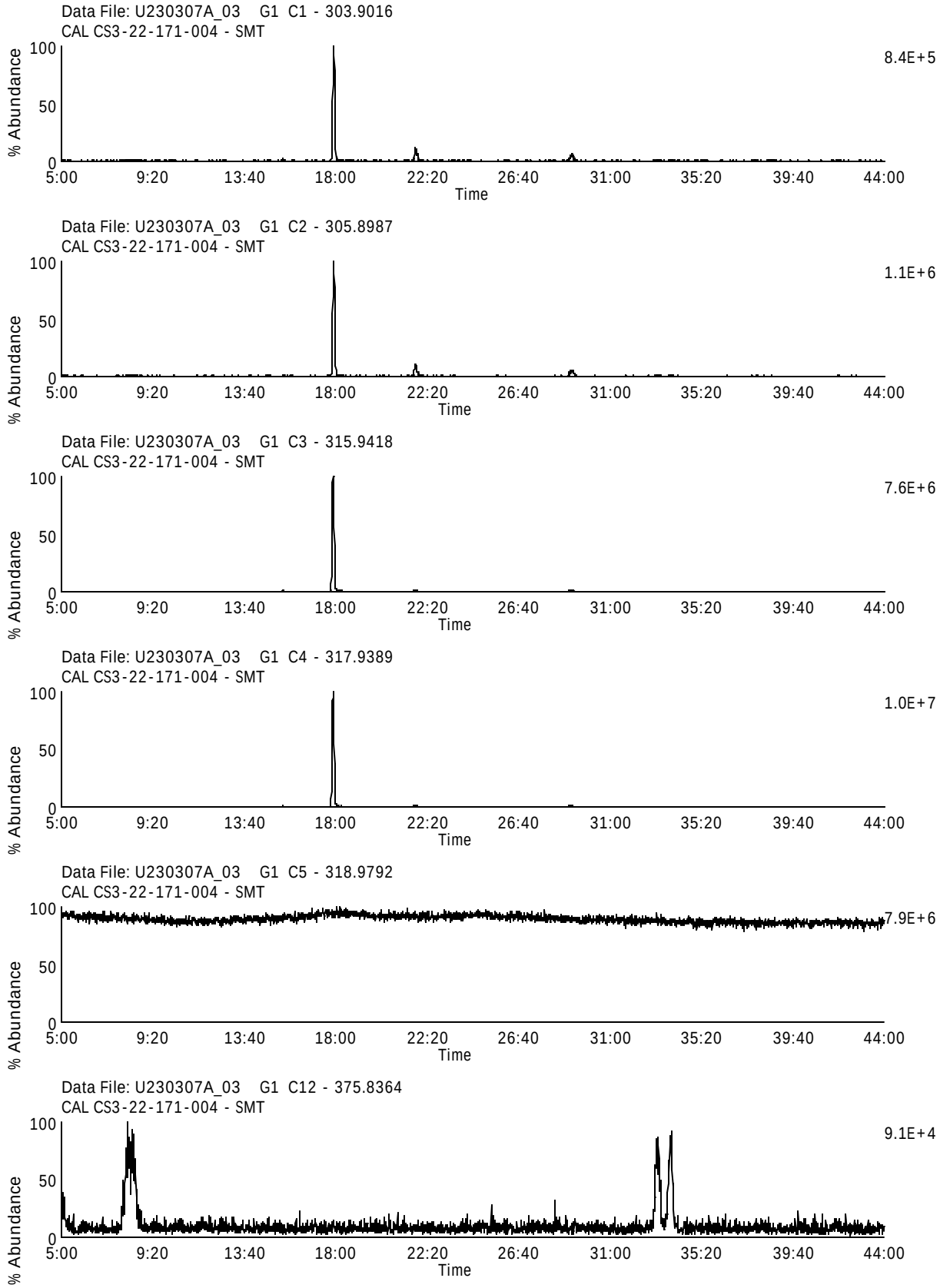
CAL CS3/CPM-22-171-022 - SMT



TCDF Confirmation Analysis

Data File Name: U230307A_03
Date Acquired: 3/7/2023
Sample Description: CAL CS3-22-171-004 - SMT

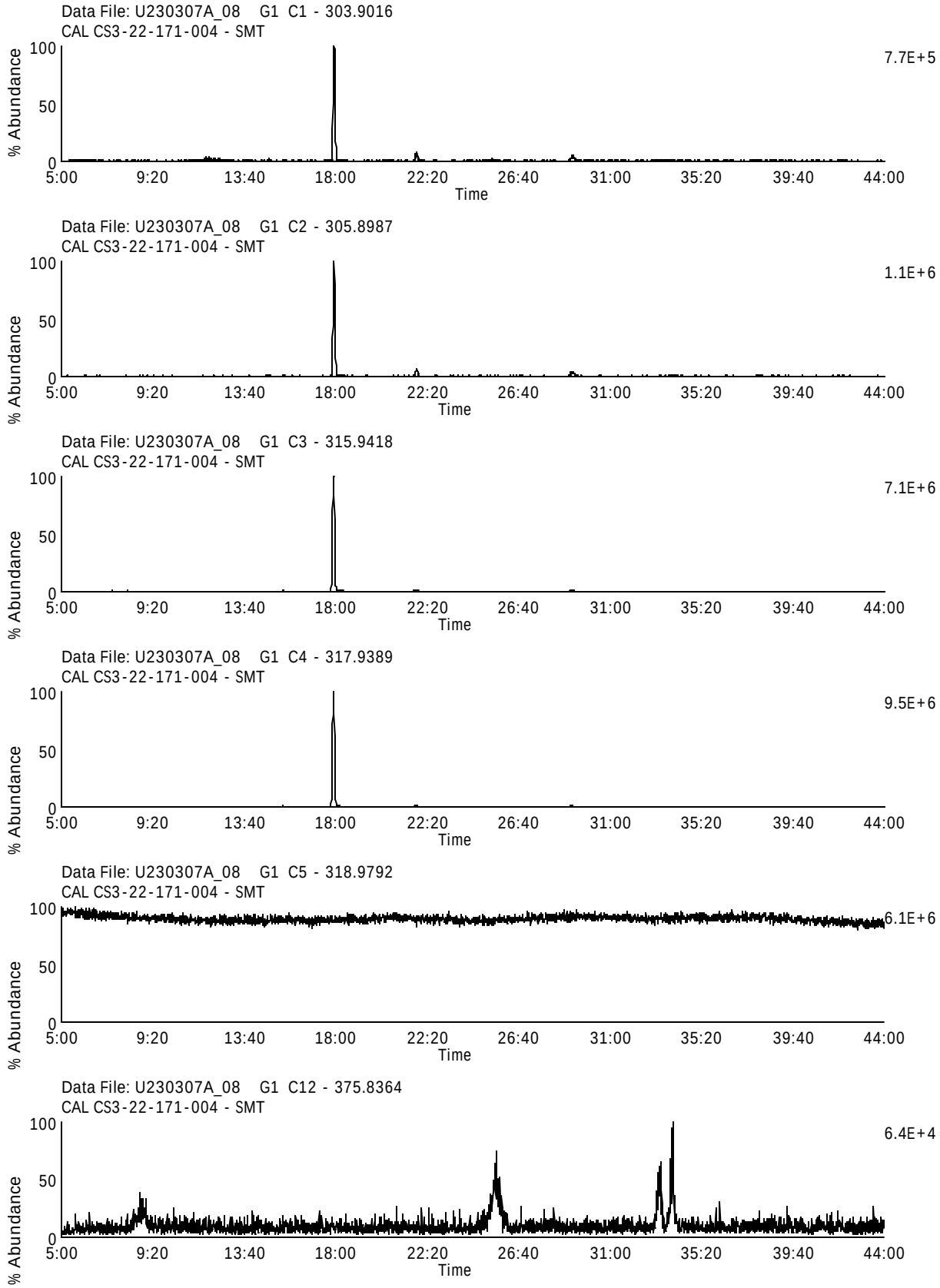
Lab Sample ID: CS3-22-171-004
Client Sample ID:
Instrument: 10MSHR06 (U)



TCDF Confirmation Analysis

Data File Name: U230307A_08
Date Acquired: 3/7/2023
Sample Description: CAL CS3-22-171-004 - SMT

Lab Sample ID: CS3-22-171-004
Client Sample ID:
Instrument: 10MSHR06 (U)



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PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

ReviewedBy _____ Date _____

Client Name	State of Indiana		
Client ID		Injected By	SMT
Lab ID	CS1-20-123-108	Instrument ID	10MSHR15 (L)
Filename	L230302A_10	GC Column ID	US1824614H
Analyzed	03/02/2023 11:30	ICAL ID	L230302

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	25:49	5.22e7	6.64e7	6.74e6	8.65e6	-----	-----	0.79	
2,3,7,8-TCDF	25:51	2.69e5	3.21e5	4.27e4	3.96e4	-----	-----	0.84	

Tetra-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	26:08	3.85e7	4.36e7	5.08e6	5.81e6	-----	-----	0.88	
2,3,7,8-TCDD-13C	27:04	4.27e7	4.97e7	6.82e6	7.81e6	-----	-----	0.86	
2,3,7,8-TCDD-37Cl4	27:07	4.10e5		7.16e4		-----	-----		
2,3,7,8-TCDD	27:07	2.07e5	(M)2.44e5	3.39e4	4.33e4	-----	-----	0.85	

Penta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDF-13C	31:12	4.81e7	3.08e7	1.36e7	8.55e6	-----	-----	1.56	
2,3,4,7,8-PeCDF-13C	32:07	(M)4.71e7	2.95e7	1.47e7	9.67e6	-----	-----	1.59	
1,2,3,7,8-PeCDF	31:12	1.09e6	7.44e5	2.96e5	2.25e5	-----	-----	1.46	
2,3,4,7,8-PeCDF	32:08	1.17e6	7.68e5	3.83e5	2.34e5	-----	-----	1.53	

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	32:24	3.03e7	(M)1.91e7	9.48e6	6.05e6	-----	-----	1.59	
1,2,3,7,8-PeCDD	32:25	4.36e5	7.42e5	1.46e5	2.36e5	-----	-----	0.59	

Hexa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDF-13C	34:39	2.00e7	3.70e7	7.43e6	1.41e7	-----	-----	0.54	
1,2,3,6,7,8-HxCDF-13C	34:45	2.24e7	4.30e7	8.35e6	1.59e7	-----	-----	0.52	
2,3,4,6,7,8-HxCDF-13C	35:12	2.15e7	4.00e7	8.20e6	1.53e7	-----	-----	0.54	
1,2,3,7,8,9-HxCDF-13C	35:54	1.77e7	3.34e7	6.17e6	1.19e7	-----	-----	0.53	
1,2,3,4,7,8-HxCDF	34:40	(M)9.21e5	6.99e5	3.52e5	2.59e5	-----	-----	1.32	
1,2,3,6,7,8-HxCDF	34:46	(M)9.97e5	7.87e5	3.75e5	2.82e5	-----	-----	1.27	
2,3,4,6,7,8-HxCDF	35:13	9.53e5	(M)7.40e5	3.65e5	2.81e5	-----	-----	1.29	
1,2,3,7,8,9-HxCDF	35:55	(M)7.71e5	5.98e5	2.71e5	2.05e5	-----	-----	1.29	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Client Name	State of Indiana		
Client ID		Injected By	SMT
Lab ID	CS1-20-123-108	Instrument ID	10MSHR15 (L)
Filename	L230302A_10	GC Column ID	US1824614H
Analyzed	03/02/2023 11:30	ICAL ID	L230302

Hexa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDD-13C	35:19	2.57e7	1.91e7	9.59e6	7.32e6	-----	-----	1.35	
1,2,3,6,7,8-HxCDD-13C	35:23	2.85e7	2.37e7	1.01e7	8.25e6	-----	-----	1.20	
1,2,3,7,8,9-HxCDD-13C	35:37	2.83e7	2.26e7	9.85e6	7.66e6	-----	-----	1.25	
1,2,3,4,7,8-HxCDD	35:19	5.93e5	4.93e5	2.23e5	1.93e5	-----	-----	1.20	
1,2,3,6,7,8-HxCDD	35:24	7.09e5	5.69e5	2.46e5	2.14e5	-----	-----	1.25	
1,2,3,7,8,9-HxCDD	35:37	6.24e5	5.32e5	2.04e5	1.69e5	-----	-----	1.17	

Hepta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDF-13C	37:08	1.59e7	3.41e7	5.40e6	1.15e7	-----	-----	0.47	
1,2,3,4,7,8,9-HpCDF-13C	38:34	1.24e7	2.66e7	3.97e6	8.35e6	-----	-----	0.47	
1,2,3,4,6,7,8-HpCDF	37:08	8.39e5	8.12e5	2.72e5	2.77e5	-----	-----	1.03	
1,2,3,4,7,8,9-HpCDF	38:35	(M)6.21e5	5.92e5	2.14e5	1.90e5	-----	-----	1.05	

Hepta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDD-13C	38:04	1.81e7	1.67e7	5.86e6	5.37e6	-----	-----	1.08	
1,2,3,4,6,7,8-HpCDD	38:05	4.97e5	4.77e5	1.55e5	1.50e5	-----	-----	1.04	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:12	8.67e5	1.01e6	2.06e5	2.74e5	-----	-----	0.86	

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	40:57	3.18e7	3.84e7	8.49e6	1.02e7	-----	-----	0.83	
OCDD	40:58	7.19e5	8.06e5	1.90e5	2.09e5	-----	-----	0.89	

REPORT OF LABORATORY ANALYSIS

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PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

ReviewedBy _____ Date _____

Client Name	State of Indiana		
Client ID		Injected By	SMT
Lab ID	CS2-22-171-006	Instrument ID	10MSHR15 (L)
Filename	L230302A_09	GC Column ID	US1824614H
Analyzed	03/02/2023 10:47	ICAL ID	L230302

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	25:51	4.52e7	5.85e7	5.89e6	7.49e6	-----	-----	0.77	
2,3,7,8-TCDF	25:53	9.21e5	1.10e6	1.20e5	1.48e5	-----	-----	0.84	

Tetra-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	26:10	3.55e7	4.03e7	4.87e6	5.46e6	-----	-----	0.88	
2,3,7,8-TCDD-13C	27:06	3.82e7	4.36e7	6.37e6	7.23e6	-----	-----	0.88	
2,3,7,8-TCDD-37Cl4	27:07	(M)1.41e6		2.20e5		-----	-----		
2,3,7,8-TCDD	27:07	7.10e5	8.63e5	1.06e5	1.30e5	-----	-----	0.82	

Penta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDF-13C	31:13	4.11e7	2.64e7	1.16e7	7.28e6	-----	-----	1.56	
2,3,4,7,8-PeCDF-13C	32:08	3.92e7	2.46e7	1.28e7	8.23e6	-----	-----	1.59	
1,2,3,7,8-PeCDF	31:13	3.94e6	2.62e6	1.12e6	6.98e5	-----	-----	1.50	
2,3,4,7,8-PeCDF	32:09	4.16e6	2.72e6	1.36e6	9.05e5	-----	-----	1.53	

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	32:25	2.58e7	1.64e7	8.62e6	5.46e6	-----	-----	1.57	
1,2,3,7,8-PeCDD	32:26	1.59e6	2.49e6	4.99e5	8.08e5	-----	-----	0.64	

Hexa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDF-13C	34:39	1.70e7	3.22e7	6.52e6	1.26e7	-----	-----	0.53	
1,2,3,6,7,8-HxCDF-13C	34:46	1.88e7	3.61e7	6.66e6	1.27e7	-----	-----	0.52	
2,3,4,6,7,8-HxCDF-13C	35:12	1.76e7	3.40e7	6.85e6	1.28e7	-----	-----	0.52	
1,2,3,7,8,9-HxCDF-13C	35:55	1.50e7	2.83e7	5.16e6	9.58e6	-----	-----	0.53	
1,2,3,4,7,8-HxCDF	34:40	(M)3.02e6	2.50e6	1.22e6	9.93e5	-----	-----	1.21	
1,2,3,6,7,8-HxCDF	34:46	(M)3.33e6	2.84e6	1.19e6	9.76e5	-----	-----	1.17	
2,3,4,6,7,8-HxCDF	35:13	(M)3.32e6	2.59e6	1.26e6	9.96e5	-----	-----	1.29	
1,2,3,7,8,9-HxCDF	35:56	2.53e6	(M)2.10e6	8.57e5	7.21e5	-----	-----	1.20	

REPORT OF LABORATORY ANALYSIS

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Client Name	State of Indiana		
Client ID		Injected By	SMT
Lab ID	CS2-22-171-006	Instrument ID	10MSHR15 (L)
Filename	L230302A_09	GC Column ID	US1824614H
Analyzed	03/02/2023 10:47	ICAL ID	L230302

Hexa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDD-13C	35:19	2.11e7	1.66e7	8.77e6	6.89e6	-----	-----	1.27	
1,2,3,6,7,8-HxCDD-13C	35:24	2.48e7	2.01e7	9.21e6	7.36e6	-----	-----	1.24	
1,2,3,7,8,9-HxCDD-13C	35:37	2.45e7	1.95e7	8.41e6	6.75e6	-----	-----	1.25	
1,2,3,4,7,8-HxCDD	35:20	2.10e6	(M)1.65e6	8.79e5	6.77e5	-----	-----	1.28	
1,2,3,6,7,8-HxCDD	35:25	2.35e6	(M)1.89e6	8.48e5	6.83e5	-----	-----	1.25	
1,2,3,7,8,9-HxCDD	35:38	2.22e6	(M)1.76e6	8.22e5	6.18e5	-----	-----	1.26	

Hepta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDF-13C	37:08	1.39e7	2.88e7	4.68e6	9.92e6	-----	-----	0.48	
1,2,3,4,7,8,9-HpCDF-13C	38:35	1.04e7	2.27e7	3.10e6	6.60e6	-----	-----	0.46	
1,2,3,4,6,7,8-HpCDF	37:09	2.86e6	2.73e6	9.91e5	9.70e5	-----	-----	1.05	
1,2,3,4,7,8,9-HpCDF	38:35	2.14e6	2.09e6	6.54e5	6.14e5	-----	-----	1.02	

Hepta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDD-13C	38:04	(M)1.53e7	1.44e7	4.85e6	4.62e6	-----	-----	1.06	
1,2,3,4,6,7,8-HpCDD	38:05	1.66e6	1.60e6	5.33e5	5.47e5	-----	-----	1.04	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:12	2.93e6	3.19e6	7.39e5	8.90e5	-----	-----	0.92	

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	40:57	2.64e7	2.99e7	6.64e6	7.79e6	-----	-----	0.88	
OCDD	40:58	2.43e6	2.68e6	6.41e5	6.95e5	-----	-----	0.90	

REPORT OF LABORATORY ANALYSIS

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PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

ReviewedBy _____ Date _____

Client Name	State of Indiana		
Client ID		Injected By	SMT
Lab ID	CS3/CPM-22-171-022	Instrument ID	10MSHR15 (L)
Filename	L230302A_08	GC Column ID	US1824614H
Analyzed	03/02/2023 09:49	ICAL ID	L230302

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	25:50	4.14e7	5.28e7	5.33e6	6.76e6	-----	-----	0.78	
2,3,7,8-TCDF	25:53	4.25e6	5.36e6	5.46e5	7.44e5	-----	-----	0.79	

Tetra-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	26:10	3.36e7	3.76e7	4.46e6	5.13e6	-----	-----	0.89	
2,3,7,8-TCDD-13C	27:05	3.61e7	4.12e7	5.94e6	6.72e6	-----	-----	0.88	
2,3,7,8-TCDD-37Cl4	27:07	6.77e6		1.12e6		-----	-----		
2,3,7,8-TCDD	27:07	3.30e6	4.19e6	5.38e5	6.62e5	-----	-----	0.79	

Penta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDF-13C	31:13	4.01e7	2.54e7	1.10e7	7.26e6	-----	-----	1.58	
2,3,4,7,8-PeCDF-13C	32:08	3.83e7	2.42e7	1.23e7	7.99e6	-----	-----	1.58	
1,2,3,7,8-PeCDF	31:13	1.95e7	1.29e7	5.55e6	3.58e6	-----	-----	1.52	
2,3,4,7,8-PeCDF	32:09	2.11e7	1.34e7	6.92e6	4.51e6	-----	-----	1.58	

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	32:25	2.51e7	1.57e7	8.22e6	5.13e6	-----	-----	1.60	
1,2,3,7,8-PeCDD	32:25	7.79e6	1.28e7	2.54e6	4.22e6	-----	-----	0.61	

Hexa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDF-13C	34:39	1.67e7	3.18e7	6.42e6	1.23e7	-----	-----	0.53	
1,2,3,6,7,8-HxCDF-13C	34:46	1.92e7	3.59e7	6.77e6	1.25e7	-----	-----	0.53	
2,3,4,6,7,8-HxCDF-13C	35:12	1.74e7	3.29e7	6.74e6	1.26e7	-----	-----	0.53	
1,2,3,7,8,9-HxCDF-13C	35:55	1.47e7	2.80e7	4.97e6	9.32e6	-----	-----	0.52	
1,2,3,4,7,8-HxCDF	34:40	1.55e7	1.26e7	6.21e6	5.08e6	-----	-----	1.23	
1,2,3,6,7,8-HxCDF	34:46	1.71e7	1.37e7	6.04e6	4.84e6	-----	-----	1.25	
2,3,4,6,7,8-HxCDF	35:13	1.66e7	1.32e7	6.43e6	4.95e6	-----	-----	1.26	
1,2,3,7,8,9-HxCDF	35:56	1.27e7	1.05e7	4.31e6	3.50e6	-----	-----	1.21	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
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Tel: 612-607-1700
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Client Name	State of Indiana		
Client ID		Injected By	SMT
Lab ID	CS3/CPM-22-171-022	Instrument ID	10MSHR15 (L)
Filename	L230302A_08	GC Column ID	US1824614H
Analyzed	03/02/2023 09:49	ICAL ID	L230302

Hexa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDD-13C	35:19	2.09e7	1.65e7	8.44e6	6.79e6	-----	-----	1.27	
1,2,3,6,7,8-HxCDD-13C	35:24	2.48e7	1.94e7	9.35e6	7.36e6	-----	-----	1.28	
1,2,3,7,8,9-HxCDD-13C	35:37	2.40e7	1.91e7	8.66e6	6.96e6	-----	-----	1.26	
1,2,3,4,7,8-HxCDD	35:20	1.04e7	8.29e6	4.34e6	3.30e6	-----	-----	1.26	
1,2,3,6,7,8-HxCDD	35:25	1.19e7	9.62e6	4.46e6	3.64e6	-----	-----	1.24	
1,2,3,7,8,9-HxCDD	35:38	1.13e7	9.32e6	4.19e6	3.29e6	-----	-----	1.21	

Hepta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDF-13C	37:08	1.29e7	2.78e7	4.51e6	9.96e6	-----	-----	0.46	
1,2,3,4,7,8,9-HpCDF-13C	38:35	1.03e7	2.26e7	3.00e6	6.44e6	-----	-----	0.46	
1,2,3,4,6,7,8-HpCDF	37:09	1.35e7	1.31e7	4.73e6	4.41e6	-----	-----	1.03	
1,2,3,4,7,8,9-HpCDF	38:35	1.10e7	1.01e7	3.33e6	3.21e6	-----	-----	1.09	

Hepta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDD-13C	38:04	1.51e7	1.40e7	4.87e6	4.62e6	-----	-----	1.08	
1,2,3,4,6,7,8-HpCDD	38:05	7.89e6	7.42e6	2.57e6	2.40e6	-----	-----	1.06	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:12	1.50e7	1.64e7	3.96e6	4.27e6	-----	-----	0.91	

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	40:57	(M)2.58e7	(M)3.07e7	6.47e6	7.82e6	-----	-----	0.84	
OCDD	40:58	1.19e7	1.31e7	3.19e6	3.49e6	-----	-----	0.91	

REPORT OF LABORATORY ANALYSIS

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PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

ReviewedBy _____ Date _____

Client Name	State of Indiana		
Client ID		Injected By	SMT
Lab ID	CS4-22-171-007	Instrument ID	10MSHR15 (L)
Filename	L230302A_12	GC Column ID	US1824614H
Analyzed	03/02/2023 13:05	ICAL ID	L230302

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	25:49	5.15e7	6.60e7	6.84e6	8.63e6	-----	-----	0.78	
2,3,7,8-TCDF	25:52	2.10e7	2.61e7	2.79e6	3.48e6	-----	-----	0.81	

Tetra-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	26:08	3.81e7	4.30e7	5.23e6	5.80e6	-----	-----	0.89	
2,3,7,8-TCDD-13C	27:05	4.30e7	4.89e7	6.96e6	7.93e6	-----	-----	0.88	
2,3,7,8-TCDD-37Cl4	27:06	3.40e7		5.62e6		-----	-----		
2,3,7,8-TCDD	27:06	1.59e7	2.01e7	2.60e6	3.38e6	-----	-----	0.79	

Penta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDF-13C	31:12	5.01e7	3.21e7	1.42e7	9.41e6	-----	-----	1.56	
2,3,4,7,8-PeCDF-13C	32:08	4.87e7	3.09e7	1.58e7	1.02e7	-----	-----	1.57	
1,2,3,7,8-PeCDF	31:13	1.03e8	6.73e7	2.83e7	1.87e7	-----	-----	1.52	
2,3,4,7,8-PeCDF	32:09	1.09e8	7.10e7	3.65e7	2.40e7	-----	-----	1.53	

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	32:25	3.18e7	2.01e7	1.03e7	6.50e6	-----	-----	1.58	
1,2,3,7,8-PeCDD	32:25	4.03e7	6.50e7	1.34e7	2.14e7	-----	-----	0.62	

Hexa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDF-13C	34:39	2.09e7	3.97e7	7.99e6	1.53e7	-----	-----	0.53	
1,2,3,6,7,8-HxCDF-13C	34:46	2.47e7	4.71e7	8.95e6	1.64e7	-----	-----	0.53	
2,3,4,6,7,8-HxCDF-13C	35:13	2.30e7	4.29e7	8.73e6	1.64e7	-----	-----	0.54	
1,2,3,7,8,9-HxCDF-13C	35:55	1.95e7	3.64e7	6.63e6	1.21e7	-----	-----	0.54	
1,2,3,4,7,8-HxCDF	34:40	7.92e7	6.33e7	3.02e7	2.48e7	-----	-----	1.25	
1,2,3,6,7,8-HxCDF	34:46	9.32e7	7.34e7	3.28e7	2.55e7	-----	-----	1.27	
2,3,4,6,7,8-HxCDF	35:13	8.85e7	6.91e7	3.32e7	2.59e7	-----	-----	1.28	
1,2,3,7,8,9-HxCDF	35:56	6.97e7	5.64e7	2.30e7	1.81e7	-----	-----	1.24	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Client Name	State of Indiana		
Client ID		Injected By	SMT
Lab ID	CS4-22-171-007	Instrument ID	10MSHR15 (L)
Filename	L230302A_12	GC Column ID	US1824614H
Analyzed	03/02/2023 13:05	ICAL ID	L230302

Hexa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDD-13C	35:19	2.72e7	2.12e7	1.09e7	8.55e6	-----	-----	1.28	
1,2,3,6,7,8-HxCDD-13C	35:24	3.25e7	2.55e7	1.16e7	9.16e6	-----	-----	1.28	
1,2,3,7,8,9-HxCDD-13C	35:37	3.19e7	2.52e7	1.06e7	8.57e6	-----	-----	1.26	
1,2,3,4,7,8-HxCDD	35:20	5.42e7	4.37e7	2.22e7	1.78e7	-----	-----	1.24	
1,2,3,6,7,8-HxCDD	35:25	6.44e7	5.15e7	2.36e7	1.88e7	-----	-----	1.25	
1,2,3,7,8,9-HxCDD	35:38	5.85e7	4.72e7	2.05e7	1.65e7	-----	-----	1.24	

Hepta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDF-13C	37:08	1.68e7	3.61e7	5.74e6	1.23e7	-----	-----	0.47	
1,2,3,4,7,8,9-HpCDF-13C	38:35	1.40e7	2.92e7	3.98e6	8.33e6	-----	-----	0.48	
1,2,3,4,6,7,8-HpCDF	37:09	7.56e7	7.03e7	2.50e7	2.38e7	-----	-----	1.07	
1,2,3,4,7,8,9-HpCDF	38:35	5.88e7	5.69e7	1.73e7	1.71e7	-----	-----	1.03	

Hepta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDD-13C	38:04	1.90e7	1.84e7	5.82e6	5.62e6	-----	-----	1.03	
1,2,3,4,6,7,8-HpCDD	38:05	4.34e7	4.03e7	1.38e7	1.31e7	-----	-----	1.08	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:12	9.19e7	1.02e8	2.31e7	2.50e7	-----	-----	0.90	

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	40:58	3.72e7	4.38e7	8.79e6	1.06e7	-----	-----	0.85	
OCDD	40:59	(M)7.18e7	7.76e7	1.72e7	1.93e7	-----	-----	0.93	

REPORT OF LABORATORY ANALYSIS

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PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

ReviewedBy _____ Date _____

Client Name	State of Indiana		
Client ID		Injected By	SMT
Lab ID	CS5-22-171-008	Instrument ID	10MSHR15 (L)
Filename	L230302A_11	GC Column ID	US1824614H
Analyzed	03/02/2023 12:22	ICAL ID	L230302

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	25:49	5.67e7	7.30e7	7.37e6	9.28e6	-----	-----	0.78	
2,3,7,8-TCDF	25:52	1.18e8	1.48e8	1.53e7	1.91e7	-----	-----	0.80	

Tetra-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	26:09	4.18e7	4.72e7	5.55e6	6.28e6	-----	-----	0.89	
2,3,7,8-TCDD-13C	27:05	4.83e7	5.57e7	7.79e6	8.81e6	-----	-----	0.87	
2,3,7,8-TCDD-37Cl4	27:06	1.93e8		3.25e7		-----	-----		
2,3,7,8-TCDD	27:06	9.18e7	1.17e8	1.55e7	1.99e7	-----	-----	0.78	

Penta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDF-13C	31:12	6.03e7	3.81e7	1.71e7	1.08e7	-----	-----	1.58	
2,3,4,7,8-PeCDF-13C	32:08	5.80e7	3.76e7	1.79e7	1.17e7	-----	-----	1.54	
1,2,3,7,8-PeCDF	31:13	6.12e8	4.04e8	1.82e8	1.20e8	-----	-----	1.52	
2,3,4,7,8-PeCDF	32:08	6.55e8	4.31e8	2.03e8	1.35e8	-----	-----	1.52	

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	32:24	3.82e7	2.41e7	1.21e7	7.74e6	-----	-----	1.59	
1,2,3,7,8-PeCDD	32:25	2.48e8	3.85e8	7.83e7	1.23e8	-----	-----	0.64	

Hexa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDF-13C	34:39	2.39e7	4.54e7	9.12e6	1.69e7	-----	-----	0.53	
1,2,3,6,7,8-HxCDF-13C	34:45	3.03e7	5.69e7	1.05e7	1.99e7	-----	-----	0.53	
2,3,4,6,7,8-HxCDF-13C	35:12	2.63e7	4.91e7	9.92e6	1.88e7	-----	-----	0.54	
1,2,3,7,8,9-HxCDF-13C	35:54	2.21e7	4.37e7	7.52e6	1.46e7	-----	-----	0.50	
1,2,3,4,7,8-HxCDF	34:40	4.61e8	3.71e8	1.77e8	1.40e8	-----	-----	1.24	
1,2,3,6,7,8-HxCDF	34:46	5.54e8	4.44e8	2.00e8	1.61e8	-----	-----	1.25	
2,3,4,6,7,8-HxCDF	35:13	5.12e8	4.11e8	1.90e8	1.53e8	-----	-----	1.25	
1,2,3,7,8,9-HxCDF	35:55	4.04e8	3.23e8	1.35e8	1.09e8	-----	-----	1.25	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Client Name	State of Indiana		
Client ID		Injected By	SMT
Lab ID	CS5-22-171-008	Instrument ID	10MSHR15 (L)
Filename	L230302A_11	GC Column ID	US1824614H
Analyzed	03/02/2023 12:22	ICAL ID	L230302

Hexa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDD-13C	35:18	3.11e7	2.44e7	1.21e7	9.34e6	-----	-----	1.28	
1,2,3,6,7,8-HxCDD-13C	35:23	4.05e7	3.16e7	1.33e7	1.06e7	-----	-----	1.28	
1,2,3,7,8,9-HxCDD-13C	35:37	3.78e7	2.97e7	1.20e7	9.36e6	-----	-----	1.27	
1,2,3,4,7,8-HxCDD	35:19	3.19e8	2.58e8	1.28e8	1.05e8	-----	-----	1.24	
1,2,3,6,7,8-HxCDD	35:24	3.96e8	3.20e8	1.41e8	1.14e8	-----	-----	1.24	
1,2,3,7,8,9-HxCDD	35:37	3.49e8	2.82e8	1.16e8	9.60e7	-----	-----	1.24	

Hepta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDF-13C	37:08	1.96e7	4.21e7	6.47e6	1.37e7	-----	-----	0.46	
1,2,3,4,7,8,9-HpCDF-13C	38:34	1.64e7	3.45e7	4.77e6	1.03e7	-----	-----	0.47	
1,2,3,4,6,7,8-HpCDF	37:09	4.30e8	4.19e8	1.35e8	1.29e8	-----	-----	1.03	
1,2,3,4,7,8,9-HpCDF	38:35	3.53e8	3.30e8	1.05e8	9.90e7	-----	-----	1.07	

Hepta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDD-13C	38:04	2.33e7	2.17e7	7.01e6	6.46e6	-----	-----	1.07	
1,2,3,4,6,7,8-HpCDD	38:05	2.55e8	2.43e8	7.44e7	7.10e7	-----	-----	1.05	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:12	6.07e8	6.68e8	1.51e8	1.67e8	-----	-----	0.91	

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	40:57	4.66e7	5.67e7	1.12e7	1.35e7	-----	-----	0.82	
OCDD	40:58	4.49e8	4.98e8	1.14e8	1.27e8	-----	-----	0.90	

REPORT OF LABORATORY ANALYSIS

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TCDF Confirmation Detected Peak List

Prepared By _____ Date _____

ReviewedBy _____ Date _____

Client Name	State of Indiana		
Client ID		Injected By	JRH
Lab ID	CS1-20-123-108	Instrument ID	10MSHR06 (U)
Filename	U221009A_04	GC Column ID	US2588526H
Analyzed	10/09/2022 12:07	ICAL ID	U221009-DB225

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	18:01	2.99e8	(M)3.77e8	4.80e7	6.13e7	-----	-----	0.79	
2,3,7,8-TCDF	18:02	1.53e6	1.98e6	2.39e5	3.26e5	1.401e3	2.219e3	0.78	

Cleanup & Recovery:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	16:05	(M)2.14e8	2.72e8	3.99e7	5.12e7	-----	-----	0.79	
2,3,7,8-TCDD-37Cl4	15:40	2.89e6		6.05e5		2.144e3	-----		

REPORT OF LABORATORY ANALYSIS

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TCDF Confirmation Detected Peak List

Prepared By _____ Date _____

ReviewedBy _____ Date _____

Client Name	State of Indiana		
Client ID		Injected By	JRH
Lab ID	CS2-22-171-006	Instrument ID	10MSHR06 (U)
Filename	U221009A_03	GC Column ID	US2588526H
Analyzed	10/09/2022 11:20	ICAL ID	U221009-DB225

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	18:01	(M)1.18e8	1.54e8	1.83e7	2.38e7	-----	-----	0.76	
2,3,7,8-TCDF	18:02	2.40e6	(M)3.10e6	4.01e5	4.98e5	-----	-----	0.78	

Cleanup & Recovery:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	16:05	8.60e7	1.08e8	1.56e7	1.97e7	-----	-----	0.80	
2,3,7,8-TCDD-37Cl4	15:40	(M)4.68e6		8.99e5		-----	-----		

REPORT OF LABORATORY ANALYSIS

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TCDF Confirmation Detected Peak List

Prepared By _____ Date _____

ReviewedBy _____ Date _____

Client Name	State of Indiana		
Client ID		Injected By	JRH
Lab ID	CS3/CPM-22-171-005	Instrument ID	10MSHR06 (U)
Filename	U221009A_02	GC Column ID	US2588526H
Analyzed	10/09/2022 10:34	ICAL ID	U221009-DB225

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	18:01	1.31e8	1.66e8	2.08e7	2.66e7	-----	-----	0.79	
2,3,7,8-TCDF	18:03	1.32e7	1.68e7	2.27e6	2.90e6	-----	-----	0.79	

Cleanup & Recovery:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	16:05	1.02e8	1.27e8	1.86e7	2.40e7	-----	-----	0.80	
2,3,7,8-TCDD-37Cl4	15:40	(M)2.43e7		4.46e6		-----	-----		

REPORT OF LABORATORY ANALYSIS

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TCDF Confirmation Detected Peak List

Prepared By _____ Date _____

ReviewedBy _____ Date _____

Client Name	State of Indiana		
Client ID		Injected By	JRH
Lab ID	CS4-22-171-007	Instrument ID	10MSHR06 (U)
Filename	U221009A_06	GC Column ID	US2588526H
Analyzed	10/09/2022 13:42	ICAL ID	U221009-DB225

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	18:00	1.20e8	1.56e8	1.95e7	2.57e7	-----	-----	0.77	
2,3,7,8-TCDF	18:02	4.56e7	5.75e7	7.11e6	9.29e6	-----	-----	0.79	

Cleanup & Recovery:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	16:05	8.66e7	1.09e8	1.62e7	2.06e7	-----	-----	0.79	
2,3,7,8-TCDD-37Cl4	15:39	(M)8.82e7		1.67e7		-----	-----		

REPORT OF LABORATORY ANALYSIS

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TCDF Confirmation Detected Peak List

Prepared By _____ Date _____

ReviewedBy _____ Date _____

Client Name	State of Indiana		
Client ID		Injected By	JRH
Lab ID	CS5-22-171-008	Instrument ID	10MSHR06 (U)
Filename	U221009A_05	GC Column ID	US2588526H
Analyzed	10/09/2022 12:57	ICAL ID	U221009-DB225

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	18:00	1.21e8	1.53e8	1.89e7	2.39e7	-----	-----	0.79	
2,3,7,8-TCDF	18:02	2.21e8	2.84e8	3.50e7	4.44e7	-----	-----	0.78	

Cleanup & Recovery:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	16:05	8.53e7	1.08e8	1.59e7	2.03e7	-----	-----	0.79	
2,3,7,8-TCDD-37Cl4	15:39	(M)4.25e8		7.78e7		-----	-----		

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PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

ReviewedBy _____ Date _____

Client ID		Injected By	JRH
Lab ID	CS3/CPM-22-171-022	Instrument ID	10MSHR15 (L)
Filename	L230305A_18	GC Column ID	US1824614H
Analyzed	03/05/2023 21:42	ICAL ID	L230302

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	25:38	1.69e8	2.17e8	2.27e7	2.91e7	-----	-----	0.78	
2,3,7,8-TCDF	25:40	1.67e7	2.12e7	2.25e6	2.93e6	-----	-----	0.79	

Tetra-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	25:57	1.25e8	1.41e8	1.70e7	1.92e7	-----	-----	0.89	
2,3,7,8-TCDD-13C	26:55	1.47e8	1.69e8	2.37e7	2.71e7	-----	-----	0.87	
2,3,7,8-TCDD-37Cl4	26:56	2.81e7		4.71e6		-----	-----		
2,3,7,8-TCDD	26:56	1.34e7	1.71e7	2.13e6	2.76e6	-----	-----	0.78	

Penta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDF-13C	31:06	1.79e8	1.14e8	5.13e7	3.31e7	-----	-----	1.57	
2,3,4,7,8-PeCDF-13C	32:03	1.75e8	1.11e8	5.54e7	3.61e7	-----	-----	1.58	
1,2,3,7,8-PeCDF	31:07	8.91e7	5.83e7	2.59e7	1.68e7	-----	-----	1.53	
2,3,4,7,8-PeCDF	32:04	9.55e7	6.26e7	3.02e7	2.01e7	-----	-----	1.52	

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	32:19	1.13e8	7.22e7	3.63e7	2.32e7	-----	-----	1.57	
1,2,3,7,8-PeCDD	32:21	3.55e7	5.76e7	1.15e7	1.80e7	-----	-----	0.62	

Hexa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDF-13C	34:35	7.71e7	1.45e8	2.84e7	5.30e7	-----	-----	0.53	
1,2,3,6,7,8-HxCDF-13C	34:41	8.69e7	1.65e8	3.24e7	6.09e7	-----	-----	0.53	
2,3,4,6,7,8-HxCDF-13C	35:08	8.14e7	1.49e8	3.19e7	5.99e7	-----	-----	0.55	
1,2,3,7,8,9-HxCDF-13C	35:50	6.70e7	1.26e8	2.28e7	4.22e7	-----	-----	0.53	
1,2,3,4,7,8-HxCDF	34:36	7.14e7	5.78e7	2.78e7	2.23e7	-----	-----	1.24	
1,2,3,6,7,8-HxCDF	34:42	7.88e7	6.48e7	2.96e7	2.38e7	-----	-----	1.22	
2,3,4,6,7,8-HxCDF	35:09	7.59e7	5.97e7	3.00e7	2.44e7	-----	-----	1.27	
1,2,3,7,8,9-HxCDF	35:51	5.96e7	4.81e7	2.00e7	1.57e7	-----	-----	1.24	

REPORT OF LABORATORY ANALYSIS

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Client ID		Injected By	JRH
Lab ID	CS3/CPM-22-171-022	Instrument ID	10MSHR15 (L)
Filename	L230305A_18	GC Column ID	US1824614H
Analyzed	03/05/2023 21:42	ICAL ID	L230302

Hexa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDD-13C	35:15	9.41e7	7.32e7	3.69e7	2.92e7	-----	-----	1.29	
1,2,3,6,7,8-HxCDD-13C	35:19	1.14e8	8.90e7	4.07e7	3.24e7	-----	-----	1.28	
1,2,3,7,8,9-HxCDD-13C	35:32	1.10e8	8.69e7	3.78e7	3.05e7	-----	-----	1.26	
1,2,3,4,7,8-HxCDD	35:15	4.75e7	3.82e7	1.92e7	1.57e7	-----	-----	1.24	
1,2,3,6,7,8-HxCDD	35:20	5.57e7	4.45e7	2.06e7	1.65e7	-----	-----	1.25	
1,2,3,7,8,9-HxCDD	35:33	5.24e7	4.36e7	1.87e7	1.54e7	-----	-----	1.20	

Hepta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDF-13C	37:04	5.58e7	1.19e8	1.90e7	3.94e7	-----	-----	0.47	
1,2,3,4,7,8,9-HpCDF-13C	38:29	4.27e7	9.28e7	1.34e7	2.83e7	-----	-----	0.46	
1,2,3,4,6,7,8-HpCDF	37:04	5.64e7	5.44e7	1.83e7	1.82e7	-----	-----	1.04	
1,2,3,4,7,8,9-HpCDF	38:30	4.50e7	4.25e7	1.43e7	1.37e7	-----	-----	1.06	

Hepta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDD-13C	37:59	6.33e7	5.88e7	2.01e7	1.89e7	-----	-----	1.08	
1,2,3,4,6,7,8-HpCDD	38:00	3.31e7	3.03e7	1.09e7	1.04e7	-----	-----	1.09	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:05	6.18e7	6.82e7	1.56e7	1.73e7	-----	-----	0.91	

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	40:51	1.05e8	1.29e8	2.64e7	3.30e7	-----	-----	0.82	
OCDD	40:52	5.08e7	5.73e7	1.32e7	1.50e7	-----	-----	0.89	

REPORT OF LABORATORY ANALYSIS

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PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

ReviewedBy _____ Date _____

Client ID		Injected By	JRH
Lab ID	CS3/CPM-22-171-022	Instrument ID	10MSHR15 (L)
Filename	L230305B_10	GC Column ID	US1824614H
Analyzed	03/06/2023 05:07	ICAL ID	L230302

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	25:40	1.55e8	1.98e8	1.74e7	2.23e7	-----	-----	0.78	
2,3,7,8-TCDF	25:42	1.58e7	1.97e7	1.96e6	2.33e6	-----	-----	0.81	

Tetra-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	25:59	1.13e8	1.28e8	1.32e7	1.49e7	-----	-----	0.89	
2,3,7,8-TCDD-13C	26:56	1.30e8	1.47e8	1.89e7	2.13e7	-----	-----	0.89	
2,3,7,8-TCDD-37Cl4	26:58	2.42e7		3.47e6		-----	-----		
2,3,7,8-TCDD	26:58	1.19e7	1.56e7	1.65e6	2.14e6	-----	-----	0.77	

Penta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDF-13C	31:07	1.43e8	9.02e7	3.69e7	2.38e7	-----	-----	1.59	
2,3,4,7,8-PeCDF-13C	32:04	1.36e8	8.76e7	4.15e7	2.68e7	-----	-----	1.56	
1,2,3,7,8-PeCDF	31:08	7.06e7	4.62e7	1.97e7	1.28e7	-----	-----	1.53	
2,3,4,7,8-PeCDF	32:05	7.41e7	4.84e7	2.40e7	1.57e7	-----	-----	1.53	

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	32:20	8.49e7	5.38e7	2.65e7	1.68e7	-----	-----	1.58	
1,2,3,7,8-PeCDD	32:21	2.69e7	4.28e7	8.28e6	1.34e7	-----	-----	0.63	

Hexa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDF-13C	34:35	5.02e7	9.50e7	1.93e7	3.64e7	-----	-----	0.53	
1,2,3,6,7,8-HxCDF-13C	34:41	5.66e7	1.07e8	2.02e7	3.83e7	-----	-----	0.53	
2,3,4,6,7,8-HxCDF-13C	35:08	5.16e7	9.75e7	1.88e7	3.56e7	-----	-----	0.53	
1,2,3,7,8,9-HxCDF-13C	35:50	3.79e7	7.20e7	1.29e7	2.45e7	-----	-----	0.53	
1,2,3,4,7,8-HxCDF	34:36	4.79e7	3.81e7	1.83e7	1.45e7	-----	-----	1.26	
1,2,3,6,7,8-HxCDF	34:42	5.13e7	4.09e7	1.85e7	1.50e7	-----	-----	1.25	
2,3,4,6,7,8-HxCDF	35:09	4.80e7	3.94e7	1.71e7	1.41e7	-----	-----	1.22	
1,2,3,7,8,9-HxCDF	35:51	3.38e7	2.67e7	1.14e7	8.97e6	-----	-----	1.27	

REPORT OF LABORATORY ANALYSIS

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Client ID		Injected By	JRH
Lab ID	CS3/CPM-22-171-022	Instrument ID	10MSHR15 (L)
Filename	L230305B_10	GC Column ID	US1824614H
Analyzed	03/06/2023 05:07	ICAL ID	L230302

Hexa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDD-13C	35:15	5.92e7	4.61e7	2.35e7	1.78e7	-----	-----	1.28	
1,2,3,6,7,8-HxCDD-13C	35:20	6.62e7	5.14e7	2.20e7	1.76e7	-----	-----	1.29	
1,2,3,7,8,9-HxCDD-13C	35:33	6.53e7	5.10e7	2.20e7	1.69e7	-----	-----	1.28	
1,2,3,4,7,8-HxCDD	35:15	2.80e7	2.22e7	1.08e7	8.95e6	-----	-----	1.26	
1,2,3,6,7,8-HxCDD	35:20	3.50e7	2.76e7	1.15e7	9.48e6	-----	-----	1.27	
1,2,3,7,8,9-HxCDD	35:33	3.31e7	2.50e7	1.03e7	8.36e6	-----	-----	1.32	

Hepta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDF-13C	37:04	2.90e7	6.26e7	9.84e6	2.10e7	-----	-----	0.46	
1,2,3,4,7,8,9-HpCDF-13C	38:30	1.91e7	4.02e7	5.64e6	1.17e7	-----	-----	0.47	
1,2,3,4,6,7,8-HpCDF	37:04	3.06e7	2.85e7	1.01e7	9.59e6	-----	-----	1.08	
1,2,3,4,7,8,9-HpCDF	38:30	1.96e7	1.94e7	5.74e6	5.64e6	-----	-----	1.01	

Hepta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDD-13C	38:00	2.89e7	2.75e7	8.71e6	8.11e6	-----	-----	1.05	
1,2,3,4,6,7,8-HpCDD	38:00	1.56e7	1.49e7	4.66e6	4.50e6	-----	-----	1.05	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:06	2.07e7	2.37e7	5.34e6	6.03e6	-----	-----	0.87	

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	40:52	3.72e7	4.53e7	9.67e6	1.18e7	-----	-----	0.82	
OCDD	40:53	1.80e7	1.94e7	4.70e6	5.09e6	-----	-----	0.93	

REPORT OF LABORATORY ANALYSIS

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PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

ReviewedBy _____ Date _____

Client ID		Injected By	SMT
Lab ID	CS3/CPM-22-171-022	Instrument ID	10MSHR15 (L)
Filename	L230306A_17	GC Column ID	US1824614H
Analyzed	03/06/2023 20:03	ICAL ID	L230302

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	25:34	2.04e8	2.60e8	2.85e7	3.64e7	-----	-----	0.78	
2,3,7,8-TCDF	25:36	2.14e7	2.67e7	3.02e6	3.75e6	-----	-----	0.80	

Tetra-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	25:53	1.48e8	1.68e8	2.02e7	2.26e7	-----	-----	0.88	
2,3,7,8-TCDD-13C	26:52	1.74e8	1.95e8	2.78e7	3.16e7	-----	-----	0.89	
2,3,7,8-TCDD-37Cl4	26:54	3.27e7		5.47e6		-----	-----		
2,3,7,8-TCDD	26:54	1.60e7	2.03e7	2.67e6	3.34e6	-----	-----	0.79	

Penta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDF-13C	31:05	2.19e8	1.39e8	6.27e7	3.99e7	-----	-----	1.57	
2,3,4,7,8-PeCDF-13C	32:02	(M)2.26e8	(M)1.41e8	7.34e7	4.56e7	-----	-----	1.60	
1,2,3,7,8-PeCDF	31:06	1.12e8	7.37e7	3.06e7	2.00e7	-----	-----	1.52	
2,3,4,7,8-PeCDF	32:03	1.22e8	8.02e7	4.08e7	2.67e7	-----	-----	1.52	

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	32:18	1.38e8	8.81e7	4.60e7	2.92e7	-----	-----	1.57	
1,2,3,7,8-PeCDD	32:19	4.43e7	7.08e7	1.48e7	2.37e7	-----	-----	0.63	

Hexa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDF-13C	34:35	9.81e7	1.87e8	3.65e7	6.86e7	-----	-----	0.53	
1,2,3,6,7,8-HxCDF-13C	34:40	1.15e8	2.16e8	4.12e7	7.51e7	-----	-----	0.53	
2,3,4,6,7,8-HxCDF-13C	35:07	1.07e8	1.97e8	4.02e7	7.53e7	-----	-----	0.55	
1,2,3,7,8,9-HxCDF-13C	35:49	8.85e7	1.66e8	2.98e7	5.53e7	-----	-----	0.53	
1,2,3,4,7,8-HxCDF	34:36	9.37e7	7.48e7	3.48e7	2.78e7	-----	-----	1.25	
1,2,3,6,7,8-HxCDF	34:41	1.06e8	8.45e7	3.81e7	3.02e7	-----	-----	1.26	
2,3,4,6,7,8-HxCDF	35:08	1.01e8	8.06e7	3.88e7	3.14e7	-----	-----	1.26	
1,2,3,7,8,9-HxCDF	35:50	7.92e7	6.29e7	2.64e7	2.10e7	-----	-----	1.26	

REPORT OF LABORATORY ANALYSIS

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Client ID		Injected By	SMT
Lab ID	CS3/CPM-22-171-022	Instrument ID	10MSHR15 (L)
Filename	L230306A_17	GC Column ID	US1824614H
Analyzed	03/06/2023 20:03	ICAL ID	L230302

Hexa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDD-13C	35:14	1.18e8	9.20e7	4.48e7	3.61e7	-----	-----	1.28	
1,2,3,6,7,8-HxCDD-13C	35:19	1.43e8	1.12e8	5.02e7	3.98e7	-----	-----	1.28	
1,2,3,7,8,9-HxCDD-13C	35:32	1.38e8	1.08e8	4.50e7	3.62e7	-----	-----	1.27	
1,2,3,4,7,8-HxCDD	35:15	5.99e7	4.80e7	2.42e7	1.97e7	-----	-----	1.25	
1,2,3,6,7,8-HxCDD	35:19	7.28e7	5.72e7	2.60e7	2.10e7	-----	-----	1.27	
1,2,3,7,8,9-HxCDD	35:32	7.02e7	5.40e7	2.28e7	1.86e7	-----	-----	1.30	

Hepta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDF-13C	37:03	7.46e7	1.57e8	2.54e7	5.32e7	-----	-----	0.48	
1,2,3,4,7,8,9-HpCDF-13C	38:29	6.01e7	1.25e8	1.65e7	3.56e7	-----	-----	0.48	
1,2,3,4,6,7,8-HpCDF	37:04	7.44e7	7.31e7	2.52e7	2.41e7	-----	-----	1.02	
1,2,3,4,7,8,9-HpCDF	38:30	6.20e7	6.04e7	1.80e7	1.77e7	-----	-----	1.03	

Hepta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDD-13C	37:59	8.21e7	7.67e7	2.41e7	2.24e7	-----	-----	1.07	
1,2,3,4,6,7,8-HpCDD	37:59	4.27e7	4.13e7	1.33e7	1.28e7	-----	-----	1.04	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:05	8.95e7	1.02e8	2.12e7	2.35e7	-----	-----	0.88	

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	40:51	1.53e8	1.84e8	3.52e7	4.24e7	-----	-----	0.83	
OCDD	40:52	7.27e7	8.08e7	1.70e7	1.90e7	-----	-----	0.90	

REPORT OF LABORATORY ANALYSIS

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PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

ReviewedBy _____ Date _____

Client ID		Injected By	SMT
Lab ID	CS3/CPM-22-171-022	Instrument ID	10MSHR15 (L)
Filename	L230306B_17	GC Column ID	US1824614H
Analyzed	03/07/2023 08:40	ICAL ID	L230302

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	25:35	2.27e8	2.88e8	3.00e7	3.83e7	-----	-----	0.79	
2,3,7,8-TCDF	25:37	2.36e7	2.98e7	3.17e6	4.00e6	-----	-----	0.79	

Tetra-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	25:54	1.62e8	1.82e8	2.12e7	2.38e7	-----	-----	0.89	
2,3,7,8-TCDD-13C	26:53	1.89e8	2.14e8	2.97e7	3.36e7	-----	-----	0.88	
2,3,7,8-TCDD-37Cl4	26:55	3.55e7		5.68e6		-----	-----		
2,3,7,8-TCDD	26:55	1.84e7	2.25e7	2.88e6	3.60e6	-----	-----	0.82	

Penta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDF-13C	31:07	2.32e8	1.47e8	6.25e7	3.90e7	-----	-----	1.58	
2,3,4,7,8-PeCDF-13C	32:03	2.25e8	1.43e8	7.02e7	4.54e7	-----	-----	1.57	
1,2,3,7,8-PeCDF	31:07	1.19e8	7.67e7	3.25e7	2.12e7	-----	-----	1.55	
2,3,4,7,8-PeCDF	32:04	1.25e8	8.19e7	4.03e7	2.65e7	-----	-----	1.53	

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	32:19	1.40e8	8.84e7	4.33e7	2.72e7	-----	-----	1.58	
1,2,3,7,8-PeCDD	32:20	4.52e7	7.25e7	1.38e7	2.31e7	-----	-----	0.62	

Hexa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDF-13C	34:36	9.88e7	1.78e8	3.53e7	6.55e7	-----	-----	0.55	
1,2,3,6,7,8-HxCDF-13C	34:41	1.12e8	2.15e8	3.95e7	7.40e7	-----	-----	0.52	
2,3,4,6,7,8-HxCDF-13C	35:08	1.01e8	1.92e8	3.62e7	6.96e7	-----	-----	0.52	
1,2,3,7,8,9-HxCDF-13C	35:50	8.34e7	1.56e8	2.71e7	5.06e7	-----	-----	0.53	
1,2,3,4,7,8-HxCDF	34:36	9.10e7	7.25e7	3.40e7	2.68e7	-----	-----	1.25	
1,2,3,6,7,8-HxCDF	34:42	1.01e8	8.38e7	3.69e7	2.95e7	-----	-----	1.21	
2,3,4,6,7,8-HxCDF	35:09	9.59e7	7.87e7	3.58e7	2.93e7	-----	-----	1.22	
1,2,3,7,8,9-HxCDF	35:51	7.49e7	5.84e7	2.41e7	1.90e7	-----	-----	1.28	

REPORT OF LABORATORY ANALYSIS

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Client ID		Injected By	SMT
Lab ID	CS3/CPM-22-171-022	Instrument ID	10MSHR15 (L)
Filename	L230306B_17	GC Column ID	US1824614H
Analyzed	03/07/2023 08:40	ICAL ID	L230302

Hexa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDD-13C	35:15	1.17e8	8.45e7	4.30e7	3.24e7	-----	-----	1.38	
1,2,3,6,7,8-HxCDD-13C	35:19	1.31e8	1.09e8	4.48e7	3.64e7	-----	-----	1.20	
1,2,3,7,8,9-HxCDD-13C	35:33	1.31e8	1.04e8	4.08e7	3.20e7	-----	-----	1.26	
1,2,3,4,7,8-HxCDD	35:15	5.58e7	4.49e7	2.15e7	1.76e7	-----	-----	1.24	
1,2,3,6,7,8-HxCDD	35:20	7.17e7	5.66e7	2.47e7	1.99e7	-----	-----	1.27	
1,2,3,7,8,9-HxCDD	35:33	6.52e7	5.06e7	2.02e7	1.64e7	-----	-----	1.29	

Hepta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDF-13C	37:04	6.74e7	1.41e8	2.16e7	4.62e7	-----	-----	0.48	
1,2,3,4,7,8,9-HpCDF-13C	38:30	4.93e7	1.03e8	1.33e7	2.80e7	-----	-----	0.48	
1,2,3,4,6,7,8-HpCDF	37:04	6.88e7	6.79e7	2.28e7	2.19e7	-----	-----	1.01	
1,2,3,4,7,8,9-HpCDF	38:30	5.04e7	4.86e7	1.39e7	1.40e7	-----	-----	1.04	

Hepta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDD-13C	38:00	6.79e7	6.50e7	2.02e7	1.88e7	-----	-----	1.04	
1,2,3,4,6,7,8-HpCDD	38:00	3.72e7	3.55e7	1.07e7	1.02e7	-----	-----	1.05	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:06	6.28e7	6.83e7	1.51e7	1.63e7	-----	-----	0.92	

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	40:52	(M)1.06e8	(M)1.28e8	2.49e7	2.98e7	-----	-----	0.83	
OCDD	40:53	4.95e7	5.56e7	1.17e7	1.31e7	-----	-----	0.89	

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TCDF Confirmation Detected Peak List

Prepared By _____ Date _____

ReviewedBy _____ Date _____

Client ID		Injected By	SMT
Lab ID	CS3-22-171-004	Instrument ID	10MSHR06 (U)
Filename	U230307A_03	GC Column ID	US2588526H
Analyzed	03/07/2023 10:26	ICAL ID	U221009-DB225

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	17:54	4.96e7	6.39e7	7.62e6	9.95e6	-----	-----	0.78	
2,3,7,8-TCDF	17:55	5.08e6	6.61e6	8.36e5	1.06e6	-----	-----	0.77	

Cleanup & Recovery:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	15:58	3.78e7	4.79e7	7.05e6	8.70e6	-----	-----	0.79	
2,3,7,8-TCDD-37Cl4	15:33	9.96e6		1.85e6		-----	-----		

REPORT OF LABORATORY ANALYSIS

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TCDF Confirmation Detected Peak List

Prepared By _____ Date _____

ReviewedBy _____ Date _____

Client ID		Injected By	SMT
Lab ID	CS3-22-171-004	Instrument ID	10MSHR06 (U)
Filename	U230307A_08	GC Column ID	US2588526H
Analyzed	03/07/2023 14:24	ICAL ID	U221009-DB225

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	17:54	4.65e7	6.11e7	7.11e6	9.44e6	-----	-----	0.76	
2,3,7,8-TCDF	17:56	4.81e6	6.11e6	7.69e5	1.09e6	-----	-----	0.79	

Cleanup & Recovery:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	15:58	3.73e7	4.74e7	6.71e6	8.51e6	-----	-----	0.79	
2,3,7,8-TCDD-37Cl4	15:35	9.55e6		1.65e6		-----	-----		

REPORT OF LABORATORY ANALYSIS

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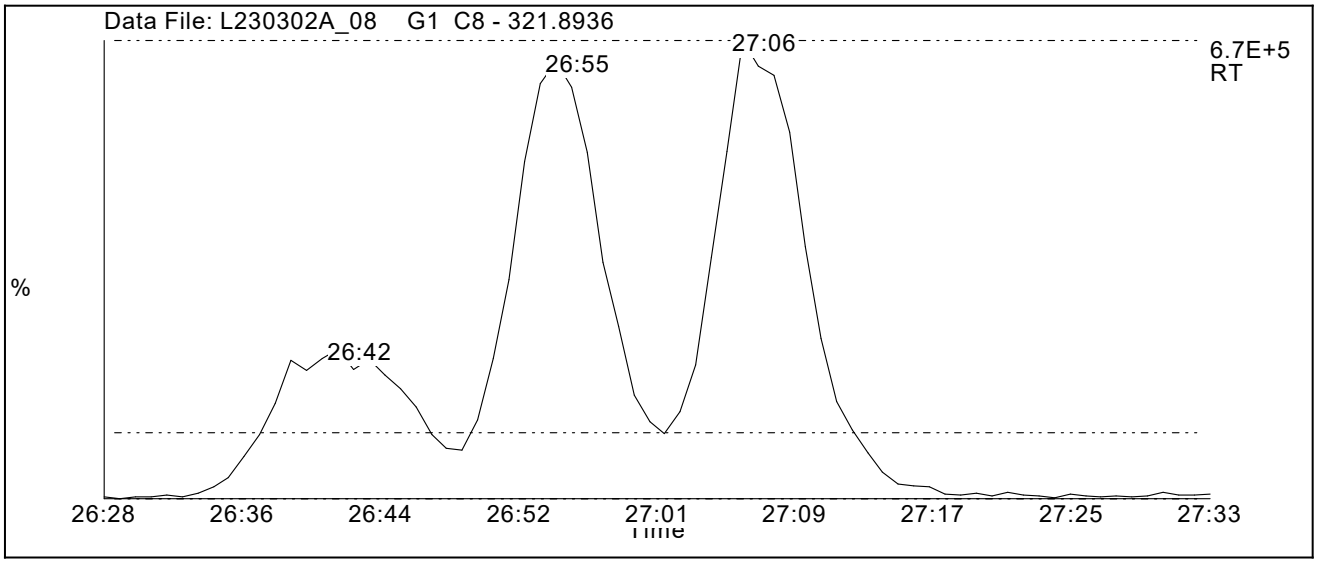
Column Performance Mix (CPM) / Window Defining Mix (WDM)

Lab Sample ID:	CS3/CPM-22-171-022	Injected By:	SMT
Raw Data File:	L230302A_08	Instrument ID:	10MSHR15 (L)
Date Analyzed:	3/2/2023	GC Column	DB-5MS
Time Analyzed:	09:49	GC Column S/N:	US1824614H

Resolution: 14.5%



Group	Msss	First Eluter	Last Eluter
TCDF	305.8987	20:13	28:31
PeCDF	341.8567	28:25	33:02
HxCDF	373.8207	33:38	35:56
HpCDF	407.7818	37:09	38:35
OCDF	441.7428	41:12	0:00
TCDD	321.8936	22:09	28:19
PeCDD	357.8517	30:13	32:47
HxCDD	391.8127	34:07	35:38
HpCDD	425.7737	37:23	38:05
OCDD	459.7347	40:58	0:00
1234-TCDD-13	331.9367	26:09	0:00
123789-HxCD	401.8559	35:37	0:00

REPORT OF LABORATORY ANALYSIS

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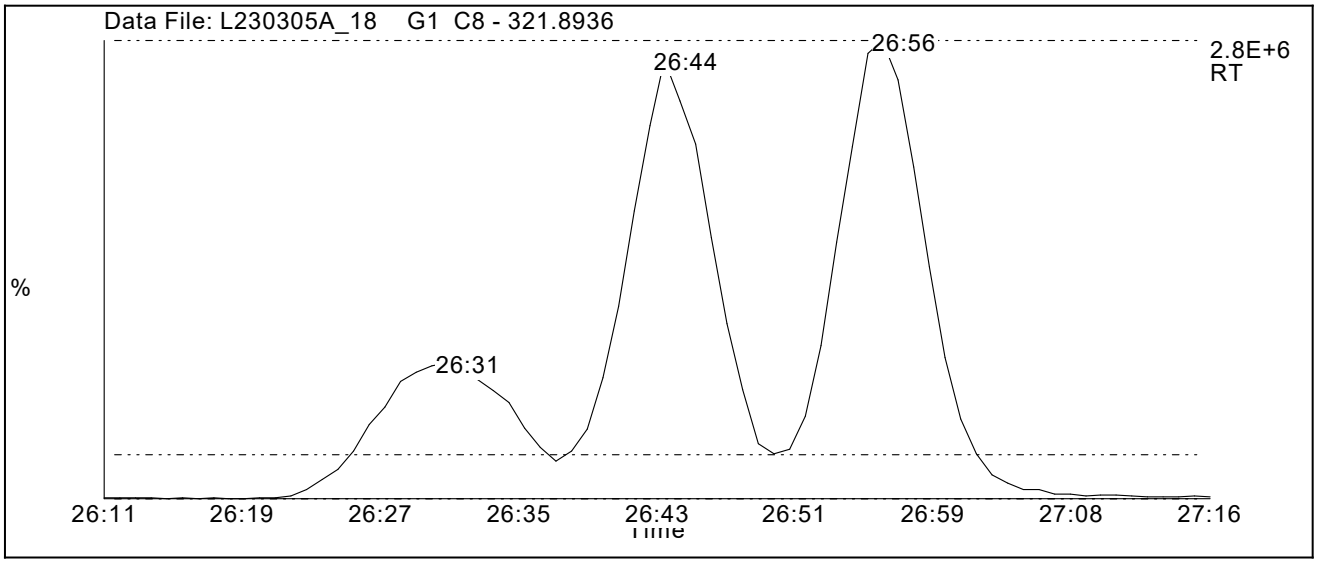
Column Performance Mix (CPM) / Window Defining Mix (WDM)

Lab Sample ID:	CS3/CPM-22-171-022	Injected By:	JRH
Raw Data File:	L230305A_18	Instrument ID:	10MSHR15 (L)
Date Analyzed:	3/5/2023	GC Column	DB-5MS
Time Analyzed:	21:42	GC Column S/N:	US1824614H

Resolution: 9.6%



Group	Msss	First Eluter	Last Eluter
TCDF	305.8987	20:04	28:23
PeCDF	341.8567	28:17	32:58
HxCDF	373.8207	33:34	35:51
HpCDF	407.7818	37:04	38:30
OCDF	441.7428	41:05	0:00
TCDD	321.8936	21:59	28:09
PeCDD	357.8517	30:07	32:42
HxCDD	391.8127	34:02	35:33
HpCDD	425.7737	37:18	38:00
OCDD	459.7347	40:52	0:00
1234-TCDD-13	331.9367	25:57	0:00
123789-HxCD	401.8559	35:32	0:00

REPORT OF LABORATORY ANALYSIS

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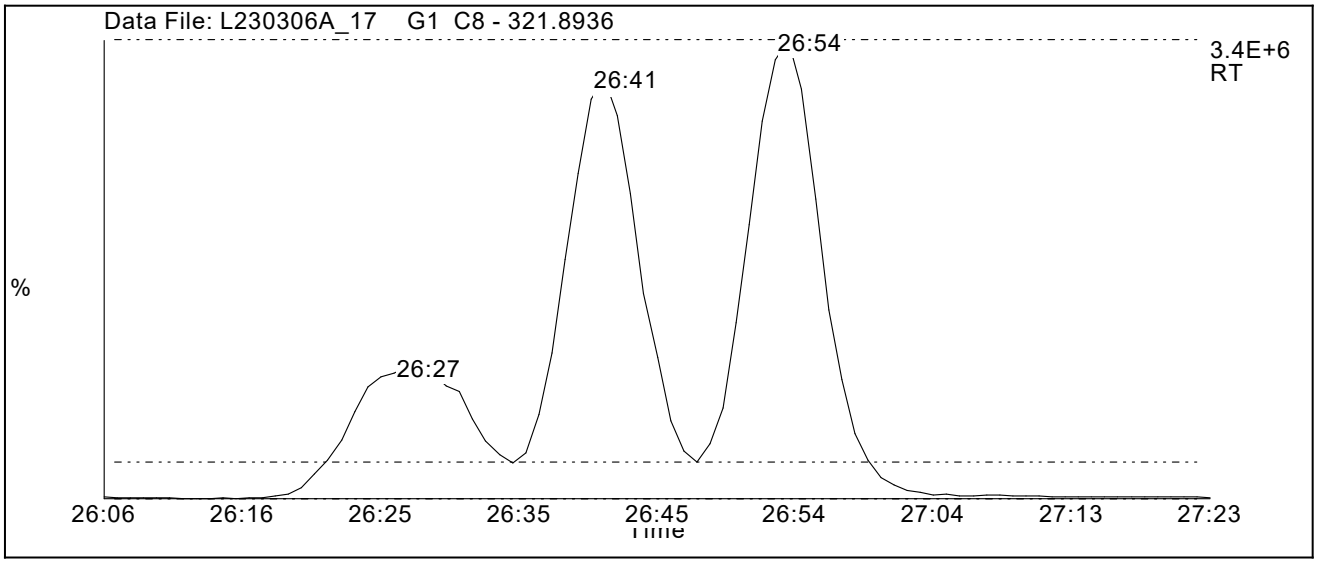
Column Performance Mix (CPM) / Window Defining Mix (WDM)

Lab Sample ID:	CS3/CPM-22-171-022	Injected By:	SMT
Raw Data File:	L230306A_17	Instrument ID:	10MSHR15 (L)
Date Analyzed:	3/6/2023	GC Column	DB-5MS
Time Analyzed:	20:03	GC Column S/N:	US1824614H

Resolution: 8.0%



Group	Msss	First Eluter	Last Eluter
TCDF	305.8987	20:01	28:21
PeCDF	341.8567	28:14	32:56
HxCDF	373.8207	33:33	35:50
HpCDF	407.7818	37:04	38:30
OCDF	441.7428	41:05	0:00
TCDD	321.8936	21:56	28:08
PeCDD	357.8517	30:04	32:41
HxCDD	391.8127	34:01	35:32
HpCDD	425.7737	37:17	37:59
OCDD	459.7347	40:51	0:00
1234-TCDD-13	331.9367	25:54	0:00
123789-HxCD	401.8559	35:32	0:00

REPORT OF LABORATORY ANALYSIS

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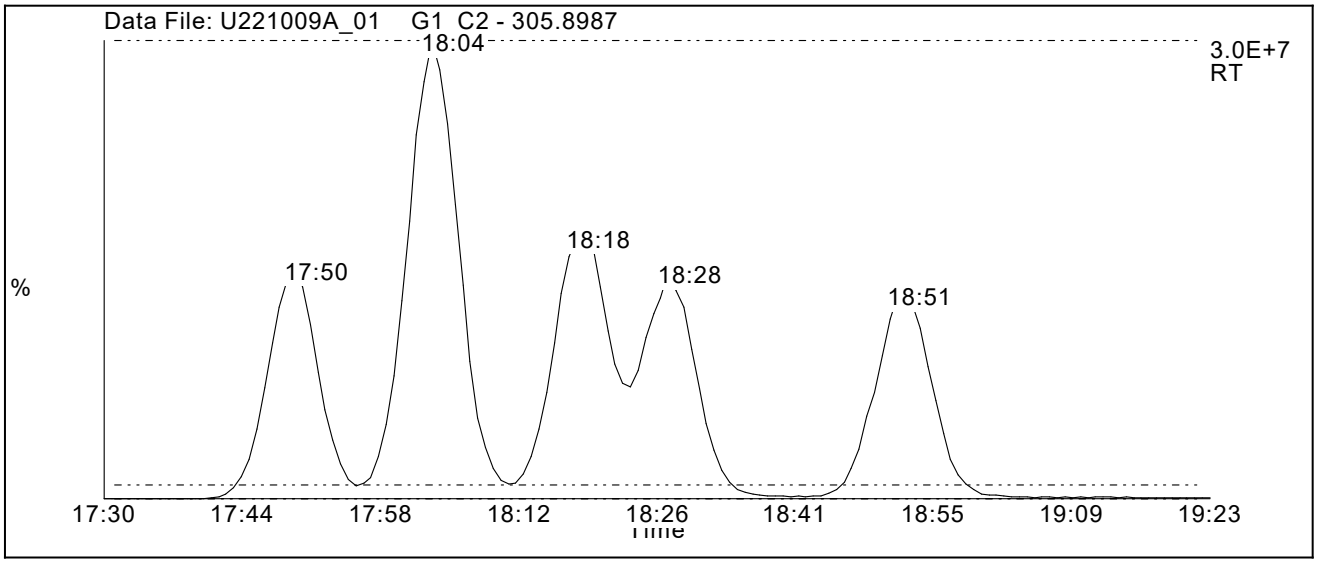
Column Performance Mix (CPM) / Window Defining Mix (WDM)

Lab Sample ID:	CPM-11321-090	Injected By:	JRH
Raw Data File:	U221009A_01	Instrument ID:	10MSHR06 (U)
Date Analyzed:	10/9/2022	GC Column	DB-225
Time Analyzed:	09:48	GC Column S/N:	US2588526H

Resolution: 3.0%



Group	Msss	First Eluter	Last Eluter
2,3,7,8-TCDF	305.8987	18:03	0:00

REPORT OF LABORATORY ANALYSIS

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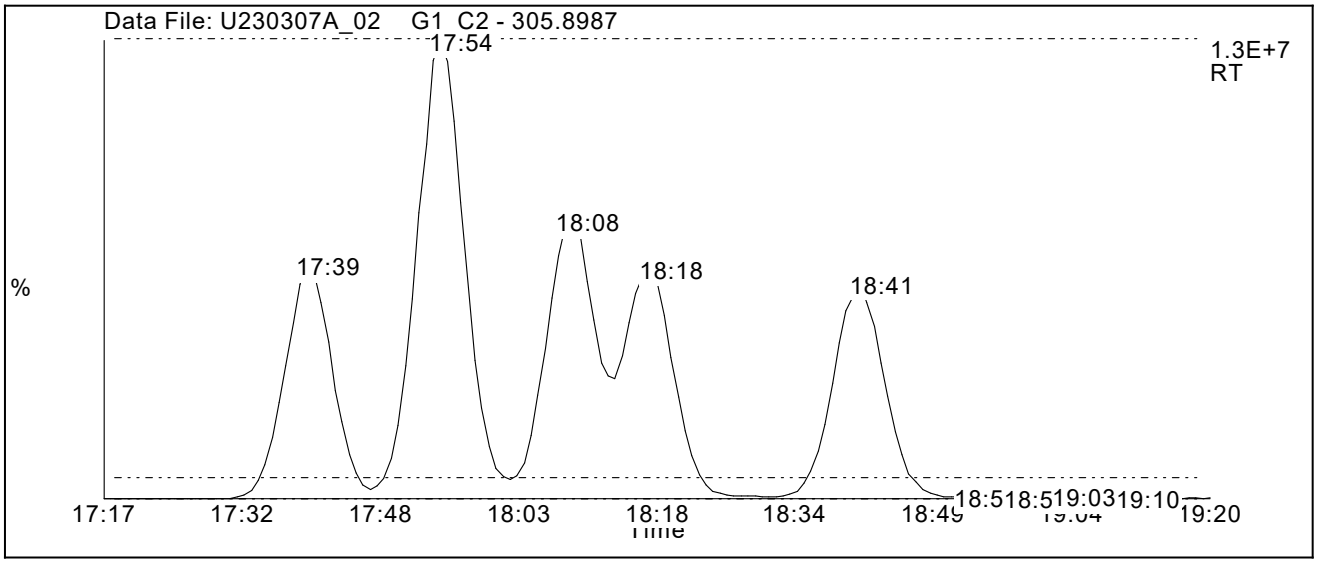
Column Performance Mix (CPM) / Window Defining Mix (WDM)

Lab Sample ID:	CPM-11321-090	Injected By:	SMT
Raw Data File:	U230307A_02	Instrument ID:	10MSHR06 (U)
Date Analyzed:	3/7/2023	GC Column	DB-225
Time Analyzed:	09:40	GC Column S/N:	US2588526H

Resolution: 4.6%



Group	Msss	First Eluter	Last Eluter
2,3,7,8-TCDF	305.8987	17:53	0:00

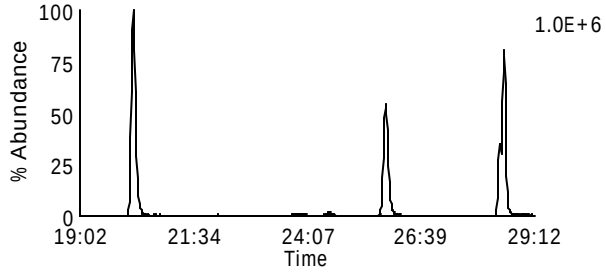
REPORT OF LABORATORY ANALYSIS

Homologue Group: Tetras

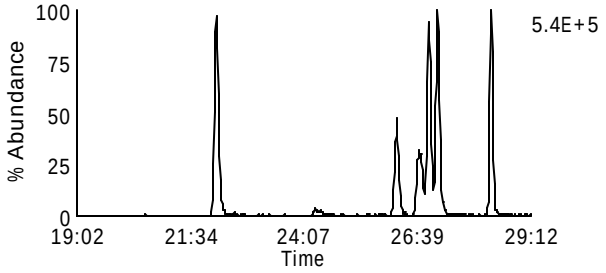
Data File Name: L230302A_08
Date Acquired: 3/2/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID: CPM/WDM
Instrument: 10MSHR15 (L)

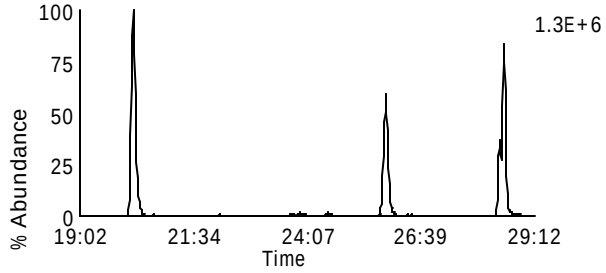
Data File: L230302A_08 G1 C1 - 303.9016
CAL CS3/CPM-22-171-022 - SMT



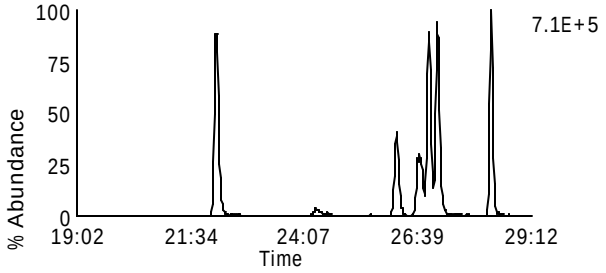
Data File: L230302A_08 G1 C7 - 319.8965
CAL CS3/CPM-22-171-022 - SMT



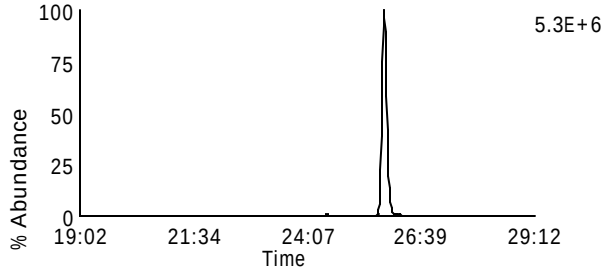
Data File: L230302A_08 G1 C2 - 305.8987
CAL CS3/CPM-22-171-022 - SMT



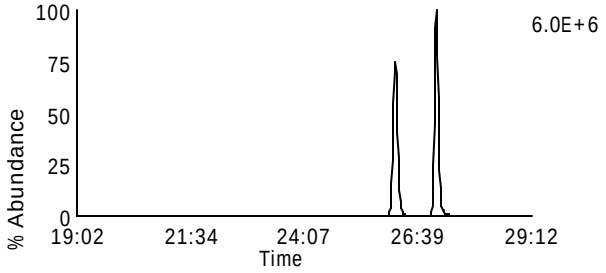
Data File: L230302A_08 G1 C8 - 321.8936
CAL CS3/CPM-22-171-022 - SMT



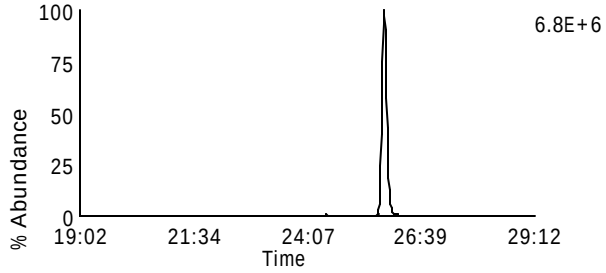
Data File: L230302A_08 G1 C3 - 315.9418
CAL CS3/CPM-22-171-022 - SMT



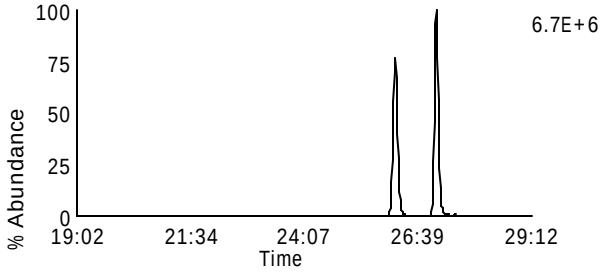
Data File: L230302A_08 G1 C10 - 331.9367
CAL CS3/CPM-22-171-022 - SMT



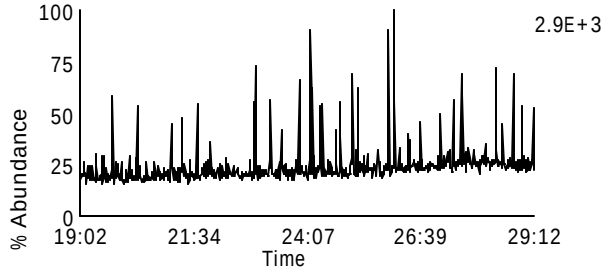
Data File: L230302A_08 G1 C4 - 317.9389
CAL CS3/CPM-22-171-022 - SMT



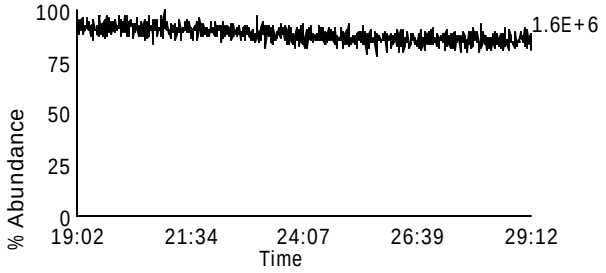
Data File: L230302A_08 G1 C11 - 333.9338
CAL CS3/CPM-22-171-022 - SMT



Data File: L230302A_08 G1 C14 - 375.8364
CAL CS3/CPM-22-171-022 - SMT



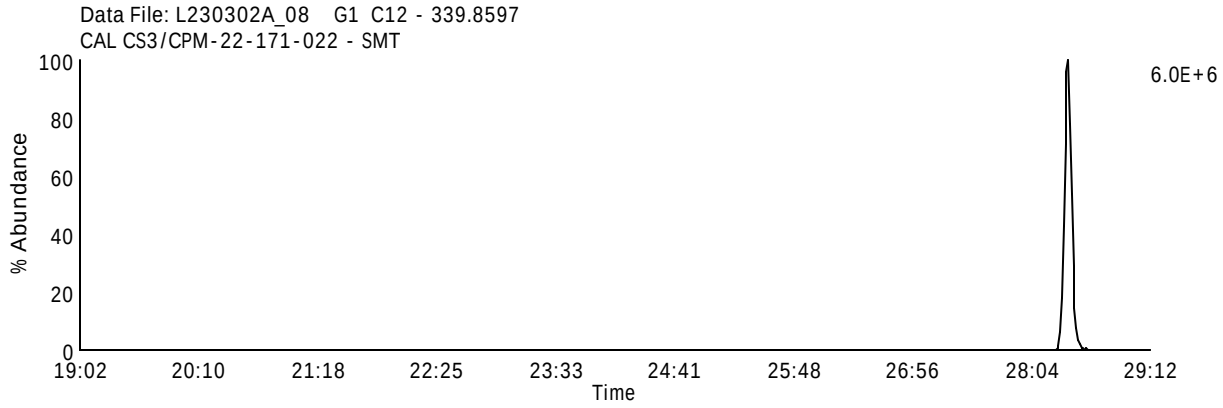
Data File: L230302A_08 G1 C5 - 318.9792
CAL CS3/CPM-22-171-022 - SMT

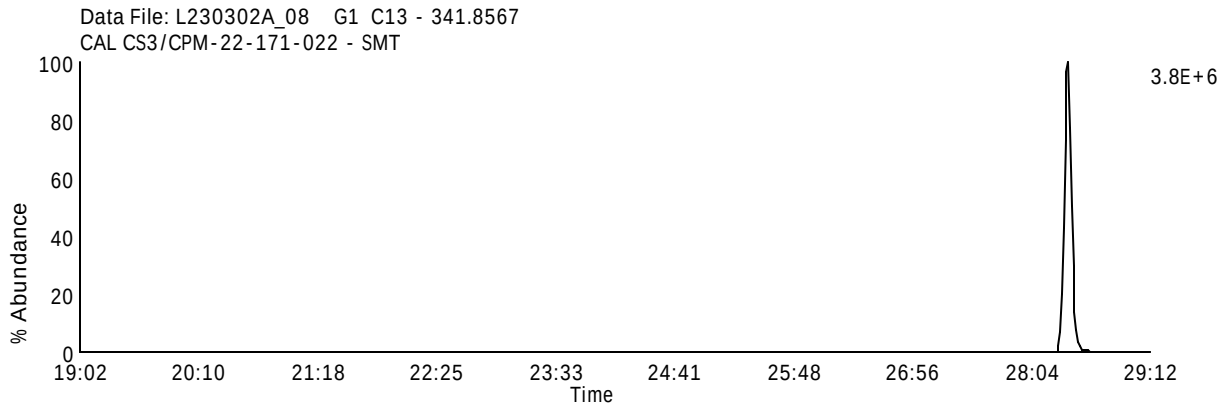


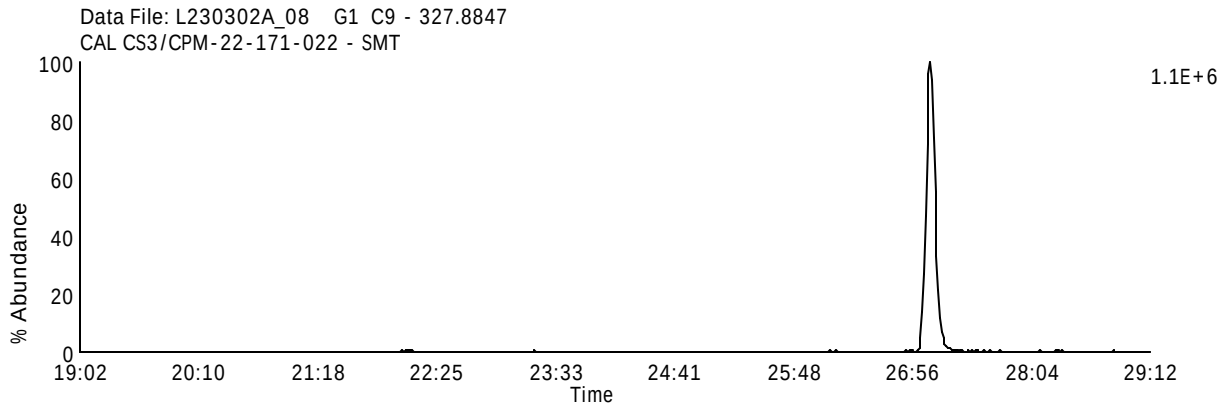
Homologue Group: Penta & Cleanup

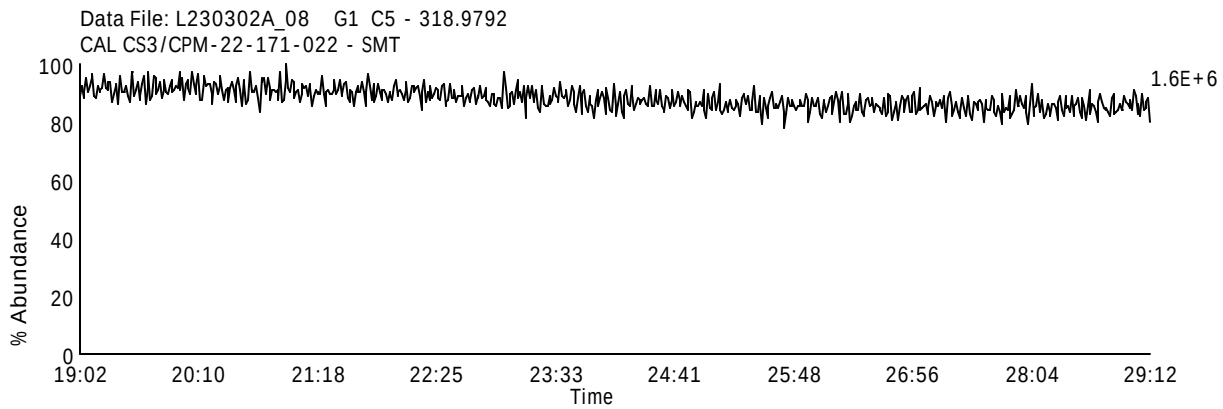
Data File Name: L230302A_08
Date Acquired: 3/2/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID: CPM/WDM
Instrument: 10MSHR15 (L)





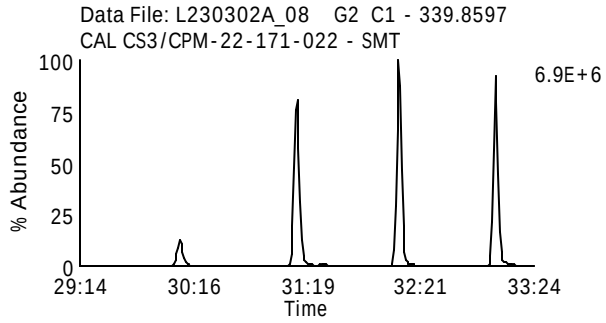


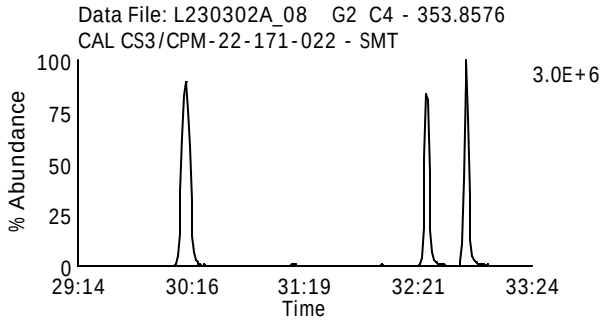


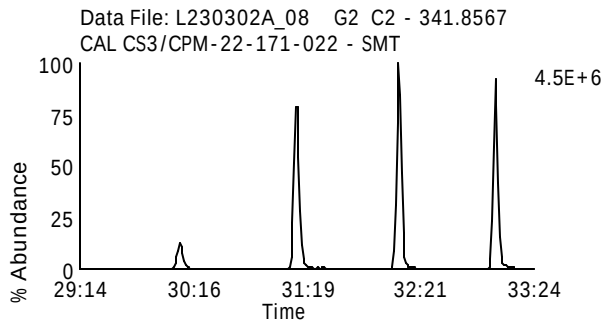
Homologue Group: Pentas

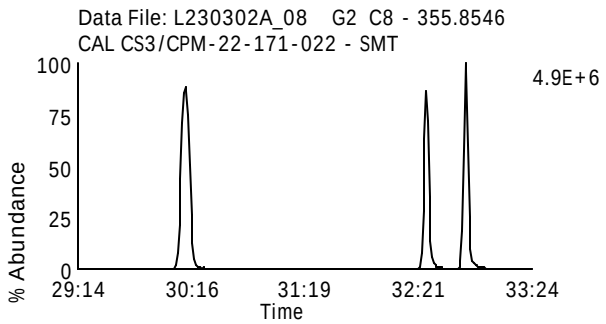
Data File Name: L230302A_08
Date Acquired: 3/2/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

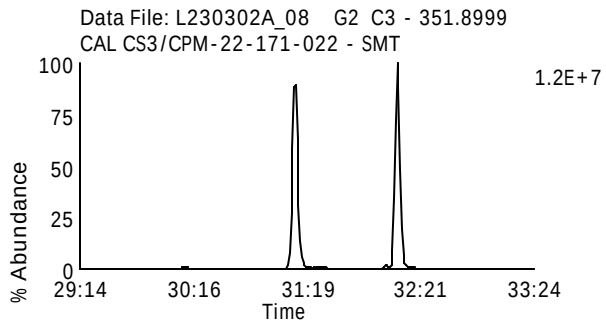
Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID: CPM/WDM
Instrument: 10MSHR15 (L)

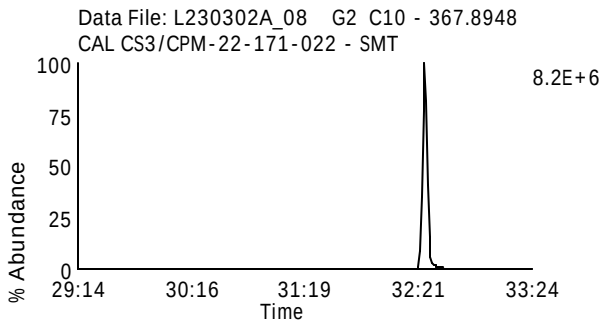


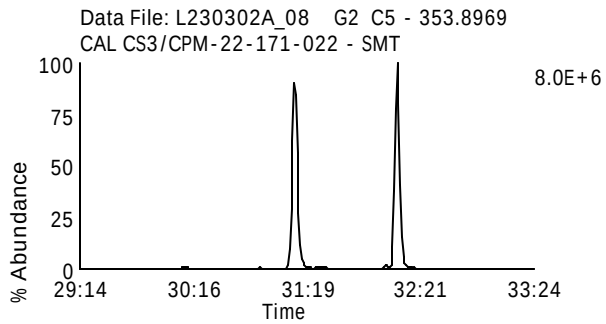


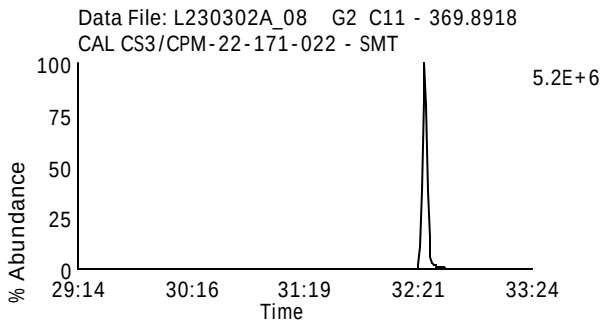


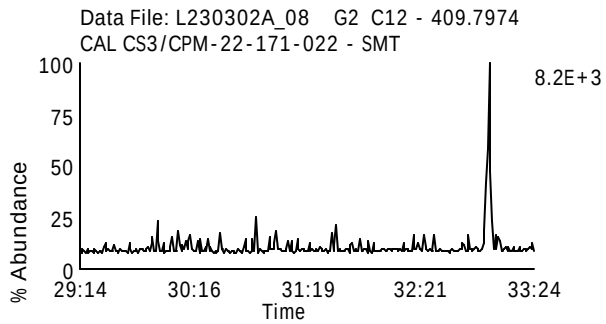


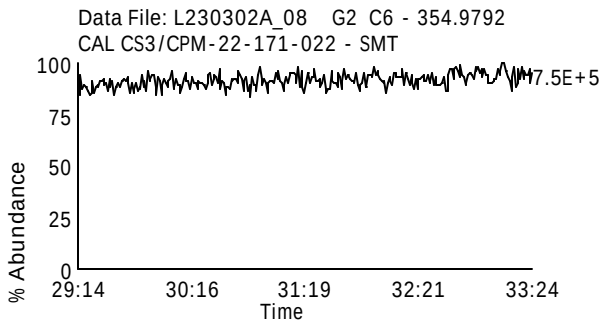










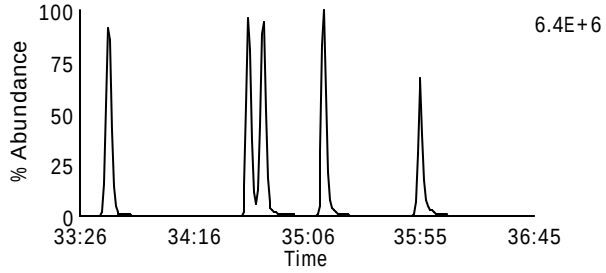


Homologue Group: Hexas

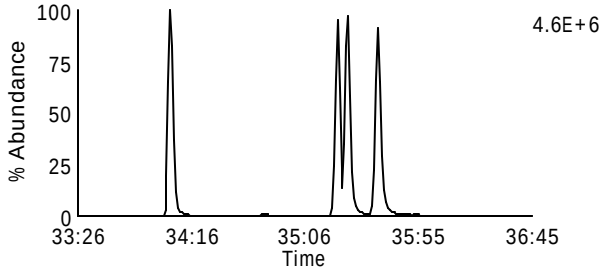
Data File Name: L230302A_08
Date Acquired: 3/2/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID: CPM/WDM
Instrument: 10MSHR15 (L)

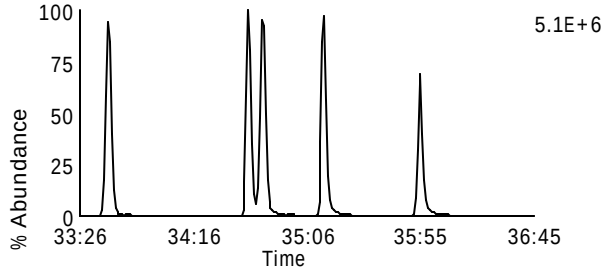
Data File: L230302A_08 G3 C1 - 373.8207
CAL CS3/CPM-22-171-022 - SMT



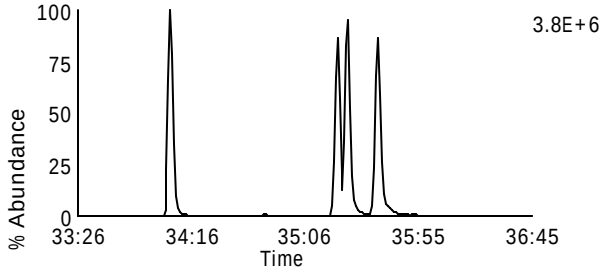
Data File: L230302A_08 G3 C7 - 389.8156
CAL CS3/CPM-22-171-022 - SMT



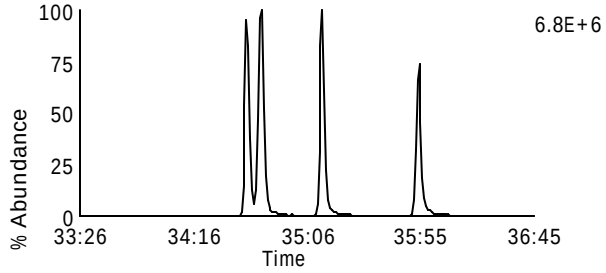
Data File: L230302A_08 G3 C2 - 375.8178
CAL CS3/CPM-22-171-022 - SMT



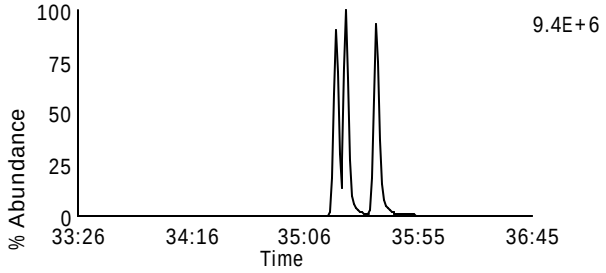
Data File: L230302A_08 G3 C8 - 391.8127
CAL CS3/CPM-22-171-022 - SMT



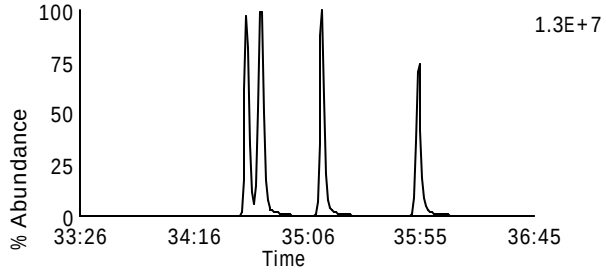
Data File: L230302A_08 G3 C5 - 383.8639
CAL CS3/CPM-22-171-022 - SMT



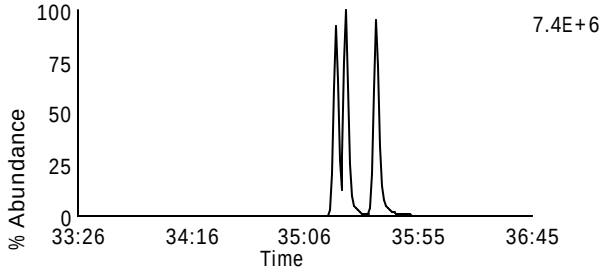
Data File: L230302A_08 G3 C9 - 401.8559
CAL CS3/CPM-22-171-022 - SMT



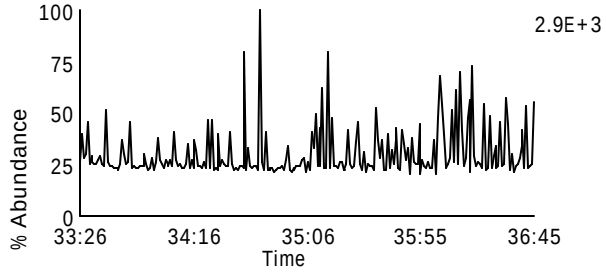
Data File: L230302A_08 G3 C6 - 385.861
CAL CS3/CPM-22-171-022 - SMT



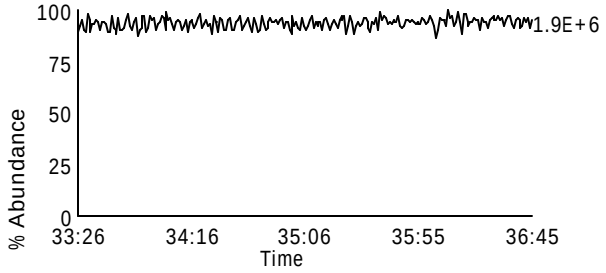
Data File: L230302A_08 G3 C10 - 403.8529
CAL CS3/CPM-22-171-022 - SMT



Data File: L230302A_08 G3 C11 - 445.7555
CAL CS3/CPM-22-171-022 - SMT



Data File: L230302A_08 G3 C3 - 380.976
CAL CS3/CPM-22-171-022 - SMT

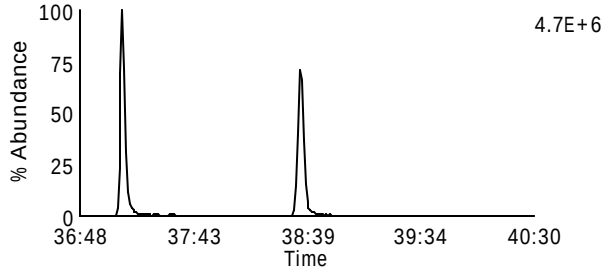


Homologue Group: Heptas

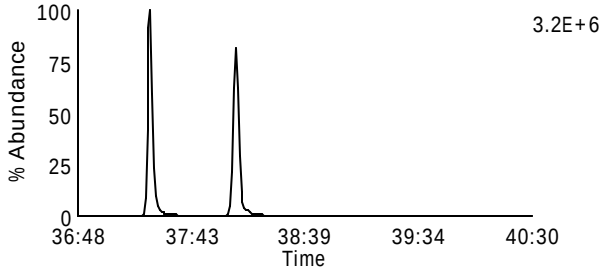
Data File Name: L230302A_08
Date Acquired: 3/2/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID: CPM/WDM
Instrument: 10MSHR15 (L)

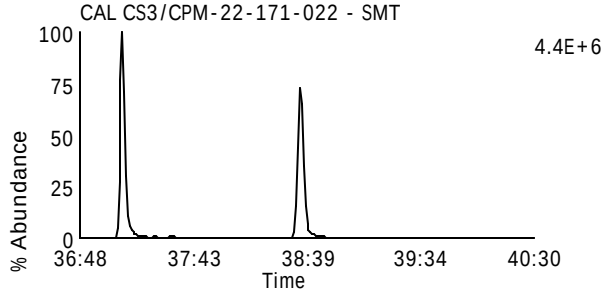
Data File: L230302A_08 G4 C3 - 407.7818
CAL CS3/CPM-22-171-022 - SMT



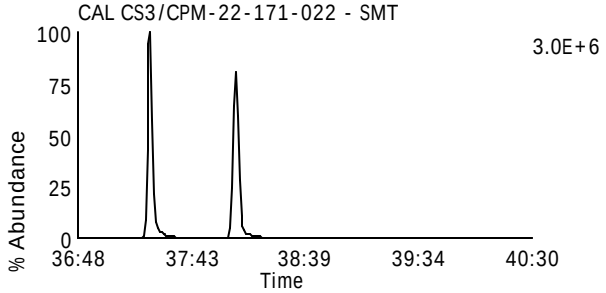
Data File: L230302A_08 G4 C8 - 423.7767
CAL CS3/CPM-22-171-022 - SMT



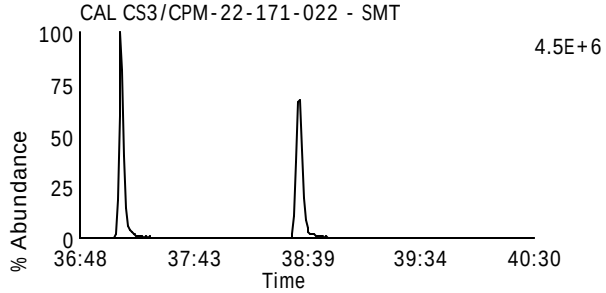
Data File: L230302A_08 G4 C4 - 409.7788
CAL CS3/CPM-22-171-022 - SMT



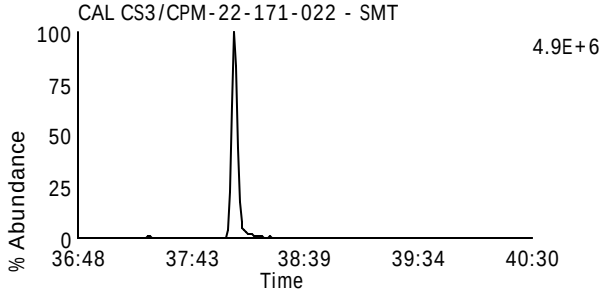
Data File: L230302A_08 G4 C9 - 425.7737
CAL CS3/CPM-22-171-022 - SMT



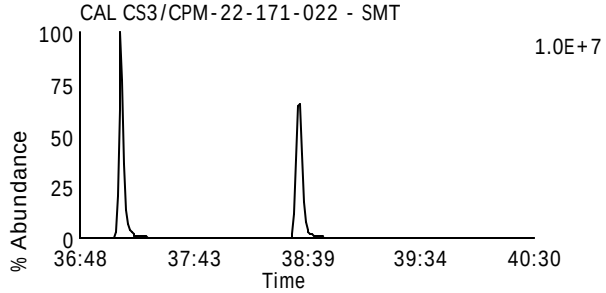
Data File: L230302A_08 G4 C6 - 417.825
CAL CS3/CPM-22-171-022 - SMT



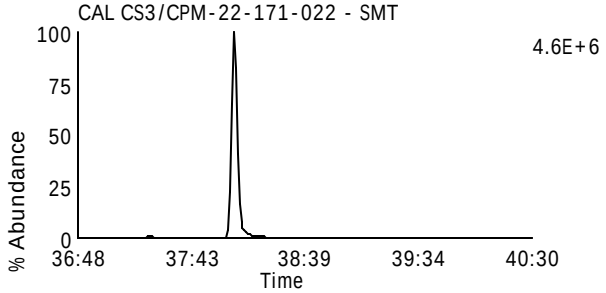
Data File: L230302A_08 G4 C11 - 435.8169
CAL CS3/CPM-22-171-022 - SMT



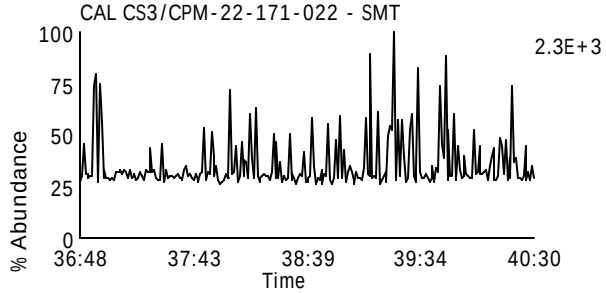
Data File: L230302A_08 G4 C7 - 419.822
CAL CS3/CPM-22-171-022 - SMT



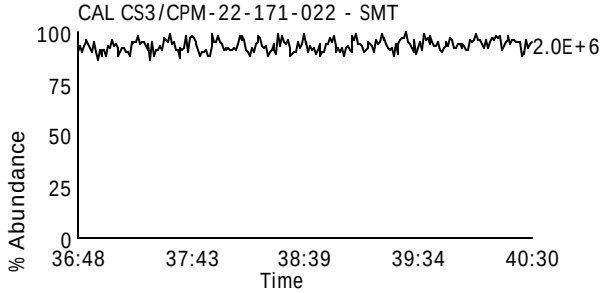
Data File: L230302A_08 G4 C12 - 437.814
CAL CS3/CPM-22-171-022 - SMT



Data File: L230302A_08 G4 C13 - 479.7165
CAL CS3/CPM-22-171-022 - SMT



Data File: L230302A_08 G4 C1 - 380.976
CAL CS3/CPM-22-171-022 - SMT

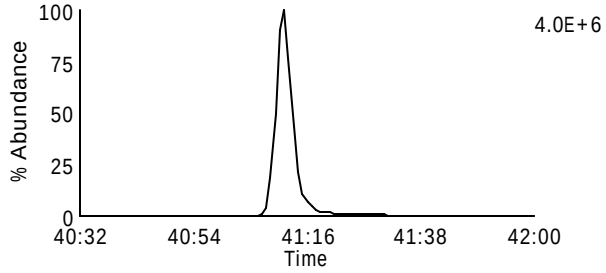


Homologue Group: Octas

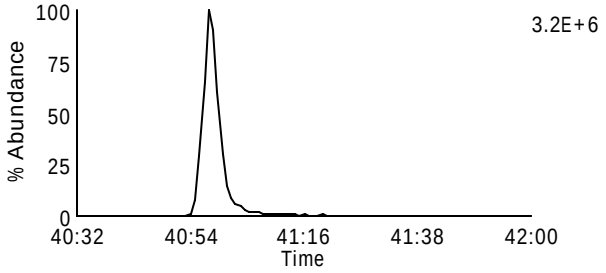
Data File Name: L230302A_08
Date Acquired: 3/2/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID: CPM/WDM
Instrument: 10MSHR15 (L)

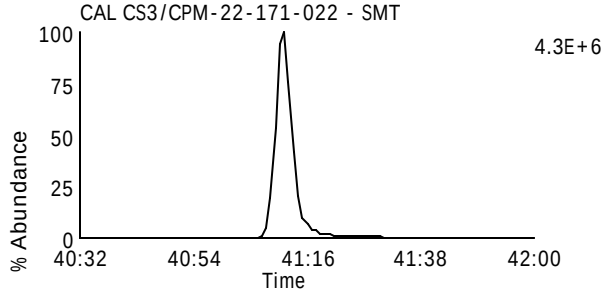
Data File: L230302A_08 G5 C4 - 441.7428
CAL CS3/CPM-22-171-022 - SMT



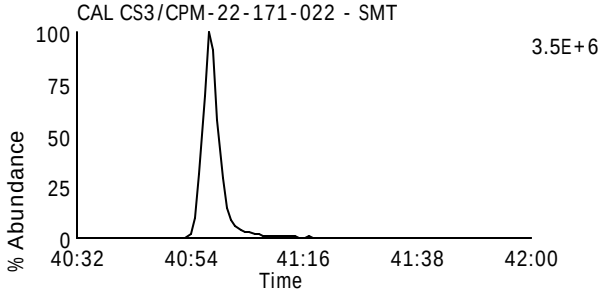
Data File: L230302A_08 G5 C8 - 457.7377
CAL CS3/CPM-22-171-022 - SMT



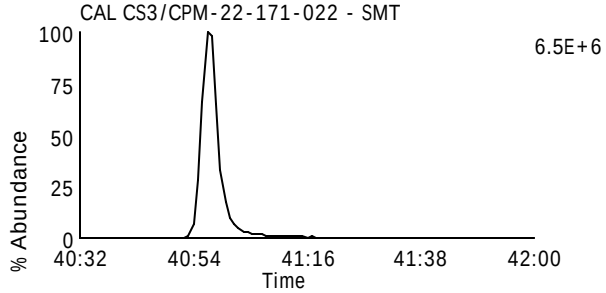
Data File: L230302A_08 G5 C5 - 443.7398
CAL CS3/CPM-22-171-022 - SMT



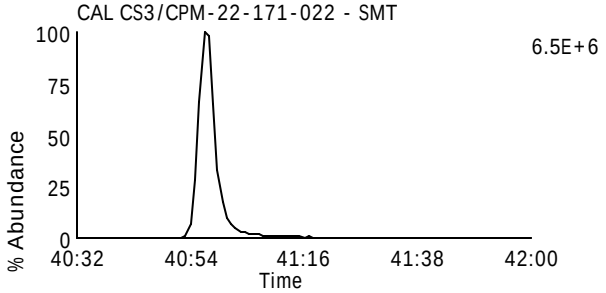
Data File: L230302A_08 G5 C9 - 459.7347
CAL CS3/CPM-22-171-022 - SMT



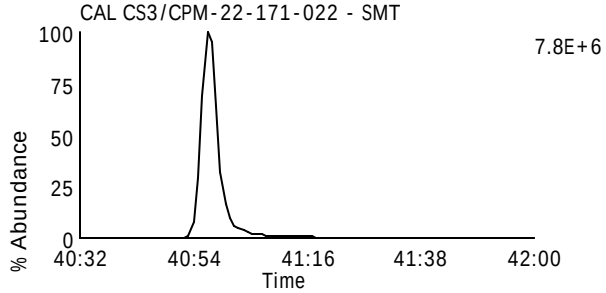
Data File: L230302A_08 G5 C11 - 469.7779
CAL CS3/CPM-22-171-022 - SMT



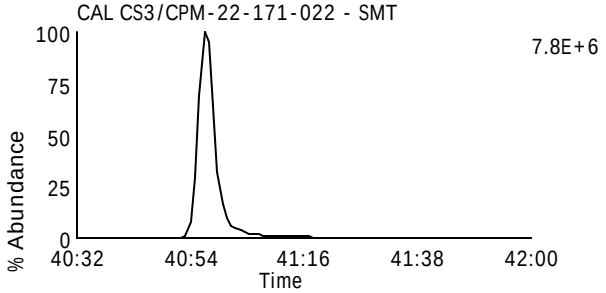
Data File: L230302A_08 G5 C11 - 469.7779
CAL CS3/CPM-22-171-022 - SMT



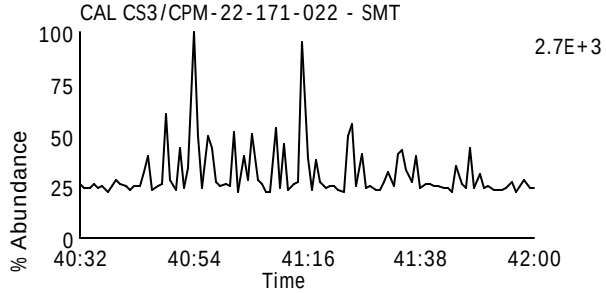
Data File: L230302A_08 G5 C12 - 471.7749
CAL CS3/CPM-22-171-022 - SMT



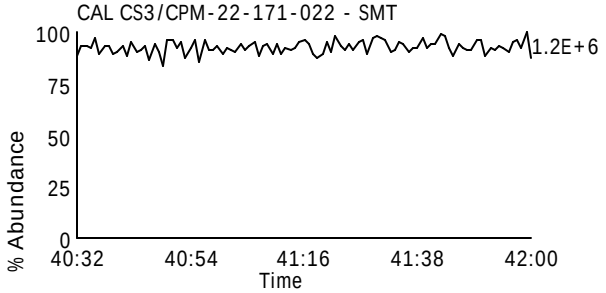
Data File: L230302A_08 G5 C12 - 471.7749
CAL CS3/CPM-22-171-022 - SMT



Data File: L230302A_08 G5 C13 - 513.6775
CAL CS3/CPM-22-171-022 - SMT



Data File: L230302A_08 G5 C2 - 430.9728
CAL CS3/CPM-22-171-022 - SMT

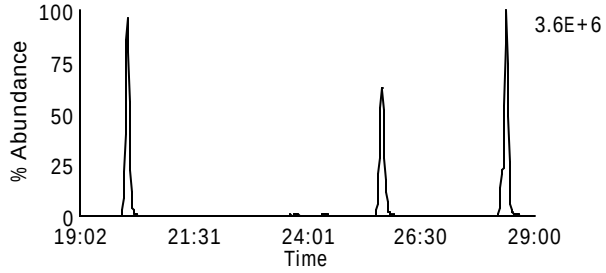


Homologue Group: Tetras

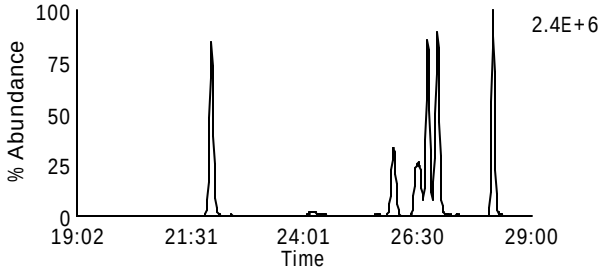
Data File Name: L230305A_18
Date Acquired: 3/5/2023
Sample Description: CAL CS3/CPM-22-171-022 - JRH

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID: CPM/WDM
Instrument: 10MSHR15 (L)

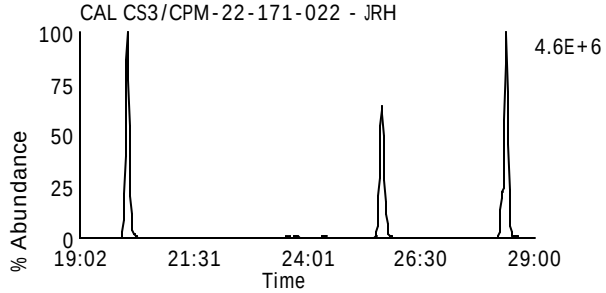
Data File: L230305A_18 G1 C1 - 303.9016
CAL CS3/CPM-22-171-022 - JRH



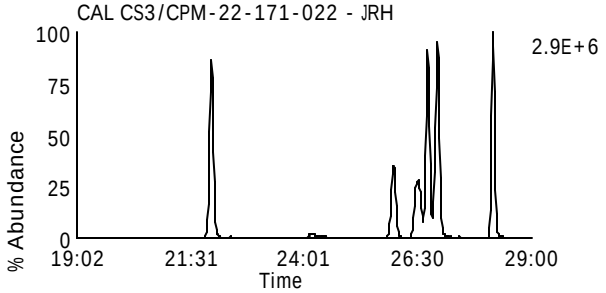
Data File: L230305A_18 G1 C7 - 319.8965
CAL CS3/CPM-22-171-022 - JRH



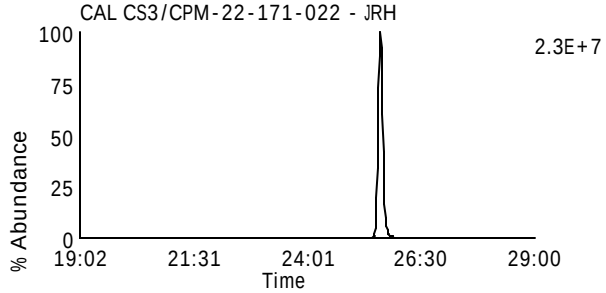
Data File: L230305A_18 G1 C2 - 305.8987
CAL CS3/CPM-22-171-022 - JRH



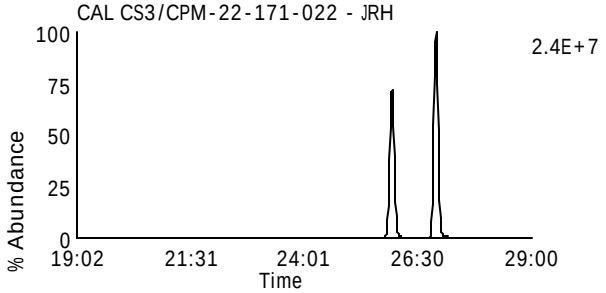
Data File: L230305A_18 G1 C8 - 321.8936
CAL CS3/CPM-22-171-022 - JRH



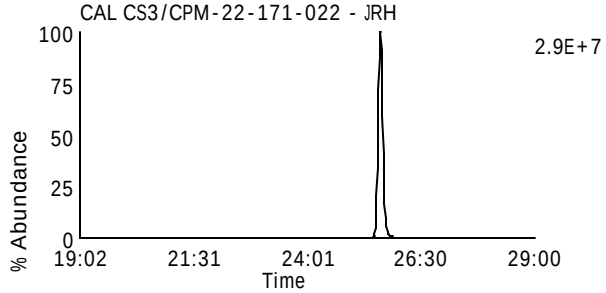
Data File: L230305A_18 G1 C3 - 315.9418
CAL CS3/CPM-22-171-022 - JRH



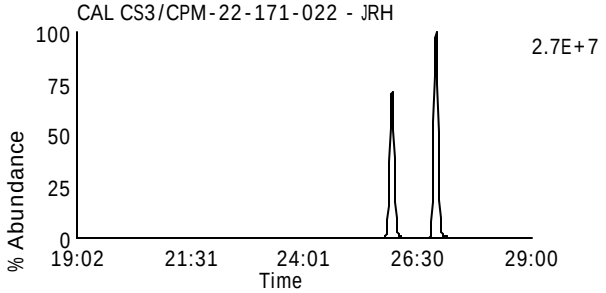
Data File: L230305A_18 G1 C10 - 331.9367
CAL CS3/CPM-22-171-022 - JRH



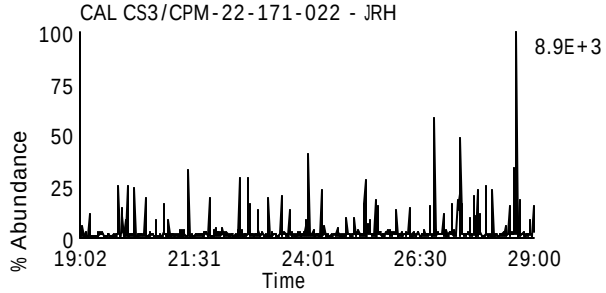
Data File: L230305A_18 G1 C4 - 317.9389
CAL CS3/CPM-22-171-022 - JRH



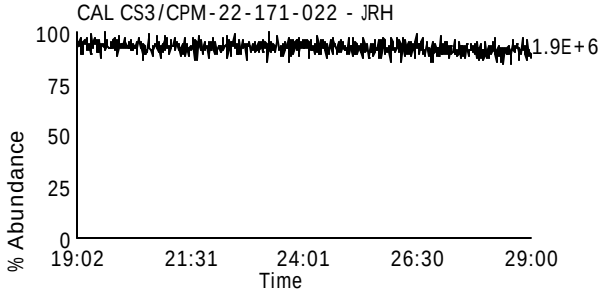
Data File: L230305A_18 G1 C11 - 333.9338
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305A_18 G1 C14 - 375.8364
CAL CS3/CPM-22-171-022 - JRH



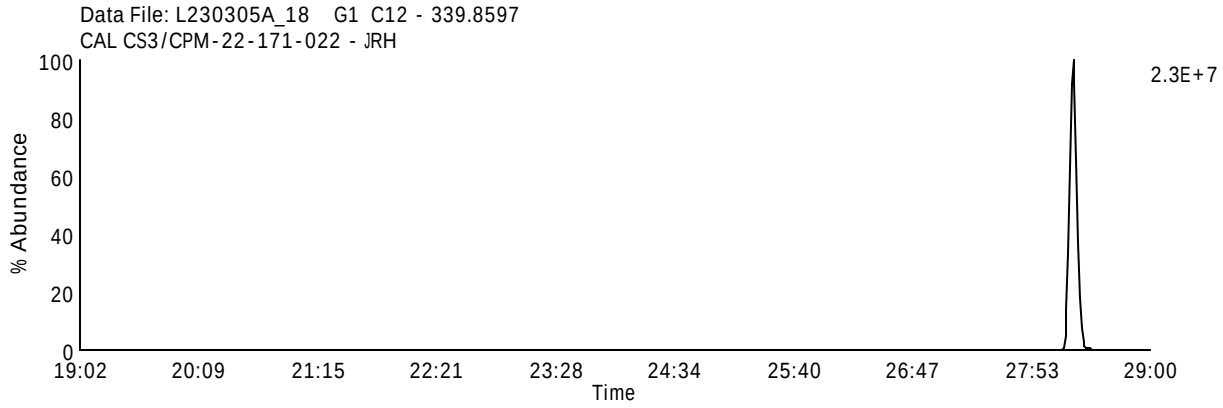
Data File: L230305A_18 G1 C5 - 318.9792
CAL CS3/CPM-22-171-022 - JRH

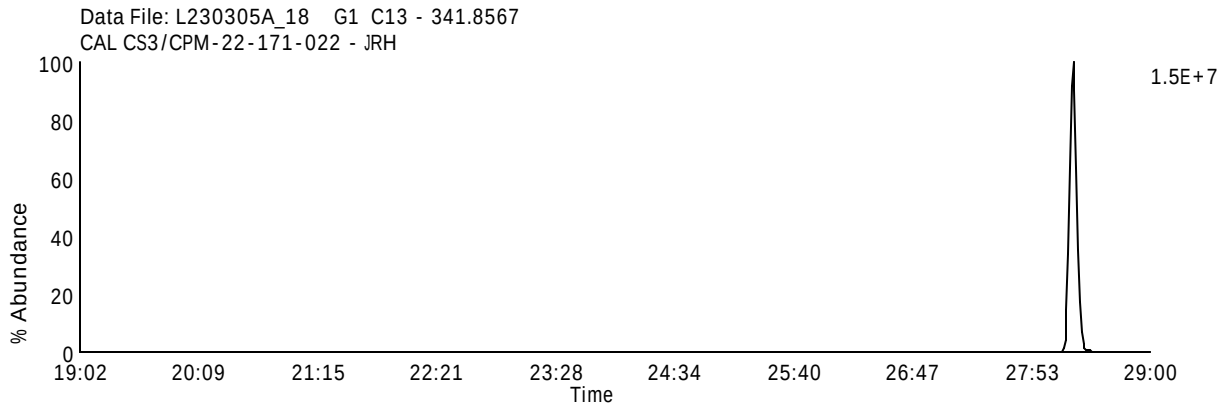


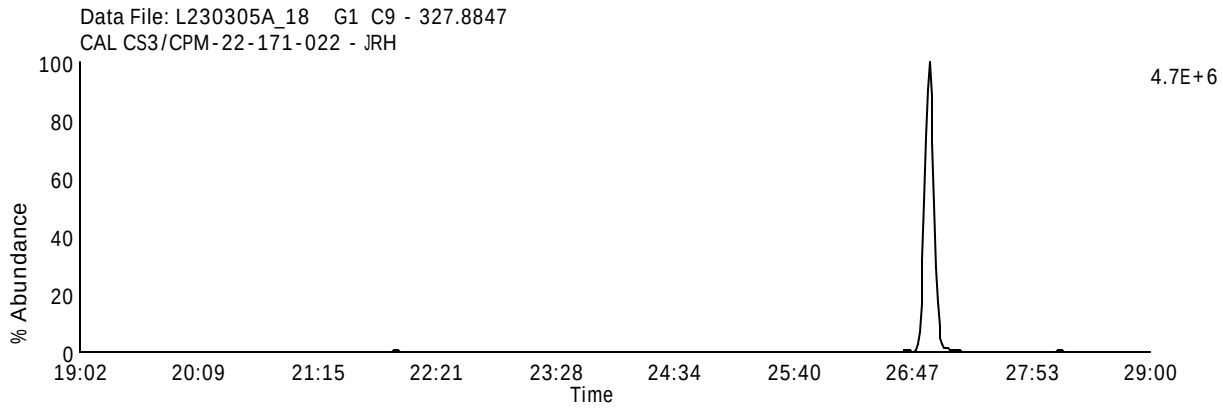
Homologue Group: Penta & Cleanup

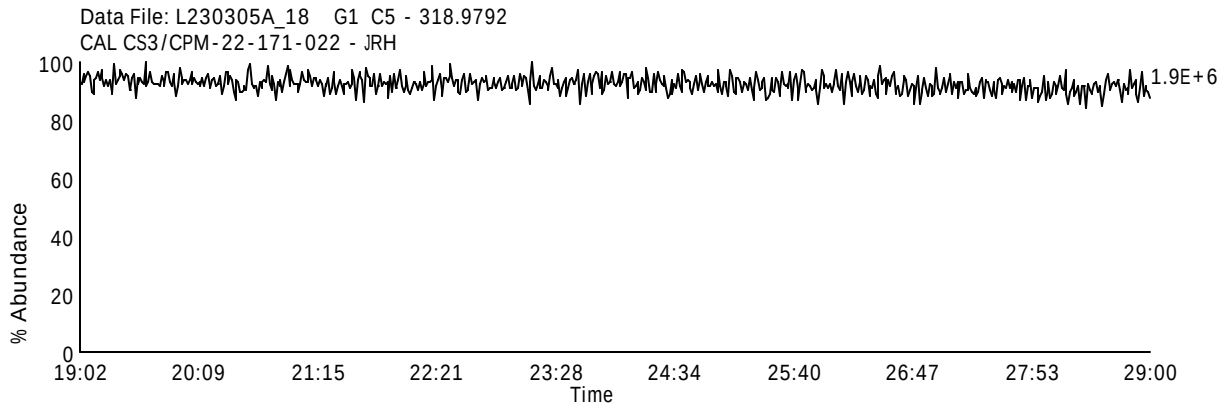
Data File Name: L230305A_18
Date Acquired: 3/5/2023
Sample Description: CAL CS3/CPM-22-171-022 - JRH

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID: CPM/WDM
Instrument: 10MSHR15 (L)







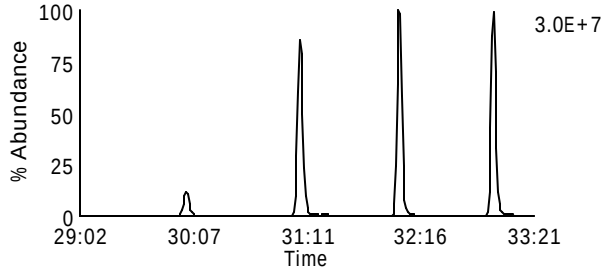


Homologue Group: Pentas

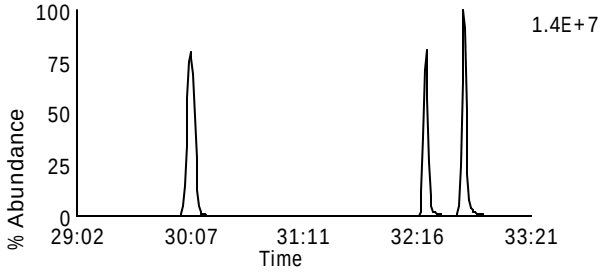
Data File Name: L230305A_18
Date Acquired: 3/5/2023
Sample Description: CAL CS3/CPM-22-171-022 - JRH

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID: CPM/WDM
Instrument: 10MSHR15 (L)

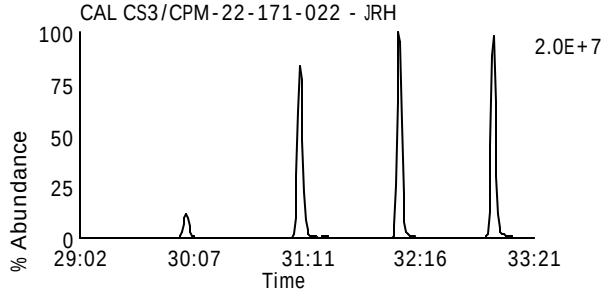
Data File: L230305A_18 G2 C1 - 339.8597
CAL CS3/CPM-22-171-022 - JRH



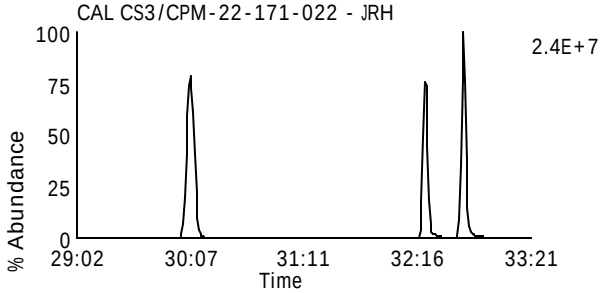
Data File: L230305A_18 G2 C4 - 353.8576
CAL CS3/CPM-22-171-022 - JRH



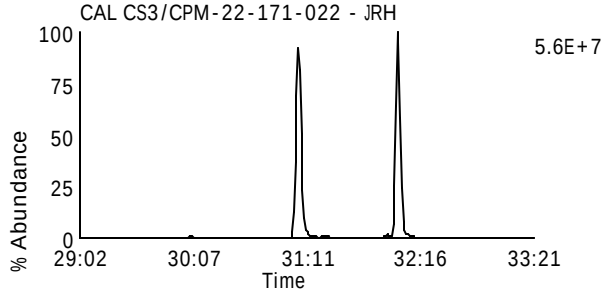
Data File: L230305A_18 G2 C2 - 341.8567
CAL CS3/CPM-22-171-022 - JRH



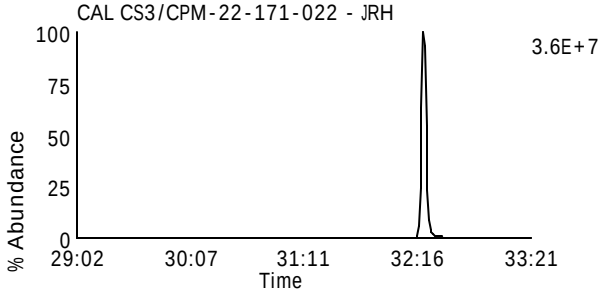
Data File: L230305A_18 G2 C8 - 355.8546
CAL CS3/CPM-22-171-022 - JRH



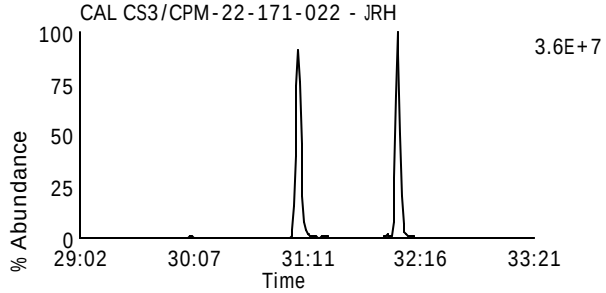
Data File: L230305A_18 G2 C3 - 351.8999
CAL CS3/CPM-22-171-022 - JRH



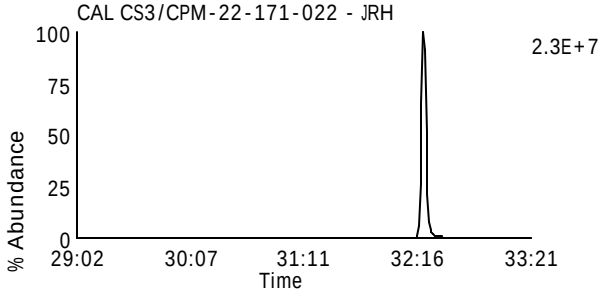
Data File: L230305A_18 G2 C10 - 367.8948
CAL CS3/CPM-22-171-022 - JRH



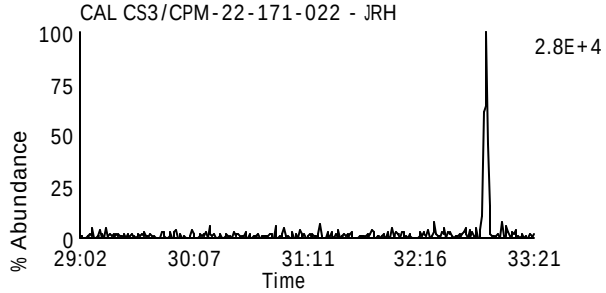
Data File: L230305A_18 G2 C5 - 353.8969
CAL CS3/CPM-22-171-022 - JRH



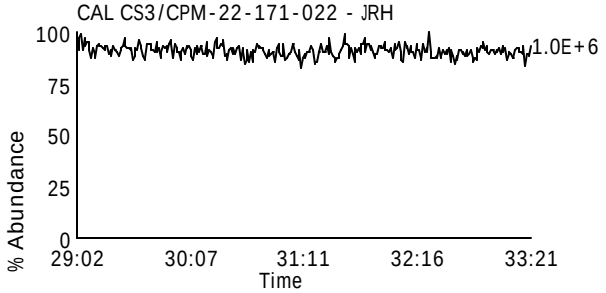
Data File: L230305A_18 G2 C11 - 369.8918
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305A_18 G2 C12 - 409.7974
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305A_18 G2 C6 - 354.9792
CAL CS3/CPM-22-171-022 - JRH

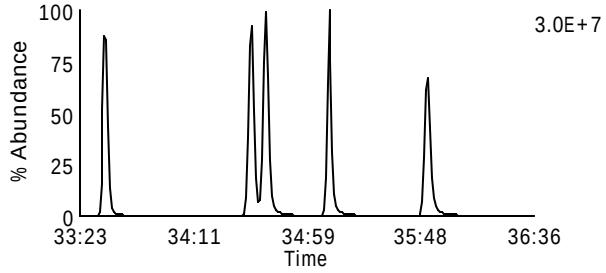


Homologue Group: Hexas

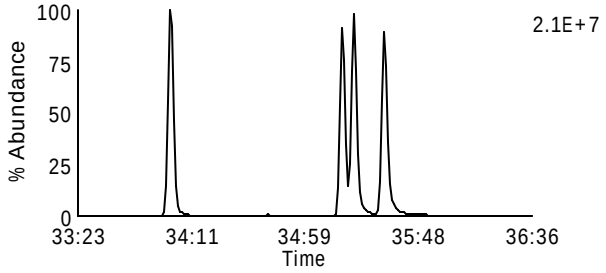
Data File Name: L230305A_18
Date Acquired: 3/5/2023
Sample Description: CAL CS3/CPM-22-171-022 - JRH

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID: CPM/WDM
Instrument: 10MSHR15 (L)

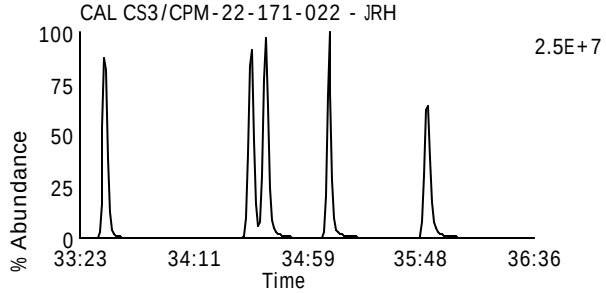
Data File: L230305A_18 G3 C1 - 373.8207
CAL CS3/CPM-22-171-022 - JRH



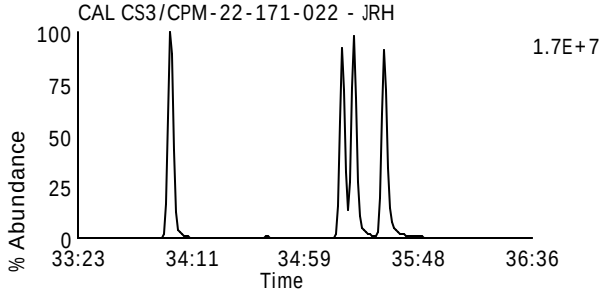
Data File: L230305A_18 G3 C7 - 389.8156
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305A_18 G3 C2 - 375.8178
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305A_18 G3 C8 - 391.8127
CAL CS3/CPM-22-171-022 - JRH



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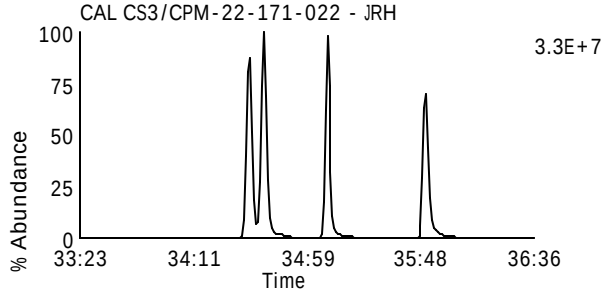
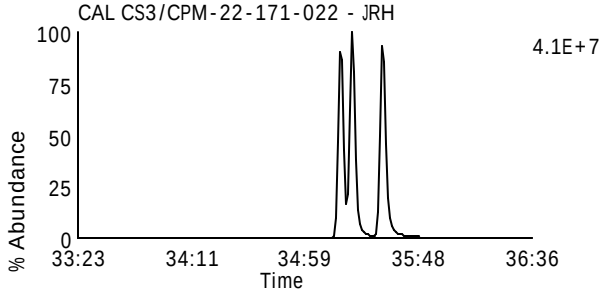
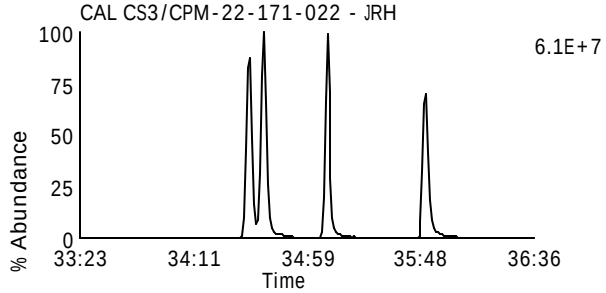
CAL CS3/CPM-22-171-022 - JRH



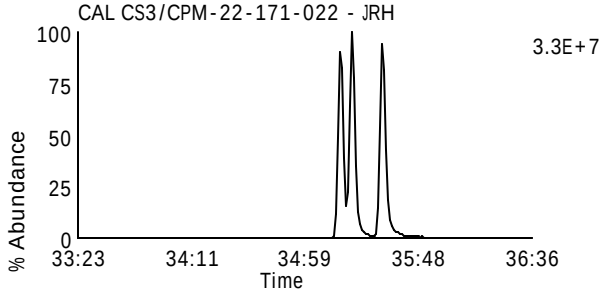
Data File: L230305A_18 G3 C9 - 401.8559
CAL CS3/CPM-22-171-022 - JRH



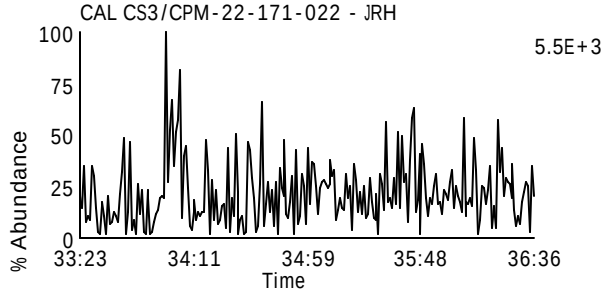
Data File: L230305A_18 G3 C6 - 385.861
CAL CS3/CPM-22-171-022 - JRH



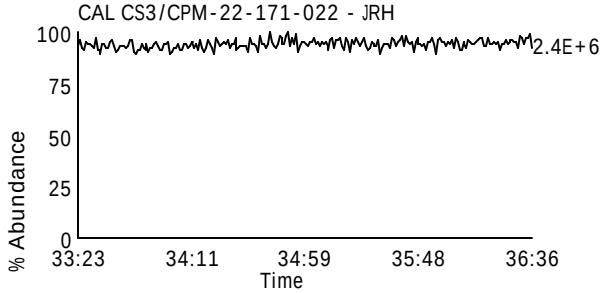
Data File: L230305A_18 G3 C10 - 403.8529
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305A_18 G3 C11 - 445.7555
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305A_18 G3 C3 - 380.976
CAL CS3/CPM-22-171-022 - JRH

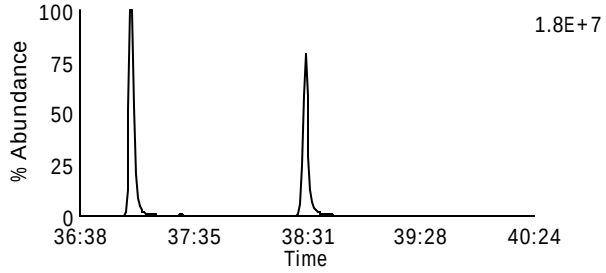


Homologue Group: Heptas

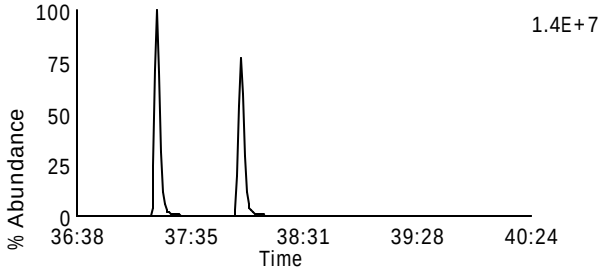
Data File Name: L230305A_18
Date Acquired: 3/5/2023
Sample Description: CAL CS3/CPM-22-171-022 - JRH

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID: CPM/WDM
Instrument: 10MSHR15 (L)

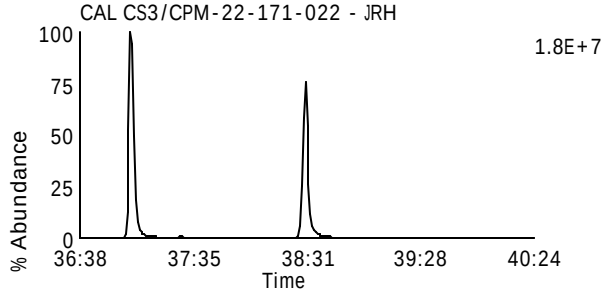
Data File: L230305A_18 G4 C3 - 407.7818
CAL CS3/CPM-22-171-022 - JRH



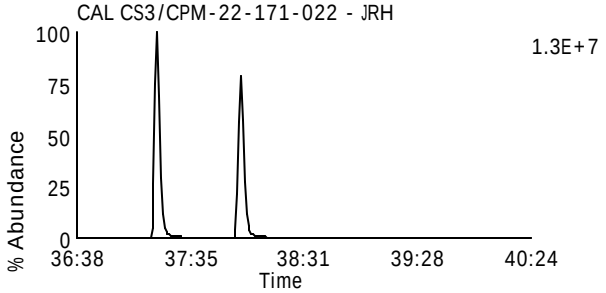
Data File: L230305A_18 G4 C8 - 423.7767
CAL CS3/CPM-22-171-022 - JRH



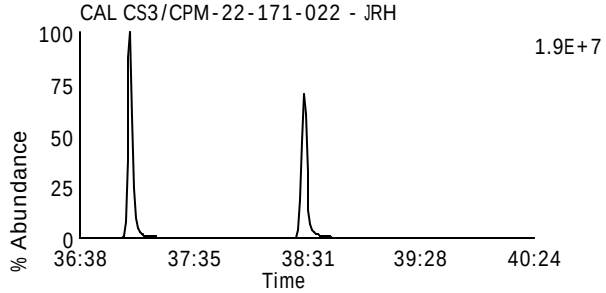
Data File: L230305A_18 G4 C4 - 409.7788
CAL CS3/CPM-22-171-022 - JRH



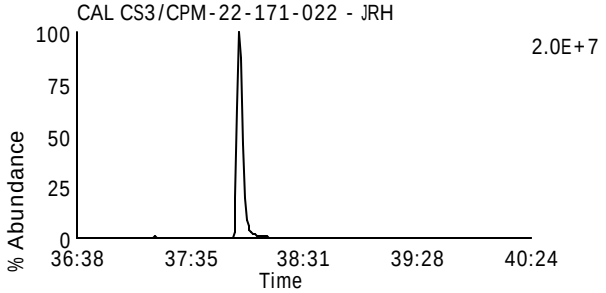
Data File: L230305A_18 G4 C9 - 425.7737
CAL CS3/CPM-22-171-022 - JRH



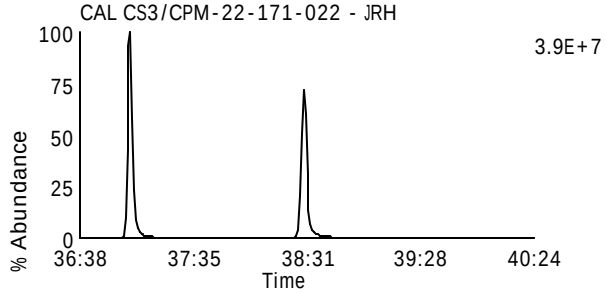
Data File: L230305A_18 G4 C6 - 417.825
CAL CS3/CPM-22-171-022 - JRH



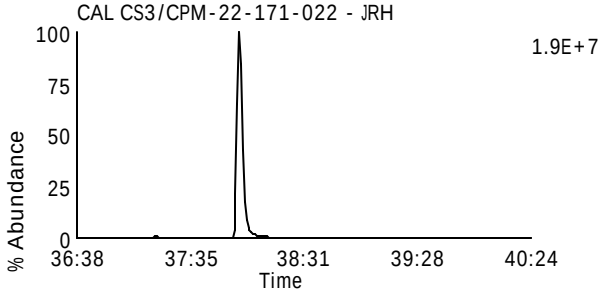
Data File: L230305A_18 G4 C11 - 435.8169
CAL CS3/CPM-22-171-022 - JRH



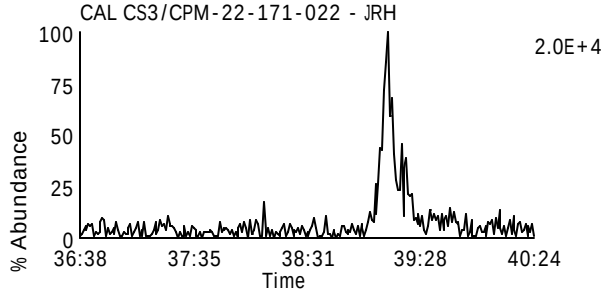
Data File: L230305A_18 G4 C7 - 419.822
CAL CS3/CPM-22-171-022 - JRH



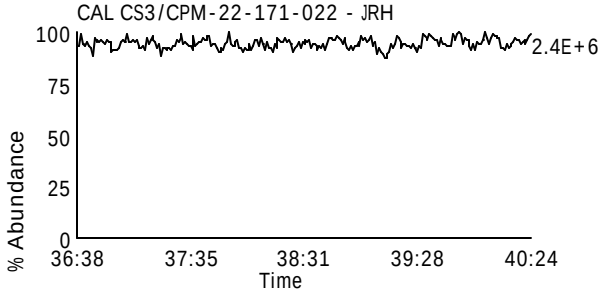
Data File: L230305A_18 G4 C12 - 437.814
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305A_18 G4 C13 - 479.7165
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305A_18 G4 C1 - 380.976
CAL CS3/CPM-22-171-022 - JRH

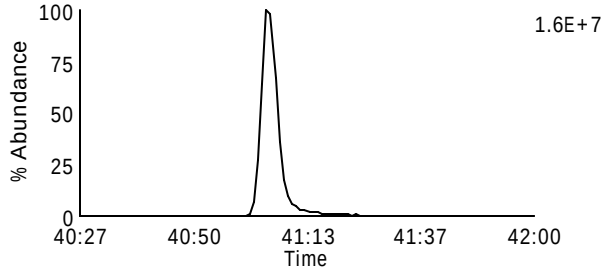


Homologue Group: Octas

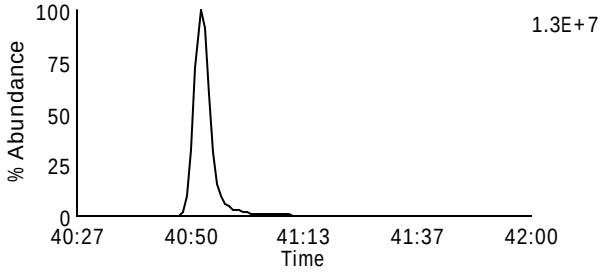
Data File Name: L230305A_18
Date Acquired: 3/5/2023
Sample Description: CAL CS3/CPM-22-171-022 - JRH

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID: CPM/WDM
Instrument: 10MSHR15 (L)

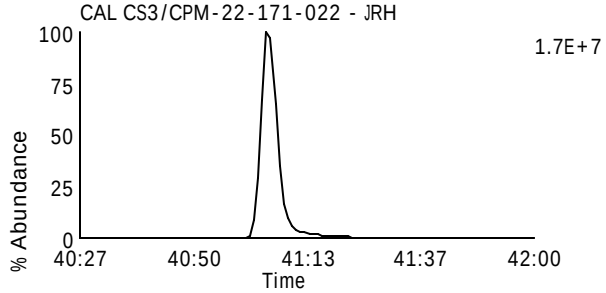
Data File: L230305A_18 G5 C4 - 441.7428
CAL CS3/CPM-22-171-022 - JRH



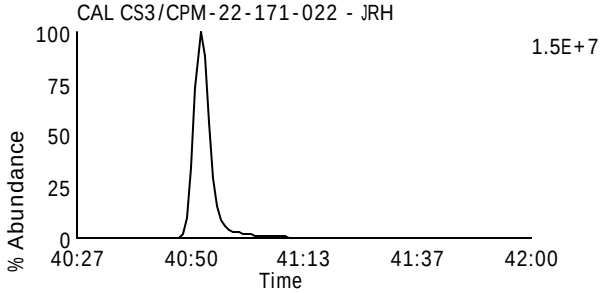
Data File: L230305A_18 G5 C8 - 457.7377
CAL CS3/CPM-22-171-022 - JRH



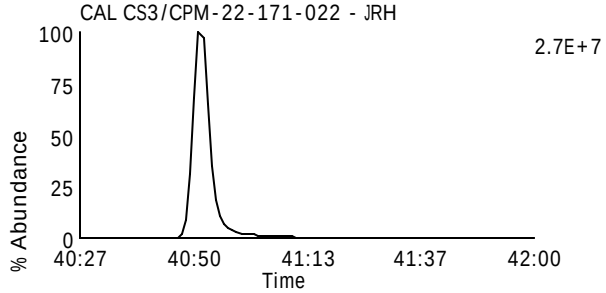
Data File: L230305A_18 G5 C5 - 443.7398
CAL CS3/CPM-22-171-022 - JRH



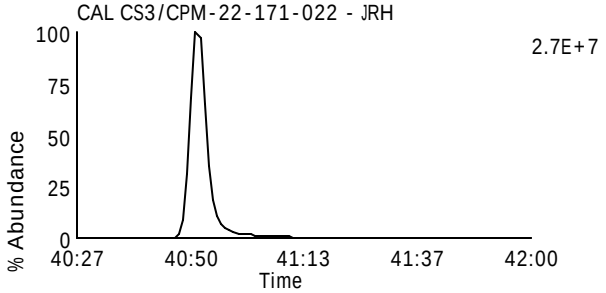
Data File: L230305A_18 G5 C9 - 459.7347
CAL CS3/CPM-22-171-022 - JRH



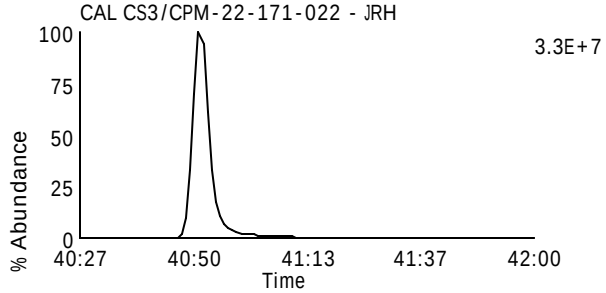
Data File: L230305A_18 G5 C11 - 469.7779
CAL CS3/CPM-22-171-022 - JRH



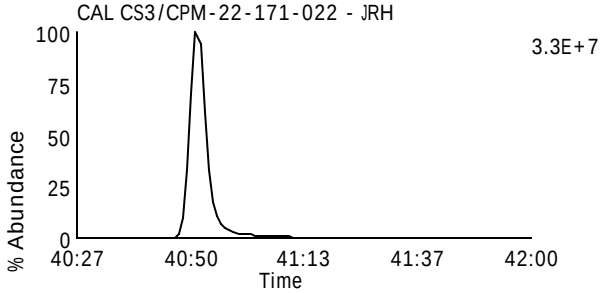
Data File: L230305A_18 G5 C11 - 469.7779
CAL CS3/CPM-22-171-022 - JRH



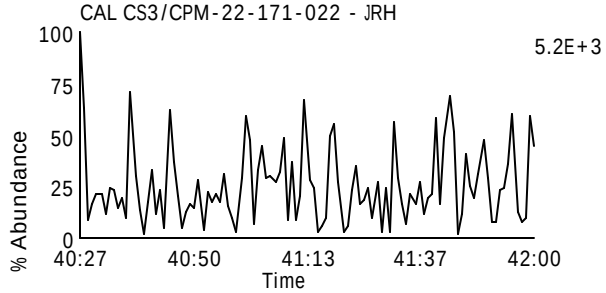
Data File: L230305A_18 G5 C12 - 471.7749
CAL CS3/CPM-22-171-022 - JRH



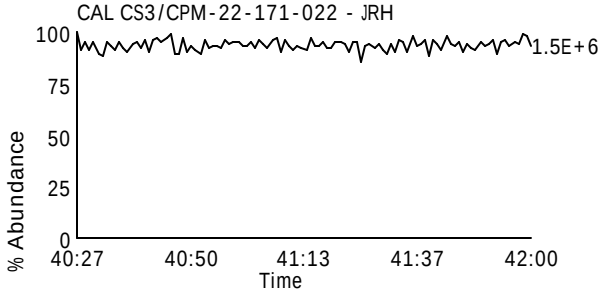
Data File: L230305A_18 G5 C12 - 471.7749
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305A_18 G5 C13 - 513.6775
CAL CS3/CPM-22-171-022 - JRH



Data File: L230305A_18 G5 C2 - 430.9728
CAL CS3/CPM-22-171-022 - JRH

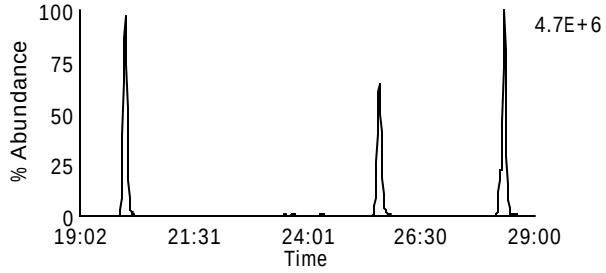


Homologue Group: Tetras

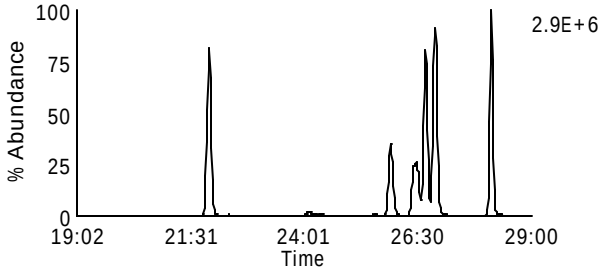
Data File Name: L230306A_17
Date Acquired: 3/6/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID: CPM/WDM
Instrument: 10MSHR15 (L)

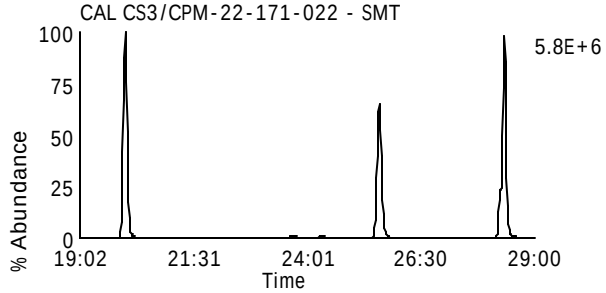
Data File: L230306A_17 G1 C1 - 303.9016
CAL CS3/CPM-22-171-022 - SMT



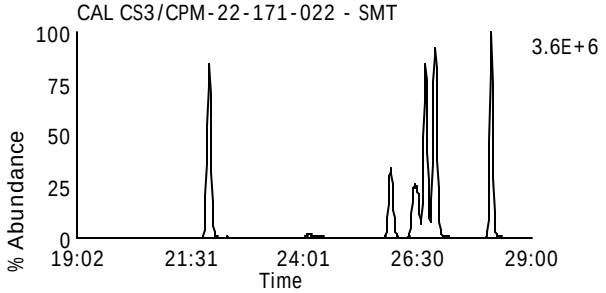
Data File: L230306A_17 G1 C7 - 319.8965
CAL CS3/CPM-22-171-022 - SMT



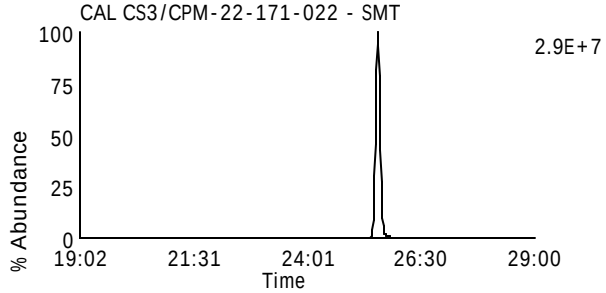
Data File: L230306A_17 G1 C2 - 305.8987
CAL CS3/CPM-22-171-022 - SMT



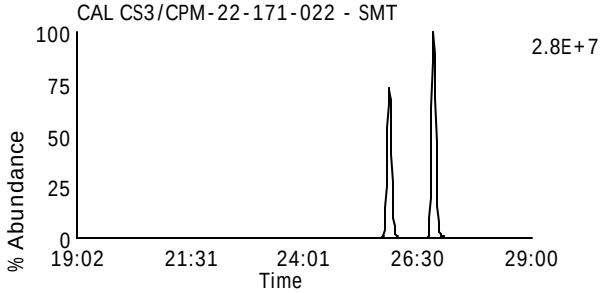
Data File: L230306A_17 G1 C8 - 321.8936
CAL CS3/CPM-22-171-022 - SMT



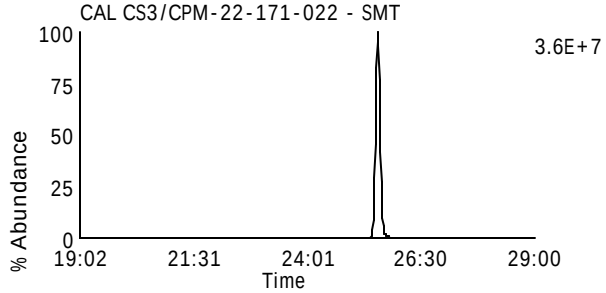
Data File: L230306A_17 G1 C3 - 315.9418
CAL CS3/CPM-22-171-022 - SMT



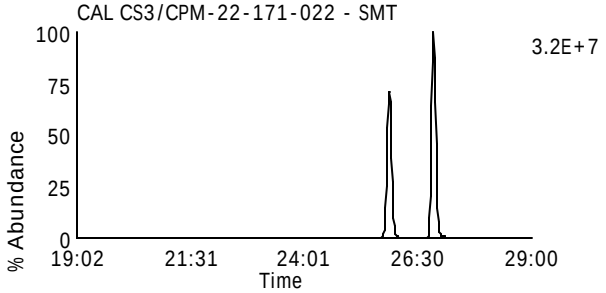
Data File: L230306A_17 G1 C10 - 331.9367
CAL CS3/CPM-22-171-022 - SMT



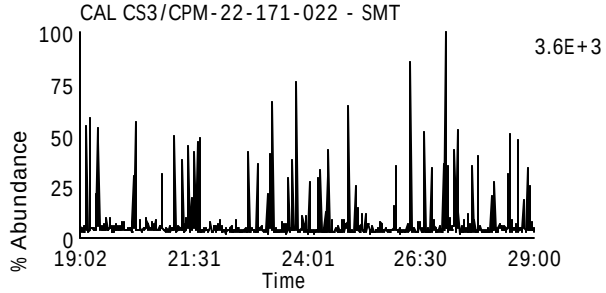
Data File: L230306A_17 G1 C4 - 317.9389
CAL CS3/CPM-22-171-022 - SMT



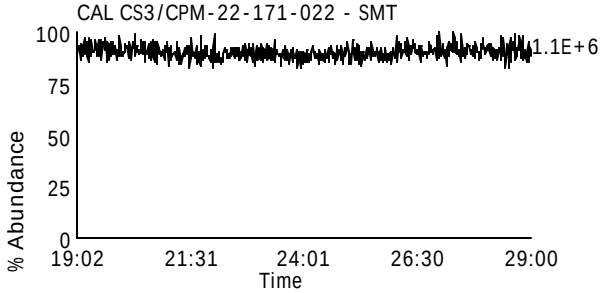
Data File: L230306A_17 G1 C11 - 333.9338
CAL CS3/CPM-22-171-022 - SMT



Data File: L230306A_17 G1 C14 - 375.8364
CAL CS3/CPM-22-171-022 - SMT



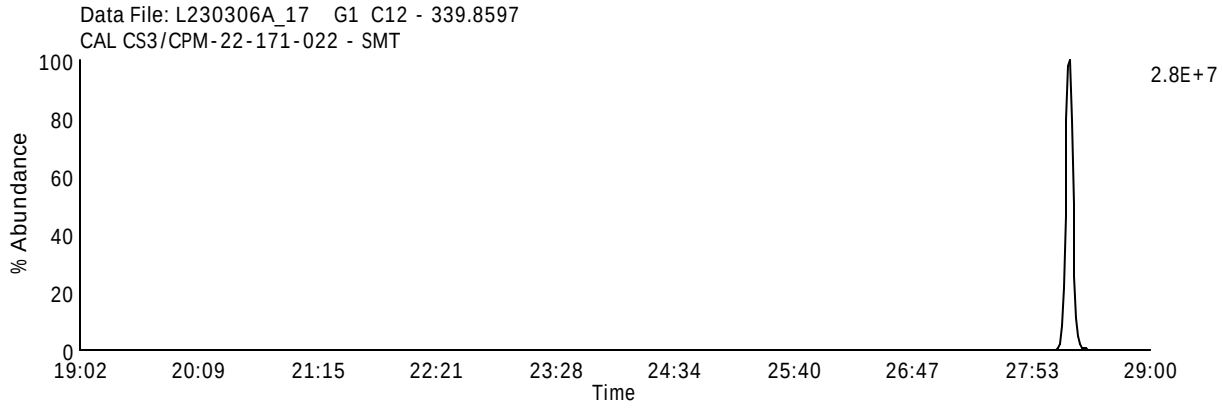
Data File: L230306A_17 G1 C5 - 318.9792
CAL CS3/CPM-22-171-022 - SMT

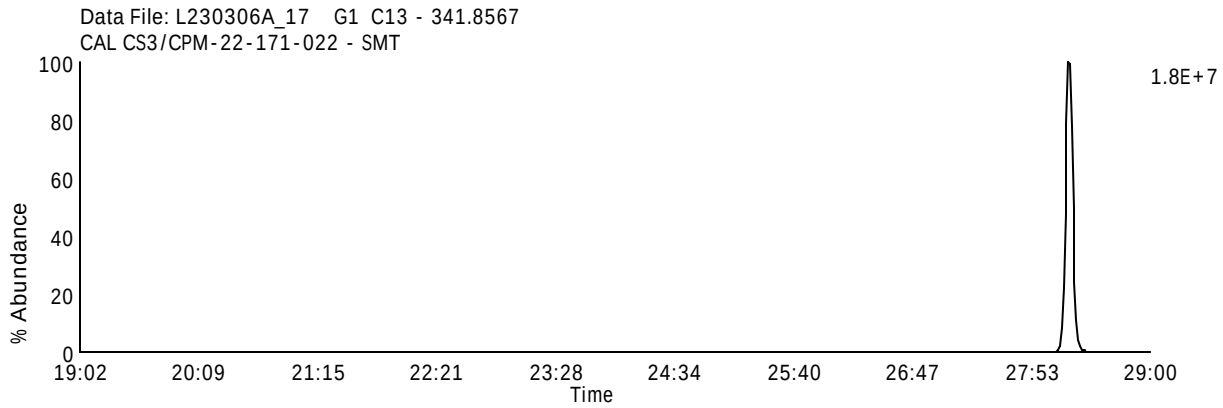


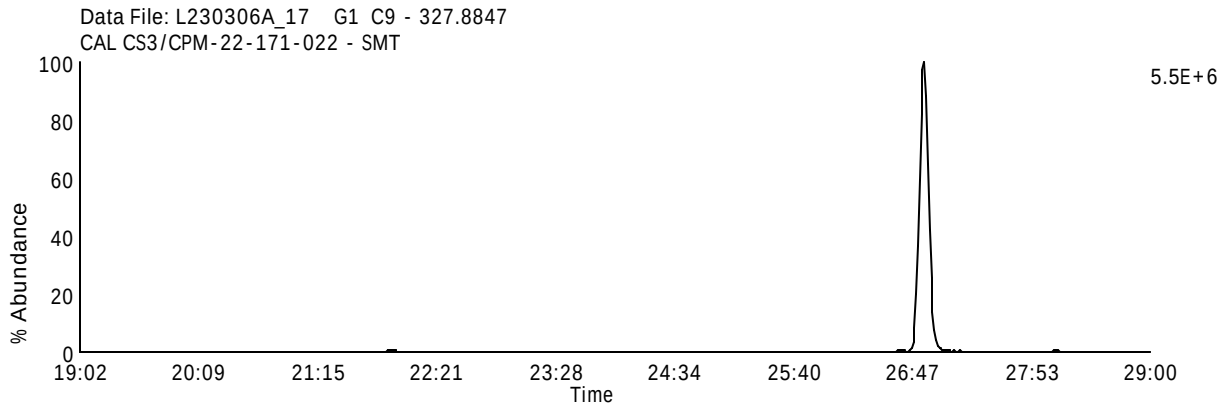
Homologue Group: Penta & Cleanup

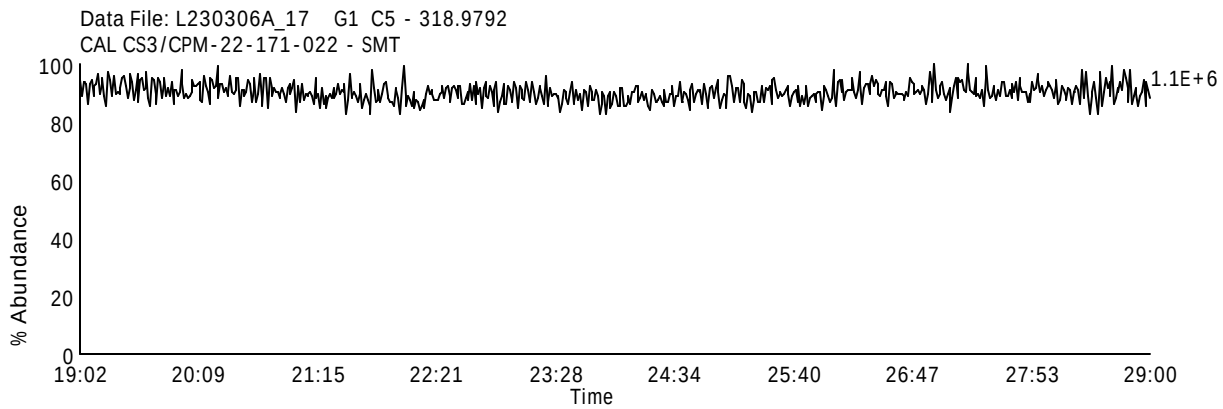
Data File Name: L230306A_17
Date Acquired: 3/6/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID: CPM/WDM
Instrument: 10MSHR15 (L)







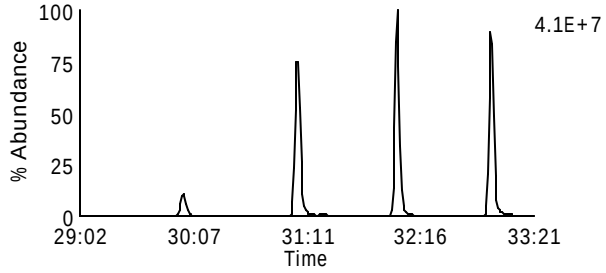


Homologue Group: Pentas

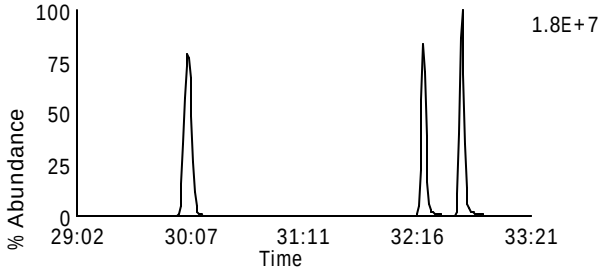
Data File Name: L230306A_17
Date Acquired: 3/6/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID: CPM/WDM
Instrument: 10MSHR15 (L)

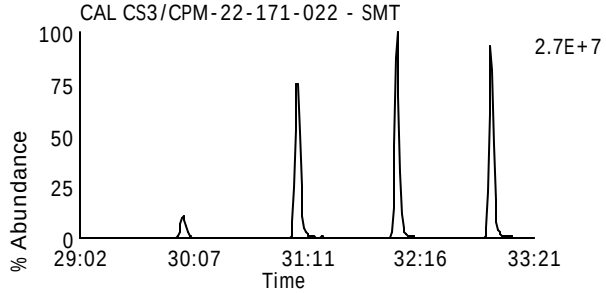
Data File: L230306A_17 G2 C1 - 339.8597
CAL CS3/CPM-22-171-022 - SMT



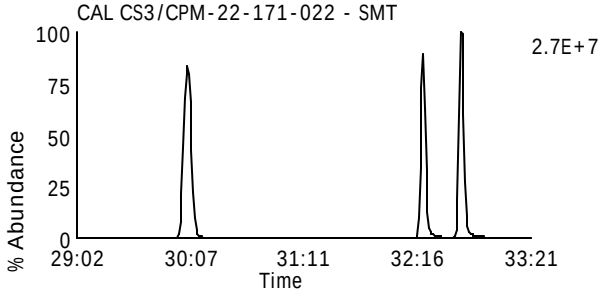
Data File: L230306A_17 G2 C4 - 353.8576
CAL CS3/CPM-22-171-022 - SMT



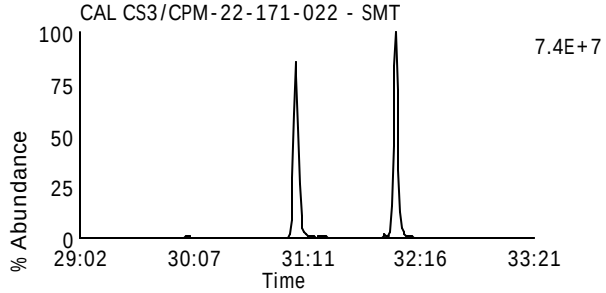
Data File: L230306A_17 G2 C2 - 341.8567
CAL CS3/CPM-22-171-022 - SMT



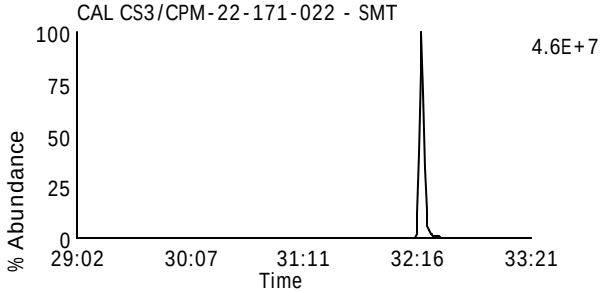
Data File: L230306A_17 G2 C8 - 355.8546
CAL CS3/CPM-22-171-022 - SMT



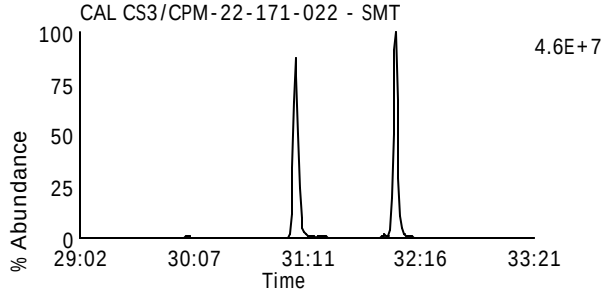
Data File: L230306A_17 G2 C3 - 351.8999
CAL CS3/CPM-22-171-022 - SMT



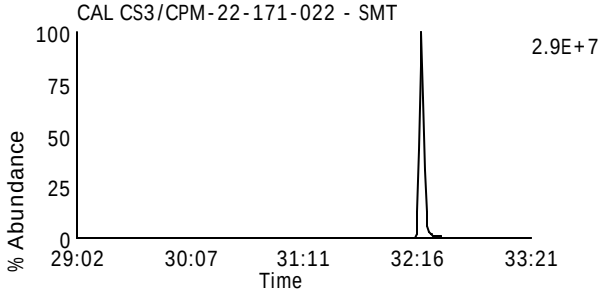
Data File: L230306A_17 G2 C10 - 367.8948
CAL CS3/CPM-22-171-022 - SMT



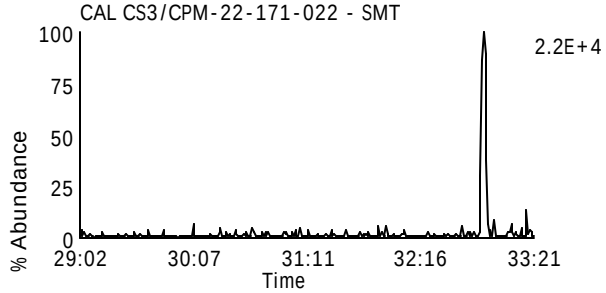
Data File: L230306A_17 G2 C5 - 353.8969
CAL CS3/CPM-22-171-022 - SMT



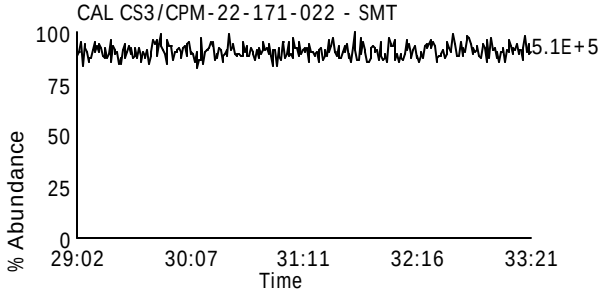
Data File: L230306A_17 G2 C11 - 369.8918
CAL CS3/CPM-22-171-022 - SMT



Data File: L230306A_17 G2 C12 - 409.7974
CAL CS3/CPM-22-171-022 - SMT



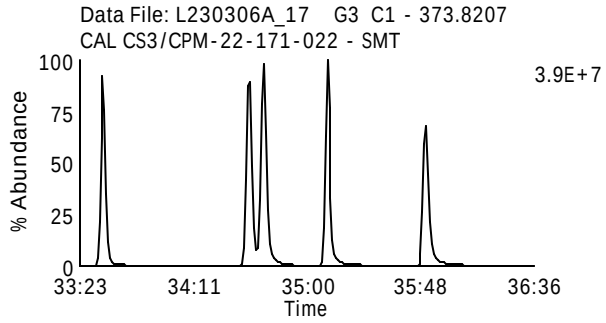
Data File: L230306A_17 G2 C6 - 354.9792
CAL CS3/CPM-22-171-022 - SMT

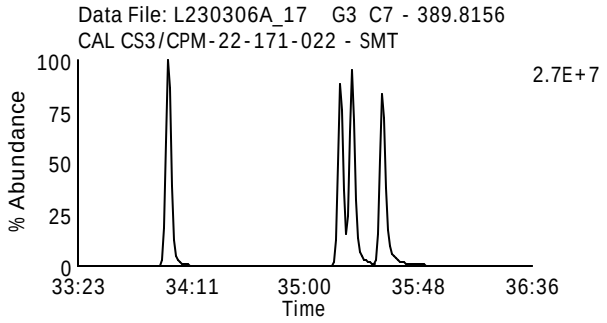


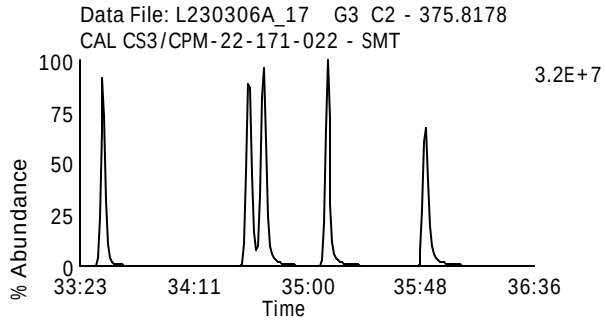
Homologue Group: Hexas

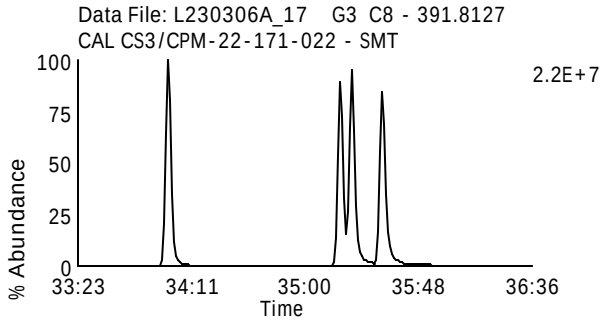
Data File Name: L230306A_17
Date Acquired: 3/6/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

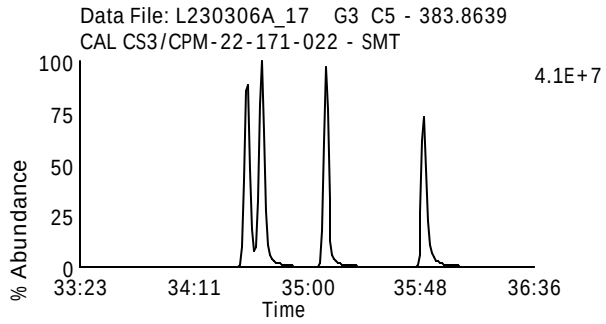
Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID: CPM/WDM
Instrument: 10MSHR15 (L)

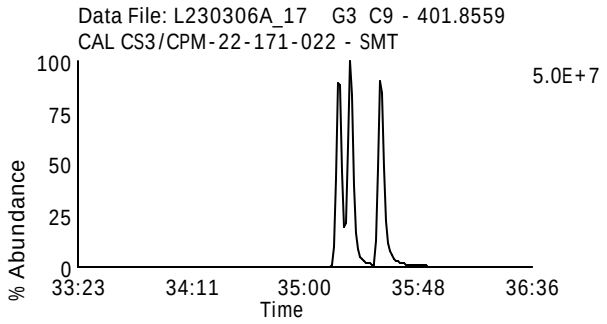


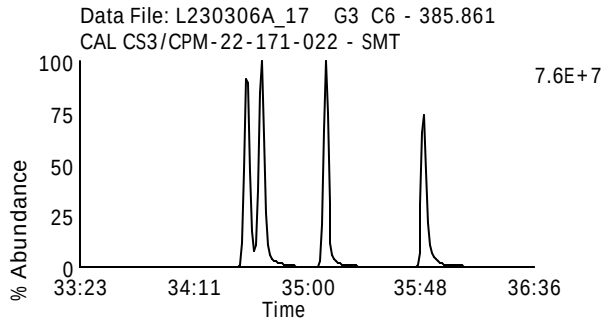


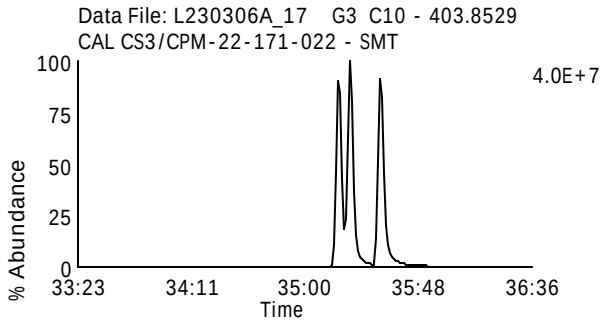


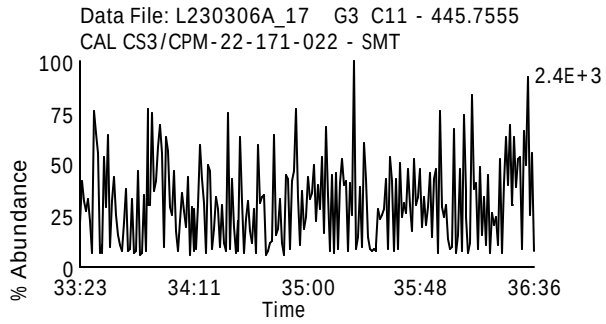


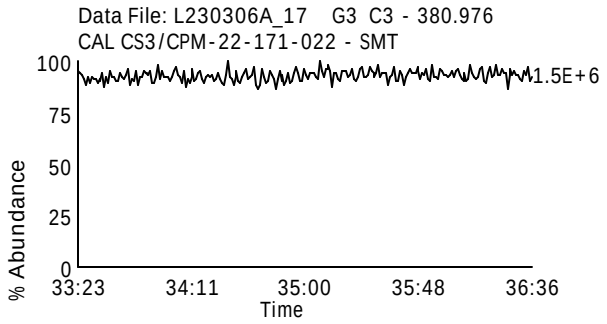










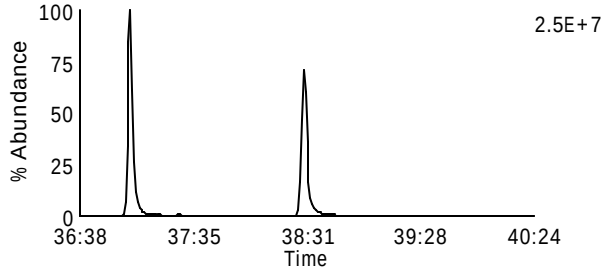


Homologue Group: Heptas

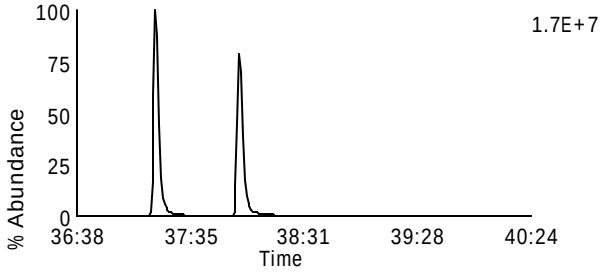
Data File Name: L230306A_17
Date Acquired: 3/6/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID: CPM/WDM
Instrument: 10MSHR15 (L)

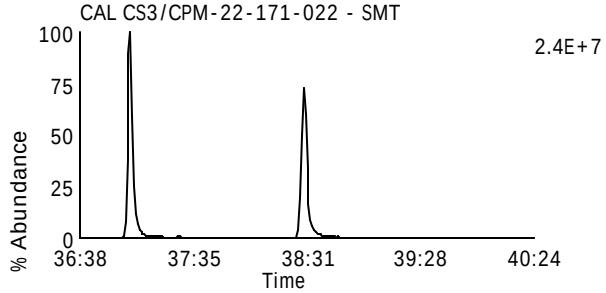
Data File: L230306A_17 G4 C3 - 407.7818
CAL CS3/CPM-22-171-022 - SMT



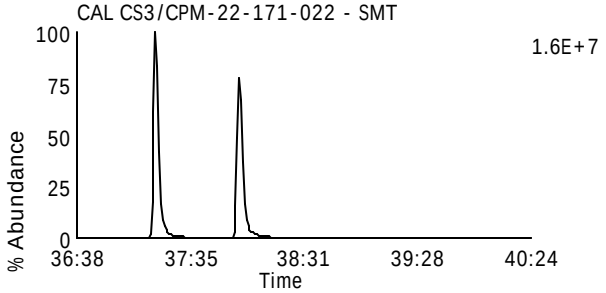
Data File: L230306A_17 G4 C8 - 423.7767
CAL CS3/CPM-22-171-022 - SMT



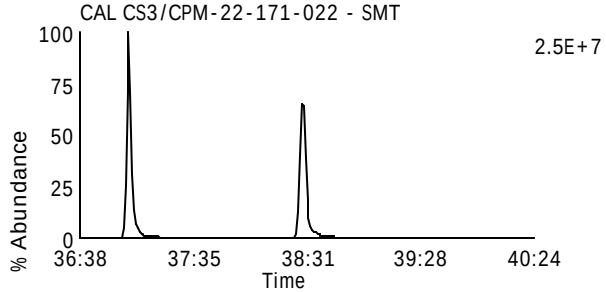
Data File: L230306A_17 G4 C4 - 409.7788
CAL CS3/CPM-22-171-022 - SMT



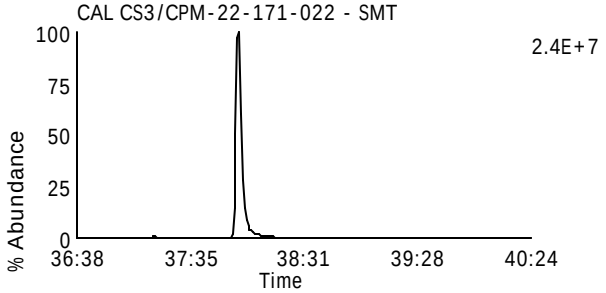
Data File: L230306A_17 G4 C9 - 425.7737
CAL CS3/CPM-22-171-022 - SMT



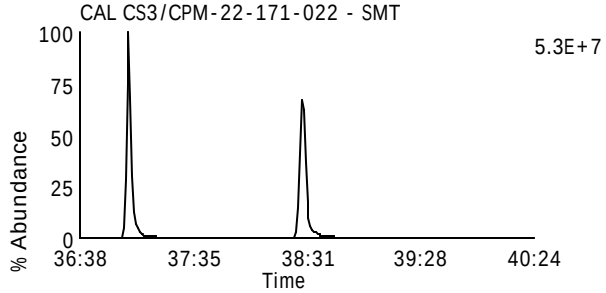
Data File: L230306A_17 G4 C6 - 417.825
CAL CS3/CPM-22-171-022 - SMT



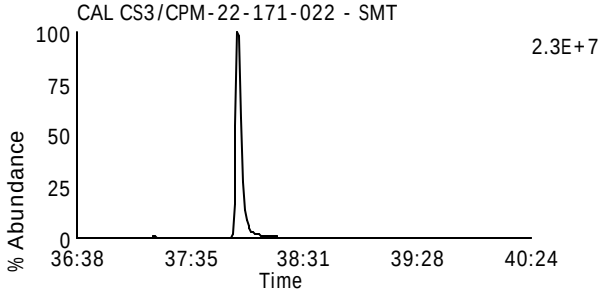
Data File: L230306A_17 G4 C11 - 435.8169
CAL CS3/CPM-22-171-022 - SMT



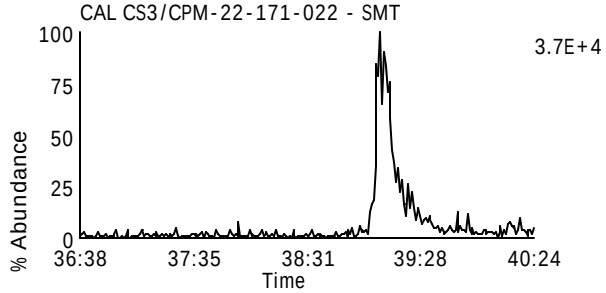
Data File: L230306A_17 G4 C7 - 419.822
CAL CS3/CPM-22-171-022 - SMT



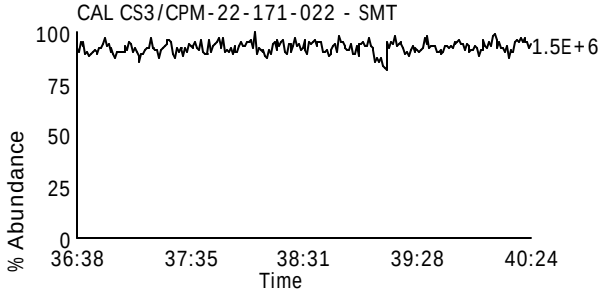
Data File: L230306A_17 G4 C12 - 437.814
CAL CS3/CPM-22-171-022 - SMT



Data File: L230306A_17 G4 C13 - 479.7165
CAL CS3/CPM-22-171-022 - SMT



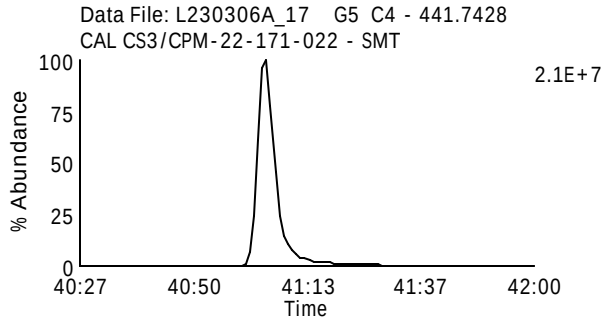
Data File: L230306A_17 G4 C1 - 380.976
CAL CS3/CPM-22-171-022 - SMT

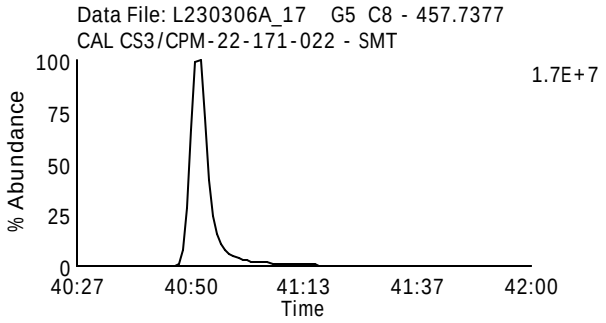


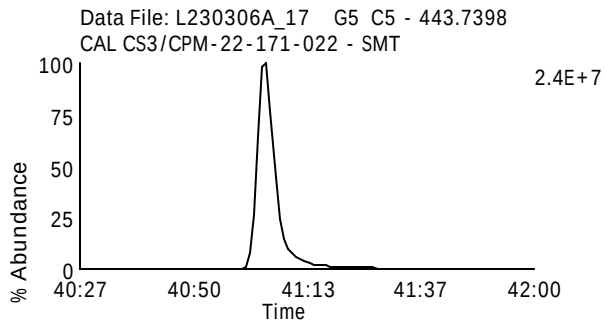
Homologue Group: Octas

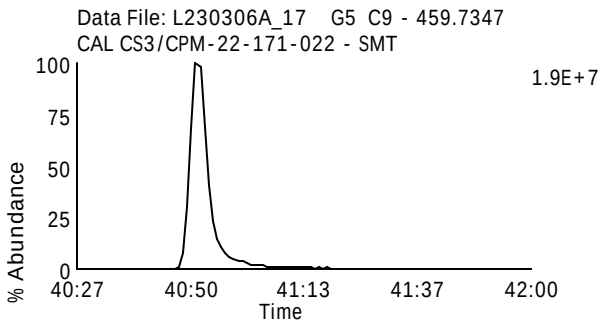
Data File Name: L230306A_17
Date Acquired: 3/6/2023
Sample Description: CAL CS3/CPM-22-171-022 - SMT

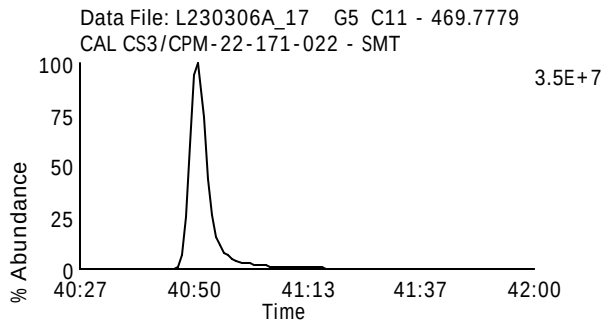
Lab Sample ID: CS3/CPM-22-171-022
Client Sample ID: CPM/WDM
Instrument: 10MSHR15 (L)

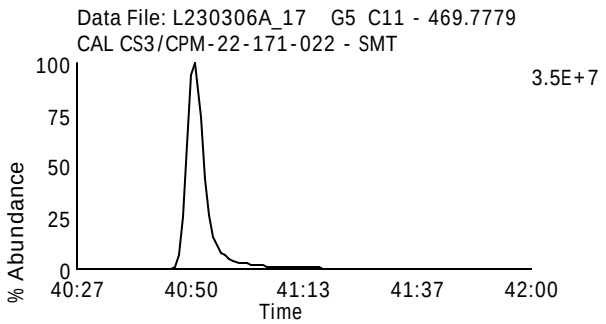


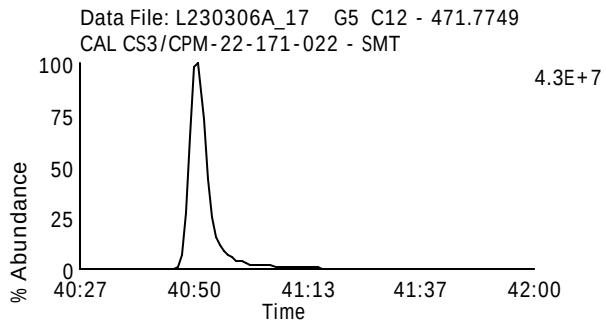


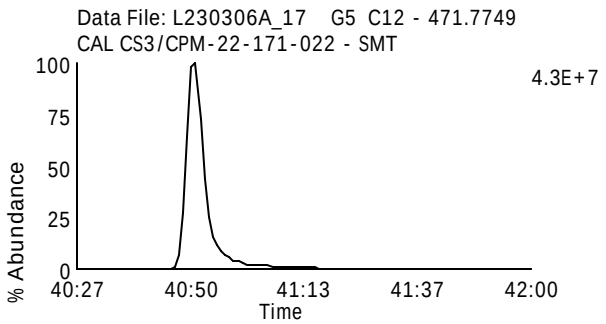


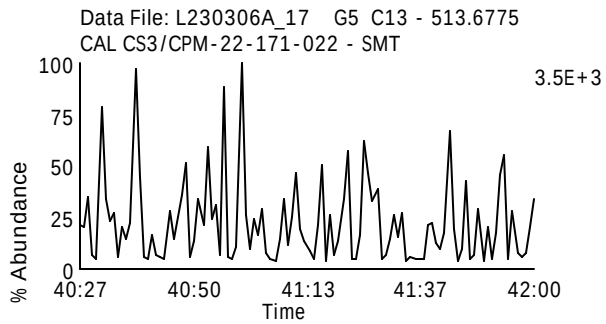


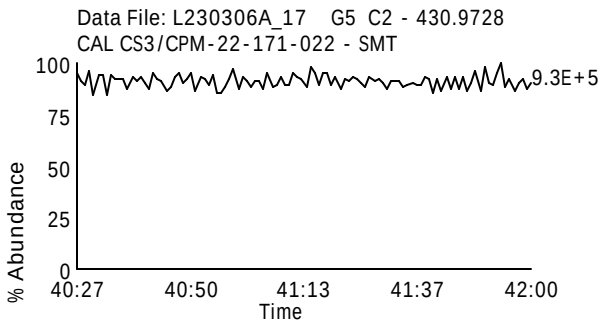












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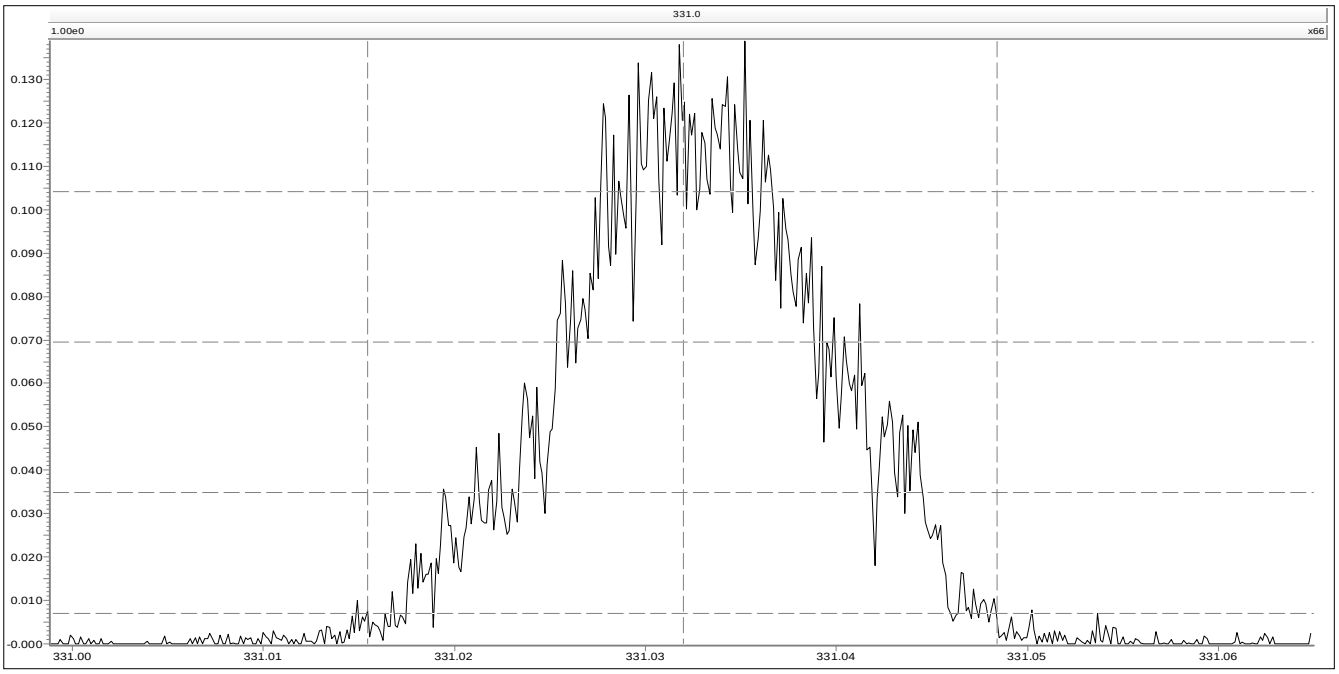

Source (EI+)

Ion Repeller (V)	-10.03
Focus 1	928
Beam Centre	-4.3
Focus 2	3932
Temperature (C)	280
Elec Energy (eV)	35.0
Trap Current (uA)	500.0
Y Deflect 1	-15.0
Z Deflect 1	50.5
Z Deflect 2	-10.8
Z Focus 2	2086
Z Focus 3	0
Z Deflect 3	-45.6
Y Focus	3759
Rotate 2	-0.6
Curve 2	7.5
Curve 3	-4.1
Rotate 3	13.8
Rotate 4	-15.4
V Acc (V)	7000.47
Magnet Mass	331.0
Source Slit	25.04
Collector Slit	12.44
MIKES Slit	100.00
Alpha	65.00
Detector Voltage	360
Ion Energy	6.00
Z4 Restrictor	Off
Vacc Limit	8000

Analyser

No information

Engineer

No information

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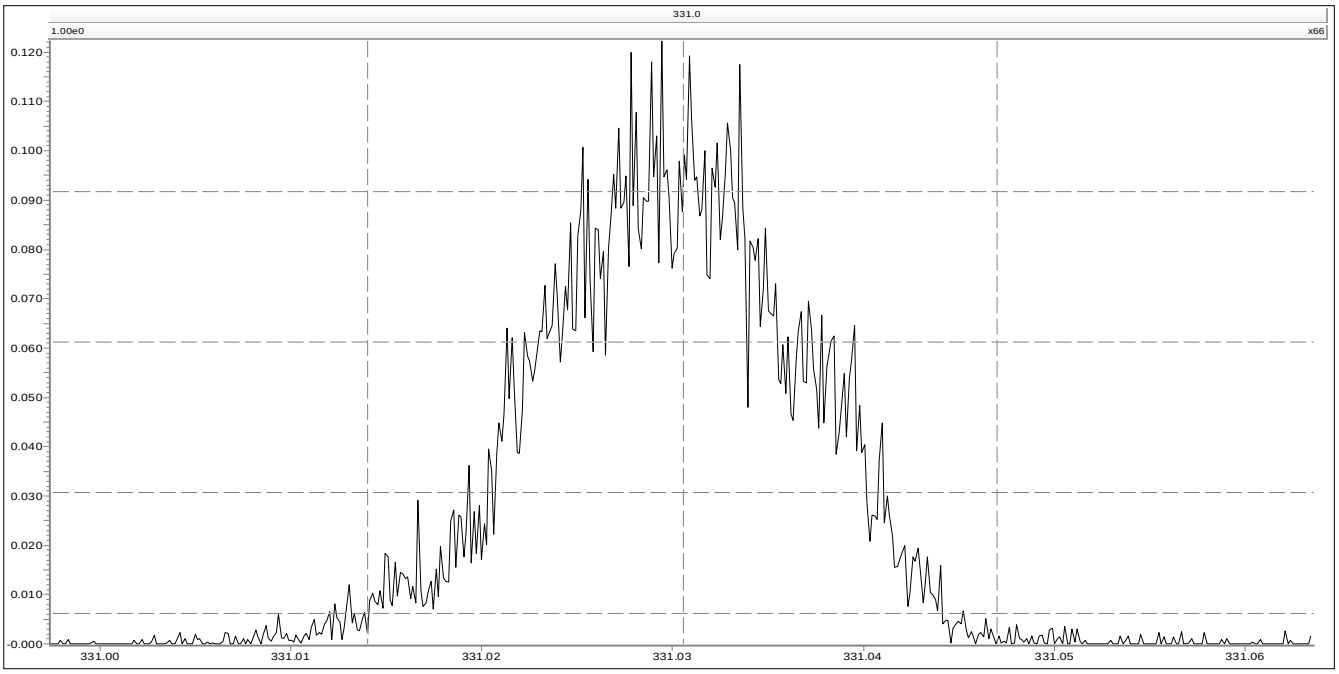

Source (EI+)

Ion Repeller (V)	-10.03
Focus 1	928
Beam Centre	-4.3
Focus 2	3932
Temperature (C)	280
Elec Energy (eV)	35.0
Trap Current (uA)	500.0
Y Deflect 1	-15.0
Z Deflect 1	50.5
Z Deflect 2	-10.8
Z Focus 2	2086
Z Focus 3	0
Z Deflect 3	-45.6
Y Focus	3759
Rotate 2	-0.6
Curve 2	7.5
Curve 3	-4.1
Rotate 3	13.8
Rotate 4	-15.4
V Acc (V)	7000.50
Magnet Mass	331.0
Source Slit	25.04
Collector Slit	12.44
MIKES Slit	100.00
Alpha	65.00
Detector Voltage	360
Ion Energy	6.00
Z4 Restrictor	Off
Vacc Limit	8000

Analyser

No information

Engineer

No information

File: C:\MassLynx\PaceNew.PRO\ACQUDB\10MSHR15L.ipr

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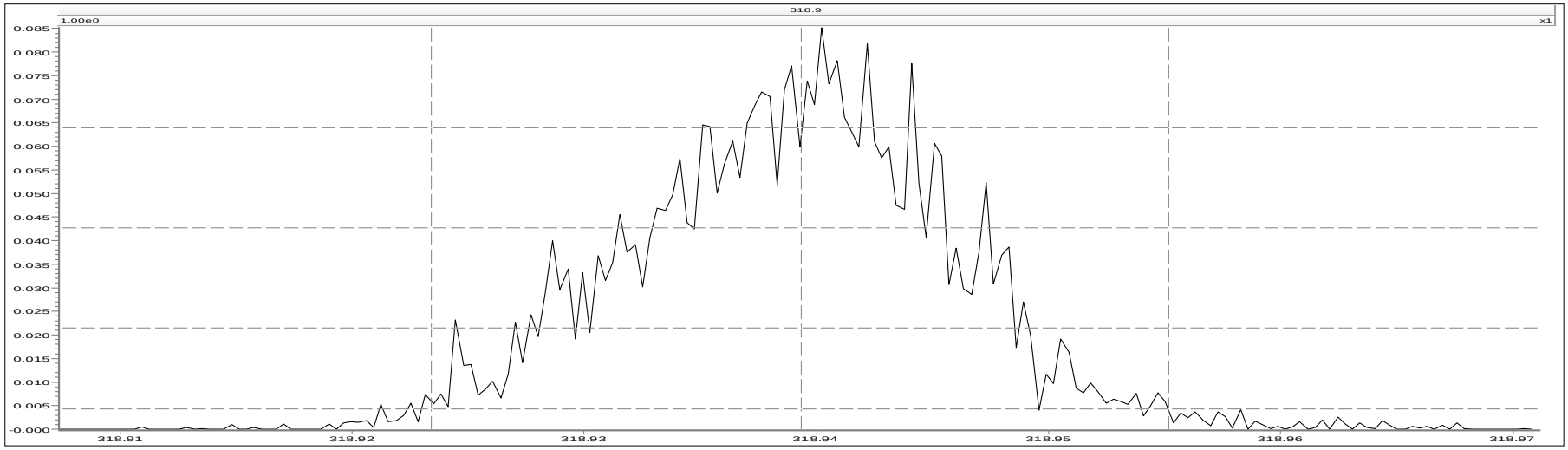

Source (EI+)

Ion Repeller (V)	-10.94	Ion Energy	6.00
Focus 1	928	Z4 Restrictor	Off
Beam Centre	-4.3	Vacc Limit	8000
Focus 2	3932		
Temperature (C)	280	**Analyser**	
Elec Energy (eV)	35.0	No information	
Trap Current (uA)	500.0		
Y Deflect 1	-15.0	**Engineer**	
Z Deflect 1	50.5	No information	
Z Deflect 2	-10.8		
Z Focus 2	2086		
Z Focus 3	0		
Z Deflect 3	-45.6		
Y Focus	3769		
Rotate 2	1.1		
Curve 2	6.2		
Curve 3	-4.3		
Rotate 3	14.7		
Rotate 4	-15.4		
V Acc (V)	6988.28		
Magnet Mass	331.0		
Source Slit	25.04		
Collector Slit	12.44		
MIKES Slit	100.00		
Alpha	65.00		
Detector Voltage	360		

File: C:\MassLynx\PaceNew.PRO\ACQUDB\10MSHR15L.ipr

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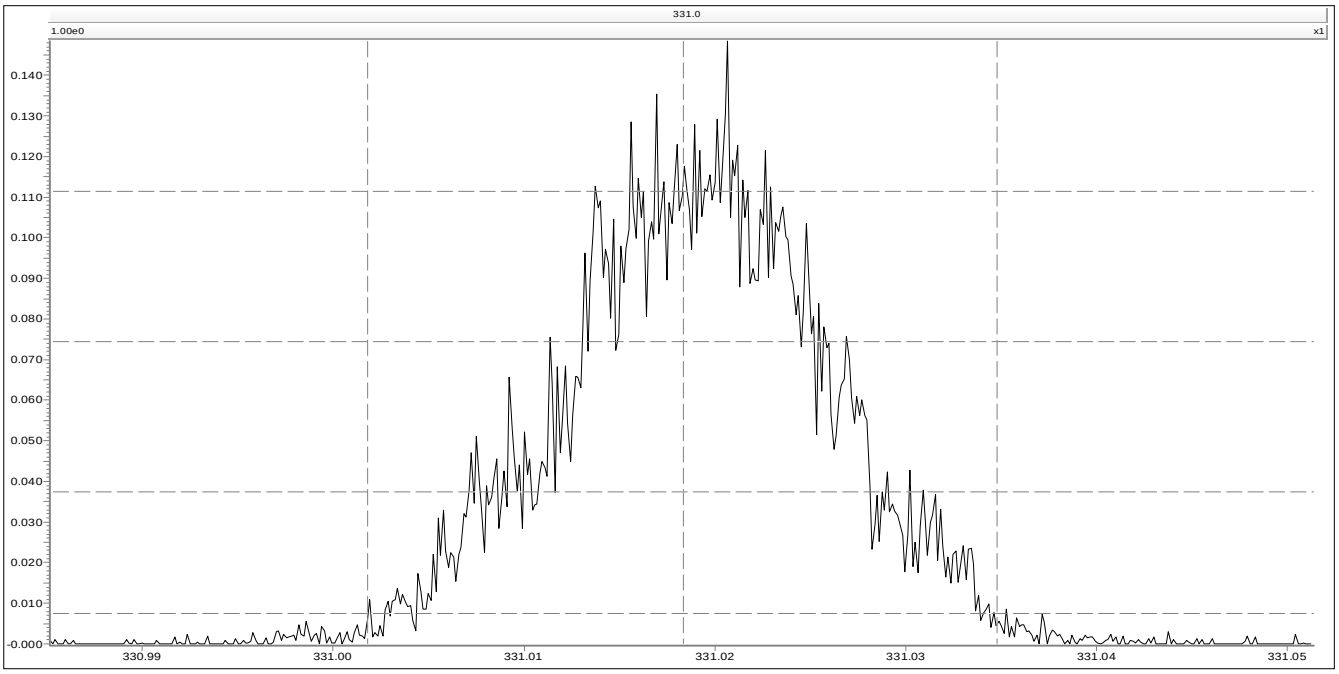

Source (EI+)

Ion Repeller (V)	-10.94
Focus 1	928
Beam Centre	-4.3
Focus 2	3932
Temperature (C)	280
Elec Energy (eV)	35.0
Trap Current (uA)	500.0
Y Deflect 1	-15.0
Z Deflect 1	50.5
Z Deflect 2	-10.8
Z Focus 2	2086
Z Focus 3	0
Z Deflect 3	-45.6
Y Focus	3769
Rotate 2	1.1
Curve 2	6.2
Curve 3	-4.3
Rotate 3	14.7
Rotate 4	-15.4
V Acc (V)	6988.38
Magnet Mass	331.0
Source Slit	25.04
Collector Slit	12.44
MIKES Slit	100.00
Alpha	65.00
Detector Voltage	360
Ion Energy	6.00
Z4 Restrictor	Off
Vacc Limit	8000

Analyser

No information

Engineer

No information

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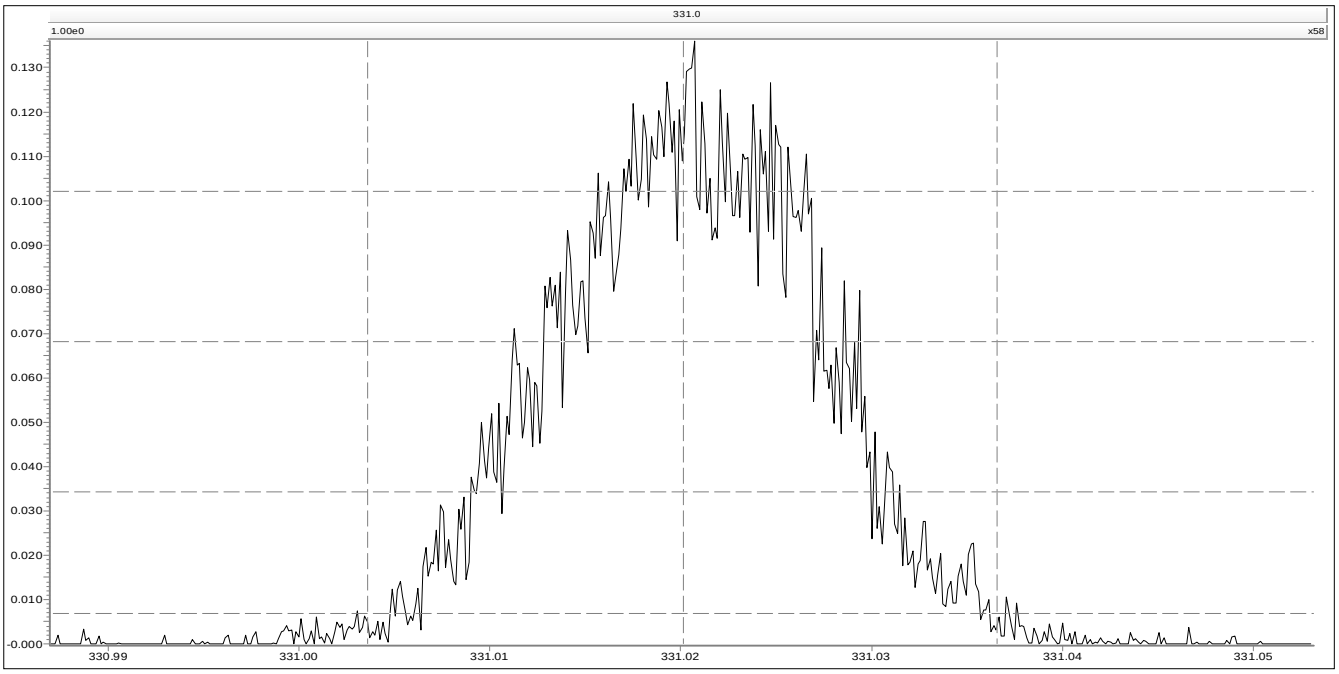

Source (EI+)

Ion Repeller (V)	-10.94
Focus 1	928
Beam Centre	-4.3
Focus 2	3932
Temperature (C)	280
Elec Energy (eV)	35.0
Trap Current (uA)	500.0
Y Deflect 1	-15.0
Z Deflect 1	50.5
Z Deflect 2	-10.8
Z Focus 2	2086
Z Focus 3	0
Z Deflect 3	-45.6
Y Focus	3769
Rotate 2	1.1
Curve 2	6.2
Curve 3	-4.3
Rotate 3	14.7
Rotate 4	-15.4
V Acc (V)	6988.35
Magnet Mass	331.0
Source Slit	25.04
Collector Slit	12.44
MIKES Slit	100.00
Alpha	65.00
Detector Voltage	360
Ion Energy	6.00
Z4 Restrictor	Off
Vacc Limit	8000

Analyser

No information

Engineer

No information

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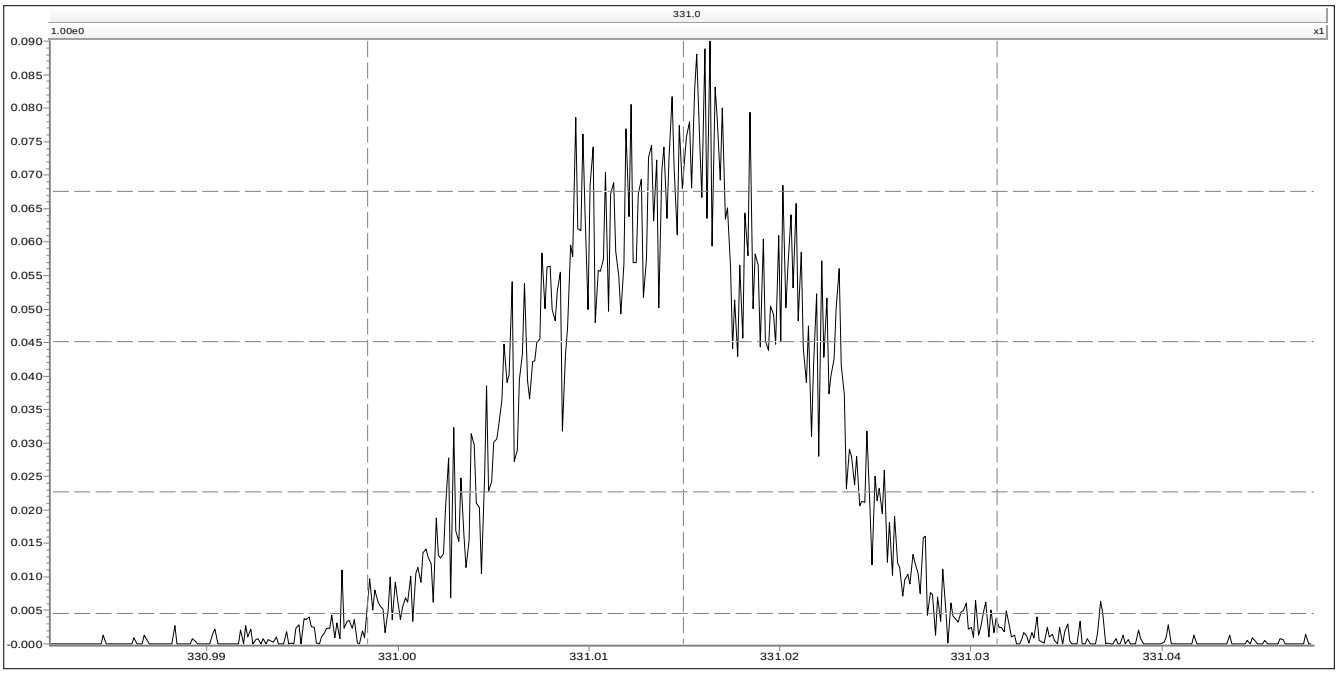

Source (EI+)

Ion Repeller (V)	-10.94
Focus 1	928
Beam Centre	-4.3
Focus 2	3932
Temperature (C)	280
Elec Energy (eV)	35.0
Trap Current (uA)	500.0
Y Deflect 1	-15.0
Z Deflect 1	50.5
Z Deflect 2	-10.8
Z Focus 2	2086
Z Focus 3	0
Z Deflect 3	-45.6
Y Focus	3769
Rotate 2	1.1
Curve 2	6.2
Curve 3	-4.3
Rotate 3	14.7
Rotate 4	-15.4
V Acc (V)	6988.46
Magnet Mass	331.0
Source Slit	25.04
Collector Slit	12.44
MIKES Slit	100.00
Alpha	65.00
Detector Voltage	360
Ion Energy	6.00
Z4 Restrictor	Off
Vacc Limit	8000

Analyser

No information

Engineer

No information

File: C:\MassLynx\Default.pro\Acqudb\U10MSHR06225.IPR

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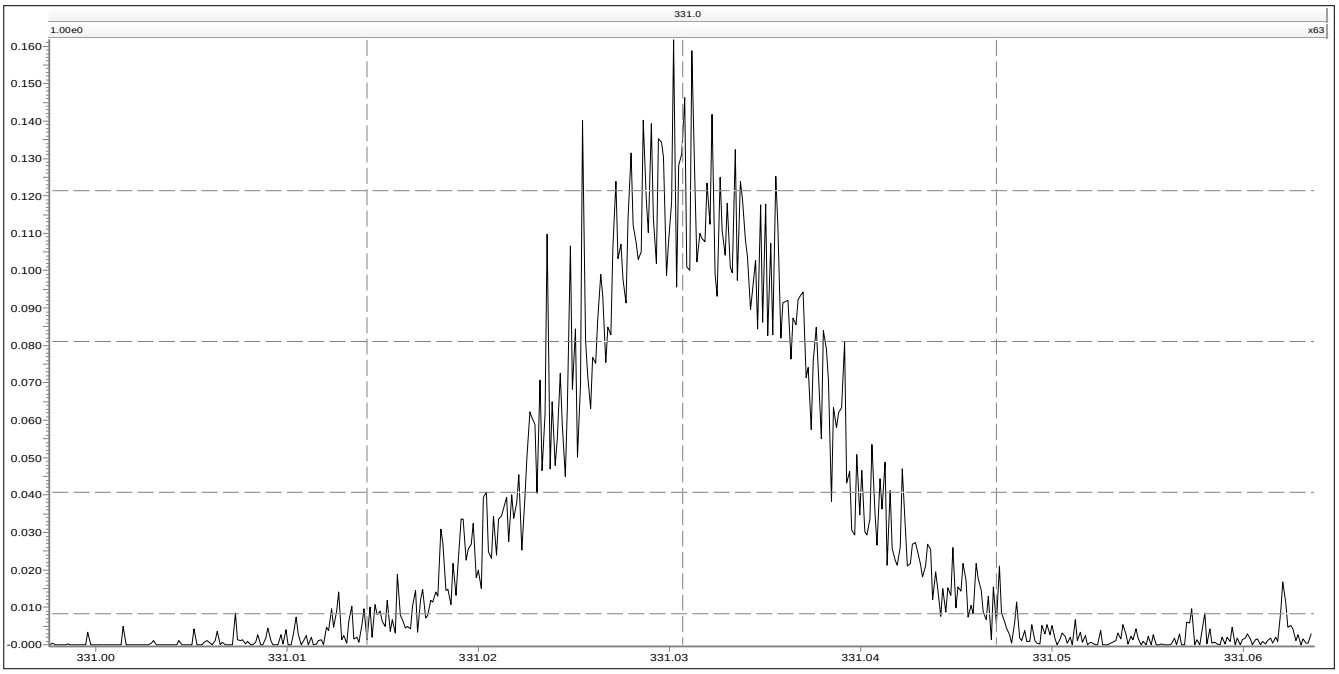

Source (EI+)

Ion Repeller (V)	-1.80
Focus 1	420
Beam Centre	0.8
Focus 2	4396
Temperature (C)	280
Elec Energy (eV)	35.0
Trap Current (uA)	500.0
Y Deflect 1	78.4
Z Deflect 1	-35.5
Z Deflect 2	-25.1
Z Focus 2	2455
Z Focus 3	0
Z Deflect 3	10.7
Y Focus	4336
Rotate 2	-11.9
Curve 2	-8.4
Curve 3	0.5
Rotate 3	-1.5
Rotate 4	3.6
V Acc (V)	7000.89
Magnet Mass	331.0
Source Slit	31.30
Collector Slit	15.04
MIKES Slit	100.00
Alpha	60.00
Detector Voltage	380
Ion Energy	-3.10
Z4 Restrictor	Off
Vacc Limit	8000

Analyser

No information

Engineer

No information

File: C:\MassLynx\DEFAULT.PRO\ACQUDB\U10MSHR06225.IPR

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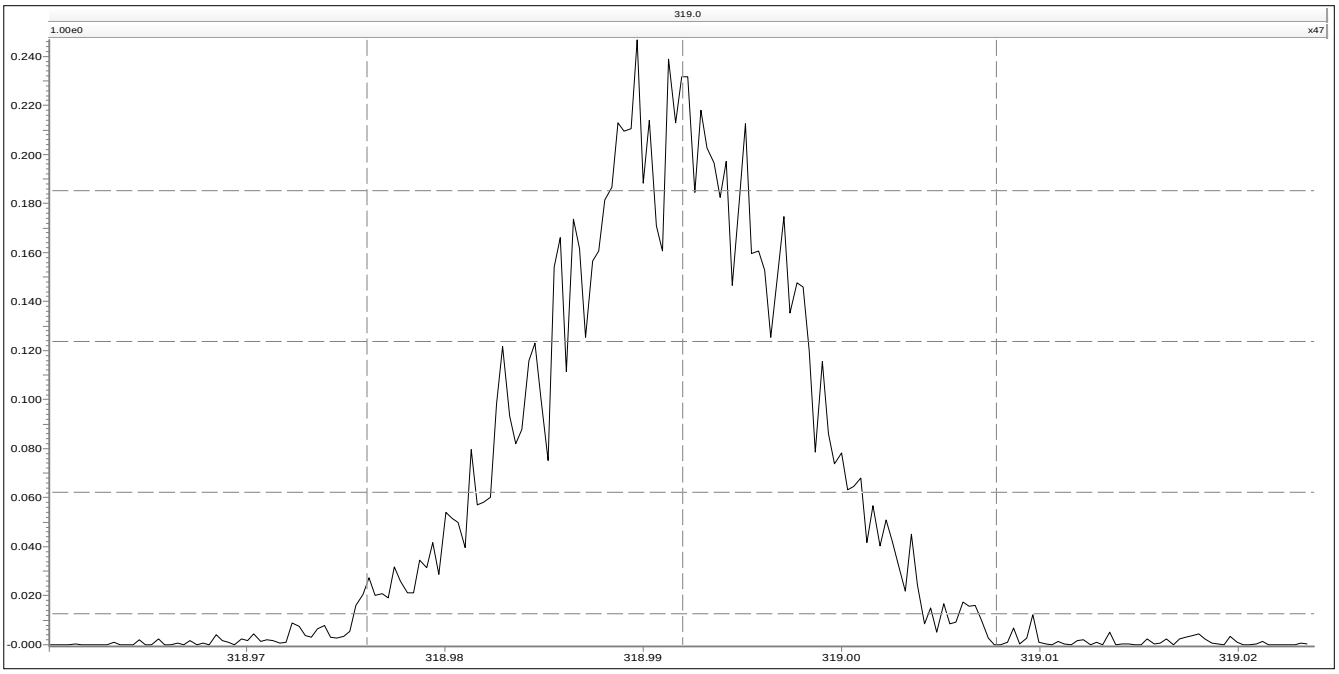

Source (EI+)

Ion Repeller (V)	-1.80
Focus 1	420
Beam Centre	0.8
Focus 2	4396
Temperature (C)	280
Elec Energy (eV)	35.0
Trap Current (uA)	500.0
Y Deflect 1	78.4
Z Deflect 1	-35.5
Z Deflect 2	-25.1
Z Focus 2	2455
Z Focus 3	0
Z Deflect 3	10.7
Y Focus	4336
Rotate 2	-11.9
Curve 2	-8.4
Curve 3	0.5
Rotate 3	-1.5
Rotate 4	3.6
V Acc (V)	7000.90
Magnet Mass	331.0
Source Slit	31.30
Collector Slit	15.04
MIKES Slit	100.00
Alpha	60.00
Detector Voltage	380
Ion Energy	-3.10
Z4 Restrictor	Off
Vacc Limit	8000

Analyser

No information

Engineer

No information

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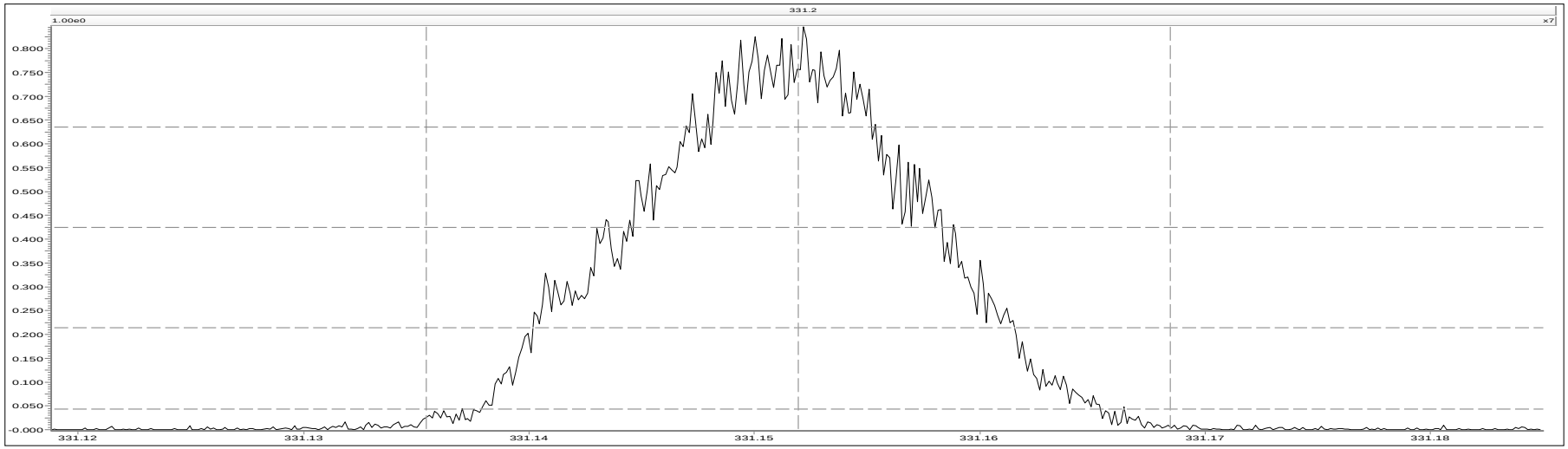

Source (EI+)

Ion Repeller (V)	-10.78	Ion Energy	-3.10
Focus 1	725	Z4 Restrictor	Off
Beam Centre	5.3	Vacc Limit	8000
Focus 2	4266		
Temperature (C)	290	**Analyser**	
Elec Energy (eV)	35.0	No information	
Trap Current (uA)	500.0		
Y Deflect 1	7.1	**Engineer**	
Z Deflect 1	-38.2	No information	
Z Deflect 2	5.4		
Z Focus 2	2210		
Z Focus 3	0		
Z Deflect 3	-2.9		
Y Focus	4111		
Rotate 2	-11.1		
Curve 2	-0.6		
Curve 3	-3.7		
Rotate 3	1.4		
Rotate 4	0.0		
V Acc (V)	7115.94		
Magnet Mass	331.2		
Source Slit	28.24		
Collector Slit	14.88		
MIKES Slit	100.00		
Alpha	60.00		
Detector Voltage	380		

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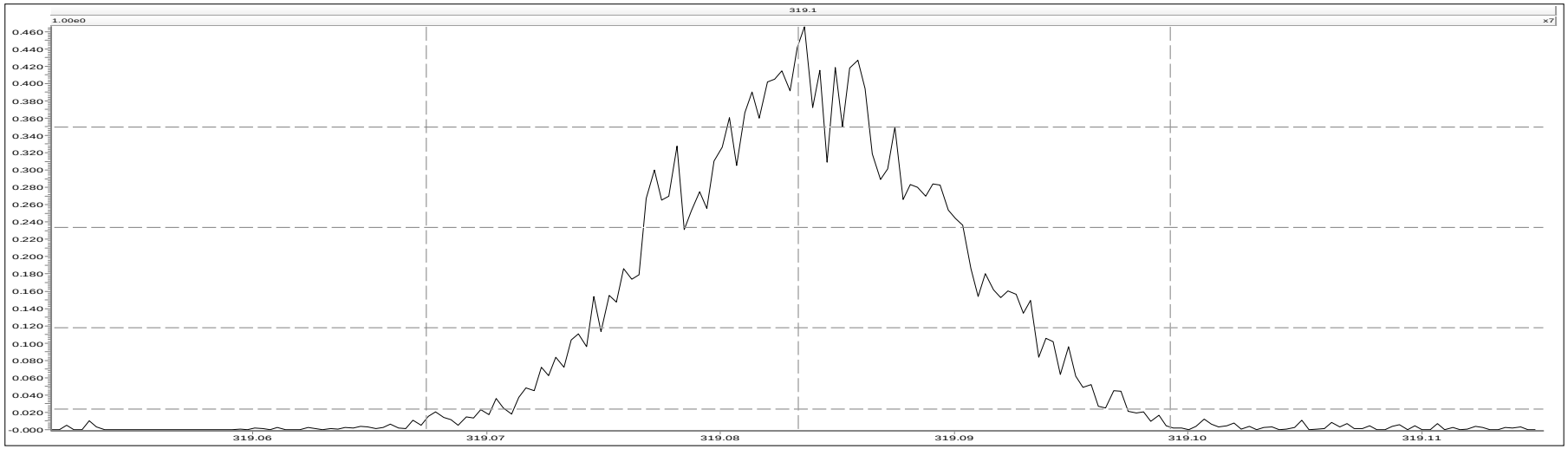


Source (EI+)

Ion Repeller (V)	-10.78	Ion Energy	-3.10
Focus 1	725	Z4 Restrictor	Off
Beam Centre	5.3	Vacc Limit	8000
Focus 2	4266		
Temperature (C)	290	**Analyser**	
Elec Energy (eV)	35.0	No information	
Trap Current (uA)	500.0		
Y Deflect 1	7.1	**Engineer**	
Z Deflect 1	-38.2	No information	
Z Deflect 2	5.4		
Z Focus 2	2210		
Z Focus 3	0		
Z Deflect 3	-2.9		
Y Focus	4111		
Rotate 2	-11.1		
Curve 2	-0.6		
Curve 3	-3.7		
Rotate 3	1.4		
Rotate 4	0.0		
V Acc (V)	7115.94		
Magnet Mass	331.2		
Source Slit	28.24		
Collector Slit	14.88		
MIKES Slit	100.00		
Alpha	60.00		
Detector Voltage	380		

Pace Analytical Services, LLC
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444
www.pacelabs.com

Appendix F

QC Raw Data

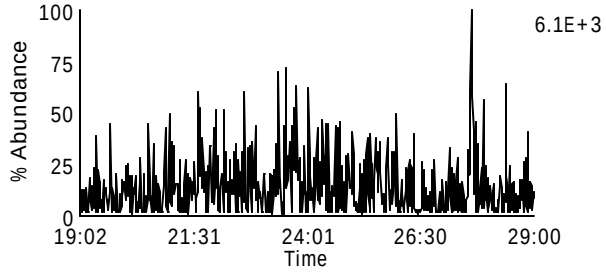
REPORT OF LABORATORY ANALYSIS

Homologue Group: Tetras

Data File Name: L230305B_05
Date Acquired: 3/6/2023
Sample Description: BLANK BLANK-104421 - JRH

Lab Sample ID: BLANK-104421
Client Sample ID: DFBLKYD
Instrument: 10MSHR15 (L)

Data File: L230305B_05 G1 C1 - 303.9016
BLANK BLANK-104421 - JRH



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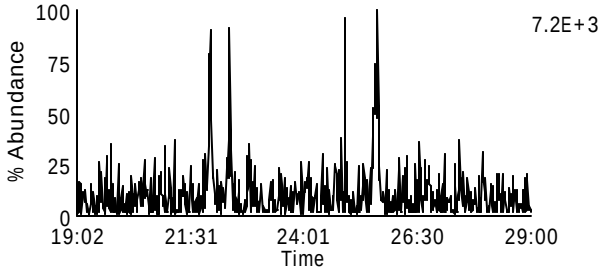
BLANK BLANK-104421 - JRH



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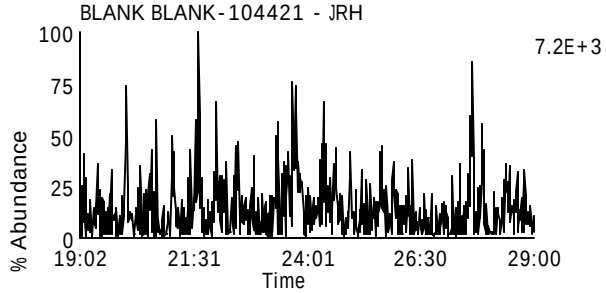
BLANK BLANK-104421 - JRH



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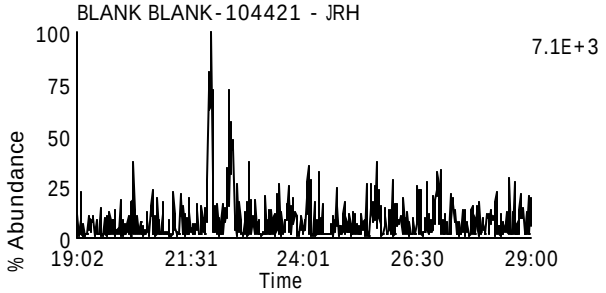

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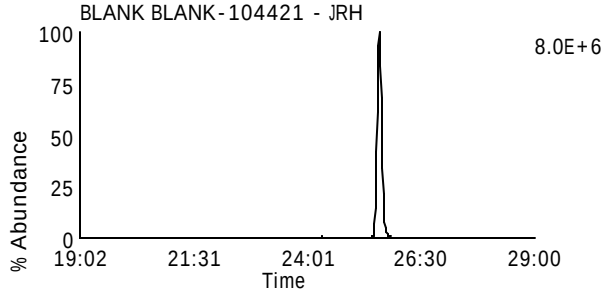

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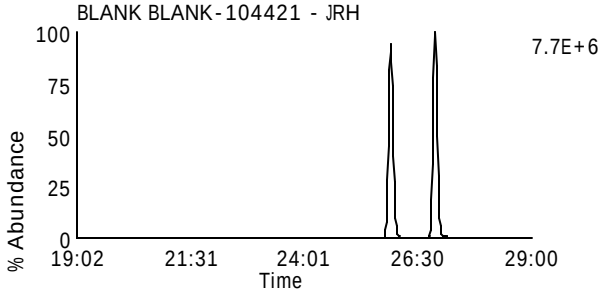

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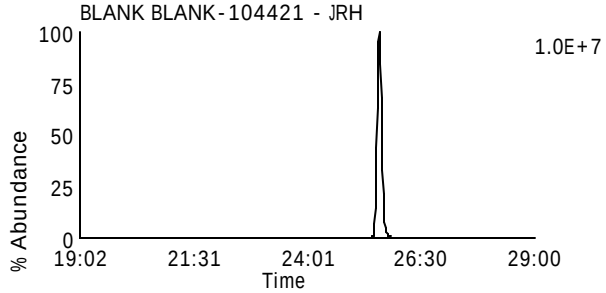

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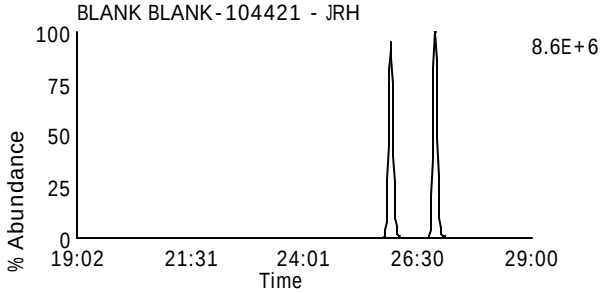

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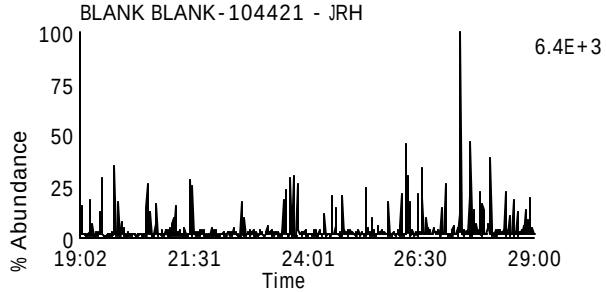
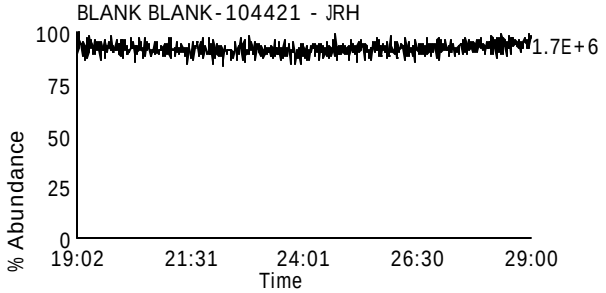


Data File: L230305B_05 G1 C5 - 318.9792
BLANK BLANK-104421 - JRH

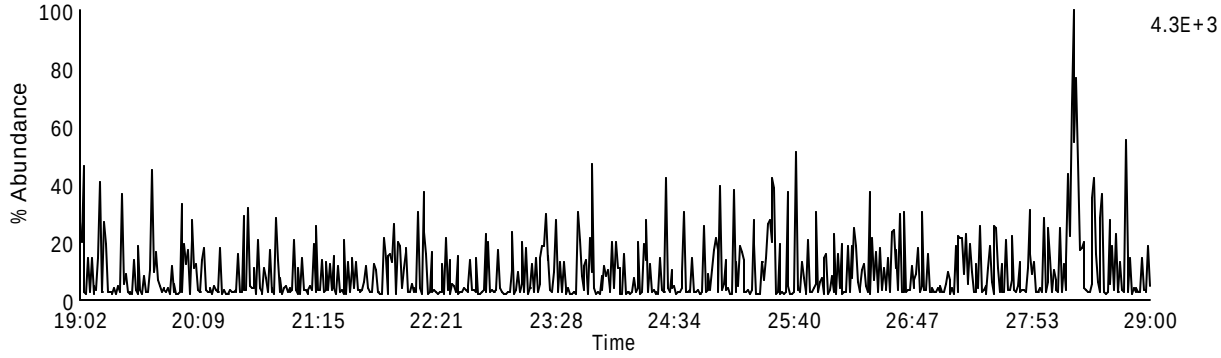


Homologue Group: Penta & Cleanup

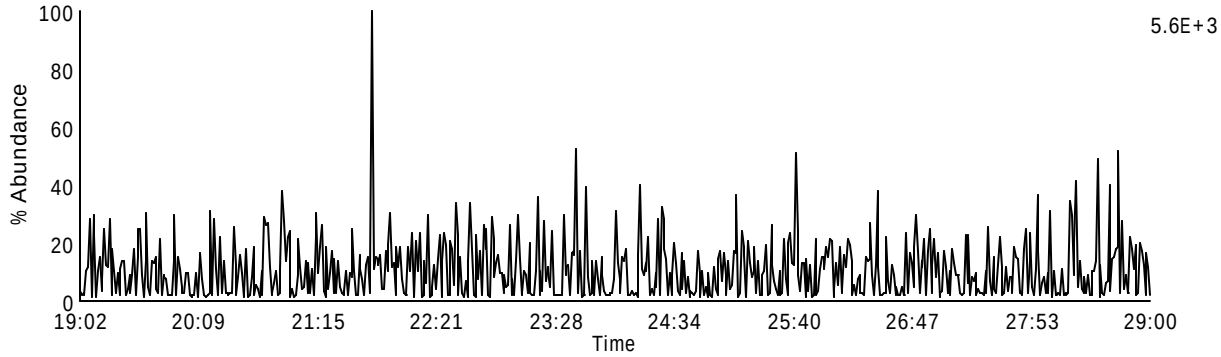
Data File Name: L230305B_05
Date Acquired: 3/6/2023
Sample Description: BLANK BLANK-104421 - JRH

Lab Sample ID: BLANK-104421
Client Sample ID: DFBLKYD
Instrument: 10MSHR15 (L)

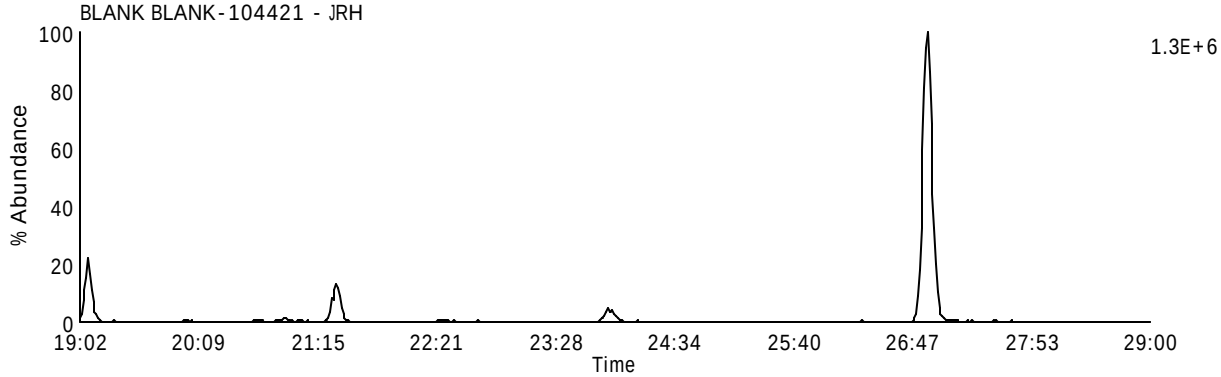
Data File: L230305B_05 G1 C12 - 339.8597
BLANK BLANK-104421 - JRH



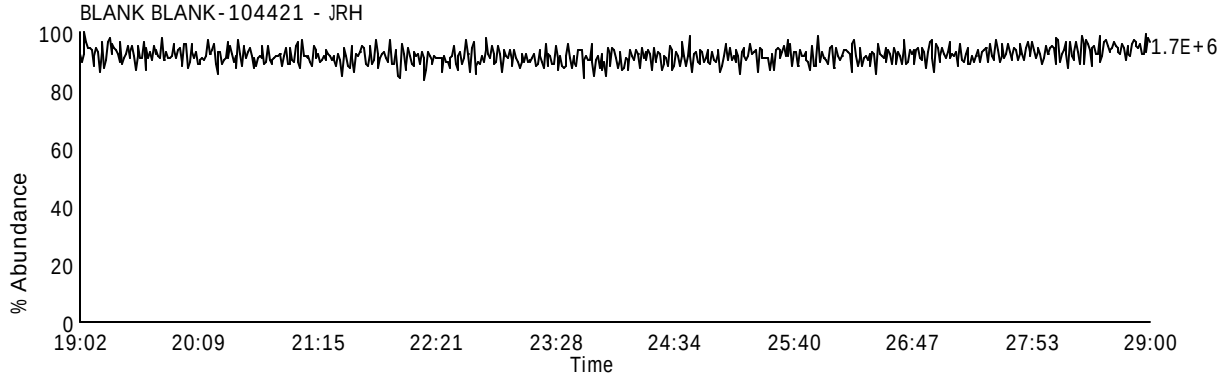
Data File: L230305B_05 G1 C13 - 341.8567
BLANK BLANK-104421 - JRH



Data File: L230305B_05 G1 C9 - 327.8847
BLANK BLANK-104421 - JRH



Data File: L230305B_05 G1 C5 - 318.9792
BLANK BLANK-104421 - JRH

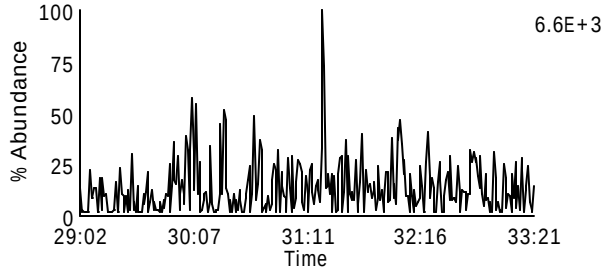


Homologue Group: Pentas

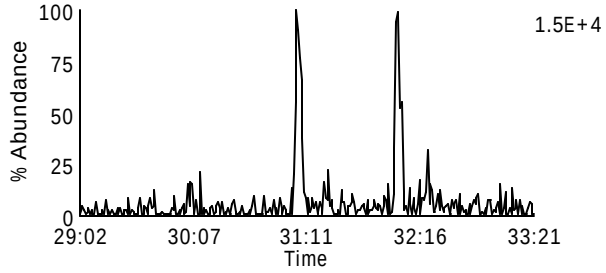
Data File Name: L230305B_05
Date Acquired: 3/6/2023
Sample Description: BLANK BLANK-104421 - JRH

Lab Sample ID: BLANK-104421
Client Sample ID: DFBLKYD
Instrument: 10MSHR15 (L)

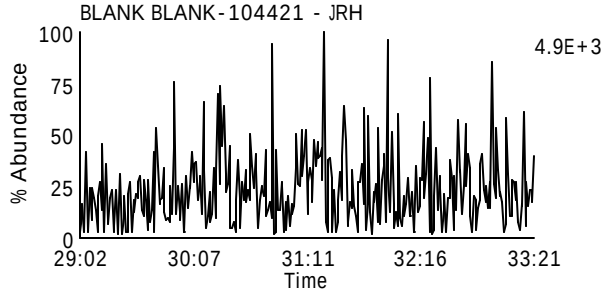
Data File: L230305B_05 G2 C1 - 339.8597
BLANK BLANK-104421 - JRH



Data File: L230305B_05 G2 C4 - 353.8576
BLANK BLANK-104421 - JRH



Data File: L230305B_05 G2 C2 - 341.8567
BLANK BLANK-104421 - JRH



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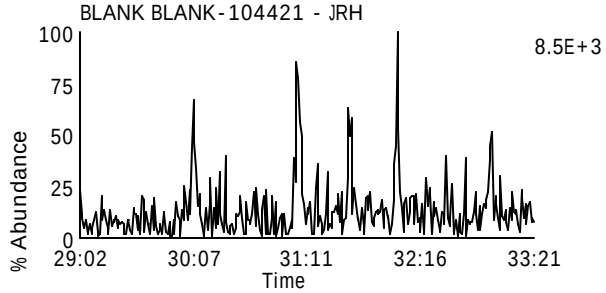
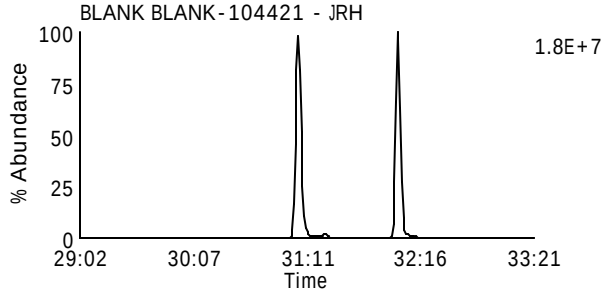
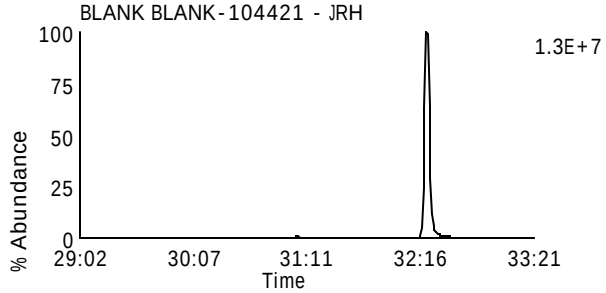
BLANK BLANK-104421 - JRH



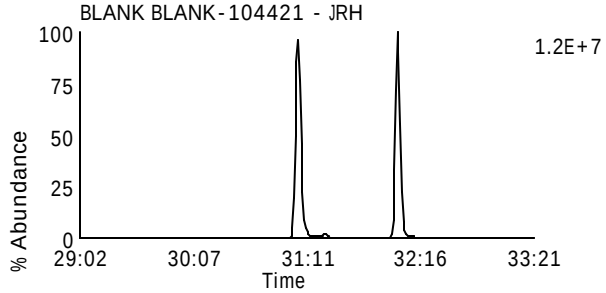
Data File: L230305B_05 G2 C3 - 351.8999
BLANK BLANK-104421 - JRH



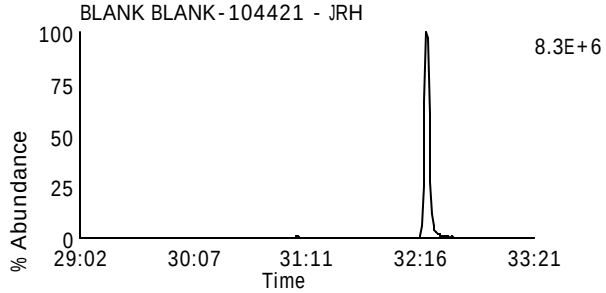
Data File: L230305B_05 G2 C10 - 367.8948
BLANK BLANK-104421 - JRH



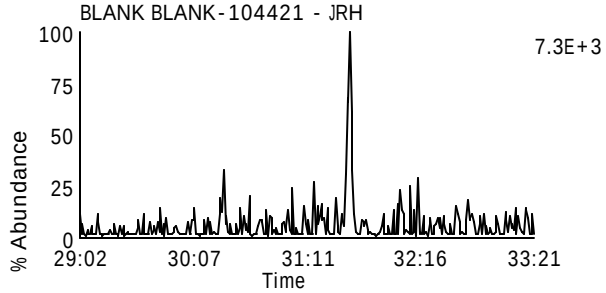
Data File: L230305B_05 G2 C5 - 353.8969
BLANK BLANK-104421 - JRH



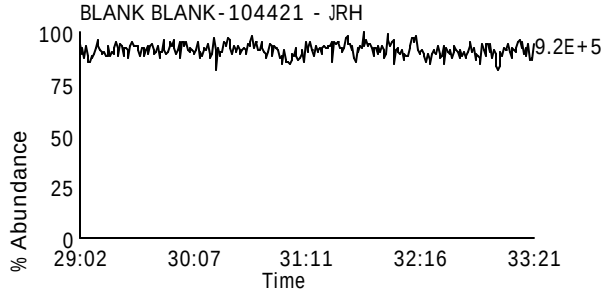
Data File: L230305B_05 G2 C11 - 369.8918
BLANK BLANK-104421 - JRH



Data File: L230305B_05 G2 C12 - 409.7974
BLANK BLANK-104421 - JRH



Data File: L230305B_05 G2 C6 - 354.9792
BLANK BLANK-104421 - JRH

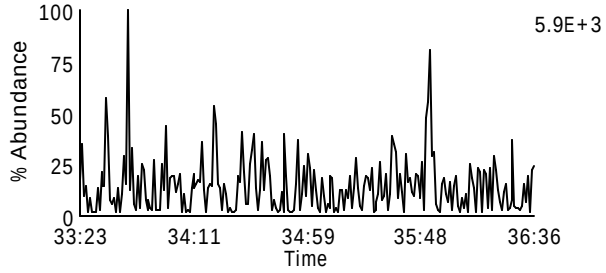


Homologue Group: Hexas

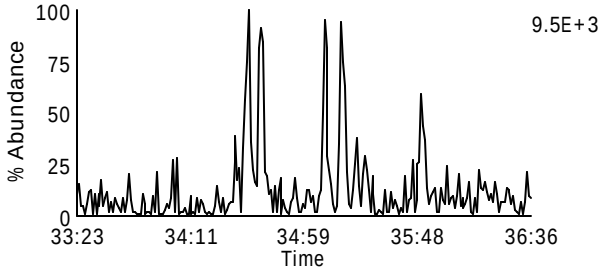
Data File Name: L230305B_05
Date Acquired: 3/6/2023
Sample Description: BLANK BLANK-104421 - JRH

Lab Sample ID: BLANK-104421
Client Sample ID: DFBLKYD
Instrument: 10MSHR15 (L)

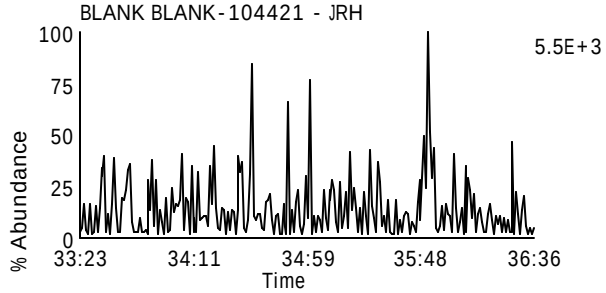
Data File: L230305B_05 G3 C1 - 373.8207
BLANK BLANK-104421 - JRH



Data File: L230305B_05 G3 C7 - 389.8156
BLANK BLANK-104421 - JRH



Data File: L230305B_05 G3 C2 - 375.8178
BLANK BLANK-104421 - JRH



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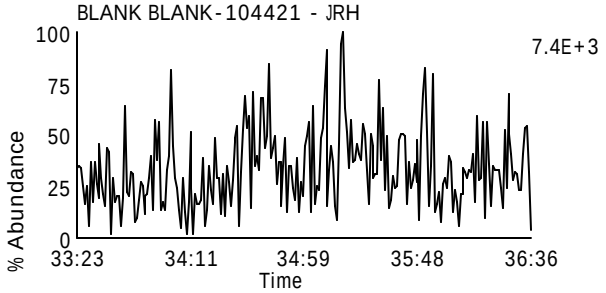
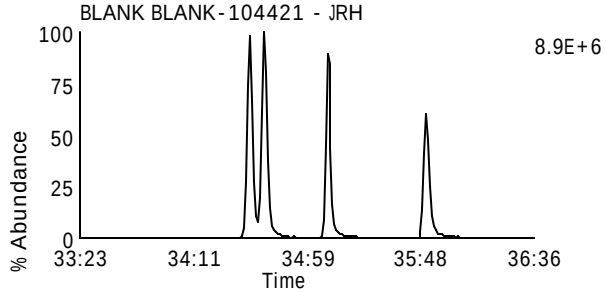
BLANK BLANK-104421 - JRH



Data File: L230305B_05 G3 C5 - 383.8639
BLANK BLANK-104421 - JRH



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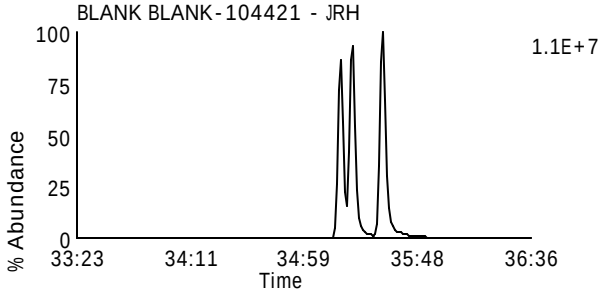
BLANK BLANK-104421 - JRH



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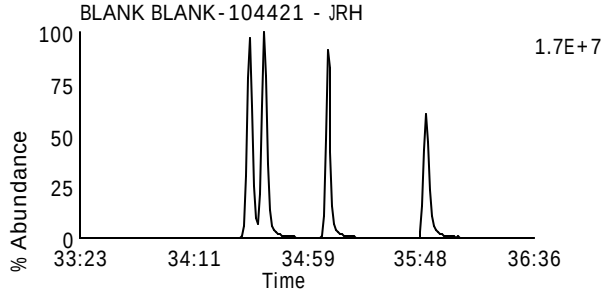
BLANK BLANK-104421 - JRH



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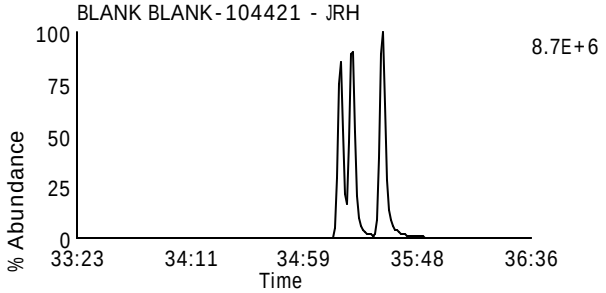
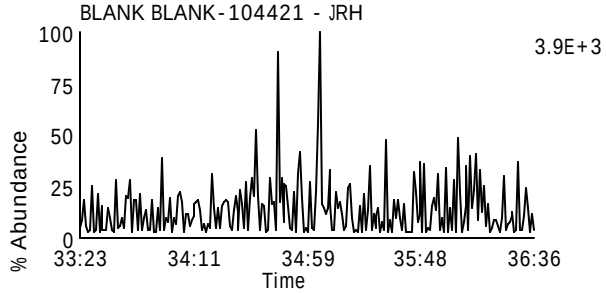
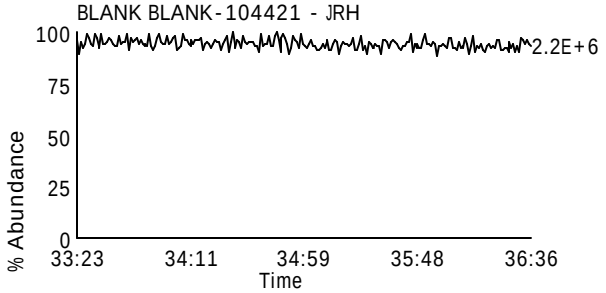
BLANK BLANK-104421 - JRH



Data File: L230305B_05 G3 C11 - 445.7555
BLANK BLANK-104421 - JRH



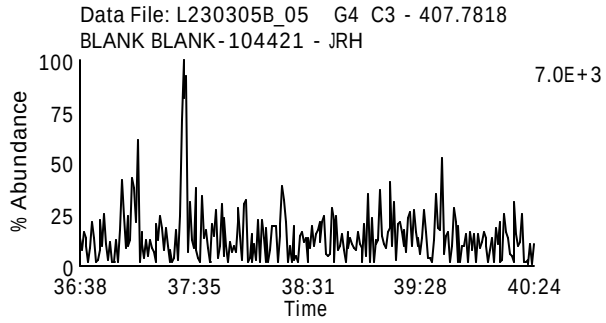
Data File: L230305B_05 G3 C3 - 380.976
BLANK BLANK-104421 - JRH

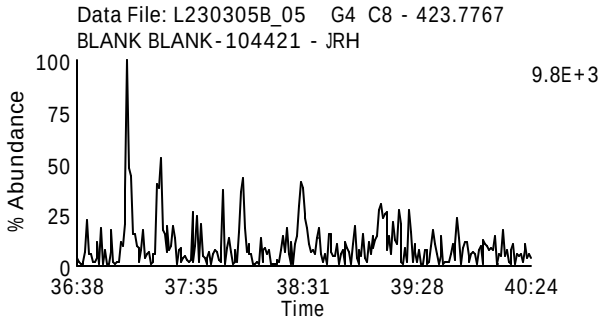


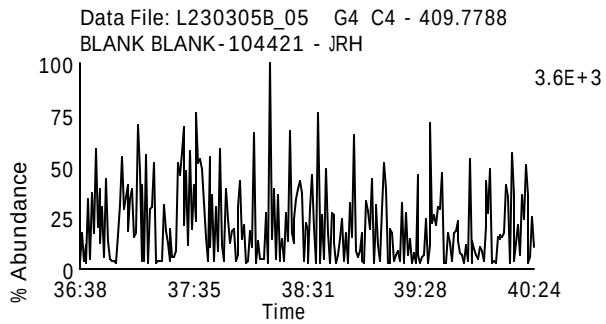
Homologue Group: Heptas

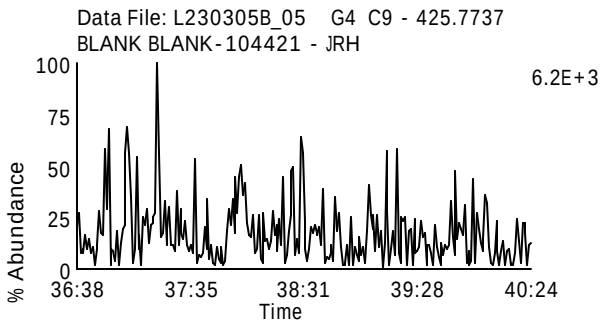
Data File Name: L230305B_05
Date Acquired: 3/6/2023
Sample Description: BLANK BLANK-104421 - JRH

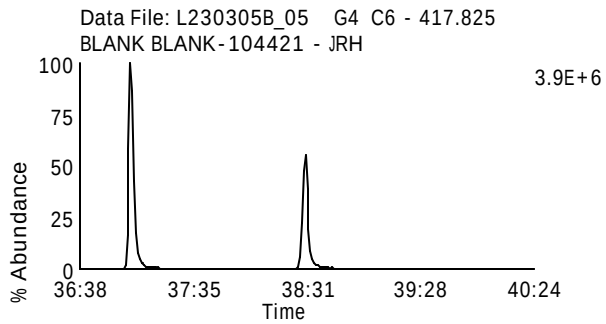
Lab Sample ID: BLANK-104421
Client Sample ID: DFBLKYD
Instrument: 10MSHR15 (L)

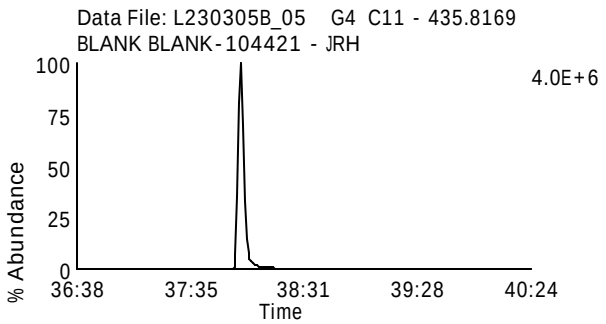


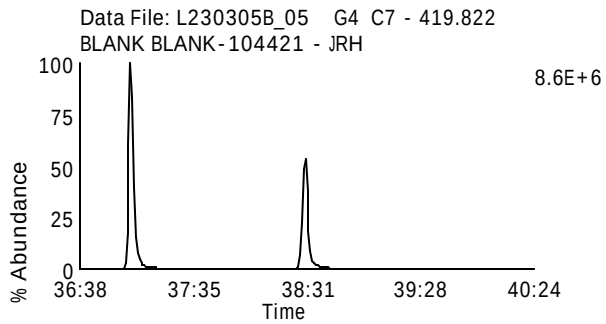


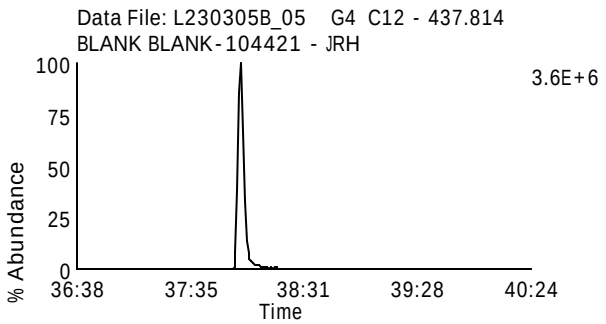


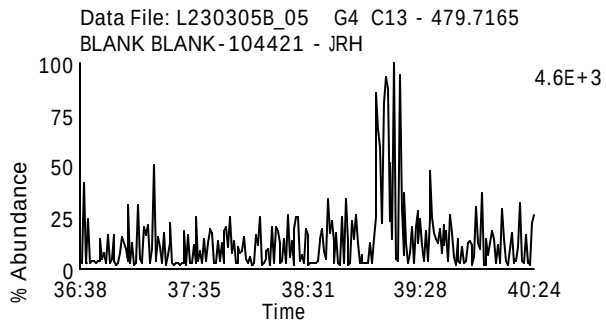


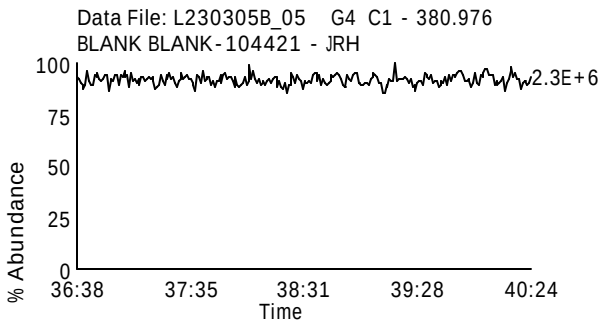










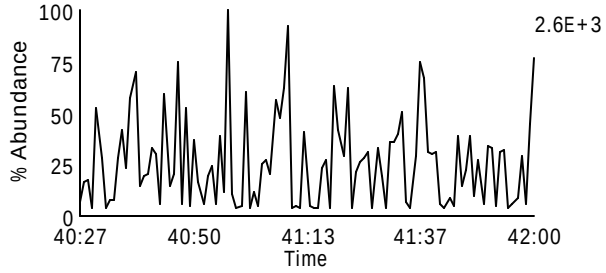


Homologue Group: Octas

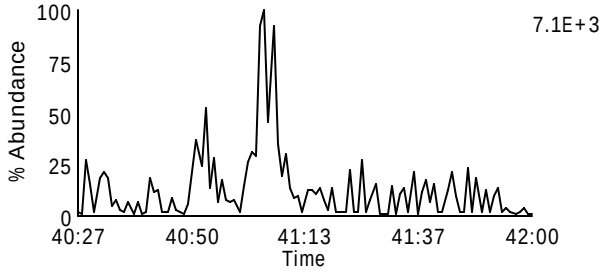
Data File Name: L230305B_05
Date Acquired: 3/6/2023
Sample Description: BLANK BLANK-104421 - JRH

Lab Sample ID: BLANK-104421
Client Sample ID: DFBLKYD
Instrument: 10MSHR15 (L)

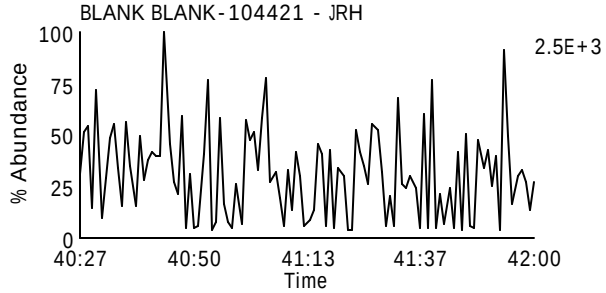
Data File: L230305B_05 G5 C4 - 441.7428
BLANK BLANK-104421 - JRH



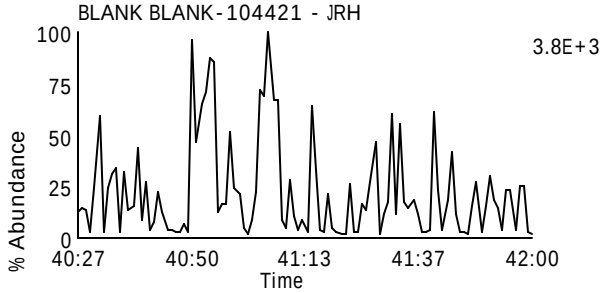
Data File: L230305B_05 G5 C8 - 457.7377
BLANK BLANK-104421 - JRH



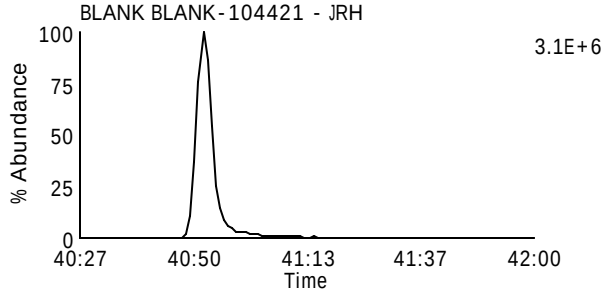
Data File: L230305B_05 G5 C5 - 443.7398
BLANK BLANK-104421 - JRH



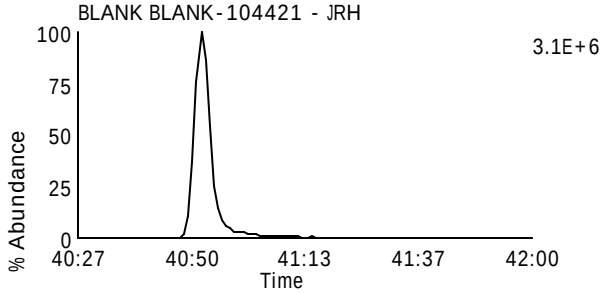
Data File: L230305B_05 G5 C9 - 459.7347
BLANK BLANK-104421 - JRH



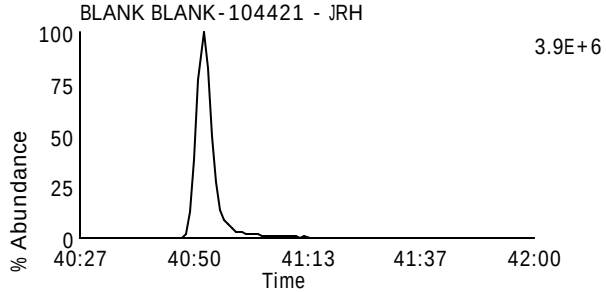
Data File: L230305B_05 G5 C11 - 469.7779
BLANK BLANK-104421 - JRH



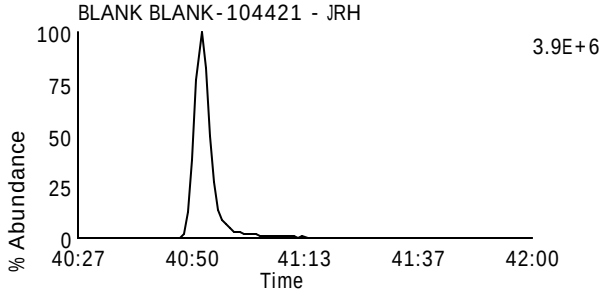
Data File: L230305B_05 G5 C11 - 469.7779
BLANK BLANK-104421 - JRH



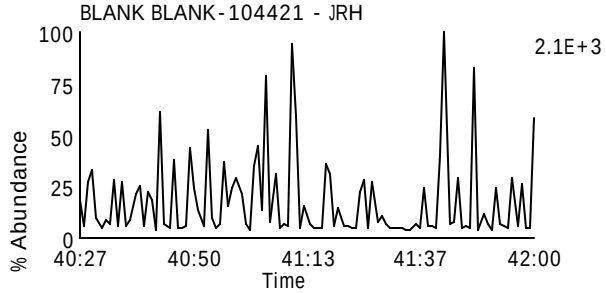
Data File: L230305B_05 G5 C12 - 471.7749
BLANK BLANK-104421 - JRH



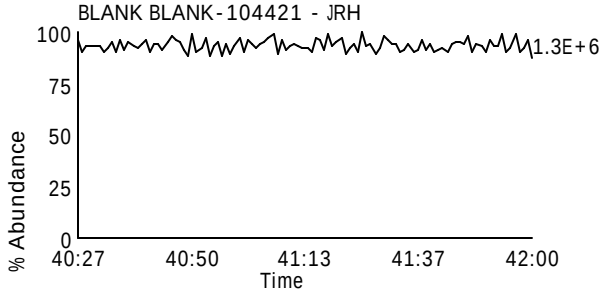
Data File: L230305B_05 G5 C12 - 471.7749
BLANK BLANK-104421 - JRH



Data File: L230305B_05 G5 C13 - 513.6775
BLANK BLANK-104421 - JRH



Data File: L230305B_05 G5 C2 - 430.9728
BLANK BLANK-104421 - JRH

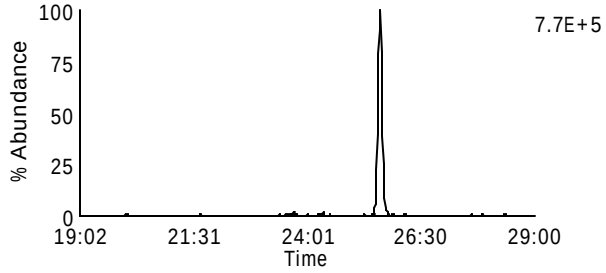


Homologue Group: Tetras

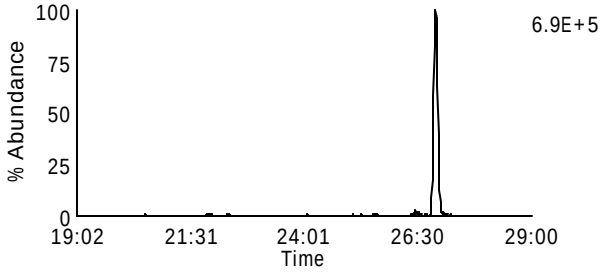
Data File Name: L230305B_01
Date Acquired: 3/5/2023
Sample Description: LCS LCS-104421 - JRH

Lab Sample ID: LCS-104422
Client Sample ID: DLCSLT
Instrument: 10MSHR15 (L)

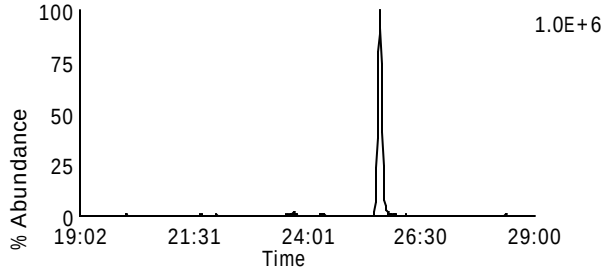
Data File: L230305B_01 G1 C1 - 303.9016
LCS LCS-104421 - JRH



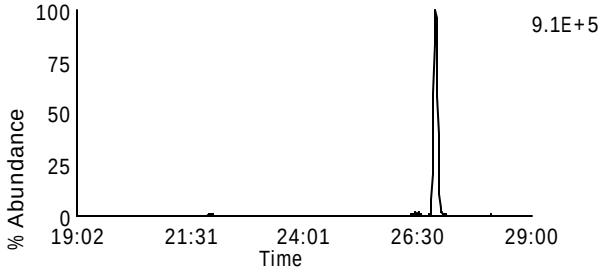
Data File: L230305B_01 G1 C7 - 319.8965
LCS LCS-104421 - JRH



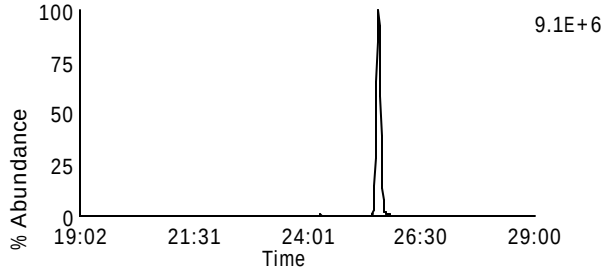
Data File: L230305B_01 G1 C2 - 305.8987
LCS LCS-104421 - JRH



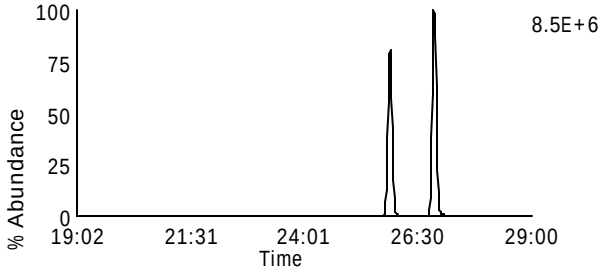
Data File: L230305B_01 G1 C8 - 321.8936
LCS LCS-104421 - JRH



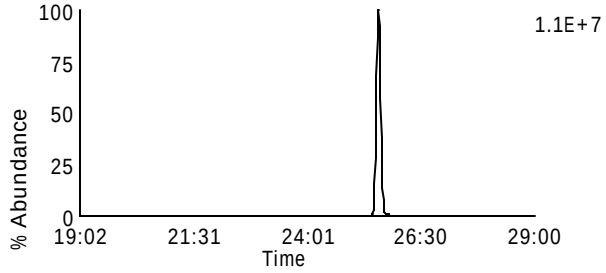
Data File: L230305B_01 G1 C3 - 315.9418
LCS LCS-104421 - JRH



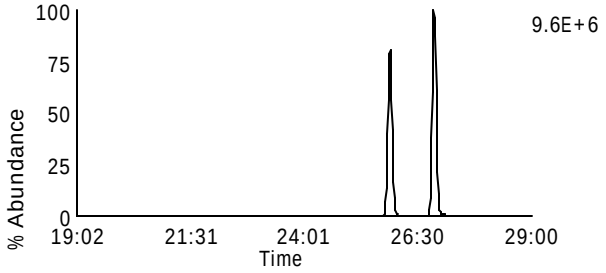
Data File: L230305B_01 G1 C10 - 331.9367
LCS LCS-104421 - JRH



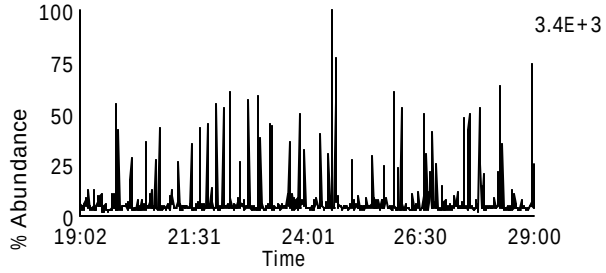
Data File: L230305B_01 G1 C4 - 317.9389
LCS LCS-104421 - JRH



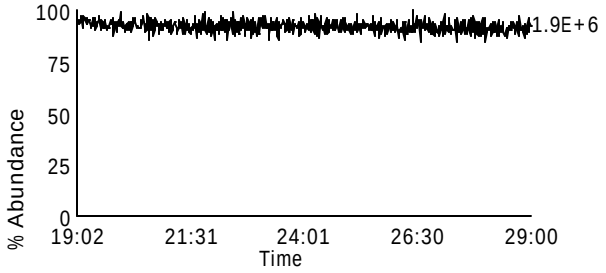
Data File: L230305B_01 G1 C11 - 333.9338
LCS LCS-104421 - JRH



Data File: L230305B_01 G1 C14 - 375.8364
LCS LCS-104421 - JRH



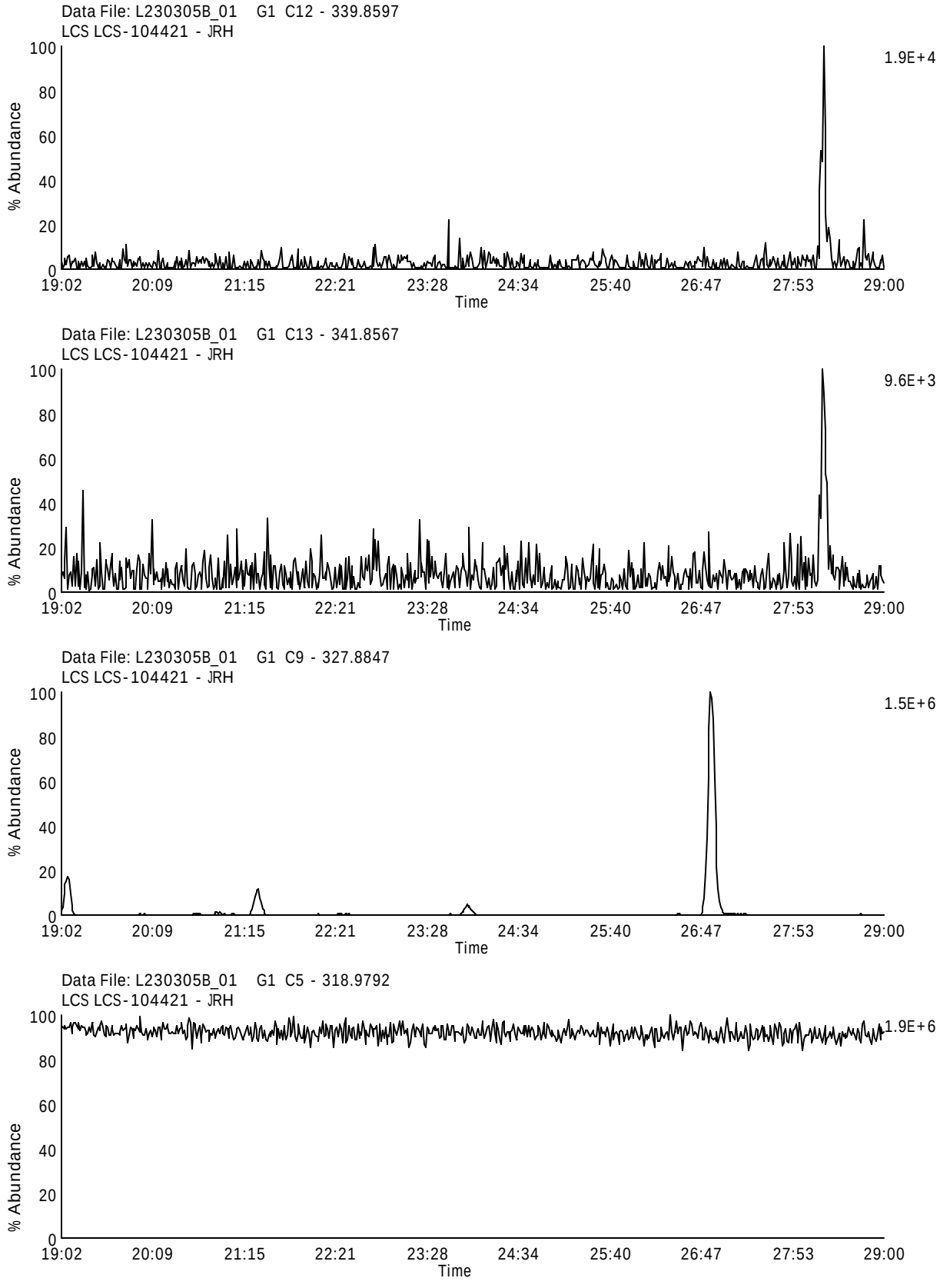
Data File: L230305B_01 G1 C5 - 318.9792
LCS LCS-104421 - JRH



Homologue Group: Penta & Cleanup

Data File Name: L230305B_01
Date Acquired: 3/5/2023
Sample Description: LCS LCS-104421 - JRH

Lab Sample ID: LCS-104422
Client Sample ID: DLCSLT
Instrument: 10MSHR15 (L)

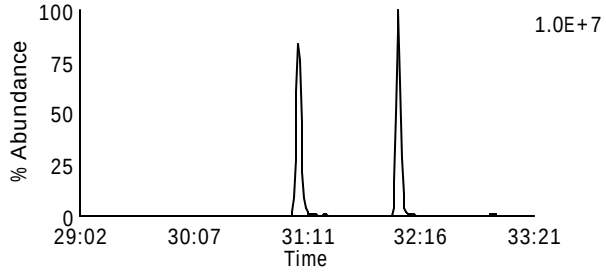


Homologue Group: Pentas

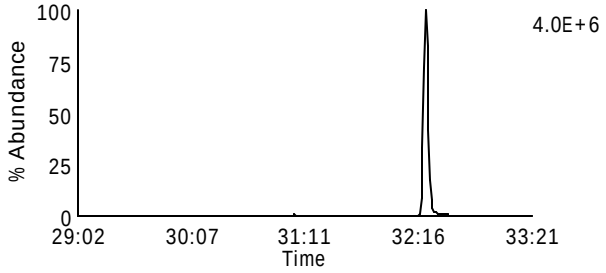
Data File Name: L230305B_01
Date Acquired: 3/5/2023
Sample Description: LCS LCS-104421 - JRH

Lab Sample ID: LCS-104422
Client Sample ID: DLCSLT
Instrument: 10MSHR15 (L)

Data File: L230305B_01 G2 C1 - 339.8597
LCS LCS-104421 - JRH



Data File: L230305B_01 G2 C4 - 353.8576
LCS LCS-104421 - JRH



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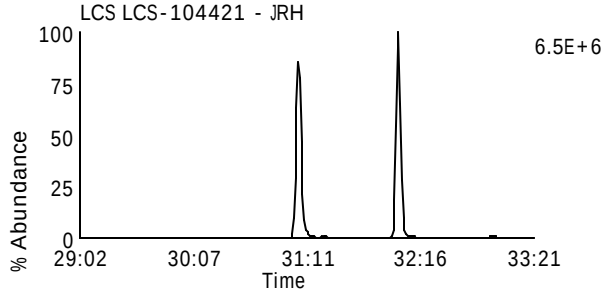
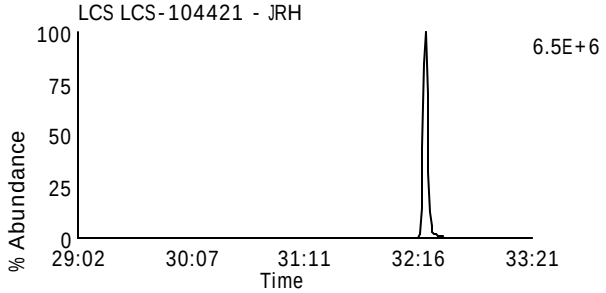
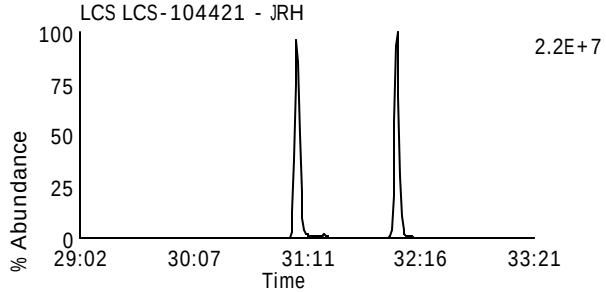
LCS LCS-104421 - JRH



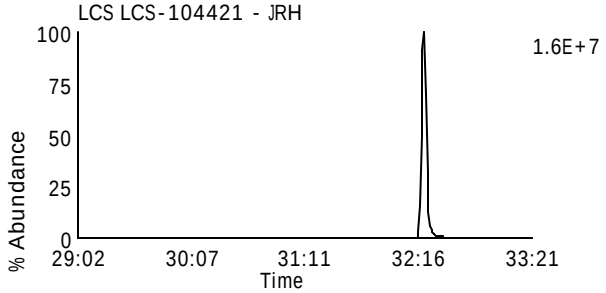
Data File: L230305B_01 G2 C8 - 355.8546
LCS LCS-104421 - JRH



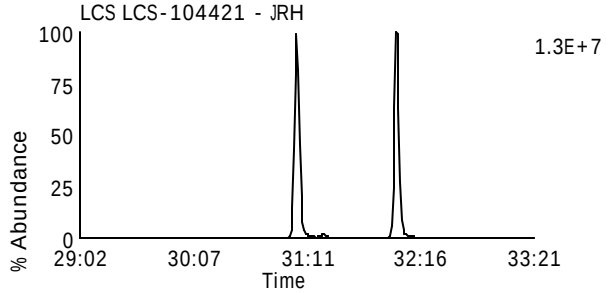
Data File: L230305B_01 G2 C3 - 351.8999
LCS LCS-104421 - JRH



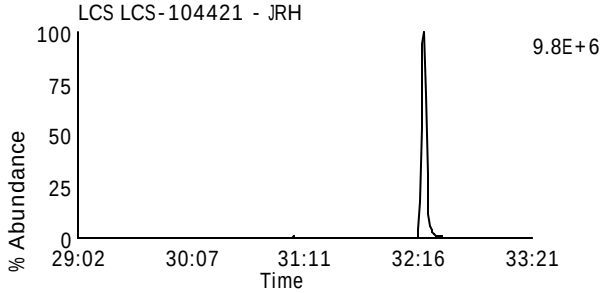
Data File: L230305B_01 G2 C10 - 367.8948
LCS LCS-104421 - JRH



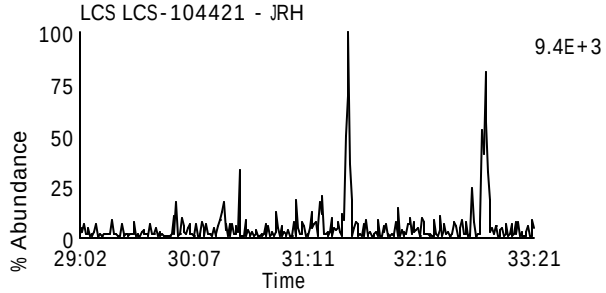
Data File: L230305B_01 G2 C5 - 353.8969
LCS LCS-104421 - JRH



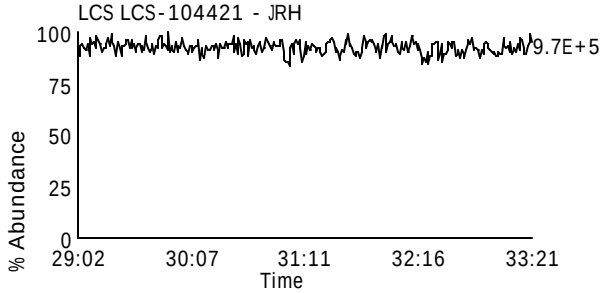
Data File: L230305B_01 G2 C11 - 369.8918
LCS LCS-104421 - JRH



Data File: L230305B_01 G2 C12 - 409.7974
LCS LCS-104421 - JRH



Data File: L230305B_01 G2 C6 - 354.9792
LCS LCS-104421 - JRH

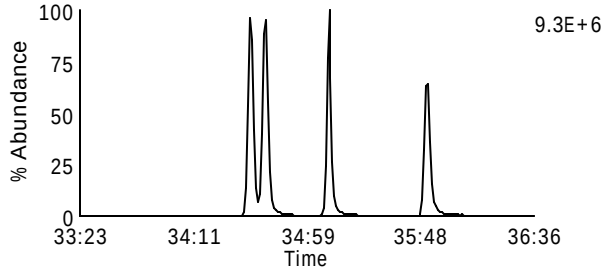


Homologue Group: Hexas

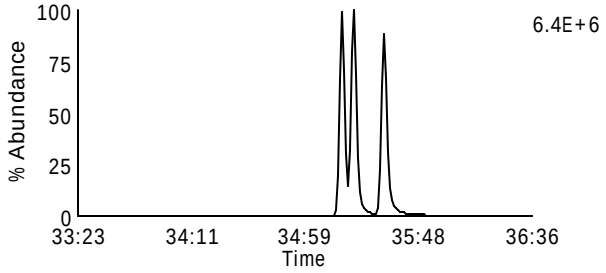
Data File Name: L230305B_01
Date Acquired: 3/5/2023
Sample Description: LCS LCS-104421 - JRH

Lab Sample ID: LCS-104422
Client Sample ID: DLCSLT
Instrument: 10MSHR15 (L)

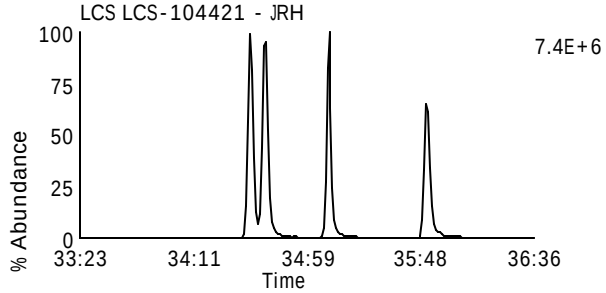
Data File: L230305B_01 G3 C1 - 373.8207
LCS LCS-104421 - JRH



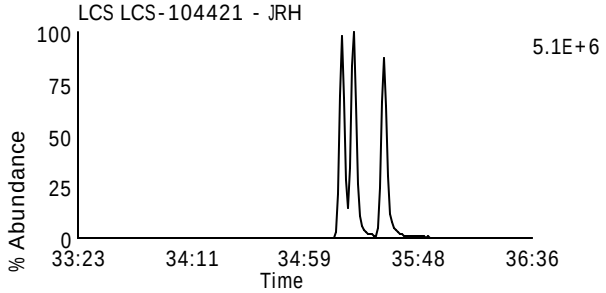
Data File: L230305B_01 G3 C7 - 389.8156
LCS LCS-104421 - JRH



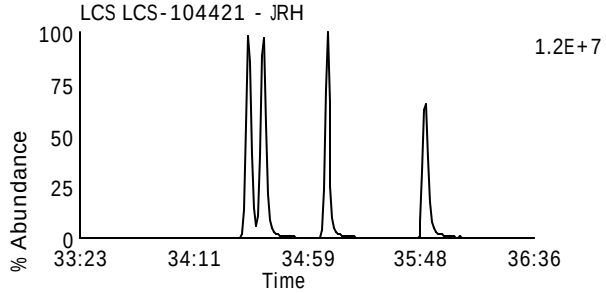
Data File: L230305B_01 G3 C2 - 375.8178
LCS LCS-104421 - JRH



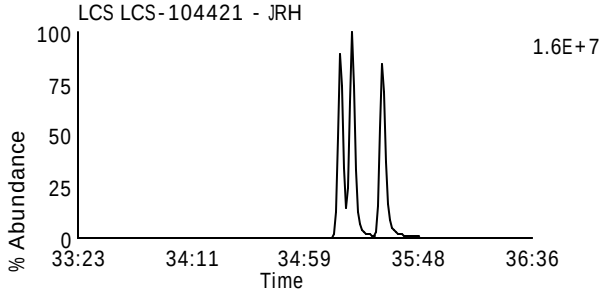
Data File: L230305B_01 G3 C8 - 391.8127
LCS LCS-104421 - JRH



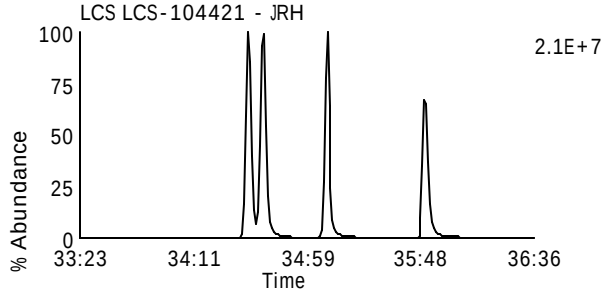
Data File: L230305B_01 G3 C5 - 383.8639
LCS LCS-104421 - JRH



Data File: L230305B_01 G3 C9 - 401.8559
LCS LCS-104421 - JRH



Data File: L230305B_01 G3 C6 - 385.861
LCS LCS-104421 - JRH



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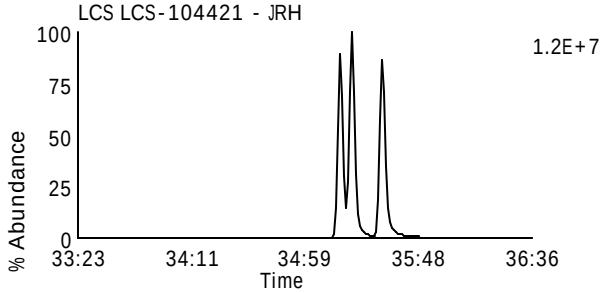
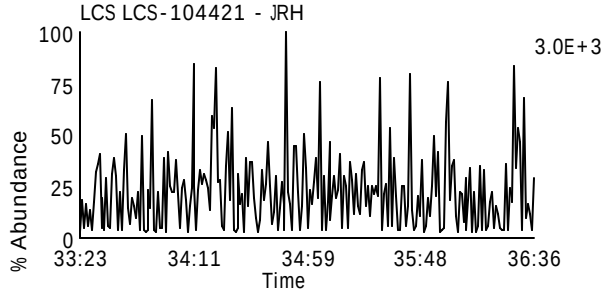
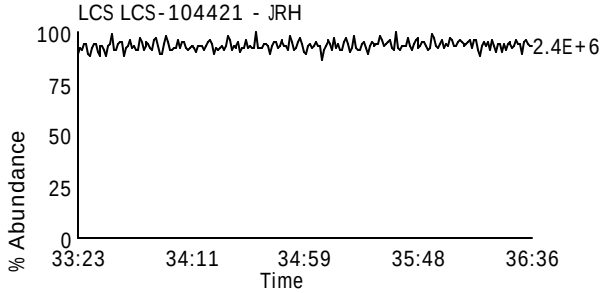
LCS LCS-104421 - JRH



Data File: L230305B_01 G3 C11 - 445.7555
LCS LCS-104421 - JRH



Data File: L230305B_01 G3 C3 - 380.976
LCS LCS-104421 - JRH

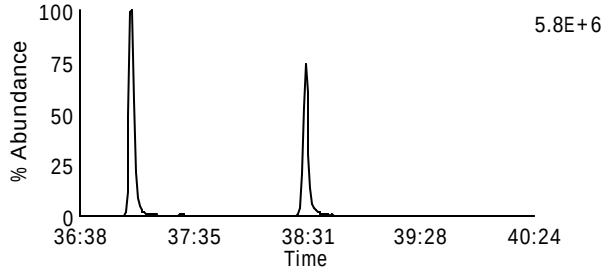


Homologue Group: Heptas

Data File Name: L230305B_01
Date Acquired: 3/5/2023
Sample Description: LCS LCS-104421 - JRH

Lab Sample ID: LCS-104422
Client Sample ID: DLCSLT
Instrument: 10MSHR15 (L)

Data File: L230305B_01 G4 C3 - 407.7818
LCS LCS-104421 - JRH



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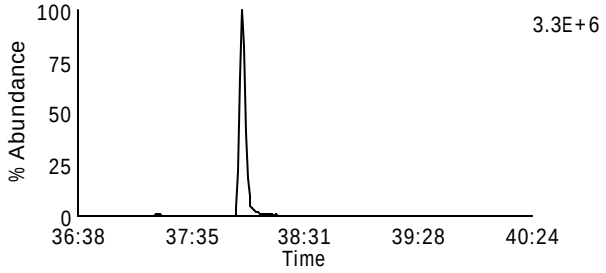
LCS LCS-104421 - JRH



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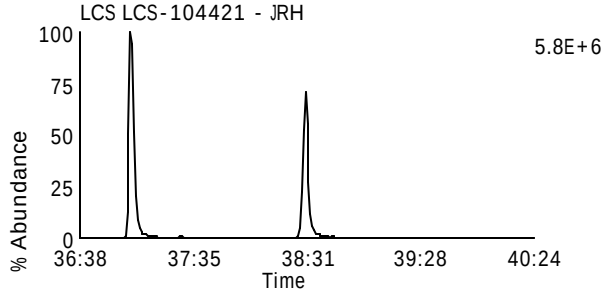
LCS LCS-104421 - JRH



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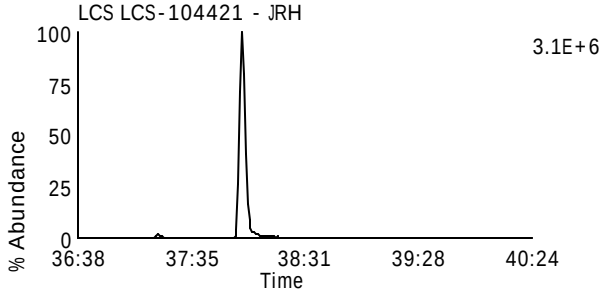
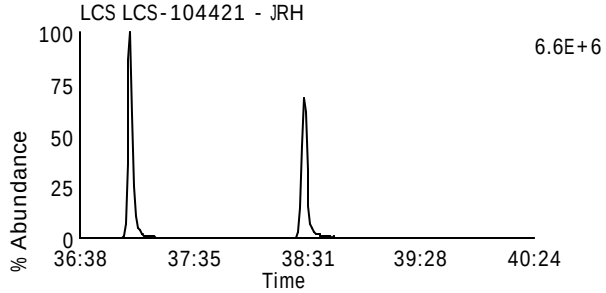
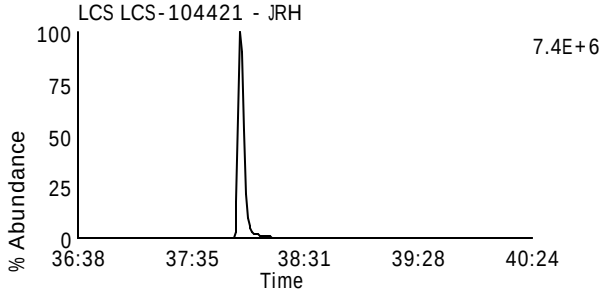
LCS LCS-104421 - JRH



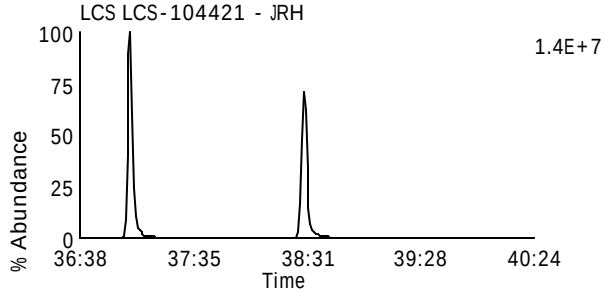
Data File: L230305B_01 G4 C6 - 417.825
LCS LCS-104421 - JRH



Data File: L230305B_01 G4 C11 - 435.8169
LCS LCS-104421 - JRH



Data File: L230305B_01 G4 C7 - 419.822
LCS LCS-104421 - JRH



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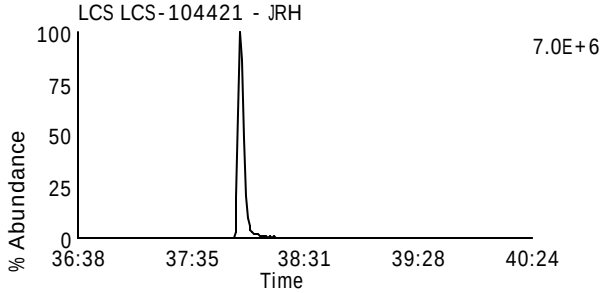
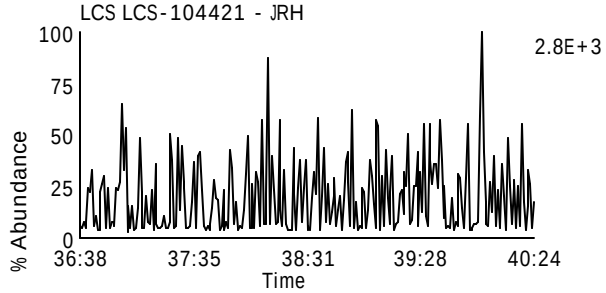
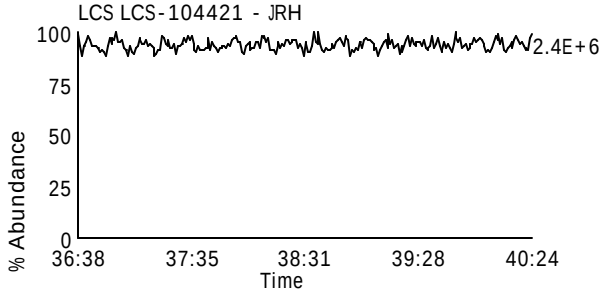
LCS LCS-104421 - JRH



Data File: L230305B_01 G4 C13 - 479.7165
LCS LCS-104421 - JRH



Data File: L230305B_01 G4 C1 - 380.976
LCS LCS-104421 - JRH

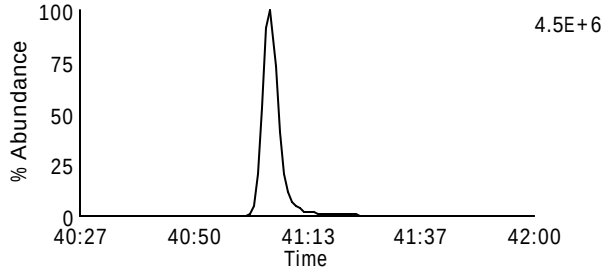


Homologue Group: Octas

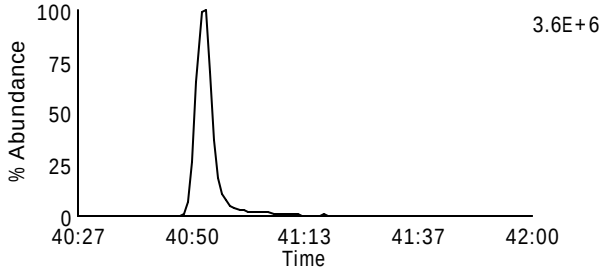
Data File Name: L230305B_01
Date Acquired: 3/5/2023
Sample Description: LCS LCS-104421 - JRH

Lab Sample ID: LCS-104422
Client Sample ID: DLCSLT
Instrument: 10MSHR15 (L)

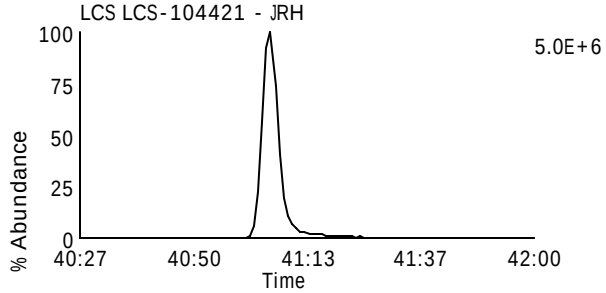
Data File: L230305B_01 G5 C4 - 441.7428
LCS LCS-104421 - JRH



Data File: L230305B_01 G5 C8 - 457.7377
LCS LCS-104421 - JRH



Data File: L230305B_01 G5 C5 - 443.7398
LCS LCS-104421 - JRH



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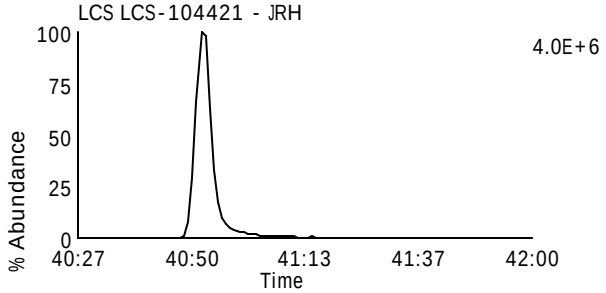
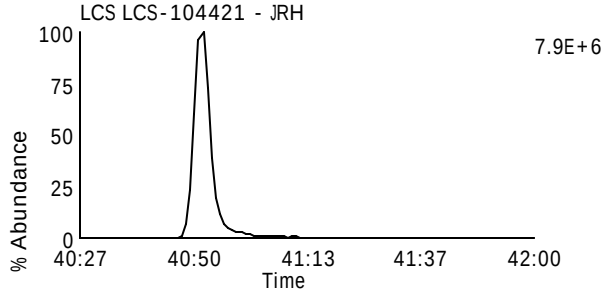
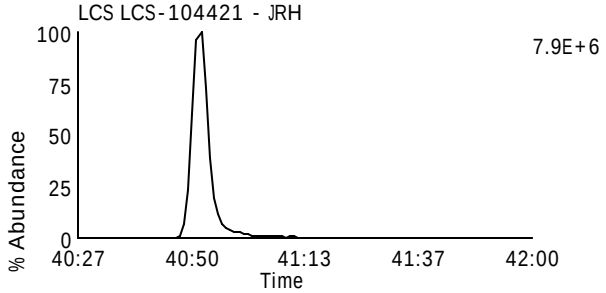
LCS LCS-104421 - JRH



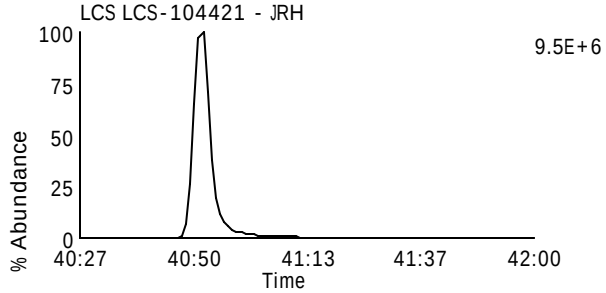
Data File: L230305B_01 G5 C11 - 469.7779
LCS LCS-104421 - JRH



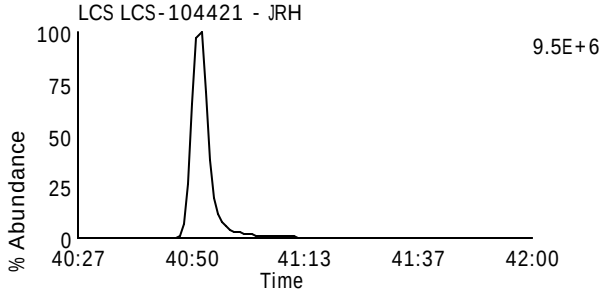
Data File: L230305B_01 G5 C11 - 469.7779
LCS LCS-104421 - JRH



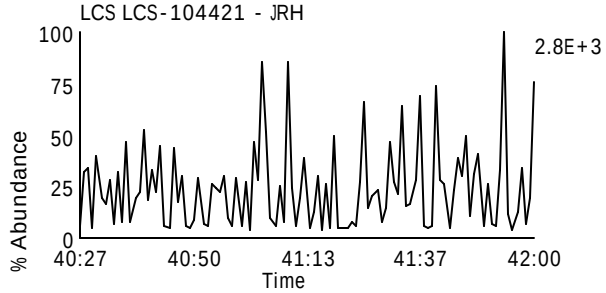
Data File: L230305B_01 G5 C12 - 471.7749
LCS LCS-104421 - JRH



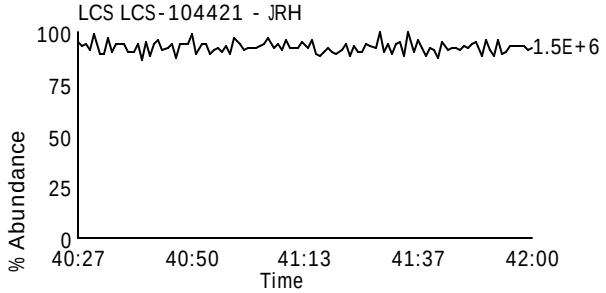
Data File: L230305B_01 G5 C12 - 471.7749
LCS LCS-104421 - JRH



Data File: L230305B_01 G5 C13 - 513.6775
LCS LCS-104421 - JRH



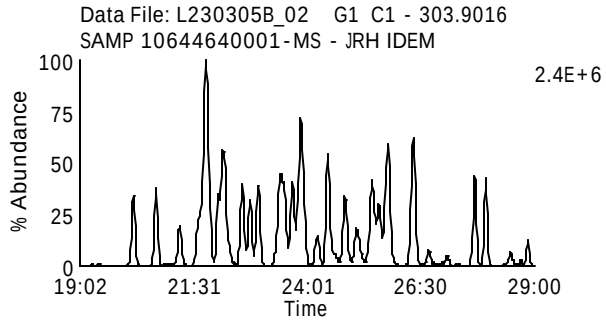
Data File: L230305B_01 G5 C2 - 430.9728
LCS LCS-104421 - JRH

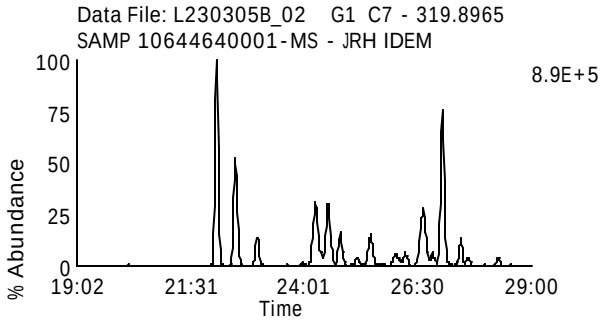


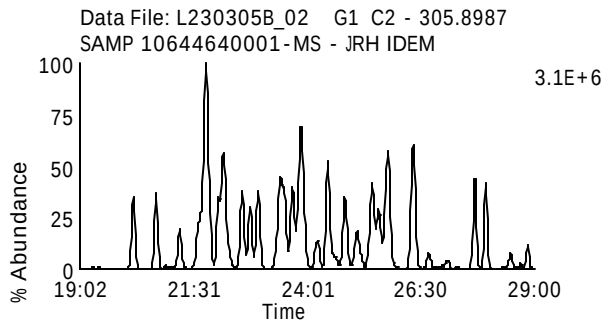
Homologue Group: Tetras

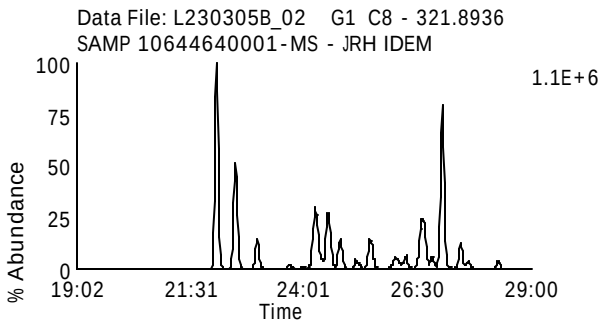
Data File Name: L230305B_02
Date Acquired: 3/5/2023
Sample Description: SAMP 10644640001-MS - JRH IDEM

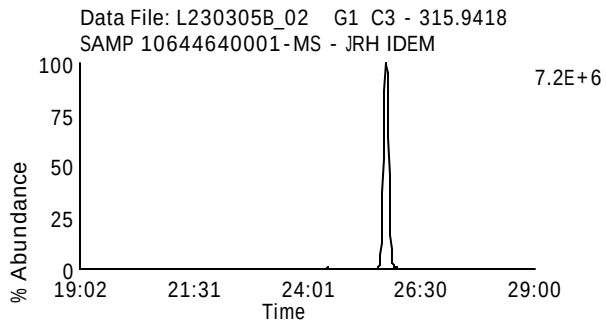
Lab Sample ID: 10644640001-MS
Client Sample ID: WS-1-MS
Instrument: 10MSHR15 (L)

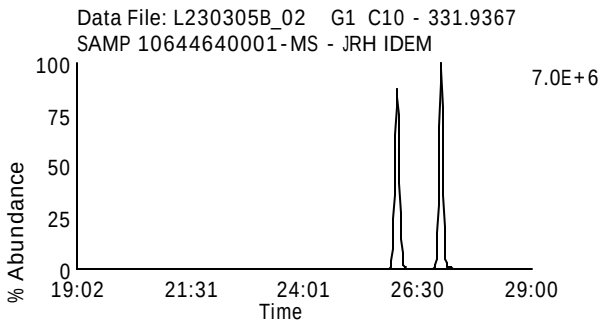


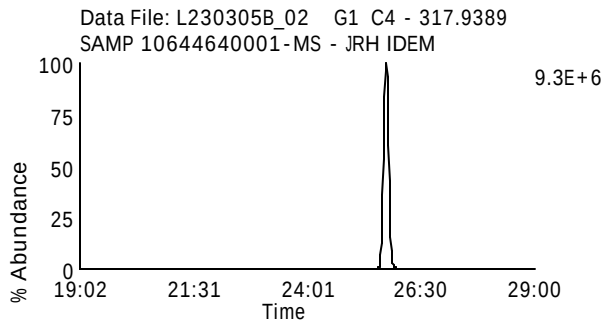


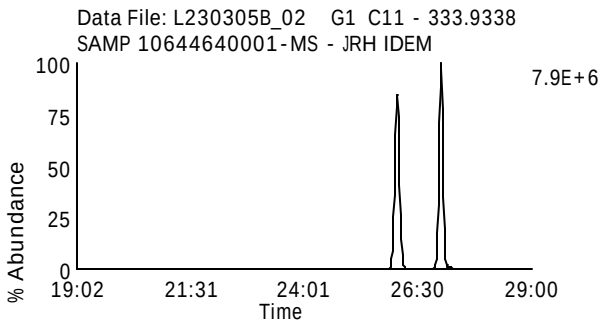


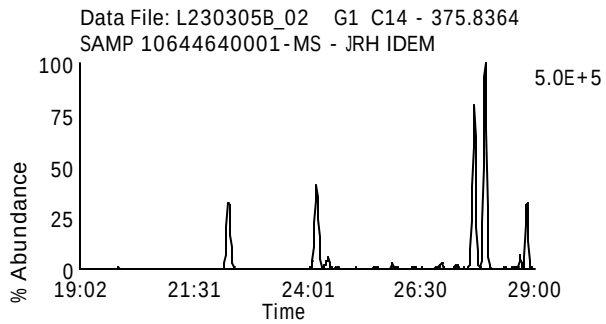


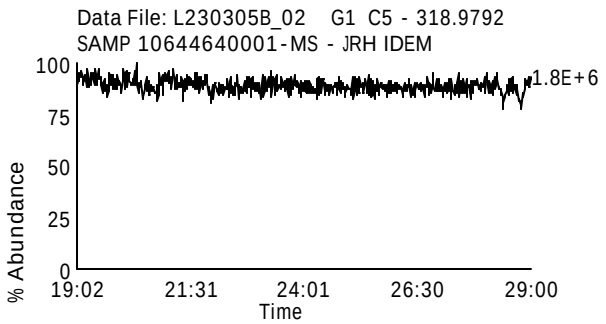








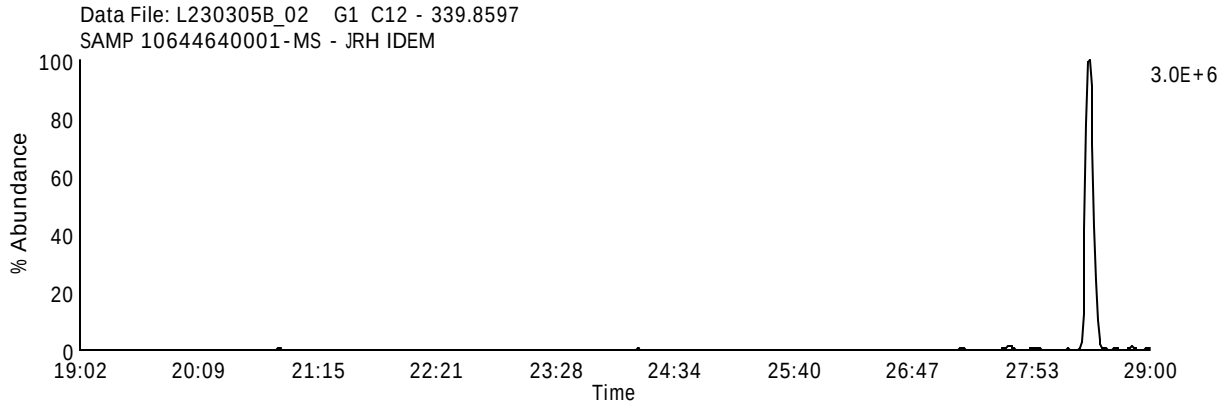


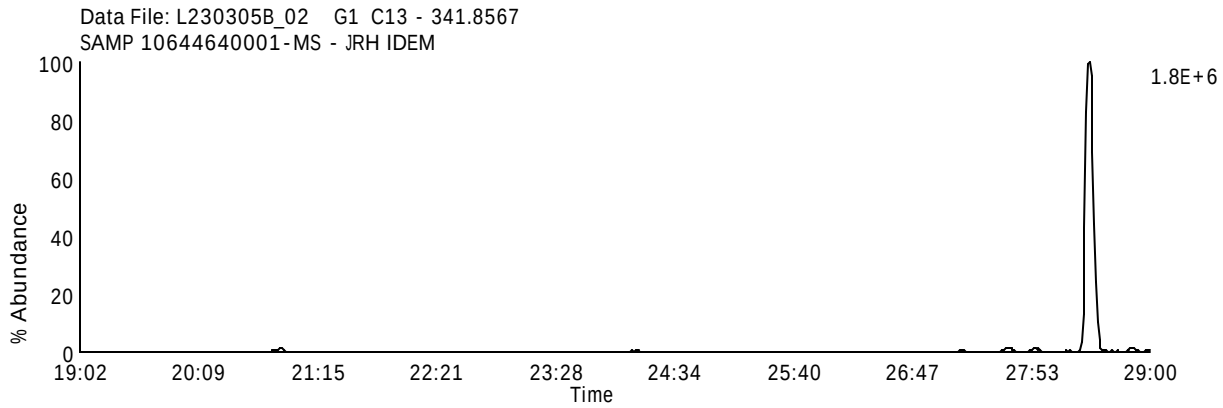


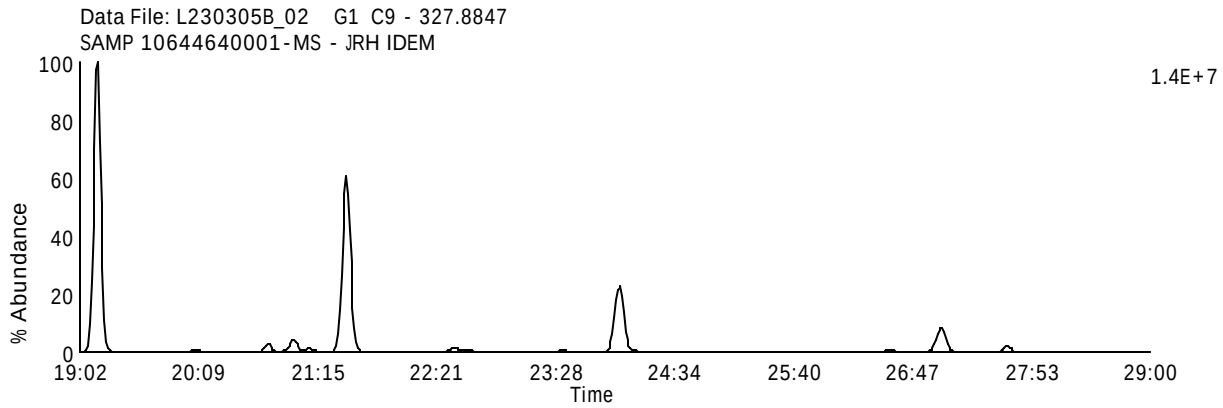
Homologue Group: Penta & Cleanup

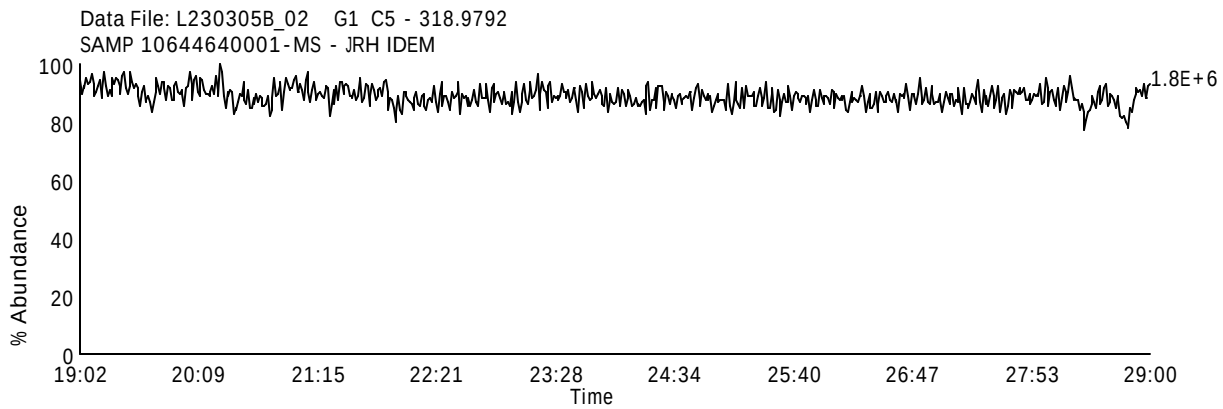
Data File Name: L230305B_02
Date Acquired: 3/5/2023
Sample Description: SAMP 10644640001-MS - JRH IDEM

Lab Sample ID: 10644640001-MS
Client Sample ID: WS-1-MS
Instrument: 10MSHR15 (L)







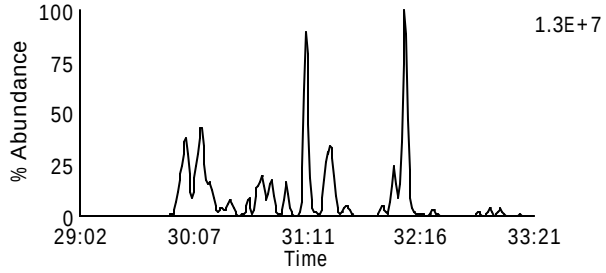


Homologue Group: Pentas

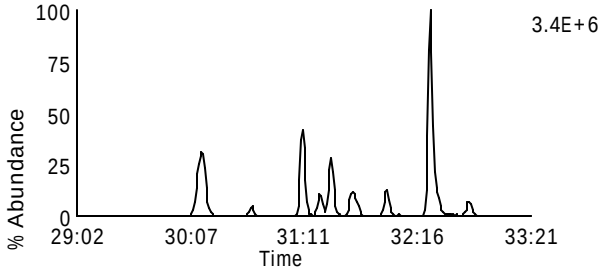
Data File Name: L230305B_02
Date Acquired: 3/5/2023
Sample Description: SAMP 10644640001-MS - JRH IDEM

Lab Sample ID: 10644640001-MS
Client Sample ID: WS-1-MS
Instrument: 10MSHR15 (L)

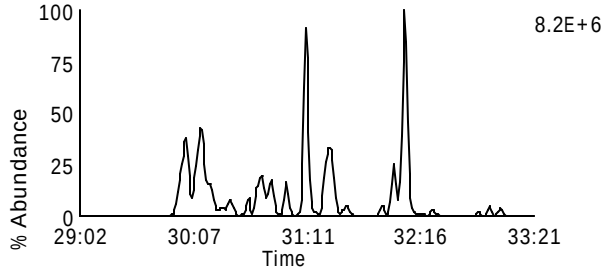
Data File: L230305B_02 G2 C1 - 339.8597
SAMP 10644640001-MS - JRH IDEM



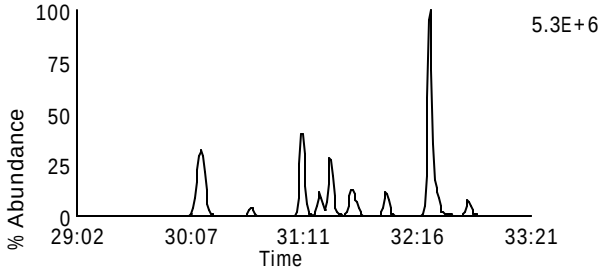
Data File: L230305B_02 G2 C4 - 353.8576
SAMP 10644640001-MS - JRH IDEM



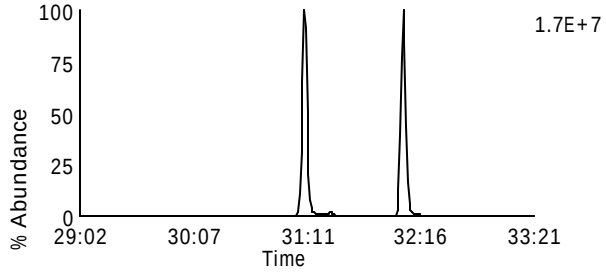
Data File: L230305B_02 G2 C2 - 341.8567
SAMP 10644640001-MS - JRH IDEM



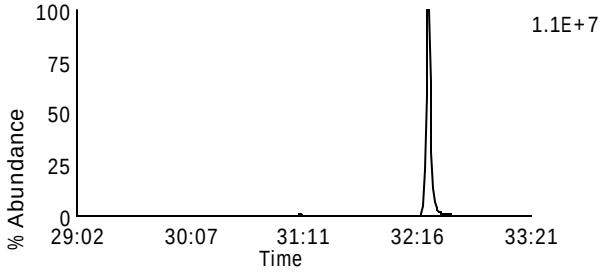
Data File: L230305B_02 G2 C8 - 355.8546
SAMP 10644640001-MS - JRH IDEM



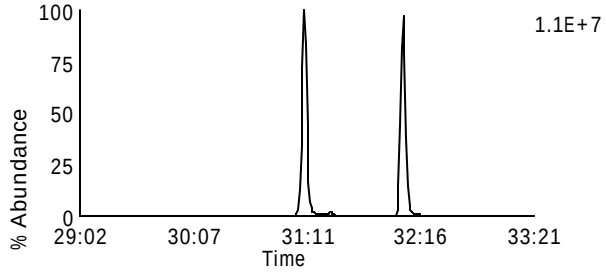
Data File: L230305B_02 G2 C3 - 351.8999
SAMP 10644640001-MS - JRH IDEM



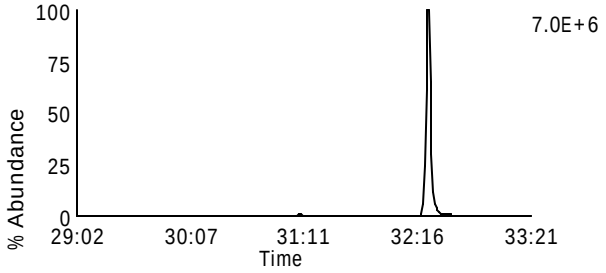
Data File: L230305B_02 G2 C10 - 367.8948
SAMP 10644640001-MS - JRH IDEM



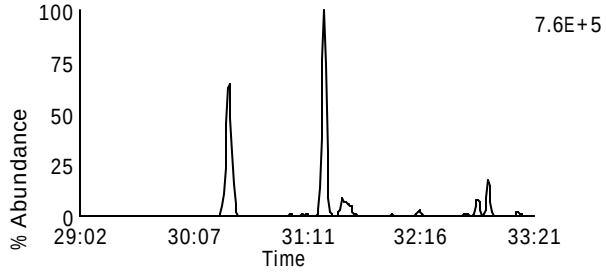
Data File: L230305B_02 G2 C5 - 353.8969
SAMP 10644640001-MS - JRH IDEM



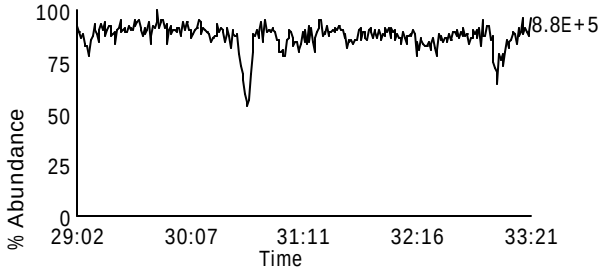
Data File: L230305B_02 G2 C11 - 369.8918
SAMP 10644640001-MS - JRH IDEM



Data File: L230305B_02 G2 C12 - 409.7974
SAMP 10644640001-MS - JRH IDEM



Data File: L230305B_02 G2 C6 - 354.9792
SAMP 10644640001-MS - JRH IDEM

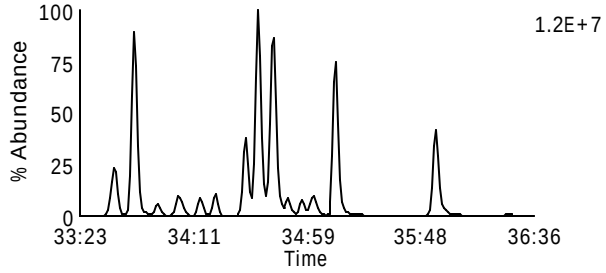


Homologue Group: Hexas

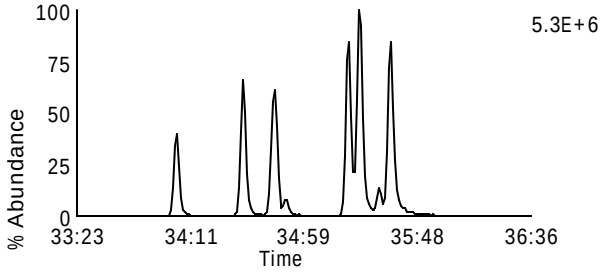
Data File Name: L230305B_02
Date Acquired: 3/5/2023
Sample Description: SAMP 10644640001-MS - JRH IDEM

Lab Sample ID: 10644640001-MS
Client Sample ID: WS-1-MS
Instrument: 10MSHR15 (L)

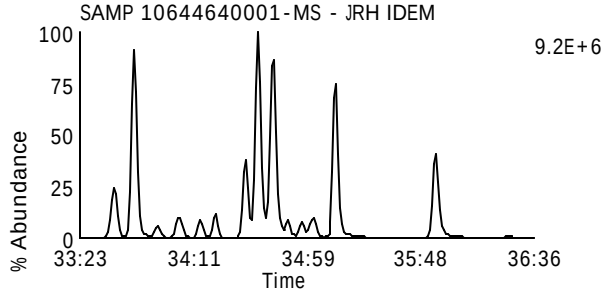
Data File: L230305B_02 G3 C1 - 373.8207
SAMP 10644640001-MS - JRH IDEM



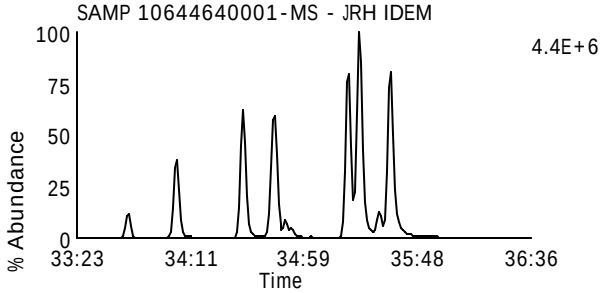
Data File: L230305B_02 G3 C7 - 389.8156
SAMP 10644640001-MS - JRH IDEM



Data File: L230305B_02 G3 C2 - 375.8178
SAMP 10644640001-MS - JRH IDEM



Data File: L230305B_02 G3 C8 - 391.8127
SAMP 10644640001-MS - JRH IDEM



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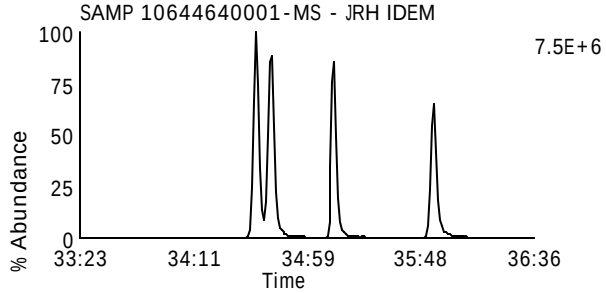
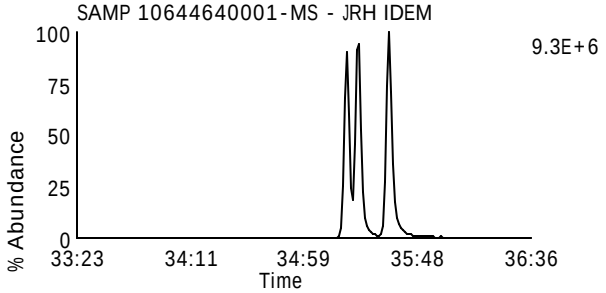
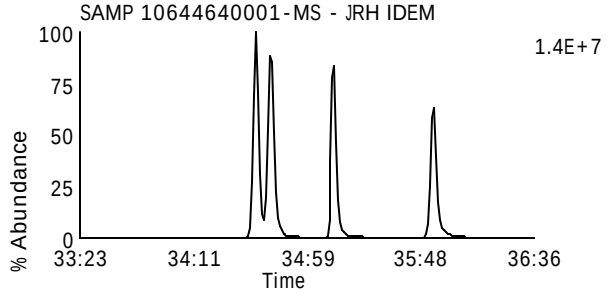
SAMP 10644640001-MS - JRH IDEM



Data File: L230305B_02 G3 C9 - 401.8559
SAMP 10644640001-MS - JRH IDEM



Data File: L230305B_02 G3 C6 - 385.861
SAMP 10644640001-MS - JRH IDEM



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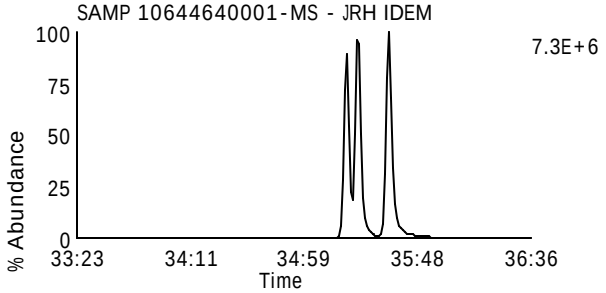
SAMP 10644640001-MS - JRH IDEM



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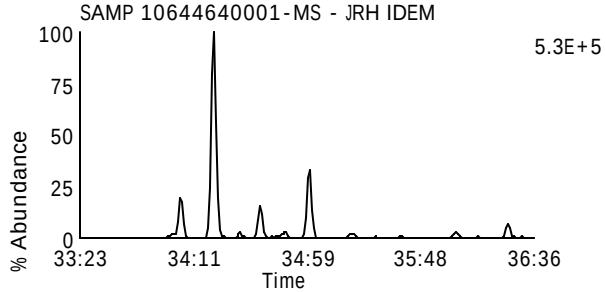
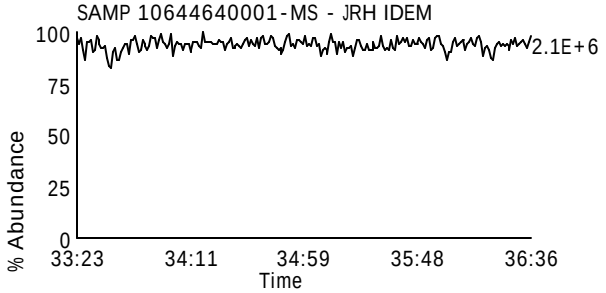
SAMP 10644640001-MS - JRH IDEM



Data File: L230305B_02 G3 C3 - 380.976
SAMP 10644640001-MS - JRH IDEM

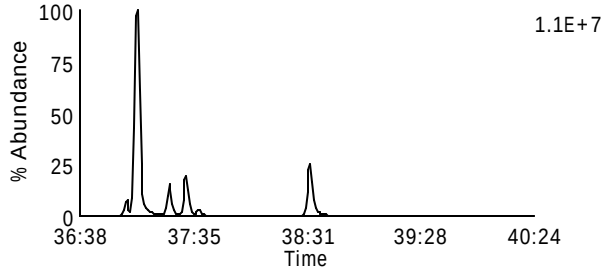


Homologue Group: Heptas

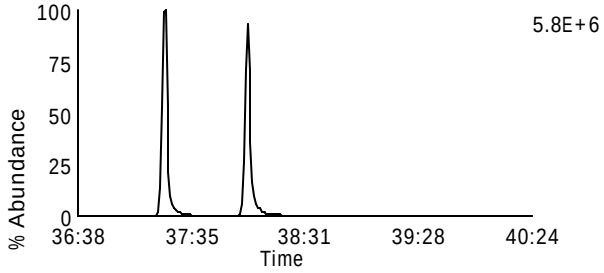
Data File Name: L230305B_02
Date Acquired: 3/5/2023
Sample Description: SAMP 10644640001-MS - JRH IDEM

Lab Sample ID: 10644640001-MS
Client Sample ID: WS-1-MS
Instrument: 10MSHR15 (L)

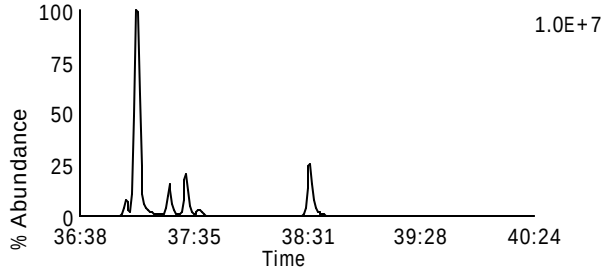
Data File: L230305B_02 G4 C3 - 407.7818
SAMP 10644640001-MS - JRH IDEM



Data File: L230305B_02 G4 C8 - 423.7767
SAMP 10644640001-MS - JRH IDEM



Data File: L230305B_02 G4 C4 - 409.7788
SAMP 10644640001-MS - JRH IDEM



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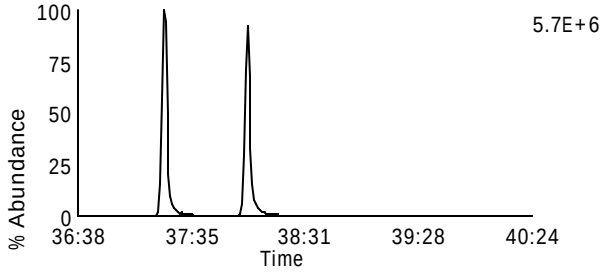
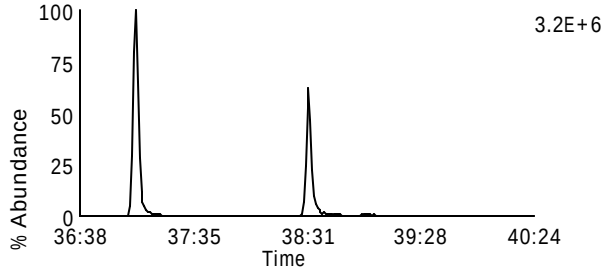
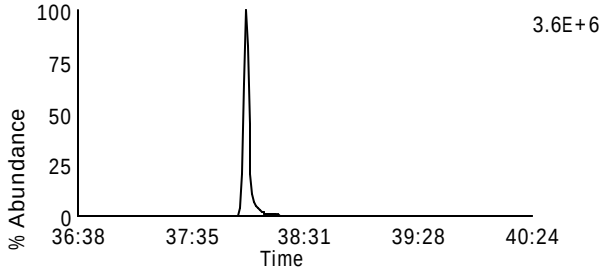
SAMP 10644640001-MS - JRH IDEM



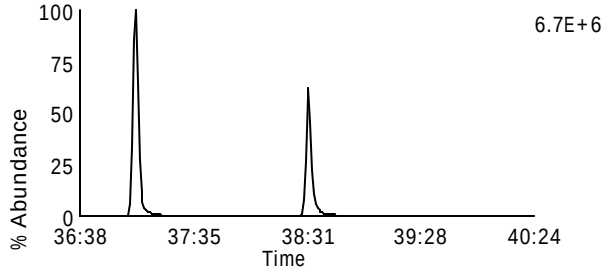
Data File: L230305B_02 G4 C6 - 417.825
SAMP 10644640001-MS - JRH IDEM



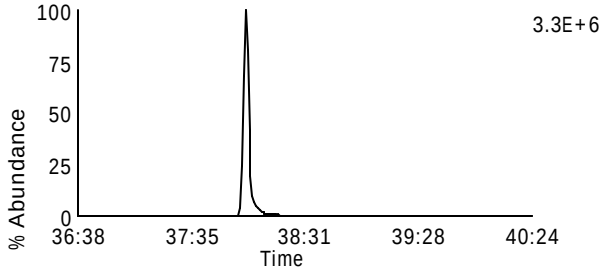
Data File: L230305B_02 G4 C11 - 435.8169
SAMP 10644640001-MS - JRH IDEM



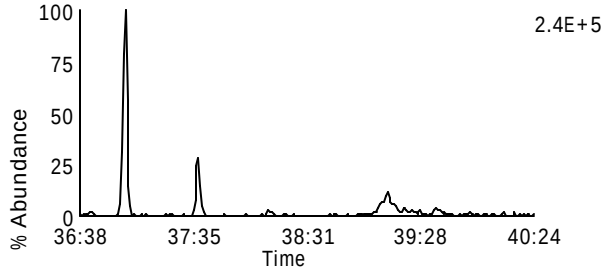
Data File: L230305B_02 G4 C7 - 419.822
SAMP 10644640001-MS - JRH IDEM



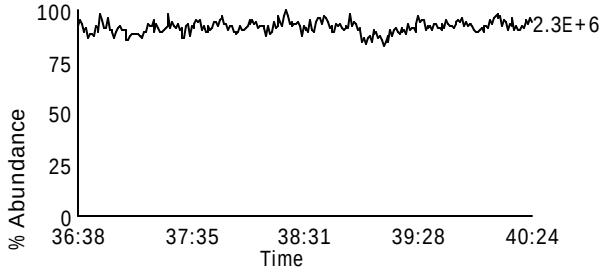
Data File: L230305B_02 G4 C12 - 437.814
SAMP 10644640001-MS - JRH IDEM



Data File: L230305B_02 G4 C13 - 479.7165
SAMP 10644640001-MS - JRH IDEM



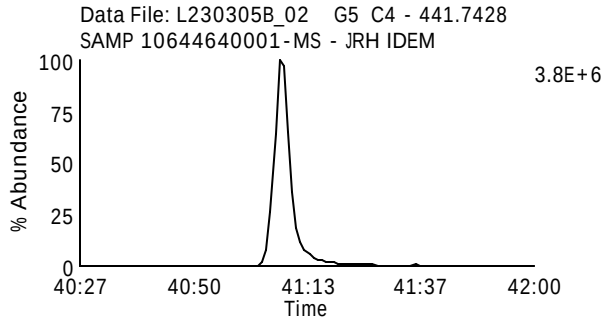
Data File: L230305B_02 G4 C1 - 380.976
SAMP 10644640001-MS - JRH IDEM

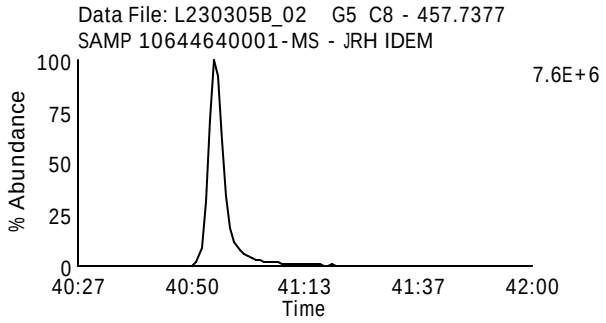


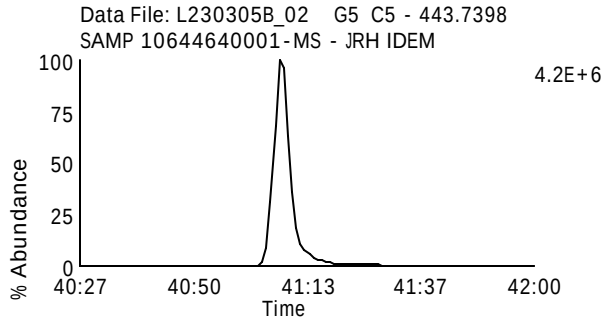
Homologue Group: Octas

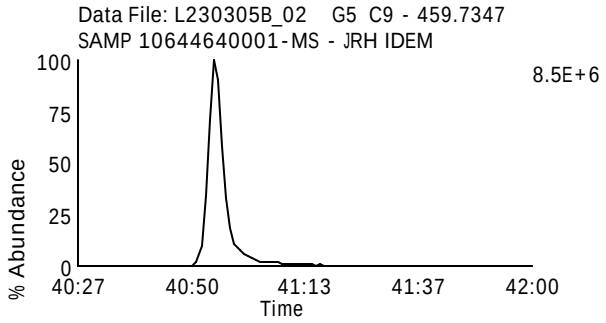
Data File Name: L230305B_02
Date Acquired: 3/5/2023
Sample Description: SAMP 10644640001-MS - JRH IDEM

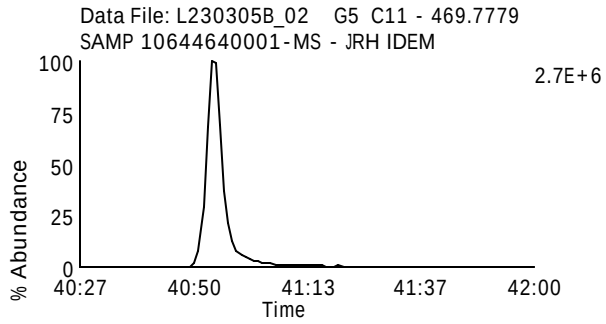
Lab Sample ID: 10644640001-MS
Client Sample ID: WS-1-MS
Instrument: 10MSHR15 (L)

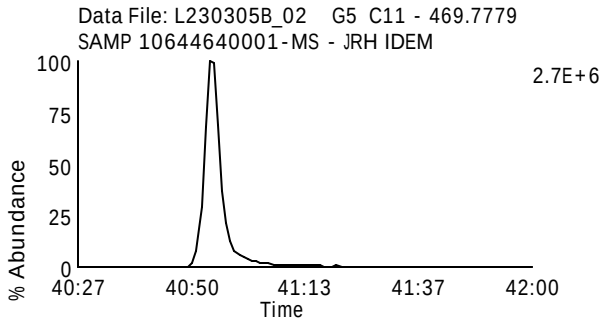


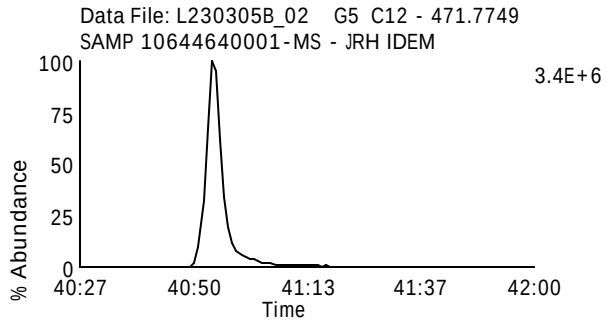


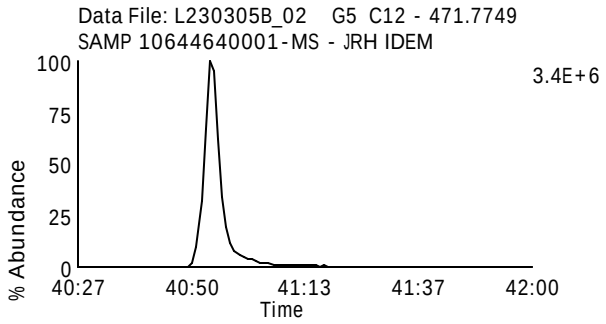


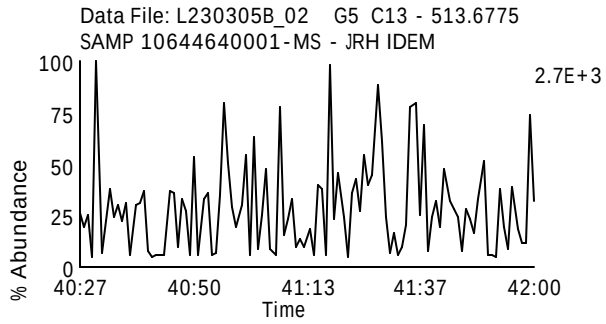


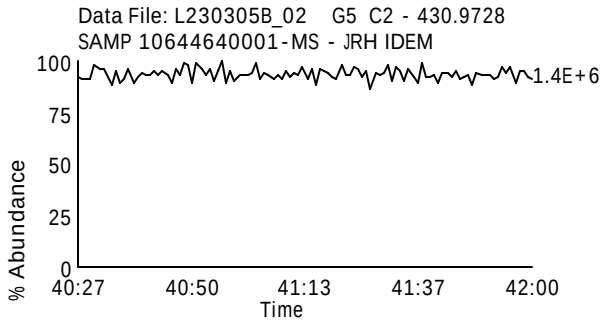










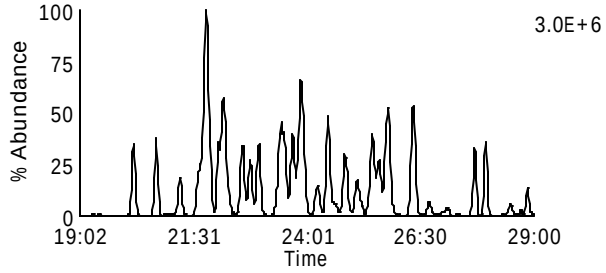


Homologue Group: Tetras

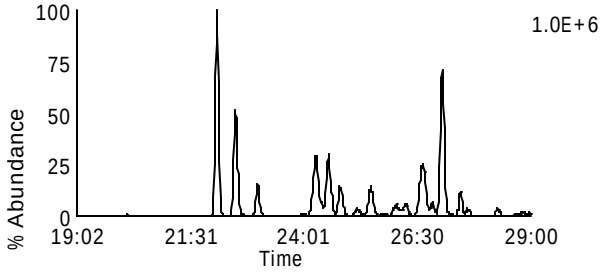
Data File Name: L230305B_03
Date Acquired: 3/5/2023
Sample Description: SAMP 10644640001-MSD - JRH IDEM

Lab Sample ID: 10644640001-MSD
Client Sample ID: WS-1-MSD
Instrument: 10MSHR15 (L)

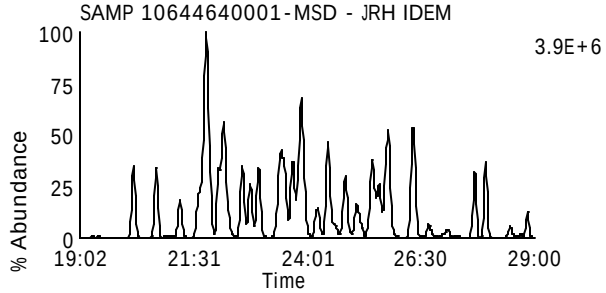
Data File: L230305B_03 G1 C1 - 303.9016
SAMP 10644640001-MSD - JRH IDEM



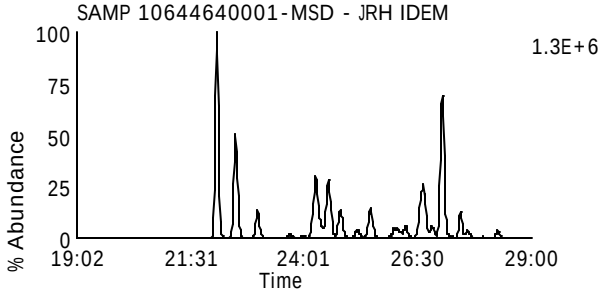
Data File: L230305B_03 G1 C7 - 319.8965
SAMP 10644640001-MSD - JRH IDEM



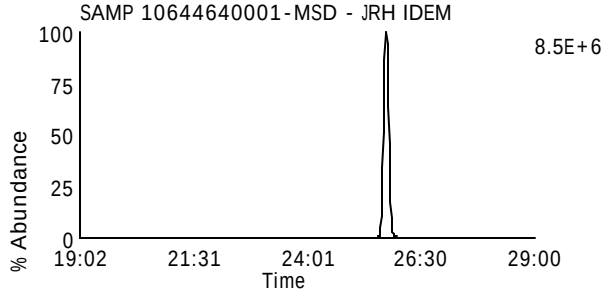
Data File: L230305B_03 G1 C2 - 305.8987
SAMP 10644640001-MSD - JRH IDEM



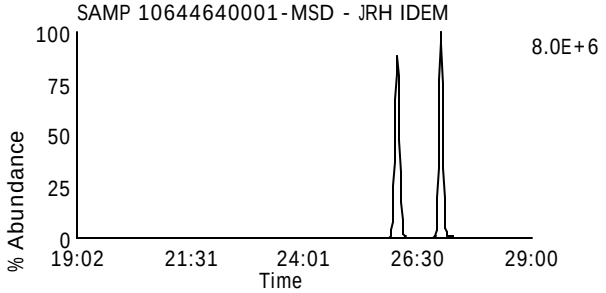
Data File: L230305B_03 G1 C8 - 321.8936
SAMP 10644640001-MSD - JRH IDEM



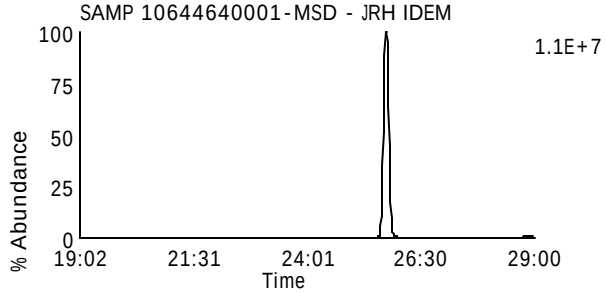
Data File: L230305B_03 G1 C3 - 315.9418
SAMP 10644640001-MSD - JRH IDEM



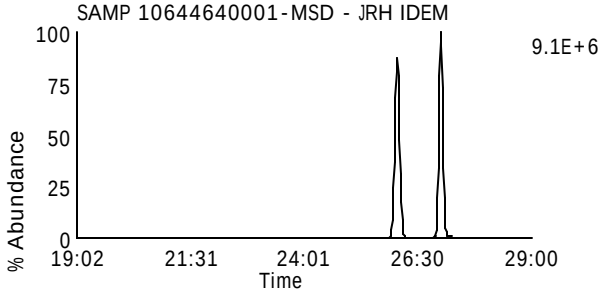
Data File: L230305B_03 G1 C10 - 331.9367
SAMP 10644640001-MSD - JRH IDEM



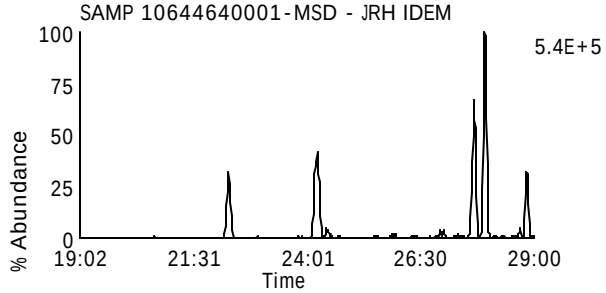
Data File: L230305B_03 G1 C4 - 317.9389
SAMP 10644640001-MSD - JRH IDEM



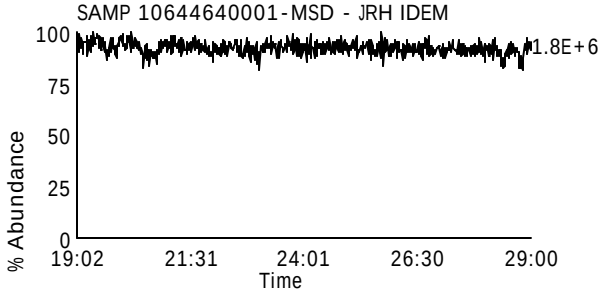
Data File: L230305B_03 G1 C11 - 333.9338
SAMP 10644640001-MSD - JRH IDEM



Data File: L230305B_03 G1 C14 - 375.8364
SAMP 10644640001-MSD - JRH IDEM



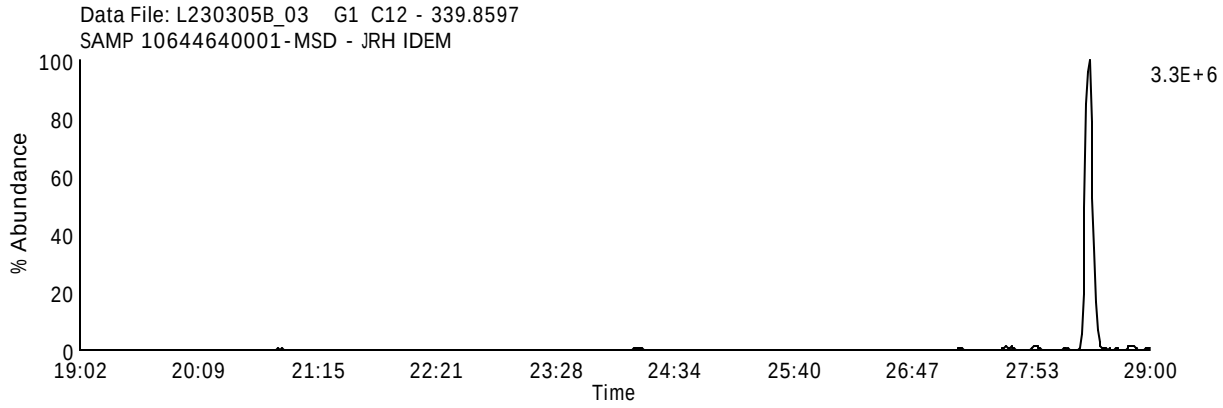
Data File: L230305B_03 G1 C5 - 318.9792
SAMP 10644640001-MSD - JRH IDEM

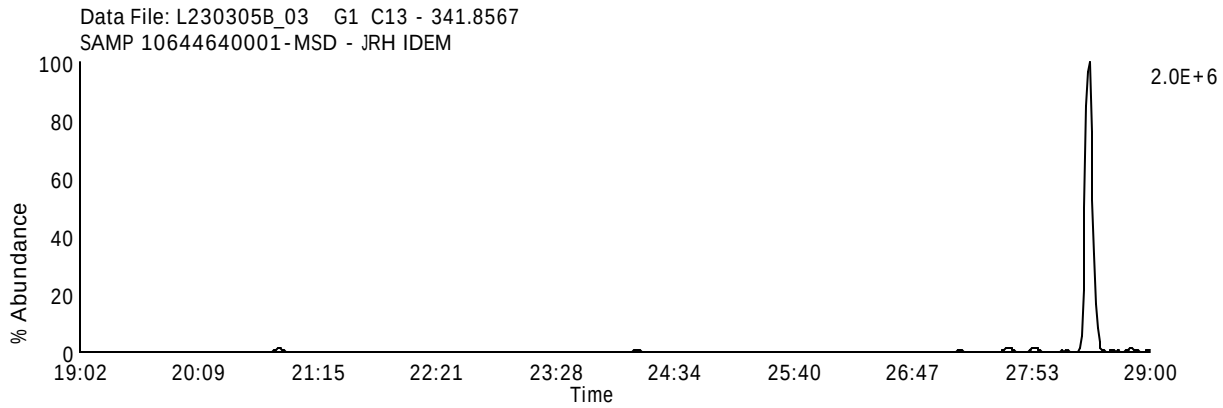


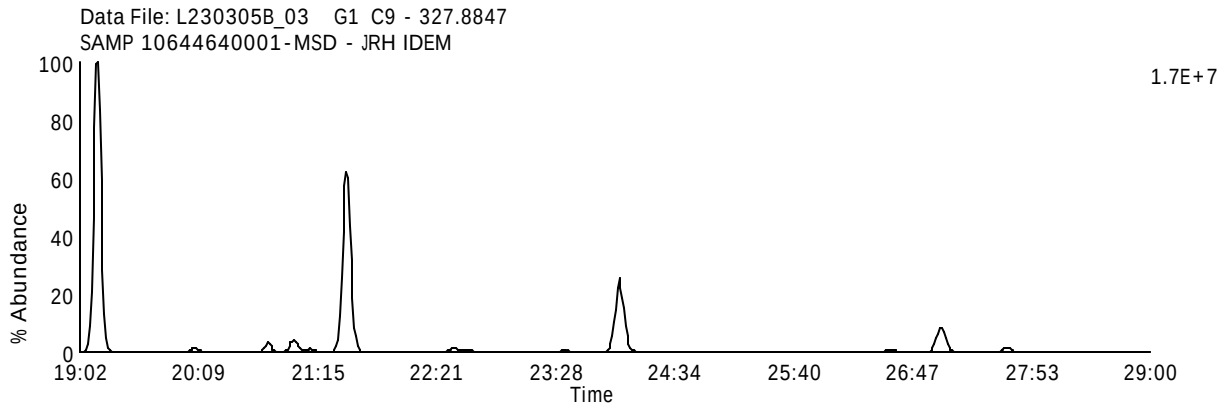
Homologue Group: Penta & Cleanup

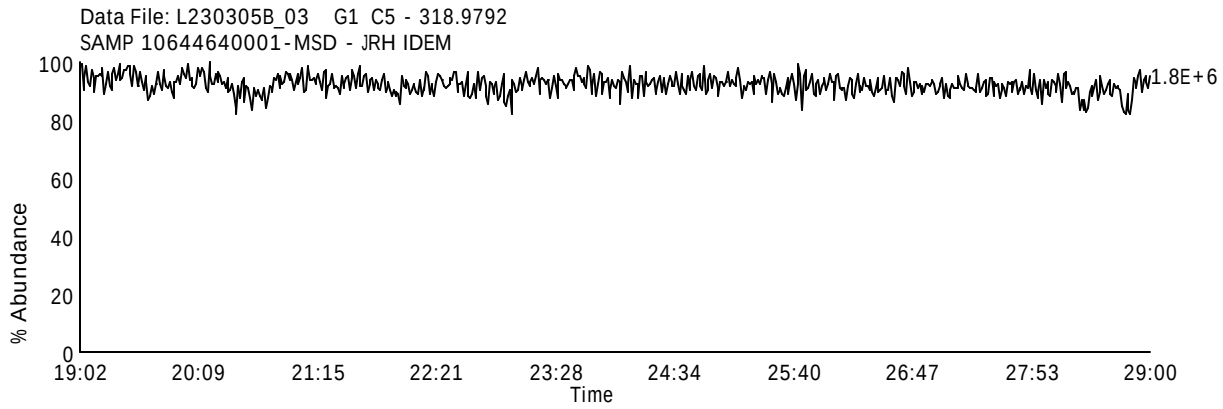
Data File Name: L230305B_03
Date Acquired: 3/5/2023
Sample Description: SAMP 10644640001-MSD - JRH IDEM

Lab Sample ID: 10644640001-MSD
Client Sample ID: WS-1-MSD
Instrument: 10MSHR15 (L)







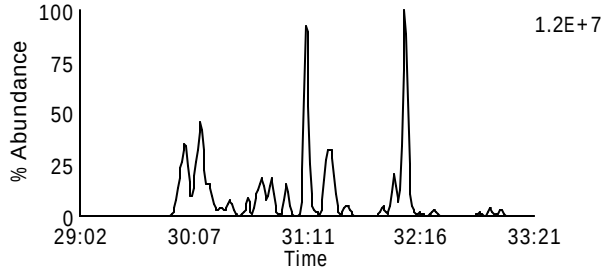


Homologue Group: Pentas

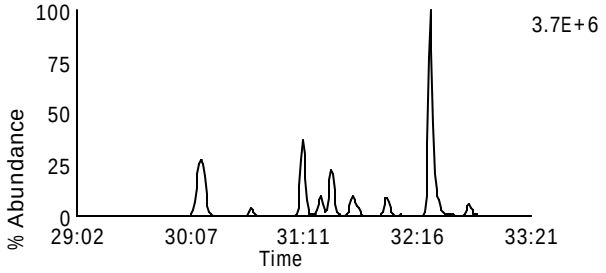
Data File Name: L230305B_03
Date Acquired: 3/5/2023
Sample Description: SAMP 10644640001-MSD - JRH IDEM

Lab Sample ID: 10644640001-MSD
Client Sample ID: WS-1-MSD
Instrument: 10MSHR15 (L)

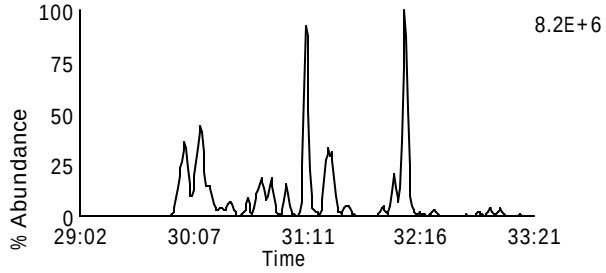
Data File: L230305B_03 G2 C1 - 339.8597
SAMP 10644640001-MSD - JRH IDEM



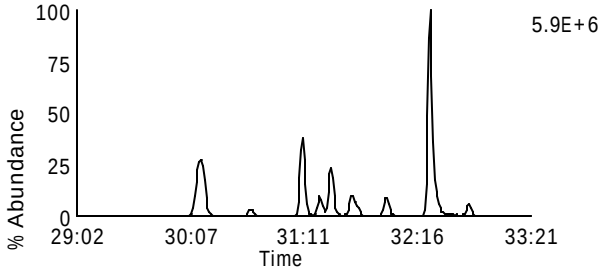
Data File: L230305B_03 G2 C4 - 353.8576
SAMP 10644640001-MSD - JRH IDEM



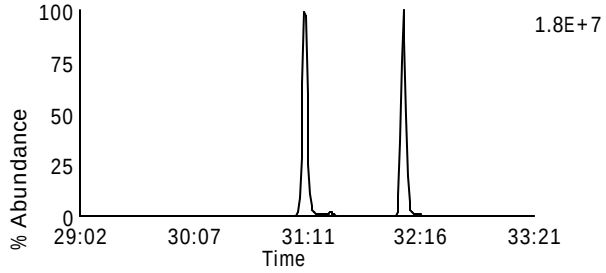
Data File: L230305B_03 G2 C2 - 341.8567
SAMP 10644640001-MSD - JRH IDEM



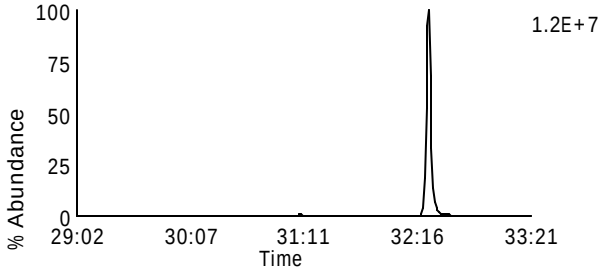
Data File: L230305B_03 G2 C8 - 355.8546
SAMP 10644640001-MSD - JRH IDEM



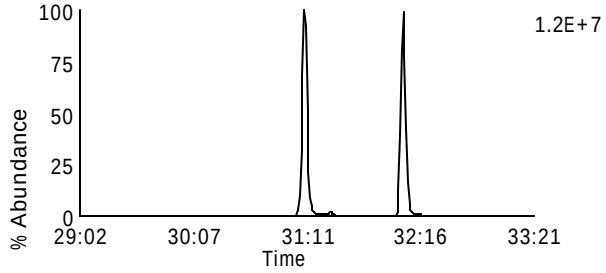
Data File: L230305B_03 G2 C3 - 351.8999
SAMP 10644640001-MSD - JRH IDEM



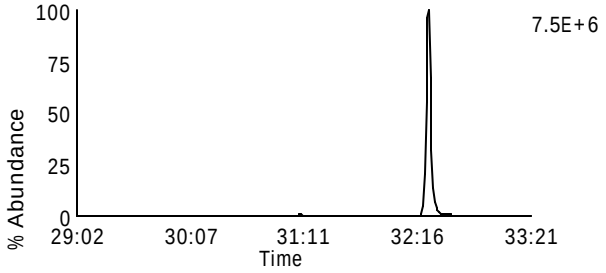
Data File: L230305B_03 G2 C10 - 367.8948
SAMP 10644640001-MSD - JRH IDEM



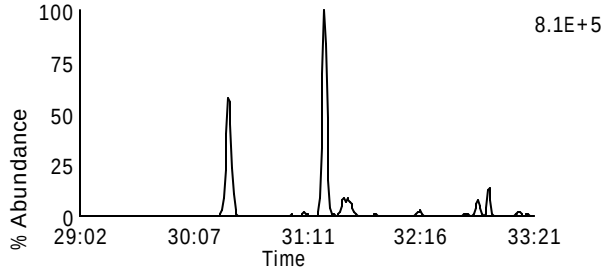
Data File: L230305B_03 G2 C5 - 353.8969
SAMP 10644640001-MSD - JRH IDEM



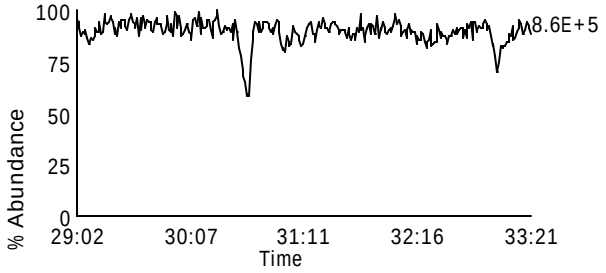
Data File: L230305B_03 G2 C11 - 369.8918
SAMP 10644640001-MSD - JRH IDEM



Data File: L230305B_03 G2 C12 - 409.7974
SAMP 10644640001-MSD - JRH IDEM



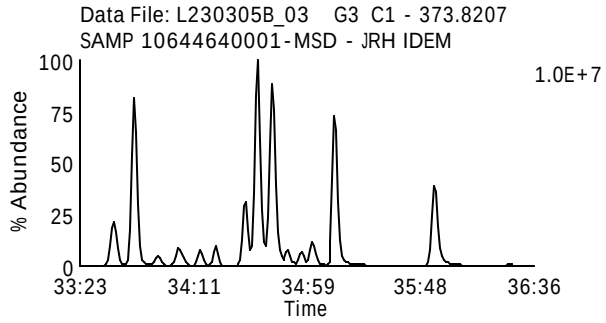
Data File: L230305B_03 G2 C6 - 354.9792
SAMP 10644640001-MSD - JRH IDEM

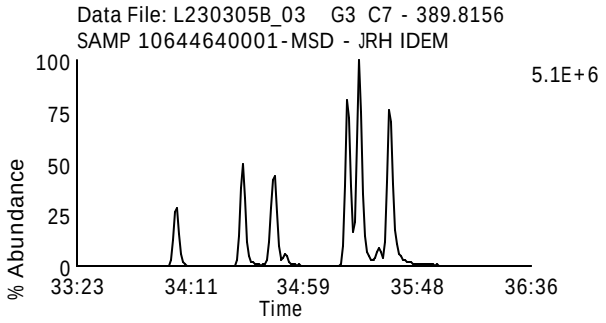


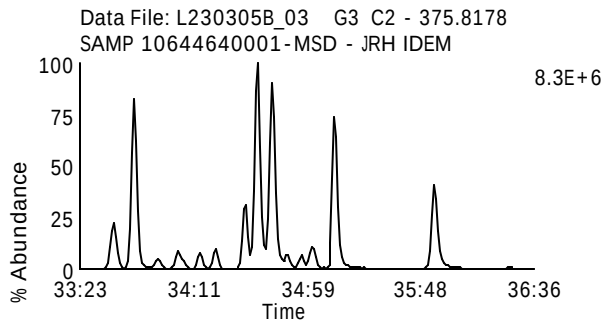
Homologue Group: Hexas

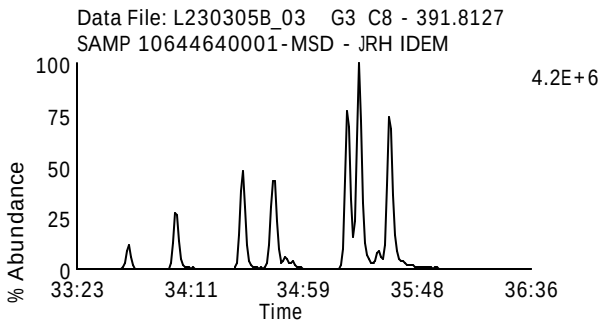
Data File Name: L230305B_03
Date Acquired: 3/5/2023
Sample Description: SAMP 10644640001-MSD - JRH IDEM

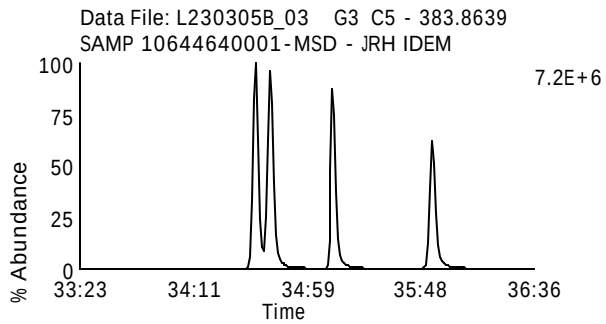
Lab Sample ID: 10644640001-MSD
Client Sample ID: WS-1-MSD
Instrument: 10MSHR15 (L)

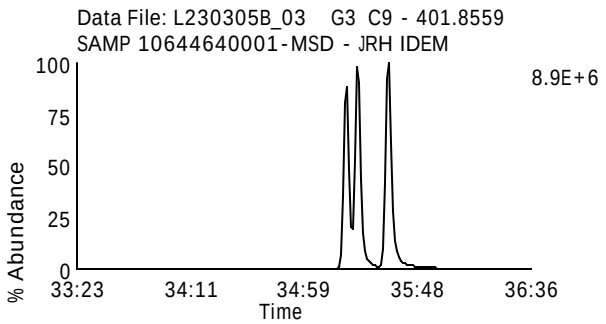


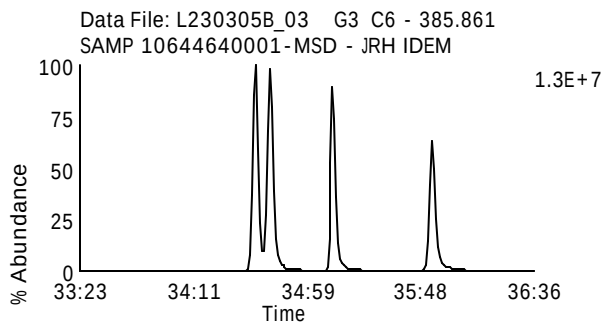


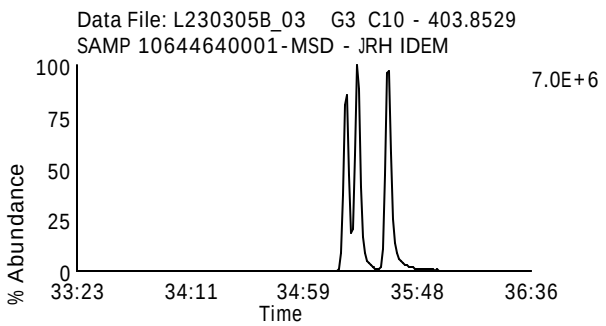


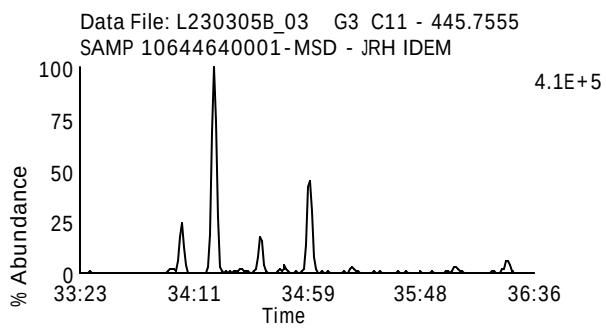


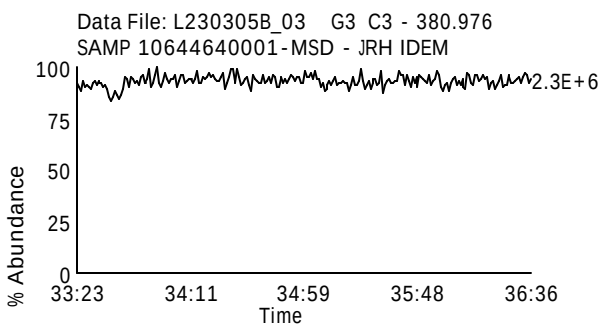










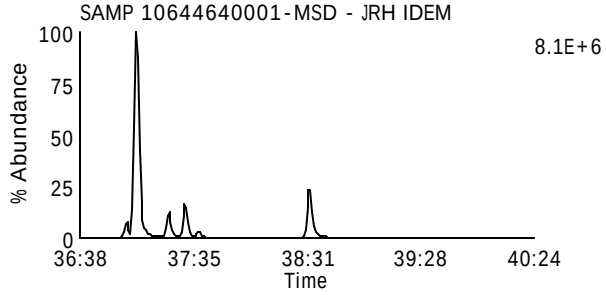


Homologue Group: Heptas

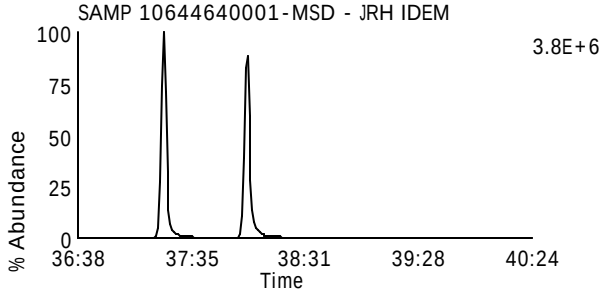
Data File Name: L230305B_03
Date Acquired: 3/5/2023
Sample Description: SAMP 10644640001-MSD - JRH IDEM

Lab Sample ID: 10644640001-MSD
Client Sample ID: WS-1-MSD
Instrument: 10MSHR15 (L)

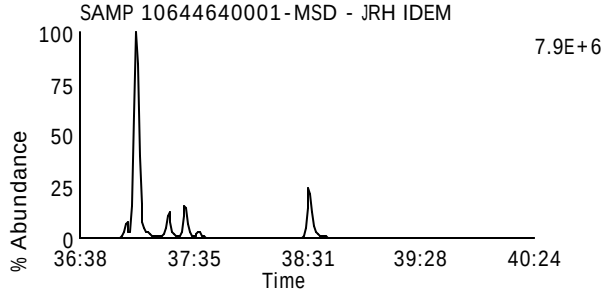
Data File: L230305B_03 G4 C3 - 407.7818
SAMP 10644640001-MSD - JRH IDEM



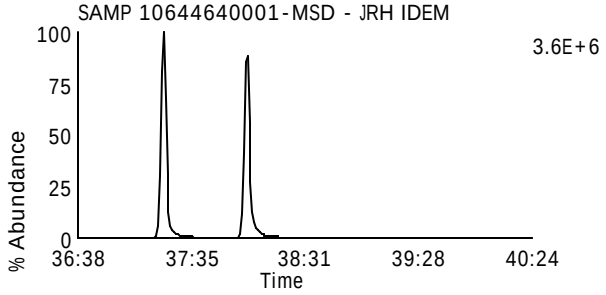
Data File: L230305B_03 G4 C8 - 423.7767
SAMP 10644640001-MSD - JRH IDEM



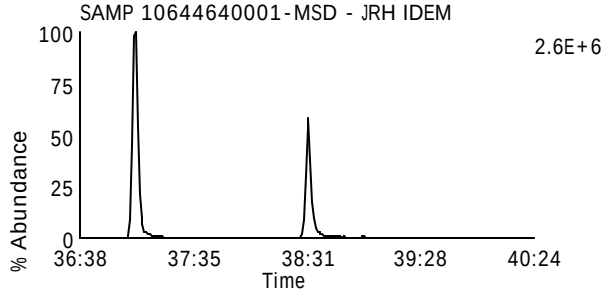
Data File: L230305B_03 G4 C4 - 409.7788
SAMP 10644640001-MSD - JRH IDEM



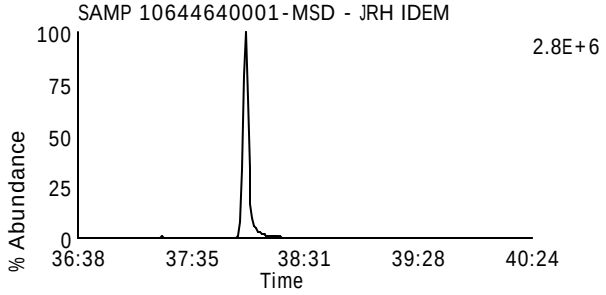
Data File: L230305B_03 G4 C9 - 425.7737
SAMP 10644640001-MSD - JRH IDEM



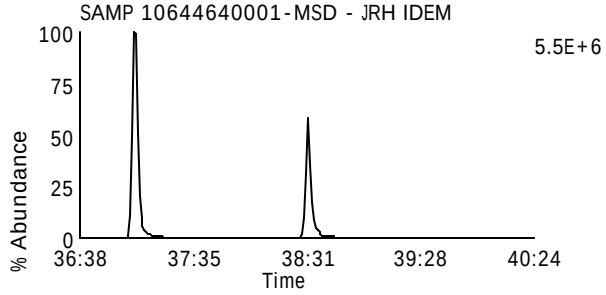
Data File: L230305B_03 G4 C6 - 417.825
SAMP 10644640001-MSD - JRH IDEM



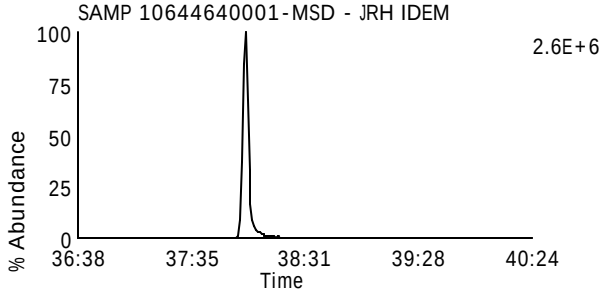
Data File: L230305B_03 G4 C11 - 435.8169
SAMP 10644640001-MSD - JRH IDEM



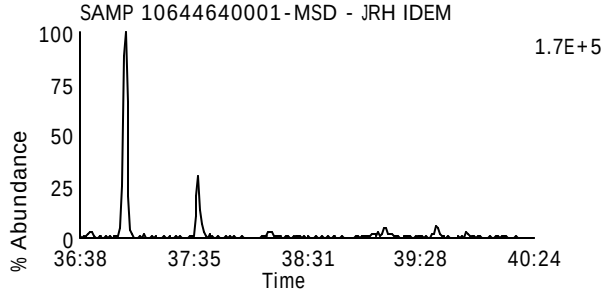
Data File: L230305B_03 G4 C7 - 419.822
SAMP 10644640001-MSD - JRH IDEM



Data File: L230305B_03 G4 C12 - 437.814
SAMP 10644640001-MSD - JRH IDEM



Data File: L230305B_03 G4 C13 - 479.7165
SAMP 10644640001-MSD - JRH IDEM



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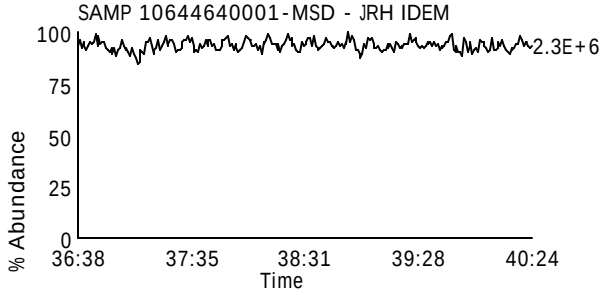
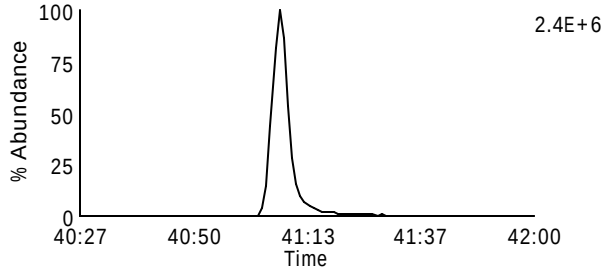


Homologue Group: Octas

Data File Name: L230305B_03
Date Acquired: 3/5/2023
Sample Description: SAMP 10644640001-MSD - JRH IDEM

Lab Sample ID: 10644640001-MSD
Client Sample ID: WS-1-MSD
Instrument: 10MSHR15 (L)

Data File: L230305B_03 G5 C4 - 441.7428
SAMP 10644640001-MSD - JRH IDEM



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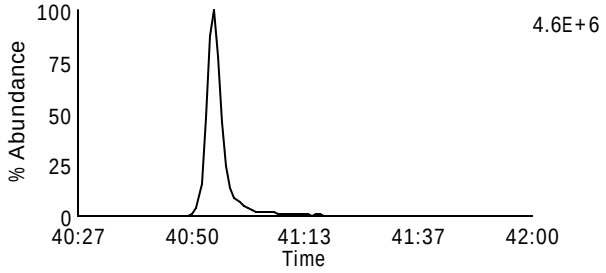
SAMP 10644640001-MSD - JRH IDEM



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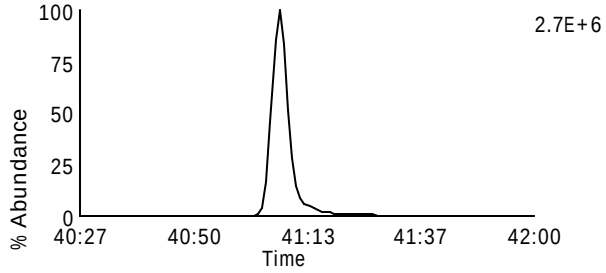
SAMP 10644640001-MSD - JRH IDEM



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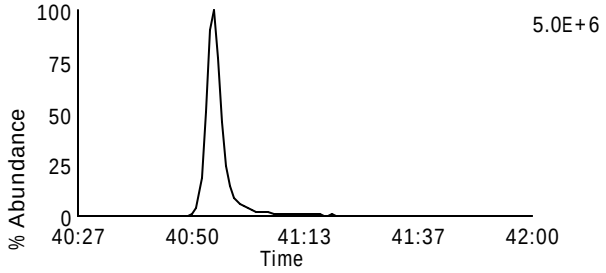
SAMP 10644640001-MSD - JRH IDEM



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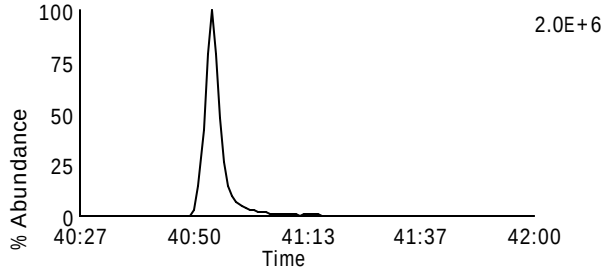
SAMP 10644640001-MSD - JRH IDEM



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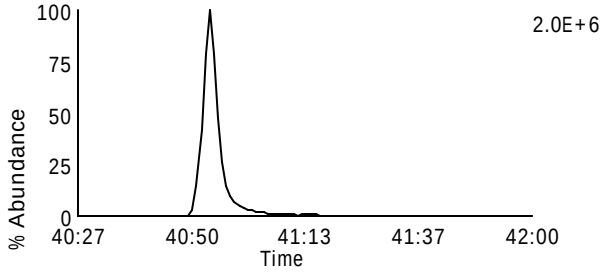

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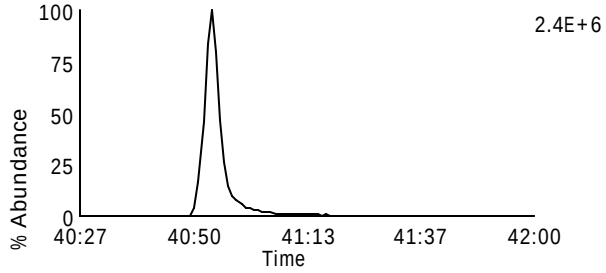

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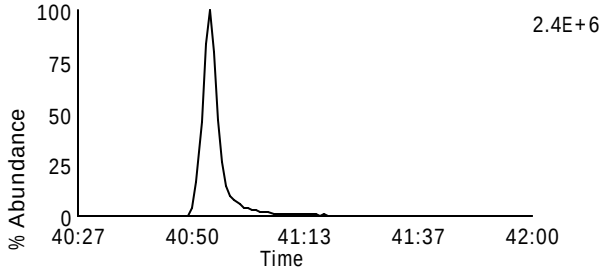
SAMP 10644640001-MSD - JRH IDEM



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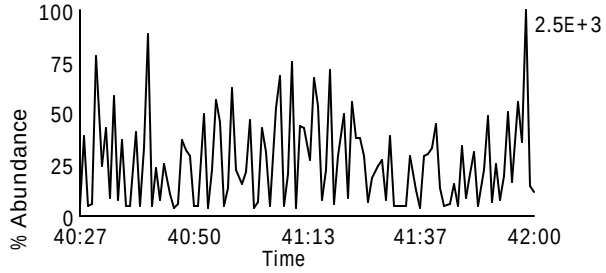
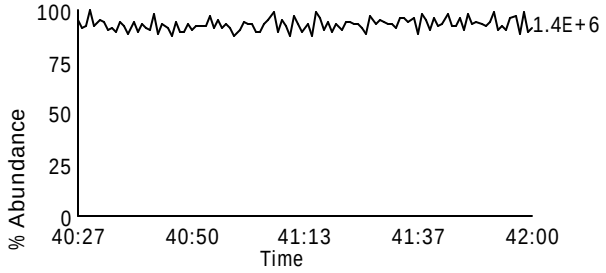
SAMP 10644640001-MSD - JRH IDEM



Data File: L230305B_03 G5 C2 - 430.9728
SAMP 10644640001-MSD - JRH IDEM



Pace Analytical Services, LLC
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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

ReviewedBy_____ Date _____

Client ID	DFBLKYD	Injected By	JRH
Lab ID	BLANK-104421	Instrument ID	10MSHR15 (L)
Filename	L230305B_05	GC Column ID	US1824614H
Analyzed	03/06/2023 01:24	ICAL ID	L230302

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	25:36	5.92e7	7.52e7	8.03e6	1.00e7	7.502e3	6.035e3	0.79	
2,3,7,8-TCDF	25:38	ND	ND	ND	ND	9.814e2	9.587e2		

Tetra-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	25:55	5.28e7	6.01e7	7.26e6	8.19e6	3.938e3	5.638e3	0.88	
2,3,7,8-TCDD-13C	26:54	4.74e7	5.33e7	7.73e6	8.59e6	2.947e3	9.861e2	0.89	
2,3,7,8-TCDD-37Cl4	26:56	8.00e6		1.29e6		1.012e3	-----		
2,3,7,8-TCDD	26:56	ND	ND	ND	ND	8.473e2	5.743e2		
Other TCDD 1	22:23	1.98e4	2.38e4					0.83	
2	21:57	2.66e4	3.74e4					0.71	

Penta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDF-13C	31:06	6.41e7	4.00e7	1.79e7	1.13e7	4.265e2	2.069e4	1.60	
2,3,4,7,8-PeCDF-13C	32:03	(M)6.15e7	(M)3.83e7	1.83e7	1.18e7	3.990e3	7.781e3	1.61	
1,2,3,7,8-PeCDF	31:07	ND	ND	ND	ND	8.133e2	9.369e2		
2,3,4,7,8-PeCDF	32:04	ND	ND	ND	ND	1.027e3	1.143e3		

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	32:19	4.33e7	2.76e7	1.29e7	8.29e6	1.278e4	8.911e3	1.57	
1,2,3,7,8-PeCDD	32:21	ND	ND	ND	ND	9.167e2	1.242e3		

Hexa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDF-13C	34:35	2.25e7	4.27e7	8.69e6	1.65e7	9.580e2	1.447e3	0.53	
1,2,3,6,7,8-HxCDF-13C	34:41	2.42e7	4.56e7	8.90e6	1.69e7	1.659e3	1.486e3	0.53	
2,3,4,6,7,8-HxCDF-13C	35:08	2.21e7	4.15e7	7.91e6	1.54e7	1.079e3	9.380e2	0.53	
1,2,3,7,8,9-HxCDF-13C	35:50	1.55e7	3.00e7	5.31e6	1.02e7	9.927e3	1.012e4	0.52	
1,2,3,4,7,8-HxCDF	34:36	ND	ND	ND	ND	1.011e3	7.513e2		
1,2,3,6,7,8-HxCDF	34:42	ND	ND	ND	ND	9.537e2	7.334e2		
2,3,4,6,7,8-HxCDF	35:09	ND	ND	ND	ND	9.537e2	7.513e2		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Client ID	DFBLKYD	Injected By	JRH
Lab ID	BLANK-104421	Instrument ID	10MSHR15 (L)
Filename	L230305B_05	GC Column ID	US1824614H
Analyzed	03/06/2023 01:24	ICAL ID	L230302

1,2,3,7,8,9-HxCDF	35:52	(M)1.10e4	(M)1.10e4	3.92e3	4.81e3	9.228e2	6.439e2	1.00	I

Hexa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDD-13C	35:15	2.49e7	1.94e7	9.68e6	7.42e6	4.316e3	5.270e3	1.28	
1,2,3,6,7,8-HxCDD-13C	35:20	2.99e7	2.33e7	1.04e7	7.80e6	3.314e3	2.088e3	1.28	
1,2,3,7,8,9-HxCDD-13C	35:33	3.29e7	2.66e7	1.12e7	8.66e6	2.252e3	1.565e3	1.24	
1,2,3,4,7,8-HxCDD	35:15	(M)2.16e4	(M)1.71e4	8.16e3	3.74e3	8.928e2	2.361e3	1.27	
1,2,3,6,7,8-HxCDD	35:21	ND	ND	ND	ND	8.928e2	2.361e3		
1,2,3,7,8,9-HxCDD	35:34	ND	ND	ND	ND	9.768e2	2.024e3		

Hepta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDF-13C	37:04	1.15e7	2.48e7	3.94e6	8.59e6	2.725e3	6.618e3	0.47	
1,2,3,4,7,8,9-HpCDF-13C	38:30	7.28e6	1.57e7	2.19e6	4.58e6	1.168e4	6.618e3	0.46	
1,2,3,4,6,7,8-HpCDF	37:04	ND	ND	ND	ND	1.065e3	8.141e2		
1,2,3,4,7,8,9-HpCDF	38:31	ND	ND	ND	ND	1.042e3	8.025e2		

Hepta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDD-13C	38:00	1.25e7	1.15e7	3.96e6	3.61e6	1.429e3	1.066e4	1.09	
1,2,3,4,6,7,8-HpCDD	38:00	(M)9.36e3	(M)8.47e3	3.47e3	1.87e3	8.588e2	1.219e3	1.11	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:06	ND	ND	ND	ND	7.376e2	7.844e2		

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	40:52	1.17e7	1.45e7	3.06e6	3.87e6	2.421e2	3.968e2	0.80	
OCDD	40:53	(M)1.07e4	(M)1.46e4	3.09e3	3.03e3	7.796e2	7.495e2	0.73	I

REPORT OF LABORATORY ANALYSIS

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PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

ReviewedBy _____ Date _____

Client ID	DLCSLT	Injected By	JRH
Lab ID	LCS-104422	Instrument ID	10MSHR15 (L)
Filename	L230305B_01	GC Column ID	US1824614H
Analyzed	03/05/2023 22:26	ICAL ID	L230302

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	25:35	6.27e7	8.02e7	9.04e6	1.13e7	-----	-----	0.78	
2,3,7,8-TCDF	25:38	5.31e6	6.73e6	7.69e5	1.02e6	-----	-----	0.79	

Tetra-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	25:54	4.68e7	5.31e7	6.82e6	7.73e6	-----	-----	0.88	
2,3,7,8-TCDD-13C	26:52	(M)4.99e7	(M)5.63e7	8.49e6	9.60e6	-----	-----	0.89	
2,3,7,8-TCDD-37Cl4	26:54	8.70e6		1.48e6		-----	-----		
2,3,7,8-TCDD	26:54	4.04e6	5.13e6	6.89e5	9.06e5	-----	-----	0.79	

Penta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDF-13C	31:06	7.14e7	4.50e7	2.08e7	1.33e7	-----	-----	1.59	
2,3,4,7,8-PeCDF-13C	32:03	6.82e7	4.40e7	2.14e7	1.34e7	-----	-----	1.55	
1,2,3,7,8-PeCDF	31:06	2.78e7	1.89e7	8.47e6	5.57e6	-----	-----	1.47	
2,3,4,7,8-PeCDF	32:04	(M)3.06e7	2.03e7	1.02e7	6.49e6	-----	-----	1.51	

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	32:19	4.95e7	3.18e7	1.57e7	9.77e6	-----	-----	1.56	
1,2,3,7,8-PeCDD	32:20	1.22e7	1.95e7	3.97e6	6.43e6	-----	-----	0.63	

Hexa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDF-13C	34:35	2.92e7	5.55e7	1.14e7	2.14e7	-----	-----	0.53	
1,2,3,6,7,8-HxCDF-13C	34:41	3.13e7	5.99e7	1.13e7	2.11e7	-----	-----	0.52	
2,3,4,6,7,8-HxCDF-13C	35:08	3.00e7	5.51e7	1.16e7	2.13e7	-----	-----	0.54	
1,2,3,7,8,9-HxCDF-13C	35:50	2.38e7	4.33e7	7.56e6	1.44e7	-----	-----	0.55	
1,2,3,4,7,8-HxCDF	34:35	2.33e7	1.86e7	8.90e6	7.25e6	-----	-----	1.25	
1,2,3,6,7,8-HxCDF	34:42	2.50e7	1.99e7	8.74e6	6.95e6	-----	-----	1.26	
2,3,4,6,7,8-HxCDF	35:09	2.41e7	(M)1.91e7	9.23e6	7.34e6	-----	-----	1.26	
1,2,3,7,8,9-HxCDF	35:51	1.78e7	1.46e7	5.86e6	4.74e6	-----	-----	1.23	

REPORT OF LABORATORY ANALYSIS

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Client ID	DLCSLT	Injected By	JRH
Lab ID	LCS-104422	Instrument ID	10MSHR15 (L)
Filename	L230305B_01	GC Column ID	US1824614H
Analyzed	03/05/2023 22:26	ICAL ID	L230302

Hexa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDD-13C	35:15	3.39e7	2.61e7	1.40e7	1.10e7	-----	-----	1.30	
1,2,3,6,7,8-HxCDD-13C	35:19	4.25e7	3.31e7	1.57e7	1.23e7	-----	-----	1.29	
1,2,3,7,8,9-HxCDD-13C	35:32	3.87e7	3.01e7	1.32e7	1.06e7	-----	-----	1.28	
1,2,3,4,7,8-HxCDD	35:15	1.53e7	1.21e7	6.36e6	5.02e6	-----	-----	1.27	
1,2,3,6,7,8-HxCDD	35:20	1.80e7	1.40e7	6.40e6	5.10e6	-----	-----	1.29	
1,2,3,7,8,9-HxCDD	35:33	1.69e7	1.26e7	5.67e6	4.44e6	-----	-----	1.34	

Hepta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDF-13C	37:04	1.95e7	4.11e7	6.61e6	1.38e7	-----	-----	0.47	
1,2,3,4,7,8,9-HpCDF-13C	38:29	(M)1.49e7	3.23e7	4.52e6	9.79e6	-----	-----	0.46	
1,2,3,4,6,7,8-HpCDF	37:04	1.76e7	1.74e7	5.72e6	5.75e6	-----	-----	1.01	
1,2,3,4,7,8,9-HpCDF	38:30	1.37e7	1.31e7	4.26e6	4.08e6	-----	-----	1.04	

Hepta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDD-13C	37:59	2.29e7	2.22e7	7.30e6	6.98e6	-----	-----	1.03	
1,2,3,4,6,7,8-HpCDD	38:00	(M)1.04e7	9.70e6	3.32e6	3.10e6	-----	-----	1.07	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:06	1.68e7	1.94e7	4.48e6	4.98e6	-----	-----	0.87	

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	40:52	3.12e7	3.80e7	7.90e6	9.47e6	-----	-----	0.82	
OCDD	40:53	1.44e7	1.57e7	3.56e6	4.02e6	-----	-----	0.91	

REPORT OF LABORATORY ANALYSIS

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PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

ReviewedBy _____ Date _____

Client Name	State of Indiana		
Client ID	WS-1-MS	Injected By	JRH
Lab ID	10644640001-MS	Instrument ID	10MSHR15 (L)
Filename	L230305B_02	GC Column ID	US1824614H
Analyzed	03/05/2023 23:11	ICAL ID	L230302

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	25:44	5.55e7	6.96e7	7.21e6	9.29e6	-----	-----	0.80	
2,3,7,8-TCDF	25:48	1.09e7	1.37e7	1.44e6	1.81e6	-----	-----	0.80	

Tetra-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	26:04	4.39e7	4.93e7	6.11e6	6.71e6	-----	-----	0.89	
2,3,7,8-TCDD-13C	27:01	4.41e7	4.98e7	7.00e6	7.92e6	-----	-----	0.89	
2,3,7,8-TCDD-37Cl4	27:04	7.42e6		1.18e6		-----	-----		
2,3,7,8-TCDD	27:03	4.00e6	5.02e6	6.74e5	8.92e5	-----	-----	0.80	

Penta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDF-13C	31:10	5.41e7	3.40e7	1.71e7	1.10e7	-----	-----	1.59	
2,3,4,7,8-PeCDF-13C	32:06	5.34e7	3.29e7	1.70e7	1.05e7	-----	-----	1.62	
1,2,3,7,8-PeCDF	31:11	(M)3.46e7	2.27e7	1.12e7	7.46e6	-----	-----	1.52	
2,3,4,7,8-PeCDF	32:07	4.13e7	(M)2.68e7	1.25e7	8.14e6	-----	-----	1.54	

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	32:23	3.66e7	2.31e7	1.11e7	6.94e6	-----	-----	1.59	
1,2,3,7,8-PeCDD	32:23	(M)1.07e7	(M)1.77e7	3.41e6	5.33e6	-----	-----	0.60	

Hexa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDF-13C	34:38	1.94e7	3.69e7	7.51e6	1.43e7	-----	-----	0.53	
1,2,3,6,7,8-HxCDF-13C	34:44	2.10e7	4.01e7	6.59e6	1.26e7	-----	-----	0.52	
2,3,4,6,7,8-HxCDF-13C	35:11	1.73e7	3.34e7	6.43e6	1.19e7	-----	-----	0.52	
1,2,3,7,8,9-HxCDF-13C	35:54	1.43e7	2.79e7	4.92e6	9.02e6	-----	-----	0.51	
1,2,3,4,7,8-HxCDF	34:39	3.09e7	2.43e7	1.16e7	9.09e6	-----	-----	1.27	P
1,2,3,6,7,8-HxCDF	34:45	3.08e7	2.41e7	9.93e6	7.89e6	-----	-----	1.28	
2,3,4,6,7,8-HxCDF	35:12	2.39e7	(M)1.89e7	8.60e6	6.80e6	-----	-----	1.27	
1,2,3,7,8,9-HxCDF	35:54	1.45e7	1.13e7	4.79e6	3.76e6	-----	-----	1.29	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Client Name	State of Indiana		
Client ID	WS-1-MS	Injected By	JRH
Lab ID	10644640001-MS	Instrument ID	10MSHR15 (L)
Filename	L230305B_02	GC Column ID	US1824614H
Analyzed	03/05/2023 23:11	ICAL ID	L230302

Hexa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDD-13C	35:18	2.13e7	1.67e7	8.44e6	6.55e6	-----	-----	1.28	
1,2,3,6,7,8-HxCDD-13C	35:23	2.57e7	2.07e7	8.71e6	7.06e6	-----	-----	1.24	
1,2,3,7,8,9-HxCDD-13C	35:36	2.70e7	2.17e7	9.27e6	7.30e6	-----	-----	1.24	
1,2,3,4,7,8-HxCDD	35:18	1.10e7	8.85e6	4.51e6	3.46e6	-----	-----	1.24	
1,2,3,6,7,8-HxCDD	35:23	1.58e7	1.26e7	5.31e6	4.37e6	-----	-----	1.25	
1,2,3,7,8,9-HxCDD	35:36	1.34e7	1.10e7	4.45e6	3.52e6	-----	-----	1.23	

Hepta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDF-13C	37:06	9.36e6	1.99e7	3.19e6	6.68e6	-----	-----	0.47	
1,2,3,4,7,8,9-HpCDF-13C	38:32	6.82e6	1.46e7	1.98e6	4.17e6	-----	-----	0.47	
1,2,3,4,6,7,8-HpCDF	37:07	3.43e7	3.27e7	1.07e7	1.01e7	-----	-----	1.05	
1,2,3,4,7,8,9-HpCDF	38:33	9.04e6	8.94e6	2.69e6	2.53e6	-----	-----	1.01	

Hepta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDD-13C	38:02	1.14e7	(M)1.06e7	3.54e6	3.29e6	-----	-----	1.08	
1,2,3,4,6,7,8-HpCDD	38:03	1.76e7	(M)1.68e7	5.42e6	5.24e6	-----	-----	1.05	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:08	1.50e7	1.69e7	3.79e6	4.15e6	-----	-----	0.89	

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	40:54	1.10e7	1.36e7	2.69e6	3.40e6	-----	-----	0.81	
OCDD	40:55	2.99e7	3.34e7	7.53e6	8.47e6	-----	-----	0.90	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
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PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

ReviewedBy _____ Date _____

Client Name	State of Indiana		
Client ID	WS-1-MSD	Injected By	JRH
Lab ID	10644640001-MSD	Instrument ID	10MSHR15 (L)
Filename	L230305B_03	GC Column ID	US1824614H
Analyzed	03/05/2023 23:55	ICAL ID	L230302

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	25:45	6.39e7	8.07e7	8.46e6	1.06e7	-----	-----	0.79	
2,3,7,8-TCDF	25:47	1.19e7	1.54e7	1.57e6	2.02e6	-----	-----	0.77	

Tetra-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	26:04	5.27e7	5.95e7	7.09e6	7.92e6	-----	-----	0.89	
2,3,7,8-TCDD-13C	27:01	4.99e7	5.70e7	8.00e6	9.06e6	-----	-----	0.88	
2,3,7,8-TCDD-37Cl4	27:03	8.83e6		1.38e6		-----	-----		
2,3,7,8-TCDD	27:03	(M)4.60e6	6.06e6	7.12e5	9.14e5	-----	-----	0.76	

Penta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDF-13C	31:10	6.04e7	3.81e7	1.79e7	1.16e7	-----	-----	1.59	
2,3,4,7,8-PeCDF-13C	32:06	5.63e7	3.55e7	1.79e7	1.14e7	-----	-----	1.58	
1,2,3,7,8-PeCDF	31:11	3.72e7	2.44e7	1.13e7	7.49e6	-----	-----	1.53	
2,3,4,7,8-PeCDF	32:07	4.16e7	2.73e7	1.23e7	8.15e6	-----	-----	1.52	

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	32:23	3.93e7	2.43e7	1.21e7	7.49e6	-----	-----	1.61	
1,2,3,7,8-PeCDD	32:23	(M)1.13e7	(M)1.82e7	3.67e6	5.84e6	-----	-----	0.62	

Hexa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDF-13C	34:38	1.87e7	3.56e7	7.15e6	1.34e7	-----	-----	0.52	
1,2,3,6,7,8-HxCDF-13C	34:44	2.00e7	3.83e7	6.87e6	1.31e7	-----	-----	0.52	
2,3,4,6,7,8-HxCDF-13C	35:10	1.68e7	3.19e7	6.24e6	1.20e7	-----	-----	0.53	
1,2,3,7,8,9-HxCDF-13C	35:53	1.27e7	2.52e7	4.40e6	8.42e6	-----	-----	0.50	
1,2,3,4,7,8-HxCDF	34:39	2.79e7	2.27e7	1.03e7	8.26e6	-----	-----	1.23	P
1,2,3,6,7,8-HxCDF	34:44	2.66e7	2.12e7	9.14e6	7.46e6	-----	-----	1.25	
2,3,4,6,7,8-HxCDF	35:11	2.06e7	1.69e7	7.47e6	6.07e6	-----	-----	1.22	
1,2,3,7,8,9-HxCDF	35:54	1.26e7	1.00e7	4.01e6	3.37e6	-----	-----	1.26	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Client Name	State of Indiana		
Client ID	WS-1-MSD	Injected By	JRH
Lab ID	10644640001-MSD	Instrument ID	10MSHR15 (L)
Filename	L230305B_03	GC Column ID	US1824614H
Analyzed	03/05/2023 23:55	ICAL ID	L230302

Hexa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,7,8-HxCDD-13C	35:18	2.08e7	1.52e7	7.84e6	5.94e6	-----	-----	1.37	
1,2,3,6,7,8-HxCDD-13C	35:22	2.45e7	1.97e7	8.66e6	6.96e6	-----	-----	1.24	
1,2,3,7,8,9-HxCDD-13C	35:36	2.74e7	2.10e7	8.87e6	6.77e6	-----	-----	1.30	
1,2,3,4,7,8-HxCDD	35:18	1.01e7	8.08e6	4.08e6	3.20e6	-----	-----	1.25	
1,2,3,6,7,8-HxCDD	35:23	1.36e7	1.11e7	5.10e6	4.18e6	-----	-----	1.23	
1,2,3,7,8,9-HxCDD	35:36	1.17e7	9.28e6	3.87e6	3.08e6	-----	-----	1.26	

Hepta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDF-13C	37:06	7.91e6	1.67e7	2.56e6	5.47e6	-----	-----	0.47	
1,2,3,4,7,8,9-HpCDF-13C	38:32	5.08e6	1.12e7	1.49e6	3.18e6	-----	-----	0.45	
1,2,3,4,6,7,8-HpCDF	37:06	2.41e7	2.36e7	8.10e6	7.90e6	-----	-----	1.02	
1,2,3,4,7,8,9-HpCDF	38:32	6.54e6	6.56e6	1.90e6	1.88e6	-----	-----	1.00	

Hepta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4,6,7,8-HpCDD-13C	38:02	8.98e6	8.11e6	2.81e6	2.55e6	-----	-----	1.11	
1,2,3,4,6,7,8-HpCDD	38:03	1.12e7	1.07e7	3.38e6	3.19e6	-----	-----	1.05	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:08	9.60e6	1.07e7	2.40e6	2.71e6	-----	-----	0.90	

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	40:54	7.58e6	9.40e6	1.99e6	2.39e6	-----	-----	0.81	
OCDD	40:55	(M)1.75e7	(M)1.94e7	4.56e6	4.96e6	-----	-----	0.90	

REPORT OF LABORATORY ANALYSIS